



Full wwPDB EM Validation Report ⓘ

Mar 15, 2026 – 08:11 AM UTC

PDB ID : 3JBU / pdb_00003jbu
EMDB ID : EMD-6483
Title : Mechanisms of Ribosome Stalling by SecM at Multiple Elongation Steps
Authors : Zhang, J.; Pan, X.J.; Yan, K.G.; Sun, S.; Gao, N.; Sui, S.F.
Deposited on : 2015-10-16
Resolution : 3.64 Å(reported)
Based on initial model : 4V7T

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

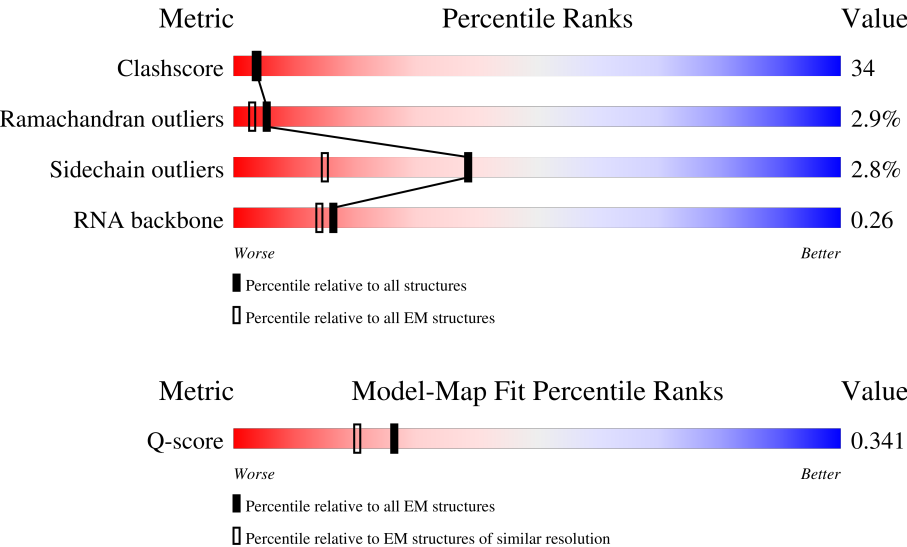
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.64 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	11633 (3.14 - 4.14)

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	B	241	85% 56% 33% 10%
2	C	233	81% 59% 27% 12%
3	D	206	87% 54% 43%

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Mol	Chain	Length	Quality of chain
4	E	167	
5	F	131	
6	G	156	
7	H	130	
8	I	130	
9	J	103	
10	K	129	
11	L	124	
12	M	118	
13	N	101	
14	O	89	
15	P	82	
16	Q	84	
17	R	75	
18	S	92	
19	T	87	
20	U	71	
21	0	78	
22	1	63	
23	2	59	
24	3	57	
25	4	55	
26	6	46	
27	7	65	
28	8	38	

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Mol	Chain	Length	Quality of chain
29	c	273	
30	d	209	
31	e	201	
32	f	179	
33	g	177	
34	h	149	
35	j	142	
36	k	123	
37	l	144	
38	m	136	
39	n	127	
40	o	117	
41	p	115	
42	q	118	
43	r	103	
44	s	110	
45	t	100	
46	u	104	
47	w	94	
48	y	85	
49	z	87	
50	A	1542	
51	X	11	
52	a	120	
53	b	2904	

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Mol	Chain	Length	Quality of chain
54	v	76	22% 51% 33% 14%

2 Entry composition

There are 54 unique types of molecules in this entry. The entry contains 143334 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 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

- Molecule 2 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 3 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 4 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	E	150	Total	C	N	O	S	0	0
			1105	687	211	201	6		

- Molecule 5 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	F	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	150	Total	C	N	O	S	0	0
			1174	730	226	214	4		

- Molecule 7 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 8 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 9 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	J	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 10 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	K	117	Total	C	N	O	S	0	0
			877	540	174	160	3		

- Molecule 11 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	L	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 12 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	113	Total	C	N	O	S	0	0
			876	541	177	155	3		

- Molecule 13 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	N	96	Total	C	N	O	S	0	0
			774	483	160	128	3		

- Molecule 14 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	O	88	Total	C	N	O	S	0	0
			716	440	146	129	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
O	79	ARG	GLN	conflict	UNP P0ADZ4

- Molecule 15 is a protein called 30S ribosomal protein S16.

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

- Molecule 16 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Q	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 17 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	R	55	Total	C	N	O	0	0
			455	288	86	81		

- Molecule 18 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	S	79	Total	C	N	O	S	0	0
			637	408	120	107	2		

- Molecule 19 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	T	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 20 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	U	51	Total	C	N	O	S	0	0
			425	265	86	73	1		

- Molecule 21 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	0	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 22 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	1	62	Total	C	N	O	S	0	0
			501	308	98	94	1		

- Molecule 23 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	2	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 24 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	3	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 25 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
25	4	50	Total	C	N	O	0	0
			409	263	75	71		

- Molecule 26 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	6	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 27 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	7	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 28 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	8	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 29 is a protein called 50S ribosomal protein L2.

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

- Molecule 30 is a protein called 50S ribosomal protein L3.

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

- Molecule 31 is a protein called 50S ribosomal protein L4.

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

- Molecule 32 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	f	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 33 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	g	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 34 is a protein called 50S ribosomal protein L9.

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

- Molecule 35 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	j	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

- Molecule 36 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	k	122	Total	C	N	O	S	0	0
			938	587	180	165	6		

- Molecule 37 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	l	144	Total	C	N	O	S	0	0
			1053	654	207	190	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
38	m	135	Total	C	N	O	S	0	0
			1063	680	201	176	6		

- Molecule 39 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	n	120	Total	C	N	O	S	0	0
			960	593	196	166	5		

- Molecule 40 is a protein called 50S ribosomal protein L18.

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

- Molecule 41 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	p	114	Total	C	N	O	S	0	0
			917	574	179	163	1		

- Molecule 42 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	q	117	Total	C	N	O		0	0
			947	604	192	151			

- Molecule 43 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	r	103	Total	C	N	O	S	0	0
			816	516	153	145	2		

- Molecule 44 is a protein called 50S ribosomal protein L22.

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

- Molecule 45 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	t	93	Total	C	N	O	S	0	0
			738	466	139	131	2		

- Molecule 46 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	u	102	Total	C	N	O		0	0
			779	492	146	141			

- Molecule 47 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	w	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

- Molecule 48 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	y	75	Total	C	N	O	S	0	0
			569	353	113	102	1		

- Molecule 49 is a protein called SecM-glycine.

Mol	Chain	Residues	Atoms				AltConf	Trace
49	z	26	Total	C	N	O	0	0
			203	129	33	41		

- Molecule 50 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	A	1530	Total	C	N	O	P	0	0
			32831	14642	6024	10635	1530		

- Molecule 51 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	X	11	Total	C	N	O	P	0	0
			232	103	39	79	11		

- Molecule 52 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	a	118	Total	C	N	O	P	0	0
			2528	1126	464	821	117		

- Molecule 53 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	b	2903	Total	C	N	O	P	0	0
			62321	27801	11467	20150	2903		

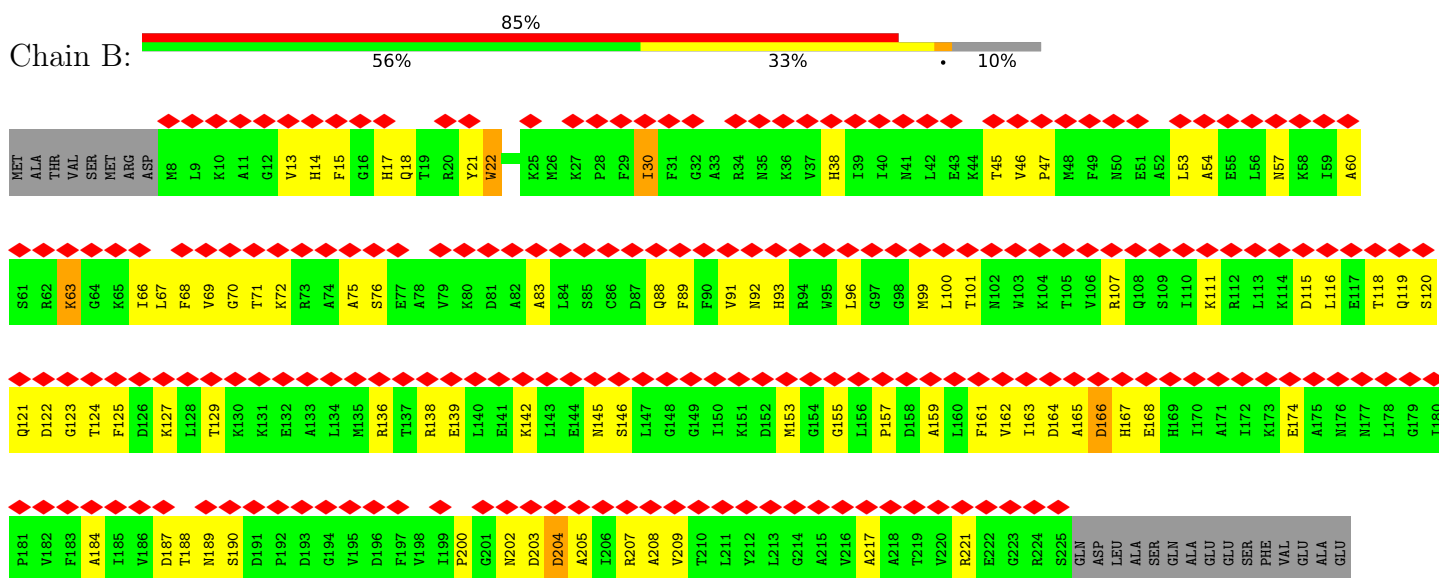
- Molecule 54 is a RNA chain called glycine-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	v	76	Total	C	N	O	P	0	0
			1623	722	291	534	76		

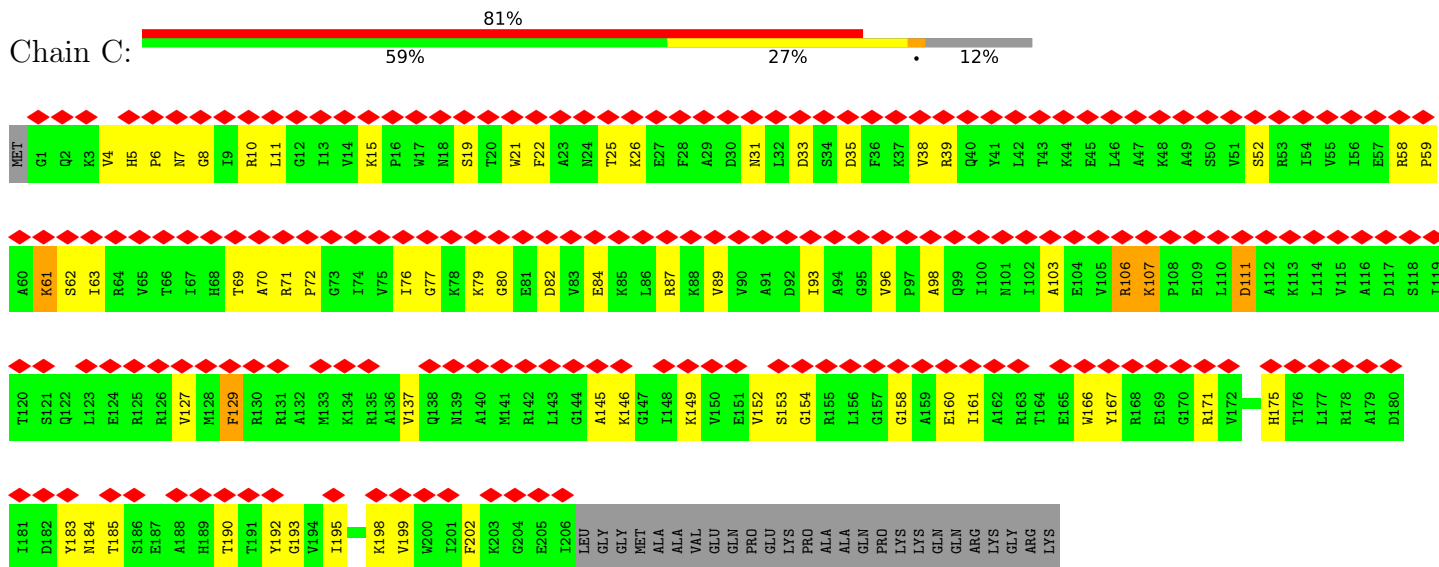
3 Residue-property plots

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

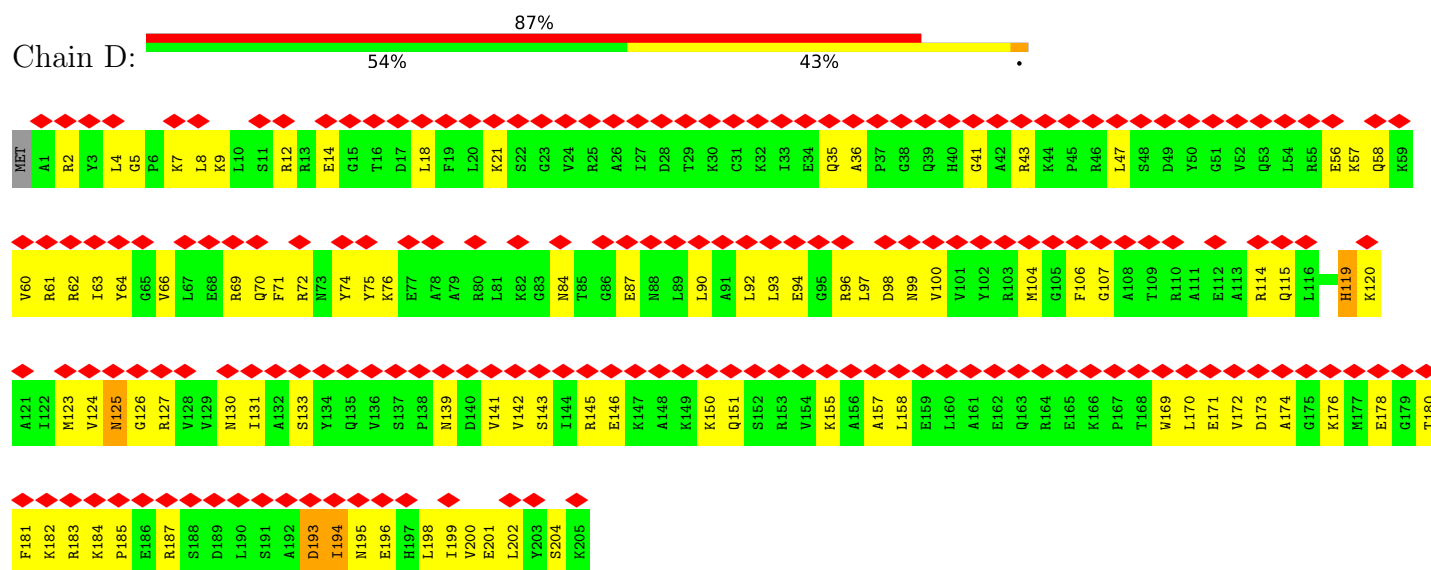
• Molecule 1: 30S ribosomal protein S2



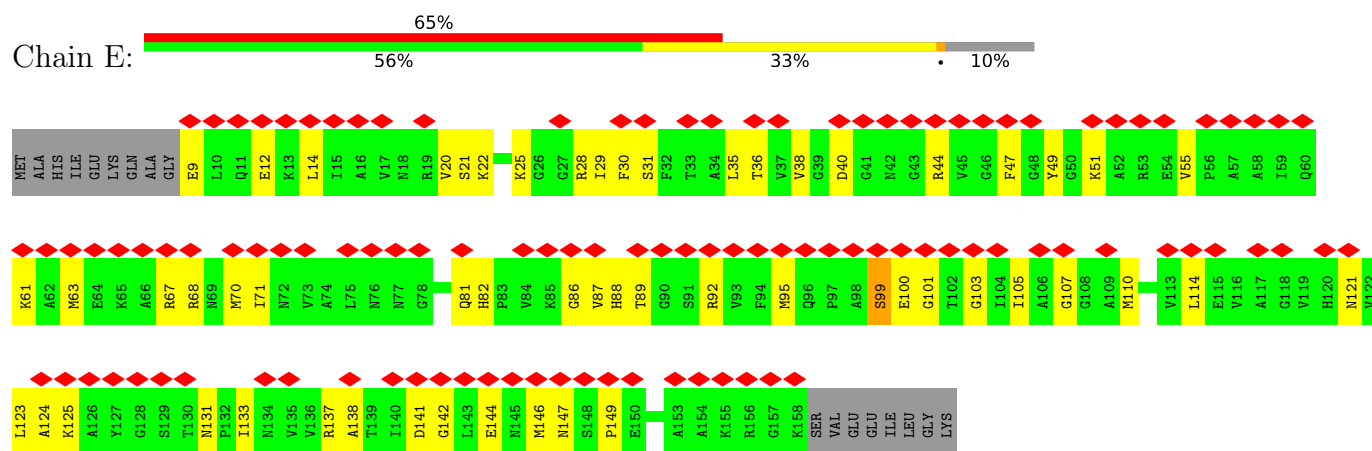
• Molecule 2: 30S ribosomal protein S3



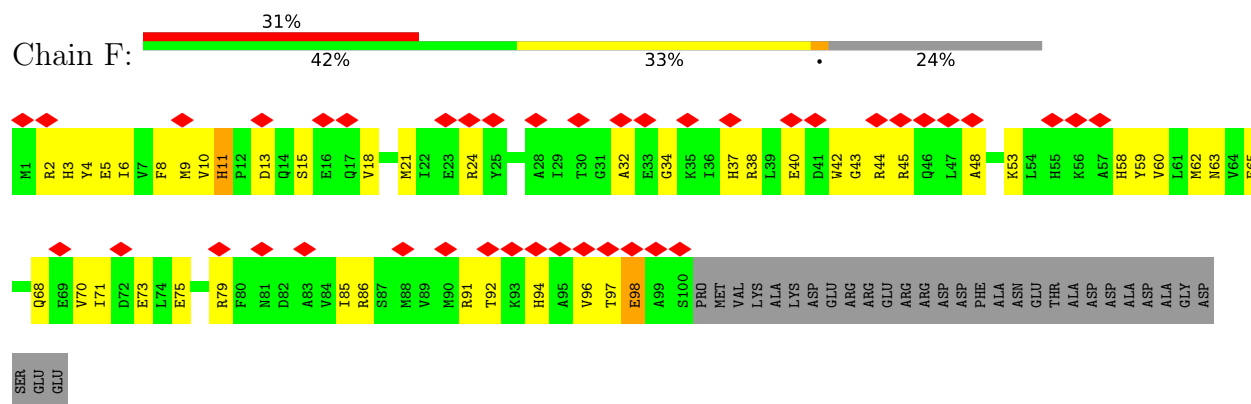
• Molecule 3: 30S ribosomal protein S4



• Molecule 4: 30S ribosomal protein S5

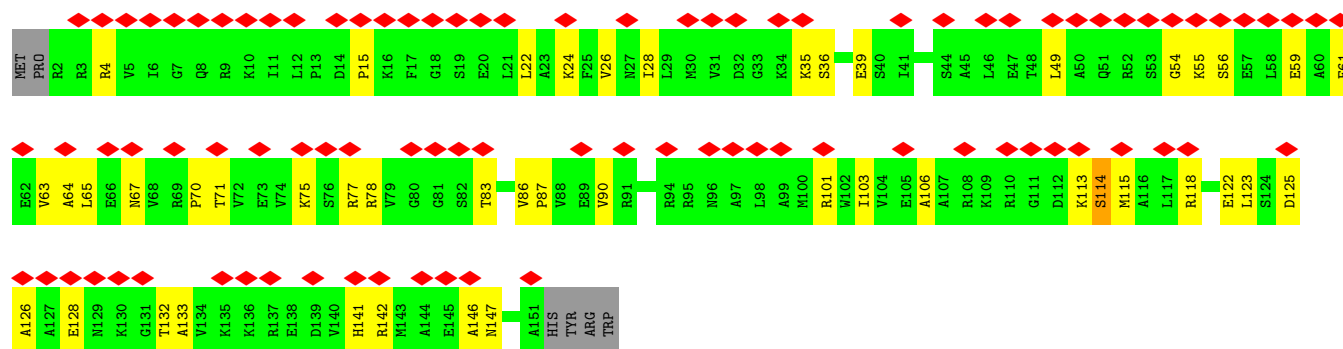


• Molecule 5: 30S ribosomal protein S6

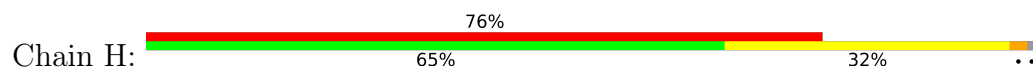


• Molecule 6: 30S ribosomal protein S7

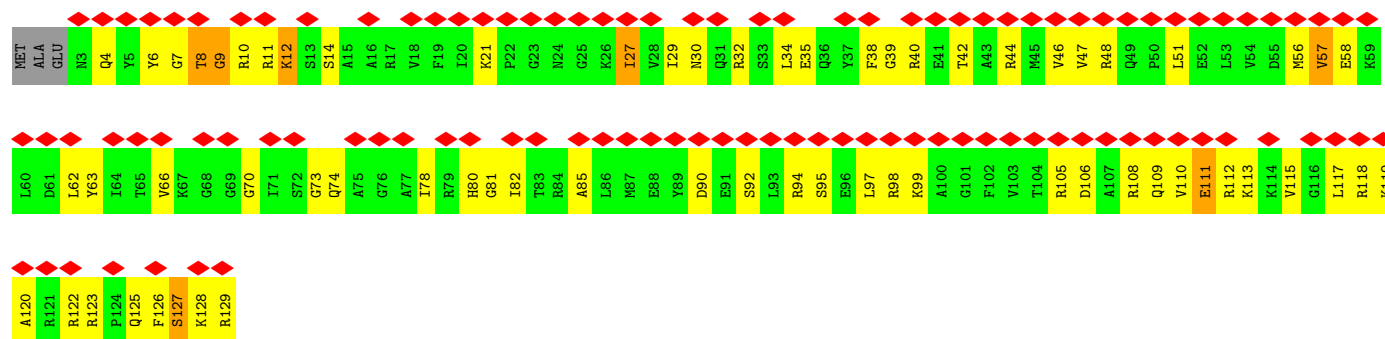
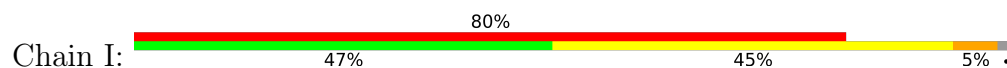




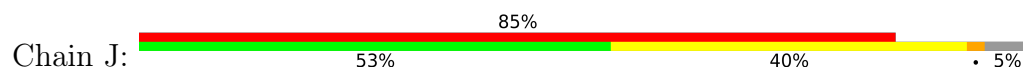
• Molecule 7: 30S ribosomal protein S8



• Molecule 8: 30S ribosomal protein S9

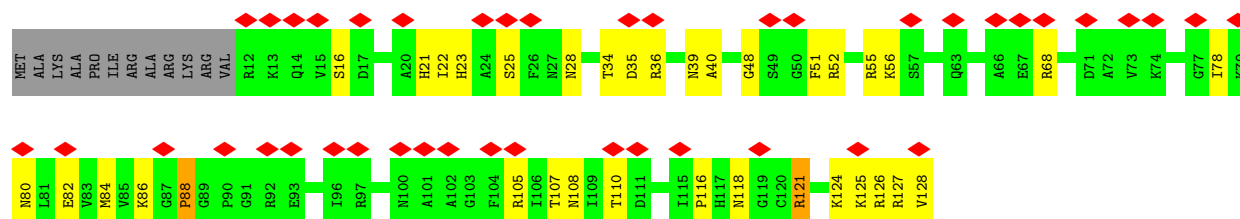


• Molecule 9: 30S ribosomal protein S10

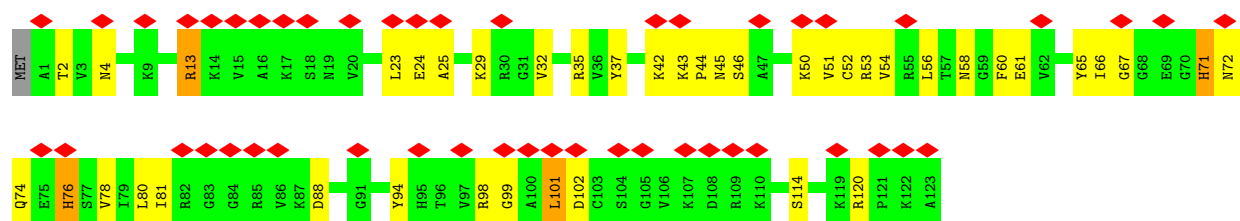
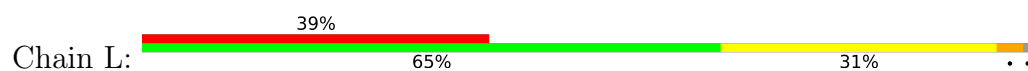




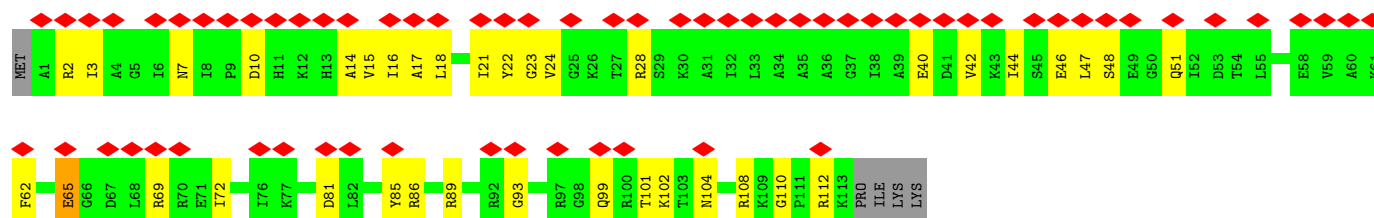
• Molecule 10: 30S ribosomal protein S11



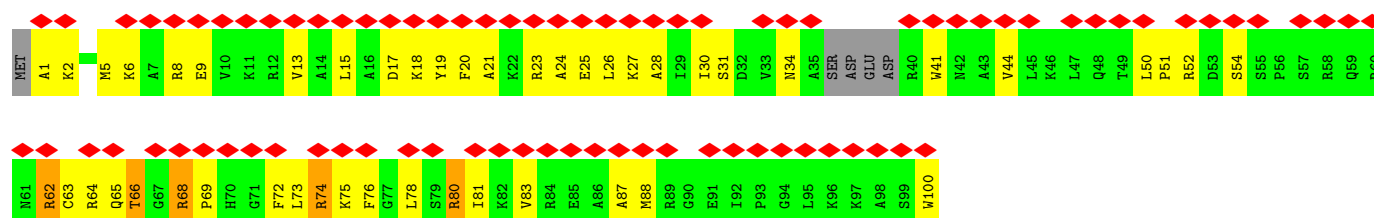
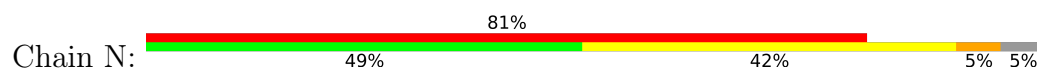
• Molecule 11: 30S ribosomal protein S12



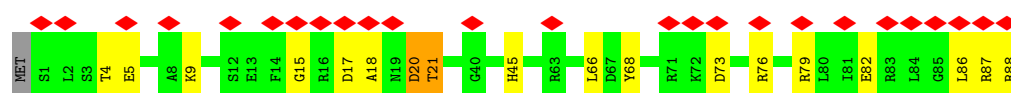
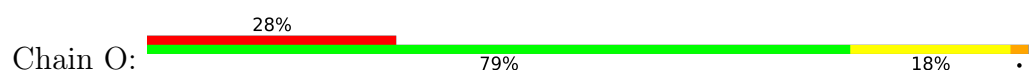
• Molecule 12: 30S ribosomal protein S13



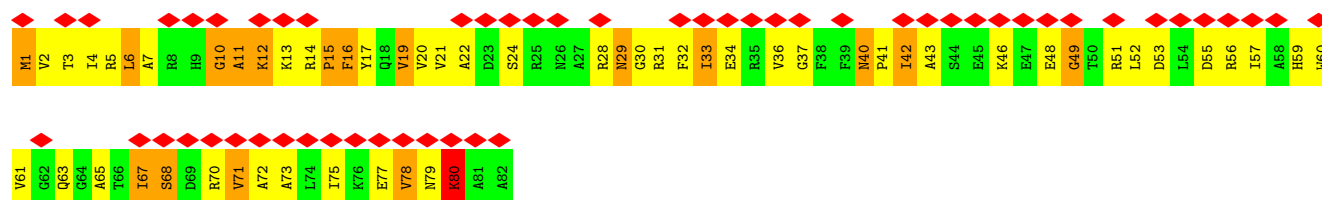
• Molecule 13: 30S ribosomal protein S14



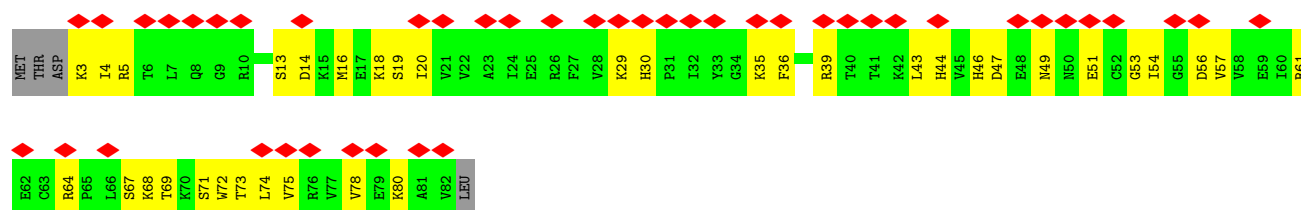
• Molecule 14: 30S ribosomal protein S15



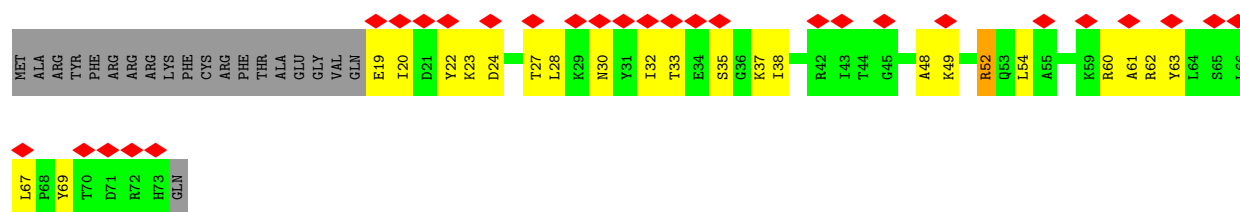
• Molecule 15: 30S ribosomal protein S16



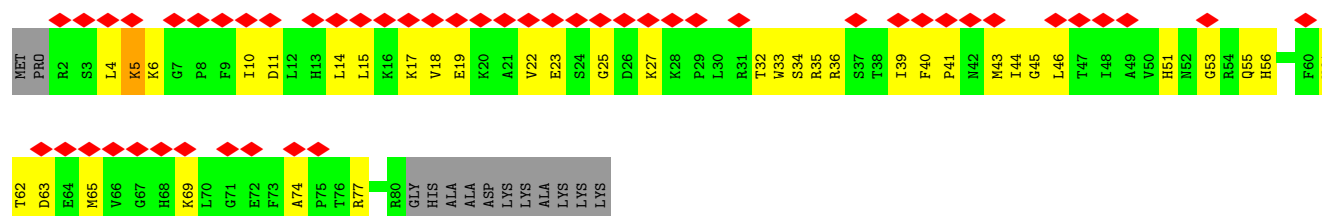
• Molecule 16: 30S ribosomal protein S17



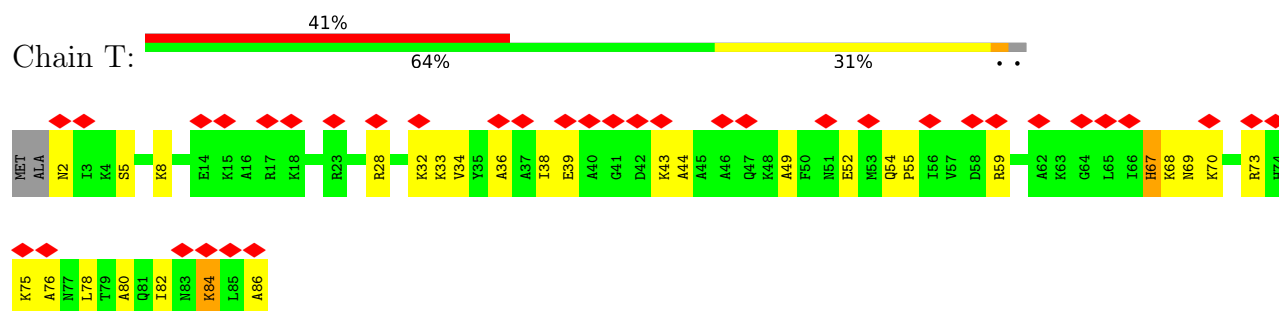
• Molecule 17: 30S ribosomal protein S18



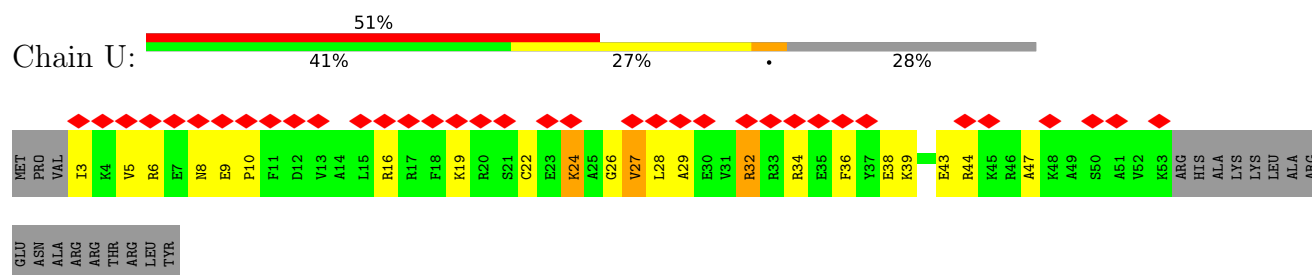
• Molecule 18: 30S ribosomal protein S19



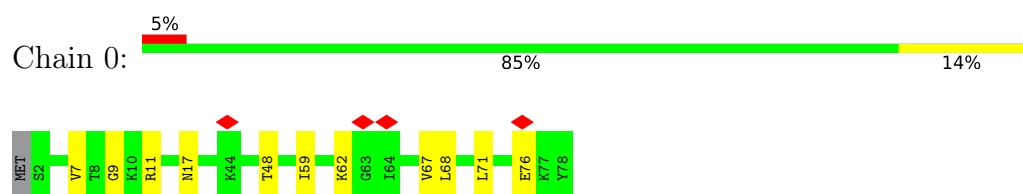
- Molecule 19: 30S ribosomal protein S20



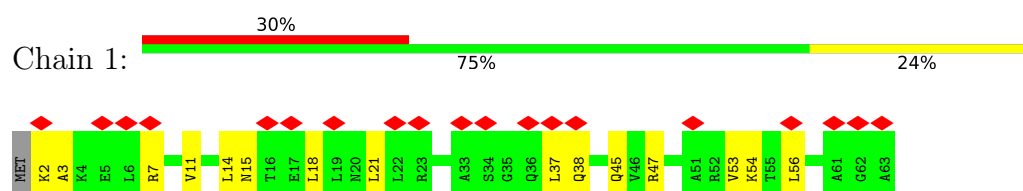
- Molecule 20: 30S ribosomal protein S21



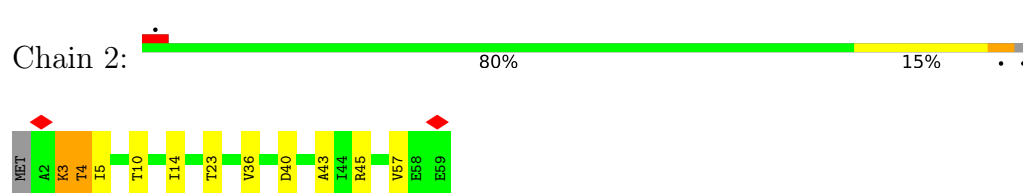
- Molecule 21: 50S ribosomal protein L28



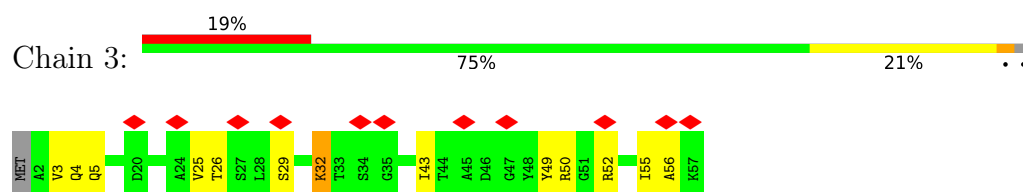
- Molecule 22: 50S ribosomal protein L29



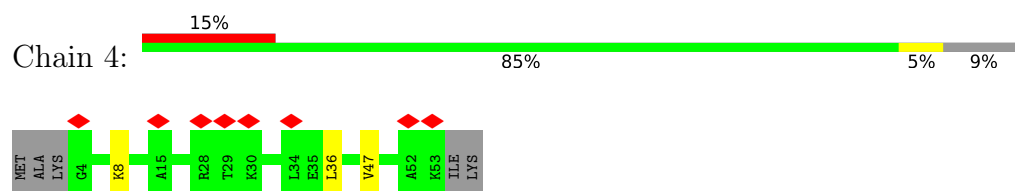
- Molecule 23: 50S ribosomal protein L30



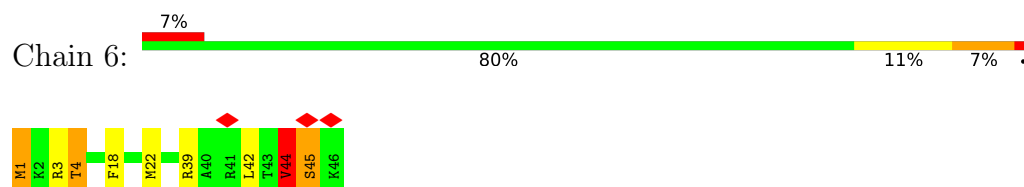
- Molecule 24: 50S ribosomal protein L32



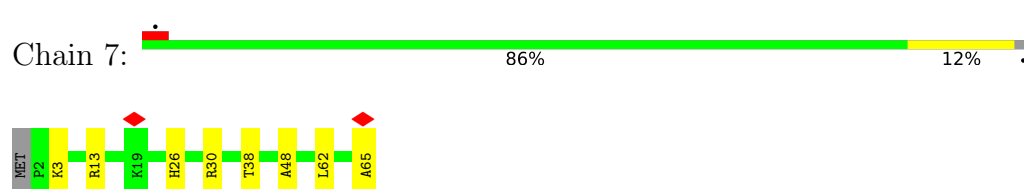
- Molecule 25: 50S ribosomal protein L33



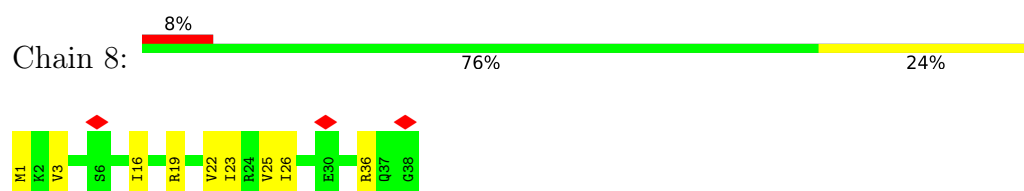
- Molecule 26: 50S ribosomal protein L34



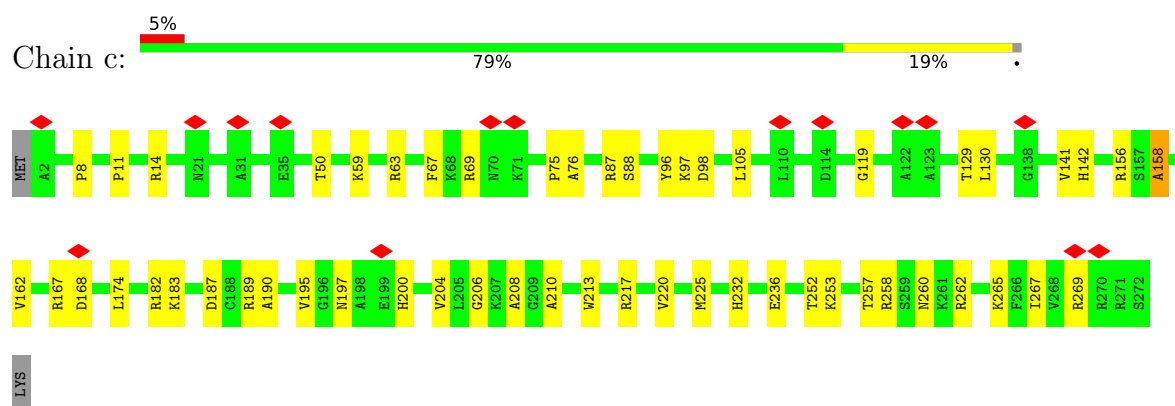
- Molecule 27: 50S ribosomal protein L35



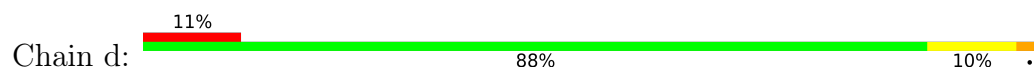
- Molecule 28: 50S ribosomal protein L36

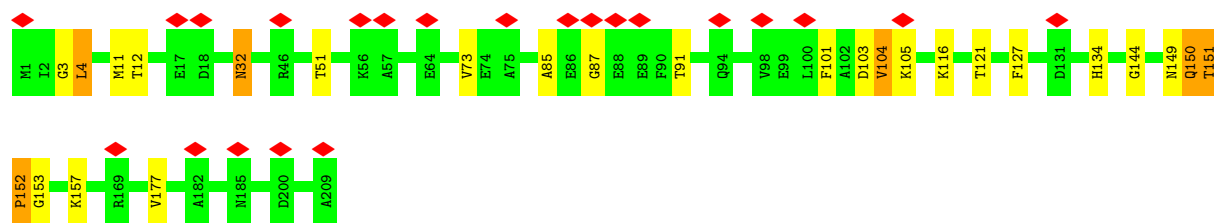


- Molecule 29: 50S ribosomal protein L2

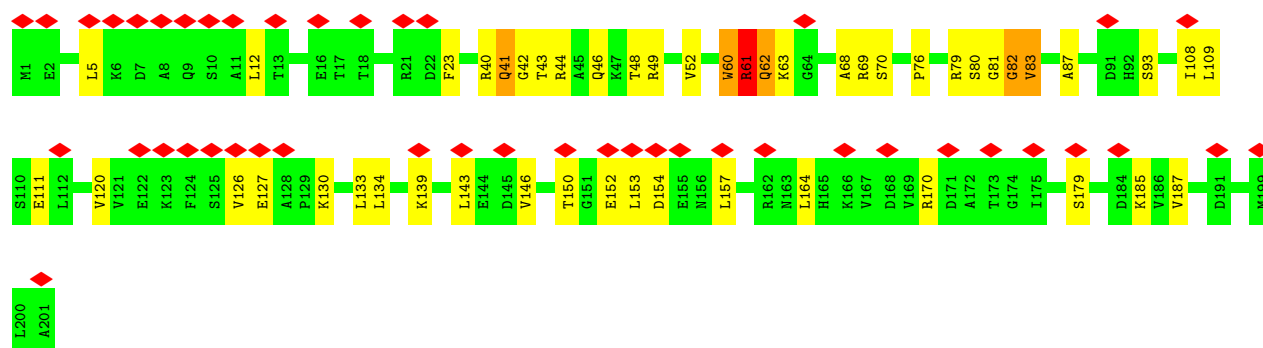
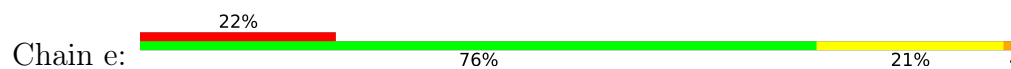


- Molecule 30: 50S ribosomal protein L3

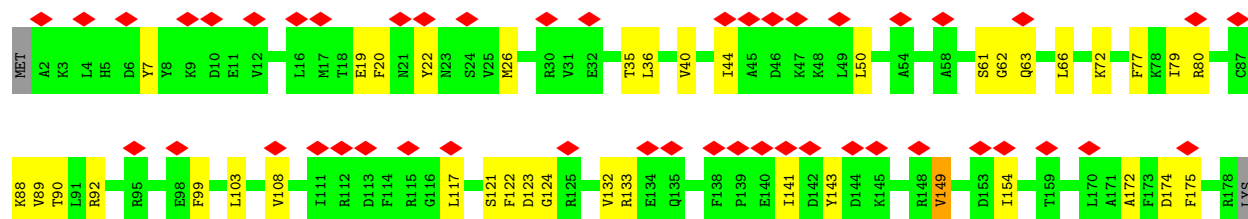
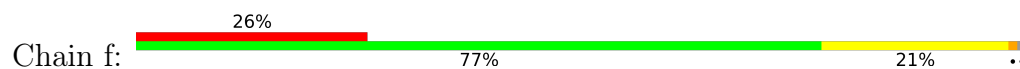




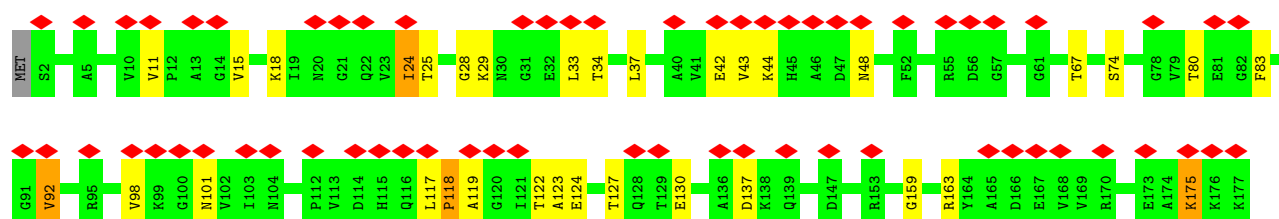
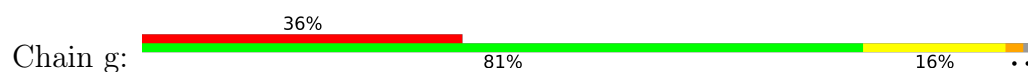
• Molecule 31: 50S ribosomal protein L4



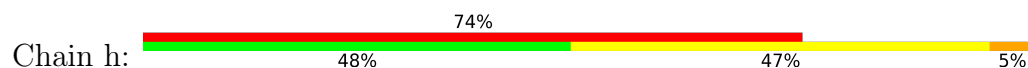
• Molecule 32: 50S ribosomal protein L5

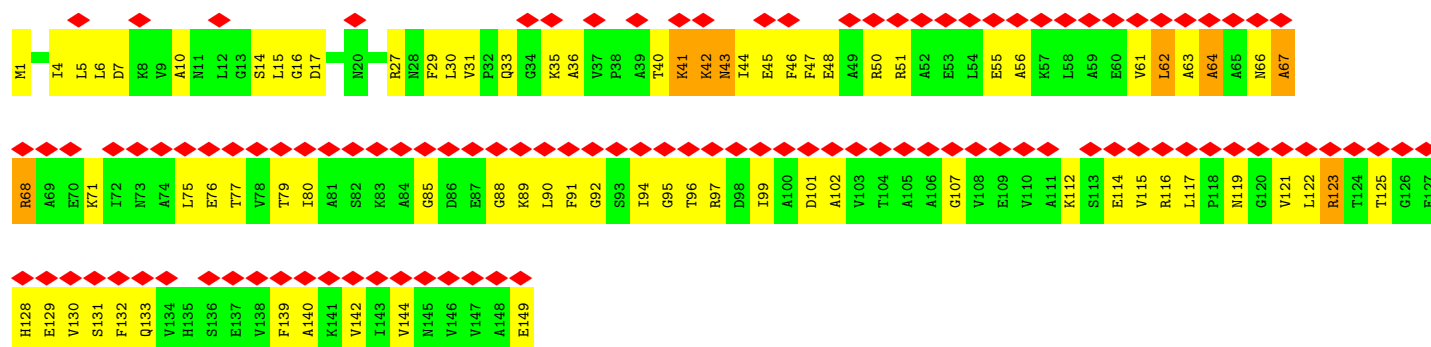


• Molecule 33: 50S ribosomal protein L6

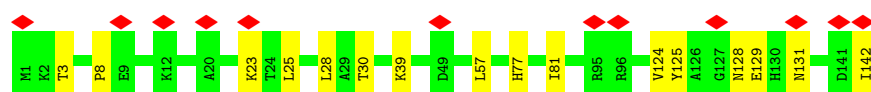
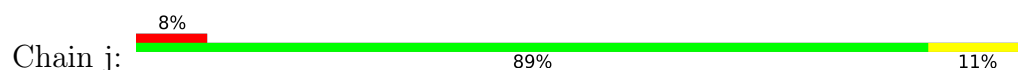


• Molecule 34: 50S ribosomal protein L9

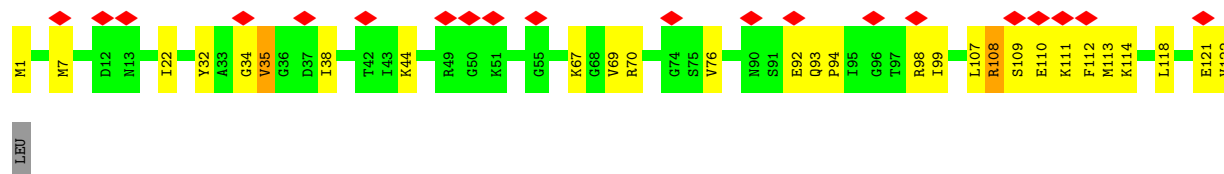
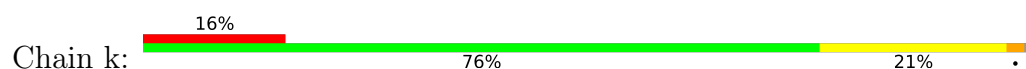




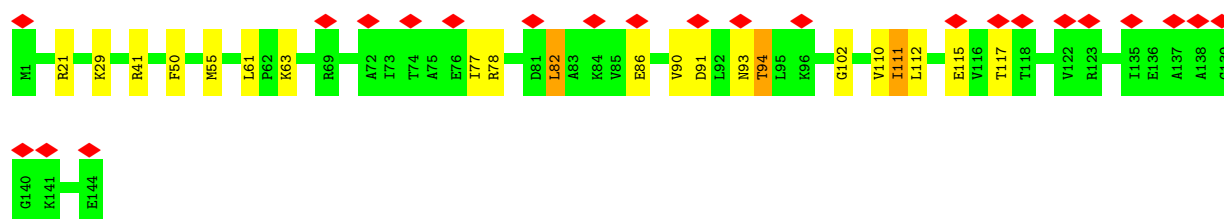
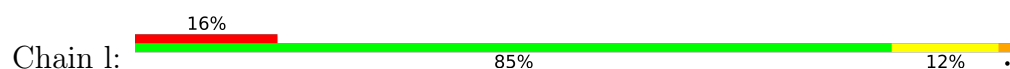
• Molecule 35: 50S ribosomal protein L13



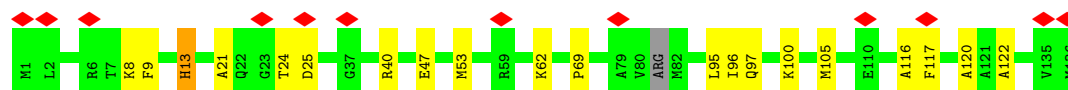
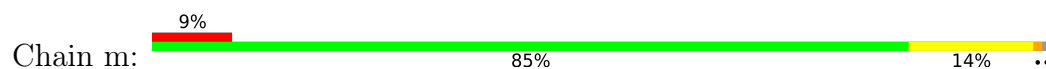
• Molecule 36: 50S ribosomal protein L14



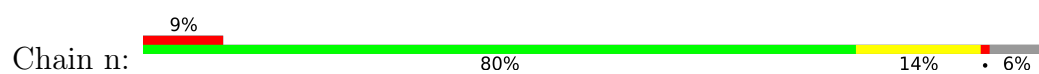
• Molecule 37: 50S ribosomal protein L15



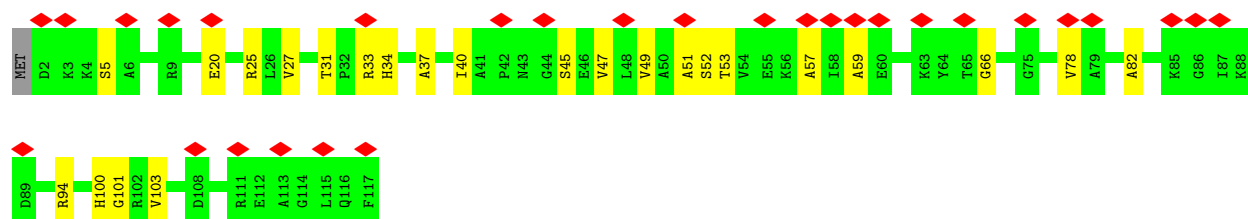
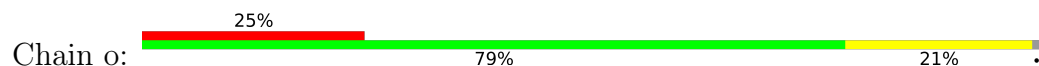
• Molecule 38: 50S ribosomal protein L16



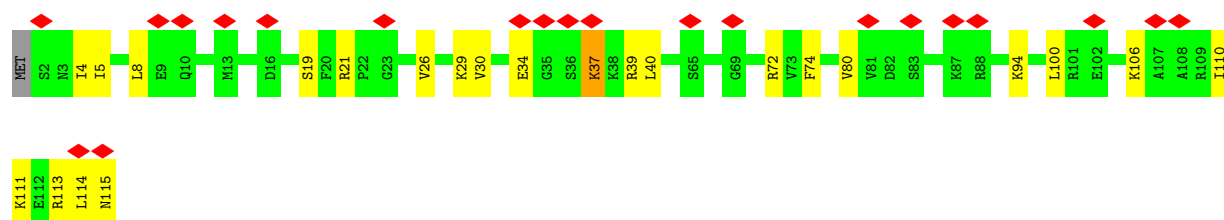
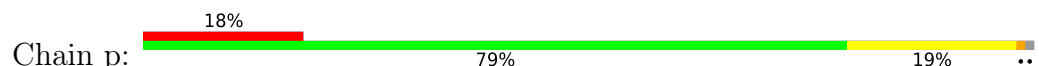
• Molecule 39: 50S ribosomal protein L17



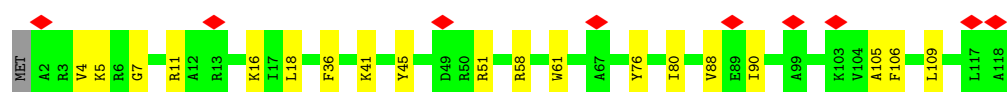
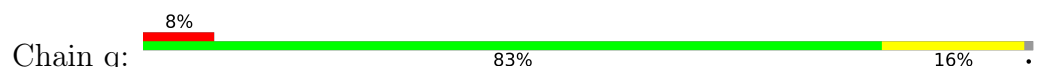
- Molecule 40: 50S ribosomal protein L18



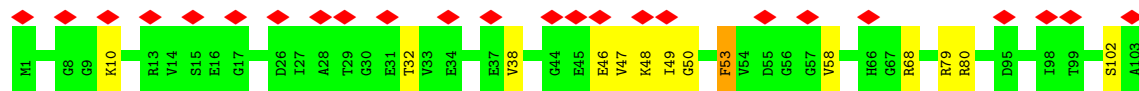
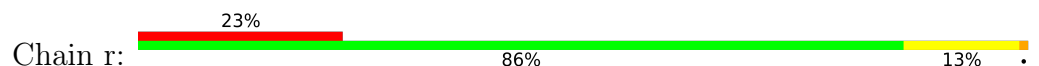
- Molecule 41: 50S ribosomal protein L19



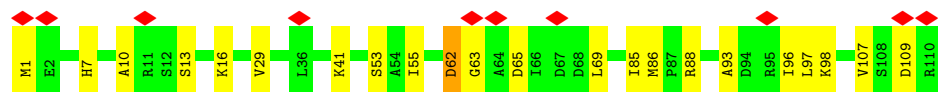
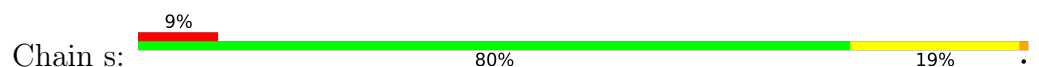
- Molecule 42: 50S ribosomal protein L20



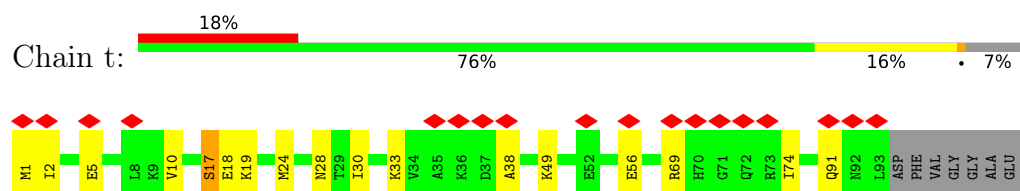
- Molecule 43: 50S ribosomal protein L21



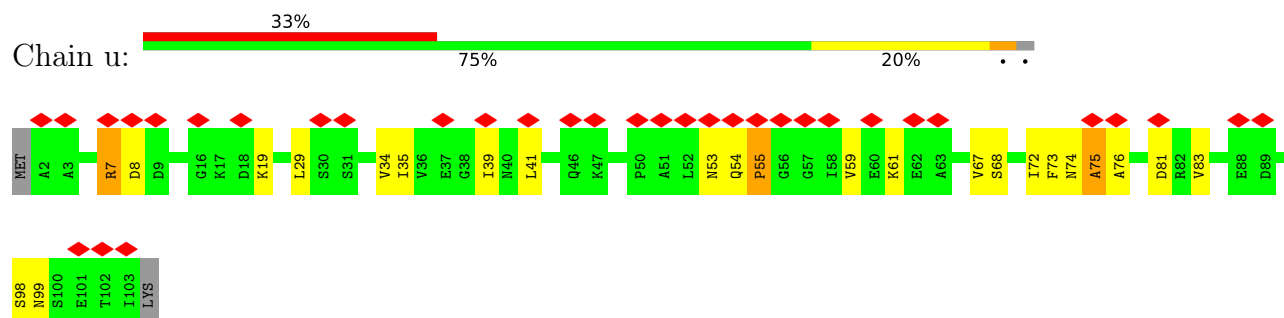
- Molecule 44: 50S ribosomal protein L22



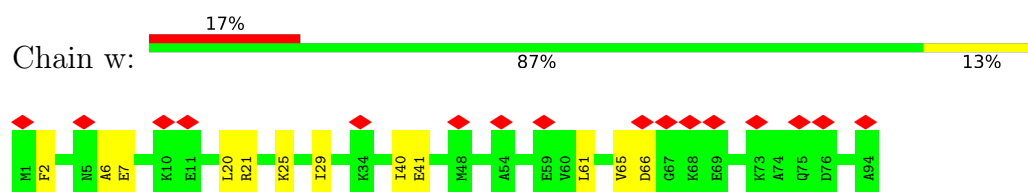
- Molecule 45: 50S ribosomal protein L23



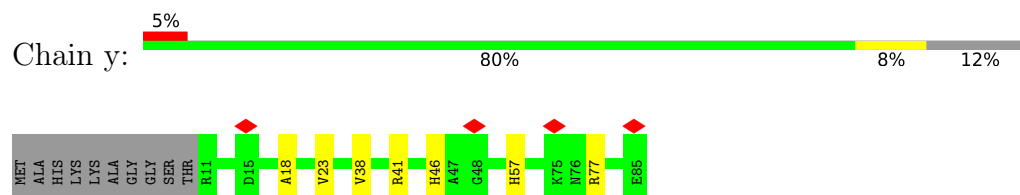
- Molecule 46: 50S ribosomal protein L24



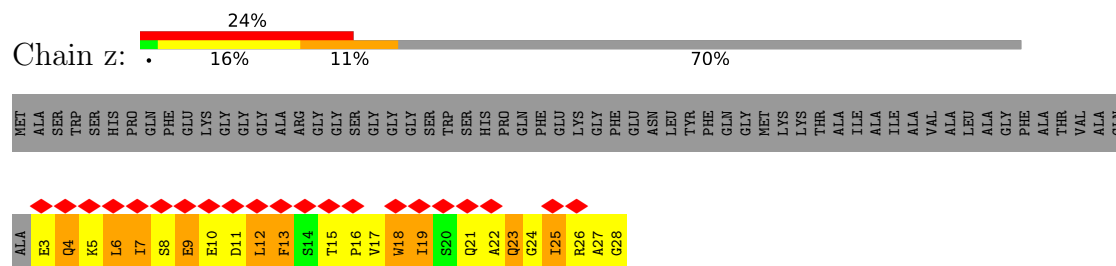
- Molecule 47: 50S ribosomal protein L25



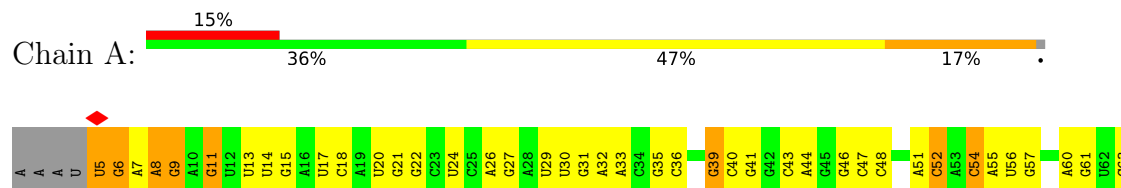
- Molecule 48: 50S ribosomal protein L27

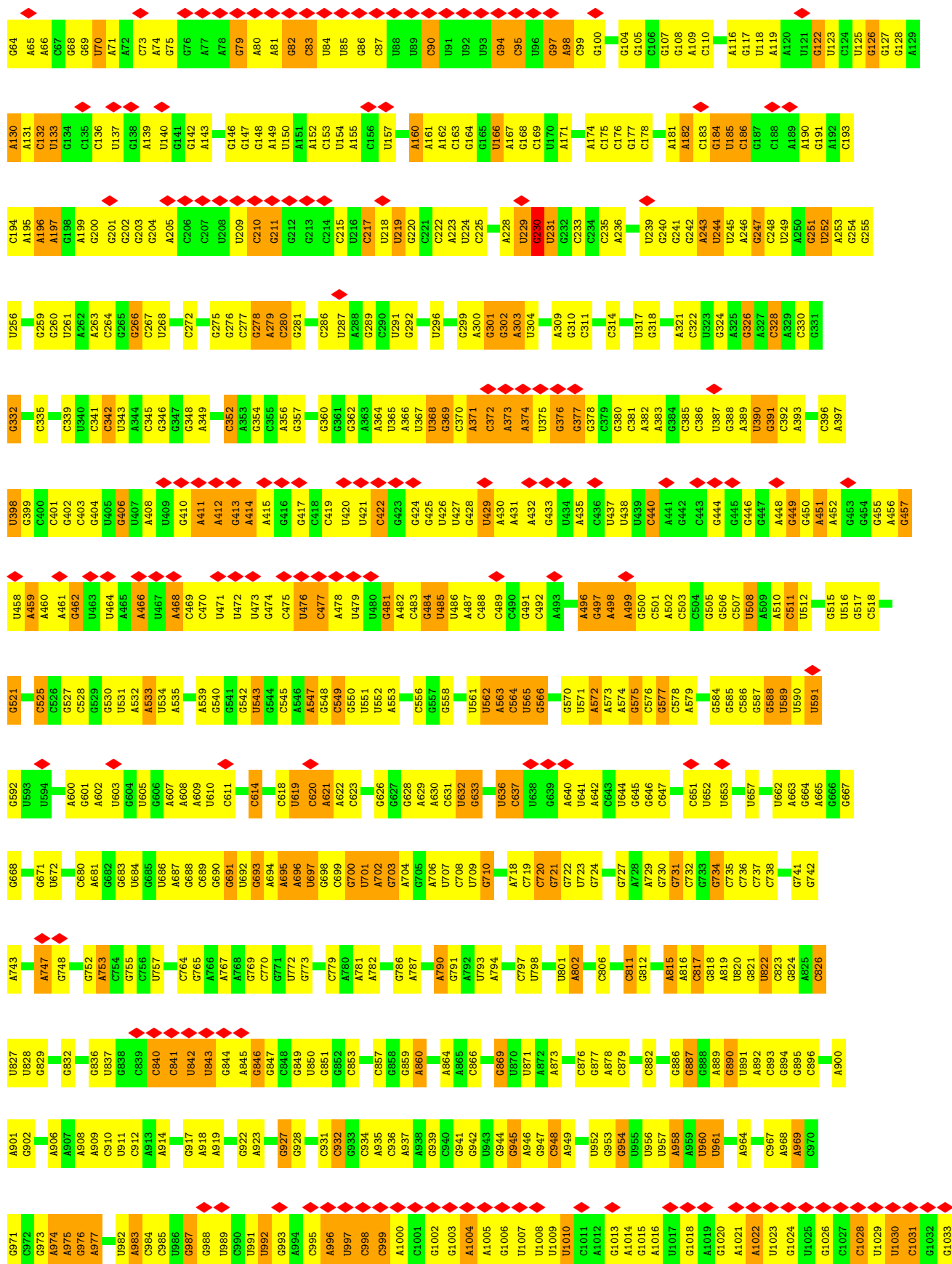


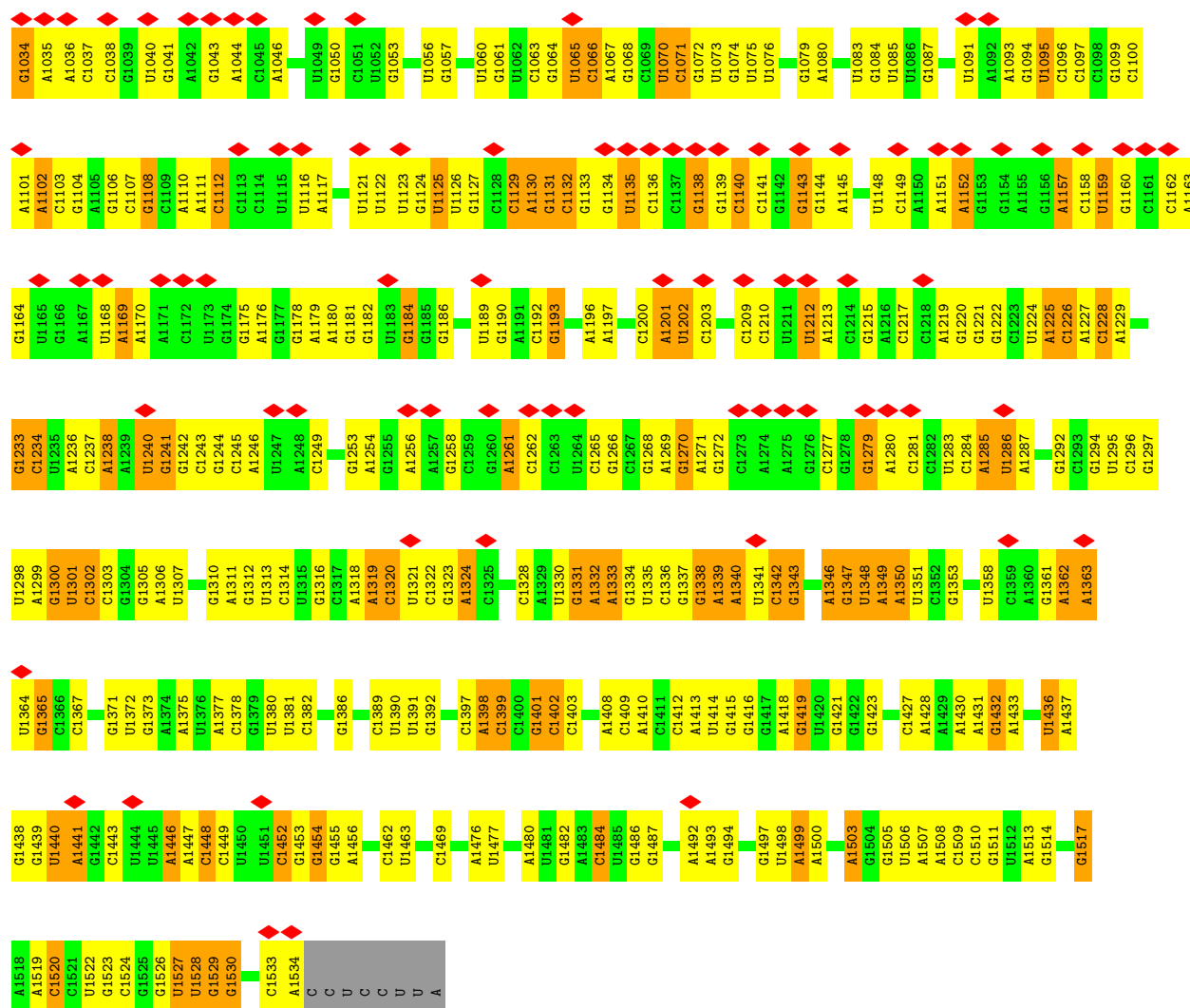
- Molecule 49: SecM-glycine



- Molecule 50: 16S rRNA



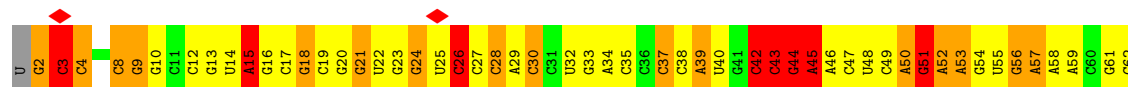
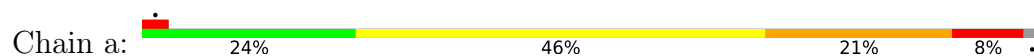




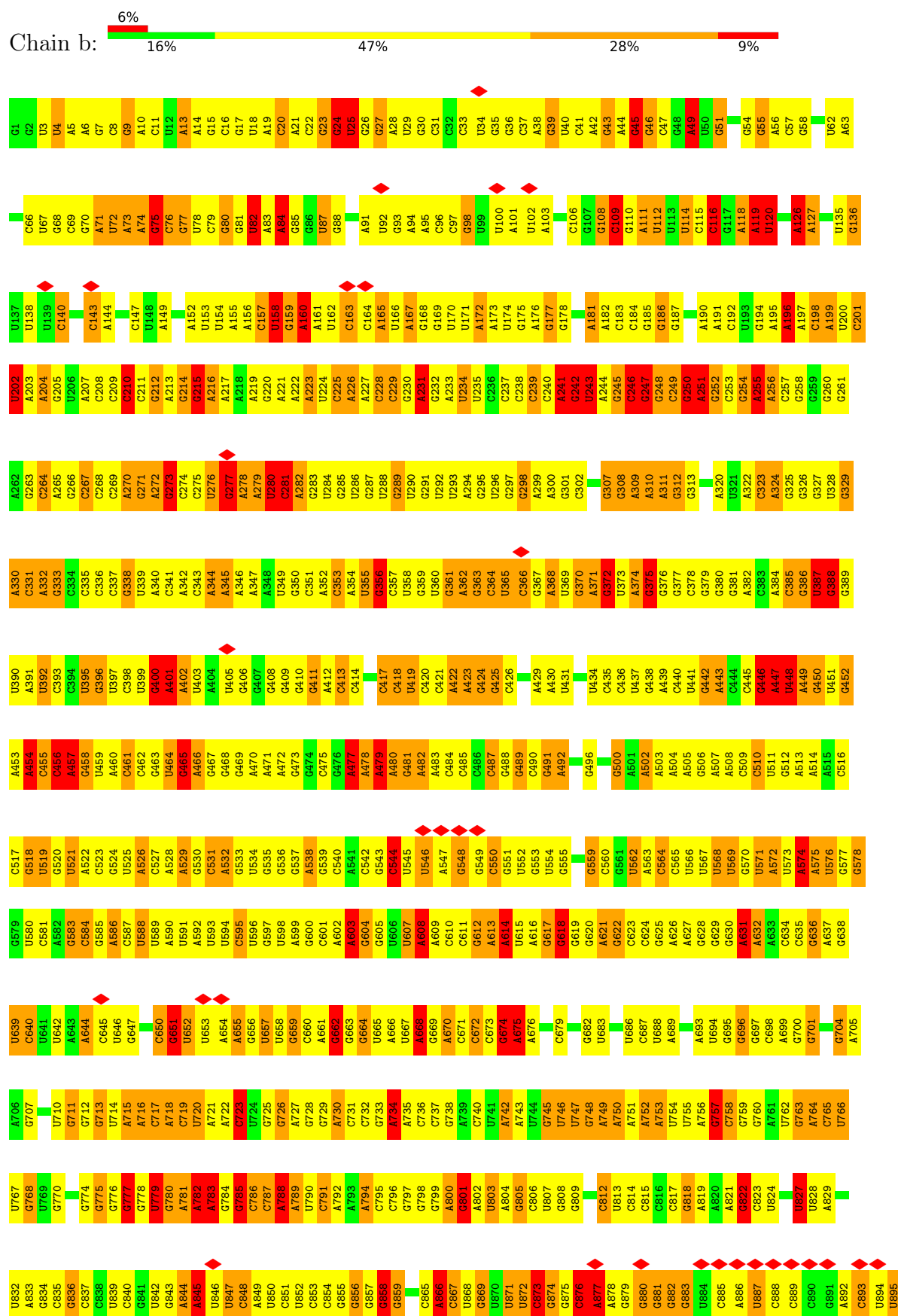
• Molecule 51: mRNA



• Molecule 52: 5S rRNA

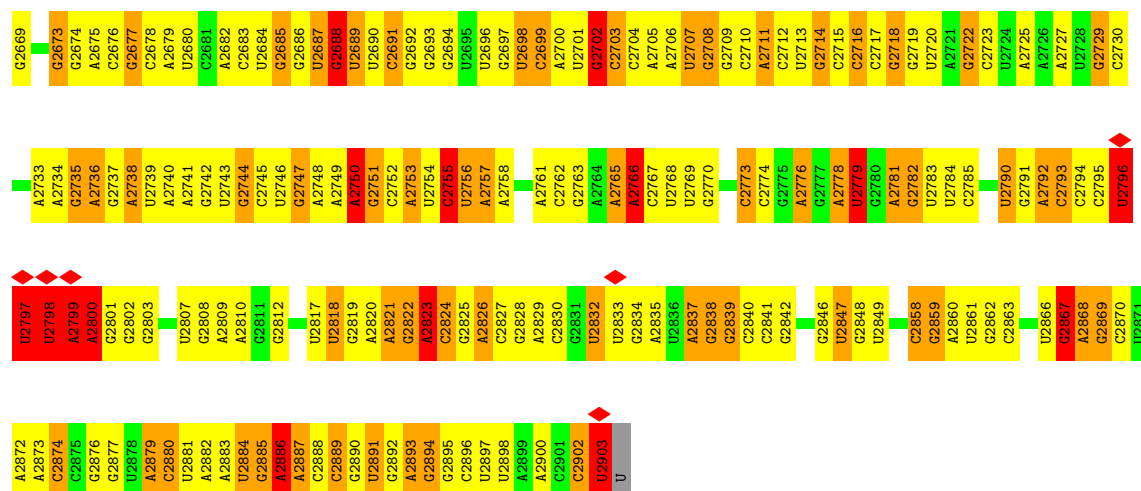


• Molecule 53: 23S rRNA

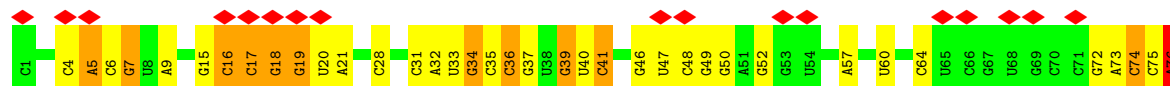


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G1770	G1771	G1772	G1773	G1774	G1775	G1776	G1777	G1778	G1779	G1780	G1781	G1782	G1783	G1784	G1785	G1786	G1787	G1788	G1789	G1790	G1791	G1792	G1793	G1794	G1795	G1796	G1797	U1798	G1799	G1800	A1801	G1802	A1803	G1804	A1805	G1806	G1807	A1808	A1809	A1810	G1811	G1812	G1813	G1814	A1815	G1816	G1817	G1818	A1819																															
C1832	C1833	C1834				G1839	G1840	U1841	U1842	C1843																G1846	U1847	A1848	G1849	G1850	A1851	U1852	A1853	U1854	U1855	U1856	G1857	A1791	U1926	A1858	U1927	A1859	G1860	G1861	G1862				U1865	A1866	G1867	G1868	G1869	A1870	A1871	A1872	G1873	A1874	G1875	A1876																				
C1905	G1906	G1907	C1908	C1909	G1910	G1911	A1912	A1913	G1914	U1915	U1916	A1917	U1918	U1919	U1920	G1921	G1922	A1923	C1924	G1925	C1926	U1927	A1928	G1929	G1930	U1931	A1932	G1933				A1936	U1937	G1938	U1939	A1940	C1941	C1942	G2010	U1943	U1944	G2012	A2013	A1946	C1947	A2015	G1948	U1883	G1949	G1950	U1884	A1951	U1952	A1953	G1954	U1955	U1956	C1957	G1958	G1959	A1960																			
C1967	G1968	A1969	U1970	C1971	G1972	G1973	U1974	G1975	U1976	A1977	U1978	U1979	A1980	A1981	U1982	G1983	G1984	U1985	C1986				C1989	C2000	A1937	C2001	C2006	U2007	C2008	A2009	G2010	U2011	G2012	A2013	A2014	A2015	U2016	U2017	G2018	A2019	A1952	C2020	A1953	U2021	U2022	G2023	U1965	G2024	C2025				U2028	G2029	A2030	U2031	G2032	G1965	A1966																					
U2034	G2035	C2036	A2037	U2038	U2039	G2040	U2041	A2042	C2043	C2044	C2045	U2046	C2047	C2048	G2049	A2051	A2052	G2053	A2054	C2055	G2056	G2057	A2058	A2059	A2060	G2061	A2062	C2063	C2064	C2065	C2066	G2067	U2068	G2069	A2070	C2071	C2072	C2073				A2077	G2078	U2079	A2080	U2081	A2082	G2083				U2086	G2087	A2088	G2089	A2090	C2091	U2092	G2093	A2094	C2095	C2096	A2097																	
U2098	U2099	G2100	A2101	G2102	C2103	C2104	U2105	U2106	G2107	A2108	U2109	G2110	U2111	G2112	U2113	A2114	G2115	G2116	A2117	U2118	A2119	G2120				G2123	G2124	G2125	A2126	G2127	G2128	C2129	U2130	U2131	U2132	G2133	A2134	A2135	G2136	U2137	G2138	U2139	G2140	G2141	A2142	C2143	G2144	C2145	C2146	A2147	G2148	U2149	C2150	U2151	G2152	C2153	A2154	U2155	G2156	G2157	A2158																			
C2159	C2160	C2161	C2162	A2163	C2164	C2165	U2166	U2167	G2168	C2169	A2170	A2171	U2172	A2173	C2174	C2175	C2176	C2177	C2178	C2179	U2180	U2181	U2182	U2183	A2184	G2185	G2186	U2187	U2188	U2189	G2190	A2191	U2192	G2193	U2194	U2195				A2198	A2199				U2202	U2203	U2204	A2205	C2206	C2207	C2208	G2209	U2210	C2211	C2212	U2213	C2214	C2215	G2216	G2217	U2218	U2219	U2220																	
G2221	G2222	G2223	G2224	A2225	G2226	A2227	U2228	U2229	U2230	U2231	U2232	U2233	G2234	G2235	U2236	G2237	G2238	G2239	U2240				C2248	G2249	G2250	G2251	G2252	G2253	C2254	G2255	U2256	U2257	C2258	U2259				U2262	C2263	C2264	U2265	U2266	A2267	A2268	G2269	A2270	G2271	U2272	A2273	A2274	C2275	G2276				G2279	C2280	A2281	G2282	C2283	U2284																			
C2285	G2286	A2287	A2288	G2289	G2290	U2291	U2292	G2293	G2294	C2295	U2296	A2297	G2298	A2299	G2300	C2301	U2302	G2303	C2304	C2305	C2306	C2307	G2308	A2309	C2310	A2311				G2315	G2316	C2317	G2318	C2319	G2320	C2321	A2322	G2323	U2324				A2327	A2328	U2329	C2330	C2331	C2332	C2333	U2334	A2335	C2336	C2337	C2338	C2339	A2340	G2341	C2342	U2343	A2344	C2345	A2346	C2347																	
U2348	G2349	C2350	G2351	A2352	G2353	C2354				G2361				G2365	A2366	G2367	C2368				G2371	U2372	C2373	C2374	G2375	A2376	A2377	A2378	C2379	U2380	A2381	C2382	G2383	U2384	C2385	A2386	U2387	A2388	G2389	U2390	G2391	A2392	U2393	C2394	C2395	G2396	U2397	U2398	C2399	G2400	U2401	U2402	C2403	U2404	G2405	A2406	U2407	U2408	G2409	G2410	A2411	A2412	G2413	G2414	G2415															
C2416	C2417	A2418	U2419	C2420				U2423	U2424	A2425	A2426	C2427	G2428	U2429	A2430	U2431	A2432	A2433	A2434	A2435	G2436	A2437	U2438	A2439	C2440	U2441	U2442	C2443	U2444	C2445	G2446	C2447	U2448	A2449	U2450	U2451	C2452	A2453	G2454	G2455	C2456	U2457	U2458	C2459	U2460	U2461				U2464	C2465	C2466	C2467	A2468	U2469	G2470	C2471	U2472	U2473	U2474	C2475	A2476	U2477																	
A2478	U2479	C2480	A2481	A2482	C2483	G2484	G2485	C2486	U2487	C2488	U2489	U2490	U2491	U2492				A2497	C2498	U2499	U2500	C2501	U2502	C2503	U2504	C2505	U2506	C2507	U2508	C2509	U2510	C2511	U2512	C2513	U2514	U2515	C2516	U2517	C2518	U2519	C2520	C2521				G2524	U2525	U2526	G2527	C2528	U2529	A2530	C2531	U2532	U2533	A2534	U2535	U2536	C2537	U2538	C2539	U2540	U2541	A2542	C2543															
C2543	C2544	C2545	U2546	U2547	U2548	U2549	C2550	C2551	U2552	C2553	U2554	U2555	C2556	C2557	C2558	C2559				U2562	U2563	U2564	A2565	U2566	C2567	U2568	C2569	U2570	U2571	U2572	C2573	U2574	C2575	U2576	U2577	C2578	C2579	U2580	G2581	U2582	G2583	U2584	U2585	U2586	C2587	U2588	U2589	C2590	U2591	C2592	U2593	C2594	U2595	U2596	C2597	U2598	C2599	U2600	C2601	A2602	C2603																			
U2604	U2605	U2606	U2607	U2608	U2609	U2610	U2611	U2612	U2613	U2614	U2615	U2616	U2617	U2618	U2619	U2620	U2621	U2622	G2623	G2624	C2625	C2626				U2629	A2632	C2633	A2634	C2635	C2636	U2637	G2638	C2639	U2640	U2641	U2642				G2645	C2646	U2647	G2648	U2649	U2650	C2651	U2652	U2653	U2654	C2655	C2656	C2657	U2658	U2659	U2660	C2661	C2662	C2663	U2664	U2665	U2666	U2667	U2668																



• Molecule 54: glycine-tRNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	60354	Depositor
Resolution determination method	Not provided	
CTF correction method	CTFFIND	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	16	Depositor
Minimum defocus (nm)	3500	Depositor
Maximum defocus (nm)	1000	Depositor
Magnification	37878	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.180	Depositor
Minimum map value	-0.099	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.009	Depositor
Recommended contour level	0.03	Depositor
Map size ($\text{\AA}$)	422.40002, 422.40002, 422.40002	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.32, 1.32, 1.32	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	B	0.42	0/1735	0.86	0/2338
2	C	0.45	0/1651	0.94	7/2225 (0.3%)
3	D	0.44	0/1665	0.89	4/2227 (0.2%)
4	E	0.49	0/1118	0.93	1/1504 (0.1%)
5	F	0.42	0/835	0.96	2/1128 (0.2%)
6	G	0.42	0/1187	0.86	3/1591 (0.2%)
7	H	0.47	0/989	0.89	0/1326
8	I	0.43	0/1034	0.97	4/1375 (0.3%)
9	J	0.44	0/796	0.88	0/1077
10	K	0.42	0/893	0.98	2/1205 (0.2%)
11	L	0.47	0/969	1.00	5/1300 (0.4%)
12	M	0.43	0/884	0.89	3/1181 (0.3%)
13	N	0.46	0/785	0.92	3/1043 (0.3%)
14	O	0.41	0/724	0.77	0/966
15	P	0.38	0/659	0.87	4/884 (0.5%)
16	Q	0.42	0/657	0.86	3/881 (0.3%)
17	R	0.47	0/462	0.92	1/621 (0.2%)
18	S	0.43	0/652	0.88	0/877
19	T	0.49	0/671	0.85	1/888 (0.1%)
20	U	0.42	0/430	0.97	0/570
21	0	0.50	0/635	0.79	0/848
22	1	0.49	0/502	0.88	0/667
23	2	0.54	0/453	0.80	0/605
24	3	0.56	0/450	0.89	1/599 (0.2%)
25	4	0.50	0/416	0.68	0/554
26	6	0.55	0/380	0.89	0/498
27	7	0.54	0/513	0.83	0/676
28	8	0.57	0/303	0.75	0/397
29	c	0.55	0/2121	0.80	3/2852 (0.1%)
30	d	0.53	0/1586	0.76	0/2134
31	e	0.56	0/1571	0.88	2/2113 (0.1%)
32	f	0.55	0/1434	0.84	0/1926
33	g	0.55	0/1343	0.73	0/1816
34	h	0.58	4/1122 (0.4%)	1.24	9/1515 (0.6%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	j	0.50	0/1152	0.76	0/1551
36	k	0.52	0/947	0.71	0/1268
37	l	0.58	0/1062	0.85	0/1413
38	m	0.52	0/1081	0.76	0/1443
39	n	0.52	0/973	0.84	0/1301
40	o	0.53	0/902	0.91	0/1209
41	p	0.47	0/929	0.70	0/1242
42	q	0.50	0/960	0.84	0/1278
43	r	0.51	0/829	0.76	0/1107
44	s	0.49	0/864	0.82	0/1156
45	t	0.58	0/744	0.82	0/994
46	u	0.56	0/787	0.81	0/1051
47	w	0.49	0/766	0.71	0/1025
48	y	0.48	0/576	0.66	0/762
49	z	0.66	1/206 (0.5%)	1.38	6/277 (2.2%)
50	A	0.36	6/36762 (0.0%)	0.32	0/57350
51	X	0.78	3/257 (1.2%)	0.60	0/396
52	a	0.50	2/2824 (0.1%)	1.02	15/4402 (0.3%)
53	b	0.56	25/69800 (0.0%)	1.09	617/108892 (0.6%)
54	v	0.40	0/1812	0.87	4/2822 (0.1%)
All	All	0.50	41/155858 (0.0%)	0.89	700/233346 (0.3%)

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
11	L	0	1
23	2	0	1
29	c	0	1
30	d	0	1
36	k	0	1
37	l	0	1
43	r	0	1
52	a	0	1
53	b	0	72
All	All	0	80

All (41) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	A	230	G	C2-N3	22.08	1.76	1.32
50	A	230	G	N1-C2	21.53	1.80	1.37
50	A	230	G	C6-N1	21.29	1.82	1.39
50	A	230	G	N3-C4	20.50	1.76	1.35
50	A	230	G	C5-C6	19.93	1.82	1.42
50	A	230	G	C5-C4	18.59	1.75	1.38
53	b	1055	G	O5'-C5'	13.43	1.62	1.42
53	b	1087	G	O3'-P	13.30	1.81	1.61
53	b	2055	C	O3'-P	12.85	1.80	1.61
53	b	1088	A	O5'-C5'	10.82	1.59	1.42
53	b	401	A	O5'-C5'	7.58	1.53	1.42
53	b	2455	G	O3'-P	-7.17	1.50	1.61
53	b	1087	G	C3'-O3'	7.14	1.53	1.43
53	b	1057	A	O3'-P	7.10	1.71	1.61
53	b	1055	G	C5'-C4'	6.90	1.61	1.51
53	b	1103	A	O3'-P	6.75	1.71	1.61
53	b	2056	G	O3'-P	-6.74	1.51	1.61
53	b	2451	A	O3'-P	-6.64	1.51	1.61
34	h	67	ALA	N-CA	6.62	1.54	1.46
53	b	1088	A	C5'-C4'	6.53	1.61	1.51
51	X	14	U	C1'-N1	6.41	1.58	1.48
34	h	61	VAL	CA-C	6.35	1.61	1.52
34	h	67	ALA	CA-C	6.21	1.59	1.52
53	b	1078	U	O3'-P	6.13	1.70	1.61
49	z	15	THR	C-N	6.13	1.40	1.33
53	b	1058	U	O5'-C5'	5.89	1.51	1.42
53	b	1087	G	O5'-C5'	5.88	1.51	1.42
53	b	1079	C	O5'-C5'	5.87	1.51	1.42
53	b	1104	C	O5'-C5'	5.69	1.50	1.42
53	b	1086	A	O3'-P	5.65	1.69	1.61
52	a	3	C	O5'-C5'	5.60	1.50	1.42
51	X	13	C	C1'-N1	5.57	1.56	1.48
34	h	61	VAL	N-CA	5.46	1.53	1.46
53	b	780	G	O3'-P	5.38	1.69	1.61
53	b	2575	C	O3'-P	5.36	1.69	1.61
53	b	2178	C	O3'-P	5.30	1.69	1.61
51	X	20	U	C1'-N1	5.29	1.56	1.48
52	a	2	G	O3'-P	5.26	1.69	1.61
53	b	1349	C	O5'-C5'	5.16	1.50	1.42
53	b	400	G	O3'-P	5.06	1.68	1.61
53	b	1054	A	C3'-O3'	5.04	1.49	1.42

All (700) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	v	74	C	O3'-P-O5'	-19.87	74.20	104.00
34	h	62	LEU	N-CA-C	18.87	131.26	111.07
34	h	61	VAL	N-CA-C	18.55	129.45	110.72
53	b	1102	C	N1-C1'-C2'	15.64	135.47	112.00
53	b	1509	A	N9-C1'-C2'	15.55	137.32	114.00
53	b	1275	A	N9-C1'-C2'	14.97	136.46	114.00
53	b	1943	U	N1-C1'-C2'	14.67	136.01	114.00
52	a	3	C	C4'-C3'-O3'	14.06	134.09	113.00
53	b	1060	U	N1-C1'-C2'	13.33	134.00	114.00
53	b	2092	U	N1-C1'-C2'	12.96	133.43	114.00
53	b	1087	G	C4'-C3'-O3'	12.83	128.64	109.40
53	b	479	A	C4'-C3'-O3'	-12.15	91.18	109.40
53	b	1395	A	N9-C1'-C2'	11.92	131.88	114.00
53	b	1204	A	N9-C1'-C2'	11.86	131.79	114.00
53	b	1299	G	C2'-C3'-O3'	11.78	131.37	113.70
53	b	2597	G	N9-C1'-C2'	11.76	129.64	112.00
34	h	67	ALA	N-CA-C	11.46	127.59	108.90
49	z	16	PRO	CB-CA-C	11.13	126.32	110.17
53	b	2455	G	P-O3'-C3'	-11.05	103.62	120.20
53	b	2172	U	C2'-C3'-O3'	-10.82	97.47	113.70
53	b	1272	A	N9-C1'-C2'	10.73	130.10	114.00
53	b	1088	A	C2'-C3'-O3'	10.70	125.55	109.50
53	b	250	G	N9-C1'-C2'	10.69	130.04	114.00
53	b	126	A	C1'-C2'-O2'	-10.50	96.05	111.80
53	b	2117	A	C1'-C2'-O2'	-10.48	96.08	111.80
53	b	1055	G	O5'-C5'-C4'	10.41	127.32	111.70
53	b	2161	C	N1-C1'-C2'	10.29	127.43	112.00
53	b	2613	U	N1-C1'-C2'	10.12	129.18	114.00
53	b	2172	U	C4'-C3'-O3'	10.06	128.09	113.00
53	b	2590	A	C1'-C2'-O2'	10.04	123.45	108.40
53	b	1205	A	N9-C1'-C2'	10.02	129.03	114.00
53	b	783	A	C4'-C3'-O3'	9.98	127.97	113.00
2	C	107	LYS	CA-C-N	9.88	130.14	119.28
2	C	107	LYS	C-N-CA	9.88	130.14	119.28
34	h	66	ASN	N-CA-C	9.86	125.05	112.92
53	b	1088	A	C4'-C3'-O3'	-9.83	94.66	109.40
53	b	2210	U	N1-C1'-C2'	9.75	128.63	114.00
53	b	246	C	N1-C1'-C2'	9.69	126.53	112.00
53	b	1079	C	N1-C1'-C2'	-9.66	97.50	112.00
53	b	2467	C	C1'-C2'-O2'	9.55	122.73	108.40
53	b	2178	C	C4'-C3'-O3'	9.49	127.23	113.00
53	b	2799	A	N9-C1'-C2'	9.47	128.20	114.00
54	v	74	C	OP2-P-O3'	9.34	136.01	108.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	a	66	A	C2'-C3'-O3'	9.33	123.49	109.50
53	b	782	A	N9-C1'-C2'	9.30	127.94	114.00
53	b	1495	A	C1'-C2'-O2'	-9.29	97.87	111.80
53	b	1225	G	N9-C1'-C2'	9.28	125.91	112.00
53	b	1773	A	C2'-C3'-O3'	9.25	127.58	113.70
53	b	25	U	N1-C1'-C2'	9.21	125.82	112.00
53	b	401	A	P-O5'-C5'	9.10	134.54	120.90
53	b	1087	G	C1'-C2'-O2'	-9.09	98.17	111.80
10	K	121	ARG	CA-C-N	9.05	126.18	119.66
10	K	121	ARG	C-N-CA	9.05	126.18	119.66
53	b	640	C	N1-C1'-C2'	8.97	125.46	112.00
53	b	959	A	N9-C1'-C2'	8.97	125.46	112.00
53	b	1103	A	C2'-C3'-O3'	8.94	127.12	113.70
53	b	2178	C	C2'-C3'-O3'	8.94	127.11	113.70
53	b	479	A	C2'-C3'-O3'	8.90	122.86	109.50
53	b	119	A	N9-C1'-C2'	8.89	127.33	114.00
53	b	255	A	C1'-C2'-O2'	8.86	121.69	108.40
53	b	2798	U	N1-C1'-C2'	8.83	127.25	114.00
53	b	1097	U	C3'-C2'-O2'	8.71	123.77	110.70
53	b	2174	C	C1'-C2'-O2'	-8.62	98.88	111.80
53	b	774	G	C4'-C3'-O3'	8.60	122.30	109.40
53	b	614	A	N9-C1'-C2'	8.60	126.89	114.00
53	b	1348	C	C4'-C3'-O3'	8.45	125.67	113.00
53	b	2797	U	O4'-C1'-C2'	-8.44	99.16	107.60
53	b	1952	A	N9-C1'-C2'	8.40	124.60	112.00
53	b	2178	C	N1-C1'-C2'	-8.40	99.40	112.00
53	b	979	A	C2'-C3'-O3'	8.39	126.28	113.70
53	b	2596	U	N1-C1'-C2'	8.38	124.56	112.00
53	b	618	G	N9-C1'-C2'	8.34	124.50	112.00
53	b	1667	G	N9-C1'-C2'	-8.33	99.50	112.00
53	b	2449	U	N1-C1'-C2'	-8.27	99.60	112.00
53	b	1802	A	C4'-C3'-O3'	-8.27	100.60	113.00
53	b	1315	C	C1'-C2'-O2'	8.26	120.80	108.40
53	b	1616	A	N9-C1'-C2'	8.26	126.39	114.00
53	b	2401	U	C4'-C3'-O3'	8.25	121.77	109.40
53	b	1991	U	C1'-C2'-O2'	8.23	120.75	108.40
53	b	2128	G	C4'-C3'-O3'	8.19	125.29	113.00
53	b	973	A	N9-C1'-C2'	8.17	126.26	114.00
53	b	482	A	C2'-C3'-O3'	-8.16	101.46	113.70
53	b	1496	A	C4'-C3'-O3'	-8.13	100.80	113.00
53	b	277	G	C4'-C3'-O3'	-8.11	100.83	113.00
53	b	2800	A	C4'-C3'-O3'	8.09	125.13	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	2518	A	C2'-C3'-O3'	8.06	121.60	109.50
53	b	2128	G	N9-C1'-C2'	7.97	123.95	112.00
53	b	2282	G	N9-C1'-C2'	-7.97	102.05	114.00
53	b	787	C	N1-C1'-C2'	7.95	123.92	112.00
53	b	1945	G	C4'-C3'-O3'	-7.95	101.08	113.00
53	b	1057	A	C4'-C3'-O3'	7.92	124.88	113.00
53	b	456	C	N1-C1'-C2'	7.91	125.86	114.00
54	v	74	C	P-O3'-C3'	-7.84	108.44	120.20
53	b	281	C	N1-C1'-C2'	7.83	123.75	112.00
53	b	277	G	C2'-C3'-O3'	7.79	125.39	113.70
53	b	1057	A	C2'-C3'-O3'	7.79	125.38	113.70
53	b	1055	G	P-O5'-C5'	7.78	132.57	120.90
53	b	1100	C	C4'-C3'-O3'	7.77	124.65	113.00
52	a	3	C	C2'-C3'-O3'	-7.76	102.06	113.70
53	b	639	U	N1-C1'-C2'	7.74	123.61	112.00
53	b	2211	A	C4'-C3'-O3'	-7.70	97.86	109.40
53	b	2151	U	C4'-C3'-O3'	7.68	124.51	113.00
31	e	61	ARG	N-CA-C	7.66	127.12	110.80
53	b	2541	A	C2'-C3'-O3'	7.66	125.19	113.70
53	b	2180	U	O4'-C1'-C2'	-7.64	99.96	107.60
53	b	1458	U	N1-C1'-C2'	7.64	125.46	114.00
53	b	2054	A	C4'-C3'-O3'	-7.61	101.58	113.00
53	b	247	G	N9-C1'-C2'	7.61	123.41	112.00
53	b	457	A	N9-C1'-C2'	7.60	125.40	114.00
53	b	1967	C	N1-C1'-C2'	7.59	123.39	112.00
53	b	1522	A	N9-C1'-C2'	7.56	125.33	114.00
53	b	75	G	O4'-C1'-C2'	-7.55	100.05	107.60
53	b	1204	A	O4'-C4'-C3'	-7.55	98.55	106.10
53	b	983	A	N9-C1'-C2'	7.52	125.28	114.00
53	b	2132	U	C2'-C3'-O3'	7.51	120.77	109.50
53	b	2517	C	N1-C1'-C2'	-7.51	100.73	112.00
53	b	1076	C	N1-C1'-C2'	7.49	123.23	112.00
53	b	1205	A	C4'-C3'-O3'	-7.48	98.18	109.40
53	b	2205	A	C2'-C3'-O3'	7.47	124.90	113.70
53	b	1057	A	O4'-C1'-C2'	-7.44	100.16	107.60
53	b	873	C	C2'-C3'-O3'	7.44	124.86	113.70
53	b	1839	G	O4'-C1'-C2'	-7.44	100.16	107.60
53	b	845	A	C4'-C3'-O3'	7.43	124.15	113.00
53	b	2756	U	C4'-C3'-O3'	7.39	120.49	109.40
53	b	877	A	C4'-C3'-O3'	7.39	124.09	113.00
53	b	559	G	C3'-C2'-O2'	7.39	121.78	110.70
53	b	2796	U	N1-C1'-C2'	7.38	123.07	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	2661	G	N9-C1'-C2'	7.35	123.02	112.00
53	b	196	A	C2'-C3'-O3'	-7.34	102.69	113.70
53	b	1204	A	C4'-C3'-O3'	-7.33	98.41	109.40
53	b	986	C	C1'-C2'-O2'	-7.32	97.42	108.40
53	b	866	A	O4'-C1'-C2'	-7.31	100.29	107.60
53	b	49	A	N9-C1'-C2'	7.30	124.96	114.00
53	b	2702	G	C2'-C3'-O3'	7.30	124.66	113.70
53	b	1210	G	C2'-C3'-O3'	7.29	120.43	109.50
53	b	2505	G	P-O3'-C3'	-7.27	109.30	120.20
53	b	2499	C	C4'-C3'-O3'	-7.27	102.10	113.00
53	b	2598	A	C4'-C3'-O3'	-7.26	102.10	113.00
53	b	1054	A	C4'-C3'-O3'	7.25	123.88	113.00
53	b	1084	A	N9-C1'-C2'	7.24	124.86	114.00
53	b	782	A	C4'-C3'-O3'	-7.24	98.54	109.40
53	b	1377	G	N9-C1'-C2'	7.24	122.86	112.00
53	b	564	C	N1-C1'-C2'	7.23	122.84	112.00
53	b	1085	A	C1'-C2'-O2'	-7.22	100.96	111.80
53	b	2012	G	C2'-C3'-O3'	7.21	124.52	113.70
53	b	2304	G	C2'-C3'-O3'	7.21	124.52	113.70
53	b	544	C	N1-C1'-C2'	7.19	124.78	114.00
53	b	2530	A	N9-C1'-C2'	7.18	122.78	112.00
53	b	2210	U	C4'-C3'-O3'	-7.16	98.66	109.40
53	b	2779	U	N1-C1'-C2'	7.15	124.72	114.00
53	b	931	U	N1-C1'-C2'	7.14	124.72	114.00
53	b	1078	U	C2'-C3'-O3'	7.14	124.41	113.70
53	b	1801	A	C4'-C3'-O3'	-7.13	98.70	109.40
53	b	2272	U	N1-C1'-C2'	7.13	122.70	112.00
53	b	2687	U	C1'-C2'-O2'	7.09	119.03	108.40
53	b	108	G	C1'-C2'-O2'	7.07	119.01	108.40
53	b	1088	A	C5'-C4'-O4'	7.06	119.69	109.10
53	b	2589	A	C2'-C3'-O3'	7.04	124.26	113.70
53	b	801	G	C4'-C3'-O3'	-7.04	102.44	113.00
53	b	2128	G	O4'-C1'-C2'	-7.04	100.56	107.60
53	b	1970	A	N9-C1'-C2'	7.03	124.55	114.00
53	b	2250	G	N9-C1'-C2'	7.02	124.54	114.00
53	b	2798	U	C4'-C3'-O3'	6.99	119.89	109.40
53	b	250	G	C1'-C2'-O2'	-6.98	101.32	111.80
53	b	2118	U	C3'-C2'-O2'	6.98	121.18	110.70
2	C	15	LYS	CA-C-N	6.98	126.97	119.78
2	C	15	LYS	C-N-CA	6.98	126.97	119.78
53	b	1098	A	C2'-C3'-O3'	6.97	124.16	113.70
53	b	241	A	C2'-C3'-O3'	6.97	119.95	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	2020	A	C1'-C2'-O2'	6.96	118.83	108.40
53	b	1265	A	N9-C1'-C2'	6.94	124.41	114.00
53	b	365	U	C4'-C3'-O3'	6.93	123.40	113.00
53	b	2616	C	C3'-C2'-O2'	6.92	121.08	110.70
53	b	631	A	C2'-C3'-O3'	-6.92	103.32	113.70
53	b	877	A	N9-C1'-C2'	-6.90	101.65	112.00
53	b	2330	G	O4'-C1'-C2'	-6.90	100.70	107.60
53	b	242	G	C1'-C2'-O2'	6.87	118.71	108.40
53	b	1266	G	O4'-C1'-C2'	-6.86	100.74	107.60
11	L	99	GLY	N-CA-C	-6.86	106.53	114.69
53	b	2150	C	O4'-C1'-C2'	-6.86	100.74	107.60
53	b	1377	G	C4'-C3'-O3'	-6.85	102.73	113.00
53	b	986	C	N1-C1'-C2'	6.84	122.25	112.00
53	b	1459	G	N9-C1'-C2'	6.83	124.25	114.00
53	b	762	U	C4'-C3'-O3'	6.80	119.61	109.40
53	b	464	U	N1-C1'-C2'	6.80	122.20	112.00
53	b	1143	A	N9-C1'-C2'	6.79	124.19	114.00
53	b	2832	U	C2'-C3'-O3'	-6.79	103.52	113.70
53	b	1349	C	O4'-C1'-C2'	-6.78	100.82	107.60
53	b	1678	A	C1'-C2'-O2'	6.76	118.54	108.40
53	b	827	U	C1'-C2'-O2'	-6.74	101.69	111.80
53	b	372	G	C1'-C2'-O2'	6.74	118.51	108.40
53	b	87	U	C2'-C3'-O3'	6.74	123.81	113.70
53	b	241	A	N9-C1'-C2'	6.73	124.10	114.00
53	b	1079	C	C3'-C2'-O2'	6.73	120.80	110.70
53	b	1087	G	C5'-C4'-C3'	6.71	125.26	115.20
53	b	2822	G	N9-C1'-C2'	6.71	122.06	112.00
53	b	787	C	C2'-C3'-O3'	-6.70	103.65	113.70
53	b	1392	A	N9-C1'-C2'	6.69	124.04	114.00
53	b	277	G	O4'-C1'-C2'	-6.69	100.91	107.60
53	b	1496	A	N9-C1'-C2'	6.69	122.04	112.00
53	b	160	A	N9-C1'-C2'	6.69	124.03	114.00
53	b	2118	U	O4'-C1'-C2'	-6.68	100.92	107.60
53	b	1704	C	C2'-C3'-O3'	6.67	123.70	113.70
11	L	101	LEU	CB-CA-C	-6.67	108.87	116.54
53	b	1101	U	C4'-C3'-O3'	6.67	123.00	113.00
53	b	2451	A	P-O3'-C3'	6.67	130.20	120.20
53	b	2889	C	N1-C1'-C2'	6.66	121.99	112.00
53	b	2051	A	N9-C1'-C2'	-6.66	104.02	114.00
53	b	273	G	N9-C1'-C2'	6.63	121.94	112.00
53	b	788	A	N9-C1'-C2'	-6.62	102.07	112.00
53	b	1567	G	N9-C1'-C2'	6.62	123.93	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	576	U	N1-C1'-C2'	6.61	121.92	112.00
53	b	1125	G	N9-C1'-C2'	6.61	121.92	112.00
53	b	247	G	C4'-C3'-O3'	-6.61	103.09	113.00
53	b	786	C	N1-C1'-C2'	6.60	121.90	112.00
53	b	120	U	C2'-C3'-O3'	6.58	119.38	109.50
53	b	1774	C	C1'-C2'-O2'	6.58	118.28	108.40
49	z	15	THR	CA-C-N	-6.58	113.49	120.66
49	z	15	THR	C-N-CA	-6.58	113.49	120.66
53	b	2161	C	C4'-C3'-O3'	-6.58	103.14	113.00
53	b	2443	C	C4'-C3'-O3'	-6.56	103.16	113.00
12	M	65	GLU	CB-CA-C	-6.56	109.00	116.54
53	b	2211	A	N9-C1'-C2'	6.56	123.84	114.00
53	b	1080	A	C8-N9-C1'	-6.55	108.05	127.70
53	b	1272	A	C2'-C3'-O3'	6.55	119.32	109.50
53	b	1400	U	N1-C1'-C2'	6.54	121.81	112.00
53	b	2262	U	C3'-C2'-O2'	6.54	120.51	110.70
53	b	72	U	N1-C1'-C2'	6.54	123.81	114.00
53	b	1100	C	C2'-C3'-O3'	-6.54	103.89	113.70
53	b	1253	A	C2'-C3'-O3'	6.53	119.29	109.50
53	b	2151	U	C2'-C3'-O3'	-6.53	103.91	113.70
53	b	1675	C	N1-C1'-C2'	6.52	121.78	112.00
53	b	1927	A	C2'-C3'-O3'	6.52	119.28	109.50
53	b	2497	A	C4'-C3'-O3'	6.51	119.17	109.40
53	b	1600	C	N1-C1'-C2'	6.50	121.76	112.00
53	b	2567	G	N9-C1'-C2'	6.50	121.75	112.00
53	b	159	G	C2'-C3'-O3'	6.49	119.24	109.50
53	b	801	G	C2'-C3'-O3'	6.48	123.42	113.70
53	b	2271	G	N9-C1'-C2'	6.48	121.71	112.00
53	b	1249	U	N1-C1'-C2'	6.47	121.71	112.00
53	b	1088	A	P-O5'-C5'	6.47	130.60	120.90
53	b	2180	U	C4'-C3'-O3'	6.47	122.70	113.00
53	b	465	G	N9-C1'-C2'	6.46	121.69	112.00
53	b	1055	G	C5'-C4'-O4'	6.46	118.79	109.10
53	b	979	A	N9-C1'-C2'	-6.46	102.31	112.00
53	b	2150	C	C4'-C3'-O3'	6.46	122.69	113.00
53	b	1054	A	O4'-C1'-C2'	-6.45	101.15	107.60
53	b	2025	C	N1-C1'-C2'	6.45	121.67	112.00
53	b	1078	U	N1-C1'-C2'	6.44	121.65	112.00
53	b	2117	A	N9-C1'-C2'	6.43	123.65	114.00
53	b	1416	G	C4'-C3'-O3'	6.43	119.04	109.40
53	b	608	A	N9-C1'-C2'	6.42	121.64	112.00
53	b	1266	G	C3'-C2'-O2'	6.42	120.32	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	1814	G	N9-C1'-C2'	6.41	121.61	112.00
53	b	1271	G	C1'-C2'-O2'	6.41	118.01	108.40
53	b	603	A	N9-C1'-C2'	6.41	123.61	114.00
3	D	146	GLU	N-CA-C	6.39	117.91	111.07
53	b	1070	A	N9-C1'-C2'	6.38	121.57	112.00
53	b	1080	A	C4-N9-C1'	6.38	145.43	126.30
53	b	242	G	O4'-C1'-C2'	-6.38	101.22	107.60
53	b	2750	A	N9-C1'-C2'	6.37	121.55	112.00
53	b	500	G	C1'-C2'-O2'	6.36	117.94	108.40
53	b	1294	U	O4'-C1'-C2'	-6.35	101.25	107.60
49	z	16	PRO	N-CA-C	-6.35	101.16	111.77
53	b	985	C	N1-C1'-C2'	6.34	121.52	112.00
53	b	779	U	O4'-C1'-C2'	-6.34	101.26	107.60
53	b	2600	A	C4'-C3'-O3'	-6.33	103.50	113.00
53	b	1080	A	O4'-C4'-C3'	-6.33	97.67	104.00
53	b	1761	C	N1-C1'-C2'	6.33	121.49	112.00
53	b	2467	C	N1-C1'-C2'	-6.31	102.53	112.00
53	b	250	G	C2'-C3'-O3'	6.31	118.97	109.50
53	b	1756	G	C5'-C4'-C3'	6.31	125.46	116.00
53	b	877	A	O4'-C4'-C3'	-6.30	97.70	104.00
53	b	1786	A	C2'-C3'-O3'	-6.30	100.05	109.50
53	b	786	C	C2'-C3'-O3'	-6.30	104.25	113.70
53	b	995	C	C4'-C3'-O3'	-6.29	99.97	109.40
53	b	1944	U	C4'-C3'-O3'	6.29	118.83	109.40
53	b	2448	A	C1'-C2'-O2'	-6.28	102.38	111.80
8	I	112	ARG	N-CA-C	6.27	118.74	108.52
53	b	1401	G	N9-C1'-C2'	6.26	121.40	112.00
53	b	1667	G	C1'-C2'-O2'	6.26	117.79	108.40
53	b	400	G	N9-C1'-C2'	6.26	121.39	112.00
52	a	42	C	N1-C1'-C2'	6.25	121.38	112.00
53	b	2526	G	C1'-C2'-O2'	6.25	117.78	108.40
53	b	1105	U	C1'-C2'-O2'	6.25	117.78	108.40
17	R	52	ARG	N-CA-C	-6.25	104.39	111.07
53	b	280	U	N1-C1'-C2'	6.24	121.36	112.00
53	b	1300	G	N9-C1'-C2'	6.24	123.36	114.00
53	b	1754	A	N9-C1'-C2'	6.24	121.36	112.00
53	b	1772	A	C4'-C3'-O3'	-6.24	103.64	113.00
53	b	1300	G	O4'-C4'-C3'	-6.22	99.88	106.10
53	b	423	A	N9-C1'-C2'	6.22	121.33	112.00
53	b	957	C	N1-C1'-C2'	6.21	123.31	114.00
53	b	2178	C	C4'-C3'-C2'	-6.21	96.39	102.60
53	b	2114	A	C4'-C3'-O3'	-6.21	103.69	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	N	68	ARG	CA-C-N	6.20	126.09	119.28
13	N	68	ARG	C-N-CA	6.20	126.09	119.28
29	c	217	ARG	CA-C-N	6.20	126.22	119.90
29	c	217	ARG	C-N-CA	6.20	126.22	119.90
53	b	2346	A	C4'-C3'-O3'	-6.20	100.11	109.40
53	b	2178	C	O4'-C4'-C3'	-6.19	97.81	104.00
12	M	110	GLY	CA-C-N	6.17	126.14	119.78
12	M	110	GLY	C-N-CA	6.17	126.14	119.78
53	b	242	G	N9-C1'-C2'	-6.17	102.75	112.00
53	b	1299	G	C4'-C3'-O3'	-6.16	103.76	113.00
53	b	1079	C	C1'-C2'-O2'	6.16	117.63	108.40
53	b	2152	G	O4'-C1'-C2'	-6.15	101.45	107.60
3	D	5	GLY	CA-C-N	6.15	126.09	119.76
3	D	5	GLY	C-N-CA	6.15	126.09	119.76
53	b	1055	G	N9-C1'-C2'	6.15	123.23	114.00
53	b	1508	A	C4'-C3'-O3'	-6.15	100.17	109.40
53	b	910	A	C1'-C2'-O2'	-6.14	102.60	111.80
53	b	1084	A	C1'-C2'-O2'	-6.14	102.60	111.80
53	b	574	A	N9-C1'-C2'	6.12	123.19	114.00
53	b	1088	A	O5'-C5'-C4'	6.11	120.86	111.70
53	b	1234	U	N1-C1'-C2'	6.11	121.16	112.00
53	b	2211	A	C2'-C3'-O3'	6.10	118.65	109.50
53	b	1847	A	C3'-C2'-O2'	6.09	119.83	110.70
53	b	1698	A	N9-C1'-C2'	6.09	123.13	114.00
53	b	487	C	C1'-C2'-O2'	6.08	117.52	108.40
53	b	1287	A	N9-C1'-C2'	6.06	121.09	112.00
53	b	410	G	C4'-C3'-O3'	-6.06	103.91	113.00
53	b	785	G	C4'-C3'-O3'	-6.04	103.93	113.00
53	b	400	G	C2'-C3'-O3'	6.04	122.77	113.70
52	a	55	U	C4'-C3'-O3'	-6.04	103.94	113.00
53	b	1891	G	C1'-C2'-O2'	6.04	117.45	108.40
53	b	1459	G	C1'-O4'-C4'	-6.03	103.67	109.70
53	b	562	U	C4'-C3'-O3'	-6.03	103.96	113.00
53	b	1231	U	O4'-C1'-C2'	-6.02	101.58	107.60
53	b	2708	G	C4'-C3'-O3'	-6.02	103.97	113.00
53	b	603	A	O4'-C4'-C3'	-6.02	100.08	106.10
53	b	1054	A	O3'-P-O5'	6.01	113.02	104.00
53	b	2708	G	O4'-C1'-C2'	-6.01	101.59	107.60
53	b	569	U	C2'-C3'-O3'	-6.00	104.70	113.70
53	b	1792	G	C1'-C2'-O2'	5.99	117.39	108.40
53	b	1998	A	C1'-C2'-O2'	5.99	117.39	108.40
53	b	1969	A	N9-C1'-C2'	5.99	120.98	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	c	158	ALA	N-CA-C	5.98	119.41	111.75
53	b	158	U	N1-C1'-C2'	5.98	122.96	114.00
53	b	877	A	C4'-C3'-C2'	-5.97	96.63	102.60
53	b	603	A	C2'-C3'-O3'	5.96	118.44	109.50
53	b	1569	A	N9-C1'-C2'	5.94	120.91	112.00
53	b	2160	C	C4'-C3'-O3'	5.94	121.91	113.00
53	b	1156	A	N9-C1'-C2'	5.93	122.90	114.00
53	b	1425	G	N9-C1'-C2'	5.93	120.90	112.00
53	b	2565	A	C3'-C2'-O2'	5.93	119.60	110.70
53	b	1142	A	C3'-C2'-O2'	5.93	119.60	110.70
15	P	40	ASN	CA-C-N	5.93	125.61	119.56
15	P	40	ASN	C-N-CA	5.93	125.61	119.56
53	b	448	U	N1-C1'-C2'	-5.91	105.14	114.00
52	a	56	G	C2'-C3'-O3'	5.90	118.36	109.50
53	b	2172	U	C3'-C2'-O2'	5.90	119.55	110.70
53	b	2702	G	O4'-C1'-C2'	-5.90	101.70	107.60
53	b	458	G	O4'-C1'-C2'	-5.90	101.70	107.60
53	b	2329	U	C1'-C2'-O2'	5.90	117.25	108.40
53	b	1805	A	C1'-C2'-O2'	5.90	117.25	108.40
53	b	215	G	N9-C1'-C2'	5.90	122.84	114.00
53	b	410	G	C2'-C3'-O3'	5.89	122.54	113.70
53	b	2869	G	N9-C1'-C2'	5.89	120.84	112.00
53	b	1488	C	O4'-C1'-C2'	-5.89	101.71	107.60
53	b	1057	A	C4'-C3'-C2'	-5.89	96.71	102.60
16	Q	80	LYS	N-CA-C	-5.89	106.64	113.88
53	b	157	C	N1-C1'-C2'	5.89	120.83	112.00
53	b	982	C	C1'-C2'-O2'	5.89	117.23	108.40
53	b	777	G	C2'-C3'-O3'	5.88	122.53	113.70
53	b	1585	C	N1-C1'-C2'	5.88	120.83	112.00
53	b	1461	C	N1-C1'-C2'	5.88	120.82	112.00
53	b	989	G	C1'-C2'-O2'	5.88	117.22	108.40
52	a	28	C	C4'-C3'-O3'	-5.87	104.19	113.00
53	b	2879	A	N9-C1'-C2'	5.87	122.80	114.00
53	b	1101	U	O4'-C1'-C2'	-5.86	101.74	107.60
53	b	1930	G	C3'-C2'-O2'	5.86	119.49	110.70
53	b	1953	A	C4'-C3'-O3'	-5.86	104.21	113.00
53	b	2471	A	C3'-C2'-O2'	5.86	119.49	110.70
53	b	953	G	C1'-C2'-O2'	5.86	117.19	108.40
53	b	858	G	N9-C1'-C2'	-5.85	103.22	112.00
53	b	2455	G	OP1-P-O3'	-5.85	90.46	108.00
53	b	210	C	O4'-C1'-C2'	-5.84	101.76	107.60
53	b	1023	U	C5'-C4'-C3'	5.84	124.76	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	2425	A	N9-C1'-C2'	5.84	122.75	114.00
53	b	1037	G	C3'-C2'-O2'	5.83	119.45	110.70
53	b	1069	A	O4'-C1'-N9	5.83	116.95	108.20
53	b	2340	A	N9-C1'-C2'	5.83	120.75	112.00
53	b	1393	A	N9-C1'-C2'	5.83	120.74	112.00
53	b	1033	U	C4'-C3'-O3'	5.83	121.74	113.00
53	b	2479	U	C1'-C2'-O2'	5.82	117.14	108.40
53	b	1061	U	C4'-C3'-O3'	5.82	118.13	109.40
53	b	2118	U	O4'-C1'-N1	5.82	117.23	108.50
53	b	2055	C	O3'-P-O5'	-5.80	95.30	104.00
53	b	2590	A	C3'-C2'-O2'	-5.80	101.99	110.70
53	b	2160	C	O4'-C4'-C3'	-5.80	98.20	104.00
53	b	196	A	O4'-C1'-C2'	-5.80	101.80	107.60
53	b	43	G	N9-C1'-C2'	5.80	120.70	112.00
53	b	1224	U	N1-C1'-C2'	5.79	120.69	112.00
53	b	876	C	C1'-C2'-O2'	-5.79	103.12	111.80
52	a	15	A	N9-C1'-C2'	5.79	122.68	114.00
53	b	2250	G	C2'-C3'-O3'	5.79	118.18	109.50
53	b	9	G	C2'-C3'-O3'	5.78	122.37	113.70
53	b	1646	C	O4'-C1'-C2'	-5.78	101.82	107.60
53	b	809	G	N9-C1'-C2'	5.77	120.66	112.00
53	b	1255	U	C1'-C2'-O2'	5.77	117.05	108.40
53	b	2210	U	C2'-C3'-O3'	5.76	118.14	109.50
53	b	82	U	C4'-C3'-O3'	-5.76	104.36	113.00
53	b	1331	G	C4'-C3'-O3'	-5.75	104.37	113.00
53	b	1508	A	N9-C1'-C2'	5.75	122.63	114.00
53	b	1032	A	C1'-C2'-O2'	5.75	117.02	108.40
53	b	1980	G	N9-C1'-C2'	-5.75	105.38	114.00
53	b	24	G	N9-C1'-C2'	5.74	120.62	112.00
53	b	356	G	N9-C1'-C2'	5.74	120.61	112.00
53	b	2766	A	O4'-C1'-C2'	-5.74	101.86	107.60
53	b	1024	G	C1'-C2'-O2'	5.74	117.01	108.40
53	b	2576	G	N9-C1'-C2'	5.73	120.60	112.00
53	b	1786	A	C4'-C3'-O3'	-5.73	100.80	109.40
53	b	962	G	C1'-C2'-O2'	5.73	116.99	108.40
53	b	1330	C	N1-C1'-C2'	5.72	120.59	112.00
53	b	1094	U	C4'-C3'-O3'	5.72	121.58	113.00
34	h	10	ALA	CB-CA-C	-5.72	109.97	116.54
53	b	2698	U	C1'-C2'-O2'	5.71	116.97	108.40
53	b	2755	C	O4'-C1'-C2'	-5.71	101.89	107.60
53	b	757	G	O4'-C1'-C2'	-5.71	101.89	107.60
53	b	583	G	C1'-C2'-O2'	5.70	116.95	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	2574	G	C1'-C2'-O2'	5.70	116.95	108.40
53	b	417	C	C4'-C3'-O3'	5.70	121.55	113.00
53	b	1668	A	C1'-C2'-O2'	5.69	120.34	111.80
34	h	64	ALA	N-CA-C	-5.69	105.16	111.36
53	b	1099	G	O4'-C1'-C2'	-5.69	101.91	107.60
53	b	2127	G	N9-C1'-C2'	5.69	122.53	114.00
53	b	1081	U	C4'-C3'-O3'	5.68	121.53	113.00
53	b	243	U	O4'-C1'-C2'	-5.68	101.92	107.60
53	b	2838	G	C1'-C2'-O2'	5.67	116.91	108.40
53	b	2161	C	C3'-C2'-O2'	5.67	119.21	110.70
53	b	2021	C	C4'-C3'-O3'	-5.66	100.92	109.40
53	b	199	A	C2'-C3'-O3'	-5.65	105.22	113.70
53	b	2273	A	C1'-C2'-O2'	-5.65	99.92	108.40
53	b	1057	A	N9-C1'-C2'	-5.65	103.52	112.00
53	b	1601	G	N9-C1'-C2'	5.65	120.48	112.00
53	b	1446	C	N1-C1'-C2'	5.64	120.47	112.00
53	b	1087	G	P-O3'-C3'	5.64	128.66	120.20
53	b	1238	G	C2'-C3'-O3'	5.64	122.16	113.70
53	b	2543	G	O4'-C1'-C2'	-5.64	101.96	107.60
53	b	2867	G	C3'-C2'-O2'	5.63	119.15	110.70
53	b	723	C	N1-C1'-C2'	5.63	120.45	112.00
53	b	167	A	N9-C1'-C2'	5.63	120.44	112.00
53	b	2680	U	C4'-C3'-O3'	-5.63	104.56	113.00
2	C	96	VAL	CA-C-N	5.62	125.57	119.78
2	C	96	VAL	C-N-CA	5.62	125.57	119.78
53	b	210	C	C1'-C2'-O2'	5.62	116.83	108.40
53	b	1393	A	C4'-C3'-O3'	-5.62	104.58	113.00
31	e	62	GLN	N-CA-C	-5.61	106.44	113.28
53	b	84	A	N9-C1'-C2'	-5.61	105.59	114.00
53	b	2345	G	C2'-C3'-O3'	5.60	117.91	109.50
53	b	1098	A	O4'-C4'-C3'	-5.60	98.40	104.00
53	b	1204	A	C2'-C3'-O3'	5.60	117.90	109.50
53	b	2564	A	N9-C1'-C2'	5.59	122.39	114.00
53	b	108	G	N9-C1'-C2'	-5.59	103.61	112.00
53	b	387	U	N1-C1'-C2'	5.59	122.38	114.00
53	b	1103	A	C4'-C3'-C2'	-5.58	97.02	102.60
53	b	1219	U	O4'-C1'-C2'	-5.58	102.02	107.60
53	b	578	G	C1'-C2'-O2'	5.57	116.75	108.40
53	b	1663	G	C4'-C3'-O3'	-5.57	104.64	113.00
53	b	2330	G	C1'-C2'-O2'	5.57	116.75	108.40
53	b	2518	A	O4'-C4'-C3'	-5.57	100.53	106.10
53	b	742	A	C4'-C3'-O3'	-5.56	104.66	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	G	86	VAL	CA-C-N	5.56	125.46	119.85
6	G	86	VAL	C-N-CA	5.56	125.46	119.85
53	b	1314	C	O4'-C1'-C2'	-5.56	102.04	107.60
53	b	2521	C	C1'-C2'-O2'	5.56	116.73	108.40
53	b	1528	A	N9-C1'-C2'	5.55	120.33	112.00
11	L	13	ARG	CA-C-O	5.55	121.16	117.94
53	b	2617	U	O4'-C1'-C2'	-5.55	102.05	107.60
53	b	2169	A	N9-C1'-C2'	5.54	120.30	112.00
53	b	2308	G	C2'-C3'-O3'	-5.53	105.40	113.70
53	b	214	G	N9-C1'-C2'	5.53	120.29	112.00
53	b	1069	A	O4'-C1'-C2'	-5.53	100.27	105.80
16	Q	30	HIS	CA-C-N	5.52	125.35	119.28
16	Q	30	HIS	C-N-CA	5.52	125.35	119.28
53	b	1256	G	O4'-C1'-C2'	-5.52	102.08	107.60
53	b	2376	A	C2'-C3'-O3'	-5.52	105.42	113.70
53	b	2458	G	N9-C1'-C2'	-5.52	103.72	112.00
53	b	2273	A	N9-C1'-C2'	5.52	120.27	112.00
53	b	651	G	O4'-C1'-C2'	-5.51	102.09	107.60
53	b	2257	U	N1-C1'-C2'	5.51	120.27	112.00
53	b	1133	A	C3'-C2'-O2'	5.51	118.96	110.70
53	b	477	A	N9-C1'-C2'	5.50	122.25	114.00
53	b	1759	A	O4'-C1'-C2'	-5.50	102.10	107.60
53	b	2711	A	C4'-C3'-O3'	-5.50	104.76	113.00
53	b	2086	U	C1'-C2'-O2'	5.49	116.63	108.40
53	b	2034	U	N1-C1'-C2'	5.48	120.22	112.00
53	b	768	G	C4'-C3'-O3'	-5.48	104.78	113.00
53	b	1229	C	O4'-C1'-C2'	-5.48	102.12	107.60
53	b	1231	U	C4'-C3'-O3'	5.48	121.22	113.00
53	b	914	G	C4'-C3'-O3'	5.48	121.22	113.00
53	b	447	A	N9-C1'-C2'	-5.47	105.79	114.00
53	b	417	C	N1-C1'-C2'	-5.47	103.79	112.00
53	b	779	U	C1'-C2'-O2'	5.46	116.59	108.40
53	b	109	C	O4'-C1'-C2'	-5.46	102.14	107.60
53	b	1122	G	O4'-C1'-C2'	-5.46	102.14	107.60
53	b	2449	U	C1'-C2'-O2'	5.46	116.58	108.40
53	b	98	G	N9-C1'-C2'	5.45	120.18	112.00
53	b	387	U	O4'-C4'-C3'	-5.45	100.65	106.10
53	b	979	A	C4'-C3'-C2'	-5.45	97.15	102.60
53	b	2012	G	C4'-C3'-O3'	-5.44	104.84	113.00
53	b	568	U	C1'-C2'-O2'	5.44	116.56	108.40
53	b	2575	C	C4'-C3'-O3'	5.44	121.16	113.00
53	b	1086	A	C2'-C3'-O3'	-5.43	105.55	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	450	G	C2'-C3'-O3'	5.43	121.84	113.70
53	b	1506	U	N1-C1'-C2'	5.42	120.14	112.00
53	b	375	G	O4'-C1'-C2'	-5.42	102.18	107.60
53	b	1080	A	C1'-O4'-C4'	-5.42	104.48	109.90
53	b	877	A	C2'-C3'-O3'	5.42	121.83	113.70
53	b	2304	G	C3'-C2'-O2'	5.41	118.82	110.70
53	b	231	A	N9-C1'-C2'	5.41	120.12	112.00
53	b	1804	C	C2'-C3'-O3'	5.40	121.81	113.70
53	b	1999	C	C1'-C2'-O2'	5.40	116.50	108.40
53	b	2750	A	C2'-C3'-O3'	5.39	121.79	113.70
53	b	631	A	N9-C1'-C2'	5.39	120.08	112.00
53	b	388	G	O4'-C4'-C3'	-5.38	98.62	104.00
53	b	464	U	C2'-C3'-O3'	-5.38	105.62	113.70
53	b	1497	U	C2'-C3'-O3'	-5.38	105.62	113.70
53	b	1080	A	O4'-C1'-N9	5.38	116.57	108.50
53	b	2181	U	O4'-C1'-C2'	-5.38	102.22	107.60
53	b	1830	C	O4'-C1'-C2'	-5.38	102.22	107.60
53	b	1100	C	O4'-C1'-C2'	-5.37	102.23	107.60
53	b	2645	G	N9-C1'-C2'	-5.37	103.95	112.00
53	b	827	U	C4'-C3'-O3'	5.36	117.44	109.40
53	b	388	G	C1'-O4'-C4'	-5.36	104.54	109.90
53	b	1618	A	N9-C1'-C2'	5.36	122.03	114.00
52	a	106	G	N9-C1'-C2'	5.35	120.03	112.00
53	b	580	U	C3'-C2'-O2'	5.35	118.73	110.70
53	b	112	U	N1-C1'-C2'	5.35	120.02	112.00
53	b	2162	G	C1'-O4'-C4'	-5.35	104.55	109.90
53	b	202	U	N1-C1'-C2'	5.34	120.01	112.00
53	b	143	C	N1-C1'-C2'	5.34	120.01	112.00
53	b	1103	A	O4'-C4'-C3'	-5.34	98.66	104.00
53	b	2118	U	C1'-O4'-C4'	-5.33	104.57	109.90
53	b	2577	A	N9-C1'-C2'	5.32	119.99	112.00
53	b	1081	U	O4'-C4'-C3'	-5.32	98.68	104.00
53	b	1848	A	O4'-C1'-C2'	-5.32	102.28	107.60
53	b	228	C	C4'-C3'-O3'	5.32	117.38	109.40
53	b	1927	A	N9-C1'-C2'	5.32	121.97	114.00
53	b	2488	G	N9-C1'-C2'	5.32	119.97	112.00
53	b	2750	A	C4'-C3'-O3'	-5.32	105.03	113.00
53	b	2183	A	C4'-C3'-O3'	5.31	120.97	113.00
53	b	478	A	C4'-C3'-O3'	5.31	117.37	109.40
53	b	2165	C	N1-C1'-C2'	5.31	119.97	112.00
4	E	55	VAL	CB-CA-C	-5.31	107.05	114.00
54	v	76	A	C2'-C3'-O3'	5.31	117.46	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	I	111	GLU	N-CA-C	-5.31	102.53	110.23
52	a	45	A	O4'-C1'-C2'	-5.31	102.29	107.60
53	b	2564	A	C1'-C2'-O2'	-5.31	103.84	111.80
53	b	450	G	C1'-C2'-O2'	5.31	116.36	108.40
53	b	1080	A	C4'-C3'-O3'	5.31	120.96	113.00
53	b	2127	G	C2'-C3'-O3'	5.30	117.46	109.50
2	C	199	VAL	N-CA-C	5.30	115.61	107.77
53	b	1599	U	N1-C1'-C2'	5.30	119.95	112.00
53	b	2903	U	C4'-C3'-O3'	-5.30	105.05	113.00
53	b	2336	A	N9-C1'-C2'	5.30	121.94	114.00
53	b	2536	G	N9-C1'-C2'	5.29	119.94	112.00
53	b	2614	A	N9-C1'-C2'	-5.29	106.06	114.00
13	N	74	ARG	N-CA-C	5.29	117.79	111.71
53	b	2439	A	N9-C1'-C2'	-5.29	104.07	112.00
53	b	1209	U	N1-C1'-C2'	5.29	119.93	112.00
53	b	818	G	C1'-C2'-O2'	5.28	116.32	108.40
53	b	726	G	C4'-C3'-O3'	-5.28	105.08	113.00
34	h	31	VAL	CA-C-N	5.28	139.67	127.00
34	h	31	VAL	C-N-CA	5.28	139.67	127.00
6	G	90	VAL	N-CA-C	5.27	116.82	109.55
53	b	2262	U	C2'-C3'-O3'	5.27	121.61	113.70
53	b	2480	C	O4'-C1'-C2'	-5.27	102.33	107.60
53	b	996	A	O4'-C1'-C2'	-5.27	102.33	107.60
53	b	803	U	C3'-C2'-O2'	5.26	118.60	110.70
53	b	1348	C	O4'-C1'-C2'	-5.26	102.34	107.60
53	b	1777	U	N1-C1'-C2'	5.26	119.89	112.00
53	b	1268	A	C1'-C2'-O2'	5.25	116.28	108.40
53	b	2487	G	N9-C1'-C2'	5.25	119.88	112.00
53	b	2517	C	C3'-C2'-O2'	5.25	118.58	110.70
53	b	976	G	N9-C1'-C2'	5.25	119.88	112.00
53	b	256	A	O4'-C1'-C2'	-5.25	102.35	107.60
53	b	822	G	C4'-C3'-O3'	-5.25	105.13	113.00
53	b	1086	A	C4'-C3'-O3'	5.25	120.87	113.00
53	b	1069	A	C1'-O4'-C4'	-5.25	104.45	109.70
53	b	388	G	C4'-C3'-O3'	5.24	120.86	113.00
52	a	51	G	C4'-C3'-O3'	-5.24	105.14	113.00
53	b	1774	C	O4'-C1'-C2'	-5.23	102.37	107.60
5	F	11	HIS	CA-C-N	5.23	125.03	119.28
5	F	11	HIS	C-N-CA	5.23	125.03	119.28
53	b	674	G	C4'-C3'-C2'	-5.23	97.37	102.60
11	L	13	ARG	CB-CA-C	-5.23	109.54	117.07
53	b	1809	A	N9-C1'-C2'	5.23	119.84	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	959	A	C1'-C2'-O2'	-5.23	100.56	108.40
53	b	1266	G	O4'-C1'-N9	5.22	116.33	108.50
53	b	2152	G	O5'-C5'-C4'	5.22	119.33	111.50
53	b	981	A	N9-C1'-C2'	5.22	119.83	112.00
53	b	1428	C	C4'-C3'-O3'	5.22	117.23	109.40
53	b	2142	A	C4'-C3'-O3'	-5.22	105.17	113.00
53	b	2330	G	C3'-C2'-O2'	-5.22	102.88	110.70
53	b	2821	A	N9-C1'-C2'	5.21	119.82	112.00
52	a	39	A	N9-C1'-C2'	5.21	119.82	112.00
53	b	2688	G	C1'-C2'-O2'	5.21	116.22	108.40
53	b	363	G	N9-C1'-C2'	5.21	119.81	112.00
53	b	1769	U	O4'-C1'-C2'	-5.21	102.39	107.60
53	b	1157	G	O4'-C1'-C2'	-5.21	102.39	107.60
53	b	1102	C	O4'-C1'-C2'	-5.20	102.40	107.60
53	b	734	A	C1'-C2'-O2'	5.20	116.20	108.40
53	b	1433	A	N9-C1'-C2'	5.20	119.80	112.00
53	b	2128	G	C2'-C3'-O3'	-5.20	105.91	113.70
53	b	454	A	N9-C1'-C2'	5.19	121.79	114.00
53	b	2332	C	N1-C1'-C2'	5.19	119.79	112.00
53	b	562	U	N1-C1'-C2'	5.18	119.78	112.00
24	3	32	LYS	CB-CA-C	-5.18	100.72	110.67
53	b	385	C	N1-C1'-C2'	5.18	121.78	114.00
53	b	1310	G	C1'-C2'-O2'	5.18	116.17	108.40
53	b	1062	G	C4'-C3'-O3'	5.18	120.77	113.00
53	b	1803	A	C4'-C3'-O3'	-5.18	105.23	113.00
53	b	800	A	N9-C1'-C2'	5.18	121.77	114.00
53	b	2654	A	N9-C1'-C2'	5.17	121.76	114.00
53	b	614	A	C4'-C3'-O3'	-5.17	101.65	109.40
53	b	1363	C	C1'-C2'-O2'	5.16	116.15	108.40
53	b	2539	C	N1-C1'-C2'	5.16	119.75	112.00
53	b	2645	G	C2'-C3'-O3'	-5.16	105.95	113.70
53	b	2028	U	C3'-C2'-O2'	5.16	118.44	110.70
53	b	204	A	C4'-C3'-O3'	-5.16	101.66	109.40
53	b	675	A	C3'-C2'-O2'	5.16	118.44	110.70
53	b	116	C	C3'-C2'-O2'	-5.16	102.97	110.70
53	b	1544	A	N9-C1'-C2'	5.16	119.73	112.00
53	b	1939	U	C2'-C3'-O3'	5.15	117.22	109.50
53	b	2127	G	O4'-C4'-C3'	-5.15	100.95	106.10
8	I	108	ARG	N-CA-C	5.15	117.69	110.23
53	b	783	A	O4'-C4'-C3'	-5.15	98.85	104.00
53	b	500	G	N9-C1'-C2'	-5.15	104.28	112.00
53	b	2839	G	O4'-C1'-C2'	-5.14	102.46	107.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	1583	A	N9-C1'-C2'	-5.14	106.29	114.00
53	b	1017	G	O4'-C1'-C2'	-5.13	102.47	107.60
3	D	193	ASP	N-CA-C	-5.13	106.99	113.20
53	b	479	A	N9-C1'-C2'	5.12	121.69	114.00
53	b	2106	U	C2'-C3'-O3'	5.12	121.38	113.70
53	b	2725	A	C2'-C3'-O3'	5.12	117.18	109.50
53	b	2505	G	N9-C1'-C2'	5.12	119.68	112.00
52	a	43	C	N1-C1'-C2'	5.11	119.67	112.00
49	z	23	GLN	N-CA-C	5.11	117.64	110.23
53	b	871	U	C4'-C3'-O3'	-5.11	105.34	113.00
53	b	1499	C	C1'-C2'-O2'	5.11	116.06	108.40
19	T	84	LYS	N-CA-C	-5.10	106.74	113.17
53	b	2446	G	C3'-C2'-O2'	5.09	118.34	110.70
53	b	2583	G	N9-C1'-C2'	5.09	119.64	112.00
53	b	1779	U	C1'-C2'-O2'	5.09	116.03	108.40
53	b	1253	A	N9-C1'-C2'	5.09	121.63	114.00
53	b	1665	A	C1'-C2'-O2'	5.08	116.03	108.40
53	b	2614	A	C4'-C3'-O3'	5.08	117.03	109.40
53	b	45	G	N9-C1'-C2'	5.08	119.62	112.00
53	b	446	G	C1'-C2'-O2'	5.08	116.02	108.40
53	b	2616	C	C4'-C3'-O3'	-5.07	105.39	113.00
53	b	2055	C	C2'-C3'-O3'	5.07	121.31	113.70
53	b	2471	A	C4'-C3'-O3'	5.07	120.61	113.00
53	b	1369	G	N9-C1'-C2'	5.07	119.60	112.00
52	a	26	C	N1-C1'-C2'	5.07	119.60	112.00
53	b	1187	G	N9-C1'-C2'	5.07	119.60	112.00
53	b	1494	A	N9-C1'-C2'	5.07	119.60	112.00
53	b	1520	U	N1-C1'-C2'	5.07	119.60	112.00
53	b	2577	A	C4'-C3'-O3'	-5.06	105.40	113.00
53	b	995	C	O4'-C4'-C3'	-5.06	101.04	106.10
15	P	14	ARG	CA-C-N	5.06	126.17	119.84
15	P	14	ARG	C-N-CA	5.06	126.17	119.84
34	h	31	VAL	C-N-CD	-5.06	109.47	120.60
53	b	2174	C	C2'-C3'-O3'	5.06	117.08	109.50
53	b	2307	G	N9-C1'-C2'	5.06	121.58	114.00
53	b	1343	G	N9-C1'-C2'	5.06	119.58	112.00
53	b	978	G	C2'-C3'-O3'	5.05	121.28	113.70
53	b	2282	G	O4'-C1'-C2'	-5.05	100.75	105.80
53	b	2596	U	C2'-C3'-O3'	-5.05	106.12	113.70
53	b	896	A	O4'-C4'-C3'	-5.05	98.95	104.00
11	L	94	TYR	N-CA-C	5.04	114.70	108.19
53	b	1056	G	N9-C1'-C2'	5.04	121.57	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	b	1495	A	N9-C1'-C2'	5.04	121.57	114.00
53	b	1088	A	O4'-C4'-C3'	-5.04	101.06	106.10
52	a	44	G	C2'-C3'-O3'	5.04	117.06	109.50
53	b	559	G	N9-C1'-C2'	-5.04	104.44	112.00
53	b	1033	U	C3'-C2'-C1'	5.03	106.33	101.30
53	b	2665	A	C1'-C2'-O2'	5.03	115.95	108.40
53	b	914	G	C4'-C3'-C2'	-5.03	97.57	102.60
53	b	1188	U	C4'-C3'-O3'	-5.03	105.46	113.00
53	b	662	G	O4'-C1'-C2'	-5.03	102.57	107.60
53	b	2588	G	C1'-C2'-O2'	5.03	115.94	108.40
49	z	16	PRO	CA-N-CD	-5.02	104.97	112.00
53	b	595	C	C1'-C2'-O2'	5.02	115.93	108.40
8	I	39	GLY	N-CA-C	-5.02	107.48	115.66
53	b	251	A	N9-C1'-C2'	5.02	119.53	112.00
53	b	2823	A	N9-C1'-C2'	5.02	119.53	112.00
53	b	411	G	N9-C1'-C2'	5.01	121.52	114.00
53	b	1797	G	N9-C1'-C2'	5.01	119.52	112.00
53	b	2442	C	N1-C1'-C2'	5.01	119.52	112.00
53	b	1392	A	C1'-O4'-C4'	-5.01	104.69	109.70
53	b	2155	U	O4'-C1'-C2'	-5.01	102.59	107.60
53	b	198	C	C1'-C2'-O2'	5.01	115.92	108.40
53	b	1570	A	C4'-C3'-O3'	-5.01	105.48	113.00
53	b	2497	A	N9-C1'-C2'	-5.01	106.48	114.00
53	b	668	A	C2'-C3'-O3'	5.01	121.21	113.70
53	b	1918	A	N9-C1'-C2'	-5.00	104.49	112.00
53	b	1080	A	C5'-C4'-O4'	5.00	117.30	109.80
53	b	1801	A	N9-C1'-C2'	5.00	121.50	114.00

There are no chirality outliers.

All (80) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
23	2	3	LYS	Peptide
11	L	71	HIS	Peptide
52	a	45	A	Sidechain
53	b	1057	A	Sidechain
53	b	1060	U	Sidechain
53	b	1069	A	Sidechain
53	b	1079	C	Sidechain
53	b	1088	A	Sidechain
53	b	1102	C	Sidechain
53	b	1103	A	Sidechain

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Mol	Chain	Res	Type	Group
53	b	1104	C	Sidechain
53	b	1143	A	Sidechain
53	b	1186	G	Sidechain
53	b	119	A	Sidechain
53	b	1204	A	Sidechain
53	b	1225	G	Sidechain
53	b	1266	G	Sidechain
53	b	1272	A	Sidechain
53	b	1275	A	Sidechain
53	b	1300	G	Sidechain
53	b	1392	A	Sidechain
53	b	1395	A	Sidechain
53	b	1509	A	Sidechain
53	b	1667	G	Sidechain
53	b	1678	A	Sidechain
53	b	1698	A	Sidechain
53	b	1759	A	Sidechain
53	b	1774	C	Sidechain
53	b	1829	A	Sidechain
53	b	1927	A	Sidechain
53	b	1943	U	Sidechain
53	b	196	A	Sidechain
53	b	2092	U	Sidechain
53	b	210	C	Sidechain
53	b	2118	U	Sidechain
53	b	2159	G	Sidechain
53	b	2160	C	Sidechain
53	b	2161	C	Sidechain
53	b	2178	C	Sidechain
53	b	2210	U	Sidechain
53	b	2211	A	Sidechain
53	b	2282	G	Sidechain
53	b	2330	G	Sidechain
53	b	241	A	Sidechain
53	b	242	G	Sidechain
53	b	2449	U	Sidechain
53	b	246	C	Sidechain
53	b	247	G	Sidechain
53	b	25	U	Sidechain
53	b	250	G	Sidechain
53	b	2517	C	Sidechain
53	b	2518	A	Sidechain

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Mol	Chain	Res	Type	Group
53	b	2564	A	Sidechain
53	b	2590	A	Sidechain
53	b	2597	G	Sidechain
53	b	2615	U	Sidechain
53	b	2750	A	Sidechain
53	b	2766	A	Sidechain
53	b	277	G	Sidechain
53	b	2796	U	Sidechain
53	b	2799	A	Sidechain
53	b	2886	A	Sidechain
53	b	388	G	Sidechain
53	b	574	A	Sidechain
53	b	603	A	Sidechain
53	b	674	G	Sidechain
53	b	75	G	Sidechain
53	b	779	U	Sidechain
53	b	782	A	Sidechain
53	b	783	A	Sidechain
53	b	788	A	Sidechain
53	b	801	G	Sidechain
53	b	959	A	Sidechain
53	b	973	A	Sidechain
53	b	979	A	Sidechain
29	c	232	HIS	Peptide
30	d	151	THR	Peptide
36	k	34	GLY	Peptide
37	l	102	GLY	Peptide
43	r	50	GLY	Peptide

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	B	1704	0	1732	61	0
2	C	1624	0	1699	50	0
3	D	1643	0	1710	83	0
4	E	1105	0	1148	44	0
5	F	817	0	808	33	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	G	1174	0	1230	27	0
7	H	979	0	1034	32	0
8	I	1022	0	1067	134	0
9	J	786	0	828	41	0
10	K	877	0	887	34	0
11	L	955	0	1019	35	0
12	M	876	0	935	29	0
13	N	774	0	827	39	0
14	O	716	0	742	16	0
15	P	649	0	663	121	0
16	Q	648	0	691	32	0
17	R	455	0	478	23	0
18	S	637	0	665	37	0
19	T	665	0	714	26	0
20	U	425	0	449	31	0
21	0	625	0	652	7	0
22	1	501	0	531	13	0
23	2	449	0	488	18	0
24	3	444	0	457	13	0
25	4	409	0	440	1	0
26	6	377	0	418	11	0
27	7	504	0	572	7	0
28	8	302	0	343	13	0
29	c	2082	0	2154	58	0
30	d	1565	0	1616	20	0
31	e	1552	0	1619	65	0
32	f	1410	0	1444	31	0
33	g	1323	0	1371	31	0
34	h	1111	0	1148	90	0
35	j	1129	0	1162	27	0
36	k	938	0	1012	17	0
37	l	1053	0	1129	16	0
38	m	1063	0	1143	53	0
39	n	960	0	1000	40	0
40	o	892	0	923	10	0
41	p	917	0	960	40	0
42	q	947	0	1019	21	0
43	r	816	0	839	17	0
44	s	857	0	922	36	0
45	t	738	0	807	8	0
46	u	779	0	831	15	0
47	w	753	0	780	12	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
48	y	569	0	581	7	0
49	z	203	0	198	91	0
50	A	32831	0	16518	916	0
51	X	232	0	118	25	0
52	a	2528	0	1283	206	0
53	b	62321	0	31336	5597	0
54	v	1623	0	823	52	0
All	All	143334	0	95963	7984	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 34.

All (7984) 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)
50:A:230:G:C5	50:A:230:G:C6	1.82	1.68
53:b:2798:U:H2'	53:b:2799:A:C2	1.19	1.67
8:I:111:GLU:CB	50:A:1348:U:C4'	1.75	1.65
50:A:702:A:C2	53:b:1848:A:C8	1.90	1.58
15:P:70:ARG:HG2	50:A:375:U:C5'	1.15	1.57
53:b:1172:C:N4	53:b:1178:C:C4	1.77	1.52
49:z:25:ILE:HG22	49:z:27:ALA:CB	1.36	1.50
50:A:230:G:C5	50:A:230:G:C4	1.75	1.50
50:A:230:G:C4	50:A:230:G:N3	1.76	1.50
50:A:230:G:N3	50:A:230:G:C2	1.76	1.50
53:b:751:A:C2	53:b:789:A:C4	2.00	1.50
53:b:749:A:C6	53:b:1618:A:C2	2.01	1.49
50:A:230:G:C2	50:A:230:G:N1	1.80	1.48
49:z:25:ILE:CG2	49:z:27:ALA:HB2	1.40	1.47
15:P:70:ARG:CG	50:A:375:U:H5'	1.08	1.45
50:A:230:G:C6	50:A:230:G:N1	1.82	1.44
53:b:1053:C:C4	53:b:1107:G:N2	1.86	1.44
8:I:111:GLU:CB	50:A:1348:U:H4'	0.95	1.42
53:b:1172:C:H41	53:b:1178:C:N4	1.08	1.42
53:b:2798:U:C2'	53:b:2799:A:H2	1.30	1.41
44:s:93:ALA:HB3	49:z:13:PHE:CE2	1.56	1.41
8:I:111:GLU:CG	50:A:1348:U:H4'	1.50	1.40
34:h:63:ALA:CA	34:h:149:GLU:OXT	1.67	1.39
44:s:93:ALA:CB	49:z:13:PHE:CE2	2.04	1.39
39:n:16:HIS:CD2	39:n:20:MET:HE2	1.56	1.39
53:b:1786:A:H2	53:b:1938:A:N7	1.19	1.39

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:P:5:ARG:CD	50:A:377:G:OP1	1.71	1.38
50:A:996:A:C5	50:A:997:U:H5	1.42	1.38
53:b:2535:G:C2	53:b:2536:G:C8	2.12	1.37
53:b:2110:G:O6	53:b:2179:C:N3	1.59	1.35
15:P:12:LYS:HG3	50:A:392:C:P	1.66	1.34
53:b:2798:U:H6	53:b:2799:A:N1	1.24	1.34
50:A:702:A:N3	53:b:1848:A:C8	1.94	1.33
49:z:25:ILE:CG2	49:z:27:ALA:CB	1.94	1.33
53:b:1054:A:N1	53:b:1105:U:O4	1.60	1.33
53:b:1053:C:C4	53:b:1107:G:C2	2.15	1.32
53:b:1053:C:N4	53:b:1107:G:N1	1.74	1.32
53:b:1058:U:H3	53:b:1080:A:N6	1.26	1.32
53:b:1786:A:C2	53:b:1938:A:N7	1.96	1.32
8:I:111:GLU:HB3	50:A:1348:U:C5'	1.58	1.31
10:K:88:PRO:CG	20:U:28:LEU:HD11	1.59	1.31
53:b:2468:A:C2	53:b:2481:G:N2	1.97	1.30
8:I:105:ARG:HD3	8:I:106:ASP:N	1.46	1.30
53:b:1383:A:C2	53:b:1384:A:C6	2.18	1.30
10:K:88:PRO:HG3	20:U:28:LEU:CD1	1.59	1.30
53:b:1021:A:N6	53:b:1141:U:N3	1.80	1.30
53:b:2468:A:N1	53:b:2481:G:N1	1.80	1.30
8:I:111:GLU:N	50:A:1348:U:P	2.05	1.29
53:b:2152:G:C2	53:b:2153:C:H1'	1.65	1.29
15:P:5:ARG:HD3	50:A:377:G:P	1.71	1.29
49:z:26:ARG:NH1	53:b:2451:A:C2	2.00	1.29
53:b:2331:G:C2	53:b:2332:C:C6	2.20	1.29
34:h:63:ALA:HA	34:h:149:GLU:OXT	1.20	1.28
53:b:1383:A:H2	53:b:1384:A:N1	1.27	1.28
53:b:751:A:C2	53:b:789:A:N3	1.97	1.28
53:b:2885:G:C5	53:b:2886:A:H1'	1.69	1.28
53:b:2287:A:N1	53:b:2344:U:O4	1.63	1.28
15:P:3:THR:CG2	50:A:377:G:OP2	1.82	1.27
53:b:1785:A:O2'	53:b:1786:A:H5''	1.25	1.27
53:b:2128:G:N2	53:b:2160:C:C2	1.99	1.27
53:b:1069:A:N7	53:b:1073:A:N7	1.82	1.27
53:b:2206:C:C2	53:b:2207:C:C5	2.20	1.27
53:b:2798:U:O2'	53:b:2800:A:C2	1.82	1.27
53:b:388:G:N7	53:b:390:U:C5	2.03	1.26
50:A:996:A:C5	50:A:997:U:C5	2.24	1.26
53:b:1172:C:C2	53:b:1173:U:C6	2.24	1.25
53:b:847:U:C4	53:b:933:A:C6	2.25	1.24

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:z:17:VAL:CG2	49:z:18:TRP:HB3	1.66	1.24
34:h:7:ASP:OD2	34:h:62:LEU:HD11	1.37	1.23
34:h:63:ALA:C	34:h:149:GLU:OXT	1.79	1.23
53:b:1206:G:C2	53:b:1207:C:C6	2.27	1.23
53:b:1398:C:O2	53:b:1399:C:C5	1.90	1.23
53:b:1848:A:N1	53:b:1849:G:C8	2.06	1.23
53:b:2885:G:N7	53:b:2886:A:H1'	1.51	1.23
8:I:111:GLU:HB3	50:A:1348:U:C4'	1.44	1.22
8:I:111:GLU:N	50:A:1348:U:O5'	1.72	1.22
44:s:93:ALA:CB	49:z:13:PHE:HE2	1.43	1.22
53:b:2128:G:N2	53:b:2160:C:O2	1.70	1.22
44:s:93:ALA:O	49:z:13:PHE:CZ	1.91	1.22
53:b:2886:A:C6	53:b:2887:A:C8	2.29	1.21
53:b:1849:G:C2	53:b:1850:G:C8	2.29	1.20
53:b:2182:U:O2	53:b:2183:A:C8	1.94	1.20
53:b:2586:U:OP2	53:b:2608:G:N2	1.75	1.20
53:b:1104:C:C5	53:b:1105:U:H1'	1.77	1.20
53:b:1303:G:C2	53:b:1304:A:C8	2.28	1.20
53:b:1631:G:N2	53:b:1633:G:H8	1.38	1.20
53:b:2206:C:O2	53:b:2207:C:C6	1.95	1.20
33:g:33:LEU:HD22	33:g:137:ASP:OD1	1.42	1.20
39:n:12:ARG:HD3	39:n:20:MET:CE	1.71	1.19
53:b:1075:C:O2	53:b:1076:C:C6	1.93	1.19
53:b:1785:A:C2'	53:b:1786:A:H5''	1.70	1.19
31:e:5:LEU:HD11	31:e:12:LEU:CD1	1.70	1.19
53:b:1383:A:H2	53:b:1384:A:C6	1.54	1.19
53:b:2798:U:C2'	53:b:2799:A:C2	2.09	1.19
50:A:996:A:C6	50:A:997:U:C5	2.30	1.18
53:b:2798:U:C6	53:b:2799:A:N1	2.12	1.18
53:b:749:A:N6	53:b:1618:A:C2	2.12	1.18
53:b:2269:G:C2	53:b:2270:A:C8	2.32	1.18
53:b:234:U:O4	53:b:430:A:N1	1.76	1.17
53:b:2534:A:C2	53:b:2535:G:H1'	1.79	1.17
53:b:227:A:C2	53:b:2407:A:H1'	1.79	1.17
53:b:1782:U:C6	53:b:2609:U:H5	1.62	1.17
53:b:2538:C:C2	53:b:2539:C:C5	2.34	1.16
53:b:1782:U:C6	53:b:2609:U:C5	2.34	1.16
15:P:70:ARG:HH12	50:A:374:A:C2'	1.52	1.16
53:b:2000:C:O2	53:b:2001:C:C6	2.00	1.15
8:I:11:ARG:HA	8:I:105:ARG:HH22	1.11	1.15
50:A:1338:G:N7	54:v:41:C:O2'	1.80	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1053:C:N3	53:b:1107:G:C2	2.15	1.15
53:b:1053:C:N3	53:b:1107:G:N2	1.94	1.15
4:E:125:LYS:NZ	50:A:9:G:OP2	1.80	1.15
49:z:24:GLY:HA3	49:z:25:ILE:HG13	1.23	1.15
53:b:2152:G:C6	53:b:2153:C:C6	2.34	1.15
53:b:2583:G:C2	53:b:2584:U:O2	1.98	1.15
53:b:1173:U:O2'	53:b:1176:U:O4	1.62	1.14
53:b:1848:A:C6	53:b:1849:G:C8	2.35	1.14
53:b:2139:U:O4	53:b:2150:C:N4	1.80	1.14
33:g:101:ASN:HB2	33:g:117:LEU:HD21	1.30	1.14
53:b:2331:G:N1	53:b:2332:C:C5	2.16	1.14
8:I:11:ARG:HA	8:I:105:ARG:NH2	1.63	1.13
8:I:111:GLU:CB	50:A:1348:U:C5'	2.18	1.13
53:b:751:A:N3	53:b:789:A:N3	1.96	1.13
53:b:786:C:C2	53:b:787:C:C5	2.35	1.13
53:b:1218:G:C6	53:b:1219:U:C6	2.35	1.13
53:b:979:A:N6	53:b:982:C:C4	2.17	1.13
34:h:63:ALA:O	34:h:149:GLU:OXT	1.67	1.13
36:k:94:PRO:CD	36:k:114:LYS:HD3	1.78	1.13
53:b:1172:C:N4	53:b:1178:C:N3	1.97	1.13
53:b:1172:C:N4	53:b:1178:C:N4	1.80	1.13
53:b:2586:U:H2'	53:b:2587:A:H5'	1.13	1.13
53:b:2134:A:N6	53:b:2160:C:OP1	1.82	1.12
53:b:1206:G:C6	53:b:1207:C:C5	2.38	1.12
53:b:2000:C:C2	53:b:2001:C:C5	2.37	1.12
53:b:1501:G:C2	53:b:1502:A:C8	2.36	1.12
8:I:129:ARG:HG3	54:v:33:U:OP2	1.50	1.12
49:z:17:VAL:HG22	49:z:18:TRP:CB	1.78	1.12
15:P:13:LYS:N	50:A:392:C:OP1	1.82	1.12
53:b:1398:C:O2	53:b:1399:C:H5	1.28	1.12
53:b:1459:G:C2	53:b:1461:C:C4	2.38	1.12
39:n:12:ARG:HD3	39:n:20:MET:HE1	1.22	1.11
53:b:2129:C:O2	53:b:2160:C:O2	1.68	1.11
47:w:2:PHE:HB2	47:w:61:LEU:HD22	1.26	1.11
53:b:1145:C:N3	53:b:1146:C:C5	2.19	1.11
38:m:95:LEU:O	38:m:100:LYS:NZ	1.81	1.11
53:b:1121:C:N3	53:b:1122:G:C8	2.19	1.11
50:A:702:A:C2	53:b:1848:A:N7	2.18	1.10
53:b:2544:G:C2	53:b:2545:G:C8	2.40	1.09
54:v:33:U:C2	54:v:35:C:OP2	2.05	1.09
8:I:111:GLU:HB2	50:A:1348:U:C4'	1.53	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:s:93:ALA:HB1	49:z:13:PHE:HE2	0.96	1.09
53:b:309:A:O4'	53:b:329:G:N2	1.84	1.09
53:b:880:G:N2	53:b:881:G:O6	1.85	1.09
53:b:1383:A:C2	53:b:1384:A:N1	2.18	1.09
53:b:1539:U:C2	53:b:1540:G:C8	2.40	1.09
39:n:16:HIS:CD2	39:n:20:MET:CE	2.35	1.09
53:b:987:C:H2'	53:b:988:A:O4'	1.53	1.09
53:b:2152:G:C5	53:b:2153:C:C6	2.40	1.09
53:b:2468:A:C2	53:b:2481:G:C2	2.40	1.09
32:f:92:ARG:NH2	52:a:45:A:H1'	1.68	1.08
53:b:1267:U:C4	53:b:2012:G:N2	2.20	1.08
38:m:53:MET:HE3	38:m:105:MET:HE1	1.34	1.08
44:s:7:HIS:CD2	44:s:10:ALA:HB2	1.87	1.08
53:b:1075:C:O2	53:b:1076:C:C5	2.07	1.08
53:b:1786:A:C2	53:b:1938:A:C5	2.41	1.08
15:P:70:ARG:HH12	50:A:374:A:H2'	1.11	1.08
53:b:2013:A:N1	53:b:2613:U:O4	1.87	1.08
53:b:2538:C:O2	53:b:2539:C:C5	2.05	1.08
15:P:5:ARG:HD3	50:A:377:G:OP1	0.91	1.08
41:p:29:LYS:CB	41:p:40:LEU:HD11	1.83	1.07
53:b:749:A:C5	53:b:1618:A:C2	2.40	1.07
53:b:1054:A:N1	53:b:1105:U:C4	2.22	1.07
53:b:1502:A:C2	53:b:1503:A:C8	2.42	1.07
53:b:1773:A:C6	53:b:1774:C:H1'	1.89	1.07
42:q:51:ARG:HG3	53:b:1156:A:N7	1.68	1.07
44:s:69:LEU:HD22	44:s:107:VAL:HG12	1.31	1.07
49:z:17:VAL:HG22	49:z:18:TRP:HB3	1.18	1.07
50:A:686:U:O4	50:A:703:G:O2'	1.73	1.07
53:b:603:A:N7	53:b:655:A:C2	2.22	1.07
53:b:1219:U:N3	53:b:1220:G:N7	2.02	1.07
53:b:1054:A:C2	53:b:1105:U:O4	2.07	1.07
53:b:1504:A:C2	53:b:1505:A:C8	2.43	1.07
53:b:2032:G:C8	53:b:2454:G:O2'	2.08	1.07
44:s:93:ALA:O	49:z:13:PHE:HZ	1.30	1.06
53:b:388:G:N7	53:b:390:U:C4	2.22	1.06
53:b:1999:C:N3	53:b:2000:C:C5	2.23	1.06
53:b:2848:G:N2	53:b:2867:G:C8	2.23	1.06
53:b:234:U:O4	53:b:429:A:N1	1.86	1.06
53:b:603:A:C5	53:b:655:A:C2	2.42	1.06
53:b:1054:A:C2	53:b:1105:U:C4	2.43	1.06
15:P:3:THR:HG21	50:A:377:G:OP2	0.90	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2453:A:N6	53:b:2500:U:H3	1.52	1.06
15:P:70:ARG:HB3	50:A:376:G:OP1	1.53	1.06
53:b:1069:A:N7	53:b:1073:A:C8	2.23	1.06
52:a:2:G:N2	52:a:3:C:N4	2.02	1.06
53:b:786:C:O2	53:b:787:C:C6	2.09	1.06
53:b:1053:C:C2	53:b:1107:G:N2	2.24	1.05
49:z:5:LYS:HG2	49:z:7:ILE:HG22	1.38	1.05
53:b:1839:G:C6	53:b:1840:G:C8	2.44	1.05
54:v:18:G:N2	54:v:57:A:H62	1.54	1.05
49:z:25:ILE:CG2	49:z:27:ALA:HB1	1.80	1.05
21:0:68:LEU:HD23	21:0:71:LEU:HD12	1.37	1.04
53:b:1663:G:C6	53:b:1992:G:C8	2.45	1.04
53:b:1830:C:N3	53:b:1831:G:N7	2.05	1.04
53:b:2885:G:N7	53:b:2886:A:C1'	2.20	1.04
53:b:1206:G:N1	53:b:1207:C:C5	2.26	1.04
53:b:2152:G:C6	53:b:2153:C:C5	2.44	1.04
34:h:40:THR:O	34:h:42:LYS:N	1.89	1.04
53:b:76:C:N3	53:b:77:G:N7	2.04	1.04
53:b:201:C:O4'	53:b:386:G:N2	1.90	1.04
34:h:63:ALA:O	34:h:149:GLU:C	2.01	1.04
38:m:97:GLN:OE1	38:m:100:LYS:HE3	1.57	1.04
44:s:93:ALA:C	49:z:13:PHE:CZ	2.36	1.04
53:b:126:A:O2'	53:b:127:A:C8	2.11	1.04
53:b:2128:G:H2'	53:b:2129:C:H4'	1.35	1.04
38:m:97:GLN:OE1	38:m:100:LYS:CE	2.06	1.03
39:n:17:ARG:N	39:n:20:MET:HE3	1.71	1.03
53:b:1219:U:N3	53:b:1220:G:C8	2.27	1.03
53:b:1122:G:C2	53:b:1123:C:C6	2.47	1.03
53:b:2396:G:C2	53:b:2397:G:C8	2.46	1.03
8:I:11:ARG:HH22	50:A:1347:G:N2	1.55	1.02
53:b:1075:C:C2	53:b:1076:C:C5	2.46	1.02
53:b:1358:G:N2	53:b:1372:U:C5	2.26	1.02
53:b:2535:G:N1	53:b:2536:G:N7	2.06	1.02
14:O:88:ARG:HD2	53:b:715:A:H5''	1.41	1.02
47:w:2:PHE:HB2	47:w:61:LEU:CD2	1.90	1.02
49:z:25:ILE:HG21	49:z:27:ALA:CB	1.86	1.02
35:j:57:LEU:HD23	35:j:125:TYR:HB2	1.38	1.02
53:b:388:G:C5	53:b:390:U:C4	2.47	1.02
53:b:779:U:N3	53:b:780:G:C8	2.28	1.02
53:b:1053:C:C5	53:b:1107:G:N2	2.24	1.02
53:b:1304:A:C2	53:b:1305:C:C6	2.48	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1305:C:N3	53:b:1306:C:C6	2.28	1.02
44:s:7:HIS:HD2	44:s:10:ALA:HB2	1.22	1.02
53:b:1021:A:N6	53:b:1141:U:C4	2.28	1.02
53:b:1145:C:C2	53:b:1146:C:C6	2.47	1.02
53:b:2331:G:C2	53:b:2332:C:C5	2.47	1.02
53:b:2419:U:O2	53:b:2420:C:C6	2.13	1.02
53:b:2534:A:N1	53:b:2535:G:H1'	1.73	1.02
15:P:70:ARG:CG	50:A:375:U:C5'	1.84	1.01
32:f:66:LEU:HD22	52:a:42:C:N4	1.76	1.01
53:b:1450:G:O6	53:b:1459:G:N1	1.92	1.01
53:b:2182:U:C2	53:b:2183:A:C8	2.48	1.01
53:b:2537:U:C2	53:b:2538:C:C5	2.46	1.01
53:b:109:C:N3	53:b:110:G:C8	2.29	1.01
53:b:155:A:C2	53:b:156:A:C8	2.48	1.01
53:b:847:U:C4	53:b:933:A:N6	2.28	1.01
53:b:2152:G:C2	53:b:2153:C:C1'	2.43	1.01
53:b:2535:G:N1	53:b:2536:G:C8	2.27	1.01
53:b:2848:G:N2	53:b:2867:G:N7	2.07	1.01
31:e:44:ARG:HH21	31:e:46:GLN:NE2	1.59	1.01
53:b:696:G:C2	53:b:697:G:C8	2.49	1.01
53:b:2133:G:H22	53:b:2160:C:P	1.83	1.01
7:H:4:ASP:OD1	7:H:76:ARG:NH1	1.94	1.00
53:b:171:U:N3	53:b:172:A:C8	2.29	1.00
53:b:2331:G:N2	53:b:2332:C:C6	2.27	1.00
53:b:2134:A:C6	53:b:2160:C:OP1	2.13	1.00
52:a:2:G:N2	52:a:3:C:C4	2.29	1.00
53:b:278:A:C2	53:b:361:G:N2	2.29	1.00
53:b:253:C:C4	53:b:254:G:C8	2.50	1.00
53:b:210:C:N3	53:b:211:C:C5	2.30	1.00
53:b:1518:C:O2	53:b:1519:G:C8	2.13	1.00
53:b:1518:C:N3	53:b:1519:G:N7	2.10	1.00
53:b:1839:G:N1	53:b:1840:G:C8	2.30	1.00
53:b:662:G:C2	53:b:663:G:C8	2.50	1.00
44:s:93:ALA:C	49:z:13:PHE:HZ	1.69	0.99
50:A:702:A:N3	53:b:1848:A:H8	1.37	0.99
36:k:94:PRO:HD2	36:k:114:LYS:CD	1.92	0.99
53:b:1500:G:C6	53:b:1501:G:C8	2.50	0.99
53:b:2000:C:N3	53:b:2001:C:C5	2.30	0.99
53:b:2586:U:C2'	53:b:2587:A:H5'	1.91	0.99
29:c:141:VAL:HG11	29:c:190:ALA:HB1	1.43	0.99
53:b:248:G:C8	53:b:250:G:C6	2.51	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1051:G:C6	53:b:1052:C:C5	2.51	0.99
53:b:1070:A:OP2	53:b:1075:C:N4	1.96	0.99
3:D:9:LYS:NZ	50:A:542:G:OP1	1.95	0.99
38:m:53:MET:HE2	38:m:117:PHE:CD1	1.97	0.99
53:b:1319:C:C2'	53:b:1320:C:H5'	1.93	0.99
53:b:2828:G:C2	53:b:2829:A:C8	2.50	0.99
19:T:73:ARG:NH2	50:A:261:U:OP2	1.95	0.99
36:k:94:PRO:HD2	36:k:114:LYS:HD3	0.99	0.99
53:b:1051:G:C2	53:b:1052:C:C6	2.51	0.99
53:b:1172:C:H41	53:b:1178:C:H42	1.10	0.99
53:b:76:C:O2	53:b:77:G:H8	1.44	0.98
53:b:1782:U:C2	53:b:2587:A:N6	2.29	0.98
53:b:1782:U:C5	53:b:2609:U:H5	1.79	0.98
53:b:2206:C:N3	53:b:2207:C:C5	2.31	0.98
53:b:2585:U:H4'	53:b:2586:U:OP1	1.58	0.98
53:b:388:G:C8	53:b:390:U:C5	2.50	0.98
53:b:866:A:C2	53:b:867:C:C6	2.52	0.98
53:b:2022:U:O2	53:b:2616:C:O2'	1.80	0.98
1:B:72:LYS:NZ	1:B:164:ASP:OD2	1.94	0.98
53:b:75:G:N2	53:b:76:C:C6	2.31	0.98
53:b:234:U:C4	53:b:430:A:N1	2.30	0.98
53:b:2330:G:C6	53:b:2331:G:C8	2.51	0.98
32:f:92:ARG:CZ	52:a:45:A:O4'	2.12	0.98
53:b:209:C:C4	53:b:210:C:C5	2.51	0.98
53:b:844:A:C2	53:b:845:A:C2	2.51	0.98
53:b:1786:A:H2	53:b:1938:A:C8	1.79	0.98
53:b:1857:G:C2	53:b:1884:G:N2	2.31	0.98
53:b:2586:U:H2'	53:b:2587:A:C5'	1.94	0.98
53:b:2537:U:O2	53:b:2538:C:C6	2.16	0.98
53:b:786:C:N3	53:b:787:C:C5	2.32	0.98
53:b:1052:C:N4	53:b:1105:U:O4	1.97	0.97
53:b:979:A:C6	53:b:982:C:N4	2.32	0.97
53:b:1144:A:C2	53:b:1145:C:C6	2.51	0.97
53:b:991:C:C5	53:b:1185:G:C6	2.52	0.97
53:b:1104:C:C4	53:b:1105:U:H1'	1.98	0.97
53:b:2064:C:O2	53:b:2450:A:C6	2.17	0.97
30:d:12:THR:HG21	41:p:5:ILE:HG23	1.46	0.97
44:s:93:ALA:HB1	49:z:13:PHE:CE2	1.86	0.97
34:h:63:ALA:O	34:h:149:GLU:O	1.83	0.97
53:b:767:U:O2	53:b:768:G:N7	1.97	0.97
53:b:1848:A:C6	53:b:1849:G:N7	2.31	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1418:G:N2	53:b:1579:A:N7	2.13	0.97
31:e:44:ARG:NH2	31:e:87:ALA:HB2	1.79	0.97
31:e:49:ARG:HG2	53:b:801:G:C6	1.98	0.97
53:b:1631:G:N2	53:b:1633:G:C8	2.21	0.97
53:b:273:G:C2	53:b:365:U:C4	2.53	0.97
53:b:443:A:N3	53:b:1201:U:H1'	1.78	0.97
53:b:1381:G:C6	53:b:1382:G:N2	2.32	0.97
53:b:1598:A:C2	53:b:1599:U:C6	2.53	0.97
53:b:2480:C:C4	53:b:2481:G:C8	2.52	0.97
31:e:44:ARG:HH21	31:e:46:GLN:HE22	1.12	0.97
53:b:783:A:N6	53:b:785:G:C4	2.32	0.97
53:b:866:A:N1	53:b:867:C:C5	2.33	0.97
53:b:1122:G:N1	53:b:1123:C:C5	2.33	0.97
8:I:11:ARG:HH22	50:A:1347:G:H22	1.08	0.97
53:b:1785:A:H2'	53:b:1786:A:C5'	1.95	0.97
53:b:1051:G:N1	53:b:1052:C:C6	2.32	0.96
53:b:1219:U:C2	53:b:1220:G:C8	2.53	0.96
17:R:52:ARG:NH1	50:A:664:G:OP1	1.97	0.96
52:a:3:C:H42	52:a:117:G:H22	1.04	0.96
53:b:1785:A:C2'	53:b:1786:A:C5'	2.41	0.96
53:b:1079:C:O2'	53:b:1080:A:O4'	1.81	0.96
5:F:38:ARG:NH1	5:F:96:VAL:O	1.97	0.96
53:b:929:U:C2	53:b:930:G:C8	2.53	0.96
53:b:1500:G:N2	53:b:1501:G:H1'	1.81	0.96
53:b:1713:A:C6	53:b:1716:U:H1'	2.01	0.96
15:P:3:THR:HG21	50:A:377:G:P	2.04	0.96
29:c:225:MET:HE2	53:b:782:A:C2	2.01	0.96
53:b:2887:A:C6	53:b:2888:C:C5	2.54	0.96
53:b:1383:A:O2'	53:b:1384:A:C8	2.18	0.96
53:b:2848:G:C2	53:b:2867:G:N7	2.33	0.96
53:b:399:U:C2	53:b:400:G:C8	2.53	0.96
53:b:1058:U:O4	53:b:1080:A:N1	1.99	0.96
53:b:1272:A:N6	53:b:1618:A:C4	2.34	0.96
53:b:1094:U:H3	53:b:1096:A:C5'	1.79	0.96
53:b:1304:A:C2	53:b:1305:C:C5	2.53	0.96
53:b:2468:A:H2	53:b:2481:G:N2	1.59	0.96
41:p:29:LYS:HB3	41:p:40:LEU:CD1	1.95	0.95
41:p:34:GLU:OE1	41:p:39:ARG:HD2	1.64	0.95
53:b:1539:U:N3	53:b:1540:G:N7	2.13	0.95
53:b:2538:C:O2	53:b:2539:C:C6	2.18	0.95
53:b:1050:A:C2	53:b:1051:G:H1'	2.00	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1786:A:O2'	53:b:1938:A:N6	1.99	0.95
52:a:2:G:N2	52:a:3:C:C5	2.34	0.95
53:b:1077:A:N1	53:b:1088:A:N3	2.15	0.95
53:b:186:G:C2	53:b:187:G:C8	2.54	0.95
53:b:1021:A:C6	53:b:1141:U:N3	2.35	0.95
53:b:1172:C:C4	53:b:1173:U:C5	2.55	0.95
15:P:70:ARG:NH1	50:A:374:A:C2'	2.29	0.95
53:b:1319:C:H2'	53:b:1320:C:H5'	1.49	0.95
53:b:2291:U:H2'	53:b:2292:U:C6	2.01	0.95
53:b:241:A:N6	53:b:255:A:N7	2.14	0.95
53:b:243:U:O4	53:b:254:G:N2	1.99	0.95
53:b:395:U:O2	53:b:396:G:N7	1.99	0.95
53:b:2152:G:N2	53:b:2153:C:H1'	1.81	0.95
53:b:2887:A:C2	53:b:2888:C:C6	2.54	0.95
53:b:1383:A:H2	53:b:1384:A:C2	1.85	0.95
53:b:2032:G:N7	53:b:2454:G:H4'	1.82	0.95
52:a:3:C:H42	52:a:117:G:N2	1.65	0.94
53:b:2065:C:O2'	53:b:2066:C:C5'	2.16	0.94
54:v:15:G:H3'	54:v:16:C:H5'	1.49	0.94
31:e:44:ARG:NH2	31:e:87:ALA:CB	2.30	0.94
53:b:160:A:H2'	53:b:161:A:C8	2.02	0.94
53:b:751:A:H2	53:b:789:A:C4	1.82	0.94
14:O:87:ARG:NH1	14:O:88:ARG:O	2.01	0.94
15:P:12:LYS:HA	50:A:392:C:OP1	1.68	0.94
53:b:1053:C:N4	53:b:1107:G:H1	1.63	0.94
53:b:2032:G:N7	53:b:2454:G:O2'	1.99	0.94
19:T:68:LYS:NZ	50:A:224:U:OP1	2.01	0.94
52:a:3:C:N4	52:a:117:G:H22	1.65	0.94
53:b:1459:G:N3	53:b:1461:C:C5	2.36	0.94
53:b:1857:G:N1	53:b:1884:G:C2	2.36	0.94
31:e:5:LEU:CD1	31:e:12:LEU:HG	1.98	0.93
53:b:867:C:N3	53:b:868:U:C5	2.37	0.93
53:b:2419:U:O2	53:b:2420:C:C5	2.20	0.93
53:b:2708:G:C2	53:b:2709:G:C8	2.56	0.93
29:c:75:PRO:HB2	29:c:97:LYS:HE3	1.46	0.93
53:b:241:A:N6	53:b:255:A:C8	2.36	0.93
53:b:1141:U:H4'	53:b:1142:A:O4'	1.66	0.93
31:e:44:ARG:NH2	31:e:46:GLN:HE22	1.66	0.93
53:b:1106:G:C5	53:b:1107:G:C8	2.56	0.93
53:b:210:C:O2'	53:b:1366:A:N3	2.00	0.93
53:b:749:A:C6	53:b:1618:A:H2	1.77	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2160:C:OP2	53:b:2160:C:H6	1.52	0.93
53:b:160:A:N6	53:b:167:A:C2	2.37	0.93
53:b:910:A:O2'	53:b:911:A:C8	2.20	0.93
33:g:101:ASN:HB2	33:g:117:LEU:CD2	1.99	0.93
34:h:67:ALA:O	34:h:68:ARG:HB3	1.68	0.93
53:b:866:A:N1	53:b:867:C:C6	2.37	0.93
53:b:1055:G:N1	53:b:1104:C:C4	2.37	0.93
53:b:185:G:C6	53:b:186:G:N7	2.36	0.93
53:b:977:G:N2	53:b:987:C:C2	2.36	0.93
53:b:1055:G:C6	53:b:1104:C:N4	2.37	0.93
53:b:1830:C:C2	53:b:1831:G:C8	2.56	0.93
53:b:2287:A:N1	53:b:2344:U:C4	2.37	0.93
41:p:72:ARG:HD3	41:p:74:PHE:CZ	2.03	0.93
53:b:1172:C:C5	53:b:1173:U:C5	2.57	0.93
53:b:227:A:C2	53:b:2407:A:C1'	2.52	0.93
53:b:991:C:N3	53:b:992:C:C5	2.36	0.93
53:b:1173:U:O2	53:b:1176:U:C5	2.22	0.93
49:z:5:LYS:CG	49:z:7:ILE:HG22	1.99	0.92
53:b:1472:C:N3	53:b:1473:G:C8	2.37	0.92
53:b:1516:G:C2	53:b:1517:G:H1'	2.03	0.92
53:b:1848:A:N6	53:b:1849:G:N7	2.16	0.92
53:b:2181:U:C4	53:b:2182:U:C5	2.56	0.92
53:b:2800:A:N7	53:b:2801:G:C8	2.37	0.92
50:A:997:U:C4	50:A:1044:A:N6	2.36	0.92
53:b:1461:C:O2	53:b:1462:C:C5	2.22	0.92
5:F:3:HIS:NE2	5:F:5:GLU:OE2	2.01	0.92
39:n:12:ARG:CD	39:n:20:MET:HE1	1.99	0.92
53:b:2798:U:O2'	53:b:2800:A:H2	1.49	0.92
38:m:53:MET:HE1	38:m:116:ALA:HB3	1.49	0.92
54:v:18:G:C2	54:v:57:A:N6	2.38	0.92
8:I:94:ARG:NH2	50:A:1179:A:OP2	2.03	0.92
15:P:70:ARG:CG	50:A:375:U:H5''	1.97	0.92
53:b:1349:C:H2'	53:b:1350:C:C6	2.05	0.92
11:L:53:ARG:HH21	11:L:61:GLU:HG2	1.33	0.92
53:b:209:C:N3	53:b:210:C:C5	2.38	0.92
53:b:242:G:C2	53:b:254:G:C6	2.58	0.92
53:b:523:C:C2	53:b:524:G:C8	2.57	0.92
53:b:2206:C:O2	53:b:2207:C:C5	2.13	0.92
52:a:47:C:N3	52:a:48:U:C5	2.37	0.92
53:b:1295:C:C2	53:b:1296:G:C8	2.58	0.92
15:P:12:LYS:CA	50:A:392:C:OP1	2.18	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:e:5:LEU:HD13	31:e:12:LEU:HG	1.51	0.91
53:b:2105:U:H2'	53:b:2106:U:O4'	1.68	0.91
8:I:111:GLU:HG2	50:A:1348:U:H4'	1.53	0.91
53:b:116:C:HO2'	53:b:126:A:H8	0.95	0.91
29:c:105:LEU:HD11	29:c:142:HIS:NE2	1.85	0.91
49:z:10:GLU:HB2	49:z:11:ASP:C	1.95	0.91
53:b:1106:G:C2	53:b:1107:G:H1'	2.06	0.91
53:b:76:C:N3	53:b:77:G:C8	2.38	0.91
53:b:234:U:C4	53:b:429:A:N1	2.37	0.91
53:b:234:U:N3	53:b:429:A:N6	2.17	0.91
12:M:10:ASP:HB3	12:M:44:ILE:HG21	1.53	0.91
53:b:1053:C:C4	53:b:1107:G:N1	2.34	0.91
53:b:2534:A:C6	53:b:2535:G:N9	2.38	0.91
7:H:88:LYS:NZ	50:A:601:G:OP1	2.03	0.91
9:J:46:LYS:HZ1	9:J:48:ARG:HB3	1.35	0.91
53:b:749:A:N6	53:b:1618:A:H2	1.63	0.91
53:b:779:U:C2	53:b:780:G:C8	2.59	0.91
53:b:2535:G:C6	53:b:2536:G:N7	2.38	0.91
54:v:33:U:H2'	54:v:35:C:OP2	1.70	0.91
34:h:43:ASN:HD22	34:h:44:ILE:H	1.11	0.91
53:b:1059:G:C6	53:b:1080:A:C6	2.59	0.90
53:b:2838:G:C6	53:b:2839:G:C8	2.58	0.90
4:E:100:GLU:HA	4:E:121:ASN:HD21	1.35	0.90
39:n:16:HIS:CG	39:n:20:MET:HE2	2.05	0.90
53:b:1539:U:O2	53:b:1540:G:C8	2.24	0.90
8:I:95:SER:O	8:I:99:LYS:NZ	2.04	0.90
35:j:57:LEU:HD13	35:j:128:ASN:C	1.94	0.90
53:b:1662:U:N3	53:b:1663:G:C8	2.39	0.90
53:b:2470:G:C2	53:b:2471:A:C8	2.59	0.90
8:I:11:ARG:NE	8:I:106:ASP:OD1	2.05	0.90
15:P:5:ARG:NH1	50:A:377:G:OP1	2.02	0.90
53:b:2797:U:O4	53:b:2800:A:C2	2.24	0.90
47:w:6:ALA:HB1	47:w:40:ILE:CG2	2.01	0.90
53:b:1059:G:C2	53:b:1080:A:C5	2.60	0.90
53:b:2206:C:C2	53:b:2207:C:H5	1.88	0.90
53:b:2827:C:C2	53:b:2828:G:C8	2.59	0.90
5:F:42:TRP:HB3	5:F:45:ARG:HH21	1.36	0.90
15:P:6:LEU:O	50:A:376:G:C8	2.25	0.90
53:b:978:G:N2	53:b:986:C:C2	2.39	0.90
53:b:1145:C:O2	53:b:1146:C:C6	2.24	0.90
53:b:1517:G:C6	53:b:1518:C:C6	2.60	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:U:27:VAL:C	20:U:28:LEU:HD22	1.95	0.90
53:b:160:A:C6	53:b:167:A:C2	2.59	0.90
15:P:60:TRP:HZ3	50:A:228:A:O2'	1.54	0.90
31:e:5:LEU:HD11	31:e:12:LEU:HD12	1.52	0.90
32:f:36:LEU:HD22	32:f:154:ILE:CD1	2.02	0.90
52:a:77:U:O4	52:a:98:G:N2	2.05	0.90
53:b:1094:U:O4	53:b:1096:A:OP2	1.90	0.90
53:b:2287:A:C2	53:b:2344:U:O4	2.25	0.90
53:b:2581:G:N1	53:b:2610:C:O2	2.05	0.90
54:v:15:G:C3'	54:v:16:C:H5'	2.01	0.90
53:b:928:A:C2	53:b:929:U:C6	2.60	0.89
38:m:96:ILE:HA	38:m:100:LYS:NZ	1.86	0.89
49:z:24:GLY:CA	49:z:25:ILE:HG13	2.00	0.89
53:b:785:G:C2	53:b:786:C:C5	2.60	0.89
53:b:1500:G:C6	53:b:1501:G:N7	2.40	0.89
53:b:2702:G:C2	53:b:2703:C:C5	2.60	0.89
53:b:1500:G:N1	53:b:1501:G:C8	2.40	0.89
53:b:1518:C:C2	53:b:1519:G:C8	2.59	0.89
53:b:2793:C:C2	53:b:2794:C:C5	2.61	0.89
53:b:1857:G:O2'	53:b:1885:A:N6	2.06	0.89
53:b:2591:C:N3	53:b:2592:G:N7	2.20	0.89
8:I:111:GLU:CB	50:A:1348:U:O5'	2.19	0.89
53:b:531:C:C5	53:b:2035:G:N2	2.40	0.89
53:b:749:A:O2'	53:b:750:A:O5'	1.91	0.89
53:b:1077:A:C2	53:b:1088:A:C2	2.60	0.89
53:b:1398:C:C2	53:b:1399:C:H5	1.90	0.89
53:b:2117:A:O2'	53:b:2118:U:O5'	1.89	0.89
46:u:74:ASN:ND2	46:u:81:ASP:CG	2.30	0.89
8:I:11:ARG:CA	8:I:105:ARG:HH22	1.85	0.89
31:e:60:TRP:HZ3	31:e:68:ALA:O	1.56	0.89
53:b:2330:G:N2	53:b:2331:G:H1'	1.88	0.89
53:b:298:G:N2	53:b:339:U:C5	2.40	0.89
53:b:1173:U:O2	53:b:1176:U:H5	1.54	0.89
53:b:2535:G:N2	53:b:2536:G:C8	2.41	0.89
8:I:11:ARG:NH2	50:A:1347:G:N2	2.21	0.89
8:I:105:ARG:HD3	8:I:106:ASP:H	1.36	0.89
8:I:111:GLU:HB3	50:A:1348:U:H4'	1.02	0.89
33:g:101:ASN:CB	33:g:117:LEU:HD21	2.03	0.89
34:h:43:ASN:HD22	34:h:44:ILE:N	1.70	0.88
41:p:29:LYS:HB3	41:p:40:LEU:HD11	1.50	0.88
53:b:377:G:C6	53:b:378:C:C5	2.61	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:827:U:O2'	53:b:2068:U:N3	2.05	0.88
53:b:2041:U:O2	53:b:2042:A:C8	2.26	0.88
4:E:28:ARG:NH2	50:A:1397:C:OP2	2.04	0.88
35:j:57:LEU:HD13	35:j:129:GLU:N	1.88	0.88
53:b:749:A:HO2'	53:b:750:A:C5'	1.86	0.88
53:b:2682:A:C2	53:b:2683:C:C6	2.60	0.88
54:v:18:G:N2	54:v:57:A:N6	2.21	0.88
38:m:40:ARG:HG2	38:m:95:LEU:HD23	1.54	0.88
52:a:2:G:H22	52:a:3:C:N4	1.68	0.88
53:b:847:U:O4	53:b:933:A:C6	2.24	0.88
53:b:1054:A:O2'	53:b:1055:G:OP2	1.91	0.88
53:b:1267:U:C5	53:b:2012:G:N2	2.41	0.88
24:3:4:GLN:HB3	53:b:2615:U:H1'	1.54	0.88
32:f:36:LEU:HD22	32:f:154:ILE:HD13	1.56	0.88
39:n:16:HIS:HA	53:b:1275:A:H62	1.36	0.88
50:A:996:A:C4	50:A:997:U:C5	2.62	0.88
33:g:24:ILE:HG13	33:g:37:LEU:HD13	1.55	0.88
53:b:380:G:C2	53:b:381:G:C8	2.61	0.88
53:b:1122:G:N2	53:b:1123:C:C6	2.41	0.88
8:I:111:GLU:HB3	50:A:1348:U:H5'	1.55	0.88
53:b:250:G:O2'	53:b:251:A:C8	2.26	0.88
22:1:7:ARG:CZ	22:1:56:LEU:HD22	2.03	0.88
53:b:979:A:C6	53:b:982:C:C4	2.62	0.88
53:b:1585:C:H2'	53:b:1586:A:O4'	1.73	0.88
53:b:1595:C:O2	53:b:1596:A:C8	2.27	0.88
29:c:141:VAL:CG1	29:c:190:ALA:HB1	2.03	0.88
35:j:57:LEU:HD21	35:j:129:GLU:O	1.71	0.87
53:b:1206:G:N1	53:b:1207:C:C6	2.39	0.87
53:b:1229:C:N3	53:b:1230:A:C8	2.42	0.87
53:b:2269:G:N1	53:b:2270:A:N7	2.22	0.87
33:g:98:VAL:HG21	33:g:124:GLU:HA	1.55	0.87
53:b:767:U:O2	53:b:768:G:C8	2.28	0.87
53:b:1459:G:C2	53:b:1461:C:C5	2.62	0.87
50:A:1013:G:N2	50:A:1016:A:OP2	2.07	0.87
53:b:2183:A:N1	53:b:2184:A:C8	2.42	0.87
38:m:53:MET:CE	38:m:116:ALA:CB	2.53	0.87
53:b:594:U:C2	53:b:595:C:C5	2.62	0.87
32:f:92:ARG:NH2	52:a:45:A:C1'	2.37	0.87
52:a:2:G:N2	52:a:3:C:H41	1.73	0.87
53:b:1059:G:N1	53:b:1080:A:C6	2.43	0.87
53:b:1839:G:C6	53:b:1840:G:N7	2.41	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:m:97:GLN:H	38:m:100:LYS:HE3	1.39	0.87
9:J:46:LYS:NZ	9:J:48:ARG:HB3	1.88	0.87
39:n:12:ARG:NE	39:n:20:MET:SD	2.48	0.87
50:A:1266:G:N2	50:A:1269:A:OP2	2.06	0.87
53:b:253:C:C5	53:b:254:G:C8	2.63	0.87
53:b:2564:A:O2'	53:b:2565:A:C8	2.27	0.87
53:b:990:A:N6	53:b:1186:G:O2'	2.08	0.86
53:b:1122:G:C2	53:b:1123:C:C5	2.62	0.86
53:b:780:G:C2	53:b:782:A:C6	2.63	0.86
53:b:2348:U:C5	53:b:2382:G:N2	2.44	0.86
3:D:21:LYS:NZ	50:A:429:U:O2'	2.09	0.86
53:b:243:U:C4	53:b:254:G:N2	2.44	0.86
53:b:2153:C:O2	53:b:2153:C:H2'	1.75	0.86
8:I:113:LYS:NZ	8:I:120:ALA:O	2.09	0.86
31:e:62:GLN:O	31:e:63:LYS:CG	2.22	0.86
53:b:978:G:C2	53:b:986:C:N3	2.43	0.86
53:b:1053:C:N4	53:b:1107:G:C2	2.33	0.86
53:b:1785:A:H2'	53:b:1786:A:H5'	1.57	0.86
39:n:16:HIS:CG	39:n:20:MET:CE	2.58	0.86
53:b:1395:A:C5	53:b:1398:C:C6	2.62	0.86
53:b:1518:C:O2	53:b:1519:G:H8	1.53	0.86
15:P:12:LYS:HG3	50:A:392:C:OP1	1.73	0.86
53:b:751:A:C2	53:b:789:A:N9	2.42	0.86
53:b:751:A:H2	53:b:789:A:N9	1.72	0.86
53:b:1502:A:C6	53:b:1503:A:N7	2.43	0.86
53:b:1811:G:C6	53:b:1812:U:C5	2.64	0.86
53:b:1848:A:C2	53:b:1849:G:C8	2.63	0.86
53:b:2888:C:C2	53:b:2889:C:C5	2.62	0.86
53:b:18:U:C2	53:b:19:A:C8	2.63	0.86
53:b:2013:A:N1	53:b:2613:U:C4	2.42	0.86
3:D:69:ARG:NH1	50:A:402:G:OP2	2.09	0.86
53:b:1459:G:N2	53:b:1461:C:C2	2.44	0.86
31:e:60:TRP:CZ3	31:e:68:ALA:O	2.28	0.85
49:z:4:GLN:NE2	49:z:4:GLN:O	2.08	0.85
53:b:22:C:N3	53:b:23:G:C8	2.44	0.85
53:b:2052:A:C2	53:b:2053:G:C8	2.63	0.85
39:n:17:ARG:CA	39:n:20:MET:HE3	2.05	0.85
53:b:845:A:H3'	53:b:845:A:C8	2.11	0.85
53:b:1094:U:H3	53:b:1096:A:H5'	1.40	0.85
53:b:2385:C:O2	53:b:2386:A:C8	2.29	0.85
50:A:996:A:C4	50:A:997:U:C6	2.65	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:85:G:C2	52:a:86:G:C8	2.64	0.85
53:b:751:A:N1	53:b:789:A:C4	2.44	0.85
53:b:1337:G:C2	53:b:1338:G:C8	2.65	0.85
53:b:1985:C:N3	53:b:1986:C:C5	2.44	0.85
53:b:2159:G:H2'	53:b:2160:C:O4'	1.77	0.85
53:b:2535:G:N2	53:b:2536:G:C1'	2.39	0.85
49:z:17:VAL:CG2	49:z:18:TRP:CB	2.42	0.85
53:b:1759:A:H1'	53:b:2696:U:O2	1.76	0.85
53:b:2065:C:C2'	53:b:2066:C:O5'	2.23	0.85
11:L:23:LEU:HD12	11:L:29:LYS:HE2	1.59	0.85
53:b:195:A:C6	53:b:198:C:C5	2.64	0.85
53:b:2661:G:H2'	53:b:2662:A:C8	2.11	0.85
19:T:43:LYS:HD2	19:T:86:ALA:HB2	1.58	0.85
53:b:1059:G:C5	53:b:1080:A:N6	2.45	0.85
53:b:253:C:N4	53:b:254:G:C4	2.45	0.85
53:b:749:A:N7	53:b:1618:A:C6	2.44	0.85
53:b:1066:U:O2	53:b:1068:G:OP2	1.94	0.85
53:b:1849:G:C2	53:b:1850:G:N7	2.45	0.85
53:b:2134:A:C5	53:b:2160:C:OP1	2.29	0.85
53:b:2332:C:O2	53:b:2335:A:H2	1.59	0.85
8:I:56:MET:HG2	8:I:57:VAL:HG23	1.59	0.85
51:X:15:G:C6	54:v:37:G:N2	2.45	0.85
53:b:2152:G:N1	53:b:2153:C:N1	2.23	0.85
38:m:97:GLN:H	38:m:100:LYS:CE	1.89	0.85
39:n:16:HIS:C	39:n:20:MET:CE	2.50	0.85
53:b:2067:G:C2	53:b:2444:G:C2	2.64	0.85
53:b:2840:C:C2	53:b:2841:C:C5	2.64	0.85
53:b:1395:A:C5	53:b:1398:C:C5	2.65	0.85
53:b:1517:G:C6	53:b:1518:C:C5	2.65	0.85
53:b:1595:C:C2	53:b:1596:A:C8	2.64	0.85
53:b:1830:C:O2	53:b:1831:G:C8	2.30	0.85
53:b:225:C:C4	53:b:226:A:C8	2.64	0.84
53:b:948:C:O2	53:b:949:G:C8	2.30	0.84
53:b:1051:G:N1	53:b:1052:C:C5	2.45	0.84
53:b:1208:C:C4	53:b:1239:G:C2	2.64	0.84
53:b:1812:U:N3	53:b:1813:G:N7	2.25	0.84
53:b:695:G:N1	53:b:696:G:C8	2.45	0.84
53:b:974:G:C8	53:b:989:G:N2	2.45	0.84
53:b:1598:A:C6	53:b:1599:U:C5	2.65	0.84
22:1:14:LEU:O	22:1:18:LEU:HG	1.77	0.84
53:b:111:A:C6	53:b:112:U:C5	2.64	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:844:A:C2	53:b:845:A:H2	1.96	0.84
53:b:1315:C:O2'	53:b:1392:A:C8	2.30	0.84
53:b:2886:A:C5	53:b:2887:A:C8	2.65	0.84
12:M:102:LYS:NZ	50:A:953:G:O6	2.09	0.84
15:P:28:ARG:HE	15:P:29:ASN:HD21	1.23	0.84
52:a:47:C:N3	52:a:48:U:C6	2.46	0.84
53:b:1305:C:C2	53:b:1306:C:C6	2.66	0.84
53:b:2000:C:O2	53:b:2001:C:C5	2.27	0.84
53:b:2023:C:O2	53:b:2024:G:C8	2.30	0.84
53:b:2534:A:C6	53:b:2535:G:H1'	2.12	0.84
53:b:13:A:C2	53:b:526:A:N7	2.45	0.84
53:b:1337:G:N2	53:b:1338:G:H1'	1.92	0.84
53:b:1857:G:C2	53:b:1884:G:C2	2.64	0.84
53:b:2827:C:N3	53:b:2828:G:N7	2.25	0.84
29:c:258:ARG:NH1	53:b:1799:G:OP1	2.10	0.84
50:A:1391:U:H2'	50:A:1392:G:H8	1.41	0.84
53:b:2183:A:C6	53:b:2184:A:N7	2.45	0.84
53:b:2533:U:N3	53:b:2534:A:H1'	1.93	0.84
53:b:1123:C:C2	53:b:1124:G:C8	2.66	0.84
49:z:26:ARG:HH11	53:b:2451:A:H2	1.24	0.84
53:b:996:A:C2	53:b:997:G:C8	2.65	0.84
53:b:1303:G:N1	53:b:1304:A:N7	2.26	0.84
53:b:1829:A:C6	53:b:1830:C:H1'	2.11	0.84
53:b:2507:C:N3	53:b:2583:G:N1	2.25	0.84
53:b:991:C:C2	53:b:992:C:C6	2.66	0.84
53:b:1459:G:C6	53:b:1461:C:N4	2.46	0.84
53:b:2154:A:C2	53:b:2155:U:C5	2.66	0.84
31:e:5:LEU:HD11	31:e:12:LEU:CG	2.07	0.84
39:n:71:ARG:NH1	53:b:2708:G:O4'	2.11	0.84
53:b:1319:C:C4	53:b:1320:C:N4	2.46	0.84
53:b:1605:C:H1'	53:b:1610:A:C8	2.13	0.84
53:b:2536:G:C4	53:b:2537:U:C5	2.66	0.84
50:A:996:A:C2'	50:A:997:U:H5'	2.07	0.83
53:b:425:G:N1	53:b:426:C:C4	2.45	0.83
53:b:2152:G:N3	53:b:2153:C:H1'	1.92	0.83
53:b:2307:G:N7	53:b:2311:A:N7	2.26	0.83
53:b:2468:A:N1	53:b:2481:G:C2	2.43	0.83
15:P:70:ARG:CB	50:A:376:G:OP1	2.26	0.83
16:Q:53:GLY:N	16:Q:56:ASP:OD2	2.09	0.83
53:b:2183:A:C6	53:b:2184:A:C8	2.66	0.83
50:A:1492:A:N6	53:b:1913:A:N7	2.27	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:979:A:C5	53:b:982:C:N4	2.45	0.83
53:b:1059:G:C6	53:b:1080:A:N6	2.47	0.83
53:b:1305:C:N3	53:b:1306:C:C5	2.46	0.83
53:b:1409:U:C2	53:b:1410:G:C8	2.65	0.83
53:b:2507:C:N4	53:b:2583:G:C6	2.47	0.83
53:b:2841:C:C2	53:b:2842:G:C8	2.66	0.83
53:b:822:G:C2	53:b:823:C:C5	2.66	0.83
18:S:36:ARG:NH1	50:A:1220:G:OP1	2.12	0.83
39:n:12:ARG:CD	39:n:20:MET:SD	2.66	0.83
53:b:20:C:O2	53:b:21:A:C8	2.31	0.83
53:b:209:C:C2	53:b:210:C:C6	2.66	0.83
53:b:388:G:C5	53:b:390:U:O4	2.30	0.83
53:b:1499:C:C4	53:b:1500:G:C8	2.66	0.83
53:b:2688:G:N2	53:b:2720:U:C5	2.47	0.83
53:b:749:A:N6	53:b:1618:A:N1	2.26	0.83
53:b:785:G:N1	53:b:786:C:C4	2.47	0.83
53:b:2110:G:N1	53:b:2179:C:O2	2.08	0.83
53:b:2159:G:H2'	53:b:2160:C:C1'	2.08	0.83
53:b:2454:G:N1	53:b:2499:C:C4	2.47	0.83
15:P:12:LYS:C	50:A:392:C:OP1	2.22	0.83
39:n:16:HIS:C	39:n:20:MET:HE3	2.04	0.83
41:p:29:LYS:CA	41:p:40:LEU:HD11	2.07	0.83
53:b:1087:G:H1	53:b:1102:C:H42	1.26	0.83
53:b:1662:U:C2	53:b:1663:G:C8	2.66	0.83
53:b:2066:C:O2'	53:b:2067:G:H5'	1.79	0.83
53:b:2331:G:N2	53:b:2332:C:N1	2.26	0.83
31:e:62:GLN:O	31:e:63:LYS:HG2	1.78	0.83
53:b:2177:C:H2'	53:b:2178:C:O4'	1.78	0.83
51:X:16:G:O2'	51:X:17:C:O5'	1.94	0.83
53:b:288:U:C2	53:b:289:G:C8	2.67	0.83
53:b:425:G:C2	53:b:426:C:C5	2.66	0.83
53:b:1074:G:N1	53:b:1075:C:C6	2.46	0.83
53:b:1395:A:C6	53:b:1398:C:C6	2.67	0.83
53:b:2537:U:O2	53:b:2538:C:C5	2.32	0.83
53:b:1063:G:N1	53:b:1076:C:C4	2.47	0.83
53:b:845:A:H3'	53:b:845:A:H8	1.42	0.82
35:j:57:LEU:HD11	35:j:129:GLU:HA	1.61	0.82
50:A:702:A:C4	53:b:1848:A:C8	2.67	0.82
52:a:48:U:N3	52:a:49:C:C5	2.46	0.82
53:b:2542:A:OP1	53:b:2766:A:O2'	1.96	0.82
47:w:6:ALA:HB1	47:w:40:ILE:HG21	1.61	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:997:U:O4	50:A:1044:A:N6	2.12	0.82
53:b:2032:G:O6	53:b:2454:G:H5'	1.79	0.82
53:b:2330:G:C2	53:b:2331:G:H1'	2.14	0.82
4:E:40:ASP:OD2	4:E:44:ARG:NE	2.12	0.82
29:c:67:PHE:CZ	29:c:156:ARG:NH2	2.47	0.82
53:b:750:A:N1	53:b:753:A:C5	2.24	0.82
53:b:1974:C:N3	53:b:1975:G:C8	2.47	0.82
53:b:1985:C:C2	53:b:1986:C:C6	2.67	0.82
53:b:2826:A:C6	53:b:2827:C:C6	2.67	0.82
52:a:92:C:C2	52:a:93:C:C5	2.66	0.82
53:b:751:A:C4	53:b:789:A:C2	2.67	0.82
53:b:1009:A:H2'	53:b:1010:A:C8	2.14	0.82
53:b:2065:C:O2'	53:b:2066:C:H5'	1.77	0.82
39:n:12:ARG:HD3	39:n:20:MET:SD	2.18	0.82
53:b:26:G:H2'	53:b:27:G:C1'	2.10	0.82
53:b:1075:C:C2	53:b:1076:C:H5	1.97	0.82
53:b:1092:C:C2	53:b:1093:G:C8	2.67	0.82
53:b:245:G:C2	53:b:246:C:C5	2.68	0.82
50:A:944:G:N1	50:A:1338:G:OP2	2.12	0.82
53:b:949:G:C2	53:b:950:G:C8	2.66	0.82
53:b:1063:G:C2	53:b:1076:C:C4	2.67	0.82
53:b:1106:G:C6	53:b:1107:G:C5	2.67	0.82
53:b:1773:A:N7	53:b:1774:C:C6	2.48	0.82
53:b:1858:A:H61	53:b:1884:G:H1'	1.45	0.82
53:b:2798:U:O2'	53:b:2800:A:N1	2.11	0.82
53:b:2848:G:O2'	53:b:2868:A:N6	2.12	0.82
31:e:44:ARG:HH22	31:e:87:ALA:HB2	1.42	0.82
52:a:46:A:C5	52:a:47:C:C5	2.68	0.82
53:b:154:U:C2	53:b:155:A:C8	2.68	0.82
53:b:695:G:C2	53:b:696:G:C8	2.68	0.82
53:b:785:G:C2	53:b:786:C:C6	2.68	0.82
53:b:1408:G:C2	53:b:1409:U:C6	2.67	0.82
8:I:11:ARG:NH2	50:A:1347:G:H22	1.78	0.82
8:I:111:GLU:HB2	50:A:1348:U:H4'	1.15	0.82
53:b:81:G:H2'	53:b:82:U:O4'	1.79	0.82
53:b:658:U:C2	53:b:659:G:C8	2.68	0.82
53:b:1120:G:C6	53:b:1121:C:C5	2.66	0.82
53:b:1294:U:C4	53:b:1295:C:C5	2.67	0.82
53:b:1461:C:C2	53:b:1462:C:C5	2.68	0.82
53:b:1849:G:N1	53:b:1850:G:N7	2.28	0.82
53:b:779:U:N3	53:b:780:G:N7	2.27	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1208:C:C4	53:b:1239:G:N1	2.47	0.81
53:b:2591:C:N3	53:b:2592:G:C8	2.48	0.81
6:G:101:ARG:NH1	50:A:939:G:OP1	2.12	0.81
52:a:61:G:C5	52:a:62:C:C5	2.67	0.81
53:b:1348:C:N4	53:b:1349:C:C6	2.48	0.81
53:b:1537:G:C6	53:b:1538:G:C8	2.68	0.81
53:b:2330:G:C5	53:b:2331:G:C8	2.68	0.81
1:B:138:ARG:O	1:B:142:LYS:NZ	2.11	0.81
3:D:181:PHE:HZ	3:D:184:LYS:HZ2	1.24	0.81
34:h:41:LYS:HA	34:h:43:ASN:OD1	1.80	0.81
53:b:41:C:N3	53:b:42:A:N7	2.28	0.81
53:b:521:U:C2	53:b:522:A:C8	2.68	0.81
53:b:935:C:C2	53:b:936:A:C8	2.67	0.81
53:b:974:G:N7	53:b:989:G:C2	2.48	0.81
53:b:1063:G:N2	53:b:1076:C:C2	2.48	0.81
53:b:1144:A:C2	53:b:1145:C:C5	2.68	0.81
53:b:1812:U:C2	53:b:1813:G:C8	2.68	0.81
53:b:1829:A:C5	53:b:1830:C:C6	2.68	0.81
53:b:2133:G:N2	53:b:2160:C:P	2.53	0.81
53:b:2483:C:C4	53:b:2484:G:C8	2.68	0.81
53:b:2827:C:O2	53:b:2828:G:C8	2.34	0.81
28:8:3:VAL:HG22	28:8:36:ARG:HB3	1.60	0.81
53:b:2734:A:C6	53:b:2735:G:H1'	2.14	0.81
29:c:119:GLY:H	29:c:130:LEU:HD23	1.46	0.81
50:A:702:A:H5'	53:b:1848:A:H4'	1.63	0.81
53:b:171:U:C2	53:b:172:A:C8	2.69	0.81
53:b:1256:G:C2	53:b:1257:C:C6	2.69	0.81
53:b:1502:A:C2	53:b:1503:A:N9	2.47	0.81
53:b:2538:C:C2	53:b:2539:C:H5	1.94	0.81
53:b:1054:A:C2	53:b:1105:U:C5	2.69	0.81
53:b:1451:C:N3	53:b:1458:U:O4	2.14	0.81
53:b:2032:G:C5	53:b:2454:G:H4'	2.16	0.81
53:b:2152:G:N1	53:b:2153:C:C2	2.48	0.81
53:b:2839:G:N2	53:b:2840:C:H1'	1.96	0.81
49:z:26:ARG:NE	49:z:26:ARG:O	2.14	0.81
53:b:1316:U:C2	53:b:1317:G:C8	2.68	0.81
53:b:2507:C:N3	53:b:2583:G:C2	2.49	0.81
53:b:2507:C:N4	53:b:2583:G:O6	2.14	0.81
50:A:1070:U:O2	50:A:1106:G:N1	2.13	0.81
53:b:42:A:C2	53:b:43:G:C8	2.68	0.81
53:b:1796:U:O2	53:b:1797:G:C8	2.34	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:70:PRO:HA	6:G:141:HIS:HE1	1.42	0.81
53:b:2800:A:N6	53:b:2801:G:C5	2.49	0.81
15:P:28:ARG:NE	15:P:29:ASN:HD21	1.79	0.80
53:b:639:U:H2'	53:b:640:C:C6	2.16	0.80
53:b:1276:A:C8	53:b:1645:G:N2	2.49	0.80
53:b:1301:A:C2	53:b:1303:G:N7	2.49	0.80
53:b:1859:U:C2	53:b:1860:G:C8	2.68	0.80
53:b:2258:C:O2'	53:b:2427:C:OP2	1.98	0.80
8:I:105:ARG:CD	8:I:106:ASP:N	2.40	0.80
52:a:45:A:C6	52:a:46:A:C8	2.69	0.80
53:b:1059:G:N7	53:b:1060:U:C5	2.48	0.80
53:b:1221:C:C2	53:b:1222:U:C5	2.70	0.80
53:b:1231:U:O2	53:b:1232:G:N7	2.13	0.80
53:b:1303:G:C6	53:b:1304:A:N7	2.50	0.80
53:b:1121:C:N3	53:b:1122:G:H8	1.78	0.80
53:b:1170:C:C3'	53:b:1171:G:H5'	2.12	0.80
53:b:1659:G:C6	53:b:1660:G:C8	2.70	0.80
53:b:1663:G:O6	53:b:1992:G:C8	2.33	0.80
53:b:2190:G:C2	53:b:2191:A:C8	2.69	0.80
53:b:245:G:C2	53:b:246:C:C4	2.70	0.80
53:b:253:C:C4	53:b:254:G:N9	2.50	0.80
53:b:594:U:O2	53:b:595:C:C5	2.34	0.80
53:b:1074:G:C6	53:b:1075:C:C5	2.68	0.80
51:X:19:C:O2	51:X:19:C:H5''	1.81	0.80
53:b:1073:A:C5	53:b:1074:G:C8	2.69	0.80
53:b:1773:A:N6	53:b:1774:C:H1'	1.95	0.80
35:j:57:LEU:CD1	35:j:129:GLU:HA	2.12	0.80
49:z:25:ILE:HG21	49:z:27:ALA:HB2	1.52	0.80
50:A:1346:A:N6	50:A:1375:A:OP2	2.14	0.80
53:b:76:C:C2	53:b:77:G:C8	2.70	0.80
53:b:603:A:H4'	53:b:604:G:O5'	1.82	0.80
53:b:1662:U:N3	53:b:1663:G:N7	2.30	0.80
53:b:2254:C:N3	53:b:2255:G:C8	2.50	0.80
44:s:69:LEU:HD22	44:s:107:VAL:CG1	2.09	0.80
53:b:291:G:C2	53:b:292:U:C5	2.69	0.80
53:b:603:A:C8	53:b:655:A:N1	2.50	0.80
53:b:1501:G:C6	53:b:1502:A:N7	2.49	0.80
53:b:1676:A:H2'	53:b:1677:A:O4'	1.81	0.80
33:g:33:LEU:CD2	33:g:137:ASP:OD1	2.27	0.80
53:b:1053:C:N4	53:b:1107:G:C6	2.49	0.80
53:b:1408:G:C6	53:b:1409:U:C5	2.69	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2508:G:N2	53:b:2509:G:H1'	1.97	0.80
41:p:29:LYS:CD	41:p:40:LEU:HD21	2.11	0.80
49:z:10:GLU:HB3	49:z:12:LEU:HD22	1.64	0.80
53:b:1295:C:N3	53:b:1296:G:C8	2.49	0.80
29:c:167:ARG:O	29:c:168:ASP:OD1	1.99	0.80
53:b:1019:U:C4	53:b:1142:A:N6	2.50	0.80
53:b:1659:G:C2	53:b:1660:G:H1'	2.16	0.80
53:b:2766:A:C6	53:b:2767:C:C5	2.70	0.80
34:h:64:ALA:HB2	34:h:85:GLY:C	2.07	0.79
52:a:48:U:C2	52:a:49:C:C6	2.70	0.79
53:b:662:G:C2	53:b:663:G:N7	2.50	0.79
53:b:979:A:N6	53:b:982:C:C5	2.50	0.79
53:b:1063:G:C2	53:b:1076:C:N3	2.50	0.79
53:b:2152:G:O6	53:b:2153:C:C5	2.35	0.79
11:L:72:ASN:ND2	11:L:102:ASP:O	2.14	0.79
53:b:76:C:C2	53:b:77:G:H8	2.00	0.79
53:b:381:G:C2	53:b:382:A:C8	2.70	0.79
53:b:1021:A:N6	53:b:1141:U:C2	2.50	0.79
53:b:1054:A:C6	53:b:1105:U:O4	2.35	0.79
53:b:1276:A:C2	53:b:1277:G:C8	2.70	0.79
53:b:2000:C:C2	53:b:2001:C:C6	2.68	0.79
53:b:2395:C:N3	53:b:2396:G:C8	2.51	0.79
53:b:2407:A:C2	53:b:2408:U:C5	2.70	0.79
23:2:5:ILE:CG2	23:2:57:VAL:HG13	2.13	0.79
53:b:332:A:C6	53:b:335:C:C5	2.71	0.79
53:b:1501:G:N1	53:b:1502:A:N7	2.30	0.79
53:b:2287:A:N6	53:b:2344:U:H3	1.80	0.79
39:n:17:ARG:HA	39:n:20:MET:HE3	1.65	0.79
44:s:93:ALA:HB3	49:z:13:PHE:CD2	2.16	0.79
50:A:446:G:H1	50:A:488:C:H42	1.31	0.79
50:A:1347:G:H5'	50:A:1348:U:O4'	1.83	0.79
53:b:2152:G:O6	53:b:2153:C:C4	2.36	0.79
8:I:11:ARG:HA	8:I:105:ARG:CZ	2.13	0.79
52:a:117:G:C4	52:a:118:C:C6	2.70	0.79
53:b:75:G:N1	53:b:76:C:C5	2.50	0.79
53:b:1272:A:N6	53:b:1618:A:N3	2.30	0.79
53:b:1537:G:C5	53:b:1538:G:C8	2.71	0.79
53:b:2527:C:C4	53:b:2528:U:C5	2.69	0.79
53:b:2797:U:O4	53:b:2800:A:H2	1.65	0.79
50:A:510:A:HO2'	50:A:542:G:HO2'	1.30	0.79
53:b:786:C:C2	53:b:787:C:C6	2.67	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1208:C:N3	53:b:1239:G:C2	2.50	0.79
53:b:2182:U:C2	53:b:2183:A:N7	2.50	0.79
3:D:139:ASN:H	3:D:182:LYS:HA	1.48	0.79
49:z:25:ILE:HG22	49:z:27:ALA:HB2	0.84	0.79
53:b:20:C:N3	53:b:21:A:N7	2.31	0.79
53:b:662:G:N2	53:b:663:G:C4	2.51	0.79
53:b:736:C:N3	53:b:737:C:C5	2.51	0.79
53:b:1256:G:C2	53:b:1257:C:C5	2.71	0.79
53:b:2637:U:H2'	53:b:2638:G:O4'	1.82	0.79
15:P:60:TRP:HZ3	50:A:228:A:HO2'	0.80	0.79
15:P:70:ARG:NH1	50:A:374:A:H2'	1.92	0.79
29:c:141:VAL:HG11	29:c:190:ALA:CB	2.12	0.79
50:A:181:A:N6	50:A:195:A:OP2	2.16	0.79
53:b:523:C:N3	53:b:524:G:N7	2.30	0.79
53:b:736:C:C2	53:b:737:C:C6	2.70	0.79
53:b:751:A:N3	53:b:789:A:C2	2.50	0.79
53:b:1055:G:N1	53:b:1104:C:N4	2.30	0.79
53:b:1243:C:N3	53:b:1244:A:C8	2.50	0.79
53:b:1319:C:N3	53:b:1320:C:C4	2.51	0.79
53:b:1791:A:N1	53:b:1829:A:H4'	1.98	0.79
53:b:2796:U:O2	53:b:2798:U:O2'	2.01	0.79
8:I:105:ARG:NH1	8:I:106:ASP:HB2	1.97	0.79
53:b:75:G:C2	53:b:76:C:C6	2.71	0.79
53:b:1304:A:N1	53:b:1305:C:C4	2.51	0.79
53:b:1775:U:C4	53:b:1776:G:C8	2.69	0.79
53:b:2407:A:C2	53:b:2408:U:C4	2.71	0.79
53:b:2432:A:C2	53:b:2433:A:C8	2.71	0.79
53:b:51:G:C2	53:b:119:A:C2	2.71	0.79
53:b:108:G:O2'	53:b:347:A:N3	2.15	0.79
53:b:2065:C:H2'	53:b:2066:C:O5'	1.83	0.79
18:S:5:LYS:HE2	18:S:6:LYS:HE2	1.63	0.78
29:c:225:MET:SD	53:b:782:A:H2	2.06	0.78
39:n:16:HIS:HD2	39:n:20:MET:HE2	1.42	0.78
53:b:822:G:C2	53:b:823:C:C6	2.71	0.78
53:b:1409:U:N3	53:b:1410:G:C8	2.51	0.78
53:b:2623:G:C2	53:b:2624:G:C8	2.71	0.78
34:h:7:ASP:OD2	34:h:62:LEU:CD1	2.28	0.78
53:b:1145:C:C2	53:b:1146:C:C5	2.69	0.78
15:P:22:ALA:HA	15:P:33:ILE:HG13	1.65	0.78
50:A:1072:G:O6	50:A:1102:A:N6	2.15	0.78
50:A:1073:U:H3	50:A:1102:A:H61	1.28	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:51:G:N2	53:b:119:A:C2	2.51	0.78
53:b:209:C:N3	53:b:210:C:C6	2.51	0.78
53:b:594:U:O2	53:b:595:C:C6	2.35	0.78
53:b:935:C:N3	53:b:936:A:N7	2.30	0.78
53:b:1172:C:C2	53:b:1173:U:H6	2.00	0.78
53:b:1806:C:C4	53:b:1807:G:C8	2.71	0.78
53:b:2581:G:C6	53:b:2610:C:N3	2.52	0.78
38:m:53:MET:CE	38:m:116:ALA:HB3	2.13	0.78
53:b:1172:C:C6	53:b:1173:U:C5	2.71	0.78
53:b:1315:C:C2	53:b:1316:U:C5	2.71	0.78
53:b:1785:A:H2'	53:b:1786:A:H5''	1.59	0.78
53:b:2013:A:C2	53:b:2613:U:O4	2.35	0.78
53:b:2154:A:C2	53:b:2155:U:C6	2.72	0.78
53:b:2591:C:C2	53:b:2592:G:C8	2.72	0.78
53:b:2117:A:HO2'	53:b:2118:U:C5'	1.97	0.78
15:P:70:ARG:HG2	50:A:375:U:C4'	2.13	0.78
53:b:948:C:C2	53:b:949:G:C8	2.71	0.78
53:b:1051:G:N2	53:b:1052:C:H1'	1.98	0.78
53:b:1443:U:C2	53:b:1444:G:C8	2.70	0.78
53:b:1849:G:N2	53:b:1850:G:N9	2.32	0.78
53:b:1858:A:N6	53:b:1884:G:H1'	1.98	0.78
53:b:2662:A:C5	53:b:2663:G:H1'	2.18	0.78
53:b:948:C:N3	53:b:949:G:N7	2.32	0.78
53:b:1964:G:C2	53:b:1967:C:C4	2.72	0.78
53:b:2067:G:H4'	53:b:2068:U:OP2	1.82	0.78
53:b:2454:G:N2	53:b:2499:C:C2	2.52	0.78
53:b:2593:U:C2	53:b:2594:C:C5	2.72	0.78
53:b:2616:C:N3	53:b:2617:U:C5	2.52	0.78
8:I:113:LYS:HE3	8:I:117:LEU:HD13	1.66	0.78
50:A:373:A:H61	50:A:482:A:H5'	1.47	0.78
53:b:786:C:O2	53:b:787:C:C5	2.34	0.78
35:j:57:LEU:CD2	35:j:129:GLU:O	2.31	0.78
53:b:953:G:C2	53:b:954:G:C8	2.72	0.78
53:b:1172:C:N3	53:b:1173:U:C6	2.51	0.78
53:b:1982:U:O2	53:b:1983:G:C8	2.37	0.78
53:b:2174:C:O2'	53:b:2175:C:O5'	2.02	0.78
53:b:2535:G:N2	53:b:2536:G:N9	2.31	0.78
53:b:2537:U:N3	53:b:2538:C:C5	2.52	0.78
30:d:150:GLN:HB3	53:b:2032:G:N2	1.98	0.78
39:n:71:ARG:NH1	53:b:2708:G:C4'	2.47	0.78
50:A:614:C:N4	50:A:626:G:O6	2.17	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:186:G:C2	53:b:187:G:N7	2.51	0.77
53:b:650:C:C4	53:b:651:G:C8	2.72	0.77
53:b:1208:C:C2	53:b:1239:G:N2	2.51	0.77
53:b:1595:C:N3	53:b:1596:A:N7	2.32	0.77
53:b:1839:G:O6	53:b:1840:G:N7	2.17	0.77
53:b:2750:A:H5'	53:b:2750:A:C8	2.19	0.77
15:P:12:LYS:HG3	50:A:392:C:OP2	1.82	0.77
31:e:44:ARG:NH2	31:e:46:GLN:NE2	2.27	0.77
49:z:17:VAL:CG2	49:z:18:TRP:CA	2.62	0.77
53:b:1599:U:C2	53:b:1600:C:C5	2.72	0.77
53:b:1857:G:C6	53:b:1884:G:N1	2.52	0.77
53:b:1964:G:N2	53:b:1967:C:C2	2.52	0.77
37:l:78:ARG:HD3	53:b:626:A:C2	2.20	0.77
53:b:22:C:C2	53:b:23:G:C8	2.71	0.77
53:b:170:U:C4	53:b:171:U:C5	2.71	0.77
53:b:603:A:N7	53:b:655:A:N1	2.31	0.77
53:b:662:G:N3	53:b:663:G:C8	2.52	0.77
53:b:1077:A:N1	53:b:1088:A:C2	2.52	0.77
53:b:1319:C:N3	53:b:1320:C:N4	2.32	0.77
53:b:2185:U:C2	53:b:2186:G:C8	2.72	0.77
53:b:2586:U:C2'	53:b:2587:A:C5'	2.58	0.77
53:b:2702:G:N2	53:b:2703:C:C5	2.52	0.77
53:b:704:G:N2	53:b:726:G:C2	2.52	0.77
53:b:747:U:O2'	53:b:748:G:OP1	2.01	0.77
53:b:822:G:N2	53:b:823:C:C2	2.53	0.77
53:b:1305:C:C4	53:b:1306:C:C5	2.72	0.77
53:b:2340:A:H2'	53:b:2341:G:C8	2.20	0.77
15:P:6:LEU:O	50:A:376:G:N9	2.18	0.77
53:b:1069:A:H62	53:b:1073:A:H8	1.32	0.77
53:b:1395:A:N7	53:b:1398:C:C5	2.52	0.77
53:b:2480:C:N4	53:b:2481:G:C5	2.53	0.77
8:I:63:TYR:HE2	50:A:1130:A:H5''	1.48	0.77
15:P:12:LYS:HD2	50:A:392:C:C5'	2.15	0.77
15:P:60:TRP:CZ3	50:A:228:A:O2'	2.34	0.77
53:b:290:U:C2	53:b:291:G:C8	2.73	0.77
53:b:425:G:C2	53:b:426:C:C4	2.72	0.77
53:b:1383:A:C2	53:b:1384:A:C5	2.72	0.77
53:b:1504:A:C2	53:b:1505:A:N7	2.52	0.77
53:b:1999:C:C2	53:b:2000:C:C5	2.72	0.77
35:j:3:THR:HG21	42:q:61:TRP:HE1	1.50	0.77
48:y:41:ARG:HB2	53:b:2330:G:O2'	1.85	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1221:C:N3	53:b:1222:U:C5	2.53	0.77
53:b:1433:A:H2'	53:b:1434:A:N3	1.99	0.77
53:b:1629:U:N3	53:b:1630:A:C8	2.53	0.77
53:b:2266:A:N6	53:b:2272:U:H2'	1.99	0.77
53:b:2801:G:C2	53:b:2802:G:C8	2.73	0.77
38:m:53:MET:HE1	38:m:116:ALA:CB	2.13	0.77
53:b:66:C:H1'	53:b:456:C:N4	2.00	0.77
53:b:256:A:C2	53:b:257:C:C6	2.72	0.77
53:b:537:G:N1	53:b:555:G:C2	2.53	0.77
53:b:1538:G:N2	53:b:1539:U:H1'	2.00	0.77
53:b:2181:U:N3	53:b:2182:U:C6	2.53	0.77
9:J:9:ARG:NH1	9:J:71:LEU:HD21	1.99	0.77
52:a:34:A:C6	52:a:44:G:C8	2.73	0.77
53:b:398:C:N3	53:b:399:U:C5	2.52	0.77
53:b:964:C:N3	53:b:965:C:C5	2.53	0.77
53:b:1090:A:N1	53:b:1091:G:C8	2.53	0.77
53:b:1594:U:N3	53:b:1595:C:C5	2.52	0.77
53:b:2205:A:C5	53:b:2206:C:C5	2.72	0.77
13:N:15:LEU:HD23	13:N:18:LYS:HD2	1.66	0.77
34:h:64:ALA:HB2	34:h:85:GLY:O	1.84	0.77
50:A:1498:U:OP2	51:X:15:G:O2'	2.03	0.77
53:b:748:G:N7	53:b:750:A:C8	2.53	0.77
53:b:1356:G:C6	53:b:1357:C:C5	2.72	0.77
53:b:2283:C:C4	53:b:2389:G:C6	2.72	0.77
1:B:101:THR:N	1:B:174:GLU:OE2	2.16	0.76
50:A:251:G:H4'	50:A:252:U:H5'	1.67	0.76
53:b:307:G:H22	53:b:309:A:H3'	1.50	0.76
53:b:2129:C:O2	53:b:2160:C:C2	2.37	0.76
53:b:2181:U:N3	53:b:2182:U:C5	2.53	0.76
15:P:12:LYS:HD2	50:A:392:C:H5'	1.67	0.76
32:f:92:ARG:CZ	52:a:45:A:C1'	2.63	0.76
45:t:69:ARG:HG2	45:t:74:ILE:HG22	1.65	0.76
53:b:75:G:N2	53:b:76:C:H6	1.80	0.76
53:b:783:A:N6	53:b:785:G:C5	2.53	0.76
53:b:1123:C:O2	53:b:1124:G:C8	2.38	0.76
53:b:1795:C:C4	53:b:1796:U:C5	2.73	0.76
53:b:2114:A:N6	53:b:2169:A:C2	2.54	0.76
53:b:2184:A:C2	53:b:2185:U:C6	2.73	0.76
53:b:2534:A:N6	53:b:2535:G:C4	2.52	0.76
15:P:17:TYR:CE2	50:A:375:U:O2'	2.39	0.76
53:b:822:G:N1	53:b:823:C:C4	2.54	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2067:G:N3	53:b:2444:G:N2	2.34	0.76
53:b:2534:A:C6	53:b:2535:G:C1'	2.67	0.76
53:b:2590:A:C2	53:b:2591:C:C6	2.72	0.76
53:b:2656:U:O4	53:b:2657:A:C8	2.38	0.76
53:b:172:A:C2	53:b:173:A:C5	2.73	0.76
53:b:210:C:C2	53:b:211:C:C6	2.74	0.76
53:b:1304:A:N1	53:b:1305:C:C5	2.54	0.76
53:b:1716:U:C4	53:b:1743:G:N2	2.52	0.76
53:b:2330:G:C6	53:b:2331:G:N7	2.53	0.76
3:D:87:GLU:OE1	3:D:187:ARG:NH2	2.17	0.76
34:h:7:ASP:CG	34:h:62:LEU:HD11	2.10	0.76
53:b:26:G:H2'	53:b:27:G:H1'	1.67	0.76
53:b:281:C:H2'	53:b:282:A:C8	2.21	0.76
53:b:398:C:C2	53:b:399:U:C6	2.72	0.76
53:b:1829:A:N7	53:b:1830:C:C6	2.54	0.76
53:b:2802:G:C2	53:b:2803:G:C8	2.74	0.76
41:p:29:LYS:HD3	41:p:40:LEU:HD21	1.65	0.76
47:w:2:PHE:CB	47:w:61:LEU:HD22	2.13	0.76
49:z:3:GLU:O	49:z:4:GLN:HG3	1.84	0.76
53:b:288:U:O2	53:b:289:G:C8	2.38	0.76
53:b:704:G:C2	53:b:726:G:C2	2.73	0.76
53:b:1301:A:C6	53:b:1303:G:N9	2.54	0.76
38:m:96:ILE:HA	38:m:100:LYS:HZ3	1.50	0.76
53:b:967:U:C2	53:b:968:C:C5	2.74	0.76
53:b:1502:A:N1	53:b:1503:A:C5	2.53	0.76
53:b:2067:G:C4	53:b:2444:G:N2	2.54	0.76
53:b:2419:U:O2	53:b:2420:C:H6	1.66	0.76
53:b:2818:U:O2	53:b:2819:G:C8	2.39	0.76
15:P:13:LYS:HE2	50:A:392:C:H4'	1.67	0.76
49:z:25:ILE:HG22	49:z:27:ALA:CA	2.15	0.76
49:z:26:ARG:NH1	53:b:2451:A:N3	2.33	0.76
51:X:16:G:C2	51:X:17:C:C5	2.74	0.76
53:b:1220:G:C2	53:b:1221:C:C6	2.73	0.76
53:b:1594:U:O2	53:b:1595:C:C6	2.39	0.76
53:b:1598:A:N1	53:b:1599:U:C5	2.54	0.76
53:b:1811:G:C2	53:b:1812:U:C6	2.74	0.76
53:b:2174:C:O2'	53:b:2175:C:O4'	2.03	0.76
31:e:5:LEU:CD1	31:e:12:LEU:CG	2.64	0.76
50:A:1423:G:O6	50:A:1476:A:N6	2.18	0.76
53:b:1771:C:O2'	53:b:1786:A:H1'	1.86	0.76
53:b:1782:U:O2	53:b:2608:G:O2'	2.03	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:6:ILE:HD11	5:F:71:ILE:HD11	1.67	0.76
50:A:457:G:O6	50:A:475:C:N4	2.19	0.76
52:a:3:C:N4	52:a:117:G:H1	1.83	0.76
11:L:50:LYS:NZ	50:A:521:G:OP1	2.13	0.75
50:A:69:G:O6	50:A:98:A:N6	2.20	0.75
53:b:612:G:C5	53:b:614:A:C2	2.74	0.75
53:b:1383:A:C2	53:b:1384:A:C2	2.68	0.75
53:b:2331:G:C6	53:b:2332:C:C5	2.74	0.75
53:b:2396:G:N1	53:b:2397:G:N7	2.34	0.75
53:b:2839:G:C6	53:b:2840:C:C5	2.74	0.75
4:E:12:GLU:OE2	4:E:63:MET:HG2	1.85	0.75
7:H:99:GLY:HA2	7:H:129:ALA:HB3	1.66	0.75
53:b:154:U:N3	53:b:155:A:N7	2.33	0.75
53:b:730:A:C2	53:b:731:C:C6	2.73	0.75
53:b:1303:G:N1	53:b:1304:A:C5	2.54	0.75
53:b:1663:G:C6	53:b:1992:G:N7	2.53	0.75
53:b:2710:C:C2	53:b:2711:A:C8	2.74	0.75
38:m:53:MET:CE	38:m:105:MET:HE1	2.15	0.75
52:a:92:C:O2	52:a:93:C:C6	2.39	0.75
53:b:234:U:O4	53:b:430:A:C2	2.38	0.75
53:b:749:A:C6	53:b:1618:A:N1	2.53	0.75
53:b:2556:C:N3	53:b:2557:G:C8	2.55	0.75
31:e:5:LEU:HD11	31:e:12:LEU:HD11	1.65	0.75
5:F:10:VAL:HB	5:F:58:HIS:HB3	1.69	0.75
53:b:1053:C:C6	53:b:1107:G:N2	2.54	0.75
53:b:1063:G:C6	53:b:1076:C:N4	2.55	0.75
53:b:1315:C:O2	53:b:1316:U:C6	2.39	0.75
53:b:2165:C:H2'	53:b:2166:U:O4'	1.86	0.75
18:S:32:THR:HG22	18:S:34:SER:H	1.52	0.75
46:u:72:ILE:HD12	46:u:83:VAL:CG2	2.17	0.75
49:z:17:VAL:HG22	49:z:18:TRP:CA	2.16	0.75
53:b:1459:G:N1	53:b:1461:C:N4	2.34	0.75
53:b:1515:A:C5	53:b:1516:G:H1'	2.22	0.75
53:b:1773:A:C6	53:b:1774:C:C1'	2.69	0.75
53:b:2345:G:C8	53:b:2347:C:C5	2.74	0.75
41:p:21:ARG:HD3	53:b:2867:G:H1	1.51	0.75
53:b:751:A:C2	53:b:789:A:C2	2.74	0.75
53:b:1206:G:C6	53:b:1207:C:C4	2.75	0.75
53:b:2128:G:H2'	53:b:2129:C:C4'	2.16	0.75
2:C:31:ASN:OD1	2:C:58:ARG:NH1	2.20	0.75
2:C:69:THR:C	2:C:106:ARG:HH12	1.94	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:160:GLU:HG3	2:C:161:ILE:HG12	1.69	0.75
9:J:70:HIS:HB2	9:J:72:ARG:HH12	1.51	0.75
53:b:1296:G:C2	53:b:1297:C:C5	2.75	0.75
53:b:1301:A:C5	53:b:1303:G:C8	2.74	0.75
53:b:1348:C:C4	53:b:1349:C:C6	2.75	0.75
53:b:1450:G:H1	53:b:1459:G:H22	1.35	0.75
8:I:105:ARG:HH11	8:I:106:ASP:H	1.34	0.75
53:b:531:C:C5	53:b:2035:G:C2	2.75	0.75
53:b:1242:U:C4	53:b:1243:C:C5	2.74	0.75
53:b:1272:A:C6	53:b:1618:A:C4	2.75	0.75
53:b:1503:A:C2	53:b:1504:A:C4	2.74	0.75
53:b:1517:G:C5	53:b:1518:C:C5	2.75	0.75
53:b:1891:G:C6	53:b:1892:C:C6	2.75	0.75
53:b:1998:A:C6	53:b:1999:C:C5	2.75	0.75
53:b:2536:G:C5	53:b:2537:U:C4	2.74	0.75
52:a:29:A:C2	52:a:56:G:C2	2.74	0.74
53:b:1013:C:O2	53:b:1014:A:C8	2.40	0.74
53:b:1219:U:C4	53:b:1220:G:N7	2.54	0.74
53:b:2013:A:N6	53:b:2613:U:N3	2.34	0.74
53:b:2736:A:C2	53:b:2737:G:C8	2.75	0.74
53:b:2839:G:C5	53:b:2840:C:C5	2.74	0.74
1:B:187:ASP:HB3	1:B:203:ASP:HB3	1.69	0.74
53:b:783:A:C5	53:b:785:G:C8	2.75	0.74
53:b:1060:U:H4'	53:b:1061:U:OP1	1.87	0.74
53:b:2192:U:C2	53:b:2193:G:C8	2.75	0.74
53:b:2536:G:C6	53:b:2537:U:C4	2.75	0.74
1:B:45:THR:HG22	1:B:200:PRO:HG2	1.69	0.74
53:b:213:A:N1	53:b:214:G:C6	2.55	0.74
53:b:674:G:C6	53:b:804:A:C6	2.75	0.74
53:b:847:U:O4	53:b:933:A:C5	2.40	0.74
53:b:2152:G:C2	53:b:2153:C:N1	2.55	0.74
49:z:19:ILE:HD11	49:z:22:ALA:HB2	1.69	0.74
50:A:702:A:O4'	53:b:1848:A:O4'	2.04	0.74
53:b:280:U:H2'	53:b:281:C:C6	2.21	0.74
53:b:1303:G:N2	53:b:1304:A:N9	2.36	0.74
53:b:1451:C:N3	53:b:1458:U:C4	2.55	0.74
53:b:1538:G:C6	53:b:1539:U:C5	2.76	0.74
53:b:2099:U:O2	53:b:2100:G:C8	2.40	0.74
53:b:2182:U:O2	53:b:2183:A:N9	2.20	0.74
53:b:2793:C:O2	53:b:2794:C:C6	2.40	0.74
53:b:519:U:N3	53:b:520:G:C8	2.55	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:783:A:C6	53:b:785:G:N9	2.56	0.74
54:v:33:U:N1	54:v:35:C:OP2	2.20	0.74
53:b:785:G:C6	53:b:786:C:N4	2.55	0.74
53:b:929:U:N3	53:b:930:G:C8	2.55	0.74
53:b:1501:G:N1	53:b:1502:A:C8	2.55	0.74
53:b:2032:G:O6	53:b:2454:G:C5'	2.36	0.74
53:b:2269:G:N1	53:b:2270:A:C5	2.55	0.74
53:b:2508:G:H21	53:b:2509:G:H1'	1.53	0.74
53:b:749:A:C5	53:b:1618:A:N1	2.56	0.74
53:b:783:A:N7	53:b:785:G:C8	2.55	0.74
53:b:2590:A:C2	53:b:2591:C:C5	2.75	0.74
53:b:2798:U:C3'	53:b:2799:A:H2	2.00	0.74
44:s:85:ILE:HD11	49:z:11:ASP:HB2	1.69	0.74
53:b:660:C:C2	53:b:661:A:C8	2.75	0.74
53:b:1121:C:N4	53:b:1122:G:N7	2.36	0.74
53:b:1434:A:C8	53:b:1435:G:C8	2.76	0.74
53:b:2469:A:C2	53:b:2470:G:H1'	2.23	0.74
8:I:111:GLU:CA	50:A:1348:U:O5'	2.35	0.74
32:f:77:PHE:CE1	53:b:2308:G:O6	2.41	0.74
53:b:521:U:N3	53:b:522:A:N7	2.35	0.74
53:b:1265:A:H61	53:b:2013:A:H5''	1.53	0.74
53:b:1569:A:H2'	53:b:1570:A:C8	2.23	0.74
3:D:43:ARG:NH2	50:A:512:U:OP1	2.21	0.74
50:A:1347:G:H5'	50:A:1348:U:H6	1.53	0.74
53:b:1218:G:O6	53:b:1219:U:C5	2.41	0.74
53:b:2269:G:N2	53:b:2270:A:C8	2.54	0.74
12:M:28:ARG:HH21	12:M:62:PHE:HB2	1.53	0.73
53:b:234:U:H3	53:b:429:A:N6	1.86	0.73
53:b:720:U:O2	53:b:721:A:N7	2.21	0.73
53:b:1074:G:C2	53:b:1075:C:C6	2.75	0.73
9:J:46:LYS:HZ2	9:J:48:ARG:HE	1.35	0.73
14:O:79:ARG:HD2	14:O:82:GLU:OE2	1.88	0.73
23:2:5:ILE:CD1	23:2:40:ASP:OD1	2.36	0.73
31:e:44:ARG:CZ	31:e:87:ALA:CB	2.66	0.73
52:a:33:G:C6	52:a:34:A:C8	2.76	0.73
53:b:234:U:O4	53:b:429:A:C2	2.41	0.73
53:b:630:G:N2	53:b:632:A:H3'	2.03	0.73
53:b:1065:U:C4	53:b:1066:U:H1'	2.24	0.73
53:b:1860:G:C2	53:b:1861:G:C8	2.76	0.73
53:b:2106:U:O2	53:b:2107:G:C8	2.41	0.73
53:b:2656:U:C4	53:b:2657:A:C8	2.76	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:1240:U:H5''	50:A:1241:G:OP2	1.88	0.73
53:b:844:A:H2	53:b:845:A:C2	2.06	0.73
44:s:7:HIS:CD2	44:s:10:ALA:CB	2.70	0.73
53:b:766:U:N3	53:b:767:U:C5	2.56	0.73
53:b:818:G:C5	53:b:1187:G:C2	2.77	0.73
53:b:1106:G:N1	53:b:1107:G:C4	2.56	0.73
53:b:1225:G:H2'	53:b:1226:A:C8	2.23	0.73
53:b:1238:G:C2	53:b:1239:G:H1'	2.22	0.73
53:b:1337:G:C6	53:b:1338:G:N7	2.55	0.73
53:b:1830:C:N3	53:b:1831:G:C8	2.53	0.73
53:b:1866:A:C6	53:b:1867:G:H1'	2.23	0.73
53:b:2468:A:C2	53:b:2481:G:N1	2.48	0.73
34:h:67:ALA:O	34:h:68:ARG:CB	2.37	0.73
50:A:201:G:HO2'	50:A:469:C:HO2'	1.35	0.73
50:A:374:A:H1'	50:A:451:A:P	2.28	0.73
50:A:996:A:C6	50:A:997:U:H5	1.84	0.73
52:a:23:G:H2'	52:a:24:G:C8	2.23	0.73
53:b:730:A:C2	53:b:731:C:C5	2.77	0.73
53:b:847:U:N3	53:b:933:A:N6	2.36	0.73
53:b:1517:G:C5	53:b:1518:C:C6	2.76	0.73
2:C:26:LYS:HZ2	13:N:75:LYS:HA	1.52	0.73
21:0:9:GLY:O	21:0:11:ARG:HG3	1.89	0.73
34:h:42:LYS:HA	34:h:42:LYS:NZ	2.03	0.73
53:b:1221:C:C2	53:b:1222:U:C6	2.76	0.73
53:b:1462:C:C2	53:b:1463:C:C5	2.77	0.73
53:b:2205:A:C6	53:b:2206:C:C4	2.76	0.73
53:b:2535:G:N1	53:b:2536:G:C5	2.57	0.73
52:a:3:C:C2'	52:a:4:C:O5'	2.37	0.73
53:b:185:G:N1	53:b:186:G:C5	2.57	0.73
53:b:457:A:N6	53:b:470:A:C8	2.57	0.73
53:b:1219:U:C2	53:b:1220:G:H8	2.02	0.73
53:b:1810:A:C5	53:b:1811:G:H1'	2.23	0.73
53:b:1849:G:N3	53:b:1850:G:C8	2.57	0.73
53:b:2048:G:O4'	53:b:2823:A:N6	2.22	0.73
53:b:2283:C:C5	53:b:2389:G:C5	2.76	0.73
39:n:12:ARG:CD	39:n:20:MET:CE	2.59	0.73
50:A:700:G:H5'	50:A:701:U:OP2	1.89	0.73
53:b:1091:G:C6	53:b:1092:C:C5	2.76	0.73
53:b:1229:C:C2	53:b:1230:A:C8	2.77	0.73
53:b:1459:G:N1	53:b:1461:C:C4	2.56	0.73
53:b:2032:G:N7	53:b:2454:G:C4'	2.52	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:35:LYS:HD2	50:A:1373:G:H5''	1.70	0.73
11:L:42:LYS:HG2	11:L:43:LYS:HG3	1.71	0.73
53:b:156:A:C2	53:b:157:C:C6	2.77	0.73
53:b:213:A:C2	53:b:214:G:C6	2.77	0.73
53:b:277:G:H1'	53:b:280:U:O4	1.88	0.73
53:b:425:G:N2	53:b:426:C:C2	2.57	0.73
53:b:1294:U:N3	53:b:1295:C:C6	2.57	0.73
53:b:2128:G:C2	53:b:2160:C:O2	2.40	0.73
53:b:2330:G:O6	53:b:2331:G:C5	2.42	0.73
53:b:2591:C:O2	53:b:2591:C:H2'	1.87	0.73
35:j:8:PRO:HD2	53:b:538:A:O2'	1.89	0.73
39:n:71:ARG:HH11	53:b:2708:G:H4'	1.54	0.73
50:A:996:A:C2	50:A:997:U:C6	2.76	0.73
52:a:2:G:C2	52:a:3:C:C5	2.77	0.73
53:b:25:U:H2'	53:b:26:G:O4'	1.88	0.73
53:b:126:A:O2'	53:b:127:A:O5'	2.07	0.73
53:b:962:G:C5	53:b:963:U:C5	2.76	0.73
53:b:1219:U:O2	53:b:1220:G:C8	2.42	0.73
53:b:1395:A:N6	53:b:1398:C:H1'	2.04	0.73
53:b:1796:U:O2	53:b:1797:G:N7	2.22	0.73
53:b:1812:U:O2	53:b:1813:G:C8	2.42	0.73
53:b:234:U:N3	53:b:430:A:N6	2.36	0.72
53:b:1316:U:N3	53:b:1317:G:N7	2.37	0.72
53:b:1356:G:C6	53:b:1357:C:C6	2.76	0.72
53:b:2048:G:C1'	53:b:2823:A:N6	2.52	0.72
53:b:2470:G:C2	53:b:2471:A:N7	2.57	0.72
53:b:93:G:C2	53:b:94:A:C8	2.77	0.72
53:b:398:C:C4	53:b:399:U:C5	2.77	0.72
53:b:987:C:C2'	53:b:988:A:O4'	2.34	0.72
53:b:1257:C:N3	53:b:1258:U:C5	2.57	0.72
53:b:696:G:C6	53:b:697:G:N7	2.57	0.72
53:b:1075:C:N3	53:b:1076:C:C5	2.56	0.72
53:b:1952:A:H2'	53:b:1953:A:C8	2.24	0.72
53:b:2707:U:C2	53:b:2708:G:C8	2.77	0.72
52:a:3:C:H42	52:a:117:G:H1	1.37	0.72
53:b:20:C:C2	53:b:21:A:C8	2.76	0.72
53:b:611:C:C4	53:b:612:G:C8	2.77	0.72
53:b:1406:U:C2	53:b:1407:G:C8	2.77	0.72
53:b:1501:G:N2	53:b:1502:A:N9	2.38	0.72
53:b:1509:A:H4'	53:b:1510:G:OP2	1.87	0.72
53:b:2734:A:N1	53:b:2735:G:H1'	2.04	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2839:G:C6	53:b:2840:C:C4	2.78	0.72
50:A:230:G:H21	50:A:231:U:H1'	1.53	0.72
53:b:42:A:N1	53:b:43:G:C8	2.58	0.72
53:b:1229:C:N3	53:b:1230:A:N7	2.37	0.72
53:b:1316:U:O2	53:b:1317:G:C8	2.42	0.72
53:b:2396:G:N3	53:b:2397:G:C8	2.57	0.72
53:b:2888:C:O2	53:b:2889:C:C5	2.43	0.72
47:w:40:ILE:HG22	47:w:41:GLU:N	2.05	0.72
50:A:702:A:OP1	53:b:1848:A:O2'	2.06	0.72
53:b:76:C:O2	53:b:77:G:C8	2.35	0.72
53:b:488:G:O2'	53:b:492:A:N6	2.23	0.72
53:b:746:U:H5''	53:b:748:G:N3	2.04	0.72
53:b:1494:A:C2	53:b:1495:A:C5	2.77	0.72
26:6:18:PHE:CD2	53:b:126:A:C2	2.78	0.72
53:b:1300:G:O2'	53:b:1635:A:P	2.47	0.72
19:T:82:ILE:O	19:T:86:ALA:N	2.23	0.72
32:f:92:ARG:NE	52:a:45:A:O4'	2.22	0.72
42:q:109:LEU:HD22	43:r:48:LYS:NZ	2.05	0.72
53:b:78:U:O2	53:b:79:C:C5	2.42	0.72
53:b:959:A:H2'	53:b:960:A:C8	2.25	0.72
53:b:1069:A:C8	53:b:1073:A:N7	2.56	0.72
53:b:1172:C:N1	53:b:1173:U:C6	2.56	0.72
53:b:1232:G:N2	53:b:1233:C:C2	2.57	0.72
53:b:1503:A:C2	53:b:1504:A:C5	2.78	0.72
9:J:36:VAL:HG12	9:J:76:ILE:HA	1.70	0.72
29:c:105:LEU:CD1	29:c:142:HIS:NE2	2.52	0.72
39:n:71:ARG:HH11	53:b:2708:G:C4'	2.01	0.72
52:a:61:G:C6	52:a:62:C:C4	2.77	0.72
53:b:937:C:C2	53:b:938:G:C8	2.78	0.72
53:b:1073:A:C6	53:b:1074:G:C8	2.77	0.72
53:b:1355:G:C2	53:b:1356:G:C8	2.77	0.72
53:b:2287:A:H61	53:b:2344:U:H3	1.38	0.72
53:b:2350:C:C4	53:b:2351:G:C8	2.78	0.72
51:X:16:G:C2	51:X:17:C:C4	2.78	0.72
53:b:1059:G:C2	53:b:1080:A:N7	2.57	0.72
53:b:2000:C:C2	53:b:2001:C:H5	2.02	0.72
53:b:2269:G:C2	53:b:2270:A:N7	2.58	0.72
53:b:845:A:C8	53:b:845:A:C3'	2.69	0.71
53:b:847:U:C4	53:b:933:A:C5	2.77	0.71
53:b:1186:G:N2	53:b:1187:G:H1'	2.05	0.71
53:b:1892:C:N3	53:b:1893:C:C6	2.58	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2206:C:H2'	53:b:2207:C:H6	1.54	0.71
52:a:90:C:C2	52:a:91:C:C6	2.78	0.71
53:b:115:C:C2	53:b:116:C:C6	2.79	0.71
53:b:584:C:C4	53:b:585:G:N7	2.57	0.71
53:b:1050:A:C5	53:b:1051:G:C8	2.78	0.71
53:b:1459:G:C4	53:b:1461:C:C5	2.78	0.71
53:b:1865:U:C4	53:b:1875:G:N2	2.58	0.71
53:b:2886:A:N6	53:b:2887:A:C4	2.58	0.71
14:O:88:ARG:HE	53:b:715:A:H4'	1.56	0.71
53:b:73:A:H4'	53:b:75:G:H1'	1.72	0.71
53:b:185:G:C2	53:b:186:G:C8	2.78	0.71
53:b:866:A:C2	53:b:867:C:H6	2.07	0.71
53:b:1206:G:N2	53:b:1207:C:C1'	2.53	0.71
53:b:1398:C:C2	53:b:1399:C:C5	2.70	0.71
53:b:1530:G:C6	53:b:1531:C:C5	2.78	0.71
53:b:1760:C:C4	53:b:1761:C:C5	2.78	0.71
53:b:2179:C:H2'	53:b:2180:U:O4'	1.90	0.71
24:3:25:VAL:O	24:3:26:THR:OG1	2.08	0.71
31:e:44:ARG:CZ	31:e:87:ALA:HB2	2.19	0.71
53:b:18:U:N3	53:b:19:A:C8	2.57	0.71
53:b:172:A:C2	53:b:173:A:C8	2.79	0.71
53:b:185:G:C4	53:b:186:G:C8	2.79	0.71
53:b:201:C:C1'	53:b:386:G:H22	2.04	0.71
53:b:1123:C:N3	53:b:1124:G:N7	2.39	0.71
53:b:1688:U:H2'	53:b:1698:A:H61	1.55	0.71
53:b:1786:A:N3	53:b:1938:A:N6	2.37	0.71
53:b:2556:C:C4	53:b:2557:G:N7	2.59	0.71
17:R:62:ARG:HB3	17:R:69:TYR:HD1	1.55	0.71
53:b:2013:A:N6	53:b:2613:U:H3	1.88	0.71
53:b:2329:U:N3	53:b:2330:G:C8	2.58	0.71
53:b:2536:G:C5	53:b:2537:U:C5	2.79	0.71
8:I:118:ARG:HG3	8:I:119:LYS:H	1.55	0.71
34:h:91:PHE:HA	34:h:123:ARG:HA	1.73	0.71
39:n:71:ARG:CZ	53:b:2708:G:O4'	2.38	0.71
53:b:94:A:H2'	53:b:95:A:C8	2.25	0.71
53:b:608:A:C6	53:b:621:A:C6	2.79	0.71
53:b:935:C:O2	53:b:936:A:C8	2.44	0.71
53:b:1326:U:O2'	53:b:2010:G:O2'	2.08	0.71
53:b:1829:A:C6	53:b:1830:C:C1'	2.74	0.71
53:b:2065:C:H5'	53:b:2252:G:O2'	1.91	0.71
53:b:2396:G:C6	53:b:2397:G:N7	2.59	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2581:G:N1	53:b:2610:C:C2	2.58	0.71
10:K:34:THR:HG22	10:K:40:ALA:HA	1.71	0.71
53:b:154:U:O2	53:b:155:A:C8	2.44	0.71
53:b:822:G:N3	53:b:823:C:C6	2.59	0.71
53:b:928:A:C6	53:b:929:U:C5	2.77	0.71
53:b:1407:G:C2	53:b:1408:G:C8	2.78	0.71
53:b:2793:C:N3	53:b:2794:C:C5	2.58	0.71
34:h:97:ARG:HH11	34:h:115:VAL:HG23	1.54	0.71
39:n:16:HIS:C	39:n:20:MET:HE2	2.16	0.71
53:b:111:A:C2	53:b:112:U:C6	2.79	0.71
53:b:379:G:C6	53:b:380:G:N7	2.58	0.71
53:b:779:U:C4	53:b:780:G:N7	2.58	0.71
53:b:1805:A:C6	53:b:1806:C:C5	2.79	0.71
53:b:1974:C:N4	53:b:1975:G:N7	2.38	0.71
53:b:2000:C:N3	53:b:2001:C:H5	1.84	0.71
53:b:2617:U:N3	53:b:2618:G:C8	2.59	0.71
53:b:2676:C:C2	53:b:2677:G:C8	2.79	0.71
10:K:80:ASN:OD1	10:K:105:ARG:NH2	2.23	0.71
34:h:63:ALA:C	34:h:149:GLU:C	2.55	0.71
53:b:873:C:N3	53:b:874:G:C8	2.58	0.71
53:b:1315:C:N3	53:b:1316:U:C5	2.59	0.71
53:b:1999:C:O2	53:b:1999:C:H2'	1.90	0.71
53:b:2110:G:C6	53:b:2179:C:N3	2.56	0.71
53:b:2589:A:C6	53:b:2590:A:C8	2.79	0.71
50:A:1241:G:OP2	50:A:1241:G:H8	1.73	0.71
53:b:23:G:C2	53:b:24:G:C8	2.79	0.71
53:b:78:U:C2	53:b:79:C:C5	2.79	0.71
53:b:1795:C:C2	53:b:1796:U:C6	2.78	0.71
53:b:2525:G:N2	53:b:2539:C:C2	2.59	0.71
29:c:67:PHE:CZ	29:c:156:ARG:CZ	2.73	0.70
44:s:69:LEU:HD13	44:s:107:VAL:HG11	1.73	0.70
50:A:147:G:H1	50:A:175:C:H42	1.37	0.70
53:b:154:U:N3	53:b:155:A:C8	2.58	0.70
53:b:1348:C:C4	53:b:1349:C:C5	2.77	0.70
53:b:2032:G:C6	53:b:2454:G:H4'	2.26	0.70
53:b:2169:A:O2'	53:b:2170:A:C8	2.43	0.70
34:h:62:LEU:HD23	34:h:62:LEU:C	2.15	0.70
53:b:291:G:C2	53:b:292:U:C6	2.80	0.70
53:b:381:G:C2	53:b:382:A:N7	2.59	0.70
53:b:961:C:C5	53:b:2031:A:C6	2.79	0.70
53:b:1782:U:C5	53:b:2609:U:C5	2.70	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2769:U:N3	53:b:2770:G:C8	2.59	0.70
5:F:2:ARG:HH11	5:F:68:GLN:HE21	1.39	0.70
8:I:109:GLN:O	50:A:1348:U:OP1	2.03	0.70
53:b:273:G:H2'	53:b:274:C:C6	2.25	0.70
53:b:378:C:N3	53:b:379:G:C8	2.58	0.70
53:b:1487:U:N3	53:b:1488:C:C5	2.58	0.70
53:b:2183:A:C2	53:b:2184:A:C8	2.79	0.70
12:M:7:ASN:OD1	32:f:143:TYR:CE2	2.32	0.70
15:P:4:ILE:HG12	15:P:21:VAL:HG22	1.74	0.70
50:A:843:U:OP1	50:A:846:G:N2	2.24	0.70
52:a:29:A:H2'	52:a:30:C:O4'	1.92	0.70
52:a:46:A:C6	52:a:47:C:C5	2.78	0.70
53:b:523:C:N3	53:b:524:G:C8	2.60	0.70
53:b:903:C:C2	53:b:904:G:C8	2.80	0.70
53:b:1094:U:H3	53:b:1096:A:H5''	1.56	0.70
53:b:1922:G:H2'	53:b:1923:U:O4'	1.91	0.70
53:b:2053:G:C2	53:b:2054:A:C8	2.79	0.70
23:2:5:ILE:HD11	23:2:45:ARG:NH1	2.06	0.70
52:a:61:G:C4	52:a:62:C:C6	2.80	0.70
53:b:185:G:C6	53:b:186:G:C5	2.79	0.70
53:b:195:A:C2	53:b:198:C:N4	2.59	0.70
53:b:1104:C:C5	53:b:1105:U:C1'	2.67	0.70
53:b:1511:G:C2	53:b:1512:C:C4	2.79	0.70
53:b:1667:G:O2'	53:b:1991:U:O4	2.10	0.70
53:b:2041:U:C2	53:b:2042:A:C8	2.79	0.70
19:T:59:ARG:HH12	50:A:178:C:P	2.13	0.70
53:b:751:A:H2	53:b:789:A:C1'	2.04	0.70
53:b:1172:C:H2'	53:b:1173:U:H6	1.57	0.70
53:b:1319:C:N4	53:b:1320:C:H41	1.89	0.70
53:b:1459:G:N2	53:b:1461:C:N3	2.40	0.70
53:b:1532:A:C6	53:b:1533:C:C5	2.79	0.70
53:b:1775:U:C5	53:b:1776:G:C8	2.79	0.70
53:b:2702:G:N2	53:b:2703:C:C6	2.60	0.70
53:b:2703:C:C2	53:b:2704:C:C5	2.80	0.70
53:b:2838:G:C5	53:b:2839:G:C8	2.79	0.70
20:U:27:VAL:O	20:U:28:LEU:HD13	1.91	0.70
53:b:1301:A:N1	53:b:1303:G:C5	2.59	0.70
53:b:1348:C:C5	53:b:1349:C:C5	2.80	0.70
53:b:2367:G:C2	53:b:2368:C:C5	2.79	0.70
41:p:29:LYS:HB3	41:p:40:LEU:HD13	1.71	0.70
50:A:1347:G:C5'	50:A:1348:U:H6	2.05	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:1414:U:H2'	50:A:1415:G:H8	1.57	0.70
50:A:1492:A:C6	53:b:1913:A:C5	2.80	0.70
53:b:991:C:H1'	53:b:1185:G:N2	2.07	0.70
53:b:1301:A:C2	53:b:1303:G:C5	2.80	0.70
53:b:1528:A:C2	53:b:1544:A:C6	2.80	0.70
53:b:1932:A:C2	53:b:1969:A:C6	2.80	0.70
53:b:1999:C:N3	53:b:2000:C:H5	1.89	0.70
53:b:2134:A:C6	53:b:2135:A:H1'	2.26	0.70
50:A:960:U:H4'	50:A:961:U:OP2	1.91	0.70
51:X:16:G:C2'	51:X:17:C:O5'	2.40	0.70
53:b:223:A:C2	53:b:408:G:H1'	2.27	0.70
53:b:298:G:N2	53:b:339:U:C4	2.60	0.70
53:b:847:U:C5	53:b:933:A:N6	2.59	0.70
53:b:1172:C:H2'	53:b:1173:U:O4'	1.92	0.70
53:b:1301:A:C6	53:b:1303:G:C8	2.79	0.70
53:b:1500:G:N2	53:b:1501:G:C1'	2.55	0.70
53:b:1516:G:C5	53:b:1517:G:C8	2.80	0.70
53:b:2802:G:C6	53:b:2803:G:N7	2.60	0.70
31:e:83:VAL:HG22	53:b:1248:G:N2	2.07	0.70
49:z:17:VAL:HG23	49:z:18:TRP:HB3	1.68	0.70
50:A:840:C:H5''	50:A:841:C:OP2	1.91	0.70
53:b:171:U:N3	53:b:172:A:N7	2.39	0.70
53:b:251:A:C8	53:b:252:G:H1'	2.27	0.70
53:b:986:C:O2'	53:b:987:C:C5'	2.40	0.70
53:b:1076:C:H2'	53:b:1077:A:C1'	2.22	0.70
53:b:1314:C:N3	53:b:1315:C:C5	2.59	0.70
53:b:1594:U:C2	53:b:1595:C:C6	2.79	0.70
53:b:1825:U:C2	53:b:1826:G:C8	2.80	0.70
53:b:1938:A:C2	53:b:2590:A:C2'	2.75	0.70
24:3:4:GLN:CB	53:b:2615:U:H1'	2.22	0.69
53:b:399:U:N3	53:b:400:G:N7	2.40	0.69
53:b:718:A:C6	53:b:719:C:H1'	2.27	0.69
53:b:1076:C:H3'	53:b:1077:A:C8	2.27	0.69
53:b:1320:C:O2'	53:b:1329:U:OP1	2.10	0.69
53:b:1865:U:O4	53:b:1875:G:C2	2.44	0.69
53:b:2014:A:H2'	53:b:2015:A:C8	2.27	0.69
53:b:2065:C:C2'	53:b:2066:C:C5'	2.69	0.69
8:I:98:ARG:NH1	50:A:1178:G:OP2	2.25	0.69
22:1:18:LEU:HD21	22:1:53:VAL:CG1	2.22	0.69
50:A:46:G:N2	50:A:396:C:O2	2.24	0.69
53:b:248:G:N7	53:b:250:G:C6	2.60	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:353:C:O2	53:b:354:A:H8	1.75	0.69
53:b:842:U:N3	53:b:843:G:C8	2.60	0.69
53:b:1037:G:C2	53:b:1038:G:C8	2.80	0.69
53:b:1135:C:C5	53:b:1137:G:OP2	2.45	0.69
53:b:1601:G:H2'	53:b:1602:U:O4'	1.92	0.69
53:b:1849:G:N2	53:b:1850:G:C4	2.59	0.69
53:b:2396:G:N1	53:b:2397:G:C5	2.60	0.69
54:v:33:U:C2'	54:v:35:C:OP2	2.40	0.69
1:B:17:HIS:HE1	1:B:189:ASN:HD22	1.40	0.69
8:I:127:SER:H	50:A:1341:U:H6	1.41	0.69
24:3:3:VAL:HG23	53:b:2015:A:N1	2.08	0.69
29:c:119:GLY:N	29:c:130:LEU:CD2	2.55	0.69
36:k:22:ILE:HG21	53:b:1952:A:N7	2.07	0.69
49:z:24:GLY:HA3	49:z:25:ILE:CG1	2.14	0.69
50:A:1178:G:N2	50:A:1181:G:OP2	2.24	0.69
53:b:603:A:C2	53:b:626:A:H1'	2.27	0.69
53:b:1295:C:N3	53:b:1296:G:N7	2.40	0.69
53:b:1849:G:N2	53:b:1850:G:C8	2.59	0.69
53:b:2332:C:O2	53:b:2335:A:C2	2.43	0.69
53:b:2796:U:C2	53:b:2798:U:H1'	2.27	0.69
15:P:51:ARG:NH2	15:P:53:ASP:HB2	2.06	0.69
47:w:40:ILE:CG2	47:w:41:GLU:N	2.55	0.69
52:a:9:G:C2	52:a:10:G:C8	2.80	0.69
53:b:928:A:N1	53:b:929:U:C5	2.59	0.69
53:b:1059:G:N2	53:b:1080:A:C8	2.60	0.69
53:b:1294:U:O4	53:b:1295:C:C5	2.44	0.69
53:b:1373:A:C6	53:b:1374:G:H1'	2.27	0.69
53:b:1502:A:N1	53:b:1503:A:N7	2.39	0.69
53:b:2137:U:N3	53:b:2138:G:C8	2.60	0.69
53:b:2269:G:C6	53:b:2270:A:N7	2.60	0.69
53:b:2828:G:N1	53:b:2829:A:N7	2.39	0.69
34:h:7:ASP:OD1	34:h:62:LEU:HD13	1.93	0.69
50:A:1050:G:N2	50:A:1209:C:O2	2.25	0.69
53:b:866:A:C6	53:b:867:C:C5	2.81	0.69
53:b:991:C:N1	53:b:1185:G:C2	2.60	0.69
53:b:1343:G:C2	53:b:1344:U:C4	2.80	0.69
53:b:1511:G:C4	53:b:1512:C:C5	2.80	0.69
53:b:2227:A:C5	53:b:2228:G:C8	2.80	0.69
3:D:131:ILE:HG22	3:D:133:SER:H	1.57	0.69
8:I:111:GLU:HB2	50:A:1348:U:O4'	1.92	0.69
50:A:973:G:H3'	50:A:974:A:H5''	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:45:A:C5	52:a:46:A:C8	2.81	0.69
53:b:521:U:O2	53:b:522:A:C8	2.45	0.69
53:b:696:G:N1	53:b:697:G:C5	2.60	0.69
53:b:1501:G:C2	53:b:1502:A:N9	2.60	0.69
53:b:2345:G:N7	53:b:2347:C:C5	2.61	0.69
53:b:2419:U:C2	53:b:2420:C:H5	2.10	0.69
1:B:70:GLY:HA3	1:B:163:ILE:HG22	1.75	0.69
29:c:162:VAL:CG1	29:c:174:LEU:HD22	2.22	0.69
53:b:978:G:C2	53:b:986:C:C4	2.81	0.69
53:b:1054:A:H2	53:b:1105:U:C5	2.09	0.69
53:b:1443:U:O2	53:b:1444:G:C8	2.46	0.69
53:b:2220:U:O2	53:b:2221:G:C8	2.45	0.69
54:v:33:U:C2	54:v:35:C:P	2.85	0.69
3:D:151:GLN:O	3:D:155:LYS:NZ	2.21	0.69
15:P:73:ALA:O	15:P:77:GLU:HB2	1.93	0.69
24:3:32:LYS:HG2	53:b:2885:G:N2	2.08	0.69
31:e:48:THR:HB	53:b:801:G:O6	1.93	0.69
34:h:42:LYS:N	34:h:43:ASN:HA	2.05	0.69
53:b:41:C:O2	53:b:42:A:C8	2.46	0.69
53:b:76:C:O2	53:b:76:C:H2'	1.91	0.69
53:b:243:U:H2'	53:b:243:U:O2	1.90	0.69
53:b:440:C:C2	53:b:441:U:C5	2.80	0.69
53:b:1218:G:C6	53:b:1219:U:C5	2.81	0.69
53:b:1398:C:O2	53:b:1398:C:H2'	1.92	0.69
53:b:1516:G:C6	53:b:1517:G:C8	2.81	0.69
53:b:2052:A:C6	53:b:2053:G:N7	2.60	0.69
53:b:2533:U:C5	53:b:2534:A:C8	2.80	0.69
53:b:2700:A:C2	53:b:2701:U:C5	2.80	0.69
11:L:4:ASN:HD21	16:Q:35:LYS:HE2	1.57	0.69
49:z:7:ILE:O	49:z:7:ILE:HD13	1.93	0.69
52:a:117:G:C5	52:a:118:C:C5	2.81	0.69
53:b:248:G:N7	53:b:250:G:N1	2.40	0.69
53:b:290:U:O2	53:b:291:G:C8	2.46	0.69
53:b:704:G:C2	53:b:726:G:N1	2.61	0.69
53:b:928:A:C2	53:b:929:U:C5	2.80	0.69
53:b:1276:A:C2	53:b:1277:G:N7	2.61	0.69
53:b:1471:G:C5	53:b:1472:C:C5	2.81	0.69
53:b:1511:G:N2	53:b:1512:C:C2	2.61	0.69
35:j:57:LEU:CD1	35:j:129:GLU:CA	2.71	0.69
50:A:507:C:H3'	50:A:508:U:H5''	1.75	0.69
53:b:23:G:C2	53:b:24:G:N7	2.60	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1050:A:C6	53:b:1051:G:C4	2.80	0.69
53:b:1230:A:C6	53:b:1231:U:C5	2.81	0.69
53:b:1810:A:N7	53:b:1811:G:H1'	2.08	0.69
53:b:2537:U:C2	53:b:2538:C:H5	2.10	0.69
53:b:2589:A:N1	53:b:2590:A:C8	2.61	0.69
15:P:12:LYS:CG	50:A:392:C:P	2.63	0.68
50:A:191:G:H8	50:A:191:G:OP2	1.75	0.68
51:X:16:G:N1	51:X:17:C:N4	2.41	0.68
53:b:1076:C:H3'	53:b:1077:A:H8	1.58	0.68
53:b:1106:G:C6	53:b:1107:G:C4	2.81	0.68
53:b:1319:C:N4	53:b:1320:C:N4	2.41	0.68
53:b:1353:A:C8	53:b:1377:G:N2	2.61	0.68
53:b:1357:C:C4	53:b:1358:G:C5	2.81	0.68
53:b:1500:G:C2	53:b:1501:G:C8	2.80	0.68
53:b:1589:U:C2	53:b:1590:A:C8	2.81	0.68
53:b:1759:A:C1'	53:b:2696:U:O2	2.40	0.68
53:b:2538:C:N3	53:b:2539:C:C5	2.61	0.68
53:b:2589:A:C2	53:b:2590:A:C8	2.81	0.68
53:b:2735:G:C6	53:b:2736:A:C8	2.81	0.68
8:I:111:GLU:HB2	50:A:1348:U:C5'	2.04	0.68
18:S:14:LEU:HD11	18:S:32:THR:HG23	1.74	0.68
35:j:57:LEU:CD2	35:j:125:TYR:HB2	2.20	0.68
53:b:155:A:N1	53:b:156:A:C5	2.62	0.68
53:b:195:A:C2	53:b:198:C:C4	2.81	0.68
53:b:785:G:C4	53:b:786:C:C5	2.81	0.68
53:b:928:A:N1	53:b:929:U:C4	2.61	0.68
53:b:976:G:O6	53:b:988:A:C2	2.45	0.68
53:b:1539:U:C2	53:b:1540:G:N7	2.60	0.68
53:b:2053:G:N2	53:b:2054:A:H1'	2.09	0.68
53:b:2454:G:N2	53:b:2499:C:N1	2.40	0.68
42:q:41:LYS:NZ	53:b:531:C:O2'	2.25	0.68
53:b:41:C:C2	53:b:42:A:C8	2.80	0.68
53:b:212:G:C2	53:b:213:A:N7	2.61	0.68
53:b:876:C:O2'	53:b:877:A:H5''	1.92	0.68
53:b:2140:G:C6	53:b:2141:G:H1'	2.27	0.68
53:b:2167:U:C5	53:b:2168:G:H1'	2.28	0.68
53:b:2329:U:C4	53:b:2330:G:N7	2.62	0.68
16:Q:5:ARG:NH1	50:A:636:U:OP1	2.27	0.68
41:p:72:ARG:NE	41:p:74:PHE:CE1	2.61	0.68
51:X:15:G:C5	54:v:37:G:N2	2.60	0.68
53:b:662:G:C2	53:b:663:G:C5	2.82	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:757:G:C6	53:b:758:C:C6	2.80	0.68
53:b:1090:A:C6	53:b:1091:G:C8	2.81	0.68
53:b:1208:C:N4	53:b:1239:G:C6	2.62	0.68
53:b:2466:C:C2	53:b:2467:C:C6	2.82	0.68
53:b:2564:A:N6	53:b:2647:U:O4'	2.26	0.68
3:D:90:LEU:HD23	3:D:93:LEU:HD12	1.76	0.68
8:I:105:ARG:HD3	8:I:105:ARG:C	2.16	0.68
15:P:5:ARG:CD	50:A:377:G:P	2.61	0.68
34:h:42:LYS:HA	34:h:42:LYS:HZ1	1.58	0.68
53:b:155:A:N3	53:b:156:A:C8	2.61	0.68
53:b:388:G:C6	53:b:390:U:C4	2.81	0.68
53:b:593:U:N3	53:b:594:U:C5	2.62	0.68
53:b:807:U:C2	53:b:808:G:C8	2.82	0.68
53:b:1091:G:N2	53:b:1092:C:H1'	2.09	0.68
53:b:1144:A:N1	53:b:1145:C:C4	2.62	0.68
53:b:1659:G:C5	53:b:1660:G:C8	2.81	0.68
53:b:1661:G:C6	53:b:1662:U:C5	2.81	0.68
53:b:2617:U:C4	53:b:2618:G:N7	2.62	0.68
53:b:2796:U:H2'	53:b:2798:U:O2	1.93	0.68
8:I:113:LYS:NZ	8:I:117:LEU:HD22	2.09	0.68
38:m:53:MET:CE	38:m:117:PHE:CD1	2.76	0.68
50:A:996:A:C4	50:A:997:U:H6	2.12	0.68
53:b:673:C:C4	53:b:674:G:C8	2.81	0.68
53:b:1091:G:C2	53:b:1092:C:C6	2.82	0.68
53:b:1499:C:N4	53:b:1500:G:C5	2.61	0.68
53:b:2189:U:O2	53:b:2190:G:C8	2.45	0.68
53:b:2375:G:C6	53:b:2377:A:OP2	2.47	0.68
53:b:2536:G:C2	53:b:2537:U:C2	2.82	0.68
8:I:111:GLU:HB2	50:A:1348:U:O5'	1.90	0.68
15:P:12:LYS:CG	50:A:392:C:OP1	2.41	0.68
29:c:119:GLY:N	29:c:130:LEU:HD23	2.07	0.68
29:c:225:MET:CE	53:b:782:A:C2	2.75	0.68
50:A:219:U:H2'	50:A:220:G:H8	1.58	0.68
50:A:564:C:N4	50:A:565:U:O4	2.27	0.68
50:A:1527:U:O2'	50:A:1528:U:OP1	2.10	0.68
53:b:1337:G:N1	53:b:1338:G:C8	2.62	0.68
53:b:1636:U:C2	53:b:1637:A:C8	2.81	0.68
16:Q:46:HIS:HB3	16:Q:73:THR:HG22	1.75	0.68
17:R:62:ARG:HB3	17:R:69:TYR:CD1	2.28	0.68
18:S:35:ARG:HH12	18:S:74:ALA:HB3	1.59	0.68
53:b:170:U:N3	53:b:171:U:C6	2.62	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:195:A:N1	53:b:198:C:C4	2.61	0.68
53:b:199:A:C5	53:b:2433:A:C2	2.82	0.68
53:b:1504:A:N1	53:b:1505:A:N7	2.41	0.68
53:b:1938:A:C2	53:b:2590:A:O2'	2.44	0.68
53:b:2467:C:H3'	53:b:2468:A:H8	1.59	0.68
53:b:2589:A:C6	53:b:2590:A:N7	2.62	0.68
53:b:19:A:C6	53:b:20:C:C5	2.82	0.68
53:b:1973:G:C5	53:b:1974:C:C5	2.82	0.68
53:b:2282:G:O2'	53:b:2390:U:O4	2.08	0.68
53:b:2351:G:N2	53:b:2365:G:C2	2.61	0.68
53:b:2489:U:H2'	53:b:2490:G:O4'	1.94	0.68
7:H:19:ALA:HB2	50:A:827:U:H4'	1.75	0.68
22:1:7:ARG:NH2	22:1:56:LEU:HD22	2.07	0.68
34:h:67:ALA:CB	34:h:149:GLU:O	2.42	0.68
42:q:51:ARG:CG	53:b:1156:A:N7	2.53	0.68
50:A:123:U:OP1	50:A:311:C:O2'	2.11	0.68
53:b:209:C:C4	53:b:210:C:H5	2.10	0.68
53:b:583:G:C6	53:b:584:C:C5	2.82	0.68
53:b:589:U:C2	53:b:590:A:C8	2.81	0.68
53:b:925:A:C2	53:b:926:G:C8	2.81	0.68
53:b:1859:U:N3	53:b:1860:G:N7	2.42	0.68
53:b:1982:U:O2	53:b:1983:G:H8	1.77	0.68
3:D:141:VAL:HG22	3:D:180:THR:HG22	1.75	0.67
3:D:187:ARG:NH1	3:D:196:GLU:OE1	2.27	0.67
19:T:76:ALA:HB2	50:A:186:C:H4'	1.77	0.67
52:a:3:C:H2'	52:a:4:C:O5'	1.94	0.67
53:b:196:A:C6	53:b:805:G:C6	2.83	0.67
53:b:425:G:N3	53:b:426:C:C6	2.62	0.67
53:b:827:U:O2'	53:b:2068:U:C2	2.47	0.67
53:b:1539:U:N3	53:b:1540:G:C8	2.60	0.67
53:b:1812:U:C2	53:b:1813:G:N7	2.62	0.67
53:b:2133:G:N2	53:b:2160:C:O5'	2.27	0.67
53:b:2265:U:OP2	53:b:2266:A:O2'	2.12	0.67
53:b:2769:U:C4	53:b:2770:G:N7	2.63	0.67
53:b:2802:G:C2	53:b:2803:G:N9	2.62	0.67
50:A:592:G:O6	50:A:647:C:N4	2.25	0.67
52:a:48:U:O2	52:a:49:C:C6	2.48	0.67
53:b:1773:A:C8	53:b:1829:A:H1'	2.29	0.67
53:b:1782:U:O2	53:b:2587:A:N6	2.22	0.67
53:b:1964:G:H4'	53:b:1965:C:OP2	1.94	0.67
53:b:2206:C:C2	53:b:2207:C:C6	2.62	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2397:G:C2	53:b:2398:U:C6	2.82	0.67
50:A:1144:G:O6	50:A:1145:A:N6	2.28	0.67
53:b:234:U:H3	53:b:430:A:N6	1.90	0.67
53:b:273:G:N2	53:b:365:U:C5	2.63	0.67
53:b:748:G:C8	53:b:750:A:C8	2.82	0.67
53:b:1243:C:C2	53:b:1244:A:C8	2.83	0.67
53:b:1358:G:N2	53:b:1372:U:H5	1.84	0.67
53:b:1502:A:N1	53:b:1503:A:C8	2.63	0.67
53:b:1575:C:C4	53:b:1576:U:C5	2.82	0.67
53:b:2533:U:C4	53:b:2534:A:N9	2.62	0.67
53:b:2885:G:C8	53:b:2886:A:O4'	2.48	0.67
3:D:124:VAL:HA	3:D:142:VAL:HA	1.75	0.67
18:S:18:VAL:HG21	18:S:43:MET:HG2	1.74	0.67
50:A:747:A:OP2	50:A:747:A:H8	1.76	0.67
53:b:155:A:C2	53:b:156:A:N7	2.62	0.67
53:b:185:G:C5	53:b:186:G:N7	2.62	0.67
53:b:613:A:H3'	53:b:614:A:C5'	2.25	0.67
53:b:1055:G:C2	53:b:1104:C:C4	2.83	0.67
53:b:1084:A:O2'	53:b:1085:A:C8	2.46	0.67
53:b:2893:A:H1'	53:b:2894:G:C5	2.30	0.67
54:v:15:G:C3'	54:v:16:C:C5'	2.72	0.67
31:e:150:THR:HG21	31:e:157:LEU:CD2	2.25	0.67
41:p:29:LYS:HD3	41:p:40:LEU:CD2	2.24	0.67
53:b:75:G:C2	53:b:76:C:H6	2.08	0.67
53:b:160:A:N6	53:b:167:A:N3	2.43	0.67
53:b:929:U:N3	53:b:930:G:N7	2.42	0.67
53:b:2466:C:H2'	53:b:2467:C:O4'	1.95	0.67
5:F:75:GLU:OE2	5:F:79:ARG:NE	2.28	0.67
11:L:78:VAL:HG12	11:L:101:LEU:HD13	1.76	0.67
20:U:34:ARG:HH12	50:A:1524:C:P	2.17	0.67
30:d:150:GLN:HB3	53:b:2032:G:H21	1.58	0.67
49:z:17:VAL:HG13	49:z:18:TRP:HE3	1.58	0.67
50:A:996:A:N3	50:A:997:U:C6	2.62	0.67
53:b:520:G:C2	53:b:521:U:C6	2.83	0.67
53:b:929:U:C4	53:b:930:G:N7	2.63	0.67
53:b:1638:C:C4	53:b:1639:C:C5	2.82	0.67
53:b:2182:U:N3	53:b:2183:A:N7	2.42	0.67
53:b:2269:G:N2	53:b:2270:A:N9	2.43	0.67
53:b:2397:G:C6	53:b:2398:U:C5	2.82	0.67
53:b:2535:G:N2	53:b:2536:G:H1'	2.10	0.67
10:K:23:HIS:NE2	10:K:25:SER:OG	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:49:A:N7	53:b:120:U:O2	2.28	0.67
53:b:1099:G:C2	53:b:1100:C:C6	2.83	0.67
53:b:1487:U:C2	53:b:1488:C:C6	2.83	0.67
53:b:1721:G:C6	53:b:1738:G:C2	2.83	0.67
50:A:27:G:H1	50:A:556:C:H42	1.42	0.67
50:A:374:A:H5'	50:A:452:A:C2	2.30	0.67
53:b:22:C:C2	53:b:23:G:H8	2.10	0.67
53:b:172:A:N1	53:b:173:A:C5	2.63	0.67
53:b:234:U:C4	53:b:429:A:C6	2.82	0.67
53:b:1220:G:N3	53:b:1221:C:C6	2.63	0.67
53:b:1451:C:C2	53:b:1458:U:O4	2.48	0.67
53:b:2663:G:C2	53:b:2664:G:H1'	2.30	0.67
2:C:175:HIS:HD2	50:A:1108:G:H5'	1.60	0.67
4:E:51:LYS:NZ	50:A:1080:A:OP1	2.27	0.67
8:I:48:ARG:NH2	8:I:56:MET:SD	2.68	0.67
15:P:59:HIS:CE1	15:P:63:GLN:HE22	2.13	0.67
53:b:40:U:N3	53:b:41:C:C5	2.62	0.67
53:b:201:C:N3	53:b:202:U:C5	2.62	0.67
53:b:379:G:C6	53:b:380:G:C8	2.83	0.67
53:b:425:G:C2	53:b:426:C:C6	2.83	0.67
53:b:1399:C:C2	53:b:1400:U:C5	2.83	0.67
53:b:1946:U:N3	53:b:1947:C:C5	2.63	0.67
53:b:2840:C:N3	53:b:2841:C:C5	2.63	0.67
21:0:68:LEU:CD2	21:0:71:LEU:HD12	2.20	0.67
39:n:16:HIS:HA	53:b:1275:A:N6	2.08	0.67
50:A:374:A:H5''	50:A:375:U:C5	2.30	0.67
53:b:196:A:C5	53:b:805:G:C6	2.83	0.67
53:b:273:G:N2	53:b:365:U:C4	2.63	0.67
53:b:783:A:N6	53:b:785:G:N9	2.41	0.67
53:b:997:G:C2	53:b:998:C:C5	2.83	0.67
53:b:1120:G:C2	53:b:1121:C:N1	2.63	0.67
53:b:2509:G:C2	53:b:2580:U:O2	2.47	0.67
23:2:5:ILE:HD11	23:2:45:ARG:HH12	1.59	0.66
37:l:82:LEU:HD11	37:l:110:VAL:HG11	1.76	0.66
50:A:908:A:H2'	50:A:909:A:H8	1.60	0.66
52:a:2:G:C2	52:a:3:C:H5	2.12	0.66
53:b:18:U:N3	53:b:19:A:N7	2.43	0.66
53:b:276:U:H4'	53:b:278:A:N7	2.10	0.66
53:b:1218:G:C5	53:b:1219:U:C6	2.83	0.66
53:b:1501:G:N1	53:b:1502:A:C5	2.63	0.66
53:b:1582:C:C2'	53:b:1585:C:H42	2.08	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2254:C:C2	53:b:2255:G:C8	2.83	0.66
53:b:2345:G:C8	53:b:2347:C:C6	2.83	0.66
53:b:2419:U:C2	53:b:2420:C:C5	2.83	0.66
53:b:2623:G:C2	53:b:2624:G:N7	2.63	0.66
4:E:47:PHE:HE2	4:E:137:ARG:NH1	1.93	0.66
8:I:111:GLU:CG	50:A:1348:U:C4'	2.42	0.66
50:A:186:C:N4	50:A:191:G:O6	2.19	0.66
53:b:172:A:N3	53:b:173:A:C8	2.64	0.66
53:b:536:G:C2	53:b:537:G:H1'	2.29	0.66
53:b:537:G:C2	53:b:555:G:N2	2.63	0.66
53:b:779:U:H2'	53:b:779:U:O2	1.95	0.66
53:b:986:C:O2'	53:b:987:C:H5'	1.95	0.66
53:b:1073:A:C2	53:b:1074:G:H1'	2.29	0.66
53:b:1293:C:C4	53:b:1294:U:C5	2.83	0.66
53:b:1336:A:C6	53:b:1337:G:N7	2.63	0.66
53:b:1997:C:N3	53:b:1998:A:C8	2.64	0.66
53:b:2065:C:O2'	53:b:2066:C:P	2.53	0.66
53:b:2586:U:O5'	53:b:2586:U:H6	1.78	0.66
53:b:2744:G:N1	53:b:2745:C:C4	2.63	0.66
8:I:74:GLN:NE2	50:A:1249:C:O2'	2.29	0.66
11:L:13:ARG:HH11	50:A:562:U:H5''	1.61	0.66
35:j:128:ASN:O	35:j:129:GLU:HG3	1.95	0.66
53:b:27:G:C6	53:b:512:G:C2	2.83	0.66
53:b:109:C:N3	53:b:110:G:H8	1.89	0.66
53:b:186:G:N1	53:b:187:G:N7	2.43	0.66
53:b:437:U:C2	53:b:438:G:C8	2.84	0.66
53:b:780:G:C2	53:b:782:A:C5	2.83	0.66
53:b:1051:G:N2	53:b:1052:C:C1'	2.57	0.66
53:b:1059:G:N1	53:b:1080:A:C5	2.64	0.66
53:b:1186:G:H2'	53:b:1186:G:N3	2.09	0.66
53:b:1806:C:N4	53:b:1807:G:C5	2.63	0.66
53:b:2020:A:C5	53:b:2022:U:C5	2.83	0.66
53:b:2682:A:N1	53:b:2683:C:C5	2.64	0.66
53:b:2700:A:C2	53:b:2701:U:C6	2.83	0.66
10:K:126:ARG:HD3	10:K:128:VAL:HB	1.77	0.66
30:d:12:THR:HG21	41:p:5:ILE:CG2	2.23	0.66
32:f:36:LEU:HD22	32:f:154:ILE:HD12	1.78	0.66
53:b:694:U:C2	53:b:695:G:C8	2.83	0.66
53:b:751:A:N1	53:b:789:A:C5	2.63	0.66
53:b:1257:C:C2	53:b:1258:U:C5	2.83	0.66
53:b:1604:C:C2	53:b:1605:C:C6	2.82	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2470:G:N2	53:b:2471:A:C8	2.64	0.66
53:b:2885:G:C8	53:b:2886:A:C1'	2.78	0.66
23:2:43:ALA:O	53:b:851:C:O2'	2.13	0.66
43:r:10:LYS:HG2	53:b:996:A:O4'	1.96	0.66
49:z:6:LEU:HD13	49:z:6:LEU:O	1.95	0.66
53:b:379:G:N2	53:b:380:G:H1'	2.10	0.66
53:b:1020:A:C2	53:b:1141:U:C2	2.84	0.66
53:b:1121:C:O2	53:b:1121:C:H2'	1.94	0.66
53:b:1172:C:C4	53:b:1173:U:C4	2.83	0.66
53:b:1318:U:C2	53:b:1319:C:C5	2.83	0.66
53:b:2032:G:H8	53:b:2454:G:O2'	1.75	0.66
53:b:2134:A:N1	53:b:2135:A:H1'	2.11	0.66
53:b:2656:U:H5	53:b:2664:G:N2	1.93	0.66
45:t:1:MET:HG3	45:t:2:ILE:HG13	1.78	0.66
49:z:6:LEU:O	49:z:6:LEU:HD22	1.96	0.66
53:b:115:C:N3	53:b:116:C:C5	2.63	0.66
53:b:186:G:N1	53:b:187:G:C5	2.63	0.66
53:b:253:C:N4	53:b:254:G:C5	2.63	0.66
53:b:277:G:H3'	53:b:277:G:N3	2.10	0.66
53:b:1052:C:N4	53:b:1105:U:C4	2.64	0.66
53:b:1244:A:C2	53:b:1245:G:C8	2.83	0.66
53:b:2453:A:O2'	53:b:2454:G:C5'	2.44	0.66
1:B:119:GLN:HB3	1:B:136:ARG:HD2	1.78	0.66
31:e:12:LEU:HD12	31:e:120:VAL:HG11	1.77	0.66
31:e:63:LYS:HZ3	31:e:69:ARG:NH2	1.94	0.66
50:A:374:A:OP1	50:A:452:A:N6	2.29	0.66
52:a:90:C:N3	52:a:91:C:C5	2.63	0.66
53:b:629:G:C2	53:b:630:G:H1'	2.29	0.66
53:b:949:G:N3	53:b:950:G:C8	2.64	0.66
53:b:1075:C:N3	53:b:1076:C:H5	1.93	0.66
53:b:1144:A:N1	53:b:1145:C:C5	2.63	0.66
53:b:1395:A:C8	53:b:1398:C:C5	2.83	0.66
53:b:2337:G:C2	53:b:2338:C:C6	2.82	0.66
5:F:91:ARG:HG3	5:F:92:THR:HG23	1.78	0.66
8:I:113:LYS:HZ1	8:I:117:LEU:HB3	1.61	0.66
53:b:226:A:C6	53:b:227:A:C5	2.84	0.66
53:b:345:A:O2'	53:b:347:A:N6	2.27	0.66
53:b:748:G:C8	53:b:750:A:H8	2.14	0.66
53:b:1074:G:N2	53:b:1075:C:C1'	2.59	0.66
53:b:1157:G:C2	53:b:1158:C:C6	2.83	0.66
53:b:1245:G:C2	53:b:1246:A:C8	2.84	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1356:G:N2	53:b:1357:C:H1'	2.10	0.66
53:b:1849:G:N1	53:b:1850:G:C5	2.63	0.66
53:b:2886:A:N6	53:b:2887:A:N9	2.44	0.66
38:m:53:MET:CE	38:m:116:ALA:HB1	2.25	0.66
49:z:17:VAL:CG2	49:z:18:TRP:HA	2.25	0.66
50:A:977:A:N6	50:A:1224:U:O5'	2.29	0.66
53:b:963:U:O2	53:b:964:C:C6	2.49	0.66
53:b:1076:C:H2'	53:b:1077:A:N9	2.10	0.66
53:b:1301:A:C4	53:b:1303:G:C8	2.84	0.66
53:b:1412:U:C2	53:b:1413:A:C8	2.84	0.66
53:b:1503:A:N3	53:b:1504:A:C8	2.63	0.66
53:b:2286:G:H4'	53:b:2287:A:O4'	1.95	0.66
2:C:149:LYS:HD2	2:C:166:TRP:HE1	1.62	0.66
3:D:2:ARG:NH1	3:D:114:ARG:HD2	2.10	0.66
8:I:105:ARG:HD3	8:I:106:ASP:CA	2.26	0.66
23:2:14:ILE:CD1	53:b:989:G:C8	2.79	0.66
49:z:24:GLY:C	49:z:25:ILE:HD12	2.21	0.66
50:A:1398:A:O2'	50:A:1399:C:OP1	2.13	0.66
52:a:45:A:N6	52:a:46:A:C5	2.64	0.66
53:b:353:C:O2	53:b:354:A:C8	2.49	0.66
53:b:651:G:C2	53:b:652:U:C6	2.84	0.66
53:b:786:C:C2	53:b:787:C:H5	2.07	0.66
53:b:1206:G:N2	53:b:1207:C:C6	2.62	0.66
53:b:1829:A:N7	53:b:1830:C:C5	2.65	0.66
53:b:1985:C:C4	53:b:1986:C:C5	2.84	0.66
53:b:2089:C:N3	53:b:2090:A:C8	2.63	0.66
53:b:2102:G:C2	53:b:2103:C:C5	2.84	0.66
53:b:2306:C:C2	53:b:2307:G:N2	2.64	0.66
53:b:2802:G:C4	53:b:2803:G:C8	2.83	0.66
36:k:70:ARG:NH2	53:b:2683:C:O2	2.22	0.65
52:a:90:C:N3	52:a:91:C:C6	2.64	0.65
53:b:27:G:N1	53:b:512:G:C2	2.64	0.65
53:b:332:A:C6	53:b:335:C:C4	2.85	0.65
53:b:523:C:O2	53:b:524:G:C8	2.49	0.65
53:b:991:C:C6	53:b:1185:G:C2	2.84	0.65
53:b:1220:G:N2	53:b:1221:C:C2	2.64	0.65
53:b:1830:C:C2	53:b:1831:G:H8	2.14	0.65
53:b:2152:G:C5	53:b:2153:C:C5	2.80	0.65
53:b:2217:G:C6	53:b:2218:G:N7	2.64	0.65
53:b:2459:A:C5	53:b:2460:U:C5	2.83	0.65
53:b:2525:G:C2	53:b:2539:C:N3	2.64	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2565:A:H2'	53:b:2566:A:O4'	1.95	0.65
53:b:2623:G:N3	53:b:2624:G:C8	2.64	0.65
53:b:2886:A:C6	53:b:2887:A:N7	2.63	0.65
52:a:24:G:N2	52:a:28:C:N3	2.44	0.65
53:b:835:C:N3	53:b:836:G:C8	2.65	0.65
53:b:1759:A:N6	53:b:1760:C:C4	2.64	0.65
53:b:2704:C:H2'	53:b:2705:A:O4'	1.96	0.65
53:b:2886:A:N6	53:b:2887:A:C8	2.64	0.65
53:b:2886:A:N1	53:b:2887:A:N7	2.45	0.65
3:D:182:LYS:HZ2	3:D:183:ARG:NH1	1.93	0.65
50:A:201:G:O2'	50:A:469:C:O2'	2.12	0.65
50:A:203:G:H21	50:A:205:A:H61	1.44	0.65
52:a:92:C:N3	52:a:93:C:C5	2.65	0.65
53:b:223:A:N3	53:b:408:G:H1'	2.11	0.65
53:b:443:A:C2	53:b:1201:U:H1'	2.31	0.65
53:b:1106:G:O6	53:b:1107:G:C5	2.49	0.65
53:b:1269:A:C2	53:b:1270:C:C5	2.85	0.65
53:b:1999:C:O2	53:b:2000:C:C6	2.49	0.65
53:b:2517:C:O2'	53:b:2518:A:H3'	1.96	0.65
53:b:2527:C:N4	53:b:2528:U:C5	2.64	0.65
53:b:2565:A:H2'	53:b:2566:A:C1'	2.25	0.65
16:Q:61:ARG:HH11	16:Q:75:VAL:HG22	1.62	0.65
19:T:67:HIS:CE1	19:T:69:ASN:HD22	2.15	0.65
38:m:96:ILE:CA	38:m:100:LYS:NZ	2.58	0.65
50:A:413:G:O3'	50:A:428:G:N2	2.29	0.65
53:b:464:U:C5	53:b:788:A:C5	2.84	0.65
53:b:1019:U:O2	53:b:1021:A:H2	1.79	0.65
53:b:1218:G:O6	53:b:1219:U:C6	2.48	0.65
53:b:1494:A:C2	53:b:1495:A:C6	2.85	0.65
53:b:2330:G:C6	53:b:2331:G:C5	2.84	0.65
53:b:2454:G:C2	53:b:2499:C:N3	2.65	0.65
53:b:2536:G:C4	53:b:2537:U:C6	2.84	0.65
53:b:2557:G:C4	53:b:2558:C:C5	2.85	0.65
2:C:4:VAL:HG13	50:A:1190:G:OP2	1.96	0.65
5:F:53:LYS:NZ	50:A:710:G:OP1	2.24	0.65
26:6:18:PHE:CG	53:b:126:A:C2	2.85	0.65
31:e:69:ARG:NH1	53:b:2444:G:OP1	2.30	0.65
50:A:1347:G:H5'	50:A:1348:U:C6	2.32	0.65
52:a:48:U:C2	52:a:49:C:C5	2.84	0.65
53:b:23:G:C2	53:b:24:G:C5	2.84	0.65
53:b:734:A:O2'	53:b:1635:A:H4'	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1120:G:C5	53:b:1121:C:C5	2.84	0.65
53:b:1541:C:C2	53:b:1542:U:C5	2.84	0.65
53:b:1782:U:C4	53:b:2587:A:N1	2.65	0.65
53:b:1999:C:C2	53:b:2000:C:C6	2.85	0.65
53:b:2159:G:C2'	53:b:2160:C:O4'	2.44	0.65
53:b:2699:C:C2	53:b:2700:A:C8	2.84	0.65
53:b:2708:G:N3	53:b:2709:G:C8	2.64	0.65
53:b:2893:A:H1'	53:b:2894:G:C6	2.32	0.65
34:h:43:ASN:ND2	34:h:44:ILE:H	1.91	0.65
50:A:1338:G:H8	54:v:41:C:O3'	1.80	0.65
51:X:16:G:O2'	51:X:17:C:C5'	2.44	0.65
53:b:822:G:C2	53:b:823:C:C4	2.84	0.65
53:b:1170:C:H3'	53:b:1171:G:H5'	1.77	0.65
53:b:1186:G:C2	53:b:1187:G:C8	2.85	0.65
53:b:1272:A:H62	53:b:1618:A:H1'	1.62	0.65
53:b:1303:G:C2	53:b:1304:A:N7	2.65	0.65
53:b:1339:G:H21	53:b:1603:A:H1'	1.61	0.65
53:b:2108:A:N1	53:b:2181:U:C4	2.64	0.65
53:b:2385:C:C2	53:b:2386:A:N7	2.64	0.65
53:b:2839:G:C4	53:b:2840:C:C6	2.85	0.65
8:I:123:ARG:H	50:A:1343:G:H1'	1.62	0.65
15:P:17:TYR:HE2	50:A:375:U:O2'	1.80	0.65
34:h:117:LEU:HD13	34:h:121:VAL:HG13	1.79	0.65
38:m:97:GLN:N	38:m:100:LYS:HE3	2.10	0.65
53:b:519:U:C2	53:b:520:G:C8	2.85	0.65
53:b:607:U:O4	53:b:619:G:H2'	1.97	0.65
3:D:56:GLU:HG2	3:D:198:LEU:HB2	1.78	0.65
34:h:67:ALA:HB2	34:h:149:GLU:O	1.97	0.65
52:a:47:C:C4	52:a:48:U:C5	2.85	0.65
53:b:307:G:N2	53:b:309:A:C8	2.65	0.65
53:b:689:A:N3	53:b:779:U:O2'	2.27	0.65
53:b:1053:C:N3	53:b:1107:G:N3	2.45	0.65
53:b:1106:G:C6	53:b:1107:G:C8	2.84	0.65
53:b:1319:C:C2	53:b:1320:C:C5	2.85	0.65
53:b:1560:G:C6	53:b:1561:C:C5	2.84	0.65
53:b:1684:G:C5	53:b:1685:C:C5	2.85	0.65
53:b:2064:C:O2	53:b:2450:A:N6	2.29	0.65
53:b:2594:C:H2'	53:b:2595:G:O4'	1.97	0.65
3:D:182:LYS:HZ2	3:D:183:ARG:HH11	1.45	0.65
38:m:13:HIS:ND1	53:b:910:A:N6	2.44	0.65
41:p:29:LYS:CG	41:p:40:LEU:HD11	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1213:A:HO2'	53:b:1239:G:HO2'	1.42	0.65
53:b:1220:G:C6	53:b:1221:C:C5	2.85	0.65
53:b:2205:A:C4	53:b:2206:C:C6	2.85	0.65
8:I:12:LYS:H	8:I:105:ARG:HH22	1.44	0.65
52:a:8:C:N3	52:a:9:G:C8	2.65	0.65
52:a:77:U:N3	52:a:78:A:C8	2.64	0.65
53:b:230:G:C2	53:b:231:A:C8	2.84	0.65
53:b:1139:G:C2	53:b:1140:C:C6	2.84	0.65
53:b:1172:C:C4	53:b:1178:C:N3	2.64	0.65
53:b:1207:C:N3	53:b:1208:C:N4	2.44	0.65
53:b:1300:G:C2	53:b:1634:A:C8	2.85	0.65
53:b:1528:A:C2	53:b:1544:A:C5	2.84	0.65
53:b:1604:C:C2	53:b:1605:C:C5	2.85	0.65
53:b:1604:C:N3	53:b:1605:C:C5	2.65	0.65
53:b:2543:G:C6	53:b:2544:G:C5	2.85	0.65
42:q:109:LEU:HD22	43:r:48:LYS:HZ2	1.62	0.64
48:y:46:HIS:NE2	48:y:77:ARG:HD3	2.12	0.64
51:X:15:G:C6	54:v:37:G:C2	2.86	0.64
53:b:173:A:C2	53:b:174:U:C4	2.85	0.64
53:b:223:A:C5	53:b:422:A:C8	2.85	0.64
53:b:583:G:H2'	53:b:583:G:N3	2.11	0.64
53:b:696:G:N1	53:b:697:G:N7	2.46	0.64
53:b:844:A:C2	53:b:845:A:N3	2.66	0.64
53:b:934:U:N3	53:b:935:C:C5	2.65	0.64
53:b:948:C:C2	53:b:949:G:N7	2.65	0.64
53:b:1232:G:C2	53:b:1233:C:C4	2.85	0.64
53:b:1388:G:C6	53:b:1389:G:C8	2.85	0.64
53:b:2154:A:N1	53:b:2155:U:C5	2.65	0.64
53:b:2887:A:N1	53:b:2888:C:C6	2.65	0.64
1:B:66:ILE:HG12	1:B:159:ALA:HB3	1.79	0.64
8:I:11:ARG:CD	8:I:106:ASP:OD1	2.46	0.64
8:I:12:LYS:N	8:I:105:ARG:HH22	1.95	0.64
37:l:78:ARG:HD3	53:b:626:A:N1	2.12	0.64
39:n:16:HIS:CG	39:n:20:MET:HE1	2.31	0.64
50:A:1332:A:O2'	50:A:1333:A:OP1	2.16	0.64
50:A:1363:A:O2'	50:A:1365:G:N7	2.28	0.64
53:b:342:A:C6	53:b:343:C:C5	2.86	0.64
53:b:783:A:C6	53:b:785:G:H1'	2.33	0.64
53:b:1145:C:C4	53:b:1146:C:C5	2.86	0.64
53:b:1171:G:HO2'	53:b:1172:C:P	2.19	0.64
53:b:1232:G:N1	53:b:1233:C:C4	2.66	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1300:G:C5	53:b:1626:A:C2	2.85	0.64
53:b:1795:C:N3	53:b:1796:U:C5	2.64	0.64
53:b:2065:C:H2'	53:b:2066:C:C5'	2.27	0.64
53:b:2480:C:C4	53:b:2481:G:N7	2.65	0.64
53:b:2544:G:N1	53:b:2545:G:N7	2.45	0.64
53:b:2796:U:O2	53:b:2798:U:H1'	1.97	0.64
5:F:9:MET:HG2	5:F:59:TYR:HE1	1.63	0.64
8:I:126:PHE:HB3	50:A:1342:C:OP2	1.97	0.64
50:A:662:U:O2'	50:A:836:G:OP1	2.15	0.64
53:b:199:A:C6	53:b:2433:A:C2	2.85	0.64
53:b:201:C:C4	53:b:202:U:C5	2.85	0.64
53:b:1381:G:C5	53:b:1382:G:N2	2.65	0.64
53:b:1759:A:N3	53:b:1759:A:H2'	2.12	0.64
53:b:2048:G:H1'	53:b:2823:A:N6	2.11	0.64
53:b:2395:C:C4	53:b:2396:G:C8	2.86	0.64
53:b:2583:G:N3	53:b:2584:U:O2	2.30	0.64
8:I:126:PHE:HA	50:A:1341:U:H3'	1.79	0.64
53:b:905:A:C2	53:b:906:U:C6	2.85	0.64
53:b:1055:G:C2	53:b:1104:C:N4	2.65	0.64
53:b:1519:G:C6	53:b:1520:U:C4	2.85	0.64
53:b:1611:C:N3	53:b:1612:C:C5	2.66	0.64
53:b:2269:G:H2'	53:b:2269:G:N3	2.12	0.64
53:b:2351:G:C2	53:b:2365:G:C2	2.85	0.64
53:b:2800:A:N6	53:b:2801:G:C4	2.65	0.64
4:E:99:SER:HG	50:A:6:G:H1	0.69	0.64
9:J:15:HIS:HA	9:J:18:ILE:HG22	1.79	0.64
12:M:22:TYR:O	12:M:69:ARG:NH2	2.29	0.64
12:M:48:SER:HB2	12:M:51:GLN:HB2	1.79	0.64
19:T:59:ARG:NH1	50:A:178:C:OP2	2.31	0.64
21:O:68:LEU:HD23	21:O:71:LEU:CD1	2.21	0.64
53:b:110:G:C2	53:b:111:A:C8	2.86	0.64
53:b:172:A:C2	53:b:173:A:N7	2.65	0.64
53:b:366:C:N3	53:b:367:G:C8	2.66	0.64
53:b:477:A:H2'	53:b:478:A:C8	2.32	0.64
53:b:785:G:C6	53:b:786:C:C4	2.85	0.64
53:b:867:C:O2	53:b:867:C:H2'	1.96	0.64
53:b:948:C:H1'	53:b:984:A:N3	2.12	0.64
53:b:1141:U:H4'	53:b:1142:A:C1'	2.27	0.64
53:b:1150:C:N3	53:b:1151:A:C8	2.66	0.64
53:b:1172:C:C6	53:b:1173:U:H5	2.13	0.64
53:b:1222:U:O2	53:b:1223:G:C8	2.51	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1596:A:C2	53:b:1597:A:C5	2.86	0.64
53:b:1786:A:N3	53:b:1938:A:N7	2.44	0.64
53:b:1973:G:C6	53:b:1974:C:C4	2.85	0.64
38:m:24:THR:HG23	38:m:25:ASP:OD1	1.98	0.64
50:A:1348:U:H2'	50:A:1349:A:H5''	1.79	0.64
53:b:288:U:N3	53:b:289:G:N7	2.45	0.64
53:b:928:A:N3	53:b:929:U:C6	2.66	0.64
53:b:934:U:C2	53:b:935:C:C6	2.84	0.64
53:b:1120:G:C5	53:b:1121:C:C6	2.86	0.64
53:b:1238:G:C6	53:b:1239:G:C8	2.86	0.64
53:b:1409:U:C4	53:b:1410:G:N7	2.65	0.64
53:b:1537:G:C6	53:b:1538:G:N7	2.66	0.64
53:b:1830:C:O2	53:b:1831:G:H8	1.80	0.64
53:b:1859:U:N3	53:b:1860:G:C8	2.66	0.64
53:b:2152:G:C4	53:b:2153:C:C6	2.86	0.64
53:b:2408:U:C2	53:b:2409:G:C8	2.85	0.64
5:F:37:HIS:HE1	5:F:97:THR:HA	1.61	0.64
15:P:22:ALA:HB2	15:P:32:PHE:HA	1.80	0.64
38:m:96:ILE:HG23	38:m:100:LYS:HD2	1.80	0.64
49:z:17:VAL:HG23	49:z:18:TRP:HA	1.79	0.64
53:b:311:A:H2	53:b:331:C:OP1	1.80	0.64
53:b:1091:G:C2	53:b:1092:C:N1	2.66	0.64
53:b:1416:G:C4	53:b:1417:C:C5	2.85	0.64
53:b:2051:A:C6	53:b:2614:A:C5	2.86	0.64
53:b:2656:U:H5	53:b:2664:G:H22	1.45	0.64
53:b:2708:G:C2	53:b:2709:G:N7	2.65	0.64
53:b:2768:U:C4	53:b:2769:U:C5	2.85	0.64
53:b:2887:A:N1	53:b:2888:C:C5	2.65	0.64
53:b:662:G:N1	53:b:663:G:N7	2.45	0.64
53:b:783:A:C6	53:b:785:G:C8	2.85	0.64
53:b:1213:A:N3	53:b:1238:G:O2'	2.31	0.64
53:b:2065:C:C5'	53:b:2252:G:O2'	2.46	0.64
53:b:2204:G:C2	53:b:2205:A:C8	2.86	0.64
53:b:2292:U:C2	53:b:2293:G:C8	2.86	0.64
53:b:2329:U:C4	53:b:2330:G:C8	2.85	0.64
53:b:2397:G:H2'	53:b:2397:G:N3	2.11	0.64
53:b:2590:A:N3	53:b:2590:A:H2'	2.13	0.64
53:b:2708:G:N2	53:b:2709:G:C4	2.66	0.64
4:E:49:TYR:HE2	50:A:1079:G:H5''	1.63	0.64
31:e:143:LEU:HB3	31:e:146:VAL:HG21	1.79	0.64
49:z:11:ASP:OD1	49:z:12:LEU:N	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:1517:G:N9	53:b:1920:C:OP1	2.31	0.64
52:a:39:A:C2	52:a:44:G:C2	2.86	0.64
53:b:108:G:C5	53:b:109:C:C6	2.86	0.64
53:b:219:A:H2	53:b:234:U:O2	1.81	0.64
53:b:242:G:C2	53:b:254:G:C5	2.86	0.64
53:b:695:G:N2	53:b:696:G:H1'	2.13	0.64
53:b:974:G:C8	53:b:989:G:C2	2.86	0.64
53:b:1172:C:C2	53:b:1173:U:C5	2.83	0.64
53:b:2407:A:N3	53:b:2408:U:C5	2.66	0.64
53:b:2715:C:C4	53:b:2716:C:C5	2.85	0.64
53:b:2839:G:C2	53:b:2840:C:N1	2.66	0.64
15:P:59:HIS:HE1	15:P:63:GLN:HE22	1.45	0.64
38:m:97:GLN:CD	38:m:100:LYS:HE3	2.21	0.64
49:z:12:LEU:HD23	53:b:461:C:O2'	1.98	0.64
53:b:110:G:C6	53:b:111:A:N7	2.66	0.64
53:b:608:A:H2'	53:b:609:A:C8	2.33	0.64
53:b:818:G:C6	53:b:1187:G:C2	2.86	0.64
53:b:852:U:C4	53:b:853:C:C5	2.85	0.64
53:b:1091:G:C6	53:b:1092:C:C4	2.86	0.64
53:b:1487:U:N3	53:b:1488:C:C6	2.66	0.64
53:b:1518:C:N3	53:b:1519:G:C8	2.65	0.64
53:b:1629:U:C4	53:b:1630:A:N7	2.66	0.64
53:b:1856:U:C4	53:b:1857:G:C8	2.85	0.64
53:b:2065:C:C2'	53:b:2066:C:H5'	2.28	0.64
53:b:2128:G:C2	53:b:2160:C:C2	2.83	0.64
53:b:2152:G:N1	53:b:2153:C:C6	2.64	0.64
53:b:2306:C:C4	53:b:2307:G:C2	2.85	0.64
53:b:2796:U:C4	53:b:2798:U:C6	2.86	0.64
50:A:1030:U:OP2	50:A:1031:C:N4	2.31	0.63
52:a:26:C:H2'	52:a:27:C:C6	2.32	0.63
53:b:603:A:C2	53:b:626:A:C1'	2.81	0.63
53:b:621:A:H2'	53:b:622:G:O4'	1.97	0.63
53:b:868:U:C4	53:b:869:G:C8	2.85	0.63
53:b:1304:A:N3	53:b:1305:C:C6	2.66	0.63
53:b:1663:G:N1	53:b:1992:G:C5	2.67	0.63
2:C:33:ASP:OD2	13:N:64:ARG:HD2	1.98	0.63
8:I:10:ARG:HH21	50:A:1148:U:H5'	1.62	0.63
9:J:46:LYS:NZ	9:J:48:ARG:HE	1.95	0.63
50:A:1517:G:C1'	53:b:1920:C:OP1	2.46	0.63
53:b:74:A:H4'	53:b:75:G:O5'	1.98	0.63
53:b:377:G:C2	53:b:378:C:N1	2.66	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1073:A:N6	53:b:1074:G:C5	2.67	0.63
53:b:1142:A:C6	53:b:1144:A:C5	2.86	0.63
53:b:1745:A:C2	53:b:1746:A:C8	2.86	0.63
53:b:2167:U:C4	53:b:2168:G:H1'	2.32	0.63
53:b:2177:C:C2'	53:b:2178:C:O4'	2.46	0.63
53:b:2351:G:C2	53:b:2365:G:N1	2.66	0.63
1:B:13:VAL:HG12	1:B:15:PHE:H	1.64	0.63
8:I:113:LYS:HZ1	8:I:117:LEU:HD22	1.62	0.63
23:2:5:ILE:HD12	23:2:40:ASP:OD1	1.98	0.63
44:s:13:SER:OG	44:s:16:LYS:HD2	1.99	0.63
50:A:664:G:H22	50:A:741:G:H1	1.45	0.63
53:b:201:C:C4'	53:b:386:G:N2	2.62	0.63
53:b:210:C:C4	53:b:211:C:C5	2.86	0.63
53:b:1035:U:O2	53:b:1036:G:C8	2.52	0.63
53:b:1059:G:N2	53:b:1080:A:N7	2.47	0.63
53:b:1106:G:N3	53:b:1107:G:H1'	2.13	0.63
53:b:2147:A:H5''	53:b:2148:G:O4'	1.98	0.63
53:b:2252:G:C5	53:b:2253:G:C8	2.86	0.63
53:b:2527:C:C4	53:b:2528:U:C6	2.87	0.63
5:F:43:GLY:HA2	5:F:58:HIS:CE1	2.32	0.63
34:h:41:LYS:HG3	34:h:41:LYS:O	1.98	0.63
50:A:1130:A:H2'	50:A:1131:G:C8	2.34	0.63
53:b:584:C:N4	53:b:585:G:C5	2.67	0.63
53:b:749:A:C2	53:b:753:A:O2'	2.47	0.63
53:b:783:A:N6	53:b:785:G:C8	2.67	0.63
53:b:1070:A:H5''	53:b:1070:A:N3	2.13	0.63
53:b:1171:G:O2'	53:b:1172:C:OP2	2.16	0.63
53:b:1636:U:O2	53:b:1637:A:C8	2.51	0.63
53:b:1747:U:C2	53:b:1748:C:C5	2.85	0.63
53:b:1796:U:C2	53:b:1797:G:N7	2.67	0.63
53:b:2331:G:N1	53:b:2332:C:C4	2.66	0.63
7:H:105:THR:OG1	7:H:108:GLY:O	2.17	0.63
15:P:77:GLU:C	15:P:79:ASN:H	2.07	0.63
15:P:79:ASN:O	15:P:80:LYS:HB2	1.98	0.63
33:g:24:ILE:HD11	33:g:37:LEU:HD22	1.81	0.63
34:h:7:ASP:CG	34:h:62:LEU:CD1	2.71	0.63
52:a:102:G:C2	52:a:103:U:C5	2.87	0.63
53:b:155:A:N1	53:b:156:A:N7	2.47	0.63
53:b:269:C:C2	53:b:424:G:C2	2.87	0.63
53:b:609:A:H2'	53:b:610:C:O4'	1.97	0.63
53:b:1073:A:C2	53:b:1074:G:C1'	2.82	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1091:G:C5	53:b:1092:C:C5	2.87	0.63
53:b:1120:G:C4	53:b:1121:C:C6	2.87	0.63
53:b:1319:C:O2'	53:b:1320:C:H5'	1.97	0.63
53:b:1425:G:H2'	53:b:1426:G:C8	2.34	0.63
53:b:1434:A:N7	53:b:1435:G:C8	2.65	0.63
53:b:1560:G:C5	53:b:1561:C:C5	2.87	0.63
53:b:2070:A:H2'	53:b:2071:A:O4'	1.98	0.63
53:b:2396:G:C2	53:b:2397:G:N7	2.66	0.63
53:b:2454:G:N2	53:b:2499:C:C6	2.67	0.63
53:b:2623:G:N2	53:b:2624:G:C4	2.67	0.63
52:a:97:C:C4	52:a:98:G:C8	2.86	0.63
53:b:234:U:O4	53:b:429:A:C6	2.51	0.63
53:b:479:A:C2	53:b:480:A:C5	2.86	0.63
53:b:963:U:C2	53:b:964:C:C5	2.86	0.63
53:b:1135:C:C6	53:b:1137:G:OP2	2.51	0.63
53:b:1144:A:C6	53:b:1145:C:C5	2.86	0.63
53:b:1220:G:N1	53:b:1221:C:C4	2.67	0.63
53:b:1228:G:C6	53:b:1229:C:C5	2.87	0.63
53:b:1499:C:C4	53:b:1500:G:N7	2.67	0.63
53:b:2107:G:C6	53:b:2108:A:C8	2.87	0.63
53:b:2114:A:N6	53:b:2169:A:H2	1.97	0.63
53:b:2220:U:C2	53:b:2221:G:C8	2.87	0.63
53:b:2330:G:N1	53:b:2331:G:N9	2.46	0.63
53:b:2419:U:N3	53:b:2420:C:H5	1.97	0.63
53:b:2455:G:H2'	53:b:2456:C:H6	1.64	0.63
7:H:79:ARG:NH1	50:A:878:A:OP1	2.31	0.63
8:I:120:ALA:HB1	50:A:1349:A:OP2	1.98	0.63
50:A:967:C:OP2	50:A:968:A:O2'	2.15	0.63
52:a:23:G:H2'	52:a:24:G:N7	2.13	0.63
53:b:253:C:N4	53:b:254:G:N9	2.47	0.63
53:b:1544:A:H2'	53:b:1545:A:C8	2.33	0.63
53:b:2453:A:H61	53:b:2500:U:H3	0.75	0.63
53:b:2750:A:C8	53:b:2750:A:C5'	2.82	0.63
8:I:129:ARG:HG3	54:v:33:U:P	2.39	0.63
13:N:78:LEU:HB3	13:N:83:VAL:HG21	1.80	0.63
38:m:53:MET:HE3	38:m:105:MET:CE	2.21	0.63
50:A:414:A:OP2	50:A:428:G:N1	2.32	0.63
50:A:483:C:H3'	50:A:484:G:H2'	1.81	0.63
50:A:702:A:C4	53:b:1848:A:C1'	2.82	0.63
53:b:156:A:C6	53:b:157:C:C5	2.86	0.63
53:b:171:U:C4	53:b:172:A:N7	2.67	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:174:U:C2	53:b:175:G:C8	2.87	0.63
53:b:1504:A:N3	53:b:1505:A:C8	2.67	0.63
53:b:2453:A:O2'	53:b:2454:G:H5'	1.99	0.63
9:J:9:ARG:H	9:J:99:GLN:HB3	1.62	0.63
14:O:79:ARG:HA	14:O:82:GLU:OE2	1.99	0.63
33:g:24:ILE:HD11	33:g:43:VAL:HG11	1.81	0.63
53:b:109:C:N3	53:b:110:G:N7	2.46	0.63
53:b:225:C:N4	53:b:226:A:C5	2.67	0.63
53:b:785:G:N3	53:b:786:C:C5	2.67	0.63
53:b:1076:C:H2'	53:b:1077:A:C8	2.33	0.63
53:b:1167:C:C2	53:b:1168:G:C8	2.87	0.63
53:b:1232:G:C4	53:b:1233:C:C5	2.86	0.63
53:b:1300:G:O2'	53:b:1635:A:OP1	2.16	0.63
53:b:2127:G:N3	53:b:2128:G:O6	2.32	0.63
53:b:2128:G:C2'	53:b:2129:C:H4'	2.20	0.63
53:b:2217:G:C2	53:b:2218:G:N9	2.67	0.63
53:b:2294:G:C6	53:b:2295:C:C5	2.87	0.63
53:b:2395:C:C2	53:b:2396:G:C8	2.87	0.63
53:b:2535:G:C2	53:b:2536:G:H8	2.06	0.63
53:b:2839:G:C2	53:b:2840:C:C6	2.87	0.63
54:v:18:G:H21	54:v:57:A:H62	1.44	0.63
3:D:196:GLU:O	3:D:199:ILE:HG12	1.99	0.62
4:E:67:ARG:HE	4:E:68:ARG:HH12	1.47	0.62
50:A:948:C:H42	50:A:1233:G:H1	1.44	0.62
50:A:1414:U:H2'	50:A:1415:G:C8	2.34	0.62
53:b:46:G:N2	53:b:47:C:C2	2.67	0.62
53:b:111:A:C5	53:b:112:U:C5	2.86	0.62
53:b:210:C:C2	53:b:211:C:C5	2.87	0.62
53:b:593:U:C2	53:b:594:U:C6	2.87	0.62
53:b:950:G:C6	53:b:951:C:C4	2.87	0.62
53:b:1303:G:C2	53:b:1304:A:N9	2.67	0.62
53:b:1403:A:O2'	53:b:1471:G:O2'	2.17	0.62
53:b:1406:U:N3	53:b:1407:G:C8	2.67	0.62
53:b:1560:G:C6	53:b:1561:C:C4	2.86	0.62
53:b:2226:C:C4	53:b:2227:A:C8	2.86	0.62
53:b:2330:G:C2	53:b:2331:G:C1'	2.81	0.62
53:b:2455:G:C6	53:b:2456:C:N4	2.67	0.62
31:e:44:ARG:NH2	31:e:87:ALA:HB3	2.12	0.62
52:a:32:U:H2'	52:a:33:G:O4'	1.97	0.62
52:a:39:A:N1	52:a:44:G:C2	2.67	0.62
53:b:214:G:N2	53:b:215:G:C2	2.67	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:309:A:C1'	53:b:329:G:N2	2.61	0.62
53:b:1242:U:C2	53:b:1243:C:C6	2.86	0.62
53:b:1395:A:N7	53:b:1398:C:C4	2.67	0.62
53:b:1401:G:H2'	53:b:1402:U:O4'	1.99	0.62
53:b:1461:C:C2	53:b:1462:C:H5	2.17	0.62
53:b:2480:C:C5	53:b:2481:G:C8	2.86	0.62
53:b:2826:A:C5	53:b:2827:C:C6	2.87	0.62
31:e:5:LEU:CD1	31:e:12:LEU:CD1	2.63	0.62
32:f:90:THR:HB	52:a:43:C:O2	1.98	0.62
42:q:90:ILE:HD12	43:r:48:LYS:NZ	2.15	0.62
44:s:86:MET:HG3	44:s:96:ILE:CD1	2.29	0.62
50:A:667:G:H2'	50:A:668:G:H8	1.63	0.62
52:a:49:C:C2	52:a:50:A:N7	2.68	0.62
53:b:245:G:N3	53:b:246:C:C5	2.68	0.62
53:b:425:G:C4	53:b:426:C:C5	2.88	0.62
53:b:584:C:N4	53:b:585:G:C6	2.67	0.62
53:b:658:U:N3	53:b:659:G:C8	2.67	0.62
53:b:662:G:N1	53:b:663:G:C5	2.67	0.62
53:b:785:G:C2	53:b:786:C:C4	2.87	0.62
53:b:975:A:N6	53:b:989:G:O2'	2.32	0.62
53:b:2182:U:O2	53:b:2183:A:N7	2.29	0.62
53:b:2396:G:N2	53:b:2397:G:C4	2.67	0.62
53:b:2557:G:N2	53:b:2558:C:C2	2.67	0.62
8:I:11:ARG:HG3	8:I:105:ARG:HH12	1.64	0.62
11:L:120:ARG:HH12	50:A:500:G:H5''	1.64	0.62
15:P:70:ARG:HG3	50:A:375:U:H5'	1.59	0.62
50:A:517:G:N2	50:A:530:G:OP1	2.33	0.62
50:A:1201:A:H1'	50:A:1202:U:OP2	2.00	0.62
53:b:77:G:C2	53:b:78:U:C5	2.87	0.62
53:b:154:U:C2	53:b:155:A:H8	2.18	0.62
53:b:173:A:C2	53:b:174:U:C5	2.88	0.62
53:b:749:A:N7	53:b:1618:A:N1	2.47	0.62
53:b:775:G:C5	53:b:794:A:C8	2.88	0.62
53:b:836:G:C5	53:b:837:C:C5	2.87	0.62
53:b:935:C:N3	53:b:936:A:C8	2.66	0.62
53:b:1531:C:O2	53:b:1532:A:C8	2.52	0.62
53:b:1713:A:C2	53:b:1716:U:C6	2.88	0.62
53:b:1759:A:C6	53:b:1760:C:C5	2.87	0.62
53:b:1891:G:C6	53:b:1892:C:C5	2.87	0.62
53:b:2826:A:C6	53:b:2827:C:C5	2.87	0.62
15:P:5:ARG:CG	50:A:377:G:OP1	2.46	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:859:G:OP2	50:A:869:G:N1	2.30	0.62
50:A:1004:A:H1'	50:A:1026:G:C6	2.34	0.62
52:a:63:C:C2	52:a:64:G:C8	2.88	0.62
53:b:603:A:N3	53:b:626:A:H1'	2.14	0.62
53:b:1152:C:C2	53:b:1153:C:C5	2.87	0.62
53:b:1217:U:N3	53:b:1218:G:C8	2.68	0.62
53:b:1382:G:O2'	53:b:1383:A:O5'	2.17	0.62
53:b:1383:A:N3	53:b:1384:A:C5	2.67	0.62
53:b:1392:A:H2'	53:b:1393:A:C8	2.35	0.62
53:b:1500:G:C2	53:b:1501:G:N9	2.67	0.62
53:b:1825:U:N3	53:b:1826:G:C8	2.68	0.62
53:b:2709:G:C5	53:b:2710:C:C5	2.88	0.62
53:b:2802:G:N1	53:b:2803:G:C5	2.68	0.62
2:C:26:LYS:NZ	13:N:75:LYS:HA	2.13	0.62
14:O:15:GLY:HA3	14:O:20:ASP:OD2	2.00	0.62
19:T:2:ASN:HA	50:A:332:G:OP2	1.98	0.62
35:j:57:LEU:HD13	35:j:129:GLU:CA	2.29	0.62
52:a:29:A:O2'	52:a:58:A:N1	2.32	0.62
53:b:763:G:C5	53:b:765:C:C6	2.88	0.62
53:b:1158:C:N3	53:b:1159:U:C5	2.68	0.62
53:b:1305:C:C2	53:b:1306:C:H6	2.16	0.62
53:b:1540:G:C6	53:b:1541:C:C4	2.87	0.62
53:b:1805:A:H2'	53:b:1805:A:N3	2.13	0.62
53:b:2052:A:C2	53:b:2053:G:N9	2.67	0.62
53:b:2183:A:N6	53:b:2184:A:N7	2.48	0.62
53:b:2817:U:C4	53:b:2818:U:C6	2.87	0.62
4:E:35:LEU:HD11	4:E:133:ILE:HD13	1.82	0.62
15:P:19:VAL:HG13	15:P:37:GLY:C	2.24	0.62
31:e:79:ARG:HE	53:b:448:U:H1'	1.65	0.62
52:a:46:A:C6	52:a:47:C:C4	2.87	0.62
53:b:848:C:C2	53:b:849:A:C8	2.88	0.62
53:b:967:U:N3	53:b:968:C:C5	2.67	0.62
53:b:1488:C:N3	53:b:1489:C:C5	2.67	0.62
53:b:2420:C:O2	53:b:2420:C:H2'	1.99	0.62
8:I:111:GLU:HG2	50:A:1348:U:C4'	2.17	0.62
12:M:24:VAL:HG13	12:M:28:ARG:HB3	1.82	0.62
50:A:132:C:H2'	50:A:133:U:C6	2.34	0.62
53:b:342:A:C6	53:b:343:C:C6	2.87	0.62
53:b:612:G:C6	53:b:614:A:C4	2.87	0.62
53:b:853:C:N3	53:b:854:C:C5	2.67	0.62
53:b:938:G:C2	53:b:939:G:N7	2.67	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1228:G:C5	53:b:1229:C:C5	2.88	0.62
53:b:1244:A:C6	53:b:1245:G:N7	2.68	0.62
53:b:1256:G:N1	53:b:1257:C:C5	2.68	0.62
53:b:1848:A:N1	53:b:1849:G:N9	2.46	0.62
53:b:2466:C:N3	53:b:2467:C:C5	2.67	0.62
53:b:2793:C:C2	53:b:2794:C:C6	2.87	0.62
2:C:175:HIS:CD2	50:A:1108:G:H5'	2.35	0.62
50:A:147:G:N2	50:A:176:C:O2	2.32	0.62
50:A:720:C:H5''	50:A:721:G:OP2	2.00	0.62
53:b:1336:A:C2	53:b:1337:G:N9	2.68	0.62
53:b:1622:G:C2	53:b:1623:G:C8	2.88	0.62
53:b:1684:G:C6	53:b:1685:C:C4	2.88	0.62
53:b:1774:C:N4	53:b:1775:U:C5	2.67	0.62
53:b:2128:G:N1	53:b:2160:C:N3	2.47	0.62
53:b:2729:G:C5	53:b:2730:C:C5	2.88	0.62
53:b:2826:A:C5	53:b:2827:C:C5	2.88	0.62
50:A:701:U:O2'	50:A:702:A:OP2	2.14	0.62
50:A:1129:C:H1'	50:A:1130:A:OP1	2.00	0.62
50:A:1130:A:OP1	50:A:1130:A:H8	1.82	0.62
53:b:109:C:C2	53:b:110:G:H8	2.17	0.62
53:b:234:U:O4	53:b:430:A:C6	2.52	0.62
53:b:376:G:C2	53:b:377:G:C8	2.87	0.62
53:b:1429:G:C2	53:b:1430:G:C8	2.88	0.62
53:b:1487:U:C4	53:b:1488:C:C5	2.87	0.62
53:b:1503:A:N1	53:b:1504:A:C5	2.67	0.62
53:b:1511:G:C6	53:b:1512:C:N4	2.68	0.62
53:b:1638:C:N3	53:b:1639:C:C6	2.68	0.62
53:b:1892:C:N4	53:b:1893:C:C5	2.68	0.62
53:b:2128:G:C8	53:b:2128:G:O5'	2.53	0.62
53:b:2152:G:C6	53:b:2153:C:C4	2.88	0.62
53:b:2715:C:N4	53:b:2716:C:C5	2.68	0.62
15:P:57:ILE:O	15:P:61:VAL:HG23	2.00	0.61
34:h:114:GLU:HB2	34:h:133:GLN:HE22	1.63	0.61
49:z:7:ILE:O	49:z:7:ILE:HG23	2.00	0.61
53:b:213:A:C2	53:b:214:G:C5	2.88	0.61
53:b:650:C:N3	53:b:651:G:C8	2.68	0.61
53:b:991:C:C6	53:b:1185:G:C6	2.88	0.61
53:b:1074:G:N2	53:b:1075:C:H1'	2.15	0.61
53:b:1165:A:C2	53:b:1166:G:C8	2.88	0.61
53:b:1394:U:C5	53:b:1395:A:C4	2.88	0.61
53:b:1662:U:C2	53:b:1663:G:H8	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2544:G:N2	53:b:2545:G:N9	2.47	0.61
53:b:2801:G:N1	53:b:2802:G:C5	2.68	0.61
53:b:2888:C:O2	53:b:2889:C:C6	2.53	0.61
33:g:117:LEU:HD12	33:g:118:PRO:O	2.00	0.61
50:A:197:A:N1	50:A:220:G:O2'	2.30	0.61
52:a:61:G:C6	52:a:62:C:C5	2.88	0.61
53:b:4:U:C2	53:b:5:A:C8	2.88	0.61
53:b:108:G:C2	53:b:109:C:H1'	2.35	0.61
53:b:1121:C:C4	53:b:1122:G:C8	2.87	0.61
53:b:1766:G:C2	53:b:1767:G:C8	2.88	0.61
53:b:2395:C:C4	53:b:2396:G:N7	2.68	0.61
53:b:2534:A:C6	53:b:2535:G:C8	2.87	0.61
53:b:2692:G:N3	53:b:2847:U:O2'	2.32	0.61
38:m:95:LEU:C	38:m:100:LYS:NZ	2.58	0.61
53:b:195:A:N1	53:b:198:C:C5	2.68	0.61
53:b:425:G:N3	53:b:426:C:C5	2.68	0.61
53:b:949:G:N1	53:b:950:G:C5	2.68	0.61
53:b:949:G:N2	53:b:950:G:C4	2.68	0.61
53:b:1298:C:H2'	53:b:1299:G:O4'	2.00	0.61
53:b:1408:G:N1	53:b:1409:U:C5	2.68	0.61
53:b:1500:G:N1	53:b:1501:G:N9	2.48	0.61
53:b:1501:G:N2	53:b:1502:A:C1'	2.63	0.61
53:b:2155:U:C4	53:b:2156:G:C8	2.88	0.61
53:b:2544:G:C6	53:b:2545:G:N7	2.68	0.61
53:b:2581:G:C6	53:b:2610:C:C2	2.88	0.61
1:B:22:TRP:HB2	1:B:188:THR:HG22	1.81	0.61
5:F:70:VAL:HG13	5:F:73:GLU:OE2	2.00	0.61
28:8:1:MET:HE1	28:8:36:ARG:HB2	1.81	0.61
29:c:75:PRO:HG2	29:c:97:LYS:NZ	2.15	0.61
38:m:53:MET:HE2	38:m:117:PHE:CE1	2.35	0.61
50:A:574:A:H5''	50:A:575:G:OP2	2.00	0.61
50:A:790:A:H5'	54:v:39:G:OP1	2.00	0.61
52:a:47:C:C2	52:a:48:U:C6	2.88	0.61
53:b:229:C:C4	53:b:230:G:C8	2.88	0.61
53:b:375:G:C6	53:b:376:G:C8	2.88	0.61
53:b:903:C:N3	53:b:904:G:C8	2.68	0.61
53:b:1062:G:C2	53:b:1063:G:H1'	2.36	0.61
53:b:1773:A:C5	53:b:1774:C:C1'	2.83	0.61
53:b:2709:G:C6	53:b:2710:C:C4	2.89	0.61
24:3:50:ARG:HG2	53:b:2884:U:C5	2.36	0.61
49:z:9:GLU:OE2	49:z:11:ASP:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:757:U:O2'	50:A:879:C:O2	2.19	0.61
53:b:75:G:N1	53:b:76:C:C6	2.69	0.61
53:b:388:G:C8	53:b:390:U:H5	2.13	0.61
53:b:598:U:C2	53:b:599:A:C8	2.88	0.61
53:b:730:A:OP1	53:b:1775:U:O2'	2.17	0.61
53:b:952:G:C6	53:b:953:G:C8	2.88	0.61
53:b:1090:A:N1	53:b:1101:U:O4	2.34	0.61
53:b:1500:G:C2	53:b:1501:G:C1'	2.84	0.61
53:b:1891:G:C5	53:b:1892:C:C6	2.89	0.61
53:b:1892:C:C4	53:b:1893:C:C5	2.88	0.61
53:b:2454:G:C2	53:b:2499:C:C2	2.89	0.61
53:b:2623:G:C2	53:b:2624:G:C5	2.88	0.61
7:H:88:LYS:HB2	50:A:600:A:OP1	2.00	0.61
9:J:7:ARG:NH2	50:A:1126:U:OP1	2.33	0.61
16:Q:5:ARG:HH12	50:A:636:U:H4'	1.66	0.61
16:Q:47:ASP:OD1	16:Q:74:LEU:HB2	2.00	0.61
49:z:26:ARG:NH1	53:b:2451:A:H2	1.86	0.61
50:A:1301:U:O2'	50:A:1302:C:O5'	2.19	0.61
53:b:309:A:O4'	53:b:329:G:C2	2.52	0.61
53:b:1684:G:C4	53:b:1685:C:C6	2.88	0.61
15:P:37:GLY:HA2	15:P:51:ARG:NH1	2.16	0.61
53:b:40:U:C2	53:b:41:C:C5	2.89	0.61
53:b:464:U:C5	53:b:788:A:C6	2.88	0.61
53:b:978:G:N2	53:b:986:C:N3	2.44	0.61
53:b:1019:U:O2	53:b:1021:A:C2	2.52	0.61
53:b:1074:G:N1	53:b:1075:C:C5	2.69	0.61
53:b:1172:C:C5	53:b:1173:U:H5	2.18	0.61
53:b:1229:C:C2	53:b:1230:A:H8	2.18	0.61
53:b:1964:G:C6	53:b:1967:C:N4	2.69	0.61
53:b:2533:U:C2	53:b:2534:A:H1'	2.35	0.61
53:b:2588:G:C5	53:b:2589:A:C8	2.88	0.61
15:P:17:TYR:CE1	50:A:374:A:C2	2.88	0.61
29:c:75:PRO:CB	29:c:97:LYS:HE3	2.28	0.61
38:m:97:GLN:H	38:m:100:LYS:CD	2.14	0.61
50:A:301:G:O2'	50:A:302:G:O5'	2.18	0.61
50:A:1528:U:O2'	50:A:1530:G:OP2	2.17	0.61
52:a:49:C:O2	52:a:50:A:C8	2.53	0.61
53:b:157:C:C4	53:b:158:U:C4	2.89	0.61
53:b:786:C:N3	53:b:787:C:H5	1.95	0.61
53:b:1283:G:H22	53:b:1285:A:H3'	1.65	0.61
53:b:1519:G:C5	53:b:1520:U:C5	2.89	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1678:A:H2'	53:b:1678:A:N3	2.15	0.61
53:b:2351:G:N1	53:b:2365:G:C6	2.68	0.61
53:b:2616:C:C2	53:b:2617:U:C6	2.88	0.61
53:b:2801:G:C2	53:b:2802:G:N9	2.69	0.61
3:D:182:LYS:NZ	3:D:183:ARG:NH1	2.47	0.61
4:E:110:MET:HE2	4:E:114:LEU:HD11	1.82	0.61
20:U:16:ARG:HA	20:U:19:LYS:NZ	2.16	0.61
50:A:1068:G:H1	50:A:1107:C:H42	1.49	0.61
52:a:117:G:N3	52:a:118:C:C6	2.69	0.61
53:b:27:G:O2'	53:b:513:A:N6	2.34	0.61
53:b:630:G:H22	53:b:632:A:H3'	1.65	0.61
53:b:749:A:O2'	53:b:750:A:C5'	2.46	0.61
53:b:876:C:N4	53:b:899:A:C2	2.69	0.61
53:b:950:G:C5	53:b:951:C:C5	2.88	0.61
53:b:1055:G:N2	53:b:1104:C:N3	2.48	0.61
53:b:1206:G:C5	53:b:1207:C:C5	2.88	0.61
53:b:1206:G:H2'	53:b:1206:G:N3	2.15	0.61
53:b:1408:G:N1	53:b:1409:U:C6	2.69	0.61
53:b:1459:G:C2	53:b:1461:C:N3	2.68	0.61
53:b:1517:G:N2	53:b:1518:C:H1'	2.16	0.61
53:b:1997:C:N3	53:b:1998:A:N7	2.49	0.61
53:b:1998:A:C5	53:b:1999:C:C5	2.89	0.61
53:b:2516:A:H2'	53:b:2517:C:O4'	2.01	0.61
53:b:2734:A:C2	53:b:2735:G:H1'	2.35	0.61
53:b:2832:U:H1'	53:b:2834:G:C2	2.36	0.61
3:D:58:GLN:HG3	3:D:62:ARG:NH1	2.16	0.61
5:F:3:HIS:HA	5:F:65:GLU:HG3	1.83	0.61
8:I:12:LYS:H	8:I:105:ARG:NH2	1.98	0.61
15:P:67:ILE:CG2	15:P:72:ALA:HB2	2.31	0.61
53:b:481:G:O2'	53:b:507:A:N6	2.34	0.61
53:b:780:G:N1	53:b:782:A:N1	2.48	0.61
53:b:1272:A:C6	53:b:1618:A:C5	2.89	0.61
53:b:1296:G:C2	53:b:1297:C:C6	2.89	0.61
53:b:1442:U:C4	53:b:1443:U:C5	2.89	0.61
53:b:1496:A:H2'	53:b:1498:C:C4	2.35	0.61
53:b:1964:G:N3	53:b:1967:C:C5	2.69	0.61
53:b:2137:U:N3	53:b:2138:G:H8	1.99	0.61
3:D:58:GLN:HG3	3:D:62:ARG:HH11	1.65	0.60
4:E:9:GLU:N	4:E:40:ASP:OD1	2.33	0.60
29:c:206:GLY:C	53:b:1791:A:O2'	2.44	0.60
29:c:208:ALA:HB2	53:b:1790:C:O2'	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:g:11:VAL:HG13	33:g:15:VAL:HG11	1.83	0.60
33:g:175:LYS:HB2	53:b:2531:A:OP2	2.00	0.60
50:A:702:A:H2	53:b:1848:A:N7	1.90	0.60
50:A:936:C:H2'	50:A:937:A:H8	1.66	0.60
53:b:168:G:HO2'	53:b:2209:G:HO2'	1.47	0.60
53:b:417:C:C2	53:b:418:C:C5	2.89	0.60
53:b:468:G:H2'	53:b:469:G:O4'	2.01	0.60
53:b:873:C:C2	53:b:874:G:C8	2.88	0.60
53:b:1019:U:N3	53:b:1142:A:C6	2.69	0.60
53:b:1150:C:C2	53:b:1151:A:C8	2.89	0.60
53:b:1151:A:C2	53:b:1152:C:C6	2.89	0.60
53:b:1199:U:C4	53:b:1200:C:C5	2.90	0.60
53:b:1267:U:O2	53:b:1267:U:H2'	2.00	0.60
53:b:1295:C:C4	53:b:1296:G:N7	2.69	0.60
53:b:1443:U:N3	53:b:1444:G:N7	2.49	0.60
53:b:1472:C:C2	53:b:1473:G:C8	2.89	0.60
53:b:1829:A:N6	53:b:1830:C:H1'	2.16	0.60
53:b:2044:C:C2	53:b:2045:C:C6	2.89	0.60
53:b:2885:G:C8	53:b:2886:A:H1'	2.32	0.60
35:j:77:HIS:NE2	53:b:1131:G:C8	2.69	0.60
41:p:100:LEU:HD11	41:p:110:ILE:HD11	1.83	0.60
50:A:82:G:C5	50:A:83:C:H1'	2.36	0.60
50:A:996:A:H2'	50:A:997:U:H5'	1.79	0.60
53:b:23:G:N2	53:b:24:G:C4	2.70	0.60
53:b:42:A:C6	53:b:43:G:C8	2.89	0.60
53:b:79:C:H2'	53:b:80:G:O5'	2.02	0.60
53:b:589:U:O2	53:b:590:A:C8	2.54	0.60
53:b:1024:G:OP2	53:b:1026:G:OP1	2.17	0.60
53:b:1090:A:C2	53:b:1091:G:C8	2.89	0.60
53:b:1868:C:C2	53:b:1869:G:C8	2.89	0.60
53:b:2134:A:N7	53:b:2160:C:OP1	2.34	0.60
53:b:2205:A:C6	53:b:2206:C:C5	2.88	0.60
53:b:2556:C:C2	53:b:2557:G:C8	2.89	0.60
53:b:2744:G:C2	53:b:2745:C:C6	2.90	0.60
31:e:62:GLN:O	31:e:63:LYS:HG3	2.00	0.60
38:m:97:GLN:OE1	38:m:100:LYS:HE2	1.97	0.60
50:A:184:G:H4'	50:A:185:U:OP1	2.01	0.60
50:A:440:C:H42	50:A:497:G:H1	1.47	0.60
50:A:1040:U:H2'	50:A:1041:G:H8	1.67	0.60
53:b:350:G:C5	53:b:351:C:C5	2.89	0.60
53:b:388:G:C6	53:b:390:U:O4	2.54	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:712:G:C2	53:b:713:G:H1'	2.37	0.60
53:b:1121:C:C2	53:b:1122:G:H8	2.19	0.60
53:b:1343:G:N3	53:b:1343:G:H2'	2.16	0.60
53:b:1759:A:C6	53:b:1760:C:C6	2.88	0.60
53:b:2081:U:C4	53:b:2237:G:C2	2.89	0.60
53:b:2184:A:C6	53:b:2185:U:C5	2.89	0.60
53:b:2556:C:C4	53:b:2557:G:C8	2.89	0.60
53:b:2729:G:C6	53:b:2730:C:C4	2.89	0.60
41:p:29:LYS:CB	41:p:40:LEU:CD1	2.60	0.60
50:A:572:A:OP2	50:A:573:A:OP2	2.18	0.60
50:A:702:A:OP1	53:b:1848:A:C1'	2.49	0.60
52:a:47:C:C4	52:a:48:U:H5	2.19	0.60
52:a:49:C:C2	52:a:50:A:C8	2.90	0.60
53:b:19:A:C5	53:b:20:C:C5	2.90	0.60
53:b:155:A:C6	53:b:156:A:N7	2.69	0.60
53:b:575:A:C2	53:b:576:U:C5	2.89	0.60
53:b:1094:U:N3	53:b:1096:A:H5''	2.16	0.60
53:b:1224:U:H2'	53:b:1225:G:N7	2.17	0.60
53:b:1530:G:C2	53:b:1531:C:C6	2.89	0.60
53:b:1790:C:C5	53:b:1828:G:C2	2.89	0.60
53:b:2072:C:N3	53:b:2073:C:C5	2.69	0.60
53:b:2396:G:C2	53:b:2397:G:N9	2.68	0.60
53:b:2558:C:C2	53:b:2559:C:C6	2.89	0.60
31:e:150:THR:HG21	31:e:157:LEU:HD23	1.84	0.60
38:m:9:PHE:CE2	53:b:911:A:C8	2.90	0.60
41:p:29:LYS:CG	41:p:40:LEU:HD21	2.32	0.60
50:A:890:G:O2'	50:A:906:A:N6	2.34	0.60
51:X:16:G:C2	51:X:17:C:N4	2.69	0.60
53:b:399:U:N3	53:b:400:G:C5	2.70	0.60
53:b:1013:C:C2	53:b:1014:A:C8	2.89	0.60
53:b:1228:G:C4	53:b:1229:C:C6	2.90	0.60
53:b:1479:G:N2	53:b:1513:U:C2	2.69	0.60
53:b:1595:C:C2	53:b:1596:A:N7	2.69	0.60
53:b:1636:U:N3	53:b:1637:A:N7	2.49	0.60
53:b:2020:A:C6	53:b:2022:U:C5	2.89	0.60
53:b:2706:A:C2	53:b:2707:U:H1'	2.36	0.60
20:U:27:VAL:O	20:U:28:LEU:HD22	2.01	0.60
46:u:74:ASN:HD21	46:u:81:ASP:CG	2.08	0.60
53:b:22:C:N3	53:b:23:G:N7	2.49	0.60
53:b:363:G:H2'	53:b:364:C:H6	1.67	0.60
53:b:785:G:N3	53:b:786:C:C6	2.69	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:964:C:O2	53:b:2273:A:H2	1.84	0.60
53:b:977:G:N2	53:b:987:C:O2	2.33	0.60
53:b:1328:A:H2'	53:b:1330:C:N4	2.17	0.60
53:b:1479:G:H2'	53:b:1480:C:O4'	2.01	0.60
53:b:1786:A:C2	53:b:1938:A:C8	2.70	0.60
53:b:2417:C:N3	53:b:2418:A:C8	2.70	0.60
7:H:92:PRO:HB2	7:H:94:VAL:HG13	1.83	0.60
10:K:82:GLU:HG3	10:K:108:ASN:HB2	1.84	0.60
12:M:104:ASN:ND2	50:A:949:A:OP2	2.31	0.60
20:U:26:GLY:C	20:U:28:LEU:H	2.10	0.60
41:p:21:ARG:HD3	53:b:2867:G:N1	2.16	0.60
53:b:278:A:H2	53:b:361:G:N2	1.98	0.60
53:b:378:C:C2	53:b:379:G:C8	2.90	0.60
53:b:921:C:H1'	53:b:2269:G:C8	2.37	0.60
53:b:2886:A:N1	53:b:2887:A:C8	2.69	0.60
5:F:70:VAL:O	5:F:73:GLU:HG2	2.02	0.60
7:H:21:LYS:O	7:H:64:TYR:OH	2.19	0.60
8:I:10:ARG:NH2	50:A:1149:C:OP2	2.34	0.60
9:J:81:GLU:OE2	9:J:82:LYS:NZ	2.27	0.60
15:P:20:VAL:CG2	15:P:32:PHE:HB2	2.32	0.60
38:m:96:ILE:CA	38:m:100:LYS:HZ2	2.15	0.60
50:A:372:C:N4	50:A:387:U:O4	2.35	0.60
50:A:391:G:H2'	50:A:392:C:O4'	2.02	0.60
53:b:269:C:H2'	53:b:269:C:O2	2.00	0.60
53:b:780:G:N2	53:b:782:A:C4	2.70	0.60
53:b:977:G:H2'	53:b:978:G:O4'	2.01	0.60
53:b:1019:U:N3	53:b:1142:A:N6	2.49	0.60
53:b:1106:G:C2	53:b:1107:G:C1'	2.83	0.60
53:b:1276:A:N7	53:b:1645:G:N2	2.49	0.60
53:b:1349:C:C6	53:b:1349:C:C4'	2.84	0.60
53:b:1471:G:C6	53:b:1472:C:C5	2.90	0.60
53:b:2134:A:N1	53:b:2135:A:C1'	2.65	0.60
53:b:2564:A:C6	53:b:2647:U:H4'	2.37	0.60
53:b:2660:A:O2'	53:b:2661:G:O4'	2.20	0.60
53:b:2846:G:H2'	53:b:2847:U:O4'	2.01	0.60
8:I:129:ARG:HA	54:v:32:A:H5''	1.84	0.60
31:e:146:VAL:HG22	31:e:185:LYS:HB2	1.84	0.60
50:A:462:G:H1	50:A:470:C:H42	1.47	0.60
52:a:85:G:N2	52:a:86:G:C4	2.70	0.60
52:a:102:G:C2	52:a:103:U:C6	2.89	0.60
53:b:153:U:C2	53:b:154:U:C6	2.89	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:718:A:C2	53:b:719:C:C6	2.90	0.60
53:b:892:A:N7	53:b:893:C:C5	2.70	0.60
53:b:967:U:H2'	53:b:968:C:H6	1.66	0.60
53:b:1594:U:C2	53:b:1595:C:C5	2.89	0.60
53:b:1945:G:C2	53:b:1946:U:C6	2.90	0.60
53:b:2032:G:OP2	53:b:2454:G:O2'	2.20	0.60
53:b:2270:A:C2	53:b:2271:G:C4	2.90	0.60
53:b:2287:A:N6	53:b:2344:U:N3	2.46	0.60
53:b:2291:U:H2'	53:b:2292:U:H6	1.59	0.60
53:b:2293:G:N2	53:b:2294:G:H1'	2.17	0.60
53:b:2294:G:C2	53:b:2295:C:C6	2.89	0.60
50:A:927:G:O2'	50:A:1503:A:N7	2.33	0.60
50:A:997:U:O2'	50:A:998:C:O5'	2.19	0.60
53:b:603:A:C8	53:b:655:A:C2	2.88	0.60
53:b:780:G:N1	53:b:782:A:C6	2.70	0.60
53:b:818:G:C6	53:b:1187:G:N3	2.70	0.60
53:b:962:G:C6	53:b:963:U:C5	2.89	0.60
53:b:1065:U:C5	53:b:1066:U:H1'	2.37	0.60
53:b:1069:A:N6	53:b:1073:A:H8	1.98	0.60
53:b:1114:C:H2'	53:b:1115:G:C8	2.37	0.60
53:b:1157:G:C6	53:b:1158:C:C5	2.90	0.60
53:b:1173:U:H2'	53:b:1174:U:O4'	2.02	0.60
53:b:1231:U:O2	53:b:1231:U:H2'	2.02	0.60
53:b:1326:U:N3	53:b:1327:A:N7	2.50	0.60
53:b:1809:A:H2'	53:b:1810:A:C8	2.37	0.60
1:B:89:PHE:CZ	1:B:153:MET:HA	2.37	0.59
14:O:88:ARG:CD	53:b:715:A:H5''	2.25	0.59
20:U:34:ARG:NH1	50:A:1524:C:P	2.74	0.59
22:1:7:ARG:NH2	22:1:56:LEU:CD2	2.65	0.59
49:z:10:GLU:N	49:z:11:ASP:HA	2.17	0.59
50:A:277:C:H2'	50:A:278:G:H8	1.67	0.59
53:b:42:A:C6	53:b:43:G:N7	2.70	0.59
53:b:350:G:C6	53:b:351:C:C4	2.90	0.59
53:b:880:G:N2	53:b:897:C:N3	2.50	0.59
53:b:901:C:C4	53:b:902:C:C5	2.90	0.59
53:b:902:C:N3	53:b:903:C:C5	2.70	0.59
53:b:976:G:O6	53:b:988:A:H2	1.85	0.59
53:b:1235:G:H2'	53:b:1236:G:C1'	2.31	0.59
53:b:1826:G:C6	53:b:1827:U:C4	2.90	0.59
53:b:2041:U:N3	53:b:2042:A:N7	2.50	0.59
53:b:2065:C:O2	53:b:2449:U:N3	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2133:G:N2	53:b:2160:C:C5'	2.64	0.59
53:b:2415:G:C6	53:b:2416:C:C4	2.90	0.59
11:L:23:LEU:HD13	11:L:58:ASN:HB2	1.83	0.59
50:A:18:C:N3	50:A:917:G:N2	2.38	0.59
50:A:147:G:N2	50:A:175:C:N3	2.41	0.59
50:A:1529:G:OP2	50:A:1530:G:OP2	2.20	0.59
53:b:250:G:C2	53:b:251:A:C2	2.90	0.59
53:b:1009:A:H2'	53:b:1010:A:N7	2.16	0.59
53:b:1305:C:N4	53:b:1306:C:C5	2.70	0.59
53:b:1358:G:N2	53:b:1372:U:C6	2.70	0.59
53:b:1593:A:C5	53:b:1594:U:C5	2.89	0.59
53:b:1997:C:C2	53:b:1998:A:C8	2.91	0.59
53:b:2801:G:N3	53:b:2802:G:C8	2.70	0.59
15:P:5:ARG:CZ	50:A:377:G:OP1	2.50	0.59
50:A:301:G:H4'	50:A:302:G:OP1	2.00	0.59
50:A:996:A:O2'	50:A:997:U:H5'	2.02	0.59
50:A:1121:U:H2'	50:A:1122:U:C6	2.37	0.59
52:a:61:G:C5	52:a:62:C:C6	2.90	0.59
53:b:381:G:N2	53:b:382:A:C4	2.71	0.59
53:b:970:U:C2	53:b:971:G:C8	2.89	0.59
53:b:1035:U:O2	53:b:1036:G:N7	2.35	0.59
53:b:1206:G:N1	53:b:1207:C:C4	2.71	0.59
53:b:1235:G:H2'	53:b:1236:G:H1'	1.83	0.59
53:b:1304:A:C6	53:b:1305:C:C5	2.90	0.59
54:v:15:G:C2'	54:v:16:C:H5'	2.32	0.59
20:U:9:GLU:HG3	20:U:10:PRO:HD2	1.85	0.59
31:e:62:GLN:OE1	31:e:62:GLN:HA	2.01	0.59
31:e:76:PRO:HA	31:e:82:GLY:HA2	1.83	0.59
51:X:16:G:N3	51:X:17:C:C5	2.70	0.59
53:b:41:C:N3	53:b:42:A:C8	2.70	0.59
53:b:49:A:C2	53:b:177:G:C6	2.91	0.59
53:b:160:A:C5	53:b:167:A:N1	2.70	0.59
53:b:514:A:N3	53:b:581:C:O2'	2.29	0.59
53:b:921:C:N3	53:b:922:C:C5	2.71	0.59
53:b:921:C:C2	53:b:922:C:C6	2.91	0.59
53:b:1091:G:C4	53:b:1092:C:C6	2.90	0.59
53:b:1220:G:C6	53:b:1221:C:C4	2.91	0.59
53:b:1293:C:N3	53:b:1294:U:C6	2.71	0.59
53:b:1502:A:N3	53:b:1503:A:C8	2.69	0.59
53:b:1587:G:N2	53:b:1588:G:H1'	2.17	0.59
53:b:1810:A:N7	53:b:1811:G:C1'	2.64	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1946:U:C2	53:b:1947:C:C6	2.90	0.59
53:b:2350:C:N4	53:b:2351:G:C5	2.71	0.59
53:b:2436:G:C2	53:b:2437:G:C8	2.90	0.59
53:b:2682:A:C2	53:b:2683:C:C5	2.90	0.59
53:b:2828:G:C2	53:b:2829:A:N7	2.70	0.59
13:N:76:PHE:HB2	13:N:78:LEU:HG	1.85	0.59
53:b:380:G:N1	53:b:381:G:C5	2.70	0.59
53:b:639:U:H2'	53:b:640:C:H6	1.66	0.59
53:b:729:G:C2	53:b:1775:U:H1'	2.37	0.59
53:b:1555:G:C4	53:b:1556:C:C5	2.91	0.59
53:b:1629:U:C2	53:b:1630:A:C8	2.90	0.59
53:b:1716:U:O4	53:b:1743:G:C2	2.55	0.59
53:b:1786:A:N3	53:b:1938:A:C5	2.70	0.59
53:b:1857:G:N1	53:b:1884:G:N1	2.50	0.59
53:b:1985:C:N3	53:b:1986:C:C6	2.69	0.59
53:b:2160:C:OP2	53:b:2160:C:C6	2.45	0.59
34:h:7:ASP:OD1	34:h:62:LEU:CD1	2.51	0.59
53:b:56:A:O4'	53:b:127:A:C2	2.56	0.59
53:b:603:A:C6	53:b:655:A:C2	2.91	0.59
53:b:629:G:C5	53:b:630:G:C8	2.90	0.59
53:b:1219:U:O2	53:b:1220:G:H8	1.83	0.59
53:b:1387:A:C2	53:b:1401:G:C2	2.90	0.59
53:b:1541:C:H2'	53:b:1542:U:H6	1.66	0.59
53:b:1984:G:C2	53:b:1985:C:C6	2.90	0.59
53:b:2557:G:N3	53:b:2558:C:C6	2.70	0.59
53:b:2800:A:C5	53:b:2801:G:C8	2.90	0.59
8:I:11:ARG:NH2	50:A:1347:G:C2	2.71	0.59
29:c:129:THR:O	29:c:130:LEU:HG	2.02	0.59
50:A:1013:G:H2'	50:A:1015:G:OP2	2.03	0.59
50:A:1408:A:O4'	53:b:1912:A:N1	2.35	0.59
53:b:20:C:O2	53:b:21:A:H8	1.86	0.59
53:b:1077:A:C2	53:b:1088:A:H2	2.19	0.59
53:b:1301:A:N1	53:b:1303:G:C4	2.71	0.59
53:b:1349:C:C4'	53:b:1349:C:H6	2.15	0.59
53:b:1509:A:OP2	53:b:1510:G:C8	2.55	0.59
53:b:1599:U:O2	53:b:1600:C:C6	2.56	0.59
53:b:2419:U:H3	53:b:2420:C:H5	1.50	0.59
53:b:2527:C:N3	53:b:2528:U:C6	2.71	0.59
53:b:2749:A:C6	53:b:2750:A:C4	2.91	0.59
19:T:36:ALA:HA	19:T:39:GLU:OE2	2.01	0.59
49:z:26:ARG:HG2	53:b:2061:G:H22	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:251:A:C8	53:b:252:G:C1'	2.85	0.59
53:b:906:U:C2	53:b:907:G:C8	2.91	0.59
53:b:1022:G:C6	53:b:1140:C:C4	2.90	0.59
53:b:2210:U:C2	53:b:2212:A:C2	2.91	0.59
53:b:2308:G:N7	53:b:2310:C:N4	2.51	0.59
53:b:2385:C:O2	53:b:2385:C:H2'	2.02	0.59
53:b:2556:C:N4	53:b:2557:G:C5	2.71	0.59
21:0:62:LYS:HD2	53:b:372:G:H5''	1.85	0.59
50:A:457:G:N7	50:A:458:U:N3	2.51	0.59
53:b:66:C:C1'	53:b:456:C:N4	2.65	0.59
53:b:377:G:C5	53:b:378:C:C5	2.91	0.59
53:b:397:U:N3	53:b:398:C:C5	2.71	0.59
53:b:591:U:C2	53:b:592:A:C8	2.91	0.59
53:b:639:U:C2	53:b:640:C:C5	2.90	0.59
53:b:785:G:N3	53:b:785:G:H2'	2.16	0.59
53:b:1232:G:C6	53:b:1233:C:N4	2.71	0.59
53:b:1303:G:N2	53:b:1304:A:C8	2.68	0.59
53:b:1442:U:C2	53:b:1443:U:C6	2.91	0.59
53:b:1509:A:H5''	53:b:1510:G:C8	2.37	0.59
53:b:2055:C:O2'	53:b:2056:G:OP2	2.17	0.59
53:b:2263:C:H4'	53:b:2329:U:H4'	1.85	0.59
53:b:2471:A:O2'	53:b:2472:G:O5'	2.19	0.59
53:b:2517:C:C4	53:b:2542:A:C5	2.90	0.59
53:b:2615:U:C4	53:b:2616:C:C5	2.91	0.59
9:J:21:ALA:HA	9:J:24:GLU:OE2	2.03	0.59
13:N:51:PRO:HB2	13:N:54:SER:HB3	1.85	0.59
23:2:5:ILE:HD11	23:2:40:ASP:OD1	2.01	0.59
31:e:49:ARG:HG2	53:b:801:G:O6	2.03	0.59
33:g:74:SER:OG	33:g:83:PHE:CZ	2.56	0.59
38:m:53:MET:HE3	38:m:116:ALA:HB1	1.85	0.59
44:s:88:ARG:NH1	53:b:748:G:OP1	2.29	0.59
50:A:801:U:H2'	50:A:802:A:H8	1.68	0.59
52:a:46:A:C2	52:a:47:C:C6	2.91	0.59
52:a:112:G:C4	52:a:113:C:C5	2.91	0.59
53:b:978:G:N1	53:b:986:C:C4	2.70	0.59
53:b:997:G:C2	53:b:998:C:C6	2.90	0.59
53:b:1057:A:N3	53:b:1057:A:H2'	2.17	0.59
53:b:1087:G:H1	53:b:1102:C:N4	1.98	0.59
53:b:1151:A:C6	53:b:1152:C:C5	2.91	0.59
53:b:1201:U:N3	53:b:1202:G:C8	2.70	0.59
53:b:1266:G:O2'	53:b:2012:G:O6	2.20	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1303:G:N2	53:b:1304:A:C1'	2.66	0.59
53:b:1604:C:O2	53:b:1605:C:C6	2.56	0.59
53:b:1848:A:N3	53:b:1848:A:H2'	2.18	0.59
53:b:2116:G:N7	53:b:2165:C:N3	2.50	0.59
53:b:2755:C:O2	53:b:2755:C:H2'	2.02	0.59
4:E:21:SER:O	50:A:15:G:N2	2.33	0.58
4:E:86:GLY:HA3	4:E:141:ASP:HB3	1.84	0.58
11:L:120:ARG:HH12	50:A:500:G:C5'	2.16	0.58
14:O:45:HIS:CE1	50:A:668:G:H21	2.21	0.58
15:P:59:HIS:CE1	15:P:63:GLN:NE2	2.71	0.58
52:a:34:A:C5	52:a:44:G:C8	2.91	0.58
53:b:439:A:C6	53:b:440:C:C5	2.91	0.58
53:b:529:A:C5	53:b:2023:C:C5	2.91	0.58
53:b:532:A:N3	53:b:532:A:H2'	2.16	0.58
53:b:544:C:O2'	53:b:544:C:O2	2.21	0.58
53:b:880:G:N2	53:b:897:C:C2	2.71	0.58
53:b:1486:U:N3	53:b:1487:U:C6	2.71	0.58
53:b:1510:G:C2	53:b:1511:G:C8	2.91	0.58
53:b:1541:C:C2	53:b:1542:U:C6	2.91	0.58
53:b:2380:C:C2	53:b:2381:A:C8	2.91	0.58
34:h:76:GLU:HG3	34:h:77:THR:HG23	1.84	0.58
50:A:702:A:P	53:b:1848:A:HO2'	2.25	0.58
50:A:1261:A:H5''	50:A:1262:C:OP2	2.03	0.58
53:b:75:G:H2'	53:b:75:G:N3	2.18	0.58
53:b:847:U:N3	53:b:933:A:C6	2.71	0.58
53:b:978:G:N1	53:b:986:C:N4	2.50	0.58
53:b:1020:A:N3	53:b:1141:U:C2	2.71	0.58
53:b:1104:C:N4	53:b:1105:U:H1'	2.17	0.58
53:b:1208:C:C6	53:b:1239:G:N2	2.71	0.58
53:b:1301:A:C6	53:b:1303:G:C4	2.91	0.58
53:b:1348:C:O2	53:b:1348:C:H2'	2.02	0.58
53:b:1775:U:O2	53:b:1775:U:H2'	2.02	0.58
53:b:1796:U:H2'	53:b:1797:G:H8	1.67	0.58
53:b:1907:G:C6	53:b:1908:C:C4	2.91	0.58
53:b:1998:A:C6	53:b:1999:C:C4	2.90	0.58
53:b:2534:A:C5	53:b:2535:G:C8	2.91	0.58
53:b:2544:G:N2	53:b:2545:G:H1'	2.19	0.58
53:b:2838:G:C2	53:b:2839:G:H1'	2.38	0.58
4:E:47:PHE:CE2	4:E:137:ARG:NH1	2.70	0.58
23:2:14:ILE:HG12	53:b:989:G:C8	2.38	0.58
47:w:6:ALA:CB	47:w:40:ILE:HG21	2.31	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:1492:A:C6	53:b:1913:A:N7	2.71	0.58
52:a:34:A:C2	52:a:44:G:C5	2.91	0.58
53:b:110:G:C2	53:b:111:A:N9	2.70	0.58
53:b:695:G:C6	53:b:696:G:C8	2.91	0.58
53:b:1144:A:N3	53:b:1145:C:C6	2.70	0.58
53:b:1806:C:C4	53:b:1807:G:N7	2.71	0.58
53:b:1910:G:C6	53:b:1911:U:C4	2.91	0.58
53:b:2366:A:C5	53:b:2367:G:C8	2.92	0.58
43:r:80:ARG:NH2	53:b:572:A:OP2	2.35	0.58
45:t:28:ASN:ND2	45:t:91:GLN:OE1	2.36	0.58
50:A:610:U:H5'	50:A:611:C:OP2	2.03	0.58
53:b:459:U:O2	53:b:459:U:H2'	2.03	0.58
53:b:519:U:N3	53:b:520:G:N7	2.51	0.58
53:b:822:G:C4	53:b:823:C:C5	2.91	0.58
53:b:1075:C:O2	53:b:1076:C:H6	1.79	0.58
53:b:1974:C:H2'	53:b:1974:C:O2	2.01	0.58
3:D:106:PHE:HD1	3:D:158:LEU:HD21	1.68	0.58
18:S:5:LYS:HE3	50:A:1314:C:P	2.44	0.58
42:q:105:ALA:O	42:q:109:LEU:HG	2.03	0.58
50:A:877:G:H2'	50:A:878:A:H8	1.67	0.58
50:A:1133:G:H2'	50:A:1134:G:C8	2.38	0.58
53:b:778:G:N2	53:b:787:C:C2	2.71	0.58
53:b:834:G:C6	53:b:835:C:C5	2.91	0.58
53:b:847:U:O4	53:b:930:G:N2	2.36	0.58
53:b:1152:C:O2	53:b:1153:C:C6	2.56	0.58
53:b:1216:G:N2	53:b:1234:U:C2	2.72	0.58
53:b:1555:G:N2	53:b:1556:C:C2	2.71	0.58
53:b:2385:C:C2	53:b:2386:A:C8	2.91	0.58
53:b:2581:G:C6	53:b:2610:C:O2	2.56	0.58
53:b:2582:G:C2	53:b:2583:G:C8	2.91	0.58
53:b:2601:C:N3	53:b:2603:G:N7	2.51	0.58
53:b:2792:A:C2	53:b:2793:C:H1'	2.38	0.58
53:b:2796:U:C5	53:b:2798:U:C5	2.91	0.58
6:G:122:GLU:OE2	6:G:133:ALA:HB2	2.04	0.58
10:K:35:ASP:OD1	10:K:36:ARG:N	2.36	0.58
50:A:702:A:C5	53:b:1848:A:H1'	2.38	0.58
53:b:74:A:H4'	53:b:75:G:C5'	2.34	0.58
53:b:234:U:N3	53:b:429:A:C6	2.71	0.58
53:b:275:C:O2'	53:b:362:A:N6	2.37	0.58
53:b:725:G:H3'	53:b:726:G:C8	2.39	0.58
53:b:834:G:C6	53:b:835:C:C4	2.92	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:990:A:N6	53:b:1186:G:HO2'	2.01	0.58
53:b:1231:U:O2	53:b:1232:G:C8	2.57	0.58
53:b:1502:A:C2	53:b:1503:A:C4	2.92	0.58
53:b:1801:A:N6	53:b:2202:U:H4'	2.18	0.58
53:b:1811:G:N2	53:b:1812:U:H1'	2.18	0.58
53:b:1973:G:C4	53:b:1974:C:C6	2.91	0.58
53:b:2023:C:O2	53:b:2024:G:H8	1.85	0.58
1:B:202:ASN:HD22	1:B:205:ALA:HB3	1.69	0.58
2:C:19:SER:HB3	2:C:21:TRP:NE1	2.19	0.58
8:I:94:ARG:HA	8:I:97:LEU:HB2	1.86	0.58
32:f:92:ARG:HH22	52:a:45:A:H1'	1.67	0.58
35:j:57:LEU:HD11	35:j:129:GLU:CA	2.31	0.58
35:j:128:ASN:O	35:j:129:GLU:CG	2.52	0.58
50:A:844:G:H3'	50:A:846:G:H1'	1.85	0.58
53:b:719:C:N3	53:b:720:U:C5	2.71	0.58
53:b:852:U:C2	53:b:853:C:C6	2.91	0.58
53:b:949:G:C2	53:b:950:G:N7	2.71	0.58
53:b:991:C:C6	53:b:1185:G:N1	2.72	0.58
53:b:1052:C:O2'	53:b:1053:C:C6	2.54	0.58
53:b:1793:C:N3	53:b:1794:A:C8	2.71	0.58
53:b:1870:C:O2'	53:b:1871:A:C8	2.47	0.58
53:b:1947:C:C2	53:b:1948:G:C8	2.91	0.58
53:b:1964:G:C2	53:b:1967:C:C5	2.91	0.58
53:b:2032:G:O6	53:b:2454:G:H4'	2.03	0.58
53:b:2133:G:N7	53:b:2157:G:H4'	2.18	0.58
53:b:2204:G:C6	53:b:2205:A:N7	2.71	0.58
53:b:2482:A:C5	53:b:2483:C:C5	2.92	0.58
53:b:2564:A:N6	53:b:2647:U:C1'	2.67	0.58
34:h:95:GLY:HA2	34:h:122:LEU:HD12	1.85	0.58
49:z:25:ILE:HD12	49:z:25:ILE:N	2.19	0.58
52:a:29:A:N3	52:a:56:G:N2	2.52	0.58
53:b:23:G:N3	53:b:24:G:C8	2.72	0.58
53:b:24:G:H2'	53:b:25:U:C6	2.38	0.58
53:b:41:C:O2	53:b:42:A:H8	1.87	0.58
53:b:79:C:C2'	53:b:80:G:O5'	2.52	0.58
53:b:196:A:C4	53:b:805:G:O6	2.57	0.58
53:b:631:A:C2	53:b:2416:C:O4'	2.57	0.58
53:b:745:G:N3	53:b:750:A:N6	2.52	0.58
53:b:834:G:C5	53:b:835:C:C5	2.91	0.58
53:b:905:A:C6	53:b:906:U:C5	2.91	0.58
53:b:921:C:C2	53:b:922:C:C5	2.92	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1016:G:C2	53:b:1017:G:C8	2.91	0.58
53:b:1106:G:C4	53:b:1107:G:C8	2.91	0.58
53:b:1208:C:N1	53:b:1239:G:N2	2.52	0.58
53:b:1322:A:O2'	53:b:1323:C:OP1	2.18	0.58
53:b:1433:A:C4	53:b:1434:A:C2	2.92	0.58
53:b:1839:G:H2'	53:b:1839:G:N3	2.18	0.58
53:b:2185:U:N3	53:b:2186:G:N7	2.51	0.58
3:D:125:ASN:N	3:D:141:VAL:O	2.37	0.58
13:N:20:PHE:HA	13:N:24:ALA:HA	1.85	0.58
15:P:5:ARG:HA	15:P:68:SER:OG	2.04	0.58
23:2:5:ILE:HG21	23:2:57:VAL:CG1	2.34	0.58
49:z:19:ILE:O	49:z:19:ILE:HG23	2.03	0.58
50:A:193:C:H2'	50:A:194:C:C6	2.39	0.58
52:a:117:G:C4	52:a:118:C:C5	2.92	0.58
53:b:546:U:OP1	53:b:548:G:N2	2.37	0.58
53:b:710:U:N3	53:b:711:G:C8	2.72	0.58
53:b:991:C:O2	53:b:992:C:C6	2.57	0.58
53:b:1099:G:C6	53:b:1100:C:C5	2.92	0.58
53:b:1337:G:N2	53:b:1338:G:C1'	2.65	0.58
53:b:1399:C:C2'	53:b:1400:U:O5'	2.51	0.58
53:b:1521:G:OP2	53:b:1522:A:H3'	2.04	0.58
53:b:1856:U:O4	53:b:1857:G:C5	2.56	0.58
53:b:2013:A:C6	53:b:2613:U:O4	2.55	0.58
53:b:2136:G:C6	53:b:2137:U:C6	2.92	0.58
53:b:2555:U:C5	53:b:2556:C:C6	2.92	0.58
15:P:12:LYS:CD	50:A:392:C:H5'	2.32	0.58
49:z:17:VAL:HG13	49:z:18:TRP:CE3	2.38	0.58
50:A:1002:G:H2'	50:A:1003:G:H8	1.69	0.58
50:A:1060:U:H2'	50:A:1061:G:H8	1.69	0.58
50:A:1362:A:H2'	50:A:1362:A:OP2	2.04	0.58
53:b:115:C:O2	53:b:116:C:C6	2.57	0.58
53:b:163:C:O2	53:b:163:C:H2'	2.02	0.58
53:b:186:G:N3	53:b:187:G:C8	2.71	0.58
53:b:268:C:C2	53:b:425:G:C2	2.92	0.58
53:b:355:U:O2	53:b:356:G:C8	2.57	0.58
53:b:594:U:C2	53:b:595:C:H5	2.21	0.58
53:b:991:C:C4	53:b:992:C:C5	2.92	0.58
53:b:1242:U:C4	53:b:1243:C:C4	2.92	0.58
53:b:1357:C:N4	53:b:1358:G:C6	2.72	0.58
53:b:1646:C:O2	53:b:1646:C:H2'	2.03	0.58
53:b:1758:U:O2	53:b:1758:U:H2'	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1946:U:C2	53:b:1947:C:C5	2.92	0.58
53:b:2128:G:N2	53:b:2160:C:H2'	2.19	0.58
53:b:2283:C:C6	53:b:2389:G:C4	2.92	0.58
53:b:2304:G:O2'	53:b:2305:U:OP1	2.20	0.58
53:b:2480:C:N3	53:b:2481:G:C8	2.72	0.58
53:b:2796:U:C5	53:b:2798:U:C4	2.91	0.58
54:v:73:A:N3	54:v:73:A:H2'	2.19	0.58
11:L:25:ALA:O	50:A:553:A:O2'	2.21	0.57
15:P:5:ARG:NE	50:A:377:G:OP1	2.35	0.57
29:c:225:MET:SD	53:b:782:A:C2	2.95	0.57
52:a:46:A:C4	52:a:47:C:C6	2.91	0.57
53:b:200:U:C4	53:b:201:C:C6	2.92	0.57
53:b:211:C:H2'	53:b:211:C:O2	2.03	0.57
53:b:351:C:C2	53:b:352:A:C8	2.92	0.57
53:b:617:G:C2	53:b:618:G:C5	2.92	0.57
53:b:930:G:C2	53:b:933:A:C2	2.92	0.57
53:b:1063:G:C2	53:b:1076:C:C2	2.90	0.57
53:b:1232:G:N3	53:b:1233:C:C6	2.72	0.57
53:b:1375:U:O2	53:b:1376:C:C6	2.57	0.57
53:b:1519:G:N2	53:b:1520:U:H1'	2.18	0.57
53:b:1598:A:C2	53:b:1599:U:C5	2.91	0.57
53:b:1964:G:N1	53:b:1967:C:C4	2.72	0.57
53:b:2024:G:N2	53:b:2025:C:C2	2.72	0.57
53:b:2385:C:N3	53:b:2386:A:N7	2.52	0.57
53:b:2581:G:N1	53:b:2610:C:N3	2.52	0.57
53:b:2591:C:C4	53:b:2592:G:N7	2.72	0.57
53:b:2796:U:C4	53:b:2798:U:C5	2.93	0.57
53:b:2837:A:C6	53:b:2838:G:C8	2.91	0.57
13:N:2:LYS:HE2	13:N:5:MET:HE3	1.85	0.57
29:c:88:SER:OG	29:c:200:HIS:CD2	2.58	0.57
33:g:127:THR:OG1	33:g:130:GLU:HB2	2.04	0.57
49:z:9:GLU:CD	49:z:11:ASP:N	2.61	0.57
53:b:57:C:C2	53:b:58:G:C8	2.93	0.57
53:b:252:G:H2'	53:b:253:C:O4'	2.03	0.57
53:b:273:G:C2	53:b:365:U:N3	2.71	0.57
53:b:967:U:C2	53:b:968:C:C6	2.92	0.57
53:b:1079:C:O2'	53:b:1080:A:C5'	2.52	0.57
53:b:1106:G:C6	53:b:1107:G:N7	2.72	0.57
53:b:1184:U:C2	53:b:1185:G:C8	2.92	0.57
53:b:1208:C:C2	53:b:1239:G:C2	2.91	0.57
53:b:1220:G:C5	53:b:1221:C:C5	2.93	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1228:G:C6	53:b:1229:C:C4	2.92	0.57
53:b:1721:G:N1	53:b:1738:G:C2	2.71	0.57
53:b:1810:A:C8	53:b:1811:G:C1'	2.87	0.57
53:b:2181:U:O4	53:b:2182:U:C5	2.56	0.57
53:b:2481:G:H2'	53:b:2481:G:N3	2.19	0.57
53:b:2578:G:C2	53:b:2579:C:C6	2.92	0.57
53:b:2594:C:C2	53:b:2595:G:C8	2.91	0.57
1:B:100:LEU:HB2	1:B:174:GLU:OE2	2.04	0.57
1:B:115:ASP:O	1:B:118:THR:OG1	2.16	0.57
8:I:129:ARG:N	50:A:1341:U:O4'	2.38	0.57
24:3:5:GLN:HG3	53:b:2054:A:C2	2.39	0.57
34:h:97:ARG:NH1	34:h:115:VAL:HG23	2.20	0.57
37:l:82:LEU:HD22	37:l:90:VAL:HG11	1.85	0.57
50:A:1130:A:H2'	50:A:1131:G:H8	1.68	0.57
53:b:248:G:C5	53:b:250:G:N1	2.73	0.57
53:b:377:G:C2	53:b:378:C:C6	2.92	0.57
53:b:622:G:C6	53:b:623:C:C4	2.92	0.57
53:b:1150:C:N3	53:b:1151:A:N7	2.53	0.57
53:b:1631:G:H22	53:b:1633:G:H3'	1.68	0.57
53:b:1829:A:N1	53:b:1830:C:H1'	2.19	0.57
53:b:2371:G:C2	53:b:2372:U:C6	2.93	0.57
53:b:2682:A:H2'	53:b:2682:A:N3	2.19	0.57
17:R:60:ARG:NH1	50:A:736:C:OP1	2.37	0.57
18:S:11:ASP:OD2	18:S:34:SER:HB3	2.04	0.57
20:U:34:ARG:NH1	50:A:1524:C:OP2	2.24	0.57
31:e:62:GLN:C	31:e:63:LYS:CG	2.78	0.57
50:A:996:A:N3	50:A:997:U:H6	2.00	0.57
53:b:77:G:N1	53:b:78:U:C4	2.72	0.57
53:b:92:U:C5	53:b:93:G:C8	2.93	0.57
53:b:290:U:C2	53:b:291:G:N7	2.73	0.57
53:b:398:C:C2	53:b:399:U:C5	2.92	0.57
53:b:440:C:O2	53:b:441:U:C6	2.57	0.57
53:b:441:U:C2	53:b:442:G:C8	2.92	0.57
53:b:464:U:C6	53:b:788:A:N1	2.72	0.57
53:b:768:G:H22	53:b:1379:U:H1'	1.68	0.57
53:b:881:G:C6	53:b:897:C:O2	2.56	0.57
53:b:1120:G:C6	53:b:1121:C:C4	2.92	0.57
53:b:1332:G:C8	53:b:1610:A:C2	2.92	0.57
53:b:1503:A:C4	53:b:1504:A:C8	2.92	0.57
53:b:1771:C:C2	53:b:1772:A:C8	2.91	0.57
53:b:1974:C:C4	53:b:1975:G:C8	2.92	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2014:A:C2	53:b:2015:A:C5	2.91	0.57
53:b:2051:A:C6	53:b:2614:A:C6	2.92	0.57
18:S:36:ARG:HD2	50:A:1318:A:O2'	2.04	0.57
34:h:133:GLN:HG2	34:h:139:PHE:HA	1.86	0.57
38:m:21:ALA:HB2	38:m:100:LYS:HG3	1.85	0.57
50:A:1242:G:H1	50:A:1295:U:H3	1.52	0.57
53:b:212:G:C2	53:b:213:A:C8	2.93	0.57
53:b:500:G:H2'	53:b:500:G:N3	2.18	0.57
53:b:696:G:N1	53:b:697:G:C8	2.72	0.57
53:b:763:G:N3	53:b:765:C:H1'	2.19	0.57
53:b:953:G:C6	53:b:954:G:N7	2.72	0.57
53:b:1050:A:C2	53:b:2751:G:C5	2.93	0.57
53:b:1059:G:C2	53:b:1080:A:C6	2.91	0.57
53:b:1593:A:C6	53:b:1594:U:C4	2.92	0.57
53:b:2013:A:H2'	53:b:2013:A:N3	2.18	0.57
53:b:2065:C:O2'	53:b:2066:C:O5'	2.21	0.57
53:b:2106:U:C2	53:b:2107:G:C8	2.92	0.57
53:b:2331:G:N2	53:b:2332:C:C1'	2.67	0.57
53:b:2827:C:N3	53:b:2828:G:C8	2.70	0.57
5:F:10:VAL:HG11	5:F:18:VAL:HG22	1.86	0.57
8:I:115:VAL:HG12	50:A:1367:C:H5''	1.85	0.57
9:J:66:GLU:OE2	9:J:68:ARG:NE	2.38	0.57
15:P:6:LEU:C	50:A:376:G:C1'	2.77	0.57
15:P:10:GLY:O	15:P:11:ALA:HB2	2.05	0.57
28:8:19:ARG:NH1	28:8:26:ILE:HD11	2.20	0.57
31:e:134:LEU:HD23	31:e:164:LEU:HD12	1.86	0.57
34:h:63:ALA:CA	34:h:149:GLU:C	2.70	0.57
50:A:497:G:H5''	50:A:498:A:OP2	2.05	0.57
52:a:111:U:O2	52:a:112:G:C8	2.57	0.57
53:b:341:C:C2	53:b:342:A:C8	2.92	0.57
53:b:927:A:C2	53:b:928:A:C8	2.93	0.57
53:b:1051:G:C6	53:b:1052:C:C6	2.89	0.57
53:b:1121:C:C4	53:b:1122:G:N7	2.72	0.57
53:b:1754:A:N6	53:b:2717:C:O4'	2.37	0.57
53:b:1949:G:H2'	53:b:1950:G:O4'	2.04	0.57
53:b:2065:C:C5	53:b:2066:C:N4	2.73	0.57
53:b:2252:G:C6	53:b:2253:G:C8	2.93	0.57
53:b:2558:C:N3	53:b:2559:C:C5	2.73	0.57
53:b:2798:U:H2'	53:b:2799:A:N1	2.01	0.57
3:D:124:VAL:O	3:D:126:GLY:N	2.37	0.57
3:D:127:ARG:NH2	50:A:619:U:O2'	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:1033:G:OP2	50:A:1033:G:H8	1.87	0.57
53:b:274:C:H2'	53:b:275:C:O4'	2.05	0.57
53:b:695:G:C6	53:b:696:G:N7	2.73	0.57
53:b:731:C:C2	53:b:732:C:C5	2.92	0.57
53:b:1529:G:C2	53:b:1530:G:H1'	2.40	0.57
53:b:1603:A:C5	53:b:1604:C:C5	2.92	0.57
53:b:2331:G:N3	53:b:2331:G:H2'	2.19	0.57
53:b:2557:G:H2'	53:b:2558:C:H6	1.69	0.57
53:b:2801:G:C4	53:b:2802:G:C8	2.93	0.57
7:H:84:ILE:HD12	7:H:86:LYS:NZ	2.19	0.57
11:L:114:SER:OG	50:A:501:C:O3'	2.22	0.57
47:w:6:ALA:HB1	47:w:40:ILE:HG23	1.83	0.57
53:b:46:G:N1	53:b:47:C:C4	2.73	0.57
53:b:263:G:N1	53:b:264:C:C2	2.73	0.57
53:b:529:A:C6	53:b:2023:C:C6	2.93	0.57
53:b:696:G:C6	53:b:697:G:C5	2.93	0.57
53:b:1079:C:O2'	53:b:1080:A:C4'	2.52	0.57
53:b:1520:U:C2	53:b:1521:G:C8	2.92	0.57
53:b:1570:A:H2'	53:b:1571:A:C8	2.40	0.57
53:b:1983:G:C2	53:b:1984:G:C8	2.93	0.57
53:b:2153:C:O2	53:b:2153:C:C2'	2.46	0.57
53:b:2217:G:C5	53:b:2218:G:C8	2.93	0.57
53:b:2432:A:N3	53:b:2433:A:C8	2.72	0.57
53:b:2543:G:H5''	53:b:2543:G:C8	2.40	0.57
53:b:2597:G:H2'	53:b:2598:A:C8	2.40	0.57
53:b:2827:C:C2	53:b:2828:G:H8	2.21	0.57
53:b:2887:A:C5	53:b:2888:C:C5	2.92	0.57
1:B:120:SER:HA	1:B:136:ARG:HH12	1.70	0.57
8:I:11:ARG:HA	8:I:105:ARG:NH1	2.20	0.57
12:M:112:ARG:HD2	50:A:1229:A:OP2	2.05	0.57
50:A:373:A:C6	50:A:481:G:H4'	2.40	0.57
53:b:438:G:N2	53:b:439:A:H1'	2.20	0.57
53:b:718:A:N6	53:b:719:C:H1'	2.20	0.57
53:b:881:G:O6	53:b:897:C:C2	2.58	0.57
53:b:926:G:C2	53:b:927:A:C5	2.92	0.57
53:b:991:C:C5	53:b:1185:G:C5	2.92	0.57
53:b:1073:A:C6	53:b:1074:G:N9	2.73	0.57
53:b:1218:G:C2	53:b:1219:U:H1'	2.40	0.57
53:b:1500:G:O6	53:b:1501:G:N7	2.38	0.57
53:b:1535:A:O2'	53:b:1537:G:N7	2.38	0.57
53:b:1622:G:C2	53:b:1623:G:N9	2.73	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2534:A:N6	53:b:2535:G:N9	2.52	0.57
53:b:2744:G:N2	53:b:2745:C:C2	2.73	0.57
53:b:2802:G:N3	53:b:2803:G:C8	2.73	0.57
3:D:12:ARG:NH2	3:D:36:ALA:H	2.03	0.57
8:I:44:ARG:HA	8:I:47:VAL:HG22	1.87	0.57
36:k:7:MET:HE1	36:k:44:LYS:HG3	1.86	0.57
44:s:93:ALA:C	49:z:13:PHE:CE2	2.79	0.57
49:z:18:TRP:CE3	49:z:18:TRP:N	2.73	0.57
50:A:1132:C:H2'	50:A:1133:G:C8	2.40	0.57
53:b:77:G:C4	53:b:78:U:C5	2.93	0.57
53:b:662:G:N2	53:b:663:G:N9	2.51	0.57
53:b:1157:G:C6	53:b:1158:C:C4	2.93	0.57
53:b:1221:C:O2	53:b:1222:U:C6	2.57	0.57
53:b:1540:G:N3	53:b:1541:C:C6	2.73	0.57
53:b:2848:G:N2	53:b:2867:G:C5	2.72	0.57
16:Q:39:ARG:NH1	50:A:280:C:O2	2.38	0.56
50:A:1447:A:H5''	50:A:1448:C:H5	1.69	0.56
52:a:84:G:N2	52:a:93:C:C2	2.73	0.56
53:b:537:G:C6	53:b:555:G:C2	2.93	0.56
53:b:697:G:C2	53:b:698:C:C4	2.93	0.56
53:b:780:G:C5	53:b:782:A:N6	2.72	0.56
53:b:1050:A:N6	53:b:1051:G:C4	2.73	0.56
53:b:1229:C:O2	53:b:1229:C:H2'	2.05	0.56
53:b:1232:G:C2	53:b:1233:C:C5	2.92	0.56
53:b:1539:U:C4	53:b:1540:G:N7	2.73	0.56
53:b:1777:U:O2'	53:b:1778:U:H5'	2.05	0.56
53:b:2133:G:C8	53:b:2157:G:H4'	2.40	0.56
53:b:2151:U:C4	53:b:2152:G:N7	2.73	0.56
53:b:2206:C:N3	53:b:2207:C:C4	2.73	0.56
53:b:2231:U:C2	53:b:2232:C:C6	2.92	0.56
53:b:2287:A:C6	53:b:2344:U:O4	2.51	0.56
53:b:2818:U:O5'	53:b:2837:A:O2'	2.17	0.56
53:b:2886:A:C6	53:b:2887:A:N9	2.73	0.56
43:r:68:ARG:NH1	53:b:1223:G:OP2	2.35	0.56
50:A:859:G:OP2	50:A:869:G:N2	2.36	0.56
50:A:996:A:N1	50:A:997:U:C5	2.70	0.56
52:a:112:G:N2	52:a:113:C:C2	2.73	0.56
53:b:110:G:N2	53:b:111:A:H1'	2.19	0.56
53:b:441:U:O2	53:b:442:G:C8	2.58	0.56
53:b:529:A:C5	53:b:2023:C:C6	2.93	0.56
53:b:658:U:O2	53:b:659:G:C8	2.59	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:765:C:C4	53:b:766:U:C5	2.94	0.56
53:b:967:U:O2	53:b:968:C:C6	2.58	0.56
53:b:1206:G:N2	53:b:1207:C:H1'	2.20	0.56
53:b:1220:G:C2	53:b:1221:C:C5	2.93	0.56
53:b:2024:G:C4	53:b:2025:C:C5	2.93	0.56
53:b:2110:G:N2	53:b:2120:G:C8	2.73	0.56
7:H:91:LEU:HD12	7:H:92:PRO:HD2	1.86	0.56
9:J:8:ILE:HD11	9:J:74:VAL:HB	1.87	0.56
13:N:63:CYS:SG	13:N:66:THR:HG22	2.45	0.56
50:A:702:A:H2	53:b:1847:A:H1'	1.70	0.56
53:b:20:C:O2	53:b:20:C:H2'	2.06	0.56
53:b:138:U:H2'	53:b:140:C:C5	2.39	0.56
53:b:212:G:C2	53:b:213:A:C5	2.93	0.56
53:b:253:C:N4	53:b:254:G:C8	2.73	0.56
53:b:311:A:C6	53:b:328:U:C4	2.94	0.56
53:b:991:C:C6	53:b:1185:G:C5	2.93	0.56
53:b:1303:G:N3	53:b:1304:A:C8	2.71	0.56
53:b:1336:A:C6	53:b:1337:G:C5	2.92	0.56
53:b:1388:G:C5	53:b:1389:G:C8	2.93	0.56
53:b:1492:G:C2	53:b:1499:C:O2	2.59	0.56
53:b:1499:C:N3	53:b:1500:G:C8	2.72	0.56
53:b:1518:C:C2	53:b:1519:G:N7	2.69	0.56
53:b:1540:G:C5	53:b:1541:C:C5	2.94	0.56
53:b:1545:A:H2'	53:b:1546:G:O4'	2.05	0.56
53:b:1611:C:C2	53:b:1612:C:C5	2.93	0.56
53:b:1759:A:H1'	53:b:2696:U:C2	2.39	0.56
53:b:1760:C:C4	53:b:1761:C:C6	2.94	0.56
53:b:2181:U:O4	53:b:2182:U:C4	2.59	0.56
53:b:2253:G:C5	53:b:2254:C:C5	2.93	0.56
53:b:2254:C:C4	53:b:2255:G:N7	2.73	0.56
53:b:2510:C:O2	53:b:2510:C:H2'	2.04	0.56
53:b:2526:G:C6	53:b:2527:C:C6	2.93	0.56
53:b:2534:A:N1	53:b:2535:G:C1'	2.57	0.56
53:b:2838:G:O6	53:b:2839:G:C5	2.58	0.56
2:C:69:THR:H	2:C:103:ALA:HB1	1.71	0.56
11:L:53:ARG:HB3	11:L:61:GLU:OE2	2.06	0.56
46:u:74:ASN:ND2	46:u:81:ASP:OD1	2.38	0.56
49:z:26:ARG:N	49:z:27:ALA:HA	2.20	0.56
49:z:26:ARG:HB3	49:z:27:ALA:HA	1.88	0.56
53:b:153:U:N3	53:b:154:U:C5	2.73	0.56
53:b:271:G:C2	53:b:272:A:C5	2.93	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:754:U:H2'	53:b:755:U:C6	2.41	0.56
53:b:986:C:O2'	53:b:987:C:O5'	2.22	0.56
53:b:1335:C:C2	53:b:1336:A:C8	2.93	0.56
53:b:1716:U:C4	53:b:1743:G:C2	2.93	0.56
53:b:2205:A:C2	53:b:2206:C:N1	2.74	0.56
53:b:2455:G:C4	53:b:2456:C:C5	2.93	0.56
1:B:69:VAL:HG12	1:B:161:PHE:O	2.05	0.56
50:A:60:A:N1	50:A:107:G:O2'	2.36	0.56
50:A:1338:G:C8	54:v:41:C:O3'	2.57	0.56
52:a:49:C:N3	52:a:50:A:N7	2.54	0.56
53:b:51:G:O2'	53:b:118:A:N6	2.39	0.56
53:b:223:A:C2	53:b:408:G:C1'	2.88	0.56
53:b:363:G:C2	53:b:364:C:C2	2.94	0.56
53:b:399:U:O2	53:b:400:G:C8	2.58	0.56
53:b:695:G:N1	53:b:696:G:N7	2.54	0.56
53:b:791:C:H42	53:b:794:A:H1'	1.71	0.56
53:b:1206:G:C2	53:b:1207:C:C5	2.77	0.56
53:b:1387:A:H2'	53:b:1388:G:O4'	2.05	0.56
53:b:1399:C:N3	53:b:1400:U:C5	2.73	0.56
53:b:2419:U:O2	53:b:2419:U:H2'	2.06	0.56
53:b:2734:A:C6	53:b:2735:G:C1'	2.87	0.56
8:I:127:SER:N	50:A:1341:U:H5''	2.21	0.56
29:c:105:LEU:HD13	29:c:195:VAL:HG22	1.87	0.56
31:e:40:ARG:HD3	53:b:443:A:C8	2.41	0.56
45:t:1:MET:C	45:t:2:ILE:HG13	2.31	0.56
50:A:976:G:N1	50:A:1362:A:O2'	2.37	0.56
53:b:212:G:N2	53:b:213:A:C5	2.74	0.56
53:b:536:G:C6	53:b:537:G:C4	2.93	0.56
53:b:736:C:C2	53:b:737:C:C5	2.92	0.56
53:b:968:C:O2	53:b:968:C:H2'	2.05	0.56
53:b:1517:G:O6	53:b:1518:C:C4	2.59	0.56
53:b:1652:A:H2'	53:b:1653:G:O4'	2.06	0.56
53:b:1722:A:H61	53:b:1738:G:H1'	1.71	0.56
53:b:2169:A:C2'	53:b:2170:A:C8	2.89	0.56
53:b:2455:G:H2'	53:b:2456:C:C6	2.40	0.56
53:b:2707:U:N3	53:b:2708:G:N7	2.54	0.56
15:P:10:GLY:HA3	15:P:15:PRO:HA	1.88	0.56
29:c:98:ASP:O	53:b:1491:G:C8	2.59	0.56
34:h:112:LYS:HD2	34:h:115:VAL:HB	1.87	0.56
38:m:96:ILE:HA	38:m:100:LYS:HD2	1.88	0.56
39:n:69:ARG:O	39:n:71:ARG:N	2.33	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:386:C:H5''	50:A:387:U:OP2	2.06	0.56
53:b:40:U:C2	53:b:41:C:C6	2.93	0.56
53:b:353:C:O2	53:b:353:C:H2'	2.05	0.56
53:b:399:U:N3	53:b:400:G:C8	2.74	0.56
53:b:399:U:C4	53:b:400:G:N7	2.74	0.56
53:b:510:C:OP1	53:b:512:G:O6	2.23	0.56
53:b:711:G:C6	53:b:712:G:C8	2.94	0.56
53:b:961:C:C6	53:b:2031:A:N6	2.74	0.56
53:b:1073:A:C6	53:b:1074:G:C4	2.94	0.56
53:b:1630:A:N1	53:b:1631:G:H1'	2.21	0.56
53:b:2306:C:N3	53:b:2307:G:N2	2.54	0.56
53:b:2340:A:H2'	53:b:2341:G:H8	1.70	0.56
53:b:2535:G:H22	53:b:2536:G:H1'	1.70	0.56
53:b:2603:G:C6	53:b:2604:U:C5	2.93	0.56
53:b:2798:U:H6	53:b:2799:A:C6	2.13	0.56
53:b:2835:A:C6	53:b:2879:A:C2	2.94	0.56
13:N:72:PHE:CE2	13:N:74:ARG:HA	2.40	0.56
14:O:17:ASP:OD1	14:O:18:ALA:N	2.38	0.56
15:P:12:LYS:HD2	50:A:392:C:H5''	1.87	0.56
23:2:5:ILE:CD1	23:2:45:ARG:NH1	2.68	0.56
29:c:162:VAL:HG11	29:c:174:LEU:HD22	1.86	0.56
36:k:22:ILE:CG2	53:b:1952:A:N7	2.68	0.56
38:m:13:HIS:CE1	53:b:910:A:N6	2.73	0.56
50:A:449:G:H2'	50:A:450:G:O4'	2.06	0.56
53:b:49:A:C2	53:b:177:G:C5	2.94	0.56
53:b:135:U:C4	53:b:136:G:C8	2.94	0.56
53:b:438:G:C6	53:b:439:A:C5	2.94	0.56
53:b:635:C:C2	53:b:636:G:C8	2.94	0.56
53:b:658:U:N3	53:b:659:G:N7	2.53	0.56
53:b:1127:A:C2	53:b:2518:A:C5	2.93	0.56
53:b:1206:G:O6	53:b:1207:C:N4	2.39	0.56
53:b:1356:G:N1	53:b:1357:C:C6	2.74	0.56
53:b:1383:A:H4'	53:b:1384:A:OP1	2.01	0.56
53:b:1509:A:H5''	53:b:1510:G:N7	2.21	0.56
53:b:1722:A:N6	53:b:1738:G:H1'	2.20	0.56
53:b:1786:A:N3	53:b:1938:A:C6	2.74	0.56
53:b:2055:C:C2'	53:b:2056:G:OP2	2.54	0.56
53:b:2300:C:N3	53:b:2301:C:C5	2.74	0.56
53:b:2396:G:N2	53:b:2397:G:N9	2.54	0.56
53:b:2405:G:O2'	53:b:2412:A:N6	2.38	0.56
53:b:2524:G:N2	53:b:2540:C:C2	2.73	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2675:A:C5	53:b:2676:C:C5	2.94	0.56
22:1:18:LEU:HD21	22:1:53:VAL:HG11	1.88	0.56
53:b:167:A:H2'	53:b:168:G:O4'	2.05	0.56
53:b:350:G:C4	53:b:351:C:C6	2.93	0.56
53:b:1136:G:HO2'	53:b:2038:G:HO2'	1.48	0.56
53:b:1350:C:C4	53:b:1351:C:C5	2.94	0.56
53:b:1373:A:O4'	53:b:2212:A:C8	2.59	0.56
53:b:1608:A:C5	53:b:1611:C:C5	2.94	0.56
53:b:1956:U:C4	53:b:1957:C:C5	2.94	0.56
53:b:2001:C:H1'	53:b:2689:U:O4	2.06	0.56
53:b:2056:G:C8	53:b:2577:A:N6	2.73	0.56
53:b:2471:A:HO2'	53:b:2472:G:C5'	2.19	0.56
53:b:2796:U:C2	53:b:2798:U:O2'	2.59	0.56
1:B:153:MET:HE3	1:B:155:GLY:HA2	1.87	0.56
2:C:137:VAL:HG11	2:C:167:TYR:HE2	1.71	0.56
15:P:51:ARG:O	15:P:52:LEU:HD12	2.06	0.56
16:Q:61:ARG:NH1	16:Q:75:VAL:HG22	2.21	0.56
28:8:19:ARG:CZ	28:8:26:ILE:CD1	2.83	0.56
31:e:63:LYS:NZ	31:e:69:ARG:NH2	2.53	0.56
40:o:40:ILE:HD13	52:a:8:C:O2'	2.06	0.56
50:A:954:G:N2	50:A:1228:C:N3	2.54	0.56
53:b:171:U:C2	53:b:172:A:H8	2.18	0.56
53:b:256:A:N1	53:b:257:C:C5	2.73	0.56
53:b:991:C:C4	53:b:1185:G:C6	2.94	0.56
53:b:1662:U:C4	53:b:1663:G:N7	2.73	0.56
53:b:2052:A:N1	53:b:2053:G:C5	2.74	0.56
53:b:2544:G:N2	53:b:2545:G:C1'	2.69	0.56
53:b:2693:G:C2	53:b:2694:G:C8	2.94	0.56
53:b:2801:G:C6	53:b:2802:G:N7	2.74	0.56
5:F:2:ARG:HG3	5:F:91:ARG:HH21	1.71	0.55
41:p:29:LYS:HG2	41:p:40:LEU:HD21	1.88	0.55
43:r:10:LYS:HE3	53:b:994:C:O2	2.06	0.55
52:a:37:C:O2	52:a:37:C:H2'	2.05	0.55
53:b:210:C:N3	53:b:211:C:C6	2.75	0.55
53:b:531:C:C6	53:b:2035:G:N2	2.74	0.55
53:b:539:G:C6	53:b:540:C:C4	2.94	0.55
53:b:949:G:C2	53:b:950:G:C5	2.93	0.55
53:b:1058:U:O2'	53:b:1059:G:O5'	2.24	0.55
53:b:1204:A:C5	53:b:1206:G:C5	2.93	0.55
53:b:1411:U:N3	53:b:1412:U:C5	2.74	0.55
53:b:1500:G:C5	53:b:1501:G:C8	2.94	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1517:G:N1	53:b:1518:C:C6	2.74	0.55
53:b:1740:G:C6	53:b:1741:C:C4	2.94	0.55
53:b:2396:G:C4	53:b:2397:G:C8	2.94	0.55
53:b:2468:A:N1	53:b:2481:G:C6	2.68	0.55
53:b:2544:G:C2	53:b:2545:G:N9	2.75	0.55
53:b:2688:G:N2	53:b:2720:U:H5	2.00	0.55
53:b:2766:A:C6	53:b:2767:C:C6	2.95	0.55
53:b:2826:A:H2'	53:b:2826:A:N3	2.20	0.55
34:h:79:THR:HG21	34:h:128:HIS:CE1	2.41	0.55
50:A:451:A:H1'	50:A:452:A:N7	2.20	0.55
51:X:13:C:H3'	51:X:14:U:H5''	1.87	0.55
53:b:77:G:C2	53:b:78:U:C4	2.94	0.55
53:b:109:C:O2	53:b:109:C:H2'	2.04	0.55
53:b:243:U:O4	53:b:254:G:C2	2.58	0.55
53:b:440:C:N3	53:b:441:U:C5	2.74	0.55
53:b:719:C:C2	53:b:720:U:C5	2.95	0.55
53:b:1038:G:H2'	53:b:1039:A:C8	2.41	0.55
53:b:1104:C:N4	53:b:1105:U:O2'	2.40	0.55
53:b:1157:G:C5	53:b:1158:C:C5	2.94	0.55
53:b:1157:G:N3	53:b:1158:C:C6	2.74	0.55
53:b:1326:U:O2'	53:b:2010:G:C2'	2.55	0.55
53:b:1357:C:N4	53:b:1358:G:C5	2.75	0.55
53:b:2766:A:H2'	53:b:2766:A:N3	2.21	0.55
16:Q:16:MET:HE1	16:Q:44:HIS:CE1	2.41	0.55
23:2:14:ILE:HD11	53:b:989:G:C8	2.41	0.55
50:A:590:U:O2'	50:A:591:U:H5''	2.06	0.55
50:A:790:A:C5'	54:v:39:G:OP1	2.54	0.55
50:A:992:U:O2'	50:A:1043:G:O6	2.16	0.55
53:b:342:A:N6	53:b:343:C:C5	2.74	0.55
53:b:661:A:C2	53:b:662:G:C4	2.94	0.55
53:b:921:C:O2	53:b:922:C:C6	2.60	0.55
53:b:956:G:H22	53:b:959:A:H3'	1.70	0.55
53:b:991:C:C2	53:b:992:C:C5	2.91	0.55
53:b:1326:U:C6	53:b:1648:U:H1'	2.41	0.55
53:b:1410:G:C2	53:b:1411:U:C6	2.95	0.55
53:b:1486:U:C4	53:b:1487:U:C5	2.95	0.55
53:b:1794:A:C2	53:b:1795:C:C5	2.93	0.55
53:b:2191:A:C5	53:b:2192:U:C5	2.94	0.55
53:b:2229:U:C2	53:b:2230:G:C8	2.94	0.55
53:b:2295:C:N3	53:b:2296:U:C5	2.74	0.55
53:b:2536:G:N3	53:b:2537:U:C6	2.74	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2715:C:N3	53:b:2716:C:C6	2.75	0.55
53:b:2835:A:C2	53:b:2879:A:C6	2.94	0.55
1:B:101:THR:HG23	1:B:174:GLU:OE2	2.07	0.55
23:2:5:ILE:CG2	23:2:57:VAL:CG1	2.83	0.55
50:A:1266:G:H2'	50:A:1268:G:OP2	2.06	0.55
51:X:16:G:N2	51:X:17:C:C4	2.74	0.55
53:b:399:U:C2	53:b:400:G:N7	2.75	0.55
53:b:829:A:C8	53:b:2248:C:H5'	2.42	0.55
53:b:1399:C:O2	53:b:1400:U:C6	2.58	0.55
53:b:1462:C:O2	53:b:1463:C:C6	2.59	0.55
53:b:1793:C:C2	53:b:1794:A:C8	2.95	0.55
53:b:1839:G:O6	53:b:1840:G:C5	2.59	0.55
53:b:2544:G:N1	53:b:2545:G:C8	2.72	0.55
18:S:5:LYS:HE3	50:A:1314:C:OP2	2.06	0.55
19:T:70:LYS:HG3	19:T:73:ARG:HH21	1.72	0.55
50:A:410:G:N2	50:A:431:A:OP2	2.36	0.55
50:A:769:G:H4'	50:A:1513:A:H4'	1.87	0.55
53:b:296:U:C2	53:b:297:G:C8	2.94	0.55
53:b:938:G:C2	53:b:939:G:C8	2.94	0.55
53:b:1145:C:C4	53:b:1146:C:H5	2.24	0.55
53:b:1204:A:C6	53:b:1206:G:C6	2.94	0.55
53:b:1218:G:N1	53:b:1219:U:H1'	2.22	0.55
53:b:1454:C:O2	53:b:1454:C:O4'	2.24	0.55
53:b:1540:G:N2	53:b:1541:C:C2	2.75	0.55
53:b:1660:G:C6	53:b:1661:G:N7	2.74	0.55
53:b:1850:G:N3	53:b:1851:U:C6	2.75	0.55
53:b:2205:A:C2	53:b:2206:C:C6	2.95	0.55
53:b:2227:A:C2	53:b:2228:G:H1'	2.40	0.55
53:b:2241:A:H2'	53:b:2242:G:C8	2.41	0.55
53:b:2337:G:H2'	53:b:2337:G:N3	2.21	0.55
53:b:2534:A:N6	53:b:2535:G:C5	2.74	0.55
53:b:2699:C:N3	53:b:2700:A:C8	2.75	0.55
53:b:2744:G:C6	53:b:2745:C:C4	2.95	0.55
53:b:2798:U:H5	53:b:2799:A:H61	1.53	0.55
9:J:5:ARG:NH1	9:J:79:PRO:HG2	2.21	0.55
9:J:9:ARG:HH11	9:J:71:LEU:HD21	1.69	0.55
10:K:28:ASN:ND2	50:A:689:C:H5''	2.22	0.55
11:L:53:ARG:NH2	11:L:61:GLU:HG2	2.13	0.55
50:A:228:A:H5''	50:A:229:U:OP2	2.06	0.55
52:a:14:U:O2	52:a:14:U:H2'	2.06	0.55
53:b:42:A:C2	53:b:43:G:N9	2.74	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:81:G:N2	53:b:106:C:C2	2.75	0.55
53:b:185:G:C2	53:b:186:G:N9	2.74	0.55
53:b:464:U:C4	53:b:788:A:C5	2.95	0.55
53:b:991:C:C6	53:b:1185:G:C4	2.95	0.55
53:b:1093:G:N1	53:b:1097:U:OP1	2.33	0.55
53:b:1306:C:C2	53:b:1623:G:C2	2.95	0.55
53:b:1667:G:C2	53:b:1991:U:C5	2.95	0.55
53:b:1791:A:C2	53:b:1829:A:H4'	2.41	0.55
53:b:2110:G:O6	53:b:2179:C:C4	2.54	0.55
53:b:2525:G:N1	53:b:2539:C:C4	2.74	0.55
53:b:2589:A:C2	53:b:2590:A:N9	2.74	0.55
53:b:2604:U:O2	53:b:2604:U:H2'	2.06	0.55
53:b:2707:U:O2	53:b:2708:G:C8	2.59	0.55
53:b:2714:G:C6	53:b:2715:C:C5	2.94	0.55
53:b:2782:G:C2	53:b:2783:U:C6	2.95	0.55
15:P:12:LYS:CG	50:A:392:C:OP2	2.54	0.55
53:b:226:A:C2	53:b:227:A:C8	2.95	0.55
53:b:293:U:C4	53:b:345:A:C6	2.94	0.55
53:b:449:A:H2'	53:b:450:G:O4'	2.06	0.55
53:b:465:G:H2'	53:b:466:A:C8	2.41	0.55
53:b:608:A:C2	53:b:621:A:C2	2.95	0.55
53:b:675:A:H2'	53:b:676:A:C8	2.41	0.55
53:b:903:C:N3	53:b:904:G:N7	2.54	0.55
53:b:937:C:N3	53:b:938:G:N7	2.55	0.55
53:b:1501:G:N2	53:b:1502:A:H1'	2.21	0.55
53:b:1782:U:N3	53:b:2587:A:C6	2.75	0.55
53:b:2135:A:N1	53:b:2136:G:H1'	2.21	0.55
53:b:2408:U:C2	53:b:2409:G:N7	2.74	0.55
53:b:2557:G:C2	53:b:2558:C:C4	2.95	0.55
53:b:2666:C:C5	53:b:2667:C:C5	2.95	0.55
10:K:126:ARG:HG2	10:K:128:VAL:H	1.70	0.55
39:n:2:ARG:HG2	39:n:2:ARG:O	2.07	0.55
44:s:69:LEU:HD23	44:s:109:ASP:OD1	2.06	0.55
50:A:99:C:HO2'	50:A:100:G:H8	1.55	0.55
50:A:496:A:H5'	50:A:497:G:OP2	2.06	0.55
50:A:996:A:C6	50:A:997:U:C4	2.93	0.55
53:b:174:U:O2	53:b:175:G:C8	2.59	0.55
53:b:201:C:C2	53:b:202:U:C6	2.94	0.55
53:b:246:C:O2'	53:b:247:G:H5'	2.07	0.55
53:b:783:A:N1	53:b:785:G:H1'	2.22	0.55
53:b:1000:A:H2'	53:b:1001:A:C8	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1053:C:N1	53:b:1107:G:N2	2.54	0.55
53:b:1574:C:C4	53:b:1575:C:C5	2.94	0.55
53:b:1891:G:N2	53:b:1892:C:H1'	2.22	0.55
53:b:2032:G:O6	53:b:2454:G:C4'	2.54	0.55
53:b:2466:C:C4	53:b:2467:C:C5	2.95	0.55
53:b:2507:C:C4	53:b:2583:G:N1	2.75	0.55
12:M:47:LEU:HD12	12:M:51:GLN:HB3	1.88	0.55
32:f:26:MET:HB2	52:a:57:A:C8	2.41	0.55
34:h:42:LYS:HA	34:h:42:LYS:CE	2.36	0.55
41:p:29:LYS:CA	41:p:40:LEU:CD1	2.84	0.55
52:a:19:C:C2	52:a:20:G:C8	2.95	0.55
52:a:92:C:C2	52:a:93:C:C6	2.94	0.55
52:a:100:G:N2	52:a:101:A:H1'	2.22	0.55
53:b:255:A:C2	53:b:256:A:H1'	2.42	0.55
53:b:397:U:C2	53:b:398:C:C5	2.95	0.55
53:b:650:C:N4	53:b:651:G:N7	2.54	0.55
53:b:851:C:N3	53:b:852:U:C5	2.75	0.55
53:b:985:C:O2	53:b:986:C:C5	2.59	0.55
53:b:1121:C:C2	53:b:1122:G:C8	2.93	0.55
53:b:1122:G:C6	53:b:1123:C:C5	2.94	0.55
53:b:1204:A:H5''	53:b:1206:G:C8	2.42	0.55
53:b:1256:G:N2	53:b:1257:C:C6	2.75	0.55
53:b:1433:A:C2	53:b:1434:A:C6	2.95	0.55
53:b:2053:G:C2	53:b:2054:A:N9	2.75	0.55
53:b:2217:G:C6	53:b:2218:G:C8	2.94	0.55
53:b:2287:A:C6	53:b:2289:G:C5	2.95	0.55
53:b:2822:G:H2'	53:b:2823:A:H5''	1.89	0.55
5:F:37:HIS:CE1	5:F:97:THR:HA	2.41	0.55
6:G:71:THR:HG22	6:G:141:HIS:NE2	2.22	0.55
15:P:67:ILE:HG21	15:P:72:ALA:HB2	1.88	0.55
38:m:62:LYS:NZ	53:b:874:G:OP1	2.39	0.55
50:A:908:A:H2'	50:A:909:A:C8	2.41	0.55
52:a:46:A:N6	52:a:47:C:C4	2.75	0.55
53:b:18:U:C4	53:b:19:A:N7	2.75	0.55
53:b:138:U:H2'	53:b:140:C:H5	1.72	0.55
53:b:186:G:C2	53:b:187:G:C5	2.94	0.55
53:b:267:C:C4	53:b:268:C:C5	2.95	0.55
53:b:343:C:C2	53:b:344:A:C8	2.95	0.55
53:b:603:A:C6	53:b:655:A:N3	2.76	0.55
53:b:768:G:N2	53:b:1379:U:H1'	2.21	0.55
53:b:783:A:C6	53:b:785:G:C1'	2.90	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1257:C:C2	53:b:1258:U:C6	2.95	0.55
53:b:1409:U:N3	53:b:1410:G:N7	2.55	0.55
53:b:1550:C:C2	53:b:1551:A:C8	2.95	0.55
53:b:1839:G:H1'	53:b:1927:A:C8	2.42	0.55
53:b:1851:U:C4	53:b:1852:U:C4	2.95	0.55
53:b:1927:A:O2'	53:b:1928:A:C8	2.54	0.55
53:b:2152:G:N2	53:b:2153:C:C1'	2.61	0.55
53:b:2167:U:C5	53:b:2168:G:C1'	2.90	0.55
53:b:2464:G:C6	53:b:2465:C:C4	2.95	0.55
53:b:2469:A:C5	53:b:2470:G:C8	2.95	0.55
53:b:2527:C:N4	53:b:2528:U:C4	2.75	0.55
53:b:2766:A:N6	53:b:2767:C:C4	2.75	0.55
14:O:68:TYR:OH	50:A:753:A:OP1	2.25	0.54
41:p:30:VAL:N	41:p:40:LEU:HD12	2.22	0.54
41:p:72:ARG:CD	41:p:74:PHE:CE1	2.89	0.54
50:A:52:C:N3	50:A:360:G:N2	2.54	0.54
50:A:621:A:H3'	50:A:622:A:H8	1.72	0.54
53:b:377:G:C6	53:b:378:C:C4	2.95	0.54
53:b:836:G:H2'	53:b:836:G:N3	2.21	0.54
53:b:1052:C:H2'	53:b:1054:A:C8	2.42	0.54
53:b:1206:G:N2	53:b:1207:C:N1	2.55	0.54
53:b:1208:C:N4	53:b:1239:G:N1	2.54	0.54
53:b:1268:A:C2	53:b:1269:A:H1'	2.42	0.54
53:b:1319:C:O2'	53:b:1320:C:C5'	2.55	0.54
53:b:1684:G:H2'	53:b:1685:C:O4'	2.07	0.54
53:b:1795:C:C4	53:b:1796:U:C4	2.95	0.54
53:b:1831:G:C6	53:b:1832:C:C4	2.95	0.54
53:b:1907:G:C2	53:b:1908:C:C2	2.95	0.54
53:b:1942:C:OP2	53:b:1943:U:O2'	2.16	0.54
53:b:2023:C:O2	53:b:2023:C:H2'	2.07	0.54
53:b:2534:A:C6	53:b:2535:G:C4	2.94	0.54
53:b:2557:G:N1	53:b:2558:C:C4	2.75	0.54
53:b:2902:C:C2	53:b:2903:U:O3'	2.53	0.54
22:1:54:LYS:HB3	53:b:72:U:H5	1.72	0.54
29:c:67:PHE:CE1	29:c:156:ARG:CZ	2.90	0.54
32:f:77:PHE:CE2	53:b:2311:A:C8	2.94	0.54
52:a:96:G:C6	52:a:97:C:C4	2.96	0.54
53:b:9:G:C2	53:b:2629:U:C4	2.95	0.54
53:b:352:A:H3'	53:b:353:C:H6	1.72	0.54
53:b:375:G:C6	53:b:376:G:N7	2.74	0.54
53:b:736:C:O2	53:b:737:C:C6	2.60	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:962:G:C6	53:b:963:U:C4	2.94	0.54
53:b:1091:G:H21	53:b:1092:C:H1'	1.71	0.54
53:b:1145:C:C2	53:b:1146:C:H6	2.17	0.54
53:b:1432:G:H2'	53:b:1433:A:C8	2.42	0.54
53:b:1459:G:N3	53:b:1461:C:C6	2.76	0.54
53:b:1540:G:C4	53:b:1541:C:C5	2.95	0.54
53:b:1542:U:C4	53:b:1543:G:C5	2.96	0.54
53:b:1842:G:C6	53:b:1843:C:C4	2.95	0.54
53:b:1938:A:N1	53:b:2590:A:O2'	2.30	0.54
53:b:2033:A:O2'	53:b:2035:G:OP2	2.26	0.54
53:b:2586:U:O2'	53:b:2587:A:H5''	2.08	0.54
53:b:2682:A:N1	53:b:2683:C:C4	2.75	0.54
53:b:2714:G:C6	53:b:2715:C:C4	2.95	0.54
2:C:26:LYS:HZ2	13:N:75:LYS:HG2	1.72	0.54
3:D:36:ALA:HA	3:D:41:GLY:HA3	1.89	0.54
8:I:27:ILE:HA	8:I:62:LEU:HB2	1.89	0.54
8:I:111:GLU:HG2	50:A:1348:U:O3'	2.07	0.54
41:p:106:LYS:HE2	50:A:1432:G:H5''	1.89	0.54
50:A:1265:C:H2'	50:A:1266:G:C8	2.42	0.54
52:a:19:C:N3	52:a:20:G:C8	2.75	0.54
52:a:33:G:C6	52:a:34:A:N7	2.76	0.54
53:b:165:A:H2'	53:b:166:U:C6	2.42	0.54
53:b:213:A:C6	53:b:214:G:O6	2.60	0.54
53:b:464:U:C6	53:b:788:A:C6	2.95	0.54
53:b:622:G:C5	53:b:623:C:C5	2.95	0.54
53:b:766:U:C2	53:b:767:U:C5	2.95	0.54
53:b:857:G:H2'	53:b:858:G:O4'	2.07	0.54
53:b:1059:G:N2	53:b:1080:A:C5	2.75	0.54
53:b:1516:G:C2	53:b:1517:G:C1'	2.87	0.54
53:b:1538:G:C5	53:b:1539:U:C5	2.94	0.54
53:b:2067:G:C2	53:b:2444:G:N2	2.76	0.54
53:b:2663:G:C5	53:b:2664:G:C8	2.96	0.54
53:b:2869:G:C2	53:b:2870:C:C2	2.96	0.54
2:C:127:VAL:O	2:C:129:PHE:N	2.38	0.54
2:C:153:SER:HB2	2:C:195:ILE:HG23	1.89	0.54
18:S:45:GLY:H	18:S:61:VAL:HG23	1.73	0.54
22:1:18:LEU:CD2	22:1:53:VAL:HG11	2.37	0.54
29:c:67:PHE:HZ	29:c:156:ARG:NH2	2.00	0.54
33:g:24:ILE:HD11	33:g:37:LEU:CD2	2.38	0.54
52:a:47:C:C2	52:a:48:U:H6	2.23	0.54
53:b:343:C:N3	53:b:344:A:N7	2.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:363:G:H2'	53:b:364:C:C6	2.42	0.54
53:b:659:G:C6	53:b:660:C:C4	2.96	0.54
53:b:661:A:N1	53:b:662:G:C5	2.75	0.54
53:b:687:C:C2	53:b:688:U:C6	2.96	0.54
53:b:938:G:C2	53:b:939:G:C5	2.96	0.54
53:b:1013:C:C2	53:b:1014:A:N7	2.75	0.54
53:b:1272:A:O2'	53:b:1274:A:OP1	2.23	0.54
53:b:1416:G:C2	53:b:1417:C:C2	2.96	0.54
53:b:1511:G:N1	53:b:1512:C:C4	2.75	0.54
53:b:1650:A:C2	53:b:1651:G:C8	2.95	0.54
53:b:1742:U:C2	53:b:1743:G:C8	2.96	0.54
53:b:2160:C:OP2	53:b:2161:C:H5''	2.08	0.54
53:b:2191:A:C6	53:b:2192:U:C5	2.96	0.54
53:b:2375:G:H22	53:b:2377:A:H3'	1.71	0.54
53:b:2840:C:O2	53:b:2841:C:C6	2.61	0.54
3:D:170:LEU:HD22	3:D:181:PHE:HD1	1.72	0.54
53:b:219:A:C6	53:b:220:G:C6	2.95	0.54
53:b:243:U:O2	53:b:243:U:C2'	2.55	0.54
53:b:834:G:C4	53:b:835:C:C6	2.95	0.54
53:b:1011:G:C6	53:b:1013:C:C5	2.95	0.54
53:b:1144:A:C6	53:b:1145:C:C4	2.96	0.54
53:b:1276:A:N3	53:b:1277:G:C8	2.76	0.54
53:b:1502:A:C6	53:b:1503:A:C8	2.95	0.54
53:b:1649:G:C2	53:b:1650:A:C8	2.96	0.54
53:b:1790:C:C3'	53:b:1791:A:C8	2.90	0.54
2:C:69:THR:H	2:C:103:ALA:CB	2.20	0.54
3:D:7:LYS:H	50:A:430:A:P	2.30	0.54
11:L:13:ARG:NH1	50:A:562:U:OP1	2.40	0.54
31:e:60:TRP:CH2	31:e:70:SER:HB3	2.43	0.54
34:h:63:ALA:CB	34:h:149:GLU:OXT	2.49	0.54
49:z:17:VAL:HG23	49:z:18:TRP:CB	2.31	0.54
53:b:223:A:N6	53:b:422:A:C5	2.76	0.54
53:b:290:U:N3	53:b:291:G:N7	2.56	0.54
53:b:378:C:C4	53:b:379:G:N7	2.76	0.54
53:b:957:C:N4	53:b:2459:A:C8	2.76	0.54
53:b:982:C:O2	53:b:982:C:O4'	2.24	0.54
53:b:1066:U:O2	53:b:1066:U:H2'	2.07	0.54
53:b:1662:U:O2	53:b:1662:U:H2'	2.08	0.54
53:b:1933:G:O2'	53:b:1974:C:O2'	2.05	0.54
53:b:2135:A:C5	53:b:2136:G:C8	2.95	0.54
53:b:2398:U:O2	53:b:2399:G:C8	2.61	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2729:G:C4	53:b:2730:C:C6	2.95	0.54
2:C:190:THR:OG1	2:C:193:GLY:O	2.20	0.54
6:G:70:PRO:HA	6:G:141:HIS:CE1	2.33	0.54
14:O:73:ASP:OD2	14:O:76:ARG:HB2	2.07	0.54
15:P:20:VAL:HG21	15:P:32:PHE:HB2	1.90	0.54
18:S:5:LYS:HG3	50:A:1314:C:OP2	2.07	0.54
38:m:40:ARG:HG2	38:m:95:LEU:CD2	2.33	0.54
43:r:10:LYS:HE2	53:b:996:A:O4'	2.08	0.54
50:A:1124:G:O2'	50:A:1145:A:N6	2.41	0.54
50:A:1133:G:H2'	50:A:1134:G:H8	1.72	0.54
53:b:185:G:C5	53:b:186:G:C8	2.96	0.54
53:b:248:G:C8	53:b:250:G:O6	2.60	0.54
53:b:998:C:C2	53:b:999:U:C6	2.95	0.54
53:b:1164:C:N3	53:b:1165:A:C8	2.76	0.54
53:b:1528:A:C8	53:b:1529:G:C1'	2.91	0.54
53:b:1539:U:C2	53:b:1540:G:H8	2.20	0.54
53:b:2544:G:N3	53:b:2545:G:C8	2.73	0.54
53:b:2796:U:N3	53:b:2798:U:C6	2.76	0.54
53:b:2841:C:N3	53:b:2842:G:N7	2.55	0.54
53:b:2885:G:C6	53:b:2886:A:H1'	2.35	0.54
53:b:2887:A:C2	53:b:2888:C:N1	2.75	0.54
11:L:78:VAL:N	11:L:102:ASP:OD2	2.41	0.54
35:j:57:LEU:CD1	35:j:129:GLU:N	2.68	0.54
50:A:163:C:H2'	50:A:164:G:O4'	2.08	0.54
50:A:362:G:N2	50:A:365:U:OP2	2.41	0.54
50:A:1158:C:H2'	50:A:1159:U:H4'	1.90	0.54
52:a:117:G:C2	52:a:118:C:C2	2.96	0.54
53:b:77:G:N3	53:b:78:U:C6	2.76	0.54
53:b:153:U:C4	53:b:154:U:C5	2.95	0.54
53:b:251:A:H2'	53:b:252:G:O4'	2.07	0.54
53:b:350:G:C6	53:b:351:C:C5	2.95	0.54
53:b:425:G:H2'	53:b:426:C:H6	1.73	0.54
53:b:668:A:C6	53:b:670:A:C5	2.95	0.54
53:b:785:G:N2	53:b:786:C:C2	2.75	0.54
53:b:1074:G:C6	53:b:1075:C:C6	2.96	0.54
53:b:1218:G:N1	53:b:1219:U:C1'	2.71	0.54
53:b:1363:C:O2	53:b:1369:G:C2	2.61	0.54
53:b:1416:G:C6	53:b:1417:C:C4	2.96	0.54
53:b:1492:G:C2	53:b:1499:C:C2	2.96	0.54
53:b:1660:G:C6	53:b:1661:G:C8	2.96	0.54
53:b:1889:A:H2'	53:b:1890:A:O4'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1932:A:H2'	53:b:1933:G:O4'	2.08	0.54
53:b:2184:A:C6	53:b:2185:U:C4	2.95	0.54
53:b:2372:U:C2	53:b:2373:G:C8	2.95	0.54
53:b:2682:A:C6	53:b:2683:C:C5	2.96	0.54
53:b:2714:G:C2	53:b:2715:C:C6	2.96	0.54
53:b:2823:A:H2'	53:b:2824:C:C6	2.43	0.54
53:b:2885:G:C5	53:b:2886:A:C1'	2.65	0.54
9:J:48:ARG:NH1	13:N:100:TRP:CD2	2.76	0.54
12:M:102:LYS:NZ	50:A:954:G:C6	2.76	0.54
34:h:33:GLN:HB3	34:h:35:LYS:HZ2	1.73	0.54
38:m:96:ILE:HA	38:m:100:LYS:CD	2.38	0.54
49:z:5:LYS:HD3	49:z:7:ILE:HG23	1.90	0.54
50:A:533:A:O2'	50:A:535:A:OP2	2.24	0.54
50:A:1023:U:N3	50:A:1024:G:N7	2.55	0.54
52:a:90:C:C4	52:a:91:C:C5	2.95	0.54
53:b:3:U:C2	53:b:4:U:C6	2.95	0.54
53:b:212:G:N2	53:b:213:A:C4	2.76	0.54
53:b:227:A:N1	53:b:2407:A:C8	2.76	0.54
53:b:253:C:N3	53:b:254:G:C1'	2.71	0.54
53:b:292:U:C2	53:b:293:U:C6	2.96	0.54
53:b:661:A:C4	53:b:662:G:C8	2.95	0.54
53:b:823:C:C2	53:b:824:U:C5	2.96	0.54
53:b:1337:G:C2	53:b:1338:G:N9	2.76	0.54
53:b:1759:A:C5	53:b:1760:C:C5	2.96	0.54
53:b:1777:U:C2'	53:b:1778:U:O5'	2.56	0.54
53:b:1790:C:H2'	53:b:1791:A:C8	2.42	0.54
53:b:1849:G:C2	53:b:1850:G:C5	2.95	0.54
53:b:1849:G:C6	53:b:1850:G:N7	2.75	0.54
53:b:2191:A:C6	53:b:2192:U:C4	2.96	0.54
53:b:2219:U:C4	53:b:2220:U:C5	2.95	0.54
53:b:2407:A:N1	53:b:2408:U:C4	2.76	0.54
5:F:15:SER:HB2	5:F:44:ARG:HD2	1.90	0.54
8:I:125:GLN:CD	50:A:941:G:H1	2.15	0.54
9:J:9:ARG:NH2	50:A:1126:U:O4	2.41	0.54
9:J:47:GLU:HG3	50:A:1254:A:OP1	2.08	0.54
11:L:23:LEU:HD13	11:L:58:ASN:HD22	1.73	0.54
18:S:69:LYS:NZ	50:A:1319:A:H5'	2.23	0.54
31:e:69:ARG:CZ	53:b:2444:G:OP1	2.56	0.54
50:A:502:A:H61	50:A:543:U:H3	1.56	0.54
50:A:1097:C:HO2'	50:A:1169:A:HO2'	1.56	0.54
50:A:1175:G:H2'	50:A:1176:A:H8	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:1265:C:H2'	50:A:1266:G:H8	1.73	0.54
53:b:114:U:N3	53:b:115:C:C5	2.76	0.54
53:b:256:A:C6	53:b:257:C:C5	2.96	0.54
53:b:287:G:C6	53:b:288:U:C5	2.96	0.54
53:b:401:A:C2	53:b:402:A:C5	2.96	0.54
53:b:462:C:C2	53:b:468:G:N2	2.76	0.54
53:b:710:U:C2	53:b:711:G:C8	2.96	0.54
53:b:1204:A:C6	53:b:1206:G:C5	2.96	0.54
53:b:1220:G:C4	53:b:1221:C:C6	2.96	0.54
53:b:1502:A:C4	53:b:1503:A:C8	2.96	0.54
53:b:1627:G:C2	53:b:1628:G:C8	2.96	0.54
53:b:1790:C:C6	53:b:1828:G:N2	2.76	0.54
53:b:1856:U:C5	53:b:1857:G:C8	2.96	0.54
53:b:1905:C:H2'	53:b:1930:G:C8	2.43	0.54
53:b:2353:G:C2	53:b:2354:C:C6	2.96	0.54
53:b:2665:A:C6	53:b:2666:C:C5	2.96	0.54
2:C:5:HIS:NE2	13:N:88:MET:HG2	2.24	0.53
8:I:129:ARG:OXT	50:A:1341:U:H4'	2.08	0.53
9:J:25:ILE:O	9:J:28:THR:OG1	2.17	0.53
12:M:89:ARG:O	12:M:93:GLY:N	2.39	0.53
50:A:403:C:H2'	50:A:404:G:C8	2.43	0.53
52:a:85:G:N1	52:a:86:G:N7	2.56	0.53
53:b:234:U:C4	53:b:430:A:C6	2.95	0.53
53:b:255:A:H1'	53:b:384:A:C8	2.43	0.53
53:b:418:C:C2	53:b:419:U:C6	2.96	0.53
53:b:693:A:H2'	53:b:694:U:O4'	2.08	0.53
53:b:1242:U:N3	53:b:1243:C:C6	2.76	0.53
53:b:1299:G:N2	53:b:1640:A:C8	2.76	0.53
53:b:1301:A:N6	53:b:1303:G:H1'	2.23	0.53
53:b:1357:C:C2	53:b:1358:G:C8	2.95	0.53
53:b:1541:C:H2'	53:b:1542:U:C6	2.44	0.53
53:b:1827:U:C2	53:b:1828:G:C8	2.96	0.53
53:b:1848:A:N6	53:b:1849:G:C5	2.76	0.53
53:b:2098:U:C4	53:b:2099:U:C5	2.96	0.53
53:b:2458:G:C2	53:b:2490:G:C6	2.96	0.53
53:b:2535:G:H2'	53:b:2535:G:N3	2.21	0.53
53:b:2734:A:N6	53:b:2735:G:C4	2.76	0.53
9:J:46:LYS:NZ	9:J:48:ARG:NE	2.56	0.53
24:3:3:VAL:HG23	53:b:2015:A:C2	2.43	0.53
26:6:1:MET:HE1	53:b:752:A:OP2	2.09	0.53
39:n:45:ARG:CZ	53:b:2838:G:O2'	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:z:10:GLU:CB	49:z:12:LEU:HD13	2.38	0.53
50:A:374:A:N7	50:A:375:U:C2	2.76	0.53
50:A:1409:C:H2'	50:A:1410:A:C8	2.42	0.53
53:b:54:G:N2	53:b:55:G:H1'	2.24	0.53
53:b:293:U:C5	53:b:345:A:C6	2.96	0.53
53:b:380:G:C6	53:b:381:G:N7	2.76	0.53
53:b:380:G:N3	53:b:381:G:C8	2.76	0.53
53:b:992:C:C2	53:b:1163:G:C2	2.97	0.53
53:b:1032:A:N3	53:b:1032:A:H2'	2.22	0.53
53:b:1375:U:N3	53:b:1376:C:C5	2.76	0.53
53:b:1740:G:C5	53:b:1741:C:C5	2.96	0.53
53:b:1841:U:N3	53:b:1842:G:C8	2.75	0.53
53:b:1842:G:C5	53:b:1843:C:C5	2.97	0.53
53:b:2341:G:C2	53:b:2342:C:C2	2.95	0.53
54:v:15:G:H2'	54:v:16:C:H5'	1.89	0.53
1:B:67:LEU:HD11	1:B:91:VAL:HG23	1.90	0.53
3:D:57:LYS:HD3	3:D:202:LEU:HD23	1.90	0.53
18:S:5:LYS:HG2	18:S:6:LYS:HG2	1.89	0.53
26:6:18:PHE:HB2	53:b:126:A:H2	1.74	0.53
53:b:160:A:N7	53:b:167:A:N1	2.56	0.53
53:b:201:C:H2'	53:b:201:C:O2	2.07	0.53
53:b:214:G:C2	53:b:215:G:N1	2.76	0.53
53:b:253:C:N3	53:b:254:G:H1'	2.23	0.53
53:b:263:G:C5	53:b:264:C:C6	2.96	0.53
53:b:696:G:N2	53:b:697:G:C1'	2.71	0.53
53:b:847:U:C2	53:b:848:C:C5	2.96	0.53
53:b:974:G:C5	53:b:989:G:C2	2.96	0.53
53:b:1025:G:C4	53:b:1135:C:H1'	2.44	0.53
53:b:1100:C:O2	53:b:1100:C:H2'	2.06	0.53
53:b:1105:U:H2'	53:b:1106:G:C8	2.43	0.53
53:b:1159:U:N3	53:b:1160:G:C8	2.76	0.53
53:b:1303:G:N3	53:b:1303:G:H2'	2.21	0.53
53:b:1599:U:N3	53:b:1600:C:C5	2.76	0.53
53:b:1629:U:C4	53:b:1630:A:C8	2.96	0.53
53:b:1782:U:C2	53:b:2587:A:C6	2.96	0.53
3:D:201:GLU:O	50:A:8:A:N6	2.41	0.53
24:3:32:LYS:HE2	53:b:2885:G:N3	2.24	0.53
31:e:62:GLN:C	31:e:63:LYS:HG3	2.34	0.53
37:l:21:ARG:NH2	53:b:1250:G:OP2	2.42	0.53
41:p:72:ARG:HD3	41:p:74:PHE:CE1	2.41	0.53
52:a:2:G:N3	52:a:3:C:H5	2.05	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:377:G:C4	53:b:378:C:C6	2.97	0.53
53:b:588:U:H2'	53:b:588:U:O2	2.08	0.53
53:b:955:U:C2	53:b:956:G:C8	2.97	0.53
53:b:1540:G:C2	53:b:1541:C:C6	2.96	0.53
53:b:1964:G:C4	53:b:1967:C:C5	2.97	0.53
53:b:2417:C:C2	53:b:2418:A:C8	2.96	0.53
53:b:2472:G:O2'	53:b:2529:G:N2	2.38	0.53
53:b:2722:G:C6	53:b:2723:C:C4	2.96	0.53
54:v:18:G:H21	54:v:57:A:N6	2.01	0.53
2:C:89:VAL:O	2:C:93:ILE:HG12	2.08	0.53
15:P:3:THR:CG2	50:A:377:G:P	2.82	0.53
16:Q:68:LYS:HG3	16:Q:69:THR:HG23	1.91	0.53
29:c:141:VAL:HG12	29:c:142:HIS:N	2.23	0.53
50:A:139:A:H2'	50:A:140:U:H6	1.74	0.53
50:A:1075:U:H2'	50:A:1076:U:C6	2.44	0.53
50:A:1130:A:H8	50:A:1130:A:P	2.32	0.53
53:b:54:G:C6	53:b:55:G:C8	2.97	0.53
53:b:353:C:N3	53:b:354:A:N7	2.55	0.53
53:b:1017:G:C2	53:b:1146:C:C2	2.96	0.53
53:b:1118:C:H2'	53:b:1119:U:O4'	2.09	0.53
53:b:1150:C:O2	53:b:1150:C:H2'	2.09	0.53
53:b:1220:G:H1	53:b:1228:G:H1	1.56	0.53
53:b:1681:G:O2'	53:b:1762:A:H2'	2.08	0.53
53:b:2151:U:N3	53:b:2152:G:C8	2.76	0.53
53:b:2219:U:C2	53:b:2220:U:C6	2.96	0.53
53:b:2315:G:C2	53:b:2316:G:C8	2.96	0.53
53:b:2458:G:C6	53:b:2490:G:C2	2.96	0.53
53:b:2489:U:H2'	53:b:2490:G:C1'	2.39	0.53
53:b:2665:A:N1	53:b:2666:C:C6	2.76	0.53
53:b:2708:G:N1	53:b:2709:G:N7	2.55	0.53
53:b:2862:G:C6	53:b:2863:C:C4	2.96	0.53
53:b:2869:G:C6	53:b:2870:C:C4	2.97	0.53
53:b:2887:A:C6	53:b:2888:C:C4	2.96	0.53
1:B:72:LYS:HD2	1:B:204:ASP:OD2	2.09	0.53
8:I:111:GLU:HG2	50:A:1348:U:C3'	2.38	0.53
38:m:13:HIS:CG	53:b:910:A:N6	2.77	0.53
38:m:53:MET:HE3	38:m:116:ALA:CB	2.36	0.53
42:q:4:VAL:HG22	53:b:1199:U:H1'	1.90	0.53
50:A:484:G:O2'	50:A:485:U:OP2	2.23	0.53
53:b:43:G:C6	53:b:44:A:C6	2.96	0.53
53:b:156:A:N3	53:b:157:C:C6	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:367:G:C2	53:b:368:A:C8	2.96	0.53
53:b:618:G:H2'	53:b:619:G:C8	2.43	0.53
53:b:835:C:O2	53:b:835:C:H2'	2.08	0.53
53:b:1328:A:H2'	53:b:1330:C:H41	1.73	0.53
53:b:1355:G:C6	53:b:1356:G:N7	2.77	0.53
53:b:1518:C:C2	53:b:1519:G:H8	2.12	0.53
53:b:1528:A:C4	53:b:1544:A:N6	2.76	0.53
53:b:2166:U:H2'	53:b:2167:U:C6	2.43	0.53
53:b:2206:C:H2'	53:b:2207:C:C6	2.40	0.53
53:b:2345:G:C4	53:b:2381:A:C2	2.96	0.53
53:b:2457:U:H2'	53:b:2458:G:O4'	2.08	0.53
53:b:2480:C:N4	53:b:2481:G:C4	2.77	0.53
53:b:2534:A:N6	53:b:2535:G:C8	2.77	0.53
53:b:2722:G:C4	53:b:2723:C:C5	2.96	0.53
8:I:129:ARG:HB2	54:v:32:A:OP1	2.08	0.53
13:N:80:ARG:HE	13:N:81:ILE:HG23	1.74	0.53
18:S:35:ARG:HH12	18:S:74:ALA:CB	2.22	0.53
28:8:23:ILE:HG21	53:b:1032:A:O2'	2.08	0.53
38:m:53:MET:CE	38:m:105:MET:CE	2.85	0.53
50:A:702:A:C4	53:b:1848:A:H1'	2.43	0.53
50:A:928:G:O2'	50:A:1533:C:H5'	2.09	0.53
50:A:1279:G:H2'	50:A:1279:G:N3	2.23	0.53
53:b:76:C:O2	53:b:76:C:C2'	2.55	0.53
53:b:167:A:H2'	53:b:168:G:C5'	2.39	0.53
53:b:268:C:O2	53:b:425:G:C2	2.62	0.53
53:b:289:G:C6	53:b:290:U:C4	2.96	0.53
53:b:388:G:N7	53:b:390:U:C6	2.70	0.53
53:b:672:C:H2'	53:b:673:C:O4'	2.08	0.53
53:b:734:A:N6	53:b:735:A:C5	2.77	0.53
53:b:1059:G:N7	53:b:1060:U:C6	2.77	0.53
53:b:1151:A:C6	53:b:1152:C:C4	2.97	0.53
53:b:1201:U:C2	53:b:1202:G:C8	2.97	0.53
53:b:1541:C:N3	53:b:1542:U:C5	2.77	0.53
53:b:1702:G:C2	53:b:1703:G:C8	2.97	0.53
53:b:1997:C:H2'	53:b:1997:C:O2	2.09	0.53
53:b:2066:C:H6	53:b:2066:C:H3'	1.74	0.53
53:b:2337:G:C6	53:b:2338:C:C5	2.96	0.53
53:b:2766:A:N1	53:b:2767:C:C6	2.77	0.53
54:v:18:G:O2'	54:v:57:A:N1	2.40	0.53
9:J:63:ASP:OD2	9:J:65:TYR:CZ	2.62	0.53
10:K:116:PRO:C	10:K:118:ASN:H	2.17	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:5:ARG:HH22	50:A:636:U:H4'	1.73	0.53
34:h:40:THR:C	34:h:42:LYS:N	2.66	0.53
44:s:53:SER:HA	53:b:487:C:O2'	2.09	0.53
50:A:301:G:HO2'	50:A:302:G:C5'	2.21	0.53
50:A:474:G:H2'	50:A:475:C:C2	2.44	0.53
50:A:846:G:H2'	50:A:846:G:N3	2.24	0.53
50:A:1162:C:H2'	50:A:1163:A:C8	2.44	0.53
51:X:20:U:H6	51:X:21:C:C2	2.27	0.53
52:a:46:A:C5	52:a:47:C:C6	2.97	0.53
53:b:30:G:C6	53:b:31:C:C4	2.97	0.53
53:b:75:G:N1	53:b:76:C:H5	2.06	0.53
53:b:210:C:H2'	53:b:210:C:O2	2.07	0.53
53:b:380:G:N2	53:b:381:G:C4	2.77	0.53
53:b:381:G:C2	53:b:382:A:C5	2.97	0.53
53:b:462:C:C2	53:b:468:G:C2	2.97	0.53
53:b:598:U:O2	53:b:599:A:C8	2.62	0.53
53:b:910:A:N3	53:b:2264:C:O2'	2.39	0.53
53:b:1079:C:O2'	53:b:1080:A:O5'	2.27	0.53
53:b:1195:G:C2	53:b:1196:C:C6	2.97	0.53
53:b:1461:C:O2	53:b:1461:C:H2'	2.07	0.53
53:b:1999:C:H2'	53:b:2687:U:O2'	2.09	0.53
53:b:2006:C:N3	53:b:2007:U:C5	2.76	0.53
53:b:2469:A:N1	53:b:2470:G:H1'	2.24	0.53
53:b:2615:U:N3	53:b:2616:C:C5	2.77	0.53
2:C:31:ASN:HD21	2:C:58:ARG:HD3	1.74	0.53
10:K:88:PRO:CG	20:U:28:LEU:CD1	2.46	0.53
34:h:30:LEU:HB3	34:h:36:ALA:HB3	1.89	0.53
49:z:25:ILE:HG21	49:z:27:ALA:HB1	1.67	0.53
50:A:1412:C:H2'	50:A:1413:A:C8	2.43	0.53
53:b:172:A:C2	53:b:173:A:C4	2.97	0.53
53:b:248:G:N7	53:b:250:G:C2	2.76	0.53
53:b:341:C:N3	53:b:342:A:N7	2.56	0.53
53:b:749:A:H5'	53:b:1271:G:H1'	1.91	0.53
53:b:1013:C:N3	53:b:1014:A:N7	2.56	0.53
53:b:1055:G:C6	53:b:1104:C:C4	2.92	0.53
53:b:1337:G:C6	53:b:1338:G:C8	2.96	0.53
53:b:1531:C:C2	53:b:1532:A:C8	2.96	0.53
53:b:1824:G:C6	53:b:1825:U:C5	2.97	0.53
53:b:2254:C:N3	53:b:2255:G:N7	2.56	0.53
53:b:2300:C:C2	53:b:2301:C:C5	2.96	0.53
53:b:2464:G:C5	53:b:2465:C:C5	2.97	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:391:G:C6	50:A:392:C:C4	2.97	0.53
50:A:826:C:OP2	50:A:826:C:H6	1.91	0.53
50:A:1346:A:H4'	50:A:1347:G:OP1	2.08	0.53
51:X:19:C:O2	51:X:19:C:C5'	2.53	0.53
52:a:106:G:H2'	52:a:107:G:O4'	2.09	0.53
53:b:114:U:C2	53:b:115:C:C5	2.96	0.53
53:b:207:A:H2'	53:b:208:C:O4'	2.09	0.53
53:b:223:A:C6	53:b:422:A:N7	2.77	0.53
53:b:311:A:C2	53:b:331:C:OP1	2.62	0.53
53:b:438:G:C6	53:b:439:A:N7	2.77	0.53
53:b:749:A:H2	53:b:753:A:O2'	1.89	0.53
53:b:750:A:OP1	53:b:1615:C:N4	2.42	0.53
53:b:759:G:C2	53:b:760:G:C8	2.97	0.53
53:b:786:C:O2'	53:b:787:C:H5'	2.09	0.53
53:b:956:G:N2	53:b:959:A:H3'	2.24	0.53
53:b:1050:A:C6	53:b:1051:G:N9	2.77	0.53
53:b:1162:G:C6	53:b:1163:G:N7	2.77	0.53
53:b:1220:G:H22	53:b:1228:G:H22	1.57	0.53
53:b:1338:G:C2	53:b:1339:G:C8	2.97	0.53
53:b:1342:A:C2	53:b:1345:C:C5	2.97	0.53
53:b:1462:C:O2	53:b:1463:C:C5	2.62	0.53
53:b:1536:C:H1'	53:b:1537:G:C2	2.44	0.53
53:b:1560:G:C2	53:b:1561:C:C6	2.97	0.53
53:b:1651:G:C6	53:b:1652:A:C6	2.97	0.53
53:b:1805:A:C2	53:b:1806:C:C6	2.97	0.53
53:b:2329:U:C2	53:b:2330:G:C8	2.97	0.53
53:b:2353:G:C6	53:b:2354:C:C5	2.97	0.53
53:b:2839:G:H21	53:b:2840:C:H1'	1.69	0.53
50:A:772:U:H2'	50:A:773:G:C8	2.44	0.52
50:A:944:G:C2	50:A:1338:G:OP2	2.62	0.52
50:A:1003:G:N2	50:A:1037:C:O2	2.41	0.52
53:b:67:U:C2	53:b:68:G:C8	2.97	0.52
53:b:111:A:C6	53:b:112:U:C4	2.97	0.52
53:b:170:U:C2	53:b:171:U:C6	2.97	0.52
53:b:255:A:H1'	53:b:384:A:N7	2.24	0.52
53:b:387:U:O4'	53:b:388:G:O4'	2.26	0.52
53:b:795:C:C2	53:b:796:C:C5	2.98	0.52
53:b:807:U:N3	53:b:808:G:C8	2.78	0.52
53:b:974:G:C5	53:b:989:G:N1	2.76	0.52
53:b:1016:G:C6	53:b:1017:G:N7	2.77	0.52
53:b:1075:C:O2'	53:b:1076:C:C5'	2.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1488:C:O2	53:b:1488:C:H2'	2.09	0.52
53:b:1542:U:C2	53:b:1543:G:C8	2.97	0.52
53:b:1650:A:C6	53:b:1651:G:N7	2.77	0.52
53:b:1734:G:C2	53:b:1735:A:C8	2.97	0.52
53:b:1782:U:N3	53:b:2587:A:N6	2.58	0.52
53:b:2205:A:N3	53:b:2206:C:C6	2.77	0.52
53:b:2226:C:C5	53:b:2227:A:C8	2.97	0.52
53:b:2517:C:N4	53:b:2542:A:C5	2.76	0.52
53:b:2837:A:C6	53:b:2838:G:N7	2.77	0.52
53:b:2838:G:C2	53:b:2839:G:C1'	2.92	0.52
10:K:126:ARG:HG2	10:K:128:VAL:N	2.25	0.52
33:g:67:THR:HG23	53:b:2747:G:O2'	2.09	0.52
35:j:57:LEU:HD21	35:j:129:GLU:C	2.32	0.52
50:A:1237:C:H42	50:A:1337:G:H1	1.57	0.52
53:b:19:A:C4	53:b:20:C:C6	2.97	0.52
53:b:160:A:C5	53:b:167:A:C2	2.97	0.52
53:b:226:A:N3	53:b:227:A:C8	2.77	0.52
53:b:584:C:N3	53:b:585:G:C8	2.77	0.52
53:b:617:G:C2	53:b:618:G:N7	2.77	0.52
53:b:902:C:C2	53:b:903:C:C6	2.98	0.52
53:b:938:G:N2	53:b:939:G:C4	2.77	0.52
53:b:1534:U:O2'	53:b:1535:A:H2'	2.09	0.52
53:b:1562:U:C4	53:b:1563:U:C5	2.98	0.52
53:b:2769:U:C4	53:b:2770:G:C8	2.96	0.52
4:E:95:MET:HG3	4:E:124:ALA:HB2	1.91	0.52
19:T:28:ARG:O	19:T:32:LYS:NZ	2.32	0.52
29:c:158:ALA:HB1	29:c:197:ASN:HB3	1.91	0.52
32:f:7:TYR:OH	32:f:172:ALA:O	2.26	0.52
34:h:89:LYS:HG2	34:h:125:THR:HG23	1.91	0.52
34:h:97:ARG:NH1	34:h:115:VAL:HA	2.24	0.52
50:A:104:G:H2'	50:A:105:G:H8	1.74	0.52
50:A:1006:G:C2	50:A:1007:U:H1'	2.44	0.52
50:A:1158:C:H2'	50:A:1158:C:O2	2.10	0.52
50:A:1453:G:H5'	50:A:1454:G:OP2	2.08	0.52
53:b:191:A:H2'	53:b:192:C:C6	2.45	0.52
53:b:267:C:C2	53:b:268:C:C6	2.98	0.52
53:b:746:U:C5'	53:b:748:G:N3	2.72	0.52
53:b:780:G:C4	53:b:782:A:N6	2.77	0.52
53:b:1555:G:N1	53:b:1556:C:C4	2.77	0.52
53:b:2636:C:C2	53:b:2637:U:C5	2.98	0.52
11:L:67:GLY:O	11:L:98:ARG:NH1	2.36	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:6:18:PHE:HB2	53:b:126:A:C2	2.44	0.52
27:7:30:ARG:NH1	37:l:63:LYS:O	2.43	0.52
29:c:225:MET:HG2	53:b:782:A:C2	2.45	0.52
50:A:506:G:O6	50:A:525:C:N4	2.41	0.52
50:A:702:A:N1	53:b:1848:A:C8	2.67	0.52
50:A:999:C:H2'	50:A:1000:A:C8	2.44	0.52
50:A:1028:C:H2'	50:A:1029:U:O4'	2.09	0.52
50:A:1071:C:H42	50:A:1104:G:H1	1.57	0.52
50:A:1243:C:H2'	50:A:1244:G:H8	1.74	0.52
50:A:1340:A:O2'	54:v:32:A:H5'	2.09	0.52
53:b:41:C:O2	53:b:41:C:H2'	2.09	0.52
53:b:77:G:N2	53:b:78:U:C2	2.78	0.52
53:b:152:A:N6	53:b:173:A:H61	2.08	0.52
53:b:341:C:O2	53:b:342:A:C8	2.61	0.52
53:b:725:G:H2'	53:b:726:G:C1'	2.39	0.52
53:b:786:C:H2'	53:b:787:C:O5'	2.10	0.52
53:b:817:C:H2'	53:b:818:G:O4'	2.09	0.52
53:b:926:G:C2	53:b:927:A:N7	2.77	0.52
53:b:967:U:H2'	53:b:968:C:C6	2.43	0.52
53:b:1073:A:N6	53:b:1074:G:C4	2.78	0.52
53:b:1099:G:C2	53:b:1100:C:N1	2.78	0.52
53:b:1106:G:H2'	53:b:1107:G:O4'	2.09	0.52
53:b:1159:U:C2	53:b:1160:G:C8	2.97	0.52
53:b:1204:A:H5''	53:b:1204:A:N3	2.25	0.52
53:b:1492:G:N1	53:b:1499:C:C2	2.78	0.52
53:b:1517:G:C2	53:b:1518:C:C1'	2.92	0.52
53:b:1582:C:H2'	53:b:1585:C:N4	2.24	0.52
53:b:1630:A:C2	53:b:1631:G:H1'	2.45	0.52
53:b:1907:G:C4	53:b:1908:C:C5	2.98	0.52
53:b:2128:G:C5	53:b:2129:C:C6	2.98	0.52
53:b:2180:U:O2	53:b:2180:U:H2'	2.09	0.52
53:b:2584:U:H3'	53:b:2584:U:H6	1.74	0.52
53:b:2735:G:N2	53:b:2736:A:H1'	2.24	0.52
10:K:124:LYS:HA	20:U:34:ARG:HG3	1.90	0.52
26:6:18:PHE:CD2	53:b:126:A:N1	2.77	0.52
31:e:23:PHE:CD1	31:e:111:GLU:HG3	2.45	0.52
45:t:69:ARG:HG2	45:t:74:ILE:CG2	2.38	0.52
50:A:464:U:H2'	50:A:466:A:OP2	2.09	0.52
50:A:886:G:N2	50:A:912:C:O2	2.43	0.52
50:A:893:C:H2'	50:A:894:G:C8	2.44	0.52
50:A:1294:G:H2'	50:A:1295:U:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:34:A:N1	52:a:44:G:C5	2.77	0.52
53:b:13:A:C6	53:b:525:U:N3	2.78	0.52
53:b:184:C:O2'	53:b:217:A:N3	2.43	0.52
53:b:185:G:N3	53:b:186:G:C8	2.78	0.52
53:b:584:C:C4	53:b:585:G:C5	2.97	0.52
53:b:660:C:N3	53:b:661:A:N7	2.57	0.52
53:b:752:A:O2'	53:b:753:A:OP2	2.22	0.52
53:b:1120:G:C6	53:b:1121:C:C6	2.97	0.52
53:b:1228:G:C2	53:b:1229:C:N1	2.78	0.52
53:b:1239:G:H2'	53:b:1239:G:N3	2.24	0.52
53:b:1267:U:C4	53:b:2012:G:C2	2.96	0.52
53:b:1332:G:C8	53:b:1610:A:H2	2.27	0.52
53:b:1372:U:H1'	53:b:2214:C:C2	2.45	0.52
53:b:1555:G:C6	53:b:1556:C:N4	2.78	0.52
53:b:1703:G:C6	53:b:1704:C:C4	2.97	0.52
53:b:1826:G:C5	53:b:1827:U:C5	2.97	0.52
53:b:1907:G:C5	53:b:1908:C:C5	2.97	0.52
53:b:2013:A:C6	53:b:2613:U:C4	2.96	0.52
53:b:2024:G:N3	53:b:2025:C:C6	2.78	0.52
53:b:2152:G:N3	53:b:2153:C:C1'	2.68	0.52
53:b:2159:G:H2'	53:b:2160:C:N1	2.24	0.52
53:b:2330:G:N1	53:b:2331:G:C8	2.78	0.52
53:b:2617:U:C4	53:b:2618:G:C8	2.97	0.52
53:b:2623:G:N1	53:b:2624:G:C5	2.78	0.52
53:b:2736:A:N1	53:b:2737:G:C5	2.78	0.52
13:N:73:LEU:HB2	13:N:78:LEU:HB2	1.91	0.52
15:P:6:LEU:HG	15:P:17:TYR:CB	2.40	0.52
15:P:11:ALA:O	15:P:12:LYS:C	2.52	0.52
16:Q:5:ARG:HH12	50:A:636:U:H5'	1.74	0.52
30:d:151:THR:O	30:d:153:GLY:N	2.43	0.52
41:p:29:LYS:HG2	41:p:40:LEU:HD11	1.91	0.52
53:b:187:G:C2	53:b:210:C:C2	2.97	0.52
53:b:464:U:H2'	53:b:465:G:O5'	2.09	0.52
53:b:1319:C:C2	53:b:1320:C:C4	2.97	0.52
53:b:1638:C:H1'	53:b:2698:U:O2'	2.10	0.52
53:b:1660:G:N1	53:b:1661:G:C8	2.78	0.52
53:b:2038:G:H2'	53:b:2039:U:O4'	2.10	0.52
53:b:2053:G:H21	53:b:2054:A:H1'	1.75	0.52
53:b:2299:U:C4	53:b:2300:C:C5	2.97	0.52
53:b:2468:A:H2	53:b:2481:G:C2	2.06	0.52
53:b:2488:G:H2'	53:b:2489:U:C6	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2702:G:C2	53:b:2703:C:C6	2.97	0.52
53:b:2736:A:N3	53:b:2737:G:C8	2.77	0.52
53:b:2869:G:C4	53:b:2870:C:C5	2.98	0.52
3:D:173:ASP:OD2	3:D:176:LYS:HB2	2.10	0.52
4:E:67:ARG:HH21	4:E:68:ARG:HH22	1.57	0.52
6:G:24:LYS:HE3	50:A:1375:A:H5'	1.92	0.52
7:H:44:PHE:HE2	7:H:100:ILE:HG13	1.75	0.52
8:I:125:GLN:O	50:A:942:G:N2	2.42	0.52
24:3:3:VAL:CG2	53:b:2015:A:C2	2.93	0.52
29:c:225:MET:HG2	53:b:782:A:N3	2.24	0.52
48:y:77:ARG:HH22	53:b:2333:A:P	2.32	0.52
50:A:152:A:H62	50:A:169:C:H42	1.56	0.52
50:A:296:U:O2'	50:A:556:C:O2	2.24	0.52
50:A:451:A:H1'	50:A:452:A:C8	2.45	0.52
50:A:1075:U:H2'	50:A:1076:U:H6	1.73	0.52
53:b:94:A:H2'	53:b:95:A:O4'	2.10	0.52
53:b:155:A:C2	53:b:156:A:C5	2.98	0.52
53:b:437:U:N3	53:b:438:G:C8	2.78	0.52
53:b:867:C:N3	53:b:868:U:H5	2.03	0.52
53:b:937:C:O2	53:b:938:G:C8	2.63	0.52
53:b:979:A:C6	53:b:982:C:C5	2.97	0.52
53:b:1007:C:C2	53:b:1137:G:C2	2.98	0.52
53:b:1016:G:C2	53:b:1017:G:N9	2.78	0.52
53:b:1517:G:N1	53:b:1518:C:N1	2.57	0.52
53:b:1658:C:C2	53:b:1659:G:C8	2.98	0.52
53:b:1943:U:C4	53:b:1945:G:H5'	2.45	0.52
53:b:2661:G:O2'	53:b:2662:A:O4'	2.25	0.52
18:S:35:ARG:NH1	18:S:74:ALA:HB3	2.23	0.52
20:U:16:ARG:HA	20:U:19:LYS:HZ2	1.75	0.52
32:f:66:LEU:HD13	52:a:42:C:C5	2.45	0.52
34:h:116:ARG:CZ	34:h:139:PHE:HB2	2.40	0.52
53:b:388:G:O6	53:b:390:U:N3	2.43	0.52
53:b:397:U:O2	53:b:398:C:C6	2.63	0.52
53:b:425:G:C6	53:b:426:C:N4	2.77	0.52
53:b:537:G:C6	53:b:555:G:N1	2.77	0.52
53:b:576:U:H2'	53:b:577:G:C8	2.45	0.52
53:b:585:G:N2	53:b:586:A:N6	2.58	0.52
53:b:616:A:C5	53:b:617:G:C8	2.98	0.52
53:b:1363:C:C2	53:b:1369:G:N1	2.78	0.52
53:b:1547:C:C2	53:b:1548:A:C8	2.98	0.52
53:b:1906:G:C2	53:b:1907:G:C8	2.98	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2034:U:H2'	53:b:2035:G:C8	2.45	0.52
53:b:2044:C:N3	53:b:2045:C:C5	2.77	0.52
53:b:2480:C:C5	53:b:2481:G:N7	2.78	0.52
53:b:2533:U:OP1	53:b:2665:A:O2'	2.28	0.52
53:b:2749:A:C4	53:b:2750:A:C8	2.97	0.52
2:C:152:VAL:HG12	2:C:153:SER:O	2.09	0.52
3:D:8:LEU:O	3:D:12:ARG:HG3	2.10	0.52
4:E:20:VAL:HG22	4:E:31:SER:O	2.10	0.52
15:P:75:ILE:C	15:P:77:GLU:H	2.18	0.52
18:S:10:ILE:HG21	18:S:15:LEU:HD22	1.92	0.52
20:U:5:VAL:HB	20:U:19:LYS:HE3	1.91	0.52
34:h:80:ILE:HG12	34:h:96:THR:HG23	1.91	0.52
52:a:84:G:C2	52:a:93:C:C2	2.98	0.52
53:b:19:A:C2	53:b:20:C:N1	2.77	0.52
53:b:226:A:C4	53:b:227:A:C8	2.98	0.52
53:b:277:G:N3	53:b:277:G:C2'	2.73	0.52
53:b:291:G:N1	53:b:292:U:C5	2.78	0.52
53:b:657:U:C2	53:b:658:U:C5	2.97	0.52
53:b:751:A:H2	53:b:789:A:H1'	1.73	0.52
53:b:978:G:N2	53:b:986:C:C4	2.78	0.52
53:b:978:G:H2'	53:b:979:A:O4'	2.10	0.52
53:b:1157:G:C2	53:b:1158:C:N1	2.78	0.52
53:b:1174:U:H4'	53:b:1175:A:OP1	2.10	0.52
53:b:1276:A:C2	53:b:1277:G:C5	2.98	0.52
53:b:1660:G:H2'	53:b:1660:G:N3	2.24	0.52
53:b:1973:G:C6	53:b:1974:C:C5	2.97	0.52
53:b:2096:C:C2	53:b:2097:A:C8	2.98	0.52
53:b:2228:G:C2	53:b:2229:U:C6	2.98	0.52
53:b:2270:A:C6	53:b:2271:G:C5	2.98	0.52
53:b:2283:C:C4	53:b:2389:G:C5	2.98	0.52
53:b:2302:U:C2	53:b:2303:G:C8	2.98	0.52
12:M:18:LEU:HG	12:M:21:ILE:HD11	1.92	0.52
15:P:1:MET:HG3	50:A:136:C:O4'	2.09	0.52
34:h:42:LYS:NZ	34:h:42:LYS:CA	2.73	0.52
36:k:35:VAL:HG22	36:k:69:VAL:HG12	1.92	0.52
38:m:97:GLN:CD	38:m:100:LYS:CE	2.82	0.52
50:A:700:G:C3'	50:A:701:U:H5''	2.40	0.52
50:A:737:C:H2'	50:A:738:C:C6	2.45	0.52
52:a:85:G:C2	52:a:86:G:N9	2.78	0.52
53:b:116:C:O2'	53:b:126:A:H8	1.76	0.52
53:b:186:G:N3	53:b:186:G:H2'	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:230:G:C2	53:b:231:A:N7	2.78	0.52
53:b:485:C:C2	53:b:496:G:N2	2.78	0.52
53:b:730:A:N1	53:b:731:C:C5	2.77	0.52
53:b:882:G:N2	53:b:895:U:N3	2.58	0.52
53:b:1058:U:N3	53:b:1080:A:N6	2.08	0.52
53:b:1077:A:H2	53:b:1088:A:C2	2.26	0.52
53:b:1091:G:N3	53:b:1092:C:C6	2.78	0.52
53:b:1142:A:C5	53:b:1144:A:C5	2.98	0.52
53:b:1218:G:C6	53:b:1219:U:N1	2.77	0.52
53:b:1224:U:H2'	53:b:1225:G:C8	2.45	0.52
53:b:1494:A:H2'	53:b:1495:A:C8	2.45	0.52
53:b:1850:G:C2	53:b:1851:U:C6	2.98	0.52
53:b:2327:A:H2'	53:b:2328:A:O4'	2.10	0.52
53:b:2396:G:C2	53:b:2397:G:C5	2.98	0.52
53:b:2482:A:C6	53:b:2483:C:C5	2.98	0.52
53:b:2558:C:C4	53:b:2559:C:C5	2.98	0.52
53:b:2735:G:C5	53:b:2736:A:C8	2.98	0.52
53:b:2802:G:C2	53:b:2803:G:C4	2.97	0.52
53:b:2893:A:C1'	53:b:2894:G:C6	2.92	0.52
1:B:164:ASP:OD1	1:B:165:ALA:N	2.43	0.51
3:D:94:GLU:HG2	3:D:99:ASN:ND2	2.25	0.51
33:g:42:GLU:OE1	33:g:44:LYS:CE	2.58	0.51
34:h:51:ARG:O	34:h:55:GLU:HG2	2.10	0.51
44:s:85:ILE:CD1	49:z:11:ASP:HB2	2.40	0.51
50:A:702:A:O2'	50:A:703:G:OP1	2.28	0.51
50:A:999:C:H42	50:A:1041:G:H1	1.57	0.51
50:A:1427:C:H2'	50:A:1428:A:C8	2.45	0.51
53:b:77:G:C2	53:b:78:U:C6	2.98	0.51
53:b:194:G:C6	53:b:195:A:C4	2.98	0.51
53:b:277:G:C4'	53:b:361:G:H1	2.23	0.51
53:b:291:G:N2	53:b:292:U:C6	2.78	0.51
53:b:356:G:C4	53:b:357:C:C5	2.97	0.51
53:b:356:G:H2'	53:b:357:C:C6	2.45	0.51
53:b:380:G:N1	53:b:381:G:N7	2.58	0.51
53:b:565:C:H2'	53:b:566:U:C6	2.46	0.51
53:b:766:U:C2	53:b:767:U:C6	2.97	0.51
53:b:925:A:C6	53:b:926:G:N7	2.78	0.51
53:b:985:C:C2	53:b:986:C:C5	2.99	0.51
53:b:1011:G:C5	53:b:1013:C:C5	2.98	0.51
53:b:1021:A:N6	53:b:1022:G:N2	2.58	0.51
53:b:1021:A:C6	53:b:1141:U:C4	2.96	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1336:A:C2	53:b:1337:G:C8	2.98	0.51
53:b:1434:A:N7	53:b:1435:G:N7	2.57	0.51
53:b:1555:G:C2	53:b:1556:C:C4	2.97	0.51
53:b:2044:C:N3	53:b:2045:C:C6	2.79	0.51
53:b:2205:A:C4	53:b:2206:C:C5	2.97	0.51
53:b:2418:A:C5	53:b:2419:U:C5	2.97	0.51
53:b:2686:G:H2'	53:b:2687:U:O4'	2.09	0.51
53:b:2705:A:C2	53:b:2706:A:H1'	2.45	0.51
53:b:2714:G:C5	53:b:2715:C:C5	2.98	0.51
53:b:2744:G:N3	53:b:2745:C:C6	2.78	0.51
53:b:2840:C:C2	53:b:2841:C:C6	2.98	0.51
2:C:87:ARG:HG2	2:C:98:ALA:HB1	1.91	0.51
8:I:35:GLU:O	8:I:40:ARG:NE	2.28	0.51
18:S:77:ARG:NH2	50:A:1222:G:H5''	2.25	0.51
20:U:8:ASN:OD1	20:U:9:GLU:N	2.42	0.51
34:h:5:LEU:HD23	34:h:36:ALA:HB2	1.91	0.51
44:s:69:LEU:CD2	44:s:109:ASP:OD1	2.58	0.51
50:A:455:G:H2'	50:A:456:A:C8	2.44	0.51
50:A:1003:G:H21	50:A:1005:A:H5'	1.74	0.51
50:A:1339:A:OP2	50:A:1339:A:H8	1.93	0.51
53:b:20:C:C2	53:b:21:A:N7	2.77	0.51
53:b:521:U:N3	53:b:522:A:C8	2.77	0.51
53:b:594:U:H2'	53:b:595:C:H6	1.75	0.51
53:b:794:A:C5	53:b:795:C:C5	2.98	0.51
53:b:874:G:C2	53:b:875:G:C8	2.98	0.51
53:b:925:A:N1	53:b:926:G:C5	2.79	0.51
53:b:963:U:O2	53:b:964:C:C5	2.63	0.51
53:b:1076:C:C2'	53:b:1077:A:C8	2.93	0.51
53:b:1120:G:N2	53:b:1121:C:H1'	2.25	0.51
53:b:1418:G:N2	53:b:1579:A:C5	2.77	0.51
53:b:2796:U:N1	53:b:2798:U:C2	2.78	0.51
54:v:33:U:O2	54:v:35:C:OP2	2.28	0.51
5:F:21:MET:O	5:F:24:ARG:HG2	2.10	0.51
6:G:78:ARG:NH1	6:G:83:THR:O	2.43	0.51
9:J:48:ARG:HA	9:J:66:GLU:HA	1.93	0.51
10:K:108:ASN:CG	20:U:6:ARG:HE	2.17	0.51
11:L:71:HIS:HB3	11:L:73:LEU:H	1.75	0.51
12:M:15:VAL:HG13	12:M:16:ILE:HG12	1.93	0.51
15:P:5:ARG:HH11	50:A:377:G:P	2.31	0.51
15:P:28:ARG:HE	15:P:29:ASN:ND2	2.01	0.51
19:T:67:HIS:HE1	19:T:69:ASN:HD22	1.57	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:p:72:ARG:HE	41:p:74:PHE:HE1	1.53	0.51
49:z:26:ARG:H	49:z:27:ALA:HA	1.74	0.51
52:a:85:G:N1	52:a:86:G:C5	2.78	0.51
52:a:117:G:C6	52:a:118:C:C4	2.99	0.51
53:b:417:C:O2'	53:b:418:C:P	2.69	0.51
53:b:539:G:C5	53:b:540:C:C5	2.98	0.51
53:b:613:A:H3'	53:b:614:A:H5'	1.92	0.51
53:b:664:G:N3	53:b:664:G:H2'	2.24	0.51
53:b:996:A:C6	53:b:997:G:N7	2.79	0.51
53:b:1050:A:C5	53:b:1051:G:N9	2.78	0.51
53:b:1050:A:N1	53:b:1051:G:H1'	2.26	0.51
53:b:1268:A:H1'	53:b:2613:U:H3	1.76	0.51
53:b:1459:G:N2	53:b:1461:C:C4	2.76	0.51
53:b:2282:G:C6	53:b:2425:A:C6	2.97	0.51
53:b:2307:G:O6	53:b:2311:A:C6	2.63	0.51
53:b:2515:C:C2	53:b:2570:G:C2	2.99	0.51
53:b:2617:U:C2	53:b:2618:G:C8	2.99	0.51
53:b:2800:A:N7	53:b:2801:G:H8	2.01	0.51
1:B:164:ASP:OD2	1:B:166:ASP:HB2	2.10	0.51
3:D:193:ASP:O	3:D:195:ASN:N	2.43	0.51
15:P:2:VAL:HG23	15:P:65:ALA:HA	1.92	0.51
20:U:36:PHE:HB2	20:U:39:LYS:HG2	1.91	0.51
34:h:41:LYS:HA	34:h:43:ASN:CG	2.36	0.51
38:m:122:ALA:CB	53:b:2467:C:O2'	2.58	0.51
41:p:106:LYS:NZ	50:A:1433:A:OP1	2.44	0.51
49:z:12:LEU:N	49:z:12:LEU:CD1	2.73	0.51
50:A:202:G:H1	50:A:215:C:H42	1.59	0.51
50:A:309:A:H2'	50:A:310:G:H8	1.75	0.51
50:A:702:A:HO2'	50:A:703:G:P	2.32	0.51
50:A:1129:C:N3	50:A:1144:G:N2	2.57	0.51
51:X:14:U:H4'	51:X:15:G:OP1	2.11	0.51
53:b:8:C:C2	53:b:9:G:C8	2.98	0.51
53:b:170:U:N3	53:b:171:U:C5	2.78	0.51
53:b:356:G:C2	53:b:357:C:C2	2.99	0.51
53:b:439:A:C2	53:b:440:C:C6	2.98	0.51
53:b:522:A:C5	53:b:523:C:C5	2.98	0.51
53:b:873:C:N3	53:b:874:G:N7	2.59	0.51
53:b:919:U:N3	53:b:920:A:C8	2.78	0.51
53:b:964:C:O2	53:b:2273:A:C2	2.62	0.51
53:b:1099:G:N2	53:b:1100:C:H1'	2.25	0.51
53:b:1220:G:C2	53:b:1221:C:N1	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1413:A:H2'	53:b:1414:C:O4'	2.10	0.51
53:b:1472:C:C4	53:b:1473:G:N7	2.78	0.51
53:b:1538:G:C2	53:b:1539:U:C6	2.98	0.51
53:b:1595:C:O2	53:b:1595:C:H2'	2.09	0.51
53:b:1773:A:N9	53:b:1829:A:H1'	2.25	0.51
53:b:2133:G:N2	53:b:2160:C:H5'	2.25	0.51
53:b:2222:C:C2	53:b:2223:G:C8	2.99	0.51
53:b:2270:A:C2	53:b:2271:G:N9	2.78	0.51
53:b:2353:G:N1	53:b:2354:C:C4	2.78	0.51
53:b:2397:G:N1	53:b:2398:U:C5	2.79	0.51
53:b:2545:G:C6	53:b:2546:U:C4	2.98	0.51
53:b:2693:G:C2	53:b:2694:G:N7	2.79	0.51
29:c:75:PRO:HB2	29:c:97:LYS:CE	2.31	0.51
46:u:59:VAL:HG11	46:u:61:LYS:HE3	1.93	0.51
53:b:379:G:O2'	53:b:2232:C:OP1	2.27	0.51
53:b:897:C:O2	53:b:897:C:H2'	2.10	0.51
53:b:1127:A:N3	53:b:2518:A:C6	2.79	0.51
53:b:1196:C:C2	53:b:1197:G:C8	2.98	0.51
53:b:1527:G:N1	53:b:1543:G:H2'	2.25	0.51
53:b:1748:C:C2	53:b:1749:A:C8	2.98	0.51
53:b:2020:A:C6	53:b:2022:U:C6	2.99	0.51
53:b:2044:C:C4	53:b:2045:C:C5	2.98	0.51
53:b:2128:G:N2	53:b:2160:C:C2'	2.73	0.51
53:b:2345:G:C2	53:b:2381:A:C5	2.98	0.51
53:b:2482:A:C6	53:b:2483:C:C4	2.98	0.51
53:b:2663:G:C6	53:b:2664:G:C4	2.98	0.51
53:b:2709:G:N2	53:b:2710:C:H1'	2.25	0.51
15:P:48:GLU:CD	15:P:49:GLY:H	2.17	0.51
28:8:19:ARG:CZ	28:8:26:ILE:HD11	2.39	0.51
34:h:42:LYS:N	34:h:43:ASN:CA	2.73	0.51
50:A:401:C:H2'	50:A:402:G:H8	1.75	0.51
50:A:708:C:H2'	50:A:709:U:H6	1.74	0.51
52:a:46:A:C2	52:a:47:C:N1	2.78	0.51
53:b:248:G:C8	53:b:250:G:C5	2.97	0.51
53:b:651:G:N1	53:b:652:U:C5	2.78	0.51
53:b:843:G:C4	53:b:844:A:C8	2.99	0.51
53:b:959:A:O2'	53:b:960:A:H5'	2.09	0.51
53:b:1166:G:C6	53:b:1167:C:C5	2.99	0.51
53:b:1300:G:C8	53:b:1300:G:H5'	2.46	0.51
53:b:1496:A:H2'	53:b:1498:C:N4	2.26	0.51
53:b:1575:C:N4	53:b:1576:U:C4	2.78	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1586:A:C6	53:b:1587:G:H1'	2.46	0.51
53:b:1635:A:C5	53:b:1636:U:C6	2.98	0.51
53:b:1840:G:C6	53:b:1841:U:C4	2.99	0.51
53:b:2189:U:C2	53:b:2190:G:C8	2.98	0.51
53:b:2353:G:N2	53:b:2354:C:C2	2.78	0.51
53:b:2386:A:C2	53:b:2387:U:C4	2.99	0.51
53:b:2691:C:C2	53:b:2692:G:C8	2.99	0.51
5:F:8:PHE:CZ	5:F:60:VAL:HG11	2.46	0.51
15:P:12:LYS:O	15:P:13:LYS:HB2	2.10	0.51
29:c:50:THR:O	53:b:1805:A:O2'	2.17	0.51
41:p:72:ARG:CD	41:p:74:PHE:CZ	2.86	0.51
49:z:10:GLU:CB	49:z:12:LEU:HD22	2.37	0.51
50:A:79:G:O6	50:A:80:A:N6	2.42	0.51
50:A:1083:U:H3'	50:A:1084:G:C8	2.46	0.51
52:a:34:A:N6	52:a:44:G:H1'	2.26	0.51
53:b:109:C:C2	53:b:110:G:C8	2.93	0.51
53:b:118:A:C8	53:b:120:U:C4	2.99	0.51
53:b:279:A:H2'	53:b:279:A:N3	2.25	0.51
53:b:866:A:N3	53:b:866:A:H2'	2.25	0.51
53:b:1478:G:O6	53:b:1514:G:N3	2.44	0.51
53:b:1487:U:O2	53:b:1487:U:H2'	2.10	0.51
53:b:1501:G:N3	53:b:1502:A:C8	2.78	0.51
53:b:1746:A:C2	53:b:1747:U:C5	2.99	0.51
53:b:1999:C:C4	53:b:2000:C:C5	2.96	0.51
53:b:2173:A:OP2	53:b:2174:C:C5	2.64	0.51
53:b:2227:A:C6	53:b:2228:G:C4	2.98	0.51
53:b:2524:G:C2	53:b:2540:C:C2	2.98	0.51
53:b:2526:G:C6	53:b:2527:C:C5	2.99	0.51
53:b:2794:C:C2	53:b:2803:G:C2	2.99	0.51
20:U:24:LYS:O	20:U:28:LEU:HB2	2.10	0.51
30:d:4:LEU:HD22	30:d:101:PHE:CE2	2.46	0.51
38:m:97:GLN:N	38:m:100:LYS:CE	2.66	0.51
50:A:210:C:H4'	50:A:211:G:C2	2.46	0.51
53:b:172:A:N1	53:b:173:A:C6	2.79	0.51
53:b:629:G:C6	53:b:630:G:N9	2.79	0.51
53:b:704:G:O2'	53:b:726:G:N2	2.44	0.51
53:b:779:U:C2	53:b:780:G:H8	2.24	0.51
53:b:822:G:N3	53:b:823:C:C5	2.79	0.51
53:b:1210:G:C6	53:b:1237:A:C5	2.99	0.51
53:b:1230:A:C2	53:b:1231:U:C6	2.99	0.51
53:b:1276:A:N7	53:b:1645:G:C2	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1495:A:O2'	53:b:1496:A:O5'	2.29	0.51
53:b:1511:G:N3	53:b:1512:C:C5	2.78	0.51
53:b:2072:C:C4	53:b:2073:C:C5	2.98	0.51
53:b:2128:G:N3	53:b:2129:C:H1'	2.26	0.51
53:b:2166:U:O2'	53:b:2167:U:O4'	2.29	0.51
53:b:2534:A:C5	53:b:2535:G:C1'	2.93	0.51
53:b:2591:C:O2	53:b:2592:G:C8	2.63	0.51
53:b:2738:A:C6	53:b:2739:U:C5	2.99	0.51
53:b:2796:U:C6	53:b:2798:U:C4	2.99	0.51
23:2:40:ASP:OD1	23:2:45:ARG:NH1	2.44	0.51
50:A:1034:G:H3'	50:A:1035:A:H8	1.74	0.51
53:b:270:A:H1'	53:b:370:G:C2	2.46	0.51
53:b:380:G:C2	53:b:381:G:N9	2.78	0.51
53:b:465:G:O2'	53:b:466:A:O5'	2.29	0.51
53:b:528:A:C5	53:b:2042:A:C6	2.98	0.51
53:b:834:G:C5	53:b:835:C:C6	2.99	0.51
53:b:865:C:N4	53:b:908:C:C4	2.78	0.51
53:b:866:A:H1'	53:b:914:G:H1'	1.92	0.51
53:b:991:C:C5	53:b:1185:G:N1	2.79	0.51
53:b:1232:G:N3	53:b:1233:C:C5	2.79	0.51
53:b:1773:A:C4	53:b:1829:A:H1'	2.46	0.51
53:b:1774:C:O2	53:b:1774:C:H2'	2.10	0.51
53:b:1811:G:N1	53:b:1812:U:C6	2.79	0.51
53:b:2072:C:O2	53:b:2072:C:H2'	2.11	0.51
53:b:2348:U:C4	53:b:2382:G:N2	2.79	0.51
53:b:2349:G:C2	53:b:2350:C:H1'	2.46	0.51
53:b:2534:A:C5	53:b:2535:G:H1'	2.46	0.51
53:b:2615:U:N3	53:b:2616:C:C6	2.79	0.51
53:b:2757:A:N3	53:b:2757:A:H2'	2.26	0.51
53:b:2801:G:C2	53:b:2802:G:C4	2.98	0.51
3:D:187:ARG:HD2	3:D:196:GLU:OE2	2.11	0.51
10:K:86:LYS:NZ	50:A:707:U:OP1	2.34	0.51
15:P:6:LEU:HG	15:P:17:TYR:HB3	1.93	0.51
15:P:22:ALA:CB	15:P:32:PHE:HA	2.41	0.51
22:1:45:GLN:O	22:1:47:ARG:N	2.39	0.51
28:8:1:MET:HG2	53:b:2526:G:O2'	2.11	0.51
30:d:134:HIS:NE2	53:b:1675:C:N4	2.59	0.51
37:l:82:LEU:HD11	37:l:110:VAL:CG1	2.41	0.51
50:A:390:U:O2	50:A:390:U:H2'	2.11	0.51
50:A:511:C:O2'	50:A:512:U:OP2	2.25	0.51
50:A:684:U:H3	50:A:706:A:H61	1.59	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:1492:A:N6	53:b:1913:A:C5	2.78	0.51
53:b:1011:G:C4	53:b:1013:C:C6	2.99	0.51
53:b:1301:A:C2	53:b:1303:G:C8	2.99	0.51
53:b:1318:U:O2	53:b:1319:C:C5	2.64	0.51
53:b:1320:C:H4'	53:b:1321:A:H5''	1.93	0.51
53:b:1540:G:C2	53:b:1541:C:C2	2.99	0.51
53:b:1564:C:H2'	53:b:1565:C:O4'	2.11	0.51
53:b:1713:A:C6	53:b:1716:U:C1'	2.85	0.51
53:b:1733:G:C2	53:b:1734:G:N7	2.79	0.51
53:b:1773:A:H1'	53:b:1829:A:C8	2.45	0.51
53:b:1812:U:O2	53:b:1812:U:H2'	2.09	0.51
53:b:2147:A:C5'	53:b:2148:G:O4'	2.58	0.51
53:b:2185:U:O2	53:b:2186:G:C8	2.64	0.51
53:b:2293:G:C6	53:b:2294:G:N7	2.80	0.51
53:b:2468:A:C6	53:b:2481:G:N1	2.66	0.51
16:Q:68:LYS:HB3	50:A:254:G:P	2.51	0.50
49:z:5:LYS:CD	49:z:7:ILE:HG22	2.40	0.50
50:A:588:G:O2'	50:A:589:U:O5'	2.29	0.50
50:A:667:G:OP1	50:A:732:C:O2'	2.26	0.50
50:A:1348:U:C2'	50:A:1349:A:H5''	2.41	0.50
52:a:2:G:C2	52:a:3:C:N4	2.64	0.50
53:b:181:A:H2'	53:b:182:A:C8	2.46	0.50
53:b:186:G:C2	53:b:211:C:C2	2.99	0.50
53:b:226:A:N1	53:b:227:A:C5	2.79	0.50
53:b:254:G:H2'	53:b:254:G:N3	2.26	0.50
53:b:417:C:O2	53:b:418:C:C5	2.64	0.50
53:b:439:A:C6	53:b:440:C:C4	2.99	0.50
53:b:695:G:C2	53:b:696:G:N9	2.79	0.50
53:b:927:A:C6	53:b:928:A:C5	3.00	0.50
53:b:1157:G:C4	53:b:1158:C:C6	2.99	0.50
53:b:1244:A:C2	53:b:1245:G:N9	2.79	0.50
53:b:1576:U:C2	53:b:1577:C:C5	2.98	0.50
53:b:1661:G:C2	53:b:1662:U:C6	3.00	0.50
53:b:2299:U:C2	53:b:2300:C:C6	2.98	0.50
53:b:2534:A:C4	53:b:2535:G:H1'	2.45	0.50
53:b:2796:U:C2'	53:b:2798:U:O2	2.57	0.50
54:v:35:C:H3'	54:v:35:C:H6	1.75	0.50
1:B:63:LYS:NZ	1:B:88:GLN:HE22	2.09	0.50
2:C:84:GLU:OE1	2:C:87:ARG:NH2	2.44	0.50
6:G:24:LYS:O	6:G:28:ILE:HG12	2.11	0.50
23:2:3:LYS:O	23:2:4:THR:OG1	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:c:69:ARG:O	29:c:189:ARG:NH2	2.42	0.50
34:h:40:THR:O	34:h:41:LYS:C	2.51	0.50
42:q:109:LEU:CD2	43:r:48:LYS:HD2	2.40	0.50
53:b:750:A:N3	53:b:753:A:O4'	2.24	0.50
53:b:807:U:N3	53:b:808:G:N7	2.59	0.50
53:b:1173:U:O2'	53:b:1176:U:C4	2.56	0.50
53:b:1231:U:O2	53:b:1231:U:C2'	2.57	0.50
53:b:1246:A:H2'	53:b:1247:A:O4'	2.11	0.50
53:b:1826:G:N2	53:b:1827:U:H1'	2.26	0.50
53:b:1996:C:O2	53:b:1997:C:H1'	2.11	0.50
53:b:2041:U:O2	53:b:2042:A:H8	1.87	0.50
53:b:2056:G:C4	53:b:2577:A:C6	3.00	0.50
53:b:2251:G:H2'	53:b:2252:G:O4'	2.10	0.50
53:b:2464:G:C4	53:b:2465:C:C6	2.99	0.50
53:b:2662:A:N7	53:b:2663:G:H1'	2.25	0.50
53:b:2709:G:C2	53:b:2710:C:C6	3.00	0.50
2:C:70:ALA:N	2:C:106:ARG:HH22	2.10	0.50
9:J:46:LYS:HE2	9:J:66:GLU:OE1	2.11	0.50
15:P:17:TYR:CE1	50:A:374:A:H2	2.28	0.50
15:P:20:VAL:HG21	15:P:32:PHE:CB	2.41	0.50
15:P:20:VAL:HG23	15:P:34:GLU:O	2.10	0.50
36:k:93:GLN:NE2	36:k:111:LYS:O	2.44	0.50
46:u:73:PHE:CE2	46:u:75:ALA:HB2	2.46	0.50
50:A:487:A:H5''	50:A:488:C:OP2	2.10	0.50
50:A:694:A:H2'	50:A:695:A:H5'	1.94	0.50
50:A:1065:U:H1'	50:A:1066:C:OP2	2.11	0.50
50:A:1175:G:H2'	50:A:1176:A:C8	2.47	0.50
50:A:1347:G:C4'	50:A:1348:U:H6	2.24	0.50
50:A:1436:U:O4	50:A:1437:A:N6	2.44	0.50
50:A:1510:C:H2'	50:A:1511:G:C8	2.47	0.50
53:b:190:A:N3	53:b:679:C:O2'	2.42	0.50
53:b:350:G:C2	53:b:351:C:N1	2.79	0.50
53:b:608:A:C5	53:b:621:A:C6	2.99	0.50
53:b:676:A:C2	53:b:2070:A:O4'	2.65	0.50
53:b:960:A:C8	53:b:962:G:C8	3.00	0.50
53:b:978:G:C6	53:b:979:A:C4	3.00	0.50
53:b:1050:A:N7	53:b:1051:G:C8	2.79	0.50
53:b:1503:A:C2	53:b:1504:A:C8	3.00	0.50
53:b:1655:A:H2'	53:b:1655:A:N3	2.26	0.50
53:b:1660:G:C2	53:b:1661:G:C8	3.00	0.50
53:b:1804:C:C4	53:b:1805:A:C8	2.98	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1842:G:C4	53:b:1843:C:C6	2.99	0.50
53:b:1893:C:O2	53:b:1893:C:H2'	2.10	0.50
53:b:2100:G:C2	53:b:2101:A:H1'	2.46	0.50
53:b:2184:A:C2	53:b:2185:U:N1	2.79	0.50
53:b:2266:A:H5''	53:b:2267:A:C5	2.46	0.50
53:b:2347:C:C2	53:b:2348:U:C5	2.99	0.50
53:b:2353:G:C6	53:b:2354:C:C4	2.99	0.50
53:b:2453:A:N6	53:b:2500:U:N3	2.30	0.50
53:b:2510:C:C4	53:b:2511:U:C5	3.00	0.50
53:b:2557:G:C6	53:b:2558:C:C4	3.00	0.50
2:C:38:VAL:HB	2:C:93:ILE:HG21	1.91	0.50
3:D:169:TRP:NE1	3:D:185:PRO:HG3	2.26	0.50
29:c:206:GLY:C	53:b:1791:A:HO2'	2.19	0.50
31:e:60:TRP:O	31:e:60:TRP:HE3	1.95	0.50
33:g:159:GLY:O	33:g:163:ARG:NH1	2.43	0.50
36:k:107:LEU:O	36:k:109:SER:N	2.45	0.50
41:p:29:LYS:HA	41:p:40:LEU:HD11	1.90	0.50
49:z:5:LYS:HD3	49:z:7:ILE:CG2	2.42	0.50
50:A:209:U:H5''	50:A:210:C:OP2	2.11	0.50
50:A:767:A:O2'	50:A:1524:C:O2	2.24	0.50
50:A:1399:C:OP2	50:A:1399:C:C6	2.65	0.50
52:a:112:G:C6	52:a:113:C:N4	2.79	0.50
53:b:36:G:C2	53:b:445:C:C2	2.99	0.50
53:b:247:G:H5'	53:b:386:G:C8	2.46	0.50
53:b:267:C:N3	53:b:268:C:C5	2.80	0.50
53:b:270:A:N6	53:b:368:A:H2	2.10	0.50
53:b:531:C:C4	53:b:2035:G:N2	2.80	0.50
53:b:659:G:C5	53:b:660:C:C5	2.99	0.50
53:b:836:G:C6	53:b:837:C:C5	2.99	0.50
53:b:880:G:C2	53:b:897:C:N3	2.80	0.50
53:b:1151:A:C5	53:b:1152:C:C5	3.00	0.50
53:b:1537:G:O6	53:b:1538:G:C5	2.65	0.50
53:b:1590:A:C2	53:b:1591:A:C8	2.98	0.50
53:b:2052:A:N1	53:b:2053:G:C8	2.79	0.50
53:b:2108:A:N1	53:b:2181:U:O4	2.45	0.50
53:b:2179:C:N3	53:b:2180:U:C6	2.79	0.50
53:b:2333:A:H4'	53:b:2334:U:H5''	1.93	0.50
53:b:2408:U:O2	53:b:2409:G:C8	2.64	0.50
53:b:2748:A:C2	53:b:2749:A:H1'	2.46	0.50
53:b:2825:G:C5	53:b:2826:A:H1'	2.46	0.50
53:b:2828:G:N2	53:b:2829:A:C8	2.78	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:105:ARG:HD3	8:I:106:ASP:C	2.37	0.50
11:L:13:ARG:NH1	50:A:562:U:H5''	2.26	0.50
50:A:362:G:H2'	50:A:364:A:OP2	2.11	0.50
53:b:79:C:C2	53:b:80:G:C8	3.00	0.50
53:b:439:A:C5	53:b:440:C:C5	2.99	0.50
53:b:519:U:O2	53:b:519:U:H2'	2.11	0.50
53:b:639:U:O2	53:b:640:C:C5	2.64	0.50
53:b:852:U:N3	53:b:853:C:C5	2.79	0.50
53:b:882:G:N2	53:b:895:U:C2	2.80	0.50
53:b:893:C:H2'	53:b:894:U:O4'	2.12	0.50
53:b:1054:A:O2'	53:b:1055:G:P	2.70	0.50
53:b:1227:G:C2	53:b:1228:G:H1'	2.47	0.50
53:b:1416:G:C5	53:b:1417:C:C5	3.00	0.50
53:b:1449:G:N2	53:b:1450:G:H1'	2.27	0.50
53:b:1486:U:C2	53:b:1487:U:C6	2.99	0.50
53:b:1811:G:N1	53:b:1812:U:C5	2.79	0.50
53:b:1993:U:H2'	53:b:1993:U:O2	2.11	0.50
53:b:2056:G:C2	53:b:2057:G:C8	3.00	0.50
53:b:2081:U:C4	53:b:2237:G:N1	2.80	0.50
53:b:2269:G:N2	53:b:2270:A:C1'	2.74	0.50
53:b:2507:C:C2	53:b:2583:G:C2	2.99	0.50
53:b:2638:G:H1'	53:b:2778:A:N6	2.27	0.50
53:b:2698:U:H2'	53:b:2699:C:H6	1.77	0.50
34:h:67:ALA:HB3	34:h:149:GLU:O	2.11	0.50
50:A:608:A:C6	50:A:609:A:C4	3.00	0.50
52:a:34:A:C2	52:a:44:G:C6	2.99	0.50
52:a:40:U:O2	52:a:43:C:H6	1.94	0.50
53:b:42:A:C2	53:b:43:G:H1'	2.46	0.50
53:b:173:A:N3	53:b:174:U:C5	2.80	0.50
53:b:596:U:C2	53:b:597:G:C8	3.00	0.50
53:b:611:C:C5	53:b:612:G:C8	2.99	0.50
53:b:871:U:O2	53:b:872:U:C6	2.65	0.50
53:b:934:U:C2	53:b:935:C:C5	2.98	0.50
53:b:1148:U:N3	53:b:1149:G:C8	2.80	0.50
53:b:1213:A:O2'	53:b:1239:G:O2'	2.18	0.50
53:b:1326:U:HO2'	53:b:2010:G:HO2'	1.53	0.50
53:b:1630:A:C5	53:b:1631:G:C8	2.99	0.50
53:b:1631:G:H2'	53:b:1631:G:N3	2.26	0.50
53:b:2307:G:C6	53:b:2311:A:N6	2.80	0.50
53:b:2454:G:C2	53:b:2499:C:C4	2.99	0.50
53:b:2535:G:H22	53:b:2536:G:C1'	2.21	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2616:C:C4	53:b:2617:U:C5	2.99	0.50
11:L:120:ARG:NH1	50:A:500:G:H5''	2.25	0.50
14:O:4:THR:OG1	14:O:5:GLU:OE1	2.29	0.50
19:T:67:HIS:HE1	19:T:69:ASN:HB2	1.77	0.50
31:e:5:LEU:CD1	31:e:12:LEU:HD12	2.35	0.50
34:h:75:LEU:HD13	34:h:107:GLY:HA3	1.93	0.50
42:q:109:LEU:CD2	43:r:48:LYS:CD	2.89	0.50
53:b:245:G:N1	53:b:246:C:N4	2.59	0.50
53:b:309:A:C2	53:b:330:A:C2	3.00	0.50
53:b:360:U:C5	53:b:361:G:C8	2.99	0.50
53:b:542:C:C2	53:b:543:G:C8	3.00	0.50
53:b:812:C:H1'	53:b:1250:G:N2	2.26	0.50
53:b:842:U:C2	53:b:843:G:C8	2.99	0.50
53:b:867:C:C4	53:b:868:U:C5	3.00	0.50
53:b:1059:G:C4	53:b:1080:A:N6	2.78	0.50
53:b:1162:G:C2	53:b:1163:G:N9	2.80	0.50
53:b:1267:U:C5	53:b:2012:G:C2	2.99	0.50
53:b:1408:G:N2	53:b:1409:U:C1'	2.75	0.50
53:b:1638:C:N3	53:b:1639:C:C5	2.79	0.50
53:b:1825:U:O2	53:b:1825:U:H2'	2.12	0.50
53:b:1859:U:C4	53:b:1860:G:N7	2.79	0.50
53:b:2065:C:C5	53:b:2066:C:C4	3.00	0.50
53:b:2533:U:O4	53:b:2534:A:C4	2.65	0.50
53:b:2557:G:C6	53:b:2558:C:N4	2.79	0.50
53:b:2902:C:C2	53:b:2903:U:C3'	2.95	0.50
3:D:2:ARG:NH2	50:A:404:G:OP1	2.38	0.50
13:N:19:TYR:CD2	13:N:51:PRO:HB3	2.46	0.50
15:P:6:LEU:C	50:A:376:G:N9	2.69	0.50
15:P:20:VAL:HG21	15:P:32:PHE:CG	2.47	0.50
16:Q:3:LYS:HB3	50:A:637:C:OP2	2.12	0.50
23:2:5:ILE:HG21	23:2:57:VAL:HG13	1.88	0.50
31:e:41:GLN:O	31:e:43:THR:N	2.42	0.50
41:p:29:LYS:C	41:p:40:LEU:CD1	2.85	0.50
47:w:40:ILE:CG2	47:w:41:GLU:H	2.23	0.50
50:A:458:U:H2'	50:A:459:A:C8	2.47	0.50
53:b:242:G:N3	53:b:254:G:C6	2.80	0.50
53:b:381:G:N3	53:b:382:A:C8	2.80	0.50
53:b:616:A:C2	53:b:617:G:H1'	2.46	0.50
53:b:694:U:N3	53:b:695:G:C8	2.79	0.50
53:b:847:U:C4	53:b:848:C:C2	3.00	0.50
53:b:954:G:C6	53:b:955:U:C4	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1090:A:C2	53:b:1091:G:O4'	2.64	0.50
53:b:1357:C:C4	53:b:1358:G:N7	2.79	0.50
53:b:1662:U:O2	53:b:1663:G:C8	2.64	0.50
53:b:1857:G:C6	53:b:1884:G:C2	3.00	0.50
53:b:2181:U:C2	53:b:2182:U:C6	3.00	0.50
53:b:2415:G:C5	53:b:2416:C:C5	2.99	0.50
53:b:2521:C:O2'	53:b:2564:A:N3	2.44	0.50
1:B:119:GLN:C	1:B:136:ARG:NH1	2.70	0.50
3:D:169:TRP:CE2	3:D:185:PRO:HG3	2.47	0.50
15:P:78:VAL:O	15:P:78:VAL:HG22	2.11	0.50
19:T:67:HIS:CE1	19:T:69:ASN:HB2	2.47	0.50
36:k:99:ILE:HD13	36:k:118:LEU:HB2	1.93	0.50
39:n:16:HIS:CG	53:b:1275:A:N7	2.79	0.50
49:z:17:VAL:C	49:z:18:TRP:CE3	2.90	0.50
50:A:259:G:H2'	50:A:260:G:H8	1.76	0.50
50:A:401:C:H2'	50:A:402:G:C8	2.47	0.50
51:X:16:G:O5'	51:X:16:G:H8	1.95	0.50
52:a:112:G:C6	52:a:113:C:C4	3.00	0.50
52:a:112:G:N3	52:a:113:C:C6	2.80	0.50
53:b:21:A:N3	53:b:22:C:C6	2.80	0.50
53:b:194:G:H2'	53:b:195:A:O4'	2.11	0.50
53:b:571:U:C4	53:b:575:A:N7	2.80	0.50
53:b:594:U:N3	53:b:595:C:C5	2.80	0.50
53:b:780:G:H2'	53:b:780:G:N3	2.26	0.50
53:b:818:G:C4	53:b:1187:G:N2	2.79	0.50
53:b:818:G:O6	53:b:1187:G:C4	2.64	0.50
53:b:1218:G:C2	53:b:1219:U:C1'	2.94	0.50
53:b:1232:G:C6	53:b:1233:C:C4	2.99	0.50
53:b:1267:U:O4	53:b:2012:G:C2	2.64	0.50
53:b:1471:G:C5	53:b:1472:C:C6	2.99	0.50
53:b:1760:C:N4	53:b:1761:C:C4	2.80	0.50
53:b:1923:U:H2'	53:b:1924:C:H6	1.77	0.50
53:b:2072:C:C2	53:b:2073:C:C6	3.00	0.50
53:b:2243:U:O2	53:b:2434:A:H2	1.94	0.50
53:b:2373:G:C2	53:b:2374:C:C2	3.00	0.50
53:b:2508:G:N2	53:b:2509:G:C1'	2.73	0.50
54:v:7:G:OP1	54:v:16:C:N4	2.45	0.50
2:C:4:VAL:N	50:A:1190:G:OP2	2.45	0.49
3:D:60:VAL:O	3:D:63:ILE:HG22	2.12	0.49
8:I:27:ILE:CD1	8:I:48:ARG:HH11	2.25	0.49
18:S:44:ILE:HD13	18:S:63:ASP:OD1	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:e:130:LYS:HB2	31:e:133:LEU:HG	1.93	0.49
38:m:8:LYS:HE3	53:b:868:U:O2	2.12	0.49
41:p:106:LYS:HG2	50:A:1432:G:H5''	1.94	0.49
50:A:1279:G:H4'	50:A:1281:C:H41	1.77	0.49
52:a:24:G:N2	52:a:28:C:C2	2.80	0.49
53:b:75:G:N3	53:b:75:G:C2'	2.74	0.49
53:b:224:U:C4	53:b:225:C:C6	3.00	0.49
53:b:268:C:O2	53:b:268:C:H2'	2.12	0.49
53:b:312:G:C2	53:b:313:G:N7	2.79	0.49
53:b:332:A:C5	53:b:335:C:N4	2.80	0.49
53:b:621:A:H2'	53:b:622:G:C5'	2.43	0.49
53:b:1122:G:N2	53:b:1123:C:N1	2.59	0.49
53:b:1972:G:C2	53:b:1973:G:C8	3.00	0.49
53:b:2335:A:C5	53:b:2337:G:C8	3.00	0.49
53:b:2415:G:C4	53:b:2416:C:C5	3.00	0.49
53:b:2625:G:C2	53:b:2626:C:C2	3.00	0.49
53:b:2652:C:C2	53:b:2669:G:C2	3.00	0.49
3:D:115:GLN:HE21	3:D:119:HIS:CE1	2.30	0.49
4:E:51:LYS:NZ	50:A:1080:A:P	2.85	0.49
8:I:128:LYS:O	54:v:32:A:OP1	2.30	0.49
11:L:51:VAL:HG12	11:L:65:TYR:HA	1.94	0.49
29:c:162:VAL:HG12	29:c:174:LEU:HD22	1.93	0.49
50:A:155:A:H61	50:A:166:U:H3	1.60	0.49
50:A:266:G:H1'	50:A:268:U:OP2	2.11	0.49
50:A:279:A:H4'	50:A:280:C:OP2	2.11	0.49
50:A:373:A:H2	50:A:482:A:C8	2.30	0.49
52:a:84:G:N2	52:a:85:G:H1'	2.27	0.49
53:b:19:A:C6	53:b:20:C:C4	2.99	0.49
53:b:95:A:C2	53:b:96:C:C6	3.00	0.49
53:b:156:A:N1	53:b:157:C:C4	2.80	0.49
53:b:226:A:C2	53:b:227:A:N9	2.80	0.49
53:b:1186:G:N3	53:b:1187:G:C8	2.80	0.49
53:b:1253:A:H4'	53:b:1254:A:OP2	2.11	0.49
53:b:1326:U:O2	53:b:1327:A:C8	2.65	0.49
53:b:1669:A:N3	53:b:1669:A:H2'	2.26	0.49
53:b:1858:A:C6	53:b:1859:U:C4	3.00	0.49
53:b:1891:G:C5	53:b:1892:C:C5	3.00	0.49
53:b:2134:A:C6	53:b:2135:A:C1'	2.94	0.49
53:b:2768:U:N3	53:b:2769:U:C6	2.80	0.49
2:C:19:SER:HB3	2:C:21:TRP:HE1	1.76	0.49
8:I:128:LYS:HD2	50:A:1341:U:N3	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:c:204:VAL:HG13	53:b:1792:G:H5'	1.94	0.49
29:c:236:GLU:HB2	53:b:2599:G:C8	2.47	0.49
50:A:61:G:O2'	50:A:378:G:N2	2.44	0.49
50:A:1087:G:H22	50:A:1099:G:H1'	1.77	0.49
53:b:115:C:C2	53:b:116:C:C5	3.00	0.49
53:b:924:G:C2	53:b:925:A:C8	3.00	0.49
53:b:949:G:N1	53:b:950:G:N7	2.59	0.49
53:b:963:U:N3	53:b:964:C:C5	2.80	0.49
53:b:1449:G:C6	53:b:1450:G:N7	2.80	0.49
53:b:1511:G:C2	53:b:1512:C:N3	2.81	0.49
53:b:1548:A:C2	53:b:1549:A:C5	3.00	0.49
53:b:2489:U:C2'	53:b:2490:G:O4'	2.60	0.49
53:b:2676:C:N3	53:b:2677:G:N7	2.60	0.49
53:b:2717:C:N3	53:b:2718:G:C8	2.80	0.49
53:b:2744:G:C2	53:b:2745:C:C5	3.00	0.49
1:B:138:ARG:O	1:B:142:LYS:HG2	2.12	0.49
2:C:52:SER:HB3	2:C:111:ASP:OD2	2.12	0.49
3:D:74:TYR:CE1	3:D:92:LEU:HB3	2.48	0.49
8:I:11:ARG:CA	8:I:105:ARG:NH2	2.51	0.49
16:Q:68:LYS:NZ	50:A:253:A:OP1	2.35	0.49
31:e:40:ARG:CD	53:b:443:A:C8	2.95	0.49
32:f:35:THR:HG23	32:f:35:THR:O	2.12	0.49
50:A:503:C:H42	50:A:542:G:H1	1.61	0.49
50:A:957:U:H5''	50:A:958:A:OP2	2.12	0.49
50:A:1346:A:C4'	50:A:1347:G:OP1	2.61	0.49
52:a:39:A:C6	52:a:44:G:C2	3.00	0.49
53:b:43:G:C2	53:b:44:A:C4	3.01	0.49
53:b:185:G:N1	53:b:186:G:N7	2.60	0.49
53:b:225:C:C5	53:b:226:A:C8	3.00	0.49
53:b:270:A:H61	53:b:368:A:H2	1.59	0.49
53:b:380:G:N2	53:b:381:G:N9	2.60	0.49
53:b:665:U:C2	53:b:666:A:C8	3.00	0.49
53:b:701:G:C2	53:b:732:C:C2	3.00	0.49
53:b:921:C:C1'	53:b:2269:G:C8	2.96	0.49
53:b:926:G:C2	53:b:927:A:C8	3.01	0.49
53:b:1029:A:H2'	53:b:1030:C:O4'	2.11	0.49
53:b:1050:A:H1'	53:b:2751:G:C2	2.47	0.49
53:b:1225:G:H2'	53:b:1226:A:N7	2.27	0.49
53:b:1361:G:H2'	53:b:1362:C:C6	2.48	0.49
53:b:1406:U:N3	53:b:1407:G:N7	2.60	0.49
53:b:1491:G:C2	53:b:1492:G:N7	2.80	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1953:A:C2	53:b:2550:G:O4'	2.66	0.49
53:b:2173:A:OP2	53:b:2174:C:H5	1.95	0.49
53:b:2220:U:C2	53:b:2221:G:H8	2.31	0.49
53:b:2341:G:C6	53:b:2342:C:C4	3.00	0.49
53:b:2517:C:C4	53:b:2542:A:N7	2.80	0.49
53:b:2796:U:C2	53:b:2798:U:C2	3.01	0.49
53:b:2797:U:C6	53:b:2797:U:H3'	2.47	0.49
53:b:2828:G:N2	53:b:2829:A:N9	2.60	0.49
13:N:83:VAL:O	13:N:87:ALA:N	2.41	0.49
15:P:61:VAL:HA	15:P:65:ALA:H	1.76	0.49
15:P:70:ARG:HG2	50:A:375:U:H5''	1.53	0.49
50:A:380:G:N2	50:A:383:A:OP2	2.45	0.49
50:A:411:A:N6	50:A:413:G:N3	2.61	0.49
50:A:468:A:N6	50:A:469:C:N3	2.60	0.49
50:A:601:G:H2'	50:A:602:A:C8	2.48	0.49
52:a:112:G:N1	52:a:113:C:C4	2.80	0.49
53:b:195:A:N6	53:b:198:C:C5	2.81	0.49
53:b:196:A:C5	53:b:805:G:O6	2.65	0.49
53:b:199:A:C5	53:b:2433:A:N1	2.81	0.49
53:b:379:G:C6	53:b:380:G:C5	3.00	0.49
53:b:517:C:N3	53:b:518:G:C8	2.80	0.49
53:b:537:G:N1	53:b:555:G:N2	2.60	0.49
53:b:617:G:C2	53:b:618:G:C8	3.00	0.49
53:b:935:C:O2	53:b:935:C:H2'	2.12	0.49
53:b:936:A:C4	53:b:937:C:C5	3.00	0.49
53:b:969:G:C6	53:b:970:U:C4	3.00	0.49
53:b:1058:U:HO2'	53:b:1059:G:P	2.36	0.49
53:b:1220:G:C2	53:b:1221:C:C2	3.01	0.49
53:b:1376:C:C4	53:b:1377:G:C6	3.00	0.49
53:b:1593:A:C4	53:b:1594:U:C6	3.00	0.49
53:b:1699:G:C8	53:b:1763:G:N2	2.80	0.49
53:b:2128:G:H21	53:b:2160:C:C2'	2.26	0.49
53:b:2179:C:C4	53:b:2180:U:C5	3.01	0.49
53:b:2322:A:N7	53:b:2323:G:C8	2.80	0.49
53:b:2575:C:O2	53:b:2575:C:H2'	2.11	0.49
53:b:2615:U:C2	53:b:2616:C:C6	3.00	0.49
53:b:2841:C:O2	53:b:2842:G:C8	2.65	0.49
3:D:18:LEU:HD22	3:D:63:ILE:HD13	1.93	0.49
8:I:51:LEU:HD11	8:I:62:LEU:HD11	1.94	0.49
10:K:28:ASN:HB2	50:A:690:G:OP2	2.13	0.49
13:N:63:CYS:SG	13:N:65:GLN:N	2.74	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:2:23:THR:HA	53:b:850:U:O2'	2.13	0.49
32:f:88:LYS:HE2	52:a:42:C:H42	1.76	0.49
33:g:101:ASN:HB2	33:g:117:LEU:CG	2.42	0.49
34:h:43:ASN:O	34:h:46:PHE:N	2.46	0.49
50:A:983:A:H5''	50:A:984:C:OP2	2.12	0.49
52:a:17:C:N3	52:a:18:G:C8	2.80	0.49
53:b:16:C:C2	53:b:17:G:C8	3.01	0.49
53:b:424:G:C2	53:b:425:G:C8	3.00	0.49
53:b:523:C:O2	53:b:523:C:H2'	2.13	0.49
53:b:711:G:N2	53:b:712:G:H1'	2.27	0.49
53:b:844:A:H2	53:b:845:A:H2	1.44	0.49
53:b:859:G:N2	53:b:917:A:OP2	2.45	0.49
53:b:1083:U:H2'	53:b:1084:A:H2'	1.93	0.49
53:b:1142:A:C4	53:b:1144:A:N7	2.81	0.49
53:b:1219:U:O2	53:b:1219:U:H2'	2.11	0.49
53:b:1300:G:N1	53:b:1626:A:C6	2.80	0.49
53:b:2583:G:N2	53:b:2584:U:O2	2.41	0.49
2:C:183:TYR:O	2:C:184:ASN:ND2	2.45	0.49
3:D:75:TYR:HE1	3:D:200:VAL:HG23	1.77	0.49
16:Q:14:ASP:OD2	16:Q:53:GLY:HA2	2.12	0.49
42:q:36:PHE:HD1	53:b:1252:G:O6	1.96	0.49
50:A:222:C:H2'	50:A:223:A:C8	2.48	0.49
50:A:402:G:H2'	50:A:403:C:H6	1.78	0.49
53:b:7:G:C2	53:b:8:C:C6	3.01	0.49
53:b:226:A:C2	53:b:227:A:C4	3.01	0.49
53:b:437:U:N3	53:b:438:G:N7	2.61	0.49
53:b:528:A:N1	53:b:2042:A:H2'	2.28	0.49
53:b:603:A:C2	53:b:626:A:O4'	2.66	0.49
53:b:694:U:N3	53:b:695:G:N7	2.61	0.49
53:b:979:A:C2	53:b:985:C:C4	3.00	0.49
53:b:1127:A:C4	53:b:2518:A:C6	3.00	0.49
53:b:1203:U:H3'	53:b:1204:A:H5'	1.94	0.49
53:b:1305:C:C4	53:b:1306:C:H5	2.27	0.49
53:b:1317:G:C6	53:b:1318:U:C4	3.01	0.49
53:b:1430:G:C6	53:b:1431:A:C5	3.00	0.49
53:b:1486:U:N3	53:b:1487:U:C5	2.80	0.49
53:b:1494:A:N1	53:b:1495:A:C6	2.80	0.49
53:b:1511:G:N3	53:b:1512:C:C6	2.80	0.49
53:b:1765:U:C2	53:b:1766:G:C8	3.01	0.49
53:b:1906:G:H2'	53:b:1907:G:O4'	2.13	0.49
53:b:2110:G:C6	53:b:2180:U:C2	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2178:C:C2	53:b:2178:C:H3'	2.47	0.49
53:b:2656:U:O4	53:b:2665:A:N7	2.45	0.49
54:v:33:U:C1'	54:v:35:C:OP2	2.60	0.49
7:H:29:SER:HB2	50:A:589:U:H5''	1.95	0.49
8:I:125:GLN:NE2	50:A:941:G:O6	2.46	0.49
17:R:37:LYS:NZ	20:U:22:CYS:HB3	2.28	0.49
18:S:33:TRP:NE1	18:S:56:HIS:HE1	2.11	0.49
34:h:6:LEU:N	34:h:35:LYS:O	2.44	0.49
37:l:55:MET:HE3	53:b:2392:A:C2	2.48	0.49
50:A:1380:U:H1'	50:A:1382:C:H41	1.78	0.49
50:A:1499:A:H1'	50:A:1520:C:H5'	1.94	0.49
52:a:92:C:H2'	52:a:93:C:H6	1.78	0.49
53:b:252:G:C5	53:b:253:C:C6	3.01	0.49
53:b:282:A:C2	53:b:283:G:C8	3.00	0.49
53:b:292:U:N3	53:b:293:U:C5	2.81	0.49
53:b:363:G:C4	53:b:364:C:C5	3.00	0.49
53:b:377:G:C5	53:b:378:C:C6	3.00	0.49
53:b:377:G:N2	53:b:378:C:H1'	2.27	0.49
53:b:452:G:C6	53:b:453:A:C5	3.01	0.49
53:b:661:A:C2	53:b:662:G:C8	3.01	0.49
53:b:674:G:C5	53:b:804:A:N6	2.81	0.49
53:b:725:G:H2'	53:b:726:G:N9	2.27	0.49
53:b:785:G:N2	53:b:786:C:N1	2.61	0.49
53:b:854:C:C2	53:b:855:G:C8	3.00	0.49
53:b:966:G:H2'	53:b:967:U:O4'	2.13	0.49
53:b:1020:A:C2	53:b:1141:U:N1	2.81	0.49
53:b:1206:G:O6	53:b:1207:C:C4	2.66	0.49
53:b:1218:G:N1	53:b:1219:U:N1	2.61	0.49
53:b:1322:A:HO2'	53:b:1323:C:P	2.34	0.49
53:b:1336:A:C4	53:b:1337:G:C8	3.00	0.49
53:b:1401:G:H2'	53:b:1402:U:C1'	2.43	0.49
53:b:1406:U:C4	53:b:1407:G:N7	2.81	0.49
53:b:1806:C:N3	53:b:1807:G:C8	2.80	0.49
53:b:1825:U:N3	53:b:1826:G:N7	2.61	0.49
53:b:1991:U:O2	53:b:1991:U:H2'	2.13	0.49
53:b:2306:C:C4	53:b:2307:G:N2	2.81	0.49
53:b:2564:A:N6	53:b:2647:U:C4'	2.75	0.49
53:b:2591:C:C2	53:b:2592:G:H8	2.28	0.49
53:b:2839:G:N3	53:b:2840:C:C6	2.81	0.49
4:E:105:ILE:HG21	4:E:123:LEU:HD12	1.94	0.49
6:G:125:ASP:HA	6:G:128:GLU:HG2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:11:ARG:HD2	8:I:106:ASP:OD1	2.12	0.49
32:f:80:ARG:NH1	54:v:19:G:O6	2.45	0.49
41:p:113:ARG:O	41:p:115:ASN:N	2.46	0.49
50:A:63:C:H42	50:A:104:G:H1	1.61	0.49
50:A:68:G:C2	50:A:69:G:H1'	2.47	0.49
50:A:644:U:H2'	50:A:645:G:O4'	2.13	0.49
50:A:720:C:OP2	50:A:721:G:H3'	2.13	0.49
52:a:117:G:H2'	52:a:118:C:O4'	2.13	0.49
53:b:21:A:C2	53:b:22:C:C6	3.00	0.49
53:b:116:C:O2	53:b:116:C:H2'	2.12	0.49
53:b:256:A:C2	53:b:257:C:C5	3.01	0.49
53:b:273:G:C2	53:b:365:U:O4	2.64	0.49
53:b:844:A:O3'	53:b:845:A:O4'	2.30	0.49
53:b:932:U:C6	53:b:933:A:C6	3.00	0.49
53:b:992:C:H2'	53:b:992:C:O2	2.13	0.49
53:b:1238:G:C5	53:b:1239:G:C8	3.01	0.49
53:b:2024:G:N1	53:b:2025:C:C4	2.81	0.49
53:b:2123:G:N2	53:b:2176:A:C2	2.81	0.49
53:b:2341:G:H2'	53:b:2342:C:H6	1.78	0.49
53:b:2508:G:C2	53:b:2509:G:C8	3.01	0.49
53:b:2514:U:H2'	53:b:2515:C:H6	1.78	0.49
53:b:2544:G:N1	53:b:2545:G:C5	2.81	0.49
53:b:2603:G:C6	53:b:2604:U:C6	3.01	0.49
53:b:2796:U:O2	53:b:2800:A:N1	2.45	0.49
5:F:86:ARG:NH2	17:R:63:TYR:HB3	2.28	0.49
9:J:46:LYS:HZ3	9:J:47:GLU:C	2.20	0.49
19:T:5:SER:O	19:T:8:LYS:HG2	2.13	0.49
50:A:374:A:H5''	50:A:375:U:H5	1.77	0.49
50:A:374:A:C5	50:A:375:U:H1'	2.48	0.49
50:A:391:G:O6	50:A:392:C:N4	2.46	0.49
50:A:702:A:C4	53:b:1848:A:N9	2.81	0.49
50:A:702:A:P	53:b:1848:A:O2'	2.69	0.49
50:A:816:A:OP2	50:A:817:C:O2'	2.20	0.49
52:a:22:U:C2	52:a:23:G:N7	2.80	0.49
53:b:22:C:O2	53:b:23:G:C8	2.66	0.49
53:b:45:G:C8	53:b:215:G:O2'	2.58	0.49
53:b:277:G:N3	53:b:277:G:H2'	2.28	0.49
53:b:397:U:C2	53:b:398:C:C6	3.01	0.49
53:b:471:A:C2	53:b:472:A:H1'	2.48	0.49
53:b:536:G:C5	53:b:537:G:C8	3.01	0.49
53:b:713:G:C2	53:b:714:U:C6	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:854:C:O2	53:b:855:G:C8	2.65	0.49
53:b:961:C:C6	53:b:2031:A:C6	3.01	0.49
53:b:991:C:H1'	53:b:1185:G:C2	2.48	0.49
53:b:1063:G:N1	53:b:1076:C:N4	2.60	0.49
53:b:1220:G:C4	53:b:1221:C:C5	3.01	0.49
53:b:1240:U:O2	53:b:1240:U:H2'	2.13	0.49
53:b:1608:A:C8	53:b:1611:C:N4	2.81	0.49
53:b:2217:G:C4	53:b:2218:G:C8	3.01	0.49
53:b:2229:U:N3	53:b:2230:G:C8	2.81	0.49
53:b:2366:A:N1	53:b:2367:G:H1'	2.28	0.49
53:b:2480:C:N3	53:b:2481:G:N9	2.61	0.49
54:v:4:C:O2'	54:v:5:A:O5'	2.30	0.49
17:R:38:ILE:N	50:A:719:C:O2	2.41	0.48
33:g:98:VAL:CG2	33:g:124:GLU:HA	2.34	0.48
49:z:24:GLY:C	49:z:25:ILE:CD1	2.86	0.48
50:A:893:C:H2'	50:A:894:G:H8	1.78	0.48
50:A:895:G:C2	50:A:896:C:C2	3.01	0.48
50:A:900:A:H2'	50:A:901:A:H8	1.77	0.48
52:a:117:G:C2	52:a:118:C:N1	2.81	0.48
53:b:45:G:H2'	53:b:215:G:C8	2.48	0.48
53:b:110:G:C6	53:b:111:A:C8	3.01	0.48
53:b:226:A:C6	53:b:227:A:C6	3.01	0.48
53:b:226:A:N6	53:b:227:A:C6	2.81	0.48
53:b:231:A:H2'	53:b:232:G:C8	2.48	0.48
53:b:323:C:O2	53:b:323:C:O4'	2.31	0.48
53:b:351:C:N3	53:b:352:A:C8	2.81	0.48
53:b:661:A:N3	53:b:662:G:C8	2.81	0.48
53:b:778:G:C2	53:b:787:C:N3	2.81	0.48
53:b:1152:C:N3	53:b:1153:C:C5	2.81	0.48
53:b:1172:C:N1	53:b:1173:U:H6	2.05	0.48
53:b:1256:G:N1	53:b:1257:C:C4	2.81	0.48
53:b:1349:C:C2'	53:b:1350:C:C6	2.86	0.48
53:b:1376:C:N4	53:b:1377:G:C6	2.81	0.48
53:b:1385:A:C5	53:b:1403:A:C2	3.00	0.48
53:b:1540:G:N1	53:b:1541:C:C4	2.81	0.48
53:b:1650:A:C2	53:b:1651:G:N9	2.80	0.48
53:b:1703:G:C4	53:b:1704:C:C5	3.01	0.48
53:b:1740:G:C4	53:b:1741:C:C6	3.01	0.48
53:b:1826:G:H2'	53:b:1826:G:N3	2.28	0.48
53:b:1862:G:C2	53:b:1881:C:C2	3.01	0.48
53:b:2081:U:N3	53:b:2237:G:N2	2.60	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2150:C:O2	53:b:2150:C:H2'	2.12	0.48
53:b:2282:G:H4'	53:b:2389:G:O2'	2.12	0.48
53:b:2331:G:N3	53:b:2332:C:C6	2.74	0.48
53:b:2565:A:C2'	53:b:2566:A:O4'	2.59	0.48
53:b:2590:A:N1	53:b:2591:C:C4	2.81	0.48
53:b:2891:U:H2'	53:b:2892:G:C8	2.48	0.48
6:G:64:ALA:HB1	6:G:126:ALA:HB3	1.94	0.48
15:P:12:LYS:HG2	15:P:13:LYS:HG2	1.94	0.48
27:7:3:LYS:HB3	53:b:242:G:C8	2.48	0.48
33:g:11:VAL:O	33:g:48:ASN:ND2	2.45	0.48
45:t:1:MET:HG3	45:t:2:ILE:CG1	2.43	0.48
50:A:517:G:H21	50:A:530:G:P	2.37	0.48
50:A:1036:A:H2'	50:A:1037:C:O4'	2.13	0.48
52:a:45:A:C6	52:a:46:A:N7	2.80	0.48
52:a:96:G:C5	52:a:97:C:C5	3.01	0.48
53:b:23:G:N1	53:b:24:G:C5	2.80	0.48
53:b:40:U:O2	53:b:40:U:H2'	2.13	0.48
53:b:111:A:N6	53:b:112:U:C4	2.82	0.48
53:b:174:U:N3	53:b:175:G:N7	2.61	0.48
53:b:379:G:N1	53:b:380:G:C8	2.80	0.48
53:b:452:G:N3	53:b:452:G:H2'	2.27	0.48
53:b:822:G:C6	53:b:823:C:C4	3.01	0.48
53:b:972:A:H3'	53:b:973:A:H2'	1.96	0.48
53:b:1142:A:C6	53:b:1144:A:C6	3.01	0.48
53:b:1173:U:O2	53:b:1176:U:C4	2.64	0.48
53:b:1300:G:C6	53:b:1626:A:C6	3.01	0.48
53:b:1361:G:C6	53:b:1362:C:C4	3.02	0.48
53:b:1423:G:C2	53:b:1424:G:C8	3.01	0.48
53:b:1434:A:C5	53:b:1435:G:N7	2.81	0.48
53:b:1513:U:H2'	53:b:1514:G:O4'	2.12	0.48
53:b:1517:G:H2'	53:b:1517:G:N3	2.27	0.48
53:b:1598:A:H2'	53:b:1598:A:N3	2.27	0.48
53:b:1638:C:C2	53:b:1639:C:C6	3.01	0.48
53:b:1795:C:C2	53:b:1796:U:C5	3.01	0.48
53:b:1891:G:HO2'	53:b:2235:G:HO2'	1.58	0.48
53:b:1938:A:C2	53:b:2590:A:H2'	2.47	0.48
53:b:2141:G:C6	53:b:2142:A:C8	3.01	0.48
53:b:2316:G:C2	53:b:2317:A:C8	3.01	0.48
53:b:2470:G:N2	53:b:2471:A:N9	2.60	0.48
53:b:2858:C:H2'	53:b:2859:G:C8	2.48	0.48
8:I:128:LYS:HB2	50:A:1341:U:N1	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:J:21:ALA:HA	9:J:24:GLU:HG2	1.95	0.48
9:J:70:HIS:HB2	9:J:72:ARG:NH1	2.23	0.48
13:N:41:TRP:O	13:N:44:VAL:HG12	2.14	0.48
15:P:42:ILE:HG22	15:P:43:ALA:N	2.28	0.48
17:R:60:ARG:HA	17:R:63:TYR:CD2	2.48	0.48
29:c:11:PRO:O	53:b:729:G:N2	2.46	0.48
34:h:129:GLU:HA	34:h:142:VAL:HG22	1.94	0.48
50:A:910:C:H2'	50:A:911:U:C6	2.47	0.48
50:A:976:G:N2	50:A:1363:A:N3	2.60	0.48
50:A:987:G:H2'	50:A:988:G:H8	1.78	0.48
50:A:996:A:C2	50:A:997:U:C5	2.98	0.48
50:A:1408:A:O4'	53:b:1912:A:C2	2.67	0.48
52:a:45:A:N1	52:a:46:A:N9	2.61	0.48
53:b:37:C:H2'	53:b:38:A:O4'	2.12	0.48
53:b:56:A:O4'	53:b:127:A:N3	2.46	0.48
53:b:70:G:C2	53:b:114:U:C4	3.01	0.48
53:b:1004:U:N3	53:b:1011:G:C8	2.81	0.48
53:b:1047:G:N3	53:b:1110:G:C2	2.82	0.48
53:b:1090:A:C6	53:b:1091:G:N7	2.81	0.48
53:b:1304:A:C2	53:b:1305:C:C4	2.99	0.48
53:b:1332:G:C6	53:b:1609:A:C5	3.01	0.48
53:b:1348:C:N4	53:b:1349:C:C5	2.78	0.48
53:b:1532:A:C2	53:b:1533:C:C6	3.01	0.48
53:b:1733:G:C2	53:b:1734:G:C5	3.01	0.48
53:b:1777:U:O2'	53:b:1778:U:C5'	2.61	0.48
53:b:1974:C:C4	53:b:1975:G:N7	2.82	0.48
53:b:2024:G:C6	53:b:2025:C:C4	3.01	0.48
53:b:2184:A:N3	53:b:2185:U:C6	2.81	0.48
53:b:2221:G:C6	53:b:2222:C:C4	3.01	0.48
53:b:2283:C:N3	53:b:2389:G:C6	2.80	0.48
53:b:2287:A:C5	53:b:2289:G:C8	3.00	0.48
53:b:2435:A:C6	53:b:2436:G:C8	3.01	0.48
53:b:2533:U:N3	53:b:2534:A:C1'	2.73	0.48
53:b:2647:U:O2	53:b:2648:G:C8	2.66	0.48
1:B:107:ARG:O	1:B:111:LYS:HG2	2.13	0.48
5:F:4:TYR:CZ	5:F:71:ILE:HG21	2.48	0.48
9:J:47:GLU:HB2	9:J:67:ILE:HG23	1.96	0.48
20:U:3:ILE:HG12	20:U:19:LYS:HG2	1.96	0.48
26:6:18:PHE:CB	53:b:126:A:C2	2.97	0.48
26:6:39:ARG:NH2	53:b:467:G:N7	2.61	0.48
34:h:62:LEU:HD23	34:h:63:ALA:N	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:z:25:ILE:HG22	49:z:26:ARG:N	2.28	0.48
50:A:35:G:H2'	50:A:36:C:H6	1.78	0.48
50:A:1007:U:H2'	50:A:1008:U:C6	2.48	0.48
52:a:85:G:N2	52:a:86:G:N9	2.61	0.48
53:b:225:C:C4	53:b:226:A:N7	2.81	0.48
53:b:244:A:C5	53:b:245:G:C8	3.01	0.48
53:b:622:G:C4	53:b:623:C:C6	3.01	0.48
53:b:934:U:C4	53:b:935:C:C5	3.02	0.48
53:b:1300:G:C6	53:b:1626:A:C5	3.02	0.48
53:b:1416:G:C4	53:b:1417:C:C6	3.00	0.48
53:b:1479:G:N2	53:b:1513:U:O2	2.46	0.48
53:b:1504:A:N1	53:b:1505:A:C5	2.81	0.48
53:b:1532:A:N6	53:b:1533:C:C4	2.82	0.48
53:b:1703:G:N2	53:b:1704:C:C2	2.81	0.48
53:b:1858:A:C5	53:b:1859:U:C5	3.01	0.48
53:b:1999:C:C2'	53:b:2687:U:O2'	2.61	0.48
53:b:2179:C:C2	53:b:2180:U:C6	3.02	0.48
53:b:2217:G:H2'	53:b:2218:G:O4'	2.14	0.48
53:b:2538:C:H2'	53:b:2539:C:H6	1.77	0.48
53:b:2592:G:C5	53:b:2593:U:C5	3.02	0.48
53:b:2697:G:H2'	53:b:2698:U:O4'	2.13	0.48
53:b:2708:G:C2	53:b:2709:G:C5	3.00	0.48
1:B:124:THR:CB	1:B:136:ARG:HH21	2.26	0.48
6:G:103:ILE:HG21	6:G:123:LEU:HD21	1.95	0.48
8:I:34:LEU:HD22	8:I:38:PHE:HE2	1.78	0.48
16:Q:68:LYS:HB3	50:A:254:G:OP2	2.12	0.48
19:T:54:GLN:HB3	19:T:55:PRO:HD3	1.96	0.48
30:d:85:ALA:O	30:d:87:GLY:N	2.47	0.48
33:g:101:ASN:O	33:g:117:LEU:HD23	2.13	0.48
35:j:57:LEU:HD23	35:j:125:TYR:CB	2.27	0.48
50:A:403:C:H2'	50:A:404:G:H8	1.78	0.48
52:a:46:A:C6	52:a:47:C:C6	3.01	0.48
52:a:96:G:C6	52:a:97:C:C5	3.01	0.48
53:b:277:G:H3'	53:b:277:G:C4	2.48	0.48
53:b:332:A:N6	53:b:335:C:C4	2.82	0.48
53:b:584:C:C2	53:b:585:G:C8	3.01	0.48
53:b:616:A:C6	53:b:617:G:C5	3.01	0.48
53:b:763:G:C2	53:b:765:C:C2	3.01	0.48
53:b:822:G:N2	53:b:823:C:N1	2.61	0.48
53:b:950:G:C4	53:b:951:C:C6	3.02	0.48
53:b:1050:A:C4	53:b:2751:G:C6	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1073:A:N1	53:b:1074:G:H1'	2.27	0.48
53:b:1094:U:C2	53:b:1096:A:H5''	2.49	0.48
53:b:1099:G:C6	53:b:1100:C:C4	3.01	0.48
53:b:1121:C:O2	53:b:1121:C:C2'	2.62	0.48
53:b:1172:C:N1	53:b:1173:U:C5	2.81	0.48
53:b:1503:A:N1	53:b:1504:A:C6	2.81	0.48
53:b:1792:G:C6	53:b:1793:C:C5	3.02	0.48
53:b:1907:G:C4	53:b:1908:C:C6	3.01	0.48
53:b:2000:C:H2'	53:b:2001:C:H6	1.78	0.48
53:b:2371:G:N1	53:b:2372:U:C5	2.82	0.48
53:b:2464:G:H2'	53:b:2465:C:O4'	2.14	0.48
53:b:2470:G:N1	53:b:2471:A:N7	2.61	0.48
53:b:2744:G:C6	53:b:2745:C:C5	3.02	0.48
53:b:2802:G:N2	53:b:2803:G:H1'	2.27	0.48
2:C:77:GLY:H	2:C:82:ASP:CG	2.21	0.48
8:I:78:ILE:C	8:I:81:GLY:H	2.22	0.48
34:h:33:GLN:HB3	34:h:35:LYS:HG3	1.94	0.48
50:A:109:A:OP2	50:A:110:C:H5	1.97	0.48
50:A:203:G:H21	50:A:205:A:N6	2.10	0.48
50:A:204:G:H2'	50:A:205:A:H8	1.77	0.48
53:b:77:G:N3	53:b:78:U:C5	2.82	0.48
53:b:248:G:C2	53:b:2431:U:H4'	2.48	0.48
53:b:248:G:O2'	53:b:2432:A:OP1	2.26	0.48
53:b:269:C:H1'	53:b:424:G:N2	2.28	0.48
53:b:823:C:C2	53:b:824:U:C6	3.02	0.48
53:b:928:A:C2	53:b:929:U:N1	2.81	0.48
53:b:977:G:C2	53:b:987:C:C2	3.02	0.48
53:b:1051:G:O6	53:b:1052:C:C5	2.66	0.48
53:b:1073:A:N1	53:b:1074:G:N9	2.61	0.48
53:b:1407:G:N2	53:b:1408:G:C4	2.81	0.48
53:b:1683:U:C2	53:b:1684:G:C8	3.01	0.48
53:b:1769:U:O2'	53:b:1958:C:OP1	2.30	0.48
53:b:1833:C:C4	53:b:1834:U:C4	3.01	0.48
53:b:1912:A:C8	53:b:1918:A:C2	3.02	0.48
53:b:1927:A:O2'	53:b:1928:A:O4'	2.32	0.48
53:b:2338:C:C2	53:b:2339:C:C5	3.01	0.48
53:b:2537:U:C2	53:b:2538:C:C6	2.85	0.48
3:D:123:MET:HG3	3:D:143:SER:HB2	1.95	0.48
4:E:71:ILE:HG21	4:E:144:GLU:HB2	1.96	0.48
33:g:101:ASN:CB	33:g:117:LEU:CD2	2.77	0.48
42:q:5:LYS:NZ	53:b:447:A:OP1	2.35	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:z:25:ILE:CB	49:z:27:ALA:HB2	2.32	0.48
50:A:303:A:H5''	50:A:304:U:OP2	2.14	0.48
50:A:370:C:H2'	50:A:371:A:O4'	2.14	0.48
50:A:488:C:H2'	50:A:489:C:H6	1.79	0.48
50:A:1454:G:H2'	50:A:1455:G:C8	2.48	0.48
50:A:1517:G:C8	53:b:1920:C:OP1	2.67	0.48
52:a:92:C:O2	52:a:93:C:C5	2.65	0.48
53:b:93:G:C6	53:b:94:A:C5	3.01	0.48
53:b:520:G:C2	53:b:521:U:C5	3.02	0.48
53:b:608:A:C5	53:b:621:A:N6	2.82	0.48
53:b:763:G:N1	53:b:765:C:C2	2.82	0.48
53:b:834:G:C2	53:b:835:C:N1	2.81	0.48
53:b:839:U:C2	53:b:840:C:C5	3.02	0.48
53:b:966:G:H1'	53:b:2267:A:N1	2.29	0.48
53:b:978:G:C2	53:b:986:C:C2	2.95	0.48
53:b:1142:A:N3	53:b:1144:A:C8	2.82	0.48
53:b:1644:C:O2	53:b:1644:C:H2'	2.12	0.48
53:b:1745:A:N3	53:b:1746:A:C8	2.82	0.48
53:b:1804:C:N3	53:b:1805:A:C8	2.82	0.48
53:b:1832:C:C4	53:b:1833:C:C5	3.02	0.48
53:b:1996:C:H4'	53:b:1997:C:OP1	2.14	0.48
53:b:2232:C:C4	53:b:2233:U:C5	3.01	0.48
53:b:2373:G:C6	53:b:2374:C:C4	3.02	0.48
53:b:2584:U:H2'	53:b:2585:U:H2'	1.96	0.48
53:b:2675:A:C6	53:b:2676:C:C5	3.01	0.48
53:b:2683:C:N3	53:b:2684:U:C5	2.82	0.48
1:B:127:LYS:HE3	1:B:129:THR:OG1	2.14	0.48
8:I:56:MET:O	8:I:58:GLU:N	2.46	0.48
19:T:54:GLN:HG3	19:T:75:LYS:HE3	1.96	0.48
44:s:29:VAL:CG1	44:s:55:ILE:HD11	2.44	0.48
45:t:24:MET:SD	45:t:30:ILE:HG12	2.53	0.48
50:A:70:U:O2'	50:A:94:G:O6	2.28	0.48
50:A:988:G:H1	50:A:1217:C:H42	1.62	0.48
53:b:126:A:C2'	53:b:127:A:N7	2.77	0.48
53:b:238:C:C2	53:b:260:G:C2	3.02	0.48
53:b:651:G:C6	53:b:652:U:C5	3.01	0.48
53:b:1055:G:C5	53:b:1104:C:N4	2.82	0.48
53:b:1073:A:C4	53:b:1074:G:C8	3.02	0.48
53:b:1166:G:N2	53:b:1167:C:H1'	2.29	0.48
53:b:1336:A:C5	53:b:1337:G:C8	3.02	0.48
53:b:1395:A:C8	53:b:1398:C:C4	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1528:A:N3	53:b:1544:A:C6	2.82	0.48
53:b:1593:A:C6	53:b:1594:U:C5	3.02	0.48
53:b:1612:C:N3	53:b:1613:G:C8	2.82	0.48
53:b:1660:G:N2	53:b:2001:C:C2	2.82	0.48
53:b:1737:G:H3'	53:b:1738:G:C8	2.48	0.48
53:b:2105:U:C2'	53:b:2106:U:O4'	2.54	0.48
53:b:2204:G:C6	53:b:2205:A:C5	3.01	0.48
53:b:2255:G:N2	53:b:2256:G:H1'	2.29	0.48
53:b:2331:G:N2	53:b:2332:C:H1'	2.29	0.48
53:b:2699:C:N3	53:b:2700:A:N7	2.61	0.48
4:E:22:LYS:HD3	4:E:29:ILE:HD11	1.95	0.48
8:I:111:GLU:OE1	8:I:111:GLU:HA	2.13	0.48
16:Q:20:ILE:HD12	16:Q:47:ASP:OD2	2.14	0.48
24:3:43:ILE:HG22	24:3:49:TYR:HB2	1.96	0.48
26:6:4:THR:HG22	53:b:687:C:H1'	1.96	0.48
31:e:170:ARG:NH1	31:e:179:SER:OG	2.47	0.48
46:u:7:ARG:NH2	46:u:8:ASP:OD1	2.46	0.48
50:A:1507:A:N7	50:A:1530:G:N2	2.61	0.48
52:a:18:G:C5	52:a:19:C:C5	3.02	0.48
52:a:39:A:C6	52:a:44:G:N1	2.82	0.48
52:a:114:C:N3	52:a:115:A:C8	2.82	0.48
53:b:21:A:C6	53:b:22:C:C4	3.01	0.48
53:b:109:C:N4	53:b:110:G:N7	2.62	0.48
53:b:184:C:C2	53:b:185:G:C8	3.02	0.48
53:b:245:G:N1	53:b:246:C:C4	2.81	0.48
53:b:522:A:C6	53:b:523:C:C4	3.02	0.48
53:b:584:C:O2	53:b:584:C:H2'	2.13	0.48
53:b:612:G:C6	53:b:614:A:N3	2.82	0.48
53:b:629:G:C6	53:b:630:G:C4	3.02	0.48
53:b:865:C:C4	53:b:908:C:N4	2.82	0.48
53:b:920:A:C6	53:b:921:C:C4	3.01	0.48
53:b:956:G:H21	53:b:959:A:H8	1.59	0.48
53:b:991:C:C1'	53:b:1185:G:C2	2.97	0.48
53:b:1038:G:H2'	53:b:1039:A:H8	1.78	0.48
53:b:1336:A:N1	53:b:1337:G:C5	2.82	0.48
53:b:1430:G:C4	53:b:1431:A:C8	3.01	0.48
53:b:1451:C:C2	53:b:1458:U:C4	3.02	0.48
53:b:1485:U:C4	53:b:1486:U:C5	3.02	0.48
53:b:1786:A:C2	53:b:1938:A:C6	3.00	0.48
53:b:2023:C:C2	53:b:2024:G:C8	3.01	0.48
53:b:2185:U:C2	53:b:2186:G:N7	2.82	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2269:G:N3	53:b:2270:A:C8	2.79	0.48
53:b:2341:G:C4	53:b:2342:C:C5	3.02	0.48
53:b:2435:A:C6	53:b:2436:G:N7	2.82	0.48
53:b:2459:A:C6	53:b:2460:U:C5	3.01	0.48
53:b:2829:A:C6	53:b:2830:C:C4	3.01	0.48
53:b:2838:G:N2	53:b:2839:G:H1'	2.29	0.48
54:v:75:C:H2'	54:v:76:A:O4'	2.14	0.48
1:B:124:THR:OG1	1:B:136:ARG:NH2	2.37	0.48
3:D:12:ARG:HH21	3:D:35:GLN:HB3	1.77	0.48
3:D:64:TYR:CE2	3:D:93:LEU:HB3	2.47	0.48
6:G:87:PRO:HD3	6:G:147:ASN:O	2.14	0.48
13:N:26:LEU:HA	13:N:30:ILE:HD12	1.96	0.48
15:P:7:ALA:HB2	50:A:376:G:C2	2.48	0.48
33:g:42:GLU:OE1	33:g:44:LYS:HE3	2.14	0.48
34:h:90:LEU:HD23	34:h:122:LEU:HA	1.96	0.48
39:n:17:ARG:HA	39:n:20:MET:HG2	1.96	0.48
46:u:72:ILE:HD12	46:u:83:VAL:HG23	1.95	0.48
50:A:782:A:C6	50:A:801:U:C2	3.02	0.48
52:a:57:A:C2	52:a:58:A:C4	3.01	0.48
53:b:96:C:C2	53:b:97:C:C5	3.02	0.48
53:b:155:A:C2	53:b:156:A:N9	2.82	0.48
53:b:263:G:O6	53:b:264:C:C4	2.67	0.48
53:b:617:G:N2	53:b:618:G:C4	2.82	0.48
53:b:650:C:C4	53:b:651:G:N7	2.81	0.48
53:b:742:A:H2'	53:b:743:A:C8	2.49	0.48
53:b:778:G:N1	53:b:787:C:C4	2.82	0.48
53:b:843:G:C6	53:b:844:A:C5	3.01	0.48
53:b:1178:C:O2'	53:b:1179:G:O5'	2.32	0.48
53:b:1308:A:H2'	53:b:1309:G:O4'	2.13	0.48
53:b:1316:U:C2	53:b:1317:G:N7	2.81	0.48
53:b:1336:A:C6	53:b:1337:G:C8	3.02	0.48
53:b:1511:G:C2	53:b:1512:C:C2	3.02	0.48
53:b:1555:G:N3	53:b:1556:C:C6	2.82	0.48
53:b:1659:G:C2	53:b:1660:G:C1'	2.92	0.48
53:b:1829:A:C6	53:b:1830:C:N1	2.82	0.48
53:b:2110:G:H5'	53:b:2110:G:H8	1.77	0.48
53:b:2666:C:O2	53:b:2666:C:H2'	2.13	0.48
7:H:15:ASN:ND2	50:A:826:C:O2	2.47	0.47
18:S:46:LEU:O	18:S:61:VAL:HG22	2.14	0.47
34:h:128:HIS:CE1	34:h:144:VAL:HG11	2.49	0.47
36:k:1:MET:HE3	36:k:32:TYR:CZ	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:l:93:ASN:OD1	37:l:94:THR:N	2.47	0.47
38:m:96:ILE:HA	38:m:100:LYS:CE	2.43	0.47
50:A:473:U:H2'	50:A:474:G:O4'	2.13	0.47
50:A:628:G:H2'	50:A:629:A:H8	1.78	0.47
50:A:824:G:H1	50:A:876:C:H42	1.62	0.47
50:A:1371:G:H2'	50:A:1372:U:C6	2.48	0.47
52:a:46:A:C2	52:a:47:C:C1'	2.97	0.47
52:a:91:C:H2'	52:a:91:C:O2	2.13	0.47
53:b:27:G:H22	53:b:512:G:H2'	1.78	0.47
53:b:213:A:H2'	53:b:214:G:C8	2.48	0.47
53:b:308:G:O2'	53:b:329:G:N2	2.47	0.47
53:b:344:A:C2'	53:b:345:A:H5'	2.44	0.47
53:b:363:G:C5	53:b:364:C:C4	3.02	0.47
53:b:639:U:H2'	53:b:640:C:C5	2.49	0.47
53:b:763:G:C6	53:b:765:C:C4	3.02	0.47
53:b:956:G:N2	53:b:959:A:H8	2.12	0.47
53:b:1091:G:C2	53:b:1092:C:C2	3.02	0.47
53:b:1485:U:N3	53:b:1486:U:C5	2.82	0.47
53:b:1540:G:C4	53:b:1541:C:C6	3.01	0.47
53:b:1563:U:C2	53:b:1564:C:C5	3.02	0.47
53:b:1841:U:C2	53:b:1842:G:C8	3.02	0.47
53:b:2270:A:N1	53:b:2271:G:C4	2.82	0.47
53:b:2525:G:C6	53:b:2539:C:N4	2.82	0.47
53:b:2544:G:H21	53:b:2545:G:H1'	1.79	0.47
53:b:2766:A:C2	53:b:2767:C:C6	3.02	0.47
6:G:106:ALA:HB1	6:G:132:THR:OG1	2.15	0.47
8:I:9:GLY:HA2	8:I:80:HIS:CD2	2.49	0.47
10:K:126:ARG:NH1	50:A:693:G:OP1	2.42	0.47
11:L:29:LYS:O	11:L:80:LEU:HD12	2.14	0.47
15:P:5:ARG:HD2	50:A:376:G:H3'	1.44	0.47
15:P:17:TYR:HE1	50:A:374:A:H2	1.61	0.47
28:8:16:ILE:HD13	28:8:25:VAL:HG22	1.96	0.47
29:c:210:ALA:HA	29:c:213:TRP:CE2	2.49	0.47
49:z:24:GLY:C	49:z:25:ILE:CG1	2.86	0.47
50:A:166:U:O4	50:A:167:A:N6	2.47	0.47
50:A:373:A:H5''	50:A:375:U:O4	2.14	0.47
50:A:1021:A:H2'	50:A:1022:A:C8	2.49	0.47
50:A:1030:U:H5''	50:A:1031:C:C4	2.49	0.47
50:A:1341:U:H2'	50:A:1342:C:H4'	1.96	0.47
53:b:182:A:H2'	53:b:183:C:C6	2.49	0.47
53:b:244:A:H2'	53:b:244:A:N3	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:485:C:C2	53:b:496:G:C2	3.01	0.47
53:b:735:A:C8	53:b:736:C:C5	3.02	0.47
53:b:905:A:N1	53:b:906:U:C5	2.83	0.47
53:b:1144:A:N3	53:b:1144:A:H2'	2.29	0.47
53:b:1183:U:O2	53:b:1184:U:C6	2.67	0.47
53:b:1309:G:H2'	53:b:1310:G:O4'	2.15	0.47
53:b:1350:C:N3	53:b:1351:C:C5	2.82	0.47
53:b:1417:C:H1'	53:b:1586:A:N1	2.30	0.47
53:b:1651:G:C6	53:b:1652:A:C5	3.02	0.47
53:b:1660:G:N1	53:b:2001:C:C4	2.82	0.47
53:b:1666:G:H2'	53:b:1667:G:O4'	2.15	0.47
53:b:1720:U:H2'	53:b:1721:G:O4'	2.14	0.47
53:b:1805:A:N1	53:b:1806:C:C5	2.83	0.47
53:b:2010:G:C6	53:b:2011:U:C5	3.02	0.47
53:b:2059:A:H5''	53:b:2060:A:OP2	2.14	0.47
53:b:2172:U:H2'	53:b:2173:A:C2	2.48	0.47
53:b:2253:G:C5	53:b:2254:C:C6	3.02	0.47
53:b:2432:A:C2	53:b:2433:A:N7	2.82	0.47
53:b:2460:U:N3	53:b:2461:A:C8	2.82	0.47
53:b:2829:A:C4	53:b:2830:C:C5	3.02	0.47
18:S:40:PHE:CG	18:S:41:PRO:HD2	2.48	0.47
32:f:122:PHE:O	32:f:124:GLY:N	2.46	0.47
34:h:116:ARG:NH1	34:h:139:PHE:HB2	2.28	0.47
50:A:1253:G:H2'	50:A:1254:A:H8	1.79	0.47
53:b:13:A:C6	53:b:525:U:C2	3.03	0.47
53:b:77:G:C5	53:b:110:G:C4	3.02	0.47
53:b:154:U:O2	53:b:154:U:H2'	2.14	0.47
53:b:247:G:C5	53:b:249:C:H1'	2.49	0.47
53:b:277:G:O4'	53:b:361:G:N1	2.46	0.47
53:b:312:G:C2	53:b:313:G:C8	3.02	0.47
53:b:375:G:N1	53:b:376:G:C8	2.81	0.47
53:b:730:A:N1	53:b:731:C:C4	2.82	0.47
53:b:858:G:C2	53:b:2268:A:C4	3.02	0.47
53:b:1076:C:C3'	53:b:1077:A:C8	2.97	0.47
53:b:1195:G:C2	53:b:1196:C:C5	3.02	0.47
53:b:1218:G:N1	53:b:1219:U:C6	2.81	0.47
53:b:1225:G:C2'	53:b:1226:A:C8	2.94	0.47
53:b:1451:C:O2	53:b:1451:C:H2'	2.13	0.47
53:b:1774:C:H4'	53:b:1978:A:H2	1.80	0.47
53:b:1824:G:C6	53:b:1825:U:C4	3.02	0.47
53:b:2231:U:N3	53:b:2232:C:C5	2.82	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2283:C:N3	53:b:2284:A:C8	2.82	0.47
53:b:2317:A:C2	53:b:2318:G:H1'	2.49	0.47
53:b:2330:G:C6	53:b:2331:G:N9	2.82	0.47
53:b:2396:G:N3	53:b:2396:G:H2'	2.28	0.47
53:b:2709:G:C4	53:b:2710:C:C6	3.02	0.47
8:I:8:THR:O	8:I:81:GLY:HA2	2.14	0.47
31:e:40:ARG:CG	53:b:443:A:N7	2.77	0.47
34:h:1:MET:SD	34:h:27:ARG:NH2	2.73	0.47
34:h:92:GLY:N	34:h:122:LEU:O	2.48	0.47
34:h:114:GLU:HB2	34:h:133:GLN:NE2	2.27	0.47
34:h:132:PHE:N	34:h:140:ALA:O	2.47	0.47
50:A:491:G:H2'	50:A:492:C:C6	2.50	0.47
50:A:742:G:H2'	50:A:743:A:H8	1.80	0.47
50:A:956:U:H3	50:A:960:U:H3	1.62	0.47
50:A:1219:A:N6	50:A:1220:G:O6	2.47	0.47
53:b:8:C:C4	53:b:9:G:N7	2.82	0.47
53:b:46:G:C2	53:b:47:C:C6	3.02	0.47
53:b:46:G:N3	53:b:47:C:C6	2.82	0.47
53:b:245:G:N2	53:b:246:C:C4	2.82	0.47
53:b:519:U:C4	53:b:520:G:N7	2.83	0.47
53:b:617:G:N3	53:b:618:G:C8	2.82	0.47
53:b:700:G:H2'	53:b:701:G:O4'	2.15	0.47
53:b:868:U:N3	53:b:869:G:C8	2.83	0.47
53:b:1172:C:N3	53:b:1173:U:C5	2.70	0.47
53:b:1213:A:H2'	53:b:1214:A:C8	2.49	0.47
53:b:1398:C:N3	53:b:1399:C:N4	2.60	0.47
53:b:1424:G:C6	53:b:1425:G:C6	3.02	0.47
53:b:1854:A:H2'	53:b:1855:U:O4'	2.15	0.47
53:b:1907:G:C2	53:b:1924:C:C2	3.02	0.47
53:b:2053:G:N1	53:b:2054:A:C8	2.83	0.47
53:b:2138:G:H1'	53:b:2154:A:C2	2.48	0.47
53:b:2151:U:C4	53:b:2152:G:C8	3.02	0.47
53:b:2283:C:C4	53:b:2284:A:C8	3.03	0.47
53:b:2483:C:N4	53:b:2484:G:C5	2.83	0.47
53:b:2557:G:C2	53:b:2558:C:C5	3.03	0.47
53:b:2655:G:H2'	53:b:2664:G:H1	1.80	0.47
53:b:2841:C:N3	53:b:2842:G:C8	2.82	0.47
3:D:7:LYS:NZ	50:A:408:A:OP2	2.37	0.47
9:J:85:ASP:HA	9:J:89:ARG:HB2	1.96	0.47
15:P:77:GLU:C	15:P:79:ASN:N	2.73	0.47
18:S:32:THR:HG22	18:S:34:SER:N	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:T:33:LYS:HA	19:T:36:ALA:HB3	1.97	0.47
32:f:66:LEU:HD22	52:a:42:C:H41	1.72	0.47
50:A:161:A:H2'	50:A:162:A:C8	2.49	0.47
50:A:692:U:O2	50:A:694:A:H5''	2.15	0.47
50:A:932:C:O2	50:A:1386:G:N2	2.47	0.47
50:A:1202:U:H2'	50:A:1203:C:O4'	2.15	0.47
50:A:1271:A:H5'	50:A:1314:C:H5''	1.96	0.47
50:A:1486:G:H2'	50:A:1487:G:O4'	2.15	0.47
53:b:30:G:H2'	53:b:31:C:O4'	2.13	0.47
53:b:553:G:H2'	53:b:554:U:O4'	2.14	0.47
53:b:718:A:C6	53:b:719:C:C1'	2.97	0.47
53:b:906:U:N3	53:b:907:G:C8	2.82	0.47
53:b:1069:A:C5	53:b:1073:A:C8	3.00	0.47
53:b:1075:C:O2'	53:b:1076:C:H5'	2.14	0.47
53:b:1170:C:C2'	53:b:1171:G:H5'	2.44	0.47
53:b:1445:G:C6	53:b:1446:C:C4	3.02	0.47
53:b:1672:A:C2	53:b:1673:G:C4	3.02	0.47
53:b:1684:G:C2	53:b:1685:C:C2	3.03	0.47
53:b:1824:G:C5	53:b:1825:U:C5	3.03	0.47
53:b:2048:G:H1'	53:b:2823:A:H62	1.77	0.47
53:b:2152:G:C8	53:b:2152:G:C5'	2.97	0.47
53:b:2353:G:C5	53:b:2354:C:C5	3.03	0.47
53:b:2838:G:C6	53:b:2839:G:N9	2.83	0.47
54:v:15:G:H2'	54:v:16:C:C5'	2.45	0.47
4:E:14:LEU:HB3	4:E:36:THR:HG22	1.96	0.47
7:H:101:ALA:HA	7:H:127:TYR:HB3	1.95	0.47
41:p:4:ILE:O	41:p:8:LEU:HG	2.15	0.47
50:A:94:G:H5''	50:A:95:C:OP1	2.15	0.47
50:A:425:G:H2'	50:A:426:U:O4'	2.15	0.47
50:A:667:G:H2'	50:A:668:G:C8	2.47	0.47
50:A:696:A:N3	50:A:786:G:O2'	2.47	0.47
50:A:1237:C:H3'	50:A:1238:A:O4'	2.13	0.47
52:a:45:A:C2	52:a:46:A:C1'	2.98	0.47
53:b:42:A:N1	53:b:43:G:N7	2.62	0.47
53:b:353:C:C2	53:b:354:A:C8	3.02	0.47
53:b:389:G:C5	53:b:390:U:C6	3.03	0.47
53:b:465:G:C2'	53:b:466:A:C8	2.97	0.47
53:b:629:G:N1	53:b:630:G:H1'	2.29	0.47
53:b:847:U:C5	53:b:933:A:C6	2.96	0.47
53:b:881:G:O6	53:b:897:C:O2	2.33	0.47
53:b:919:U:O2	53:b:919:U:H2'	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1013:C:O2	53:b:1013:C:H2'	2.14	0.47
53:b:1106:G:N2	53:b:1107:G:H1'	2.28	0.47
53:b:1471:G:C6	53:b:1472:C:C6	3.03	0.47
53:b:1528:A:C8	53:b:1529:G:H1'	2.50	0.47
53:b:1582:C:H2'	53:b:1585:C:H42	1.78	0.47
53:b:1703:G:N3	53:b:1704:C:C6	2.83	0.47
53:b:1774:C:C4	53:b:1775:U:C5	3.02	0.47
53:b:1972:G:C2	53:b:1973:G:N7	2.82	0.47
53:b:1998:A:C4	53:b:1999:C:C6	3.02	0.47
53:b:2133:G:N2	53:b:2160:C:OP1	2.47	0.47
53:b:2293:G:C6	53:b:2294:G:C8	3.02	0.47
53:b:2470:G:N2	53:b:2471:A:C4	2.82	0.47
53:b:2590:A:N3	53:b:2591:C:C6	2.82	0.47
53:b:2801:G:C6	53:b:2802:G:C5	3.03	0.47
1:B:75:ALA:HB1	1:B:163:ILE:HD13	1.97	0.47
1:B:217:ALA:HB1	1:B:221:ARG:HE	1.78	0.47
3:D:123:MET:O	3:D:143:SER:N	2.48	0.47
6:G:56:SER:HB2	6:G:59:GLU:HB2	1.97	0.47
7:H:91:LEU:HD11	7:H:103:VAL:HG21	1.96	0.47
7:H:106:SER:HA	50:A:642:A:C5	2.48	0.47
8:I:6:TYR:CG	8:I:7:GLY:N	2.82	0.47
8:I:7:GLY:HA3	8:I:85:ALA:HB2	1.95	0.47
10:K:52:ARG:HE	10:K:56:LYS:HE2	1.80	0.47
10:K:121:ARG:NH2	20:U:34:ARG:HD2	2.29	0.47
13:N:81:ILE:HD11	50:A:1202:U:C2	2.49	0.47
16:Q:5:ARG:HH12	50:A:636:U:C5'	2.27	0.47
18:S:15:LEU:HA	18:S:18:VAL:HG12	1.96	0.47
30:d:151:THR:HG22	30:d:152:PRO:N	2.29	0.47
38:m:13:HIS:CE1	53:b:954:G:H4'	2.49	0.47
39:n:2:ARG:HG2	39:n:5:LYS:HB2	1.97	0.47
49:z:18:TRP:N	49:z:18:TRP:CD2	2.82	0.47
50:A:139:A:H2'	50:A:140:U:C6	2.50	0.47
50:A:1131:G:N1	50:A:1144:G:O2'	2.48	0.47
50:A:1277:C:O2'	50:A:1279:G:H8	1.97	0.47
50:A:1348:U:HO2'	50:A:1349:A:P	2.38	0.47
52:a:84:G:C6	52:a:85:G:C8	3.02	0.47
53:b:157:C:C2	53:b:158:U:C6	3.03	0.47
53:b:199:A:C6	53:b:2433:A:N3	2.82	0.47
53:b:227:A:N1	53:b:2407:A:C1'	2.77	0.47
53:b:242:G:N2	53:b:254:G:C4	2.82	0.47
53:b:273:G:N1	53:b:365:U:C4	2.82	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:278:A:H1'	53:b:362:A:C2	2.49	0.47
53:b:307:G:N2	53:b:309:A:H3'	2.25	0.47
53:b:309:A:H1'	53:b:329:G:N3	2.30	0.47
53:b:399:U:C4	53:b:400:G:C5	3.03	0.47
53:b:696:G:N2	53:b:697:G:N9	2.62	0.47
53:b:736:C:C4	53:b:737:C:C5	3.03	0.47
53:b:749:A:C5	53:b:1618:A:N3	2.79	0.47
53:b:1055:G:C2	53:b:1104:C:N3	2.82	0.47
53:b:1186:G:C6	53:b:1187:G:C5	3.03	0.47
53:b:1228:G:C2	53:b:1229:C:C6	3.02	0.47
53:b:1232:G:C2	53:b:1233:C:C6	3.02	0.47
53:b:1269:A:C2	53:b:1270:C:C6	3.03	0.47
53:b:1350:C:N4	53:b:1351:C:N4	2.62	0.47
53:b:1398:C:O2	53:b:1398:C:C2'	2.59	0.47
53:b:1450:G:C2	53:b:1451:C:H1'	2.49	0.47
53:b:1491:G:C2	53:b:1492:G:C5	3.02	0.47
53:b:1516:G:N2	53:b:1517:G:H1'	2.25	0.47
53:b:1660:G:C2	53:b:2001:C:C2	3.02	0.47
53:b:1703:G:N1	53:b:1704:C:C4	2.83	0.47
53:b:1736:U:H2'	53:b:1737:G:O4'	2.15	0.47
53:b:1760:C:C5	53:b:1761:C:C5	3.03	0.47
53:b:1783:A:N1	53:b:2587:A:O2'	2.47	0.47
53:b:1786:A:C2'	53:b:1938:A:H61	2.26	0.47
53:b:1839:G:C1'	53:b:1927:A:H5'	2.45	0.47
53:b:2040:G:H3'	53:b:2041:U:H6	1.80	0.47
53:b:2051:A:C2	53:b:2614:A:N1	2.83	0.47
53:b:2181:U:C4	53:b:2182:U:H5	2.25	0.47
53:b:2182:U:O2	53:b:2183:A:C5	2.67	0.47
53:b:2271:G:C5	53:b:2272:U:C4	3.02	0.47
53:b:2414:G:N2	53:b:2415:G:H1'	2.30	0.47
53:b:2641:G:C2	53:b:2774:C:C2	3.03	0.47
7:H:29:SER:OG	50:A:590:U:OP1	2.33	0.47
42:q:41:LYS:HE2	42:q:45:TYR:CE2	2.49	0.47
53:b:111:A:N1	53:b:112:U:C6	2.83	0.47
53:b:209:C:N4	53:b:210:C:C5	2.80	0.47
53:b:734:A:C6	53:b:735:A:C8	3.03	0.47
53:b:926:G:N3	53:b:927:A:C8	2.83	0.47
53:b:927:A:N1	53:b:928:A:C5	2.82	0.47
53:b:1073:A:C6	53:b:1074:G:C5	3.03	0.47
53:b:1213:A:C2	53:b:1238:G:O2'	2.68	0.47
53:b:1472:C:N4	53:b:1473:G:N7	2.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1515:A:C6	53:b:1516:G:H1'	2.50	0.47
53:b:1684:G:C6	53:b:1685:C:C5	3.03	0.47
53:b:1768:C:C4	53:b:1769:U:C5	3.03	0.47
53:b:1911:U:C5	53:b:1918:A:N6	2.83	0.47
53:b:2028:U:H2'	53:b:2029:G:O4'	2.15	0.47
53:b:2292:U:N3	53:b:2293:G:C8	2.83	0.47
53:b:2587:A:O2'	53:b:2588:G:O5'	2.32	0.47
53:b:2593:U:O2	53:b:2594:C:C6	2.67	0.47
53:b:2749:A:C5	53:b:2750:A:N9	2.83	0.47
53:b:2886:A:N6	53:b:2887:A:C5	2.83	0.47
1:B:204:ASP:HA	1:B:209:VAL:HG21	1.96	0.47
2:C:76:ILE:HA	2:C:82:ASP:OD2	2.14	0.47
8:I:30:ASN:HD21	8:I:66:VAL:H	1.63	0.47
13:N:23:ARG:HB2	13:N:26:LEU:HD12	1.97	0.47
15:P:67:ILE:HG13	15:P:71:VAL:HG12	1.96	0.47
16:Q:5:ARG:HH12	50:A:636:U:C4'	2.27	0.47
44:s:98:LYS:HE2	53:b:1323:C:OP2	2.14	0.47
50:A:584:G:H2'	50:A:585:G:H8	1.80	0.47
50:A:630:A:H2'	50:A:631:C:O4'	2.15	0.47
50:A:1342:C:H5'	50:A:1343:G:H5''	1.97	0.47
50:A:1391:U:H2'	50:A:1392:G:C8	2.33	0.47
52:a:101:A:C4	52:a:102:G:C8	3.03	0.47
53:b:234:U:C2	53:b:429:A:N6	2.82	0.47
53:b:365:U:H5'	53:b:366:C:OP2	2.14	0.47
53:b:425:G:N1	53:b:426:C:N4	2.63	0.47
53:b:447:A:C6	53:b:473:G:C4	3.02	0.47
53:b:462:C:H2'	53:b:463:G:O4'	2.15	0.47
53:b:1019:U:C4	53:b:1142:A:C6	3.02	0.47
53:b:1106:G:C5	53:b:1107:G:N7	2.82	0.47
53:b:1233:C:C2	53:b:1234:U:C5	3.03	0.47
53:b:1299:G:O2'	53:b:1300:G:OP2	2.31	0.47
53:b:1946:U:O2	53:b:1947:C:C6	2.67	0.47
53:b:2181:U:H2'	53:b:2182:U:C5'	2.45	0.47
53:b:2182:U:O2	53:b:2183:A:C4	2.67	0.47
53:b:2231:U:C4	53:b:2232:C:C5	3.03	0.47
53:b:2880:C:O2	53:b:2880:C:H2'	2.15	0.47
8:I:38:PHE:C	8:I:40:ARG:H	2.23	0.47
16:Q:49:ASN:HB2	16:Q:51:GLU:OE2	2.14	0.47
30:d:103:ASP:O	30:d:105:LYS:N	2.39	0.47
41:p:37:LYS:HD2	41:p:39:ARG:HE	1.80	0.47
50:A:822:U:O4	50:A:823:C:N4	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:23:G:C2'	52:a:24:G:C8	2.96	0.47
52:a:76:G:C6	52:a:77:U:C5	3.03	0.47
53:b:289:G:C5	53:b:290:U:C5	3.03	0.47
53:b:356:G:C6	53:b:357:C:C4	3.04	0.47
53:b:413:C:C2	53:b:414:C:C5	3.02	0.47
53:b:464:U:C4	53:b:788:A:C6	3.04	0.47
53:b:522:A:C4	53:b:523:C:C6	3.03	0.47
53:b:611:C:N4	53:b:612:G:C5	2.83	0.47
53:b:616:A:H2'	53:b:616:A:N3	2.30	0.47
53:b:719:C:C2	53:b:720:U:C6	3.02	0.47
53:b:978:G:C6	53:b:986:C:N4	2.82	0.47
53:b:1010:A:O2'	53:b:1011:G:H5''	2.15	0.47
53:b:1294:U:C4	53:b:1295:C:C6	3.02	0.47
53:b:1945:G:C2	53:b:1946:U:C5	3.03	0.47
53:b:2013:A:C2	53:b:2014:A:H1'	2.49	0.47
53:b:2070:A:C2	53:b:2442:C:N3	2.83	0.47
53:b:2151:U:O2	53:b:2151:U:H2'	2.15	0.47
53:b:2194:U:N3	53:b:2195:U:C5	2.83	0.47
53:b:2217:G:N2	53:b:2218:G:H1'	2.30	0.47
53:b:2266:A:H4'	53:b:2267:A:C8	2.50	0.47
53:b:2270:A:C4	53:b:2271:G:C8	3.02	0.47
53:b:2397:G:C2	53:b:2420:C:C2	3.03	0.47
53:b:2397:G:N1	53:b:2398:U:C6	2.83	0.47
53:b:2590:A:C6	53:b:2591:C:C5	3.03	0.47
53:b:2740:A:H2'	53:b:2741:A:C8	2.50	0.47
53:b:2798:U:C3'	53:b:2799:A:C2	2.84	0.47
54:v:15:G:H3'	54:v:16:C:C5'	2.30	0.47
4:E:14:LEU:HA	4:E:36:THR:HA	1.97	0.46
16:Q:13:SER:HA	16:Q:54:ILE:HG12	1.96	0.46
28:8:22:VAL:HG11	28:8:36:ARG:HG3	1.98	0.46
50:A:222:C:H2'	50:A:223:A:H8	1.79	0.46
50:A:702:A:OP1	53:b:1848:A:H1'	2.15	0.46
50:A:1130:A:OP1	50:A:1130:A:C8	2.67	0.46
52:a:62:C:O2	52:a:62:C:H2'	2.15	0.46
53:b:26:G:H2'	53:b:27:G:O4'	2.15	0.46
53:b:38:A:H2'	53:b:39:G:O4'	2.14	0.46
53:b:279:A:N6	53:b:361:G:O2'	2.48	0.46
53:b:422:A:H2'	53:b:423:A:C8	2.50	0.46
53:b:616:A:N6	53:b:617:G:C5	2.84	0.46
53:b:662:G:N2	53:b:663:G:C5	2.83	0.46
53:b:847:U:O4	53:b:933:A:N1	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:987:C:H2'	53:b:988:A:C4'	2.44	0.46
53:b:1033:U:C2	53:b:2750:A:N6	2.82	0.46
53:b:1161:C:C2	53:b:1162:G:C8	3.03	0.46
53:b:1260:A:H2'	53:b:1261:C:O4'	2.15	0.46
53:b:1704:C:C2	53:b:1705:A:C8	3.02	0.46
53:b:1985:C:O2	53:b:1986:C:C6	2.68	0.46
53:b:2100:G:N2	53:b:2101:A:H1'	2.30	0.46
53:b:2378:A:N7	53:b:2379:G:H1'	2.30	0.46
53:b:2386:A:H2'	53:b:2387:U:C6	2.50	0.46
53:b:2482:A:H2'	53:b:2482:A:N3	2.29	0.46
53:b:2673:G:C2	53:b:2674:G:C8	3.04	0.46
53:b:2783:U:C2	53:b:2784:U:C5	3.02	0.46
11:L:56:LEU:HD21	11:L:81:ILE:HG13	1.98	0.46
19:T:78:LEU:O	19:T:82:ILE:HG12	2.15	0.46
31:e:79:ARG:NE	53:b:448:U:H1'	2.30	0.46
34:h:71:LYS:O	34:h:77:THR:OG1	2.32	0.46
42:q:36:PHE:CD1	53:b:1252:G:O6	2.68	0.46
46:u:74:ASN:C	46:u:76:ALA:H	2.21	0.46
50:A:691:G:O2'	50:A:696:A:N6	2.48	0.46
50:A:960:U:H2'	50:A:1225:A:H62	1.80	0.46
50:A:1439:G:C4	50:A:1440:U:H1'	2.50	0.46
53:b:77:G:C6	53:b:78:U:C4	3.04	0.46
53:b:242:G:C4	53:b:254:G:O6	2.68	0.46
53:b:251:A:H2'	53:b:252:G:C4'	2.44	0.46
53:b:308:G:H2'	53:b:309:A:C8	2.50	0.46
53:b:392:U:O2	53:b:392:U:H2'	2.15	0.46
53:b:612:G:C6	53:b:614:A:C2	3.03	0.46
53:b:696:G:H2'	53:b:696:G:N3	2.30	0.46
53:b:806:C:C2	53:b:807:U:C5	3.04	0.46
53:b:983:A:H2'	53:b:984:A:C8	2.50	0.46
53:b:1094:U:O2	53:b:1096:A:H3'	2.14	0.46
53:b:1246:A:C2	53:b:1247:A:C4	3.02	0.46
53:b:1506:U:H2'	53:b:1507:C:O4'	2.15	0.46
53:b:1637:A:C6	53:b:1638:C:C4	3.04	0.46
53:b:1760:C:N3	53:b:1761:C:C6	2.83	0.46
53:b:1900:A:C1'	53:b:1970:A:H2'	2.45	0.46
53:b:1932:A:N1	53:b:1969:A:C5	2.83	0.46
53:b:2238:G:H2'	53:b:2238:G:N3	2.30	0.46
53:b:2292:U:C4	53:b:2293:G:N7	2.83	0.46
53:b:2347:C:N3	53:b:2348:U:C5	2.83	0.46
53:b:2442:C:H2'	53:b:2443:C:O5'	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2510:C:C4	53:b:2511:U:C4	3.02	0.46
53:b:2578:G:N3	53:b:2578:G:H2'	2.30	0.46
53:b:2635:A:C6	53:b:2636:C:C5	3.03	0.46
53:b:2735:G:C6	53:b:2736:A:N7	2.83	0.46
2:C:22:PHE:HD1	9:J:13:PHE:CE2	2.33	0.46
26:6:3:ARG:NE	53:b:1613:G:O2'	2.48	0.46
49:z:18:TRP:CD1	49:z:19:ILE:HG22	2.50	0.46
50:A:432:A:H2'	50:A:433:G:O4'	2.15	0.46
50:A:438:U:OP2	50:A:438:U:H6	1.98	0.46
50:A:651:C:N4	50:A:752:G:O2'	2.49	0.46
50:A:1361:G:O2'	50:A:1362:A:H5'	2.16	0.46
52:a:53:A:N3	52:a:53:A:H2'	2.30	0.46
53:b:126:A:H2'	53:b:127:A:N7	2.31	0.46
53:b:226:A:C5	53:b:227:A:N7	2.83	0.46
53:b:662:G:C2	53:b:663:G:N9	2.83	0.46
53:b:786:C:N3	53:b:787:C:C4	2.81	0.46
53:b:935:C:C2	53:b:936:A:H8	2.28	0.46
53:b:1063:G:N2	53:b:1076:C:N1	2.64	0.46
53:b:1157:G:N2	53:b:1158:C:C2	2.83	0.46
53:b:1167:C:O2	53:b:1168:G:C8	2.68	0.46
53:b:1204:A:C5	53:b:1206:G:C6	3.02	0.46
53:b:1245:G:N1	53:b:1246:A:C5	2.83	0.46
53:b:1759:A:O2'	53:b:2711:A:C2	2.68	0.46
53:b:1789:A:H2'	53:b:1790:C:O4'	2.16	0.46
53:b:1794:A:N1	53:b:1795:C:C4	2.83	0.46
53:b:2011:U:C4	53:b:2012:G:C8	3.04	0.46
53:b:2039:U:C2	53:b:2040:G:C8	3.03	0.46
53:b:2330:G:N3	53:b:2330:G:H2'	2.31	0.46
53:b:2510:C:N4	53:b:2575:C:N3	2.64	0.46
53:b:2543:G:H1'	53:b:2765:A:H2'	1.97	0.46
53:b:2592:G:C6	53:b:2593:U:C4	3.04	0.46
53:b:2636:C:O2	53:b:2637:U:C6	2.68	0.46
2:C:58:ARG:HG3	2:C:62:SER:O	2.15	0.46
3:D:84:ASN:OD1	4:E:101:GLY:HA3	2.15	0.46
4:E:44:ARG:HD2	4:E:70:MET:SD	2.55	0.46
8:I:125:GLN:HG2	50:A:941:G:H22	1.79	0.46
16:Q:29:LYS:NZ	16:Q:36:PHE:CZ	2.82	0.46
30:d:11:MET:O	30:d:12:THR:HG23	2.16	0.46
38:m:21:ALA:CB	38:m:100:LYS:HG3	2.44	0.46
41:p:106:LYS:HE2	50:A:1432:G:H3'	1.97	0.46
44:s:86:MET:HG3	44:s:96:ILE:HD11	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:26:A:N6	50:A:558:G:H1'	2.30	0.46
50:A:39:G:C6	50:A:40:C:C4	3.03	0.46
50:A:1371:G:H2'	50:A:1372:U:H6	1.81	0.46
50:A:1413:A:H2'	50:A:1414:U:H6	1.81	0.46
52:a:29:A:C2	52:a:56:G:N2	2.83	0.46
52:a:63:C:N3	52:a:64:G:C8	2.83	0.46
53:b:77:G:C8	53:b:110:G:C2	3.03	0.46
53:b:156:A:C6	53:b:157:C:C4	3.03	0.46
53:b:238:C:H2'	53:b:239:C:O4'	2.16	0.46
53:b:244:A:N1	53:b:245:G:H1'	2.30	0.46
53:b:263:G:H2'	53:b:264:C:O4'	2.15	0.46
53:b:377:G:C6	53:b:378:C:C6	3.03	0.46
53:b:593:U:C2	53:b:594:U:C5	3.03	0.46
53:b:882:G:O2'	53:b:883:G:O4'	2.27	0.46
53:b:895:U:C2'	53:b:896:A:O5'	2.62	0.46
53:b:974:G:O2'	53:b:989:G:N2	2.49	0.46
53:b:977:G:C2	53:b:987:C:N3	2.84	0.46
53:b:1063:G:O6	53:b:1070:A:OP2	2.34	0.46
53:b:1372:U:H1'	53:b:2214:C:O2	2.15	0.46
53:b:1504:A:C2	53:b:1505:A:C5	3.03	0.46
53:b:1635:A:C2	53:b:1636:U:H1'	2.50	0.46
53:b:1656:C:C2	53:b:1657:U:C5	3.04	0.46
53:b:2020:A:N6	53:b:2022:U:C4	2.83	0.46
53:b:2178:C:C2	53:b:2178:C:C3'	2.98	0.46
53:b:2510:C:C2	53:b:2511:U:C6	3.03	0.46
53:b:2601:C:O2	53:b:2603:G:C8	2.68	0.46
53:b:2675:A:C6	53:b:2676:C:C4	3.03	0.46
53:b:2706:A:C6	53:b:2707:U:C6	3.02	0.46
53:b:2859:G:O2'	53:b:2860:A:O4'	2.34	0.46
1:B:100:LEU:HB2	1:B:174:GLU:CD	2.41	0.46
3:D:120:LYS:HE2	3:D:130:ASN:HD21	1.80	0.46
6:G:55:LYS:HE3	6:G:63:VAL:HG11	1.98	0.46
8:I:11:ARG:C	8:I:105:ARG:HH22	2.23	0.46
8:I:122:ARG:NH1	50:A:941:G:H1'	2.30	0.46
9:J:6:ILE:HG23	9:J:101:SER:O	2.16	0.46
14:O:76:ARG:O	14:O:79:ARG:HB3	2.16	0.46
27:7:38:THR:HG21	53:b:2348:U:OP2	2.16	0.46
40:o:45:SER:OG	52:a:9:G:O2'	2.22	0.46
42:q:88:VAL:HG11	43:r:48:LYS:NZ	2.31	0.46
49:z:5:LYS:CD	49:z:7:ILE:CG2	2.94	0.46
50:A:412:A:C6	50:A:414:A:H1'	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:457:G:C2	50:A:476:U:C4	3.03	0.46
50:A:946:A:C6	50:A:947:G:C6	3.04	0.46
52:a:85:G:N3	52:a:86:G:C8	2.83	0.46
52:a:113:C:N3	52:a:114:C:C5	2.84	0.46
53:b:160:A:N7	53:b:167:A:C6	2.84	0.46
53:b:214:G:O2'	53:b:215:G:O5'	2.34	0.46
53:b:250:G:C5	53:b:251:A:N1	2.84	0.46
53:b:392:U:C4	53:b:393:C:C5	3.04	0.46
53:b:534:U:O2	53:b:535:G:C8	2.67	0.46
53:b:813:U:C2	53:b:814:C:C5	3.03	0.46
53:b:823:C:N3	53:b:824:U:C5	2.84	0.46
53:b:845:A:H61	53:b:932:U:H3	1.63	0.46
53:b:926:G:N2	53:b:927:A:C4	2.83	0.46
53:b:957:C:C4	53:b:2459:A:O4'	2.69	0.46
53:b:996:A:N1	53:b:997:G:C5	2.83	0.46
53:b:1303:G:N2	53:b:1304:A:H1'	2.29	0.46
53:b:1326:U:O2	53:b:1326:U:H2'	2.14	0.46
53:b:1353:A:C5	53:b:1378:A:C6	3.04	0.46
53:b:1782:U:C5	53:b:2587:A:N1	2.83	0.46
53:b:2205:A:C2	53:b:2206:C:C2	3.04	0.46
53:b:2221:G:C2	53:b:2222:C:C6	3.04	0.46
53:b:2252:G:C2	53:b:2253:G:H1'	2.50	0.46
53:b:2484:G:H2'	53:b:2484:G:N3	2.31	0.46
53:b:2557:G:C2	53:b:2558:C:C2	3.03	0.46
53:b:2715:C:C4	53:b:2716:C:C6	3.04	0.46
53:b:2779:U:C2	53:b:2781:A:N6	2.83	0.46
53:b:2796:U:C6	53:b:2798:U:N3	2.84	0.46
3:D:173:ASP:OD1	3:D:174:ALA:N	2.48	0.46
4:E:82:HIS:HE1	7:H:95:MET:SD	2.38	0.46
5:F:86:ARG:HH21	17:R:63:TYR:HB3	1.79	0.46
12:M:101:THR:HG21	50:A:1226:C:OP2	2.15	0.46
49:z:10:GLU:HB2	49:z:11:ASP:O	2.12	0.46
50:A:55:A:H5'	50:A:56:U:OP2	2.16	0.46
50:A:107:G:O2'	50:A:378:G:O2'	2.34	0.46
50:A:154:U:H2'	50:A:155:A:C8	2.50	0.46
53:b:54:G:C2	53:b:55:G:H1'	2.51	0.46
53:b:156:A:C2	53:b:157:C:C5	3.04	0.46
53:b:286:U:C2	53:b:287:G:C8	3.03	0.46
53:b:422:A:C2	53:b:423:A:C5	3.03	0.46
53:b:925:A:C2	53:b:926:G:N9	2.83	0.46
53:b:970:U:O2	53:b:971:G:C8	2.69	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1051:G:C6	53:b:1052:C:H5	2.27	0.46
53:b:1162:G:C2	53:b:1163:G:C8	3.04	0.46
53:b:1165:A:N3	53:b:1166:G:C8	2.84	0.46
53:b:1315:C:C2	53:b:1316:U:C6	2.98	0.46
53:b:1383:A:C2	53:b:1384:A:N6	2.77	0.46
53:b:1469:A:C8	53:b:1521:G:N2	2.83	0.46
53:b:1515:A:C5	53:b:1516:G:C1'	2.97	0.46
53:b:1517:G:C2	53:b:1518:C:H1'	2.51	0.46
53:b:1856:U:O4	53:b:1857:G:C4	2.68	0.46
53:b:1861:G:C2	53:b:1862:G:C8	3.04	0.46
53:b:1891:G:C2	53:b:1892:C:C1'	2.98	0.46
53:b:2007:U:N3	53:b:2008:C:C5	2.83	0.46
53:b:2065:C:H2'	53:b:2066:C:H5'	1.95	0.46
53:b:2301:C:C2	53:b:2302:U:C6	3.04	0.46
53:b:2331:G:H21	53:b:2332:C:H1'	1.80	0.46
53:b:2464:G:C6	53:b:2465:C:C5	3.04	0.46
53:b:2507:C:O2'	53:b:2508:G:H5'	2.15	0.46
53:b:2510:C:O2	53:b:2510:C:C2'	2.63	0.46
53:b:2545:G:C2	53:b:2546:U:C2	3.03	0.46
53:b:2708:G:N2	53:b:2709:G:N9	2.63	0.46
53:b:2734:A:C6	53:b:2735:G:N9	2.83	0.46
53:b:2755:C:O2	53:b:2755:C:C2'	2.64	0.46
53:b:2874:C:O2	53:b:2874:C:H2'	2.16	0.46
8:I:6:TYR:OH	8:I:8:THR:HG22	2.16	0.46
12:M:15:VAL:HB	12:M:40:GLU:HG2	1.97	0.46
13:N:24:ALA:O	13:N:28:ALA:N	2.47	0.46
17:R:32:ILE:HD13	17:R:67:LEU:HD13	1.98	0.46
31:e:40:ARG:NE	53:b:443:A:N7	2.63	0.46
33:g:123:ALA:O	33:g:124:GLU:HG3	2.16	0.46
52:a:39:A:C4	52:a:44:G:N2	2.83	0.46
53:b:27:G:C6	53:b:512:G:N1	2.83	0.46
53:b:201:C:N3	53:b:202:U:C6	2.84	0.46
53:b:273:G:N2	53:b:364:C:N3	2.64	0.46
53:b:287:G:C2	53:b:288:U:C6	3.04	0.46
53:b:360:U:C4	53:b:361:G:C4	3.03	0.46
53:b:363:G:C6	53:b:364:C:C4	3.03	0.46
53:b:464:U:C2	53:b:788:A:N6	2.84	0.46
53:b:616:A:C6	53:b:617:G:C8	3.03	0.46
53:b:634:C:C2	53:b:635:C:C6	3.04	0.46
53:b:822:G:C6	53:b:823:C:N4	2.83	0.46
53:b:892:A:C8	53:b:893:C:C5	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:953:G:N1	53:b:954:G:N7	2.64	0.46
53:b:960:A:C5	53:b:962:G:H1'	2.51	0.46
53:b:1561:C:C2	53:b:1562:U:C5	3.03	0.46
53:b:1851:U:C2	53:b:1852:U:C6	3.04	0.46
53:b:2283:C:C4	53:b:2284:A:N7	2.83	0.46
53:b:2300:C:O2	53:b:2301:C:C6	2.68	0.46
53:b:2533:U:C4	53:b:2534:A:C8	3.02	0.46
53:b:2555:U:N3	53:b:2556:C:H1'	2.30	0.46
53:b:2593:U:N3	53:b:2594:C:C5	2.84	0.46
53:b:2729:G:C6	53:b:2730:C:C5	3.04	0.46
53:b:2828:G:N1	53:b:2829:A:C5	2.84	0.46
53:b:2832:U:O2	53:b:2832:U:H2'	2.15	0.46
3:D:187:ARG:NH1	3:D:196:GLU:CD	2.73	0.46
18:S:25:GLY:O	18:S:27:LYS:HG2	2.16	0.46
22:1:18:LEU:HD21	22:1:53:VAL:CB	2.46	0.46
37:l:78:ARG:HD2	53:b:626:A:C6	2.50	0.46
40:o:33:ARG:O	40:o:34:HIS:HB2	2.16	0.46
50:A:956:U:H2'	50:A:957:U:O4'	2.16	0.46
50:A:1124:G:H1'	50:A:1125:U:H5	1.80	0.46
52:a:45:A:C6	52:a:46:A:C5	3.04	0.46
53:b:570:G:H2'	53:b:2030:A:N7	2.30	0.46
53:b:1004:U:C2	53:b:1011:G:C8	3.03	0.46
53:b:1091:G:N2	53:b:1092:C:C2	2.84	0.46
53:b:1229:C:C4	53:b:1230:A:N7	2.84	0.46
53:b:1336:A:N1	53:b:1337:G:C4	2.83	0.46
53:b:1356:G:O6	53:b:1357:C:C5	2.68	0.46
53:b:1376:C:C2	53:b:1377:G:C8	3.04	0.46
53:b:1465:G:H2'	53:b:1466:U:O4'	2.16	0.46
53:b:1516:G:C6	53:b:1517:G:N9	2.84	0.46
53:b:1550:C:O2	53:b:1551:A:C8	2.69	0.46
53:b:1586:A:C8	53:b:1587:G:C8	3.04	0.46
53:b:1591:A:C6	53:b:1592:C:C5	3.04	0.46
53:b:1646:C:O2	53:b:1646:C:C2'	2.64	0.46
53:b:1869:G:N2	53:b:1871:A:C8	2.84	0.46
53:b:1901:A:C2	53:b:1902:C:C6	3.04	0.46
53:b:2152:G:C8	53:b:2152:G:H5''	2.51	0.46
53:b:2290:G:O2'	53:b:2291:U:H5'	2.15	0.46
53:b:2353:G:N3	53:b:2354:C:C6	2.84	0.46
53:b:2480:C:C4	53:b:2481:G:C5	3.03	0.46
53:b:2567:G:C2	53:b:2568:U:C4	3.03	0.46
9:J:10:LEU:HB3	9:J:18:ILE:HG13	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:K:127:ARG:NH2	50:A:1523:G:OP2	2.49	0.46
12:M:22:TYR:HB3	12:M:65:GLU:OE2	2.16	0.46
18:S:17:LYS:NZ	50:A:1014:A:OP2	2.31	0.46
20:U:27:VAL:O	20:U:27:VAL:HG12	2.16	0.46
34:h:16:GLY:O	34:h:51:ARG:NE	2.32	0.46
44:s:16:LYS:HE3	53:b:1266:G:N7	2.31	0.46
50:A:730:G:H1'	50:A:765:G:O2'	2.16	0.46
50:A:773:G:N2	50:A:806:C:O2	2.49	0.46
50:A:1181:G:O2'	50:A:1182:G:N7	2.48	0.46
52:a:48:U:C4	52:a:49:C:C5	3.04	0.46
52:a:112:G:C2	52:a:113:C:C4	3.04	0.46
53:b:49:A:C5	53:b:120:U:O2	2.68	0.46
53:b:200:U:C5	53:b:201:C:C6	3.04	0.46
53:b:223:A:O2'	53:b:408:G:N2	2.46	0.46
53:b:278:A:N1	53:b:361:G:N2	2.62	0.46
53:b:630:G:N3	53:b:630:G:H2'	2.29	0.46
53:b:687:C:C4	53:b:688:U:C4	3.04	0.46
53:b:843:G:C2	53:b:844:A:C4	3.04	0.46
53:b:1050:A:C5	53:b:2751:G:C6	3.04	0.46
53:b:1052:C:O2'	53:b:1053:C:O5'	2.33	0.46
53:b:1142:A:C4	53:b:1144:A:C8	3.04	0.46
53:b:1157:G:N1	53:b:1158:C:C4	2.84	0.46
53:b:1200:C:O2	53:b:1200:C:H2'	2.15	0.46
53:b:1206:G:H22	53:b:1207:C:H1'	1.80	0.46
53:b:1411:U:C2	53:b:1412:U:C5	3.04	0.46
53:b:1703:G:C5	53:b:1704:C:C5	3.04	0.46
53:b:1773:A:C1'	53:b:1829:A:C8	2.99	0.46
53:b:1791:A:N1	53:b:1829:A:C4'	2.75	0.46
53:b:1839:G:C4	53:b:1927:A:C6	3.03	0.46
53:b:1840:G:C4	53:b:1841:U:C5	3.04	0.46
53:b:1842:G:C2	53:b:1843:C:C2	3.04	0.46
53:b:1853:A:C6	53:b:1854:A:C6	3.04	0.46
53:b:2136:G:O6	53:b:2137:U:C6	2.69	0.46
53:b:2331:G:C6	53:b:2332:C:H5	2.29	0.46
53:b:2388:A:H2'	53:b:2389:G:O4'	2.16	0.46
53:b:2396:G:C2	53:b:2397:G:C4	3.03	0.46
53:b:2517:C:C5	53:b:2542:A:N7	2.84	0.46
53:b:2797:U:C5	53:b:2798:U:H4'	2.50	0.46
54:v:35:C:H3'	54:v:35:C:C6	2.51	0.46
1:B:71:THR:HG21	1:B:93:HIS:H	1.81	0.46
1:B:203:ASP:OD1	1:B:204:ASP:N	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:27:ILE:HD13	8:I:48:ARG:HH11	1.81	0.46
9:J:21:ALA:O	9:J:25:ILE:HG12	2.16	0.46
15:P:10:GLY:O	15:P:11:ALA:CB	2.64	0.46
17:R:49:LYS:HE3	50:A:663:A:H5''	1.97	0.46
31:e:40:ARG:CD	53:b:443:A:N7	2.79	0.46
38:m:13:HIS:HB2	53:b:910:A:N7	2.31	0.46
50:A:109:A:C6	50:A:326:G:C6	3.04	0.46
50:A:968:A:H4'	50:A:969:A:OP2	2.15	0.46
50:A:1096:C:O2	50:A:1170:A:O2'	2.33	0.46
50:A:1283:U:H2'	50:A:1284:C:O4'	2.16	0.46
52:a:8:C:O2	52:a:8:C:H2'	2.16	0.46
53:b:199:A:N6	53:b:2433:A:C4	2.84	0.46
53:b:301:G:C4	53:b:302:C:C5	3.04	0.46
53:b:332:A:C5	53:b:335:C:C4	3.05	0.46
53:b:731:C:H2'	53:b:732:C:H6	1.81	0.46
53:b:785:G:N2	53:b:786:C:C6	2.83	0.46
53:b:850:U:O2	53:b:850:U:H2'	2.14	0.46
53:b:852:U:N3	53:b:853:C:C6	2.84	0.46
53:b:1011:G:C6	53:b:1013:C:C4	3.04	0.46
53:b:1293:C:C2	53:b:1294:U:C6	3.03	0.46
53:b:1446:C:H2'	53:b:1447:C:C6	2.51	0.46
53:b:1511:G:H2'	53:b:1512:C:H6	1.80	0.46
53:b:1538:G:C6	53:b:1539:U:C4	3.03	0.46
53:b:1592:C:O2	53:b:1592:C:H2'	2.16	0.46
53:b:1753:G:C6	53:b:1755:A:OP2	2.69	0.46
53:b:2533:U:C4	53:b:2534:A:C1'	2.99	0.46
53:b:2589:A:N3	53:b:2589:A:H2'	2.31	0.46
53:b:2716:C:N3	53:b:2717:C:C5	2.84	0.46
53:b:2797:U:C6	53:b:2797:U:C3'	2.98	0.46
53:b:2838:G:C6	53:b:2839:G:N7	2.83	0.46
3:D:194:ILE:O	3:D:195:ASN:ND2	2.49	0.45
20:U:43:GLU:HG3	20:U:44:ARG:HG3	1.98	0.45
50:A:125:U:H2'	50:A:126:G:O4'	2.17	0.45
50:A:126:G:OP1	50:A:605:U:O2'	2.22	0.45
50:A:199:A:H2'	50:A:200:G:H8	1.80	0.45
50:A:917:G:C6	50:A:918:A:C6	3.03	0.45
50:A:1066:C:OP2	50:A:1066:C:C6	2.69	0.45
50:A:1427:C:H2'	50:A:1428:A:H8	1.80	0.45
51:X:16:G:O2'	51:X:17:C:H5'	2.15	0.45
53:b:272:A:N1	53:b:365:U:O4	2.49	0.45
53:b:297:G:C5	53:b:298:G:C8	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:447:A:C2	53:b:473:G:C8	3.03	0.45
53:b:662:G:C2	53:b:663:G:C4	3.04	0.45
53:b:938:G:N2	53:b:939:G:C5	2.83	0.45
53:b:1084:A:C2'	53:b:1085:A:C8	2.99	0.45
53:b:1503:A:C6	53:b:1504:A:C5	3.04	0.45
53:b:1558:C:C6	53:b:1560:G:H1'	2.50	0.45
53:b:1685:C:N3	53:b:1686:C:C5	2.84	0.45
53:b:1759:A:N1	53:b:1760:C:N1	2.65	0.45
53:b:1860:G:N2	53:b:1861:G:C4	2.85	0.45
53:b:2041:U:O2	53:b:2041:U:H2'	2.16	0.45
53:b:2273:A:O2'	53:b:2274:A:C5'	2.64	0.45
53:b:2698:U:C2	53:b:2699:C:C5	3.04	0.45
1:B:116:LEU:HD13	1:B:139:GLU:OE1	2.16	0.45
1:B:121:GLN:HA	1:B:125:PHE:CE2	2.51	0.45
4:E:87:VAL:HG23	4:E:92:ARG:HG2	1.97	0.45
16:Q:5:ARG:NH1	50:A:636:U:H5'	2.30	0.45
17:R:52:ARG:NH1	50:A:664:G:P	2.89	0.45
31:e:49:ARG:CG	53:b:801:G:C6	2.87	0.45
38:m:122:ALA:HB1	53:b:2467:C:O2'	2.17	0.45
44:s:93:ALA:CA	49:z:13:PHE:CE2	2.92	0.45
45:t:17:SER:O	45:t:19:LYS:N	2.49	0.45
46:u:74:ASN:ND2	46:u:81:ASP:OD2	2.49	0.45
50:A:153:C:H42	50:A:168:G:H1	1.64	0.45
50:A:209:U:OP2	50:A:210:C:H5	2.00	0.45
50:A:375:U:OP1	50:A:452:A:H1'	2.16	0.45
50:A:472:U:H2'	50:A:473:U:C6	2.51	0.45
50:A:1060:U:H2'	50:A:1061:G:C8	2.49	0.45
53:b:242:G:N1	53:b:254:G:C5	2.84	0.45
53:b:250:G:C2'	53:b:251:A:C8	2.99	0.45
53:b:550:C:O2	53:b:551:G:C8	2.69	0.45
53:b:601:C:N3	53:b:602:A:C8	2.84	0.45
53:b:630:G:C6	53:b:632:A:OP2	2.70	0.45
53:b:775:G:O6	53:b:794:A:H1'	2.16	0.45
53:b:777:G:H2'	53:b:778:G:O4'	2.16	0.45
53:b:856:G:C2	53:b:922:C:C2	3.04	0.45
53:b:1216:G:H2'	53:b:1217:U:O4'	2.16	0.45
53:b:1220:G:N1	53:b:1221:C:C5	2.85	0.45
53:b:1268:A:C5	53:b:1269:A:C8	3.04	0.45
53:b:1274:A:C2'	53:b:1275:A:O5'	2.64	0.45
53:b:1299:G:H4'	53:b:1301:A:C8	2.50	0.45
53:b:1423:G:C6	53:b:1424:G:N7	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1451:C:C4	53:b:1458:U:O4	2.67	0.45
53:b:1509:A:N3	53:b:1509:A:O4'	2.46	0.45
53:b:1589:U:N3	53:b:1590:A:N7	2.64	0.45
53:b:1632:A:H2'	53:b:1633:G:C8	2.51	0.45
53:b:1790:C:H3'	53:b:1791:A:C8	2.52	0.45
53:b:1794:A:C2	53:b:1795:C:C6	3.04	0.45
53:b:2330:G:H5'	53:b:2331:G:OP2	2.16	0.45
53:b:2371:G:C6	53:b:2372:U:C5	3.04	0.45
53:b:2413:G:N2	53:b:2414:G:H1'	2.31	0.45
53:b:2508:G:H2'	53:b:2509:G:O5'	2.16	0.45
53:b:2543:G:C6	53:b:2544:G:N7	2.84	0.45
53:b:2642:G:C2	53:b:2773:C:C2	3.04	0.45
1:B:17:HIS:CE1	1:B:189:ASN:HD22	2.27	0.45
4:E:99:SER:HB2	50:A:6:G:H22	1.81	0.45
8:I:129:ARG:N	50:A:1341:U:O5'	2.39	0.45
34:h:94:ILE:HB	34:h:99:ILE:HD13	1.99	0.45
37:l:78:ARG:CD	53:b:626:A:N1	2.79	0.45
43:r:49:ILE:HG22	43:r:53:PHE:C	2.41	0.45
50:A:299:G:H2'	50:A:300:A:C8	2.51	0.45
50:A:900:A:H2'	50:A:901:A:C8	2.51	0.45
50:A:1300:G:O2'	50:A:1301:U:P	2.74	0.45
50:A:1454:G:H2'	50:A:1455:G:H8	1.79	0.45
50:A:1526:G:H2'	50:A:1527:U:C6	2.52	0.45
53:b:202:U:H2'	53:b:203:A:C8	2.51	0.45
53:b:214:G:C2	53:b:215:G:C6	3.04	0.45
53:b:1230:A:C5	53:b:1231:U:C5	3.04	0.45
53:b:1258:U:C2	53:b:1259:G:C8	3.05	0.45
53:b:1398:C:O2	53:b:1399:C:C6	2.58	0.45
53:b:1407:G:N3	53:b:1408:G:C8	2.84	0.45
53:b:1432:G:H2'	53:b:1433:A:H8	1.80	0.45
53:b:1432:G:C2	53:b:1433:A:C5	3.04	0.45
53:b:1596:A:N3	53:b:1597:A:C8	2.84	0.45
53:b:1608:A:N7	53:b:1611:C:C4	2.84	0.45
53:b:1667:G:C2	53:b:1991:U:C4	3.04	0.45
53:b:1829:A:H2'	53:b:1829:A:N3	2.29	0.45
53:b:2469:A:C2	53:b:2482:A:H1'	2.51	0.45
53:b:2484:G:C2	53:b:2485:G:C8	3.05	0.45
53:b:2828:G:N3	53:b:2829:A:C8	2.83	0.45
3:D:139:ASN:N	3:D:181:PHE:O	2.49	0.45
4:E:25:LYS:HE2	50:A:923:A:OP1	2.16	0.45
12:M:86:ARG:O	12:M:89:ARG:HB2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:c:87:ARG:NH1	29:c:156:ARG:HH21	2.14	0.45
29:c:105:LEU:CD1	29:c:142:HIS:CD2	2.99	0.45
37:l:41:ARG:NH1	53:b:807:U:OP2	2.49	0.45
37:l:77:ILE:O	37:l:110:VAL:O	2.35	0.45
48:y:57:HIS:HE1	53:b:2336:A:N6	2.14	0.45
50:A:99:C:O2'	50:A:100:G:H8	1.99	0.45
50:A:487:A:H8	50:A:488:C:C6	2.35	0.45
50:A:790:A:H5''	50:A:791:G:OP2	2.16	0.45
50:A:1074:G:H1	50:A:1083:U:H3	1.65	0.45
53:b:156:A:C5	53:b:157:C:C5	3.05	0.45
53:b:186:G:C6	53:b:187:G:N7	2.84	0.45
53:b:210:C:C4	53:b:211:C:H5	2.34	0.45
53:b:230:G:N2	53:b:231:A:C4	2.84	0.45
53:b:243:U:O2	53:b:244:A:C8	2.70	0.45
53:b:343:C:N3	53:b:344:A:C8	2.84	0.45
53:b:379:G:C5	53:b:380:G:C8	3.04	0.45
53:b:380:G:C2	53:b:381:G:N7	2.84	0.45
53:b:570:G:O4'	53:b:983:A:N6	2.49	0.45
53:b:594:U:H2'	53:b:595:C:C6	2.51	0.45
53:b:701:G:N2	53:b:732:C:C2	2.85	0.45
53:b:704:G:N3	53:b:726:G:N2	2.64	0.45
53:b:1151:A:N3	53:b:1152:C:C6	2.85	0.45
53:b:1598:A:N1	53:b:1599:U:C6	2.76	0.45
53:b:1795:C:N4	53:b:1796:U:C4	2.85	0.45
53:b:1847:A:H1'	53:b:1848:A:N7	2.32	0.45
53:b:1874:C:C2	53:b:1875:G:C8	3.04	0.45
53:b:1891:G:C2	53:b:1892:C:H1'	2.52	0.45
53:b:2023:C:N3	53:b:2024:G:N7	2.65	0.45
53:b:2092:U:C5	53:b:2225:A:O2'	2.69	0.45
53:b:2128:G:H2'	53:b:2129:C:O5'	2.17	0.45
53:b:2242:G:H2'	53:b:2243:U:O4'	2.15	0.45
53:b:2459:A:C5	53:b:2460:U:C6	3.05	0.45
53:b:2525:G:C2	53:b:2539:C:C2	3.03	0.45
53:b:2525:G:C2	53:b:2539:C:C4	3.04	0.45
53:b:2657:A:C5	53:b:2658:C:C6	3.05	0.45
53:b:2707:U:N3	53:b:2708:G:C8	2.85	0.45
1:B:70:GLY:HA2	1:B:168:GLU:HG3	1.99	0.45
2:C:35:ASP:HA	2:C:38:VAL:HG12	1.99	0.45
4:E:138:ALA:HA	4:E:141:ASP:HB2	1.98	0.45
8:I:11:ARG:CG	8:I:105:ARG:HH12	2.28	0.45
11:L:2:THR:HG22	11:L:4:ASN:H	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:23:LYS:HA	17:R:28:LEU:HD11	1.97	0.45
18:S:39:ILE:HD11	18:S:65:MET:HB3	1.99	0.45
19:T:34:VAL:O	19:T:38:ILE:HG12	2.17	0.45
35:j:57:LEU:HD13	35:j:129:GLU:HA	1.90	0.45
36:k:121:GLU:HG2	36:k:122:VAL:HG23	1.97	0.45
44:s:69:LEU:HB3	44:s:107:VAL:CG1	2.47	0.45
50:A:475:C:H2'	50:A:476:U:C6	2.51	0.45
53:b:21:A:C4	53:b:22:C:C5	3.04	0.45
53:b:30:G:C2	53:b:31:C:C2	3.05	0.45
53:b:84:A:N1	53:b:98:G:O2'	2.47	0.45
53:b:273:G:N3	53:b:365:U:N3	2.64	0.45
53:b:612:G:H2'	53:b:612:G:N3	2.32	0.45
53:b:1052:C:H1'	53:b:1053:C:H5	1.82	0.45
53:b:1168:G:N2	53:b:1169:A:H1'	2.31	0.45
53:b:1343:G:H1'	53:b:1597:A:C4	2.51	0.45
53:b:1374:G:C6	53:b:1375:U:C4	3.05	0.45
53:b:1411:U:C2	53:b:1412:U:C6	3.04	0.45
53:b:1810:A:N7	53:b:1811:G:N9	2.64	0.45
53:b:1860:G:N3	53:b:1861:G:C8	2.84	0.45
53:b:1893:C:C5	53:b:1894:C:C5	3.05	0.45
53:b:2013:A:C6	53:b:2613:U:N3	2.84	0.45
53:b:2065:C:H4'	53:b:2252:G:H4'	1.99	0.45
53:b:2169:A:C5'	53:b:2169:A:N3	2.79	0.45
53:b:2207:C:C2	53:b:2218:G:N2	2.85	0.45
53:b:2295:C:C2	53:b:2296:U:C6	3.05	0.45
53:b:2322:A:C5	53:b:2323:G:N9	2.85	0.45
53:b:2507:C:N3	53:b:2583:G:C6	2.85	0.45
53:b:2543:G:N2	53:b:2544:G:H1'	2.31	0.45
53:b:2589:A:N1	53:b:2590:A:N7	2.65	0.45
53:b:2696:U:C2	53:b:2697:G:C8	3.04	0.45
53:b:2809:A:H2'	53:b:2810:A:C8	2.51	0.45
53:b:2828:G:C6	53:b:2829:A:N7	2.85	0.45
1:B:71:THR:OG1	1:B:92:ASN:HA	2.17	0.45
8:I:122:ARG:HA	50:A:1343:G:O2'	2.17	0.45
19:T:49:ALA:HA	19:T:52:GLU:HG2	1.98	0.45
48:y:18:ALA:HB1	53:b:2271:G:OP1	2.17	0.45
50:A:117:G:N1	50:A:118:U:O2	2.50	0.45
50:A:645:G:C2	50:A:646:G:C8	3.05	0.45
52:a:43:C:C2'	52:a:44:G:H5''	2.46	0.45
53:b:110:G:N1	53:b:111:A:C8	2.85	0.45
53:b:296:U:N3	53:b:297:G:C8	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:414:C:C2	53:b:2410:G:N2	2.85	0.45
53:b:447:A:C5	53:b:473:G:C5	3.04	0.45
53:b:461:C:O2'	53:b:462:C:H5'	2.16	0.45
53:b:522:A:C6	53:b:523:C:C5	3.05	0.45
53:b:664:G:C6	53:b:665:U:C5	3.05	0.45
53:b:885:C:N4	53:b:886:A:C6	2.85	0.45
53:b:954:G:C5	53:b:955:U:C5	3.03	0.45
53:b:966:G:C5	53:b:967:U:C5	3.05	0.45
53:b:998:C:N3	53:b:999:U:C5	2.85	0.45
53:b:1181:U:O2	53:b:1182:G:C8	2.69	0.45
53:b:1278:C:O2	53:b:1279:G:C8	2.70	0.45
53:b:1314:C:C2	53:b:1315:C:C6	3.04	0.45
53:b:1395:A:H61	53:b:1398:C:H1'	1.78	0.45
53:b:1403:A:H2'	53:b:1404:C:O4'	2.17	0.45
53:b:1462:C:N3	53:b:1463:C:C5	2.84	0.45
53:b:1491:G:C2	53:b:1492:G:C8	3.04	0.45
53:b:1679:A:O4'	53:b:1990:C:O2'	2.34	0.45
53:b:1853:A:C6	53:b:1889:A:C2	3.04	0.45
53:b:1890:A:C2	53:b:1891:G:H1'	2.52	0.45
53:b:2183:A:N6	53:b:2184:A:C5	2.85	0.45
53:b:2266:A:C6	53:b:2272:U:H2'	2.50	0.45
53:b:2367:G:C2	53:b:2368:C:C6	3.05	0.45
53:b:2625:G:C6	53:b:2626:C:C4	3.05	0.45
53:b:2709:G:C6	53:b:2710:C:C5	3.04	0.45
53:b:2709:G:C2	53:b:2710:C:N1	2.85	0.45
53:b:2769:U:C2	53:b:2770:G:C8	3.05	0.45
53:b:2881:U:H2'	53:b:2882:A:H8	1.82	0.45
1:B:72:LYS:HE2	1:B:167:HIS:HD2	1.82	0.45
2:C:72:PRO:O	2:C:76:ILE:HG22	2.17	0.45
2:C:146:LYS:HG3	2:C:171:ARG:HG2	1.98	0.45
8:I:4:GLN:OE1	8:I:21:LYS:HG2	2.17	0.45
10:K:16:SER:HA	10:K:78:ILE:HA	1.98	0.45
10:K:48:GLY:C	10:K:68:ARG:HH12	2.25	0.45
10:K:88:PRO:CB	20:U:28:LEU:HD11	2.37	0.45
15:P:37:GLY:HA2	15:P:51:ARG:HH11	1.82	0.45
20:U:34:ARG:NH1	50:A:1524:C:OP1	2.49	0.45
29:c:210:ALA:HA	29:c:213:TRP:NE1	2.32	0.45
31:e:164:LEU:HD23	53:b:320:A:N1	2.31	0.45
34:h:4:ILE:HD11	34:h:44:ILE:HG22	1.99	0.45
50:A:193:C:H2'	50:A:194:C:H6	1.78	0.45
50:A:243:A:H4'	50:A:244:U:O5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:550:G:H2'	50:A:551:U:H6	1.82	0.45
50:A:585:G:C2	50:A:586:C:C2	3.05	0.45
50:A:1117:A:C6	50:A:1184:G:C6	3.04	0.45
50:A:1244:G:H2'	50:A:1245:C:C6	2.52	0.45
52:a:86:G:C2	52:a:91:C:C2	3.05	0.45
53:b:92:U:C4	53:b:93:G:C8	3.05	0.45
53:b:247:G:C8	53:b:249:C:H1'	2.52	0.45
53:b:459:U:O2	53:b:460:A:C8	2.70	0.45
53:b:484:C:N3	53:b:485:C:C5	2.85	0.45
53:b:827:U:O4	53:b:2426:A:C2	2.70	0.45
53:b:953:G:N1	53:b:954:G:C8	2.84	0.45
53:b:1120:G:C2	53:b:1121:C:C6	3.05	0.45
53:b:1120:G:C2	53:b:1121:C:H1'	2.52	0.45
53:b:1172:C:H2'	53:b:1173:U:C6	2.45	0.45
53:b:1188:U:O2	53:b:1188:U:H2'	2.17	0.45
53:b:1228:G:C2	53:b:1229:C:C2	3.05	0.45
53:b:1346:G:C2	53:b:1601:G:C2	3.05	0.45
53:b:1431:A:C2	53:b:1432:G:C8	3.04	0.45
53:b:1611:C:O2	53:b:1611:C:H2'	2.16	0.45
53:b:1721:G:O2'	53:b:1739:A:N6	2.49	0.45
53:b:2058:A:H5''	53:b:2059:A:OP2	2.16	0.45
53:b:2217:G:N1	53:b:2218:G:C4	2.85	0.45
53:b:2266:A:H4'	53:b:2267:A:O5'	2.17	0.45
53:b:2328:A:H2'	53:b:2329:U:O4'	2.16	0.45
53:b:2346:A:H3'	53:b:2347:C:H5''	1.98	0.45
53:b:2459:A:C8	53:b:2459:A:H5''	2.52	0.45
53:b:2479:U:C4	53:b:2480:C:C6	3.04	0.45
53:b:2520:C:C6	53:b:2567:G:H1'	2.51	0.45
53:b:2529:G:H8	53:b:2529:G:O5'	1.99	0.45
53:b:2601:C:C2	53:b:2603:G:C8	3.04	0.45
53:b:2744:G:C5	53:b:2745:C:C5	3.05	0.45
54:v:34:G:C8	54:v:34:G:O5'	2.70	0.45
1:B:162:VAL:HB	1:B:184:ALA:HA	1.99	0.45
2:C:158:GLY:HA2	2:C:192:TYR:CD1	2.52	0.45
7:H:46:GLU:HB3	7:H:61:THR:HB	1.98	0.45
12:M:81:ASP:OD1	53:b:887:U:C2	2.70	0.45
12:M:99:GLN:NE2	50:A:1307:U:OP1	2.45	0.45
33:g:101:ASN:CA	33:g:117:LEU:CD2	2.95	0.45
37:l:50:PHE:HZ	53:b:196:A:C2	2.35	0.45
49:z:17:VAL:C	49:z:18:TRP:HE3	2.23	0.45
50:A:375:U:P	50:A:452:A:H1'	2.57	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:406:G:N2	50:A:437:U:O2	2.50	0.45
50:A:505:G:H4'	50:A:534:U:N3	2.31	0.45
50:A:515:G:H2'	50:A:516:U:O4'	2.16	0.45
50:A:997:U:HO2'	50:A:998:C:P	2.39	0.45
50:A:1299:A:H5''	50:A:1300:G:OP2	2.17	0.45
50:A:1408:A:C4'	53:b:1912:A:N1	2.80	0.45
52:a:63:C:N3	52:a:64:G:N7	2.65	0.45
53:b:46:G:C2	53:b:47:C:C5	3.05	0.45
53:b:219:A:C2	53:b:234:U:O2	2.66	0.45
53:b:255:A:O2'	53:b:384:A:C8	2.63	0.45
53:b:257:C:C4	53:b:258:G:C5	3.04	0.45
53:b:539:G:C4	53:b:540:C:C6	3.05	0.45
53:b:546:U:O2	53:b:546:U:O4'	2.34	0.45
53:b:1037:G:C2	53:b:1038:G:N7	2.85	0.45
53:b:1047:G:N3	53:b:1110:G:N1	2.64	0.45
53:b:1138:G:C5	53:b:1139:G:H1'	2.52	0.45
53:b:1184:U:N3	53:b:1185:G:N7	2.65	0.45
53:b:1221:C:N3	53:b:1222:U:C4	2.84	0.45
53:b:1388:G:C2	53:b:1389:G:H1'	2.51	0.45
53:b:1461:C:O2	53:b:1462:C:C6	2.66	0.45
53:b:1532:A:C5	53:b:1533:C:C5	3.05	0.45
53:b:1984:G:C6	53:b:1985:C:C5	3.05	0.45
53:b:2191:A:C4	53:b:2192:U:C6	3.05	0.45
53:b:2289:G:N3	53:b:2289:G:H2'	2.31	0.45
53:b:2413:G:C2	53:b:2414:G:H1'	2.52	0.45
53:b:2615:U:O2	53:b:2615:U:H2'	2.17	0.45
53:b:2796:U:C2	53:b:2798:U:C1'	2.97	0.45
3:D:90:LEU:HD11	3:D:196:GLU:HG2	1.98	0.45
3:D:173:ASP:HB3	3:D:178:GLU:H	1.82	0.45
7:H:40:LYS:HD3	7:H:48:PHE:CE1	2.52	0.45
8:I:118:ARG:NH1	50:A:1234:C:OP1	2.49	0.45
9:J:6:ILE:HB	9:J:76:ILE:HG13	1.99	0.45
9:J:57:VAL:HG11	50:A:964:A:O2'	2.17	0.45
19:T:49:ALA:HA	19:T:52:GLU:OE2	2.16	0.45
22:1:18:LEU:HD21	22:1:53:VAL:HB	1.98	0.45
26:6:44:VAL:HG13	26:6:45:SER:H	1.82	0.45
33:g:98:VAL:HG21	33:g:124:GLU:CA	2.37	0.45
34:h:116:ARG:NH2	34:h:139:PHE:HB2	2.32	0.45
40:o:52:SER:OG	40:o:53:THR:N	2.49	0.45
50:A:43:C:H2'	50:A:44:A:O4'	2.16	0.45
50:A:575:G:OP1	50:A:575:G:H4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:584:G:H2'	50:A:585:G:C8	2.52	0.45
50:A:709:U:H2'	50:A:710:G:C8	2.52	0.45
50:A:1005:A:C2	50:A:1006:G:H1'	2.52	0.45
52:a:8:C:C4	52:a:9:G:C8	3.05	0.45
52:a:85:G:C6	52:a:86:G:N7	2.84	0.45
53:b:18:U:O2	53:b:19:A:C8	2.70	0.45
53:b:168:G:C5	53:b:169:G:C8	3.05	0.45
53:b:370:G:N2	53:b:424:G:H1'	2.31	0.45
53:b:374:A:C6	53:b:375:G:H1'	2.52	0.45
53:b:595:C:O2	53:b:595:C:H2'	2.17	0.45
53:b:657:U:N3	53:b:658:U:C5	2.85	0.45
53:b:821:A:H5''	53:b:822:G:H5''	1.98	0.45
53:b:894:U:O2'	53:b:895:U:O5'	2.33	0.45
53:b:1135:C:N4	53:b:1137:G:C8	2.85	0.45
53:b:1145:C:N3	53:b:1146:C:C6	2.64	0.45
53:b:1227:G:C5	53:b:1228:G:C8	3.05	0.45
53:b:1442:U:N3	53:b:1443:U:C5	2.84	0.45
53:b:1472:C:C4	53:b:1473:G:C8	3.03	0.45
53:b:1479:G:C2	53:b:1513:U:O2	2.70	0.45
53:b:1622:G:C6	53:b:1623:G:N7	2.84	0.45
53:b:1998:A:C2	53:b:1999:C:C6	3.05	0.45
53:b:1998:A:C2	53:b:1999:C:N1	2.85	0.45
53:b:2219:U:C4	53:b:2220:U:C4	3.04	0.45
53:b:2269:G:N3	53:b:2269:G:C2'	2.80	0.45
53:b:2714:G:C4	53:b:2715:C:C6	3.05	0.45
53:b:2776:A:C6	53:b:2782:G:H1'	2.51	0.45
5:F:5:GLU:HA	5:F:63:ASN:HA	1.99	0.45
6:G:49:LEU:HD21	6:G:123:LEU:HB2	1.98	0.45
13:N:66:THR:OG1	50:A:1202:U:O2'	2.25	0.45
18:S:25:GLY:N	18:S:27:LYS:NZ	2.65	0.45
19:T:70:LYS:HG3	19:T:73:ARG:NH2	2.32	0.45
34:h:101:ASP:OD1	34:h:102:ALA:N	2.49	0.45
49:z:17:VAL:HG23	49:z:18:TRP:CA	2.37	0.45
50:A:109:A:OP2	50:A:110:C:C5	2.70	0.45
50:A:368:U:O2'	50:A:369:G:OP1	2.34	0.45
50:A:562:U:H5''	50:A:563:A:OP1	2.17	0.45
50:A:608:A:H2'	50:A:609:A:O4'	2.17	0.45
50:A:1124:G:O2'	50:A:1127:G:O6	2.33	0.45
53:b:81:G:C2	53:b:106:C:C2	3.05	0.45
53:b:190:A:C6	53:b:207:A:C2	3.04	0.45
53:b:488:G:N3	53:b:488:G:H2'	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:651:G:H2'	53:b:651:G:N3	2.32	0.45
53:b:1023:U:OP2	53:b:1025:G:O2'	2.35	0.45
53:b:1075:C:C2	53:b:1076:C:C6	2.82	0.45
53:b:1206:G:C5	53:b:1207:C:H5	2.35	0.45
53:b:1314:C:C2	53:b:1315:C:C5	3.04	0.45
53:b:1503:A:C4	53:b:1504:A:N7	2.84	0.45
53:b:1524:G:C2	53:b:1525:A:C8	3.05	0.45
53:b:1530:G:N1	53:b:1531:C:C5	2.85	0.45
53:b:1555:G:H2'	53:b:1556:C:H6	1.82	0.45
53:b:1608:A:N7	53:b:1611:C:N4	2.65	0.45
53:b:1636:U:O2	53:b:1636:U:H2'	2.17	0.45
53:b:1659:G:N3	53:b:1660:G:H1'	2.31	0.45
53:b:1911:U:C4	53:b:1918:A:C6	3.04	0.45
53:b:2128:G:N1	53:b:2129:C:C2	2.85	0.45
53:b:2194:U:C2	53:b:2195:U:C6	3.05	0.45
53:b:2251:G:H4'	53:b:2449:U:H4'	1.98	0.45
53:b:2467:C:H3'	53:b:2468:A:C8	2.47	0.45
53:b:2657:A:N3	53:b:2657:A:H2'	2.31	0.45
53:b:2798:U:C6	53:b:2799:A:C6	2.98	0.45
54:v:34:G:C8	54:v:34:G:OP1	2.70	0.45
1:B:207:ARG:HG3	1:B:208:ALA:N	2.32	0.44
3:D:97:LEU:HA	3:D:100:VAL:HG22	1.99	0.44
5:F:6:ILE:HB	5:F:62:MET:HB2	1.99	0.44
15:P:29:ASN:ND2	50:A:376:G:O6	2.50	0.44
15:P:42:ILE:O	15:P:43:ALA:HB3	2.16	0.44
16:Q:43:LEU:HD21	16:Q:72:TRP:CG	2.53	0.44
18:S:69:LYS:HZ1	50:A:1319:A:H5'	1.82	0.44
38:m:53:MET:HG2	38:m:120:ALA:HB2	1.98	0.44
50:A:109:A:H4'	50:A:110:C:OP2	2.16	0.44
50:A:702:A:C2	53:b:1847:A:H1'	2.49	0.44
50:A:945:G:C2	50:A:946:A:C8	3.05	0.44
50:A:991:U:H3	50:A:1212:U:H4'	1.82	0.44
50:A:1200:C:H5''	50:A:1201:A:H3'	1.99	0.44
51:X:20:U:C6	51:X:21:C:C2	3.05	0.44
53:b:286:U:O2	53:b:287:G:C8	2.70	0.44
53:b:332:A:N1	53:b:335:C:C5	2.85	0.44
53:b:749:A:C6	53:b:1618:A:N3	2.72	0.44
53:b:778:G:H3'	53:b:779:U:H6	1.82	0.44
53:b:867:C:O2	53:b:867:C:C2'	2.61	0.44
53:b:1218:G:N2	53:b:1219:U:H1'	2.32	0.44
53:b:1349:C:C6	53:b:1349:C:C3'	2.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1416:G:O2'	53:b:1417:C:H6	2.00	0.44
53:b:1459:G:O2'	53:b:1461:C:C6	2.67	0.44
53:b:1472:C:N3	53:b:1473:G:N7	2.63	0.44
53:b:1497:U:O2	53:b:1497:U:H2'	2.16	0.44
53:b:1774:C:N3	53:b:1775:U:C6	2.84	0.44
53:b:1860:G:C2	53:b:1861:G:N7	2.84	0.44
53:b:2159:G:C8	53:b:2160:C:C5	3.05	0.44
53:b:2169:A:H2'	53:b:2170:A:C8	2.52	0.44
53:b:2341:G:H2'	53:b:2342:C:C6	2.52	0.44
53:b:2408:U:H2'	53:b:2409:G:H8	1.82	0.44
53:b:2454:G:N1	53:b:2499:C:N4	2.65	0.44
53:b:2454:G:C6	53:b:2499:C:N4	2.85	0.44
53:b:2517:C:C5	53:b:2542:A:C8	3.05	0.44
53:b:2714:G:N1	53:b:2715:C:C4	2.84	0.44
1:B:46:VAL:HB	1:B:47:PRO:HD3	2.00	0.44
2:C:59:PRO:O	2:C:61:LYS:HG2	2.18	0.44
3:D:61:ARG:HA	3:D:71:PHE:HE2	1.82	0.44
15:P:10:GLY:HA3	15:P:15:PRO:C	2.42	0.44
15:P:30:GLY:O	15:P:31:ARG:C	2.60	0.44
50:A:1021:A:H2'	50:A:1022:A:H8	1.81	0.44
50:A:1347:G:OP1	50:A:1348:U:C6	2.70	0.44
51:X:16:G:O5'	51:X:16:G:C8	2.70	0.44
52:a:47:C:N4	52:a:48:U:C5	2.85	0.44
52:a:117:G:H2'	52:a:118:C:H6	1.82	0.44
53:b:24:G:C4	53:b:25:U:C5	3.05	0.44
53:b:440:C:O2	53:b:441:U:C5	2.70	0.44
53:b:465:G:HO2'	53:b:466:A:C5'	2.30	0.44
53:b:603:A:C5	53:b:655:A:N3	2.84	0.44
53:b:827:U:O4	53:b:2426:A:H2	2.01	0.44
53:b:847:U:C4	53:b:933:A:N1	2.81	0.44
53:b:929:U:O2	53:b:930:G:C8	2.69	0.44
53:b:1186:G:C2	53:b:1187:G:N9	2.86	0.44
53:b:1829:A:N6	53:b:1830:C:N1	2.65	0.44
53:b:1964:G:N3	53:b:1967:C:C6	2.85	0.44
53:b:2184:A:C5	53:b:2185:U:C5	3.05	0.44
53:b:2217:G:C6	53:b:2218:G:C5	3.05	0.44
53:b:2330:G:C2	53:b:2331:G:N9	2.85	0.44
53:b:2353:G:C4	53:b:2354:C:C6	3.05	0.44
53:b:2537:U:H2'	53:b:2538:C:H6	1.82	0.44
53:b:2734:A:C5	53:b:2735:G:H1'	2.52	0.44
4:E:88:HIS:CE1	4:E:89:THR:HG23	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:L:35:ARG:HE	11:L:37:TYR:HE1	1.64	0.44
12:M:101:THR:OG1	50:A:1225:A:H5'	2.18	0.44
17:R:19:GLU:OE1	17:R:19:GLU:N	2.50	0.44
17:R:22:TYR:CE2	17:R:23:LYS:HD3	2.52	0.44
18:S:25:GLY:N	18:S:27:LYS:HZ3	2.16	0.44
29:c:220:VAL:HG11	53:b:782:A:C4	2.53	0.44
50:A:702:A:OP1	50:A:702:A:C8	2.70	0.44
50:A:734:G:C2	50:A:735:C:C2	3.06	0.44
50:A:1123:U:N3	50:A:1151:A:N1	2.66	0.44
53:b:5:A:H2'	53:b:6:A:O4'	2.18	0.44
53:b:173:A:N1	53:b:174:U:C4	2.85	0.44
53:b:195:A:O2'	53:b:251:A:O4'	2.35	0.44
53:b:226:A:N1	53:b:227:A:C4	2.85	0.44
53:b:242:G:N2	53:b:254:G:C5	2.85	0.44
53:b:247:G:C8	53:b:249:C:C1'	3.01	0.44
53:b:257:C:C4	53:b:258:G:C8	3.05	0.44
53:b:267:C:N3	53:b:268:C:C6	2.85	0.44
53:b:292:U:C2	53:b:293:U:C5	3.05	0.44
53:b:464:U:C6	53:b:788:A:C2	3.04	0.44
53:b:593:U:C4	53:b:594:U:C5	3.05	0.44
53:b:638:G:C4	53:b:639:U:C5	3.05	0.44
53:b:659:G:C2	53:b:660:C:C6	3.05	0.44
53:b:699:A:C6	53:b:734:A:H1'	2.52	0.44
53:b:858:G:C6	53:b:2268:A:C2	3.05	0.44
53:b:962:G:O6	53:b:963:U:C4	2.71	0.44
53:b:996:A:C2	53:b:997:G:N9	2.85	0.44
53:b:1005:C:C2	53:b:1143:A:C6	3.05	0.44
53:b:1015:U:C2	53:b:1016:G:C8	3.05	0.44
53:b:1073:A:C5	53:b:1074:G:N7	2.85	0.44
53:b:1505:A:C4	53:b:1506:U:C6	3.05	0.44
53:b:1850:G:C2	53:b:1851:U:C5	3.06	0.44
53:b:2052:A:N1	53:b:2053:G:N7	2.65	0.44
53:b:2244:U:H1'	53:b:2434:A:N3	2.33	0.44
53:b:2409:G:H2'	53:b:2410:G:O4'	2.17	0.44
53:b:2623:G:N1	53:b:2624:G:N7	2.66	0.44
53:b:2714:G:C2	53:b:2715:C:N1	2.86	0.44
3:D:131:ILE:HG12	50:A:620:C:C2	2.52	0.44
10:K:22:ILE:HG12	10:K:23:HIS:N	2.32	0.44
25:4:36:LEU:HD11	53:b:2286:G:C2	2.53	0.44
33:g:123:ALA:O	33:g:124:GLU:CG	2.65	0.44
37:l:111:ILE:HG22	37:l:112:LEU:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:n:17:ARG:HA	39:n:20:MET:CE	2.42	0.44
40:o:49:VAL:HG21	40:o:82:ALA:HA	1.98	0.44
49:z:17:VAL:HA	49:z:18:TRP:HA	1.74	0.44
50:A:130:A:N1	50:A:233:C:O2'	2.47	0.44
50:A:374:A:H1'	50:A:451:A:O5'	2.17	0.44
53:b:171:U:O2	53:b:171:U:H2'	2.16	0.44
53:b:271:G:N3	53:b:272:A:C8	2.86	0.44
53:b:327:G:N2	53:b:336:C:C2	2.86	0.44
53:b:459:U:C2	53:b:460:A:C8	3.05	0.44
53:b:780:G:N2	53:b:782:A:C5	2.85	0.44
53:b:845:A:H8	53:b:845:A:C3'	2.16	0.44
53:b:866:A:C6	53:b:867:C:H5	2.29	0.44
53:b:964:C:C2	53:b:965:C:C6	3.06	0.44
53:b:999:U:O2	53:b:999:U:H2'	2.17	0.44
53:b:1300:G:N2	53:b:1634:A:C5	2.85	0.44
53:b:1309:G:C5	53:b:1310:G:C8	3.05	0.44
53:b:1346:G:H2'	53:b:1347:A:O4'	2.18	0.44
53:b:1495:A:O2'	53:b:1496:A:C8	2.54	0.44
53:b:1790:C:C2'	53:b:1791:A:C8	3.01	0.44
53:b:2045:C:O2	53:b:2045:C:H2'	2.16	0.44
53:b:2350:C:C4	53:b:2351:G:N7	2.85	0.44
53:b:2435:A:C2	53:b:2436:G:N9	2.85	0.44
53:b:2557:G:H2'	53:b:2558:C:C6	2.49	0.44
53:b:2616:C:N3	53:b:2617:U:C6	2.84	0.44
53:b:2749:A:N1	53:b:2750:A:C5	2.86	0.44
53:b:2790:U:O2	53:b:2893:A:C5	2.71	0.44
53:b:2798:U:C6	53:b:2799:A:C2	3.01	0.44
54:v:35:C:C6	54:v:35:C:C3'	3.00	0.44
7:H:112:ASP:OD1	7:H:113:ARG:N	2.51	0.44
13:N:68:ARG:HA	13:N:69:PRO:HD2	1.83	0.44
15:P:40:ASN:HA	15:P:41:PRO:HD2	1.86	0.44
15:P:56:ARG:HD2	15:P:56:ARG:HA	1.82	0.44
23:2:14:ILE:CG1	53:b:989:G:C8	3.00	0.44
31:e:44:ARG:NH1	31:e:87:ALA:HB2	2.30	0.44
34:h:63:ALA:HB1	34:h:149:GLU:C	2.42	0.44
39:n:2:ARG:CG	39:n:5:LYS:HB2	2.47	0.44
39:n:28:LEU:O	39:n:32:GLU:N	2.48	0.44
44:s:69:LEU:HB3	44:s:107:VAL:HG13	1.98	0.44
50:A:5:U:H4'	50:A:6:G:O5'	2.16	0.44
50:A:40:C:H2'	50:A:41:G:H8	1.83	0.44
51:X:16:G:H2'	51:X:17:C:O5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:84:G:C6	52:a:85:G:N7	2.86	0.44
53:b:200:U:O2	53:b:200:U:H2'	2.18	0.44
53:b:213:A:N1	53:b:214:G:O6	2.50	0.44
53:b:418:C:H2'	53:b:419:U:H6	1.83	0.44
53:b:447:A:C6	53:b:473:G:C5	3.05	0.44
53:b:622:G:C2	53:b:623:C:C2	3.05	0.44
53:b:695:G:N2	53:b:696:G:C1'	2.79	0.44
53:b:695:G:H2'	53:b:695:G:N3	2.33	0.44
53:b:834:G:N1	53:b:835:C:C2	2.85	0.44
53:b:919:U:C4	53:b:920:A:N7	2.85	0.44
53:b:970:U:N3	53:b:971:G:N7	2.65	0.44
53:b:1106:G:C2	53:b:1107:G:N9	2.86	0.44
53:b:1449:G:C2	53:b:1450:G:C8	3.05	0.44
53:b:1531:C:N3	53:b:1532:A:N7	2.65	0.44
53:b:1587:G:C6	53:b:1588:G:C5	3.05	0.44
53:b:1587:G:C6	53:b:1588:G:N7	2.85	0.44
53:b:1587:G:C4	53:b:1588:G:C8	3.06	0.44
53:b:1590:A:C2	53:b:1591:A:N9	2.86	0.44
53:b:1790:C:C5	53:b:1828:G:N2	2.86	0.44
53:b:1848:A:C2	53:b:1849:G:H8	2.30	0.44
53:b:1856:U:C4	53:b:1857:G:C4	3.06	0.44
53:b:2053:G:N2	53:b:2054:A:C1'	2.80	0.44
53:b:2065:C:O2'	53:b:2066:C:OP1	2.36	0.44
53:b:2110:G:O6	53:b:2179:C:C2	2.57	0.44
53:b:2192:U:N3	53:b:2193:G:N7	2.65	0.44
53:b:2204:G:C2	53:b:2205:A:N9	2.86	0.44
53:b:2255:G:C6	53:b:2256:G:C5	3.06	0.44
53:b:2257:U:H2'	53:b:2258:C:C6	2.52	0.44
53:b:2330:G:C6	53:b:2331:G:C4	3.05	0.44
53:b:2341:G:C4	53:b:2342:C:C6	3.05	0.44
53:b:2393:U:H2'	53:b:2394:C:O4'	2.17	0.44
53:b:2456:C:H2'	53:b:2457:U:O4'	2.18	0.44
53:b:2543:G:H3'	53:b:2544:G:H8	1.83	0.44
53:b:2548:U:C2	53:b:2549:G:C8	3.06	0.44
3:D:7:LYS:NZ	50:A:408:A:P	2.91	0.44
3:D:75:TYR:CE1	3:D:200:VAL:HG23	2.52	0.44
3:D:96:ARG:NH2	3:D:133:SER:OG	2.50	0.44
6:G:36:SER:O	6:G:39:GLU:HB3	2.17	0.44
8:I:10:ARG:NH2	50:A:1148:U:H5'	2.29	0.44
8:I:105:ARG:CD	8:I:105:ARG:C	2.86	0.44
8:I:120:ALA:HB1	50:A:1349:A:H5'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:152:A:H62	50:A:169:C:N4	2.15	0.44
50:A:448:A:C6	50:A:487:A:C4	3.05	0.44
50:A:886:G:C6	50:A:887:G:C5	3.06	0.44
50:A:1310:G:N2	50:A:1328:C:C2	2.86	0.44
50:A:1437:A:H2'	50:A:1438:G:H8	1.82	0.44
53:b:94:A:H2'	53:b:95:A:H8	1.80	0.44
53:b:109:C:O2	53:b:109:C:C2'	2.66	0.44
53:b:284:U:C2	53:b:285:G:C8	3.06	0.44
53:b:307:G:C6	53:b:309:A:OP2	2.71	0.44
53:b:309:A:C1'	53:b:329:G:C2	3.00	0.44
53:b:452:G:C6	53:b:453:A:N7	2.86	0.44
53:b:613:A:H3'	53:b:614:A:H5''	1.98	0.44
53:b:631:A:H2'	53:b:632:A:O4'	2.18	0.44
53:b:856:G:N2	53:b:922:C:C2	2.86	0.44
53:b:867:C:C2	53:b:868:U:C5	3.04	0.44
53:b:1051:G:C2	53:b:1052:C:N1	2.84	0.44
53:b:1123:C:N3	53:b:1124:G:C8	2.81	0.44
53:b:1172:C:OP2	53:b:1174:U:C4	2.70	0.44
53:b:1661:G:C5	53:b:1662:U:C5	3.05	0.44
53:b:1752:C:H2'	53:b:1753:G:O4'	2.17	0.44
53:b:1759:A:C6	53:b:1760:C:C4	3.06	0.44
53:b:1792:G:H2'	53:b:1792:G:N3	2.32	0.44
53:b:1982:U:C2	53:b:1983:G:C8	3.03	0.44
53:b:2011:U:C4	53:b:2012:G:C5	3.05	0.44
53:b:2684:U:H2'	53:b:2685:G:O4'	2.17	0.44
1:B:116:LEU:HD23	1:B:119:GLN:HG3	2.00	0.44
3:D:14:GLU:HB2	3:D:62:ARG:NH2	2.32	0.44
15:P:16:PHE:CD1	15:P:16:PHE:O	2.70	0.44
15:P:71:VAL:O	15:P:75:ILE:HG13	2.18	0.44
32:f:36:LEU:HD11	32:f:99:PHE:CE1	2.53	0.44
32:f:44:ILE:HG21	32:f:79:ILE:HG22	2.00	0.44
42:q:7:GLY:O	42:q:11:ARG:HG2	2.18	0.44
50:A:26:A:H5''	50:A:27:G:OP2	2.18	0.44
50:A:98:A:H5'	50:A:99:C:OP2	2.18	0.44
50:A:217:C:OP2	50:A:217:C:H6	2.00	0.44
50:A:382:A:H2'	50:A:383:A:C8	2.53	0.44
52:a:101:A:C6	52:a:102:G:C5	3.06	0.44
53:b:118:A:H2'	53:b:120:U:O4	2.18	0.44
53:b:287:G:C6	53:b:288:U:C4	3.06	0.44
53:b:325:G:O6	53:b:338:G:C2	2.70	0.44
53:b:608:A:C6	53:b:621:A:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:766:U:H2'	53:b:766:U:O2	2.17	0.44
53:b:1206:G:N3	53:b:1206:G:C2'	2.80	0.44
53:b:1348:C:O2	53:b:1348:C:C2'	2.66	0.44
53:b:1444:G:C2	53:b:1445:G:C8	3.06	0.44
53:b:1807:G:H21	53:b:1809:A:H8	1.64	0.44
53:b:1832:C:N3	53:b:1833:C:C6	2.86	0.44
53:b:1839:G:N2	53:b:1840:G:O4'	2.50	0.44
53:b:1850:G:C4	53:b:1851:U:C5	3.06	0.44
53:b:1868:C:O2	53:b:1869:G:C8	2.70	0.44
53:b:2024:G:C2	53:b:2025:C:C2	3.05	0.44
53:b:2153:C:N3	53:b:2154:A:C8	2.86	0.44
53:b:2480:C:O2	53:b:2480:C:H2'	2.16	0.44
53:b:2507:C:H3'	53:b:2507:C:H6	1.83	0.44
53:b:2528:U:C4	53:b:2530:A:C8	3.06	0.44
53:b:2744:G:C4	53:b:2745:C:C5	3.06	0.44
54:v:36:C:C5	54:v:37:G:N7	2.86	0.44
6:G:63:VAL:HA	6:G:67:ASN:OD1	2.18	0.44
10:K:51:PHE:HD1	10:K:55:ARG:HB3	1.83	0.44
12:M:42:VAL:HB	12:M:46:GLU:HG3	2.00	0.44
13:N:9:GLU:O	13:N:13:VAL:HG23	2.18	0.44
34:h:33:GLN:HG3	34:h:35:LYS:HZ3	1.83	0.44
34:h:44:ILE:O	34:h:48:GLU:HB2	2.18	0.44
43:r:10:LYS:NZ	53:b:994:C:O2'	2.40	0.44
46:u:74:ASN:O	46:u:76:ALA:N	2.46	0.44
50:A:291:U:H2'	50:A:292:G:H8	1.81	0.44
50:A:1441:A:N6	50:A:1462:C:H1'	2.33	0.44
53:b:19:A:C5	53:b:20:C:C6	3.06	0.44
53:b:185:G:C2	53:b:186:G:C4	3.06	0.44
53:b:278:A:C2	53:b:361:G:C2	3.04	0.44
53:b:310:A:C5	53:b:312:G:C8	3.05	0.44
53:b:585:G:H2'	53:b:586:A:N7	2.33	0.44
53:b:598:U:N3	53:b:599:A:N7	2.66	0.44
53:b:669:G:H2'	53:b:670:A:C8	2.53	0.44
53:b:1177:G:C6	53:b:1178:C:H1'	2.53	0.44
53:b:1268:A:C6	53:b:1269:A:C4	3.06	0.44
53:b:1314:C:O2	53:b:1314:C:H2'	2.17	0.44
53:b:1381:G:N1	53:b:1382:G:N2	2.65	0.44
53:b:1622:G:N1	53:b:1623:G:C8	2.86	0.44
53:b:1867:G:N2	53:b:1868:C:H1'	2.33	0.44
53:b:1983:G:C6	53:b:1984:G:N7	2.86	0.44
53:b:2207:C:C2	53:b:2218:G:C2	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2418:A:C4	53:b:2419:U:C6	3.06	0.44
53:b:2479:U:N3	53:b:2480:C:C6	2.86	0.44
53:b:2480:C:C4	53:b:2481:G:N9	2.83	0.44
53:b:2498:C:C2	53:b:2499:C:C5	3.06	0.44
53:b:2590:A:N1	53:b:2591:C:C5	2.85	0.44
53:b:2729:G:H2'	53:b:2730:C:O4'	2.17	0.44
3:D:106:PHE:CD1	3:D:158:LEU:HD21	2.51	0.44
6:G:22:LEU:O	6:G:26:VAL:HG23	2.17	0.44
9:J:5:ARG:HH11	9:J:79:PRO:HG2	1.81	0.44
9:J:48:ARG:NH1	13:N:100:TRP:CE3	2.86	0.44
13:N:25:GLU:HA	13:N:28:ALA:HB3	2.00	0.44
48:y:23:VAL:HG22	48:y:38:VAL:HG22	2.00	0.44
49:z:24:GLY:C	49:z:25:ILE:HG13	2.41	0.44
52:a:33:G:C5	52:a:34:A:C8	3.05	0.44
53:b:307:G:N3	53:b:307:G:H2'	2.32	0.44
53:b:396:G:C6	53:b:397:U:C4	3.05	0.44
53:b:458:G:O2'	53:b:469:G:O6	2.31	0.44
53:b:554:U:C4	53:b:555:G:C8	3.06	0.44
53:b:835:C:C4	53:b:836:G:C8	3.05	0.44
53:b:880:G:N1	53:b:897:C:N4	2.66	0.44
53:b:938:G:N3	53:b:939:G:C8	2.86	0.44
53:b:1051:G:N2	53:b:1052:C:N1	2.66	0.44
53:b:1094:U:N3	53:b:1096:A:C5'	2.61	0.44
53:b:1245:G:C2	53:b:1246:A:N7	2.86	0.44
53:b:1287:A:N1	53:b:1649:G:H4'	2.33	0.44
53:b:1335:C:N3	53:b:1336:A:C8	2.86	0.44
53:b:1557:C:C6	53:b:1558:C:H2'	2.53	0.44
53:b:1574:C:N3	53:b:1575:C:C5	2.86	0.44
53:b:1598:A:C6	53:b:1599:U:C4	3.06	0.44
53:b:1744:A:C2	53:b:1745:A:H1'	2.53	0.44
53:b:1769:U:O2	53:b:1769:U:H2'	2.18	0.44
53:b:1850:G:N2	53:b:1851:U:C2	2.86	0.44
53:b:2227:A:C2	53:b:2228:G:C1'	3.01	0.44
53:b:2281:A:H2'	53:b:2282:G:O4'	2.17	0.44
53:b:2331:G:H21	53:b:2332:C:C1'	2.31	0.44
53:b:2446:G:H21	53:b:2449:U:H3	1.64	0.44
53:b:2460:U:C2	53:b:2461:A:C8	3.06	0.44
53:b:2659:G:H22	53:b:2661:G:H3'	1.83	0.44
53:b:2699:C:O2	53:b:2699:C:H2'	2.17	0.44
54:v:76:A:OP1	54:v:76:A:H4'	2.17	0.44
3:D:12:ARG:HH22	3:D:36:ALA:H	1.64	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:64:ARG:HD2	50:A:130:A:OP1	2.18	0.43
34:h:116:ARG:NE	34:h:131:SER:OG	2.38	0.43
38:m:97:GLN:H	38:m:100:LYS:HD2	1.83	0.43
50:A:974:A:H8	50:A:974:A:OP1	2.01	0.43
50:A:1348:U:O2'	50:A:1349:A:O5'	2.33	0.43
52:a:22:U:O2	52:a:23:G:C8	2.71	0.43
52:a:114:C:C2	52:a:115:A:C8	3.06	0.43
53:b:27:G:C6	53:b:512:G:N2	2.86	0.43
53:b:244:A:C6	53:b:245:G:C8	3.06	0.43
53:b:398:C:C4	53:b:399:U:C4	3.06	0.43
53:b:667:U:H2'	53:b:668:A:O4'	2.18	0.43
53:b:785:G:N1	53:b:786:C:C5	2.79	0.43
53:b:836:G:C6	53:b:837:C:C6	3.05	0.43
53:b:840:C:C2	53:b:939:G:N1	2.86	0.43
53:b:1092:C:C4	53:b:1093:G:C5	3.06	0.43
53:b:1347:A:C2	53:b:1348:C:H1'	2.53	0.43
53:b:1599:U:O2	53:b:1600:C:C5	2.71	0.43
53:b:1856:U:C4	53:b:1857:G:N9	2.86	0.43
53:b:2104:C:O2	53:b:2105:U:C5	2.70	0.43
53:b:2217:G:N1	53:b:2218:G:C5	2.85	0.43
53:b:2287:A:N7	53:b:2289:G:C8	2.87	0.43
53:b:2454:G:N1	53:b:2499:C:N3	2.66	0.43
53:b:2466:C:N3	53:b:2467:C:C6	2.85	0.43
53:b:2703:C:H2'	53:b:2704:C:H6	1.83	0.43
53:b:2797:U:H5	53:b:2798:U:O3'	2.01	0.43
53:b:2829:A:C5	53:b:2830:C:C5	3.06	0.43
53:b:2838:G:N1	53:b:2839:G:N9	2.66	0.43
53:b:2889:C:H2'	53:b:2890:G:O4'	2.18	0.43
1:B:57:ASN:HA	1:B:60:ALA:HB3	2.00	0.43
1:B:120:SER:CA	1:B:136:ARG:HH12	2.30	0.43
8:I:105:ARG:HH11	8:I:106:ASP:N	2.10	0.43
10:K:107:THR:HG22	10:K:108:ASN:OD1	2.18	0.43
12:M:69:ARG:HA	12:M:72:ILE:HG22	2.00	0.43
17:R:33:THR:HG23	17:R:35:SER:H	1.83	0.43
18:S:55:GLN:OE1	18:S:55:GLN:N	2.52	0.43
31:e:60:TRP:CH2	31:e:68:ALA:O	2.71	0.43
32:f:61:SER:O	32:f:63:GLN:N	2.51	0.43
36:k:108:ARG:CD	36:k:113:MET:HE1	2.48	0.43
40:o:51:ALA:HB3	40:o:78:VAL:CG2	2.47	0.43
49:z:10:GLU:HB3	49:z:12:LEU:CD2	2.44	0.43
50:A:122:G:H2'	50:A:122:G:N3	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:462:G:H8	50:A:462:G:OP2	2.01	0.43
50:A:487:A:C8	50:A:488:C:C6	3.05	0.43
50:A:786:G:C6	50:A:787:A:C5	3.06	0.43
50:A:944:G:N2	50:A:1338:G:OP2	2.51	0.43
50:A:1129:C:H4'	50:A:1130:A:OP2	2.17	0.43
50:A:1220:G:H2'	50:A:1221:G:H8	1.83	0.43
50:A:1313:U:H3	50:A:1324:A:H61	1.66	0.43
53:b:8:C:N3	53:b:9:G:C8	2.86	0.43
53:b:21:A:C5	53:b:22:C:C5	3.06	0.43
53:b:108:G:C6	53:b:109:C:C2	3.06	0.43
53:b:165:A:H2'	53:b:166:U:H6	1.81	0.43
53:b:227:A:H2	53:b:2407:A:H1'	1.63	0.43
53:b:342:A:N1	53:b:343:C:C6	2.85	0.43
53:b:616:A:C2	53:b:617:G:C1'	3.01	0.43
53:b:728:G:C2	53:b:730:A:C8	3.05	0.43
53:b:843:G:C2	53:b:844:A:N9	2.86	0.43
53:b:983:A:C8	53:b:984:A:N6	2.86	0.43
53:b:1005:C:C2	53:b:1006:C:C5	3.06	0.43
53:b:1061:U:O4	53:b:1068:G:N2	2.50	0.43
53:b:1151:A:C2	53:b:1152:C:N1	2.86	0.43
53:b:1238:G:C2	53:b:1239:G:C1'	2.99	0.43
53:b:1338:G:C2	53:b:1339:G:C4	3.06	0.43
53:b:1583:A:H4'	53:b:1585:C:C4	2.53	0.43
53:b:1650:A:N1	53:b:1651:G:C5	2.85	0.43
53:b:1794:A:N3	53:b:1795:C:C6	2.86	0.43
53:b:1831:G:C5	53:b:1832:C:C5	3.05	0.43
53:b:1976:U:O2'	53:b:1977:A:C8	2.68	0.43
53:b:2471:A:O2'	53:b:2472:G:C5'	2.66	0.43
53:b:2586:U:O2'	53:b:2587:A:C5'	2.65	0.43
53:b:2649:C:C2	53:b:2650:U:C5	3.06	0.43
53:b:2802:G:C6	53:b:2803:G:C5	3.05	0.43
2:C:35:ASP:O	2:C:39:ARG:HG3	2.19	0.43
5:F:40:GLU:OE2	5:F:98:GLU:OE2	2.36	0.43
11:L:52:CYS:SG	11:L:66:ILE:HD11	2.58	0.43
32:f:36:LEU:CD2	32:f:154:ILE:HG23	2.48	0.43
44:s:1:MET:HE2	44:s:62:ASP:OD2	2.18	0.43
49:z:18:TRP:HH2	53:b:789:A:O2'	2.01	0.43
50:A:1037:C:H2'	50:A:1038:C:C6	2.53	0.43
50:A:1135:U:O2	50:A:1138:G:N1	2.51	0.43
52:a:77:U:C4	52:a:98:G:N2	2.83	0.43
53:b:200:U:C5	53:b:201:C:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:216:A:H2'	53:b:217:A:O4'	2.19	0.43
53:b:295:G:C2	53:b:296:U:C6	3.06	0.43
53:b:323:C:C4	53:b:333:G:C8	3.05	0.43
53:b:350:G:C2	53:b:351:C:C2	3.06	0.43
53:b:367:G:C6	53:b:368:A:C5	3.06	0.43
53:b:389:G:C6	53:b:390:U:C6	3.06	0.43
53:b:644:A:O2'	53:b:645:C:H2'	2.17	0.43
53:b:697:G:C2	53:b:698:C:C5	3.06	0.43
53:b:764:A:C2	53:b:781:A:C2	3.06	0.43
53:b:778:G:C2	53:b:787:C:C2	3.06	0.43
53:b:847:U:C2	53:b:933:A:N6	2.86	0.43
53:b:872:U:C2	53:b:873:C:C6	3.07	0.43
53:b:902:C:C4	53:b:903:C:C5	3.07	0.43
53:b:991:C:C4	53:b:992:C:H5	2.36	0.43
53:b:1320:C:C2'	53:b:1329:U:OP1	2.65	0.43
53:b:1337:G:N1	53:b:1338:G:N7	2.66	0.43
53:b:1338:G:N1	53:b:1339:G:C5	2.86	0.43
53:b:1444:G:C4	53:b:1445:G:C8	3.07	0.43
53:b:1471:G:C6	53:b:1472:C:C4	3.05	0.43
53:b:1548:A:C2	53:b:1549:A:C8	3.06	0.43
53:b:1593:A:C2	53:b:1594:U:N1	2.86	0.43
53:b:1721:G:C6	53:b:1738:G:N2	2.85	0.43
53:b:1782:U:N3	53:b:2587:A:N1	2.66	0.43
53:b:2069:G:N2	53:b:2443:C:C2	2.86	0.43
53:b:2082:A:C2	53:b:2083:G:H1'	2.54	0.43
53:b:2228:G:C6	53:b:2229:U:C5	3.06	0.43
53:b:2398:U:C2	53:b:2399:G:C8	3.06	0.43
53:b:2415:G:C2	53:b:2416:C:C2	3.06	0.43
53:b:2514:U:H2'	53:b:2515:C:C6	2.54	0.43
53:b:2552:U:H2'	53:b:2554:U:OP2	2.18	0.43
53:b:2676:C:O2	53:b:2677:G:C8	2.71	0.43
53:b:2826:A:N6	53:b:2827:C:C4	2.86	0.43
53:b:2835:A:C2	53:b:2879:A:C5	3.05	0.43
4:E:61:LYS:HE2	50:A:1073:U:OP1	2.18	0.43
11:L:54:VAL:HG11	11:L:81:ILE:HD11	2.00	0.43
17:R:19:GLU:HG2	17:R:20:ILE:N	2.34	0.43
24:3:32:LYS:HG2	53:b:2885:G:C2	2.53	0.43
29:c:63:ARG:NH2	53:b:1568:G:OP1	2.32	0.43
30:d:121:THR:HB	30:d:127:PHE:CD2	2.53	0.43
50:A:549:C:C4	50:A:550:G:N7	2.86	0.43
50:A:811:C:O2'	50:A:901:A:N1	2.44	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:1009:U:H5'	50:A:1010:U:OP2	2.18	0.43
50:A:1419:G:C4	50:A:1482:G:C2	3.06	0.43
51:X:19:C:O2	51:X:19:C:C4'	2.66	0.43
53:b:19:A:C2	53:b:20:C:C6	3.06	0.43
53:b:71:A:H5''	53:b:73:A:C8	2.53	0.43
53:b:152:A:H61	53:b:173:A:H61	1.66	0.43
53:b:154:U:O2	53:b:155:A:H8	1.93	0.43
53:b:268:C:C2	53:b:425:G:N1	2.86	0.43
53:b:268:C:N3	53:b:425:G:C6	2.87	0.43
53:b:273:G:N2	53:b:365:U:C6	2.87	0.43
53:b:673:C:N4	53:b:674:G:N7	2.65	0.43
53:b:1051:G:H2'	53:b:1051:G:N3	2.33	0.43
53:b:1158:C:C4	53:b:1159:U:C5	3.07	0.43
53:b:1165:A:C2	53:b:1166:G:N7	2.85	0.43
53:b:1215:G:O6	53:b:1235:G:C2	2.71	0.43
53:b:1252:G:O5'	53:b:1252:G:C8	2.71	0.43
53:b:1305:C:N4	53:b:1306:C:H5	2.15	0.43
53:b:1442:U:N3	53:b:1443:U:C6	2.86	0.43
53:b:1452:G:O2'	53:b:1453:A:OP2	2.33	0.43
53:b:1548:A:N3	53:b:1549:A:C8	2.86	0.43
53:b:1582:C:C2'	53:b:1585:C:N4	2.78	0.43
53:b:1609:A:C6	53:b:1616:A:C6	3.05	0.43
53:b:1651:G:C2	53:b:1652:A:C4	3.06	0.43
53:b:1747:U:O2	53:b:1748:C:C6	2.71	0.43
53:b:1839:G:N3	53:b:1839:G:C2'	2.81	0.43
53:b:1850:G:C4	53:b:1851:U:C6	3.06	0.43
53:b:1914:C:O2	53:b:1914:C:H2'	2.17	0.43
53:b:2220:U:O2	53:b:2221:G:H8	2.00	0.43
53:b:2270:A:N3	53:b:2271:G:C8	2.87	0.43
53:b:2543:G:C4	53:b:2544:G:C8	3.07	0.43
53:b:2557:G:C2	53:b:2558:C:C6	3.07	0.43
53:b:2638:G:H1'	53:b:2778:A:H61	1.84	0.43
2:C:26:LYS:NZ	13:N:75:LYS:HG2	2.33	0.43
5:F:45:ARG:HD2	5:F:59:TYR:HE2	1.84	0.43
9:J:5:ARG:N	9:J:79:PRO:HD3	2.33	0.43
12:M:14:ALA:HA	12:M:17:ALA:HB3	2.00	0.43
22:1:15:ASN:HA	22:1:18:LEU:HD12	2.00	0.43
27:7:13:ARG:HD3	37:l:61:LEU:O	2.17	0.43
29:c:260:ASN:O	29:c:262:ARG:N	2.48	0.43
35:j:57:LEU:HD22	35:j:129:GLU:O	2.14	0.43
39:n:114:GLU:HB2	39:n:118:ARG:HD2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:317:U:H2'	50:A:318:G:C8	2.53	0.43
50:A:987:G:H2'	50:A:988:G:C8	2.52	0.43
50:A:1004:A:H1'	50:A:1026:G:C5	2.53	0.43
50:A:1455:G:C2	50:A:1456:A:C4	3.07	0.43
52:a:18:G:C6	52:a:19:C:C5	3.07	0.43
52:a:84:G:N1	52:a:93:C:C4	2.87	0.43
53:b:269:C:O2	53:b:424:G:C2	2.71	0.43
53:b:288:U:N3	53:b:289:G:C8	2.86	0.43
53:b:516:C:C4	53:b:517:C:C5	3.07	0.43
53:b:662:G:C4	53:b:663:G:C8	3.07	0.43
53:b:663:G:N3	53:b:663:G:H2'	2.34	0.43
53:b:756:A:C5	53:b:757:G:C8	3.07	0.43
53:b:952:G:C2	53:b:953:G:H1'	2.52	0.43
53:b:962:G:N3	53:b:962:G:H2'	2.32	0.43
53:b:1052:C:C4	53:b:1105:U:O4	2.70	0.43
53:b:1104:C:N4	53:b:1105:U:HO2'	2.16	0.43
53:b:1106:G:O6	53:b:1107:G:C6	2.71	0.43
53:b:1251:C:O2'	53:b:1252:G:H3'	2.19	0.43
53:b:1416:G:N3	53:b:1417:C:C6	2.86	0.43
53:b:1467:U:H2'	53:b:1468:U:O4'	2.19	0.43
53:b:1597:A:H5''	53:b:1598:A:H5'	2.00	0.43
53:b:1635:A:C6	53:b:1636:U:C6	3.07	0.43
53:b:1747:U:N3	53:b:1748:C:C5	2.86	0.43
53:b:1782:U:N1	53:b:2609:U:C5	2.82	0.43
53:b:1804:C:C4	53:b:1805:A:N7	2.86	0.43
53:b:1923:U:C2	53:b:1924:C:C5	3.06	0.43
53:b:2062:A:O2'	53:b:2063:C:H5'	2.17	0.43
53:b:2155:U:C5	53:b:2156:G:C8	3.06	0.43
53:b:2837:A:C2	53:b:2838:G:N9	2.86	0.43
12:M:2:ARG:HD3	12:M:7:ASN:HA	2.01	0.43
15:P:67:ILE:HG23	15:P:72:ALA:HB2	1.99	0.43
29:c:141:VAL:CG1	29:c:142:HIS:N	2.81	0.43
36:k:98:ARG:C	36:k:99:ILE:HD12	2.43	0.43
43:r:79:ARG:HD3	53:b:564:C:OP1	2.18	0.43
49:z:9:GLU:CD	49:z:9:GLU:C	2.86	0.43
50:A:54:C:H42	50:A:357:G:H1	1.66	0.43
50:A:252:U:H2'	50:A:253:A:H8	1.84	0.43
50:A:1157:A:N7	50:A:1180:A:N6	2.67	0.43
50:A:1306:A:C6	50:A:1307:U:C2	3.07	0.43
53:b:73:A:H5''	53:b:75:G:O2'	2.19	0.43
53:b:366:C:C4	53:b:367:G:N7	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:370:G:C6	53:b:424:G:N7	2.86	0.43
53:b:425:G:H2'	53:b:426:C:C6	2.54	0.43
53:b:523:C:C4	53:b:524:G:N7	2.85	0.43
53:b:578:G:C6	53:b:2018:G:O4'	2.71	0.43
53:b:750:A:C4	53:b:753:A:H1'	2.15	0.43
53:b:818:G:C2	53:b:1190:G:O6	2.70	0.43
53:b:853:C:C2	53:b:854:C:C6	3.06	0.43
53:b:917:A:C8	53:b:2268:A:N6	2.87	0.43
53:b:920:A:C2	53:b:921:C:C6	3.06	0.43
53:b:991:C:O2	53:b:991:C:H2'	2.19	0.43
53:b:1011:G:C5	53:b:1013:C:C6	3.07	0.43
53:b:1052:C:C1'	53:b:1053:C:H5	2.30	0.43
53:b:1294:U:O2	53:b:1294:U:H2'	2.19	0.43
53:b:1410:G:C6	53:b:1411:U:C5	3.05	0.43
53:b:1699:G:N7	53:b:1763:G:C2	2.87	0.43
53:b:1717:A:C2	53:b:1718:G:H1'	2.54	0.43
53:b:1776:G:N2	53:b:1777:U:C2	2.86	0.43
53:b:1826:G:C2	53:b:1827:U:C6	3.07	0.43
53:b:2149:U:H2'	53:b:2150:C:C6	2.53	0.43
53:b:2161:C:H1'	53:b:2162:G:O5'	2.17	0.43
53:b:2253:G:N3	53:b:2253:G:H2'	2.33	0.43
53:b:2309:A:C2	53:b:2310:C:C6	3.07	0.43
53:b:2345:G:N7	53:b:2347:C:C4	2.86	0.43
53:b:2459:A:C6	53:b:2460:U:C6	3.07	0.43
53:b:2528:U:O2	53:b:2528:U:H2'	2.19	0.43
53:b:2557:G:C5	53:b:2558:C:C5	3.07	0.43
53:b:2710:C:N3	53:b:2711:A:N7	2.67	0.43
53:b:2714:G:N3	53:b:2715:C:C6	2.87	0.43
53:b:2790:U:C2	53:b:2893:A:N7	2.86	0.43
7:H:114:ALA:HA	7:H:117:GLN:HE22	1.83	0.43
12:M:104:ASN:ND2	50:A:948:C:H3'	2.34	0.43
14:O:66:LEU:HD11	14:O:86:LEU:HD21	1.99	0.43
15:P:10:GLY:HA2	15:P:16:PHE:HB3	2.00	0.43
29:c:257:THR:OG1	53:b:1797:G:O2'	2.37	0.43
34:h:47:PHE:HA	34:h:50:ARG:HE	1.84	0.43
35:j:23:LYS:CB	35:j:28:LEU:HD13	2.49	0.43
41:p:111:LYS:NZ	50:A:1463:U:H5'	2.33	0.43
44:s:62:ASP:N	44:s:62:ASP:OD1	2.51	0.43
50:A:477:C:H2'	50:A:478:A:H8	1.83	0.43
50:A:499:A:C2	50:A:547:A:C5	3.07	0.43
52:a:20:G:N2	52:a:21:G:H1'	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:152:A:H61	53:b:173:A:N6	2.17	0.43
53:b:168:G:H2'	53:b:169:G:O4'	2.17	0.43
53:b:209:C:C2	53:b:210:C:H6	2.30	0.43
53:b:242:G:O2'	53:b:243:U:OP2	2.36	0.43
53:b:324:A:N6	53:b:339:U:O4'	2.48	0.43
53:b:367:G:N2	53:b:368:A:H1'	2.33	0.43
53:b:484:C:C2	53:b:485:C:C5	3.07	0.43
53:b:539:G:C6	53:b:540:C:C5	3.06	0.43
53:b:588:U:O2	53:b:589:U:C5	2.71	0.43
53:b:697:G:N1	53:b:698:C:C4	2.87	0.43
53:b:755:U:C2	53:b:756:A:C8	3.07	0.43
53:b:1168:G:C2	53:b:1169:A:C8	3.07	0.43
53:b:1245:G:N3	53:b:1246:A:C8	2.87	0.43
53:b:1255:U:O4	53:b:2060:A:OP1	2.37	0.43
53:b:1395:A:C4	53:b:1398:C:C5	3.05	0.43
53:b:1399:C:H2'	53:b:1400:U:O5'	2.18	0.43
53:b:1466:U:O2'	53:b:1546:G:O2'	2.33	0.43
53:b:1485:U:N3	53:b:1486:U:C6	2.87	0.43
53:b:1685:C:O2	53:b:1685:C:H2'	2.19	0.43
53:b:1839:G:C2	53:b:1840:G:C8	3.02	0.43
53:b:2053:G:C6	53:b:2054:A:N7	2.86	0.43
53:b:2135:A:C6	53:b:2136:G:N9	2.87	0.43
53:b:2212:A:H2'	53:b:2212:A:N3	2.34	0.43
53:b:2284:A:C2	53:b:2285:C:C6	3.07	0.43
53:b:2483:C:N4	53:b:2484:G:N7	2.67	0.43
53:b:2703:C:H2'	53:b:2704:C:C6	2.54	0.43
53:b:2796:U:C2	53:b:2798:U:N1	2.87	0.43
4:E:40:ASP:OD2	4:E:44:ARG:HB2	2.19	0.43
4:E:51:LYS:HZ1	50:A:1080:A:C5'	2.32	0.43
5:F:42:TRP:HB3	5:F:45:ARG:NH2	2.18	0.43
6:G:61:PHE:O	6:G:65:LEU:N	2.49	0.43
8:I:11:ARG:CB	8:I:105:ARG:HH12	2.32	0.43
8:I:126:PHE:O	8:I:127:SER:HB2	2.18	0.43
29:c:119:GLY:N	29:c:130:LEU:HD21	2.23	0.43
50:A:301:G:H2'	50:A:302:G:C8	2.54	0.43
50:A:348:G:O6	50:A:349:A:N6	2.52	0.43
50:A:412:A:H3'	50:A:413:G:H5''	1.99	0.43
50:A:419:C:H2'	50:A:420:U:O4'	2.18	0.43
50:A:636:U:H5'	50:A:637:C:OP2	2.19	0.43
50:A:1484:C:HO2'	53:b:1960:A:HO2'	1.61	0.43
52:a:84:G:C2	52:a:93:C:N3	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:41:C:C2	53:b:42:A:H8	2.31	0.43
53:b:109:C:C4	53:b:110:G:N7	2.87	0.43
53:b:377:G:N1	53:b:378:C:C6	2.87	0.43
53:b:657:U:O2	53:b:658:U:C6	2.71	0.43
53:b:667:U:C4	53:b:668:A:C8	3.06	0.43
53:b:715:A:H2'	53:b:716:A:C8	2.54	0.43
53:b:849:A:H61	53:b:928:A:H61	1.65	0.43
53:b:957:C:N4	53:b:2459:A:H8	2.16	0.43
53:b:1242:U:N3	53:b:1243:C:C5	2.87	0.43
53:b:1244:A:N1	53:b:1245:G:C5	2.87	0.43
53:b:1296:G:N3	53:b:1296:G:H2'	2.33	0.43
53:b:1304:A:C6	53:b:1305:C:C4	3.07	0.43
53:b:1309:G:C6	53:b:1310:G:N7	2.86	0.43
53:b:1338:G:N3	53:b:1339:G:C8	2.87	0.43
53:b:1479:G:C2	53:b:1513:U:C2	3.07	0.43
53:b:1649:G:C6	53:b:1650:A:N7	2.86	0.43
53:b:1660:G:C2	53:b:2001:C:N3	2.87	0.43
53:b:1806:C:O2	53:b:1806:C:H2'	2.18	0.43
53:b:2128:G:H2'	53:b:2129:C:C5'	2.48	0.43
53:b:2128:G:C4	53:b:2129:C:H1'	2.53	0.43
53:b:2133:G:C2	53:b:2134:A:N1	2.87	0.43
53:b:2341:G:C5	53:b:2342:C:C4	3.07	0.43
53:b:2468:A:N3	53:b:2468:A:H2'	2.33	0.43
53:b:2526:G:C5	53:b:2527:C:C6	3.07	0.43
53:b:2839:G:C2	53:b:2840:C:C2	3.07	0.43
53:b:2880:C:O2	53:b:2881:U:C5	2.72	0.43
5:F:91:ARG:O	5:F:92:THR:OG1	2.30	0.43
8:I:122:ARG:HG2	50:A:1350:A:OP1	2.19	0.43
17:R:24:ASP:O	17:R:28:LEU:HG	2.19	0.43
20:U:26:GLY:C	20:U:28:LEU:N	2.73	0.43
30:d:3:GLY:O	30:d:4:LEU:HD13	2.18	0.43
30:d:149:ASN:OD1	30:d:150:GLN:N	2.51	0.43
36:k:38:ILE:HD11	36:k:112:PHE:CZ	2.54	0.43
50:A:224:U:H2'	50:A:225:C:C6	2.54	0.43
50:A:286:C:H2'	50:A:287:U:C6	2.53	0.43
50:A:421:U:H5''	50:A:422:C:H5	1.84	0.43
50:A:448:A:N6	50:A:487:A:C4	2.87	0.43
50:A:563:A:N3	50:A:563:A:H2'	2.33	0.43
50:A:815:A:N7	50:A:1509:C:O2'	2.48	0.43
50:A:1529:G:H5''	50:A:1530:G:OP2	2.18	0.43
52:a:37:C:C2	52:a:38:C:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:46:A:C2	52:a:47:C:H1'	2.54	0.43
53:b:3:U:H2'	53:b:4:U:O4'	2.19	0.43
53:b:27:G:N2	53:b:513:A:OP2	2.52	0.43
53:b:263:G:C6	53:b:264:C:C2	3.06	0.43
53:b:413:C:C2	53:b:414:C:C6	3.07	0.43
53:b:425:G:C6	53:b:426:C:C4	3.07	0.43
53:b:528:A:C6	53:b:2042:A:C5	3.07	0.43
53:b:532:A:H4'	53:b:533:G:H8	1.84	0.43
53:b:1094:U:O2	53:b:1094:U:H2'	2.18	0.43
53:b:1165:A:C2	53:b:1166:G:C5	3.06	0.43
53:b:1256:G:N3	53:b:1256:G:H2'	2.34	0.43
53:b:1336:A:C2	53:b:1337:G:C4	3.07	0.43
53:b:1499:C:N4	53:b:1500:G:N7	2.66	0.43
53:b:1555:G:C6	53:b:1556:C:C4	3.07	0.43
53:b:1606:C:H4'	53:b:1608:A:C2	2.54	0.43
53:b:1773:A:C5	53:b:1829:A:H1'	2.54	0.43
53:b:1865:U:O4	53:b:1875:G:N2	2.49	0.43
53:b:1926:U:H2'	53:b:1926:U:O2	2.19	0.43
53:b:2024:G:C5	53:b:2025:C:C5	3.07	0.43
53:b:2127:G:H4'	53:b:2128:G:OP1	2.19	0.43
53:b:2529:G:O5'	53:b:2529:G:C8	2.72	0.43
53:b:2722:G:C2	53:b:2723:C:C2	3.07	0.43
53:b:2825:G:C6	53:b:2826:A:N9	2.87	0.43
54:v:34:G:C5'	54:v:34:G:H8	2.32	0.43
3:D:66:VAL:HG23	3:D:70:GLN:HB2	2.01	0.43
6:G:114:SER:O	6:G:118:ARG:HG3	2.18	0.43
8:I:35:GLU:C	8:I:40:ARG:HE	2.23	0.43
15:P:6:LEU:O	50:A:376:G:C4	2.72	0.43
33:g:101:ASN:CA	33:g:117:LEU:HD21	2.49	0.43
38:m:96:ILE:CG2	38:m:100:LYS:HD2	2.49	0.43
50:A:202:G:H2'	50:A:203:G:O4'	2.18	0.43
50:A:631:C:H5''	50:A:632:U:H5'	2.01	0.43
50:A:892:A:C6	50:A:893:C:N3	2.87	0.43
50:A:1330:U:H5''	50:A:1331:G:OP2	2.18	0.43
51:X:13:C:O2	51:X:13:C:H2'	2.19	0.43
53:b:257:C:N4	53:b:258:G:C5	2.87	0.43
53:b:263:G:C2	53:b:264:C:C2	3.06	0.43
53:b:608:A:N6	53:b:621:A:C5	2.87	0.43
53:b:839:U:N3	53:b:840:C:C5	2.87	0.43
53:b:1242:U:C5	53:b:1243:C:C5	3.07	0.43
53:b:1296:G:C2	53:b:1297:C:C4	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1361:G:C6	53:b:1362:C:N4	2.86	0.43
53:b:1383:A:N3	53:b:1384:A:C4	2.86	0.43
53:b:1517:G:C6	53:b:1518:C:C4	3.06	0.43
53:b:1532:A:C6	53:b:1533:C:C6	3.07	0.43
53:b:1538:G:C6	53:b:1539:U:C6	3.06	0.43
53:b:1540:G:C6	53:b:1541:C:C5	3.07	0.43
53:b:1590:A:C6	53:b:1591:A:N7	2.87	0.43
53:b:1767:G:C2	53:b:1986:C:C2	3.06	0.43
53:b:1796:U:H2'	53:b:1797:G:C8	2.51	0.43
53:b:1947:C:N3	53:b:1948:G:C8	2.87	0.43
53:b:2507:C:C4	53:b:2583:G:C6	3.07	0.43
53:b:2717:C:C2	53:b:2718:G:C8	3.06	0.43
53:b:2859:G:H2'	53:b:2860:A:C8	2.54	0.43
3:D:72:ARG:O	3:D:76:LYS:HG2	2.18	0.42
16:Q:67:SER:OG	50:A:255:G:OP2	2.37	0.42
31:e:52:VAL:HG21	31:e:81:GLY:HA2	2.01	0.42
46:u:54:GLN:N	46:u:55:PRO:CD	2.82	0.42
50:A:20:U:H2'	50:A:21:G:O4'	2.19	0.42
50:A:241:G:C6	50:A:242:G:C5	3.07	0.42
50:A:690:G:H2'	50:A:691:G:O4'	2.19	0.42
50:A:727:G:C2	50:A:731:G:C2	3.07	0.42
50:A:842:U:H3'	50:A:843:U:H4'	2.01	0.42
52:a:22:U:N3	52:a:23:G:N7	2.66	0.42
52:a:99:A:C2	52:a:100:G:H1'	2.53	0.42
53:b:46:G:C4	53:b:47:C:C5	3.07	0.42
53:b:634:C:C2	53:b:635:C:C5	3.07	0.42
53:b:658:U:C2	53:b:659:G:H8	2.32	0.42
53:b:812:C:N3	53:b:813:U:C5	2.87	0.42
53:b:822:G:N1	53:b:823:C:C5	2.82	0.42
53:b:949:G:C2	53:b:950:G:C4	3.06	0.42
53:b:1050:A:H1'	53:b:2751:G:N2	2.34	0.42
53:b:1059:G:C5	53:b:1060:U:C5	3.07	0.42
53:b:1115:G:C2	53:b:1116:G:C8	3.06	0.42
53:b:1129:A:N3	53:b:2570:G:H1'	2.34	0.42
53:b:1168:G:C6	53:b:1169:A:C5	3.07	0.42
53:b:1296:G:N1	53:b:1297:C:C4	2.87	0.42
53:b:1639:C:H2'	53:b:1639:C:O2	2.19	0.42
53:b:2103:C:H2'	53:b:2104:C:H4'	2.01	0.42
53:b:2114:A:H62	53:b:2169:A:H2	1.63	0.42
53:b:2174:C:H6	53:b:2174:C:O5'	2.02	0.42
53:b:2584:U:O2'	53:b:2585:U:C5	2.71	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2708:G:N1	53:b:2709:G:C5	2.87	0.42
53:b:2881:U:H2'	53:b:2882:A:C8	2.54	0.42
3:D:170:LEU:HD12	3:D:170:LEU:O	2.19	0.42
3:D:201:GLU:O	3:D:204:SER:OG	2.33	0.42
10:K:39:ASN:HD22	50:A:683:G:H21	1.67	0.42
29:c:76:ALA:HB2	29:c:96:TYR:CD1	2.54	0.42
30:d:151:THR:C	30:d:153:GLY:N	2.76	0.42
35:j:23:LYS:HB3	35:j:28:LEU:HD12	2.00	0.42
38:m:13:HIS:CD2	53:b:910:A:C6	3.07	0.42
50:A:6:G:N3	50:A:6:G:H2'	2.34	0.42
50:A:570:G:H1	50:A:866:C:H42	1.67	0.42
50:A:1066:C:OP2	50:A:1066:C:H6	2.02	0.42
50:A:1320:C:OP2	50:A:1321:U:OP2	2.38	0.42
50:A:1415:G:C2	50:A:1486:G:C5	3.07	0.42
52:a:30:C:H41	52:a:52:A:H2	1.66	0.42
53:b:42:A:C2	53:b:43:G:C1'	3.02	0.42
53:b:156:A:C2	53:b:157:C:N1	2.87	0.42
53:b:185:G:C6	53:b:186:G:C8	3.06	0.42
53:b:309:A:C1'	53:b:329:G:H21	2.30	0.42
53:b:523:C:C2	53:b:524:G:H8	2.25	0.42
53:b:704:G:N2	53:b:726:G:N3	2.67	0.42
53:b:721:A:C4	53:b:722:A:C8	3.06	0.42
53:b:749:A:O2'	53:b:750:A:P	2.76	0.42
53:b:936:A:N3	53:b:937:C:C6	2.88	0.42
53:b:949:G:C6	53:b:950:G:N7	2.87	0.42
53:b:1163:G:N3	53:b:1163:G:H2'	2.34	0.42
53:b:1208:C:N3	53:b:1239:G:N3	2.67	0.42
53:b:1306:C:H1'	53:b:1623:G:N2	2.34	0.42
53:b:1419:A:C5	53:b:1579:A:C6	3.07	0.42
53:b:1449:G:C2	53:b:1450:G:N9	2.87	0.42
53:b:1529:G:C6	53:b:1530:G:C4	3.07	0.42
53:b:1637:A:C5	53:b:1638:C:C5	3.08	0.42
53:b:1826:G:C6	53:b:1827:U:C5	3.06	0.42
53:b:2136:G:N1	53:b:2137:U:H1'	2.35	0.42
53:b:2341:G:C5	53:b:2342:C:C5	3.07	0.42
53:b:2374:C:H2'	53:b:2375:G:O4'	2.19	0.42
53:b:2442:C:C2'	53:b:2443:C:O5'	2.68	0.42
53:b:2518:A:H2'	53:b:2518:A:N3	2.34	0.42
53:b:2543:G:C5	53:b:2544:G:N7	2.87	0.42
53:b:2585:U:C4'	53:b:2586:U:OP1	2.40	0.42
53:b:2748:A:C5	53:b:2749:A:C8	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2767:C:N3	53:b:2768:U:C5	2.87	0.42
53:b:2802:G:C5	53:b:2803:G:N7	2.87	0.42
54:v:34:G:O5'	54:v:34:G:H8	2.02	0.42
3:D:63:ILE:HG23	3:D:64:TYR:CD1	2.55	0.42
4:E:88:HIS:CD2	4:E:137:ARG:HG3	2.55	0.42
7:H:28:SER:HB2	7:H:58:LEU:HB2	2.00	0.42
8:I:42:THR:O	8:I:46:VAL:HG23	2.19	0.42
8:I:105:ARG:CD	8:I:106:ASP:H	2.18	0.42
10:K:88:PRO:HG3	20:U:28:LEU:HD11	0.66	0.42
16:Q:16:MET:HB2	16:Q:19:SER:HB2	2.01	0.42
18:S:77:ARG:HH21	50:A:1222:G:H5''	1.84	0.42
33:g:18:LYS:HB2	33:g:25:THR:OG1	2.19	0.42
35:j:77:HIS:CE1	53:b:1131:G:N7	2.86	0.42
43:r:10:LYS:NZ	53:b:994:C:H2'	2.35	0.42
50:A:33:A:OP2	50:A:398:U:H5'	2.20	0.42
50:A:80:A:N6	50:A:90:C:H42	2.17	0.42
50:A:82:G:N7	50:A:83:C:H1'	2.34	0.42
50:A:374:A:H5'	50:A:452:A:C6	2.54	0.42
50:A:1162:C:H2'	50:A:1163:A:H8	1.84	0.42
50:A:1238:A:OP1	50:A:1335:U:O2'	2.33	0.42
53:b:46:G:C6	53:b:47:C:C4	3.07	0.42
53:b:75:G:C4	53:b:75:G:H3'	2.54	0.42
53:b:241:A:H4'	53:b:242:G:OP1	2.19	0.42
53:b:454:A:H4'	53:b:455:C:OP2	2.19	0.42
53:b:520:G:C6	53:b:521:U:C5	3.08	0.42
53:b:570:G:H1'	53:b:983:A:H62	1.84	0.42
53:b:652:U:O2	53:b:652:U:H2'	2.19	0.42
53:b:785:G:C5	53:b:786:C:C5	3.08	0.42
53:b:832:U:H2'	53:b:833:A:C8	2.54	0.42
53:b:901:C:N3	53:b:902:C:C6	2.87	0.42
53:b:903:C:O2	53:b:904:G:C8	2.72	0.42
53:b:996:A:N1	53:b:997:G:N7	2.66	0.42
53:b:1139:G:N1	53:b:1140:C:C5	2.87	0.42
53:b:1243:C:C4	53:b:1244:A:N7	2.87	0.42
53:b:1321:A:N3	53:b:1321:A:H2'	2.34	0.42
53:b:1394:U:C6	53:b:1395:A:N3	2.88	0.42
53:b:1472:C:C2	53:b:1473:G:H8	2.37	0.42
53:b:1565:C:C4	53:b:1567:G:C6	3.07	0.42
53:b:1786:A:C2'	53:b:1938:A:N6	2.80	0.42
53:b:1806:C:N4	53:b:1807:G:N7	2.68	0.42
53:b:1918:A:O2'	53:b:1919:A:N7	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2137:U:C4	53:b:2138:G:C8	3.07	0.42
53:b:2229:U:N3	53:b:2230:G:N7	2.66	0.42
53:b:2322:A:H2'	53:b:2323:G:O4'	2.20	0.42
53:b:2330:G:N1	53:b:2331:G:C4	2.87	0.42
53:b:2345:G:N2	53:b:2381:A:C5	2.87	0.42
53:b:2482:A:C2	53:b:2483:C:C6	3.07	0.42
53:b:2533:U:C4	53:b:2534:A:H1'	2.53	0.42
53:b:2588:G:C6	53:b:2589:A:C4	3.07	0.42
53:b:2792:A:C6	53:b:2793:C:C6	3.07	0.42
53:b:2839:G:O6	53:b:2877:G:O6	2.37	0.42
6:G:142:ARG:O	6:G:146:ALA:N	2.44	0.42
8:I:105:ARG:CD	8:I:106:ASP:O	2.67	0.42
14:O:5:GLU:O	14:O:9:LYS:HG2	2.19	0.42
27:7:62:LEU:HB3	27:7:65:ALA:HB2	2.00	0.42
35:j:23:LYS:HG3	35:j:28:LEU:CD1	2.48	0.42
39:n:71:ARG:HH22	53:b:2707:U:C2'	2.31	0.42
40:o:94:ARG:NH1	53:b:2293:G:OP1	2.53	0.42
46:u:39:ILE:HG22	46:u:39:ILE:O	2.18	0.42
50:A:757:U:O2'	50:A:879:C:H1'	2.19	0.42
50:A:1099:G:C5	50:A:1100:C:C4	3.07	0.42
50:A:1110:A:N6	50:A:1111:A:C6	2.87	0.42
50:A:1111:A:O2'	50:A:1112:C:H6	2.01	0.42
52:a:37:C:O2	52:a:37:C:C2'	2.68	0.42
52:a:47:C:H2'	52:a:47:C:O2	2.19	0.42
52:a:112:G:C2	52:a:113:C:C2	3.07	0.42
53:b:21:A:N1	53:b:22:C:C4	2.87	0.42
53:b:271:G:C2	53:b:272:A:N7	2.87	0.42
53:b:323:C:N3	53:b:333:G:C8	2.87	0.42
53:b:390:U:O2	53:b:390:U:H2'	2.20	0.42
53:b:696:G:N3	53:b:697:G:C8	2.85	0.42
53:b:734:A:C5	53:b:735:A:C8	3.07	0.42
53:b:1245:G:N2	53:b:1246:A:C4	2.87	0.42
53:b:1395:A:N6	53:b:1398:C:C1'	2.80	0.42
53:b:1407:G:N1	53:b:1408:G:C5	2.88	0.42
53:b:1494:A:N3	53:b:1495:A:C5	2.87	0.42
53:b:1505:A:C5	53:b:1506:U:C5	3.07	0.42
53:b:1603:A:N7	53:b:1604:C:C5	2.87	0.42
53:b:1769:U:O2	53:b:1770:G:C8	2.72	0.42
53:b:1883:U:C4	53:b:1884:G:C5	3.07	0.42
53:b:2117:A:C2'	53:b:2118:U:O5'	2.66	0.42
53:b:2128:G:C4	53:b:2129:C:C1'	3.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2232:C:C2	53:b:2233:U:C6	3.07	0.42
53:b:2297:A:N3	53:b:2322:A:H1'	2.34	0.42
53:b:2309:A:H2'	53:b:2309:A:N3	2.34	0.42
53:b:2318:G:H2'	53:b:2319:G:O4'	2.19	0.42
53:b:2537:U:N3	53:b:2538:C:H5	2.11	0.42
53:b:2902:C:O2	53:b:2902:C:H2'	2.19	0.42
1:B:63:LYS:HZ1	1:B:88:GLN:HE22	1.65	0.42
15:P:17:TYR:CD1	15:P:17:TYR:N	2.86	0.42
15:P:33:ILE:O	15:P:34:GLU:HB3	2.18	0.42
16:Q:57:VAL:HG23	16:Q:78:VAL:HB	2.02	0.42
19:T:28:ARG:O	19:T:32:LYS:HG2	2.19	0.42
31:e:63:LYS:HZ3	31:e:69:ARG:HH22	1.65	0.42
50:A:97:G:C5	50:A:98:A:H1'	2.55	0.42
50:A:190:A:C2	50:A:191:G:H1'	2.54	0.42
50:A:919:A:O5'	50:A:919:A:H8	2.02	0.42
50:A:1236:A:N6	50:A:1337:G:O6	2.52	0.42
50:A:1270:G:C2	50:A:1271:A:C4	3.07	0.42
52:a:18:G:C6	52:a:19:C:C4	3.07	0.42
52:a:50:A:C2	52:a:51:G:C5	3.08	0.42
53:b:27:G:C5	53:b:512:G:N2	2.88	0.42
53:b:413:C:N3	53:b:414:C:C5	2.88	0.42
53:b:588:U:C2	53:b:589:U:C5	3.07	0.42
53:b:605:G:C2	53:b:624:C:C2	3.08	0.42
53:b:662:G:C6	53:b:663:G:N7	2.88	0.42
53:b:842:U:C4	53:b:843:G:N7	2.87	0.42
53:b:1590:A:N1	53:b:1591:A:C5	2.88	0.42
53:b:1794:A:C2	53:b:1795:C:C4	3.07	0.42
53:b:1830:C:O2	53:b:1830:C:H2'	2.19	0.42
53:b:1858:A:C4	53:b:1859:U:C6	3.07	0.42
53:b:2266:A:C5'	53:b:2267:A:C5	3.03	0.42
53:b:2292:U:N3	53:b:2340:A:C2	2.87	0.42
53:b:2427:C:H5''	53:b:2428:G:OP1	2.20	0.42
53:b:2577:A:O2'	53:b:2578:G:OP1	2.35	0.42
53:b:2665:A:C2	53:b:2666:C:C6	3.07	0.42
53:b:2793:C:H2'	53:b:2794:C:H6	1.84	0.42
2:C:146:LYS:HB3	2:C:202:PHE:CD2	2.54	0.42
13:N:27:LYS:O	13:N:31:SER:HB2	2.20	0.42
17:R:23:LYS:HZ1	17:R:61:ALA:HA	1.83	0.42
32:f:77:PHE:CD1	53:b:2308:G:O6	2.73	0.42
39:n:60:VAL:HG22	53:b:1454:C:O2'	2.20	0.42
50:A:73:C:H2'	50:A:74:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:235:C:H2'	50:A:236:A:H8	1.85	0.42
50:A:322:C:OP2	50:A:328:C:H5	2.01	0.42
50:A:374:A:H5'	50:A:452:A:N1	2.34	0.42
50:A:374:A:H3'	50:A:375:U:H6	1.84	0.42
50:A:571:U:O4	50:A:864:A:N6	2.53	0.42
50:A:1242:G:H2'	50:A:1243:C:C6	2.54	0.42
50:A:1253:G:H2'	50:A:1254:A:C8	2.54	0.42
50:A:1526:G:H2'	50:A:1527:U:H6	1.82	0.42
53:b:230:G:N3	53:b:231:A:C8	2.86	0.42
53:b:370:G:C2	53:b:424:G:N9	2.88	0.42
53:b:440:C:O2	53:b:440:C:H2'	2.20	0.42
53:b:537:G:C2	53:b:555:G:C2	3.07	0.42
53:b:603:A:N6	53:b:655:A:O4'	2.52	0.42
53:b:748:G:C5	53:b:750:A:C8	3.07	0.42
53:b:749:A:C5	53:b:1618:A:C6	3.04	0.42
53:b:777:G:H3'	53:b:777:G:C8	2.54	0.42
53:b:920:A:C5	53:b:921:C:C5	3.07	0.42
53:b:954:G:O6	53:b:955:U:C4	2.73	0.42
53:b:1099:G:H21	53:b:1100:C:H1'	1.84	0.42
53:b:1148:U:C2	53:b:1149:G:C8	3.07	0.42
53:b:1232:G:C2	53:b:1233:C:C2	3.07	0.42
53:b:1237:A:N3	53:b:1238:G:H1'	2.34	0.42
53:b:1315:C:C2	53:b:1316:U:H5	2.35	0.42
53:b:1494:A:C6	53:b:1495:A:N6	2.87	0.42
53:b:1533:C:C5	53:b:1534:U:C5	3.07	0.42
53:b:1659:G:N1	53:b:1660:G:C4	2.88	0.42
53:b:1775:U:C4	53:b:1776:G:N9	2.88	0.42
53:b:1777:U:H2'	53:b:1778:U:O5'	2.19	0.42
53:b:2578:G:N1	53:b:2579:C:C5	2.87	0.42
53:b:2753:A:H2'	53:b:2754:U:O4'	2.20	0.42
3:D:171:GLU:HB2	3:D:180:THR:OG1	2.20	0.42
11:L:23:LEU:HD22	11:L:58:ASN:HB2	2.01	0.42
13:N:20:PHE:CD2	13:N:24:ALA:HB1	2.54	0.42
21:O:67:VAL:O	21:O:71:LEU:HG	2.18	0.42
36:k:108:ARG:HD3	36:k:113:MET:HE1	2.01	0.42
39:n:16:HIS:O	39:n:20:MET:HE2	2.18	0.42
50:A:974:A:H4'	50:A:975:A:H5'	2.02	0.42
52:a:83:G:C6	52:a:84:G:N7	2.88	0.42
53:b:223:A:C6	53:b:422:A:C8	3.08	0.42
53:b:484:C:C2	53:b:485:C:C6	3.07	0.42
53:b:661:A:C2	53:b:662:G:N9	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:906:U:O2	53:b:907:G:C8	2.73	0.42
53:b:926:G:N2	53:b:927:A:C5	2.88	0.42
53:b:990:A:H62	53:b:1186:G:H1'	1.85	0.42
53:b:1010:A:C2'	53:b:1011:G:H5''	2.50	0.42
53:b:1083:U:H2'	53:b:1084:A:H3'	2.01	0.42
53:b:1122:G:N3	53:b:1122:G:H2'	2.34	0.42
53:b:1142:A:C2	53:b:1144:A:C8	3.07	0.42
53:b:1276:A:N1	53:b:1277:G:C5	2.87	0.42
53:b:1326:U:C2	53:b:1327:A:N7	2.87	0.42
53:b:1354:A:C5	53:b:1355:G:H1'	2.55	0.42
53:b:1356:G:C2	53:b:1357:C:C1'	3.03	0.42
53:b:1519:G:C6	53:b:1520:U:C5	3.08	0.42
53:b:1745:A:N1	53:b:1746:A:C5	2.87	0.42
53:b:1840:G:C2	53:b:1841:U:C6	3.08	0.42
53:b:2230:G:C6	53:b:2231:U:C4	3.07	0.42
53:b:2301:C:N3	53:b:2302:U:C5	2.87	0.42
53:b:2459:A:C2	53:b:2460:U:C1'	3.03	0.42
1:B:17:HIS:HE1	1:B:189:ASN:ND2	2.14	0.42
1:B:166:ASP:OD1	1:B:190:SER:OG	2.36	0.42
4:E:107:GLY:HA3	50:A:8:A:H1'	2.02	0.42
9:J:61:ALA:HB2	50:A:1061:G:H5'	2.00	0.42
15:P:10:GLY:HA3	15:P:15:PRO:CA	2.49	0.42
28:8:1:MET:CG	53:b:2526:G:O2'	2.68	0.42
50:A:184:G:C4'	50:A:185:U:OP1	2.68	0.42
50:A:190:A:H2'	50:A:191:G:O4'	2.20	0.42
50:A:572:A:H5'	50:A:573:A:OP2	2.20	0.42
50:A:640:A:N6	50:A:641:U:O4	2.50	0.42
50:A:836:G:H1	50:A:850:U:H3	1.68	0.42
50:A:1129:C:H42	50:A:1143:G:H1	1.68	0.42
50:A:1140:C:H2'	50:A:1141:C:H6	1.84	0.42
50:A:1401:G:C6	50:A:1402:C:C2	3.08	0.42
50:A:1452:C:O2	50:A:1453:G:N1	2.53	0.42
50:A:1499:A:OP2	50:A:1500:A:OP2	2.38	0.42
53:b:111:A:C6	53:b:112:U:C6	3.07	0.42
53:b:257:C:N3	53:b:258:G:C8	2.88	0.42
53:b:278:A:N1	53:b:361:G:C2	2.87	0.42
53:b:282:A:N3	53:b:283:G:C8	2.88	0.42
53:b:396:G:C5	53:b:397:U:C5	3.07	0.42
53:b:759:G:C4	53:b:760:G:C8	3.08	0.42
53:b:1104:C:C4	53:b:1105:U:C1'	2.87	0.42
53:b:1111:A:O3'	53:b:1112:G:H4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1120:G:N1	53:b:1121:C:C2	2.88	0.42
53:b:1228:G:N3	53:b:1229:C:C6	2.88	0.42
53:b:1355:G:N1	53:b:1356:G:N7	2.67	0.42
53:b:1388:G:O2'	53:b:1525:A:O2'	2.35	0.42
53:b:1445:G:C5	53:b:1446:C:C5	3.08	0.42
53:b:1518:C:O2	53:b:1518:C:H2'	2.20	0.42
53:b:1638:C:N4	53:b:1639:C:C5	2.88	0.42
53:b:1810:A:C8	53:b:1811:G:H1'	2.53	0.42
53:b:2066:C:C3'	53:b:2066:C:C6	3.02	0.42
53:b:2338:C:O2	53:b:2339:C:C6	2.73	0.42
53:b:2407:A:C4	53:b:2408:U:C5	3.08	0.42
53:b:2460:U:C4	53:b:2461:A:N7	2.88	0.42
53:b:2535:G:C6	53:b:2536:G:C5	3.06	0.42
53:b:2749:A:C2	53:b:2750:A:N7	2.87	0.42
5:F:11:HIS:CE1	5:F:13:ASP:HB2	2.54	0.42
15:P:12:LYS:HE3	50:A:393:A:OP2	2.19	0.42
15:P:15:PRO:HG2	15:P:41:PRO:HG3	2.02	0.42
30:d:144:GLY:HA2	53:b:2578:G:H1'	2.02	0.42
31:e:63:LYS:NZ	31:e:69:ARG:HH21	2.17	0.42
32:f:20:PHE:HB2	32:f:22:TYR:CE1	2.55	0.42
32:f:36:LEU:CD2	32:f:154:ILE:HD12	2.49	0.42
42:q:90:ILE:HD12	43:r:48:LYS:HZ1	1.82	0.42
48:y:57:HIS:CE1	53:b:2336:A:N6	2.87	0.42
50:A:94:G:H4'	50:A:95:C:O5'	2.20	0.42
50:A:505:G:O5'	50:A:505:G:H8	2.03	0.42
50:A:1083:U:O2'	50:A:1102:A:OP2	2.38	0.42
50:A:1233:G:OP1	50:A:1342:C:N4	2.53	0.42
52:a:34:A:N6	52:a:44:G:C1'	2.82	0.42
52:a:117:G:C6	52:a:118:C:C5	3.08	0.42
53:b:16:C:N3	53:b:17:G:C8	2.88	0.42
53:b:287:G:C5	53:b:288:U:C5	3.08	0.42
53:b:381:G:N2	53:b:382:A:C8	2.87	0.42
53:b:452:G:N1	53:b:453:A:C5	2.88	0.42
53:b:694:U:O2	53:b:695:G:C8	2.73	0.42
53:b:794:A:C6	53:b:795:C:C4	3.07	0.42
53:b:814:C:C2	53:b:815:C:C5	3.07	0.42
53:b:950:G:C2	53:b:968:C:C2	3.08	0.42
53:b:1120:G:C2	53:b:1121:C:C1'	3.03	0.42
53:b:1205:A:N3	53:b:1205:A:O4'	2.53	0.42
53:b:1320:C:H2'	53:b:1329:U:OP1	2.20	0.42
53:b:1510:G:N3	53:b:1511:G:C8	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1717:A:N6	53:b:1743:G:O2'	2.53	0.42
53:b:1983:G:N1	53:b:1984:G:C5	2.88	0.42
53:b:2283:C:O2	53:b:2283:C:H2'	2.19	0.42
53:b:2412:A:C2	53:b:2413:G:H1'	2.54	0.42
53:b:2439:A:H1'	53:b:2586:U:O3'	2.20	0.42
53:b:2459:A:C2	53:b:2460:U:H1'	2.55	0.42
53:b:2510:C:N3	53:b:2511:U:C5	2.88	0.42
53:b:2825:G:N1	53:b:2826:A:C8	2.88	0.42
4:E:131:ASN:ND2	50:A:18:C:OP1	2.53	0.42
7:H:10:LEU:HD22	7:H:74:ILE:HD11	2.01	0.42
7:H:84:ILE:HD12	7:H:86:LYS:HZ3	1.83	0.42
10:K:51:PHE:O	10:K:52:ARG:HD2	2.19	0.42
11:L:32:VAL:O	11:L:54:VAL:HG23	2.20	0.42
15:P:12:LYS:HG3	50:A:392:C:O5'	2.15	0.42
15:P:48:GLU:CG	15:P:49:GLY:N	2.82	0.42
16:Q:18:LYS:HB3	16:Q:46:HIS:CE1	2.55	0.42
17:R:23:LYS:NZ	17:R:61:ALA:HA	2.35	0.42
30:d:150:GLN:CB	53:b:2032:G:H21	2.30	0.42
34:h:132:PHE:C	34:h:133:GLN:HG3	2.45	0.42
40:o:25:ARG:HG3	40:o:27:VAL:HG23	2.01	0.42
50:A:148:G:O2'	50:A:1446:A:N3	2.48	0.42
50:A:352:C:N3	50:A:356:A:N6	2.68	0.42
50:A:539:A:N6	50:A:540:G:O6	2.53	0.42
50:A:551:U:N3	50:A:552:U:C4	2.88	0.42
53:b:257:C:C4	53:b:258:G:N7	2.88	0.42
53:b:341:C:N3	53:b:342:A:C8	2.88	0.42
53:b:350:G:N2	53:b:351:C:H1'	2.35	0.42
53:b:717:C:N3	53:b:718:A:H1'	2.35	0.42
53:b:977:G:N2	53:b:987:C:N3	2.67	0.42
53:b:1025:G:C2	53:b:1135:C:N1	2.88	0.42
53:b:1212:G:C2	53:b:1236:G:C6	3.08	0.42
53:b:1306:C:O2	53:b:1306:C:H2'	2.20	0.42
53:b:1417:C:C2	53:b:1418:G:C8	3.08	0.42
53:b:1446:C:H2'	53:b:1447:C:H6	1.85	0.42
53:b:1603:A:C5	53:b:1604:C:C6	3.08	0.42
53:b:1833:C:C2	53:b:1834:U:C6	3.07	0.42
53:b:1859:U:O2	53:b:1860:G:C8	2.71	0.42
53:b:1868:C:N3	53:b:1869:G:N7	2.68	0.42
53:b:2051:A:N6	53:b:2614:A:C5	2.88	0.42
53:b:2051:A:C5	53:b:2614:A:C6	3.07	0.42
53:b:2127:G:N2	53:b:2160:C:N4	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2129:C:C2	53:b:2160:C:O2	2.62	0.42
53:b:2206:C:N3	53:b:2207:C:H5	1.94	0.42
53:b:2227:A:C6	53:b:2228:G:N9	2.88	0.42
53:b:2762:C:C2	53:b:2763:G:C8	3.08	0.42
54:v:16:C:H4'	54:v:17:C:OP1	2.14	0.42
1:B:30:ILE:HD11	1:B:38:HIS:CG	2.55	0.41
3:D:104:MET:HG2	3:D:172:VAL:HG22	2.02	0.41
3:D:120:LYS:HB2	3:D:145:ARG:NH1	2.35	0.41
4:E:51:LYS:NZ	50:A:1080:A:H5''	2.35	0.41
34:h:117:LEU:HD21	34:h:129:GLU:HB3	2.02	0.41
34:h:130:VAL:O	34:h:142:VAL:HG13	2.20	0.41
41:p:37:LYS:CE	41:p:39:ARG:HE	2.33	0.41
50:A:235:C:H2'	50:A:236:A:C8	2.55	0.41
50:A:342:C:H2'	50:A:342:C:OP2	2.20	0.41
50:A:1151:A:O2'	50:A:1152:A:H5''	2.19	0.41
50:A:1300:G:C2	50:A:1334:G:C6	3.08	0.41
52:a:39:A:C2	52:a:44:G:N2	2.88	0.41
53:b:170:U:O4	53:b:171:U:C5	2.73	0.41
53:b:191:A:H2'	53:b:192:C:H6	1.83	0.41
53:b:289:G:C4	53:b:290:U:C5	3.08	0.41
53:b:332:A:N7	53:b:335:C:N4	2.68	0.41
53:b:366:C:C4	53:b:367:G:C8	3.08	0.41
53:b:510:C:O2	53:b:510:C:H2'	2.19	0.41
53:b:651:G:N1	53:b:652:U:C6	2.88	0.41
53:b:695:G:N2	53:b:696:G:N9	2.68	0.41
53:b:961:C:O2	53:b:961:C:O4'	2.37	0.41
53:b:1073:A:N1	53:b:1074:G:C1'	2.82	0.41
53:b:1151:A:C4	53:b:1152:C:C6	3.08	0.41
53:b:1186:G:N1	53:b:1187:G:C5	2.89	0.41
53:b:1317:G:C5	53:b:1318:U:C5	3.08	0.41
53:b:1407:G:C2	53:b:1408:G:N9	2.88	0.41
53:b:1499:C:C5	53:b:1500:G:C8	3.08	0.41
53:b:1503:A:C2	53:b:1504:A:N9	2.88	0.41
53:b:1503:A:C6	53:b:1504:A:C6	3.08	0.41
53:b:1577:C:H2'	53:b:1578:U:C6	2.55	0.41
53:b:1593:A:C2	53:b:1594:U:C6	3.08	0.41
53:b:1637:A:C6	53:b:1638:C:C5	3.08	0.41
53:b:1746:A:C2	53:b:1747:U:C4	3.07	0.41
53:b:1851:U:C4	53:b:1852:U:C5	3.08	0.41
53:b:1891:G:N1	53:b:1892:C:N1	2.68	0.41
53:b:1956:U:O2	53:b:1956:U:H2'	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2269:G:N1	53:b:2270:A:C8	2.66	0.41
53:b:2327:A:H2'	53:b:2328:A:C8	2.55	0.41
53:b:2459:A:C6	53:b:2460:U:C4	3.08	0.41
53:b:2678:C:C2	53:b:2679:A:C8	3.08	0.41
53:b:2683:C:C2	53:b:2684:U:C5	3.08	0.41
53:b:2802:G:C5	53:b:2803:G:C8	3.07	0.41
53:b:2862:G:C5	53:b:2863:C:C5	3.08	0.41
1:B:124:THR:H	1:B:136:ARG:NH2	2.18	0.41
3:D:130:ASN:HB2	50:A:619:U:H3	1.85	0.41
3:D:150:LYS:O	3:D:155:LYS:NZ	2.50	0.41
4:E:100:GLU:OE1	4:E:100:GLU:N	2.53	0.41
5:F:32:ALA:O	5:F:34:GLY:N	2.47	0.41
8:I:110:VAL:HB	50:A:1348:U:OP2	2.20	0.41
9:J:10:LEU:O	9:J:71:LEU:HD12	2.19	0.41
14:O:21:THR:HB	50:A:657:U:O2	2.20	0.41
29:c:87:ARG:HH12	29:c:156:ARG:HH21	1.67	0.41
34:h:99:ILE:HD11	34:h:101:ASP:HB2	2.02	0.41
50:A:160:A:H2'	50:A:161:A:O4'	2.20	0.41
50:A:248:C:H2'	50:A:249:U:O4'	2.20	0.41
50:A:299:G:H2'	50:A:300:A:H8	1.84	0.41
50:A:459:A:C6	50:A:460:A:C6	3.08	0.41
50:A:498:A:O2'	50:A:499:A:P	2.79	0.41
50:A:769:G:H2'	50:A:770:C:H6	1.85	0.41
50:A:1415:G:H2'	50:A:1416:G:H8	1.85	0.41
50:A:1430:A:N6	50:A:1431:A:N1	2.68	0.41
53:b:40:U:O2	53:b:41:C:C6	2.72	0.41
53:b:271:G:N2	53:b:272:A:C4	2.88	0.41
53:b:696:G:C2	53:b:697:G:N9	2.84	0.41
53:b:839:U:H2'	53:b:840:C:H6	1.85	0.41
53:b:900:A:C2	53:b:901:C:H1'	2.55	0.41
53:b:1005:C:C2'	53:b:1006:C:O5'	2.68	0.41
53:b:1318:U:O2	53:b:1319:C:C6	2.73	0.41
53:b:1416:G:O6	53:b:1581:G:O6	2.38	0.41
53:b:1587:G:C2	53:b:1588:G:N9	2.88	0.41
53:b:1678:A:C2	53:b:1679:A:H1'	2.55	0.41
53:b:1773:A:C8	53:b:1773:A:H3'	2.55	0.41
53:b:1811:G:C2	53:b:1812:U:N1	2.87	0.41
53:b:1829:A:C6	53:b:1830:C:C6	3.07	0.41
53:b:2283:C:C2	53:b:2389:G:N1	2.88	0.41
53:b:2395:C:N4	53:b:2396:G:N7	2.67	0.41
53:b:2869:G:C5	53:b:2870:C:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2895:G:C2	53:b:2896:C:C6	3.08	0.41
2:C:185:THR:HG22	2:C:198:LYS:HG2	2.02	0.41
3:D:14:GLU:HB2	3:D:62:ARG:HH21	1.85	0.41
3:D:151:GLN:C	3:D:155:LYS:NZ	2.78	0.41
8:I:11:ARG:HA	8:I:105:ARG:HH12	1.84	0.41
11:L:74:GLN:OE1	11:L:76:HIS:HE1	2.04	0.41
13:N:1:ALA:N	13:N:66:THR:O	2.53	0.41
15:P:20:VAL:HG22	15:P:32:PHE:HB2	2.01	0.41
29:c:75:PRO:HG2	29:c:97:LYS:HZ1	1.84	0.41
30:d:32:ASN:N	30:d:32:ASN:HD22	2.19	0.41
31:e:44:ARG:NH2	31:e:46:GLN:CD	2.78	0.41
50:A:17:U:O2'	50:A:1079:G:O2'	2.26	0.41
50:A:374:A:H3'	50:A:375:U:C6	2.55	0.41
50:A:700:G:H3'	50:A:701:U:H5''	2.01	0.41
50:A:859:G:H2'	50:A:860:A:H8	1.84	0.41
50:A:988:G:N1	50:A:989:U:C2	2.88	0.41
53:b:156:A:N1	53:b:157:C:C5	2.89	0.41
53:b:209:C:N4	53:b:210:C:N4	2.68	0.41
53:b:337:C:N3	53:b:338:G:H1'	2.35	0.41
53:b:622:G:H2'	53:b:623:C:O4'	2.20	0.41
53:b:634:C:N3	53:b:635:C:C5	2.88	0.41
53:b:661:A:C2	53:b:662:G:C5	3.08	0.41
53:b:728:G:N3	53:b:730:A:C8	2.88	0.41
53:b:904:G:C4	53:b:905:A:C8	3.07	0.41
53:b:927:A:H2'	53:b:927:A:N3	2.35	0.41
53:b:1025:G:N2	53:b:1135:C:C6	2.89	0.41
53:b:1074:G:O6	53:b:1075:C:C5	2.71	0.41
53:b:1242:U:O4	53:b:1243:C:C4	2.73	0.41
53:b:1243:C:N3	53:b:1244:A:N7	2.68	0.41
53:b:1368:G:C2	53:b:1369:G:C5	3.08	0.41
53:b:1510:G:N2	53:b:1511:G:C4	2.88	0.41
53:b:1659:G:C6	53:b:1660:G:N9	2.89	0.41
53:b:2226:C:N4	53:b:2227:A:C4	2.89	0.41
53:b:2227:A:N6	53:b:2228:G:C4	2.88	0.41
53:b:2294:G:N2	53:b:2295:C:H1'	2.35	0.41
53:b:2470:G:N3	53:b:2471:A:C8	2.85	0.41
53:b:2583:G:C4	53:b:2584:U:N3	2.88	0.41
53:b:2887:A:N6	53:b:2888:C:C4	2.88	0.41
2:C:71:ARG:HA	2:C:72:PRO:HD2	1.87	0.41
4:E:81:GLN:HE22	4:E:149:PRO:HD3	1.85	0.41
7:H:77:VAL:HG12	7:H:84:ILE:HD11	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:H:104:SER:OG	50:A:642:A:N3	2.48	0.41
8:I:4:GLN:CD	8:I:21:LYS:HG2	2.46	0.41
8:I:27:ILE:HG13	8:I:62:LEU:HD12	2.02	0.41
11:L:45:ASN:ND2	50:A:528:C:H41	2.17	0.41
12:M:93:GLY:O	12:M:108:ARG:HB3	2.19	0.41
13:N:5:MET:HB3	13:N:62:ARG:HH12	1.85	0.41
13:N:63:CYS:SG	13:N:64:ARG:N	2.92	0.41
30:d:12:THR:CG2	41:p:5:ILE:CG2	2.94	0.41
31:e:49:ARG:HD3	53:b:801:G:C2	2.55	0.41
31:e:152:GLU:O	31:e:154:ASP:N	2.53	0.41
42:q:106:PHE:HA	42:q:109:LEU:HD12	2.02	0.41
50:A:68:G:N1	50:A:69:G:H1'	2.36	0.41
50:A:196:A:OP2	50:A:196:A:C8	2.73	0.41
50:A:246:A:O2'	50:A:279:A:N6	2.53	0.41
50:A:448:A:C5	50:A:487:A:C6	3.08	0.41
50:A:671:G:N2	50:A:672:U:H1'	2.35	0.41
50:A:797:C:H2'	50:A:798:U:C6	2.55	0.41
50:A:1067:A:N1	50:A:1108:G:O2'	2.52	0.41
50:A:1242:G:C5	50:A:1243:C:C4	3.09	0.41
50:A:1310:G:H2'	50:A:1311:A:O4'	2.20	0.41
53:b:74:A:H5''	53:b:74:A:N3	2.35	0.41
53:b:237:C:C2	53:b:261:G:C2	3.08	0.41
53:b:327:G:H2'	53:b:328:U:O4'	2.20	0.41
53:b:552:U:C2	53:b:553:G:C8	3.08	0.41
53:b:590:A:H2'	53:b:591:U:C6	2.55	0.41
53:b:714:U:O2	53:b:716:A:C8	2.72	0.41
53:b:927:A:N3	53:b:928:A:C8	2.89	0.41
53:b:1005:C:C5	53:b:1143:A:C4	3.09	0.41
53:b:1127:A:C4	53:b:2518:A:N6	2.88	0.41
53:b:1342:A:OP2	53:b:1602:U:O4	2.37	0.41
53:b:1368:G:N2	53:b:1369:G:C4	2.88	0.41
53:b:1389:G:C2	53:b:1390:U:H1'	2.55	0.41
53:b:1542:U:O2	53:b:1542:U:H2'	2.19	0.41
53:b:1583:A:H4'	53:b:1585:C:C5	2.56	0.41
53:b:1866:A:C5	53:b:1867:G:H1'	2.55	0.41
53:b:1945:G:N3	53:b:1946:U:C6	2.88	0.41
53:b:2283:C:C5	53:b:2389:G:N7	2.88	0.41
53:b:2309:A:C6	53:b:2310:C:C5	3.07	0.41
53:b:2459:A:N6	53:b:2460:U:C4	2.88	0.41
53:b:2488:G:H2'	53:b:2489:U:H6	1.84	0.41
53:b:2583:G:N3	53:b:2584:U:C2	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2682:A:C2	53:b:2683:C:N1	2.88	0.41
53:b:2735:G:N3	53:b:2735:G:H2'	2.35	0.41
53:b:2768:U:C4	53:b:2769:U:C6	3.09	0.41
53:b:2827:C:O2	53:b:2828:G:H8	1.95	0.41
53:b:2902:C:O2	53:b:2903:U:H3'	2.20	0.41
2:C:35:ASP:O	2:C:38:VAL:HG12	2.20	0.41
7:H:5:PRO:O	7:H:8:ASP:HB2	2.21	0.41
7:H:21:LYS:HE2	50:A:827:U:H5''	2.02	0.41
15:P:70:ARG:HG3	15:P:70:ARG:O	2.20	0.41
18:S:51:HIS:CD2	18:S:53:GLY:H	2.39	0.41
50:A:148:G:H1	50:A:174:A:H61	1.68	0.41
50:A:261:U:H2'	50:A:263:A:OP2	2.20	0.41
50:A:402:G:H2'	50:A:403:C:C6	2.55	0.41
50:A:462:G:OP2	50:A:462:G:H2'	2.20	0.41
50:A:586:C:H2'	50:A:587:G:H5''	2.02	0.41
50:A:877:G:H2'	50:A:878:A:C8	2.52	0.41
50:A:1004:A:H5'	50:A:1024:G:H22	1.85	0.41
50:A:1237:C:O2	50:A:1335:U:H5'	2.19	0.41
50:A:1296:C:N4	50:A:1297:G:O6	2.53	0.41
50:A:1350:A:H5''	50:A:1351:U:OP2	2.20	0.41
50:A:1362:A:OP2	50:A:1362:A:H8	2.04	0.41
53:b:13:A:C2	53:b:526:A:C8	3.05	0.41
53:b:44:A:H2'	53:b:45:G:H5''	2.03	0.41
53:b:363:G:C4	53:b:364:C:C6	3.08	0.41
53:b:379:G:H2'	53:b:379:G:N3	2.35	0.41
53:b:380:G:C2	53:b:381:G:C4	3.08	0.41
53:b:524:G:C6	53:b:525:U:C4	3.09	0.41
53:b:554:U:H2'	53:b:555:G:O4'	2.19	0.41
53:b:688:U:O4'	53:b:1780:A:N6	2.54	0.41
53:b:721:A:C2	53:b:722:A:C4	3.08	0.41
53:b:854:C:N3	53:b:855:G:N7	2.68	0.41
53:b:872:U:N3	53:b:873:C:C5	2.88	0.41
53:b:1000:A:C5	53:b:1155:A:C6	3.09	0.41
53:b:1005:C:C6	53:b:1143:A:C8	3.08	0.41
53:b:1246:A:C4	53:b:1247:A:C8	3.09	0.41
53:b:1356:G:N3	53:b:1356:G:H2'	2.34	0.41
53:b:1408:G:C6	53:b:1409:U:C4	3.08	0.41
53:b:1528:A:N9	53:b:1529:G:H1'	2.35	0.41
53:b:1773:A:C8	53:b:1774:C:C6	3.08	0.41
53:b:1850:G:N1	53:b:1851:U:C4	2.89	0.41
53:b:2133:G:C2	53:b:2134:A:C6	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2178:C:H3'	53:b:2178:C:O2	2.19	0.41
53:b:2415:G:C4	53:b:2416:C:C6	3.08	0.41
53:b:2702:G:N2	53:b:2703:C:C4	2.88	0.41
53:b:2709:G:C4	53:b:2710:C:C5	3.09	0.41
1:B:14:HIS:O	1:B:202:ASN:HB3	2.20	0.41
3:D:64:TYR:CD2	3:D:93:LEU:HB3	2.55	0.41
6:G:77:ARG:HB2	50:A:1381:U:C2	2.56	0.41
8:I:11:ARG:HH21	50:A:1347:G:H1	1.67	0.41
9:J:29:ALA:HB1	9:J:36:VAL:HG11	2.03	0.41
18:S:19:GLU:HA	18:S:22:VAL:HG13	2.02	0.41
20:U:38:GLU:HG3	50:A:1527:U:OP2	2.21	0.41
21:O:7:VAL:HG21	21:O:59:ILE:HD11	2.02	0.41
28:8:19:ARG:NH1	53:b:2755:C:N3	2.69	0.41
50:A:318:G:H1	50:A:335:C:H42	1.67	0.41
50:A:321:A:N7	50:A:328:C:O2'	2.50	0.41
50:A:373:A:N1	50:A:481:G:H4'	2.35	0.41
50:A:836:G:C6	50:A:837:U:C2	3.09	0.41
53:b:464:U:C2'	53:b:465:G:O5'	2.68	0.41
53:b:622:G:C4	53:b:623:C:C5	3.08	0.41
53:b:829:A:N7	53:b:2248:C:H5'	2.34	0.41
53:b:834:G:H2'	53:b:835:C:O4'	2.20	0.41
53:b:845:A:N6	53:b:932:U:H3	2.18	0.41
53:b:873:C:O2	53:b:873:C:H2'	2.21	0.41
53:b:928:A:C4	53:b:929:U:C6	3.08	0.41
53:b:930:G:C2	53:b:933:A:N3	2.89	0.41
53:b:1058:U:C2	53:b:1059:G:N7	2.89	0.41
53:b:1059:G:C6	53:b:1080:A:N1	2.88	0.41
53:b:1129:A:C2	53:b:2570:G:O4'	2.74	0.41
53:b:1152:C:O2	53:b:1153:C:C5	2.73	0.41
53:b:1245:G:C2	53:b:1246:A:C5	3.08	0.41
53:b:1315:C:H2'	53:b:1316:U:H6	1.84	0.41
53:b:1356:G:N2	53:b:1357:C:C1'	2.82	0.41
53:b:1374:G:C5	53:b:1375:U:C5	3.09	0.41
53:b:1416:G:C6	53:b:1417:C:N4	2.89	0.41
53:b:1445:G:C4	53:b:1446:C:C5	3.09	0.41
53:b:1598:A:N1	53:b:1599:U:C4	2.89	0.41
53:b:1630:A:N6	53:b:1631:G:C4	2.88	0.41
53:b:1703:G:C2	53:b:1704:C:C6	3.08	0.41
53:b:2133:G:H21	53:b:2160:C:C5'	2.30	0.41
53:b:2135:A:N6	53:b:2136:G:C4	2.88	0.41
53:b:2217:G:C2	53:b:2218:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2241:A:H2'	53:b:2242:G:H8	1.82	0.41
53:b:2315:G:C6	53:b:2316:G:N7	2.88	0.41
53:b:2324:U:O2	53:b:2324:U:H2'	2.19	0.41
53:b:2464:G:C2	53:b:2465:C:C2	3.08	0.41
53:b:2482:A:N6	53:b:2483:C:C4	2.89	0.41
53:b:2483:C:N3	53:b:2484:G:C8	2.89	0.41
53:b:2538:C:N3	53:b:2539:C:C4	2.89	0.41
53:b:2902:C:H2'	53:b:2903:U:H3'	2.01	0.41
2:C:6:PRO:HB3	2:C:10:ARG:NH1	2.36	0.41
6:G:115:MET:HA	6:G:118:ARG:HB2	2.02	0.41
7:H:94:VAL:HG11	7:H:127:TYR:CD2	2.55	0.41
10:K:84:MET:HG2	10:K:110:THR:OG1	2.21	0.41
13:N:66:THR:HG23	13:N:68:ARG:H	1.85	0.41
22:1:11:VAL:O	22:1:15:ASN:ND2	2.53	0.41
32:f:103:LEU:O	32:f:108:VAL:HG23	2.21	0.41
33:g:117:LEU:HD22	33:g:122:THR:HA	2.03	0.41
34:h:14:SER:HB2	34:h:17:ASP:HB3	2.02	0.41
50:A:97:G:H5'	50:A:98:A:OP2	2.21	0.41
50:A:143:A:H2	50:A:220:G:H1	1.67	0.41
50:A:182:A:H3'	50:A:182:A:OP2	2.21	0.41
50:A:259:G:H2'	50:A:260:G:C8	2.56	0.41
52:a:17:C:C2	52:a:18:G:C8	3.09	0.41
52:a:40:U:O2	52:a:43:C:C6	2.73	0.41
53:b:51:G:O2'	53:b:119:A:N6	2.49	0.41
53:b:283:G:H2'	53:b:284:U:C6	2.55	0.41
53:b:387:U:H5''	53:b:388:G:N3	2.36	0.41
53:b:611:C:N4	53:b:612:G:C4	2.89	0.41
53:b:659:G:C6	53:b:660:C:C5	3.09	0.41
53:b:740:C:H1'	53:b:1981:A:H1'	2.02	0.41
53:b:758:C:O2	53:b:759:G:C8	2.74	0.41
53:b:759:G:N1	53:b:760:G:C5	2.89	0.41
53:b:802:A:H2'	53:b:803:U:O4'	2.20	0.41
53:b:822:G:C6	53:b:823:C:C5	3.09	0.41
53:b:949:G:C4	53:b:950:G:C8	3.08	0.41
53:b:962:G:C5	53:b:963:U:C6	3.08	0.41
53:b:999:U:O2	53:b:1000:A:C8	2.74	0.41
53:b:1268:A:N3	53:b:1268:A:H2'	2.34	0.41
53:b:1368:G:C2	53:b:1369:G:N7	2.89	0.41
53:b:1491:G:C6	53:b:1500:G:N3	2.89	0.41
53:b:1551:A:H2'	53:b:1552:A:O4'	2.21	0.41
53:b:1740:G:C2	53:b:1741:C:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1932:A:C6	53:b:1969:A:C5	3.09	0.41
53:b:1999:C:C4	53:b:2000:C:H5	2.35	0.41
53:b:2180:U:C5	53:b:2181:U:C5	3.04	0.41
53:b:2455:G:C5	53:b:2456:C:C5	3.08	0.41
53:b:2520:C:O2	53:b:2520:C:H2'	2.20	0.41
53:b:2584:U:C3'	53:b:2584:U:C6	3.04	0.41
53:b:2603:G:N2	53:b:2604:U:H1'	2.35	0.41
53:b:2616:C:C2	53:b:2617:U:C5	3.08	0.41
53:b:2656:U:O4	53:b:2657:A:N9	2.54	0.41
53:b:2716:C:C2	53:b:2717:C:C5	3.08	0.41
53:b:2749:A:C5	53:b:2750:A:C8	3.09	0.41
54:v:15:G:C2'	54:v:16:C:C5'	2.98	0.41
2:C:69:THR:C	2:C:106:ARG:HH22	2.29	0.41
5:F:44:ARG:HA	5:F:58:HIS:HA	2.03	0.41
8:I:11:ARG:NH1	8:I:73:GLY:HA2	2.36	0.41
8:I:29:ILE:N	8:I:32:ARG:O	2.35	0.41
12:M:85:TYR:OH	12:M:89:ARG:NH2	2.52	0.41
12:M:102:LYS:HE3	50:A:952:U:O4	2.21	0.41
29:c:129:THR:O	29:c:130:LEU:CG	2.68	0.41
35:j:23:LYS:CB	35:j:28:LEU:CD1	2.98	0.41
41:p:94:LYS:HE2	53:b:1754:A:C8	2.56	0.41
46:u:34:VAL:HG13	46:u:67:VAL:HG22	2.03	0.41
50:A:150:U:H3	50:A:171:A:H62	1.69	0.41
50:A:184:G:H1'	50:A:185:U:O5'	2.21	0.41
50:A:299:G:N2	50:A:566:G:O6	2.51	0.41
50:A:946:A:C2	50:A:947:G:C4	3.09	0.41
50:A:1157:A:C2	50:A:1181:G:C5	3.08	0.41
50:A:1418:A:H5''	50:A:1419:G:OP2	2.21	0.41
50:A:1421:G:C2	50:A:1480:A:C2	3.08	0.41
50:A:1492:A:C5	53:b:1913:A:C6	3.09	0.41
53:b:51:G:N2	53:b:119:A:N3	2.69	0.41
53:b:577:G:H2'	53:b:578:G:O4'	2.21	0.41
53:b:592:A:C6	53:b:593:U:C4	3.09	0.41
53:b:682:G:C2	53:b:683:U:C5	3.08	0.41
53:b:687:C:C6	53:b:788:A:H1'	2.56	0.41
53:b:848:C:O2	53:b:849:A:C8	2.74	0.41
53:b:925:A:N3	53:b:926:G:C8	2.88	0.41
53:b:1145:C:N3	53:b:1146:C:H5	1.98	0.41
53:b:1349:C:H6	53:b:1349:C:C5'	2.34	0.41
53:b:1501:G:N2	53:b:1502:A:C4	2.88	0.41
53:b:1549:A:N3	53:b:1550:C:C6	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1659:G:N1	53:b:1660:G:N9	2.69	0.41
53:b:1737:G:H2'	53:b:1738:G:C1'	2.51	0.41
53:b:2024:G:C6	53:b:2025:C:N4	2.89	0.41
53:b:2034:U:C2	53:b:2035:G:N7	2.88	0.41
53:b:2089:C:C2	53:b:2090:A:C8	3.08	0.41
53:b:2127:G:H1'	53:b:2128:G:O6	2.20	0.41
53:b:2192:U:H2'	53:b:2193:G:O4'	2.21	0.41
53:b:2300:C:C2	53:b:2301:C:C6	3.09	0.41
53:b:2345:G:C5	53:b:2347:C:C5	3.08	0.41
53:b:2408:U:N3	53:b:2409:G:N7	2.69	0.41
53:b:2416:C:C4	53:b:2417:C:C5	3.08	0.41
53:b:2459:A:C4	53:b:2460:U:C6	3.08	0.41
53:b:2507:C:N4	53:b:2583:G:N1	2.68	0.41
53:b:2562:U:O2	53:b:2562:U:H2'	2.21	0.41
53:b:2593:U:H2'	53:b:2594:C:H6	1.85	0.41
53:b:2769:U:O4	53:b:2770:G:C5	2.74	0.41
53:b:2792:A:C6	53:b:2793:C:C5	3.08	0.41
53:b:2824:C:H2'	53:b:2825:G:O4'	2.20	0.41
53:b:2839:G:C5	53:b:2840:C:C6	3.09	0.41
1:B:118:THR:O	1:B:122:ASP:N	2.53	0.41
2:C:8:GLY:HA2	2:C:11:LEU:HG	2.03	0.41
2:C:79:LYS:HB3	2:C:80:GLY:H	1.69	0.41
3:D:74:TYR:CD1	3:D:92:LEU:HB3	2.56	0.41
3:D:98:ASP:OD1	3:D:99:ASN:N	2.53	0.41
4:E:12:GLU:HG3	4:E:38:VAL:HG22	2.01	0.41
8:I:35:GLU:OE1	8:I:44:ARG:NH2	2.54	0.41
8:I:70:GLY:HA3	50:A:1371:G:O3'	2.21	0.41
8:I:90:ASP:OD2	8:I:92:SER:HB3	2.21	0.41
10:K:21:HIS:CE1	50:A:707:U:H5''	2.56	0.41
10:K:127:ARG:HH22	50:A:1522:U:H5''	1.84	0.41
13:N:15:LEU:C	13:N:17:ASP:H	2.28	0.41
17:R:54:LEU:HD23	17:R:54:LEU:HA	1.90	0.41
27:7:26:HIS:NE2	27:7:48:ALA:HB2	2.36	0.41
29:c:8:PRO:HB2	29:c:14:ARG:NH1	2.36	0.41
29:c:257:THR:HG1	53:b:1797:G:HO2'	1.67	0.41
30:d:116:LYS:HD2	39:n:1:MET:HE1	2.03	0.41
34:h:43:ASN:C	34:h:45:GLU:N	2.78	0.41
34:h:97:ARG:NH2	34:h:131:SER:H	2.19	0.41
34:h:142:VAL:HB	34:h:144:VAL:HG13	2.02	0.41
35:j:128:ASN:C	35:j:129:GLU:HG3	2.45	0.41
42:q:76:TYR:CZ	42:q:80:ILE:HG13	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:r:10:LYS:HZ2	53:b:994:C:C2'	2.32	0.41
44:s:7:HIS:HD2	44:s:10:ALA:CB	2.08	0.41
49:z:5:LYS:O	49:z:6:LEU:HB3	2.20	0.41
50:A:11:G:N2	50:A:24:U:O2	2.54	0.41
50:A:218:U:H2'	50:A:219:U:O4'	2.21	0.41
50:A:341:C:N4	50:A:342:C:H41	2.19	0.41
50:A:444:G:C6	50:A:491:G:C2	3.08	0.41
50:A:550:G:H2'	50:A:551:U:C6	2.55	0.41
50:A:797:C:H2'	50:A:798:U:H6	1.85	0.41
50:A:997:U:O2'	50:A:998:C:P	2.79	0.41
50:A:1302:C:OP2	50:A:1302:C:H4'	2.20	0.41
52:a:38:C:HO2'	52:a:39:A:C5'	2.34	0.41
52:a:45:A:C6	52:a:46:A:N9	2.89	0.41
52:a:110:C:C4	52:a:111:U:C5	3.08	0.41
53:b:33:C:C4	53:b:446:G:N2	2.89	0.41
53:b:157:C:C2	53:b:158:U:C5	3.09	0.41
53:b:186:G:N2	53:b:187:G:C4	2.89	0.41
53:b:489:G:H2'	53:b:491:G:C8	2.56	0.41
53:b:500:G:N2	53:b:502:A:C8	2.89	0.41
53:b:539:G:C2	53:b:540:C:C6	3.09	0.41
53:b:600:G:C5	53:b:601:C:C5	3.09	0.41
53:b:616:A:C4	53:b:617:G:C8	3.09	0.41
53:b:749:A:N1	53:b:1618:A:C2	2.74	0.41
53:b:794:A:N3	53:b:794:A:H2'	2.36	0.41
53:b:827:U:C4	53:b:2426:A:H2	2.39	0.41
53:b:920:A:C6	53:b:921:C:C5	3.08	0.41
53:b:930:G:N1	53:b:933:A:C2	2.89	0.41
53:b:931:U:H4'	53:b:932:U:OP2	2.20	0.41
53:b:978:G:C6	53:b:979:A:N9	2.89	0.41
53:b:1021:A:N6	53:b:1022:G:H21	2.18	0.41
53:b:1091:G:N1	53:b:1092:C:C4	2.88	0.41
53:b:1139:G:C2	53:b:1140:C:C5	3.08	0.41
53:b:1142:A:C2	53:b:1144:A:N9	2.89	0.41
53:b:1197:G:C2	53:b:1198:U:C5	3.09	0.41
53:b:1355:G:C2	53:b:1356:G:N9	2.89	0.41
53:b:1361:G:H2'	53:b:1362:C:H6	1.85	0.41
53:b:1411:U:O2	53:b:1412:U:C6	2.74	0.41
53:b:1444:G:N1	53:b:1445:G:C5	2.89	0.41
53:b:1500:G:N3	53:b:1500:G:H2'	2.34	0.41
53:b:1502:A:N1	53:b:1503:A:C4	2.89	0.41
53:b:1511:G:H2'	53:b:1512:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1517:G:C4	53:b:1518:C:C6	3.08	0.41
53:b:1563:U:N3	53:b:1564:C:C5	2.88	0.41
53:b:1611:C:O2	53:b:1612:C:C6	2.74	0.41
53:b:1644:C:C2	53:b:1645:G:C8	3.09	0.41
53:b:1661:G:C6	53:b:1662:U:C4	3.09	0.41
53:b:1686:C:C2	53:b:1687:G:C8	3.09	0.41
53:b:1840:G:N3	53:b:1841:U:C6	2.89	0.41
53:b:1892:C:C4	53:b:1893:C:C6	3.08	0.41
53:b:1932:A:C6	53:b:1969:A:N7	2.89	0.41
53:b:1977:A:C2	53:b:1978:A:H1'	2.55	0.41
53:b:1999:C:O2'	53:b:2687:U:O2'	2.37	0.41
53:b:2048:G:O4'	53:b:2823:A:C6	2.74	0.41
53:b:2190:G:N1	53:b:2191:A:C5	2.89	0.41
53:b:2217:G:C2	53:b:2218:G:C4	3.08	0.41
53:b:2283:C:C6	53:b:2389:G:C5	3.09	0.41
53:b:2330:G:C4	53:b:2331:G:C8	3.09	0.41
53:b:2353:G:C2	53:b:2354:C:C2	3.09	0.41
53:b:2441:U:C2	53:b:2442:C:C5	3.09	0.41
53:b:2470:G:N2	53:b:2471:A:C5	2.89	0.41
53:b:2527:C:O2	53:b:2527:C:H2'	2.20	0.41
53:b:2722:G:C5	53:b:2723:C:C5	3.09	0.41
53:b:2735:G:C2	53:b:2736:A:C1'	3.03	0.41
53:b:2779:U:C5	53:b:2781:A:C2	3.09	0.41
53:b:2838:G:N1	53:b:2839:G:H1'	2.36	0.41
53:b:2840:C:N3	53:b:2841:C:C4	2.89	0.41
53:b:2896:C:C2	53:b:2897:U:C6	3.08	0.41
54:v:74:C:O2	54:v:74:C:H2'	2.20	0.41
3:D:107:GLY:O	3:D:157:ALA:HB1	2.21	0.41
3:D:199:ILE:HG13	3:D:200:VAL:N	2.35	0.41
6:G:55:LYS:HB3	6:G:56:SER:H	1.66	0.41
7:H:6:ILE:HG23	7:H:9:MET:HE2	2.03	0.41
10:K:125:LYS:NZ	20:U:32:ARG:NE	2.69	0.41
13:N:5:MET:HG2	13:N:8:ARG:HH21	1.86	0.41
17:R:27:THR:O	17:R:30:ASN:HB2	2.20	0.41
18:S:23:GLU:OE1	18:S:23:GLU:N	2.54	0.41
19:T:80:ALA:O	19:T:84:LYS:HG2	2.21	0.41
20:U:44:ARG:HB3	20:U:47:ALA:HB2	2.02	0.41
50:A:247:G:H2'	50:A:248:C:C6	2.56	0.41
50:A:254:G:H1	50:A:272:C:H42	1.69	0.41
50:A:577:G:C2	50:A:765:G:C8	3.09	0.41
50:A:602:A:H2'	50:A:603:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:A:680:C:H2'	50:A:681:A:H8	1.86	0.41
50:A:960:U:O2	50:A:1225:A:N6	2.54	0.41
50:A:998:C:O2	50:A:998:C:C2'	2.70	0.41
50:A:1157:A:C5	50:A:1180:A:C6	3.08	0.41
50:A:1389:C:H2'	50:A:1390:U:O4'	2.20	0.41
50:A:1510:C:H2'	50:A:1511:G:H8	1.86	0.41
52:a:45:A:C2	52:a:46:A:H1'	2.56	0.41
52:a:77:U:O2	52:a:77:U:H2'	2.21	0.41
53:b:169:G:C6	53:b:170:U:C5	3.09	0.41
53:b:225:C:N3	53:b:226:A:C8	2.87	0.41
53:b:257:C:C2	53:b:258:G:C8	3.08	0.41
53:b:263:G:N3	53:b:264:C:H1'	2.36	0.41
53:b:370:G:C2	53:b:424:G:C8	3.08	0.41
53:b:419:U:C2	53:b:420:C:C5	3.09	0.41
53:b:439:A:C4	53:b:440:C:C6	3.09	0.41
53:b:566:U:H2'	53:b:567:U:O4'	2.21	0.41
53:b:660:C:N3	53:b:661:A:C8	2.89	0.41
53:b:796:C:C2	53:b:797:G:C8	3.09	0.41
53:b:923:G:C2	53:b:924:G:C8	3.08	0.41
53:b:957:C:C4	53:b:959:A:C6	3.08	0.41
53:b:959:A:O2'	53:b:960:A:C5'	2.68	0.41
53:b:986:C:C2'	53:b:987:C:O5'	2.69	0.41
53:b:1092:C:N3	53:b:1093:G:C5	2.89	0.41
53:b:1210:G:C5	53:b:1237:A:C6	3.09	0.41
53:b:1275:A:H4'	53:b:1276:A:OP1	2.21	0.41
53:b:1376:C:N3	53:b:1377:G:C5	2.88	0.41
53:b:1471:G:O6	53:b:1472:C:C4	2.74	0.41
53:b:1641:A:H2'	53:b:1642:G:O4'	2.21	0.41
53:b:1703:G:C2	53:b:1704:C:C2	3.08	0.41
53:b:1770:G:C6	53:b:1771:C:C5	3.09	0.41
53:b:1930:G:O2'	53:b:1931:U:P	2.79	0.41
53:b:1945:G:C6	53:b:1946:U:C4	3.09	0.41
53:b:1964:G:C2	53:b:1967:C:N3	2.89	0.41
53:b:2077:A:C2	53:b:2078:C:C4	3.09	0.41
53:b:2128:G:O6	53:b:2129:C:C4	2.73	0.41
53:b:2177:C:H2'	53:b:2178:C:C1'	2.50	0.41
53:b:2190:G:N1	53:b:2191:A:N7	2.68	0.41
53:b:2317:A:C6	53:b:2318:G:C4	3.09	0.41
53:b:2322:A:C6	53:b:2323:G:H1'	2.55	0.41
53:b:2784:U:N3	53:b:2785:C:C5	2.89	0.41
53:b:2798:U:C1'	53:b:2799:A:C2	2.96	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2829:A:N3	53:b:2830:C:C6	2.89	0.41
53:b:2862:G:C4	53:b:2863:C:C5	3.08	0.41
53:b:2886:A:C5	53:b:2887:A:H8	2.32	0.41
15:P:56:ARG:NH1	15:P:59:HIS:CD2	2.90	0.40
32:f:40:VAL:HG11	32:f:50:LEU:HD13	2.03	0.40
40:o:51:ALA:HB3	40:o:78:VAL:HG22	2.03	0.40
47:w:21:ARG:HA	47:w:25:LYS:O	2.21	0.40
47:w:40:ILE:HG23	47:w:41:GLU:H	1.86	0.40
50:A:35:G:H2'	50:A:36:C:C6	2.56	0.40
50:A:459:A:H2'	50:A:460:A:C8	2.56	0.40
50:A:698:G:C6	50:A:699:C:C4	3.09	0.40
50:A:702:A:C8	53:b:1848:A:H1'	2.56	0.40
50:A:1116:U:N3	50:A:1117:A:N7	2.70	0.40
50:A:1440:U:H5'	50:A:1441:A:OP2	2.21	0.40
52:a:20:G:C6	52:a:21:G:C5	3.09	0.40
52:a:91:C:N3	52:a:92:C:C5	2.89	0.40
53:b:24:G:C5	53:b:25:U:C4	3.09	0.40
53:b:69:C:C2	53:b:70:G:C8	3.09	0.40
53:b:69:C:O2'	53:b:75:G:N9	2.54	0.40
53:b:482:A:C6	53:b:506:G:C5	3.08	0.40
53:b:539:G:C2	53:b:540:C:C2	3.10	0.40
53:b:571:U:C4	53:b:575:A:C5	3.10	0.40
53:b:589:U:N3	53:b:590:A:N7	2.69	0.40
53:b:601:C:C4	53:b:602:A:N7	2.89	0.40
53:b:697:G:C4	53:b:698:C:C5	3.08	0.40
53:b:722:A:C6	53:b:723:C:C4	3.08	0.40
53:b:851:C:C2	53:b:852:U:C5	3.08	0.40
53:b:997:G:N1	53:b:998:C:C4	2.89	0.40
53:b:1059:G:C5	53:b:1060:U:H5	2.39	0.40
53:b:1208:C:C4	53:b:1239:G:N2	2.89	0.40
53:b:1256:G:C6	53:b:1257:C:C5	3.09	0.40
53:b:1443:U:N3	53:b:1444:G:C8	2.87	0.40
53:b:1680:U:O2	53:b:1763:G:H8	2.04	0.40
53:b:1795:C:N3	53:b:1796:U:C6	2.88	0.40
53:b:2035:G:H5'	53:b:2036:C:H5	1.86	0.40
53:b:2078:C:H2'	53:b:2079:U:O4'	2.21	0.40
53:b:2181:U:H2'	53:b:2182:U:H5''	2.01	0.40
53:b:2345:G:N1	53:b:2381:A:C6	2.89	0.40
53:b:2353:G:C2	53:b:2354:C:N1	2.89	0.40
53:b:2380:C:N3	53:b:2381:A:C8	2.89	0.40
53:b:2505:G:N2	53:b:2506:U:O4	2.49	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:2567:G:H2'	53:b:2568:U:C6	2.56	0.40
53:b:2593:U:C2	53:b:2594:C:C6	3.10	0.40
53:b:2636:C:H2'	53:b:2637:U:H6	1.86	0.40
53:b:2742:G:C6	53:b:2743:U:C5	3.09	0.40
53:b:2766:A:N6	53:b:2767:C:C5	2.88	0.40
1:B:153:MET:SD	1:B:157:PRO:HD3	2.61	0.40
6:G:75:LYS:NZ	6:G:77:ARG:HH22	2.19	0.40
8:I:78:ILE:O	8:I:82:ILE:HG12	2.21	0.40
11:L:4:ASN:ND2	16:Q:35:LYS:HE2	2.30	0.40
15:P:5:ARG:HH12	15:P:24:SER:HA	1.87	0.40
18:S:45:GLY:N	18:S:61:VAL:HG23	2.37	0.40
46:u:72:ILE:CD1	46:u:83:VAL:CG2	2.95	0.40
50:A:5:U:H5'	50:A:6:G:C4	2.56	0.40
50:A:174:A:OP1	50:A:175:C:OP2	2.39	0.40
50:A:632:U:H3'	50:A:633:G:O4'	2.21	0.40
50:A:671:G:H21	50:A:672:U:H1'	1.86	0.40
50:A:697:U:H2'	50:A:698:G:H5'	2.02	0.40
50:A:1087:G:N1	50:A:1099:G:N3	2.69	0.40
50:A:1285:A:H4'	50:A:1286:U:O4'	2.22	0.40
50:A:1436:U:OP2	50:A:1436:U:H6	2.04	0.40
50:A:1439:G:N1	50:A:1440:U:O2	2.54	0.40
50:A:1492:A:C6	53:b:1913:A:C6	3.09	0.40
52:a:42:C:O2'	52:a:43:C:O4'	2.36	0.40
53:b:93:G:N1	53:b:94:A:C5	2.89	0.40
53:b:263:G:C6	53:b:264:C:C4	3.10	0.40
53:b:370:G:H4'	53:b:371:A:OP2	2.21	0.40
53:b:414:C:C2	53:b:2410:G:C2	3.09	0.40
53:b:759:G:C6	53:b:760:G:N7	2.89	0.40
53:b:968:C:O2	53:b:968:C:C2'	2.67	0.40
53:b:1016:G:N1	53:b:1017:G:C5	2.89	0.40
53:b:1059:G:N7	53:b:1060:U:H5	2.15	0.40
53:b:1172:C:C2'	53:b:1173:U:H6	2.30	0.40
53:b:1174:U:O2	53:b:1174:U:C2'	2.69	0.40
53:b:1206:G:C6	53:b:1207:C:H5	2.26	0.40
53:b:1207:C:O2'	53:b:1208:C:O5'	2.36	0.40
53:b:1495:A:O2'	53:b:1496:A:C5'	2.68	0.40
53:b:1586:A:N7	53:b:1587:G:C8	2.89	0.40
53:b:1623:G:N3	53:b:1623:G:H2'	2.35	0.40
53:b:1630:A:H5'	53:b:1631:G:OP2	2.21	0.40
53:b:1727:C:H2'	53:b:1728:C:O4'	2.21	0.40
53:b:1850:G:C5	53:b:1851:U:C5	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1855:U:H2'	53:b:1856:U:O4'	2.21	0.40
53:b:2152:G:C6	53:b:2153:C:C2	3.09	0.40
53:b:2792:A:C5	53:b:2793:C:C6	3.09	0.40
1:B:18:GLN:HB2	1:B:21:TYR:CD2	2.55	0.40
1:B:68:PHE:CD2	1:B:83:ALA:HB2	2.56	0.40
11:L:44:PRO:O	11:L:45:ASN:ND2	2.54	0.40
17:R:48:ALA:O	17:R:52:ARG:HG2	2.21	0.40
18:S:62:THR:HG22	18:S:63:ASP:N	2.37	0.40
24:3:3:VAL:HB	53:b:2015:A:H2	1.87	0.40
28:8:19:ARG:NH1	53:b:2755:C:C4	2.90	0.40
28:8:19:ARG:NE	53:b:2756:U:OP2	2.54	0.40
29:c:182:ARG:NH2	29:c:183:LYS:O	2.52	0.40
34:h:33:GLN:OE1	34:h:35:LYS:NZ	2.55	0.40
40:o:37:ALA:CB	40:o:78:VAL:HG21	2.52	0.40
44:s:88:ARG:NH1	53:b:747:U:O2'	2.54	0.40
50:A:146:G:N2	50:A:147:G:H1'	2.35	0.40
50:A:345:C:H4'	50:A:346:G:H5''	2.02	0.40
50:A:427:U:C4	50:A:428:G:N7	2.89	0.40
50:A:859:G:OP2	50:A:869:G:C2	2.74	0.40
50:A:995:C:H2'	50:A:996:A:H5''	2.02	0.40
50:A:997:U:O2	50:A:997:U:C2'	2.69	0.40
50:A:1063:C:H42	50:A:1193:G:H1	1.68	0.40
52:a:102:G:N1	52:a:103:U:C5	2.90	0.40
53:b:56:A:H2'	53:b:57:C:O4'	2.21	0.40
53:b:69:C:H4'	53:b:75:G:N7	2.37	0.40
53:b:244:A:C2	53:b:245:G:H1'	2.57	0.40
53:b:312:G:N3	53:b:313:G:C8	2.90	0.40
53:b:325:G:O6	53:b:338:G:N3	2.55	0.40
53:b:363:G:C5	53:b:364:C:C5	3.10	0.40
53:b:418:C:H2'	53:b:419:U:O4'	2.20	0.40
53:b:608:A:O2'	53:b:609:A:O4'	2.33	0.40
53:b:843:G:C6	53:b:844:A:N7	2.90	0.40
53:b:885:C:N4	53:b:886:A:N6	2.69	0.40
53:b:951:C:O2	53:b:951:C:H2'	2.20	0.40
53:b:992:C:O2	53:b:992:C:C2'	2.69	0.40
53:b:1037:G:H2'	53:b:1037:G:N3	2.34	0.40
53:b:1121:C:N3	53:b:1122:G:N7	2.61	0.40
53:b:1158:C:O2	53:b:1158:C:H2'	2.21	0.40
53:b:1218:G:C4	53:b:1232:G:C6	3.09	0.40
53:b:1314:C:O2	53:b:1315:C:C6	2.75	0.40
53:b:1405:U:H2'	53:b:1406:U:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1501:G:H21	53:b:1502:A:H1'	1.87	0.40
53:b:1511:G:C2	53:b:1512:C:C5	3.10	0.40
53:b:1519:G:C4	53:b:1520:U:C6	3.10	0.40
53:b:1733:G:N3	53:b:1733:G:H2'	2.36	0.40
53:b:2023:C:C2	53:b:2024:G:N7	2.90	0.40
53:b:2114:A:N3	53:b:2114:A:O4'	2.54	0.40
53:b:2118:U:O2'	53:b:2119:A:P	2.80	0.40
53:b:2252:G:O6	53:b:2253:G:C5	2.75	0.40
53:b:2293:G:C2	53:b:2294:G:N9	2.89	0.40
53:b:2309:A:C6	53:b:2310:C:C4	3.08	0.40
53:b:2345:G:C2	53:b:2381:A:C6	3.09	0.40
53:b:2386:A:H2'	53:b:2387:U:H6	1.86	0.40
53:b:2416:C:C2	53:b:2417:C:C6	3.09	0.40
53:b:2538:C:N3	53:b:2539:C:N4	2.69	0.40
53:b:2617:U:O2	53:b:2617:U:H2'	2.21	0.40
1:B:54:ALA:HA	1:B:57:ASN:HB2	2.04	0.40
1:B:96:LEU:HB2	1:B:99:MET:HE3	2.04	0.40
2:C:25:THR:HG22	2:C:26:LYS:HG3	2.02	0.40
8:I:56:MET:C	8:I:58:GLU:H	2.29	0.40
13:N:6:LYS:O	13:N:9:GLU:HB3	2.21	0.40
49:z:28:GLY:O	54:v:76:A:O2'	2.16	0.40
50:A:302:G:H21	50:A:556:C:C4'	2.34	0.40
50:A:869:G:O5'	50:A:869:G:H8	2.04	0.40
50:A:1095:U:H2'	50:A:1096:C:C6	2.56	0.40
50:A:1347:G:C5'	50:A:1348:U:C6	2.93	0.40
52:a:14:U:H3'	52:a:15:A:C5'	2.52	0.40
52:a:85:G:C2	52:a:86:G:N7	2.89	0.40
53:b:3:U:N3	53:b:4:U:C5	2.90	0.40
53:b:293:U:C5	53:b:345:A:N6	2.90	0.40
53:b:340:A:C8	53:b:341:C:C6	3.09	0.40
53:b:379:G:C2	53:b:380:G:C8	3.09	0.40
53:b:510:C:C4	53:b:511:U:C5	3.10	0.40
53:b:616:A:C5	53:b:617:G:N7	2.89	0.40
53:b:673:C:N4	53:b:674:G:C5	2.89	0.40
53:b:674:G:O6	53:b:804:A:C5	2.75	0.40
53:b:721:A:N1	53:b:722:A:C5	2.90	0.40
53:b:1038:G:H2'	53:b:1039:A:O4'	2.22	0.40
53:b:1204:A:N3	53:b:1204:A:C5'	2.84	0.40
53:b:1320:C:O2'	53:b:1329:U:P	2.79	0.40
53:b:1363:C:C2	53:b:1369:G:C2	3.10	0.40
53:b:1713:A:N1	53:b:1716:U:H1'	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1794:A:C4	53:b:1795:C:C5	3.10	0.40
53:b:1795:C:N4	53:b:1796:U:O4	2.54	0.40
53:b:2262:U:N3	53:b:2263:C:C5	2.89	0.40
53:b:2322:A:C8	53:b:2323:G:C8	3.10	0.40
53:b:2710:C:N3	53:b:2711:A:C8	2.89	0.40
53:b:2784:U:C2	53:b:2785:C:C6	3.09	0.40
53:b:2887:A:N3	53:b:2888:C:C6	2.87	0.40
1:B:145:ASN:OD1	1:B:146:SER:N	2.54	0.40
4:E:20:VAL:O	4:E:30:PHE:HA	2.21	0.40
8:I:12:LYS:C	8:I:14:SER:H	2.29	0.40
8:I:126:PHE:HB3	50:A:1342:C:P	2.61	0.40
27:7:3:LYS:HB3	53:b:242:G:H8	1.85	0.40
34:h:46:PHE:O	34:h:50:ARG:NE	2.55	0.40
42:q:58:ARG:NH1	53:b:1154:G:OP2	2.55	0.40
50:A:22:G:H5''	50:A:561:U:C4	2.57	0.40
50:A:1065:U:C1'	50:A:1066:C:OP2	2.70	0.40
50:A:1339:A:OP2	50:A:1339:A:C8	2.74	0.40
52:a:39:A:HO2'	52:a:40:U:H6	1.61	0.40
52:a:100:G:C2	52:a:101:A:H1'	2.56	0.40
53:b:33:C:C5	53:b:446:G:N2	2.90	0.40
53:b:55:G:N2	53:b:116:C:C2	2.90	0.40
53:b:184:C:N3	53:b:185:G:N7	2.69	0.40
53:b:243:U:O2	53:b:244:A:H8	2.03	0.40
53:b:247:G:H4'	53:b:386:G:C5	2.56	0.40
53:b:255:A:C5	53:b:256:A:C8	3.10	0.40
53:b:380:G:N2	53:b:381:G:H1'	2.37	0.40
53:b:638:G:H3'	53:b:639:U:H6	1.85	0.40
53:b:682:G:C2	53:b:683:U:C4	3.09	0.40
53:b:748:G:C5	53:b:750:A:N7	2.90	0.40
53:b:950:G:C6	53:b:951:C:C5	3.10	0.40
53:b:965:C:C2	53:b:966:G:C8	3.09	0.40
53:b:966:G:C4	53:b:967:U:C6	3.09	0.40
53:b:978:G:C2	53:b:979:A:H1'	2.57	0.40
53:b:1204:A:N1	53:b:1206:G:C4	2.90	0.40
53:b:1204:A:N6	53:b:1206:G:N1	2.69	0.40
53:b:1213:A:C8	53:b:1237:A:C2	3.10	0.40
53:b:1278:C:C2	53:b:1279:G:C8	3.09	0.40
53:b:1300:G:H4'	53:b:1301:A:O5'	2.21	0.40
53:b:1394:U:C4	53:b:1395:A:C6	3.09	0.40
53:b:1841:U:N3	53:b:1842:G:N7	2.68	0.40
53:b:1867:G:C5	53:b:1868:C:C5	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:b:1893:C:C4	53:b:1894:C:C6	3.10	0.40
53:b:2011:U:O4	53:b:2012:G:C5	2.75	0.40
53:b:2191:A:C2	53:b:2192:U:C6	3.09	0.40
53:b:2391:G:H1'	53:b:2429:G:N2	2.36	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	216/241 (90%)	186 (86%)	22 (10%)	8 (4%)	2	18
2	C	204/233 (88%)	173 (85%)	22 (11%)	9 (4%)	2	15
3	D	203/206 (98%)	179 (88%)	19 (9%)	5 (2%)	4	24
4	E	148/167 (89%)	125 (84%)	18 (12%)	5 (3%)	3	20
5	F	98/131 (75%)	82 (84%)	12 (12%)	4 (4%)	2	17
6	G	148/156 (95%)	128 (86%)	15 (10%)	5 (3%)	3	20
7	H	127/130 (98%)	111 (87%)	12 (9%)	4 (3%)	3	21
8	I	125/130 (96%)	99 (79%)	20 (16%)	6 (5%)	2	14
9	J	96/103 (93%)	77 (80%)	11 (12%)	8 (8%)	0	6
10	K	115/129 (89%)	101 (88%)	13 (11%)	1 (1%)	14	43
11	L	121/124 (98%)	100 (83%)	16 (13%)	5 (4%)	2	17
12	M	111/118 (94%)	100 (90%)	9 (8%)	2 (2%)	6	30
13	N	92/101 (91%)	78 (85%)	7 (8%)	7 (8%)	1	7
14	O	86/89 (97%)	79 (92%)	5 (6%)	2 (2%)	5	26
15	P	80/82 (98%)	56 (70%)	15 (19%)	9 (11%)	0	3
16	Q	78/84 (93%)	67 (86%)	9 (12%)	2 (3%)	4	23

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
17	R	53/75 (71%)	49 (92%)	4 (8%)	0	100	100
18	S	77/92 (84%)	66 (86%)	9 (12%)	2 (3%)	4	23
19	T	83/87 (95%)	78 (94%)	3 (4%)	2 (2%)	4	25
20	U	49/71 (69%)	39 (80%)	6 (12%)	4 (8%)	0	6
21	0	75/78 (96%)	74 (99%)	1 (1%)	0	100	100
22	1	60/63 (95%)	51 (85%)	7 (12%)	2 (3%)	3	20
23	2	56/59 (95%)	52 (93%)	3 (5%)	1 (2%)	6	30
24	3	54/57 (95%)	49 (91%)	3 (6%)	2 (4%)	2	18
25	4	48/55 (87%)	41 (85%)	7 (15%)	0	100	100
26	6	44/46 (96%)	41 (93%)	1 (2%)	2 (4%)	2	15
27	7	62/65 (95%)	59 (95%)	3 (5%)	0	100	100
28	8	36/38 (95%)	35 (97%)	1 (3%)	0	100	100
29	c	269/273 (98%)	252 (94%)	16 (6%)	1 (0%)	30	59
30	d	207/209 (99%)	195 (94%)	10 (5%)	2 (1%)	12	41
31	e	199/201 (99%)	186 (94%)	5 (2%)	8 (4%)	2	17
32	f	175/179 (98%)	154 (88%)	15 (9%)	6 (3%)	3	20
33	g	174/177 (98%)	139 (80%)	30 (17%)	5 (3%)	3	22
34	h	147/149 (99%)	120 (82%)	19 (13%)	8 (5%)	1	13
35	j	140/142 (99%)	129 (92%)	9 (6%)	2 (1%)	9	34
36	k	120/123 (98%)	112 (93%)	6 (5%)	2 (2%)	7	31
37	l	142/144 (99%)	128 (90%)	9 (6%)	5 (4%)	3	20
38	m	131/136 (96%)	125 (95%)	5 (4%)	1 (1%)	16	45
39	n	118/127 (93%)	111 (94%)	4 (3%)	3 (2%)	4	24
40	o	114/117 (97%)	107 (94%)	2 (2%)	5 (4%)	2	15
41	p	112/115 (97%)	106 (95%)	5 (4%)	1 (1%)	14	43
42	q	115/118 (98%)	114 (99%)	1 (1%)	0	100	100
43	r	101/103 (98%)	94 (93%)	6 (6%)	1 (1%)	12	41
44	s	108/110 (98%)	103 (95%)	2 (2%)	3 (3%)	4	22
45	t	91/100 (91%)	82 (90%)	6 (7%)	3 (3%)	3	20
46	u	100/104 (96%)	82 (82%)	12 (12%)	6 (6%)	1	11
47	w	92/94 (98%)	91 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
48	y	73/85 (86%)	72 (99%)	1 (1%)	0	100	100
49	z	24/87 (28%)	21 (88%)	3 (12%)	0	100	100
All	All	5497/5903 (93%)	4898 (89%)	440 (8%)	159 (3%)	5	22

All (159) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	76	SER
2	C	7	ASN
2	C	61	LYS
4	E	99	SER
4	E	146	MET
5	F	98	GLU
8	I	127	SER
9	J	58	ASN
13	N	80	ARG
15	P	11	ALA
15	P	80	LYS
18	S	4	LEU
19	T	44	ALA
22	1	3	ALA
24	3	56	ALA
26	6	44	VAL
30	d	152	PRO
31	e	61	ARG
31	e	153	LEU
32	f	62	GLY
32	f	123	ASP
33	g	119	ALA
34	h	41	LYS
35	j	81	ILE
37	l	111	ILE
39	n	70	THR
39	n	119	SER
44	s	65	ASP
46	u	7	ARG
2	C	63	ILE
3	D	125	ASN
5	F	94	HIS
7	H	44	PHE
7	H	46	GLU

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Mol	Chain	Res	Type
8	I	8	THR
8	I	27	ILE
9	J	17	LEU
9	J	57	VAL
9	J	67	ILE
9	J	94	ALA
11	L	24	GLU
11	L	88	ASP
12	M	3	ILE
13	N	52	ARG
13	N	66	THR
14	O	21	THR
15	P	10	GLY
15	P	16	PHE
15	P	36	VAL
16	Q	71	SER
18	S	5	LYS
19	T	67	HIS
20	U	32	ARG
24	3	55	ILE
29	c	253	LYS
33	g	92	VAL
34	h	68	ARG
34	h	119	ASN
34	h	123	ARG
35	j	25	LEU
36	k	35	VAL
37	l	29	LYS
37	l	115	GLU
40	o	59	ALA
41	p	114	LEU
44	s	62	ASP
44	s	63	GLY
45	t	38	ALA
46	u	19	LYS
46	u	99	ASN
1	B	22	TRP
1	B	63	LYS
1	B	123	GLY
2	C	106	ARG
2	C	111	ASP
2	C	145	ALA

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Mol	Chain	Res	Type
3	D	194	ILE
4	E	142	GLY
5	F	85	ILE
6	G	4	ARG
6	G	15	PRO
6	G	113	LYS
7	H	88	LYS
10	K	88	PRO
13	N	21	ALA
13	N	50	LEU
15	P	49	GLY
15	P	78	VAL
20	U	24	LYS
32	f	121	SER
32	f	175	PHE
34	h	15	LEU
36	k	108	ARG
37	l	82	LEU
37	l	86	GLU
40	o	66	GLY
45	t	17	SER
1	B	204	ASP
2	C	129	PHE
3	D	47	LEU
4	E	103	GLY
4	E	147	ASN
5	F	48	ALA
6	G	114	SER
9	J	75	ASP
11	L	46	SER
11	L	60	PHE
12	M	23	GLY
13	N	62	ARG
14	O	20	ASP
20	U	29	ALA
22	1	37	LEU
23	2	4	THR
26	6	45	SER
31	e	80	SER
31	e	127	GLU
32	f	174	ASP
38	m	69	PRO

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Mol	Chain	Res	Type
39	n	118	ARG
40	o	57	ALA
40	o	100	HIS
46	u	75	ALA
46	u	98	SER
1	B	53	LEU
3	D	119	HIS
7	H	87	ARG
9	J	78	GLU
9	J	92	LEU
11	L	76	HIS
31	e	42	GLY
31	e	60	TRP
33	g	118	PRO
33	g	175	LYS
34	h	56	ALA
43	r	53	PHE
1	B	166	ASP
3	D	4	LEU
8	I	12	LYS
13	N	34	ASN
31	e	82	GLY
34	h	29	PHE
45	t	18	GLU
2	C	154	GLY
8	I	57	VAL
15	P	42	ILE
30	d	104	VAL
32	f	149	VAL
8	I	9	GLY
20	U	27	VAL
31	e	83	VAL
33	g	28	GLY
1	B	30	ILE
2	C	107	LYS
6	G	54	GLY
16	Q	4	ILE
15	P	15	PRO
34	h	88	GLY
40	o	101	GLY
46	u	55	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	B	180/199 (90%)	180 (100%)	0	100	100
2	C	170/190 (90%)	170 (100%)	0	100	100
3	D	172/173 (99%)	172 (100%)	0	100	100
4	E	113/126 (90%)	113 (100%)	0	100	100
5	F	87/112 (78%)	87 (100%)	0	100	100
6	G	123/129 (95%)	123 (100%)	0	100	100
7	H	104/105 (99%)	104 (100%)	0	100	100
8	I	105/107 (98%)	105 (100%)	0	100	100
9	J	86/90 (96%)	86 (100%)	0	100	100
10	K	90/99 (91%)	90 (100%)	0	100	100
11	L	103/104 (99%)	103 (100%)	0	100	100
12	M	91/96 (95%)	91 (100%)	0	100	100
13	N	79/84 (94%)	79 (100%)	0	100	100
14	O	76/77 (99%)	76 (100%)	0	100	100
15	P	65/65 (100%)	53 (82%)	12 (18%)	1	10
16	Q	74/78 (95%)	74 (100%)	0	100	100
17	R	48/65 (74%)	48 (100%)	0	100	100
18	S	70/79 (89%)	70 (100%)	0	100	100
19	T	65/66 (98%)	65 (100%)	0	100	100
20	U	44/61 (72%)	44 (100%)	0	100	100
21	0	67/68 (98%)	64 (96%)	3 (4%)	24	48
22	1	54/55 (98%)	51 (94%)	3 (6%)	19	43
23	2	48/49 (98%)	46 (96%)	2 (4%)	26	49
24	3	47/48 (98%)	45 (96%)	2 (4%)	26	49
25	4	45/49 (92%)	43 (96%)	2 (4%)	25	48
26	6	38/38 (100%)	33 (87%)	5 (13%)	4	18

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
27	7	51/52 (98%)	51 (100%)	0	100	100
28	8	34/34 (100%)	34 (100%)	0	100	100
29	c	216/218 (99%)	210 (97%)	6 (3%)	38	57
30	d	164/164 (100%)	155 (94%)	9 (6%)	19	44
31	e	165/165 (100%)	157 (95%)	8 (5%)	23	46
32	f	148/150 (99%)	140 (95%)	8 (5%)	20	44
33	g	137/138 (99%)	132 (96%)	5 (4%)	31	52
34	h	114/114 (100%)	112 (98%)	2 (2%)	51	64
35	j	116/116 (100%)	111 (96%)	5 (4%)	26	49
36	k	103/104 (99%)	99 (96%)	4 (4%)	28	51
37	l	103/103 (100%)	100 (97%)	3 (3%)	37	56
38	m	108/109 (99%)	106 (98%)	2 (2%)	50	64
39	n	100/103 (97%)	97 (97%)	3 (3%)	36	55
40	o	86/87 (99%)	81 (94%)	5 (6%)	18	43
41	p	99/100 (99%)	95 (96%)	4 (4%)	28	50
42	q	89/90 (99%)	87 (98%)	2 (2%)	45	61
43	r	84/84 (100%)	78 (93%)	6 (7%)	13	38
44	s	93/93 (100%)	91 (98%)	2 (2%)	45	61
45	t	80/84 (95%)	75 (94%)	5 (6%)	16	41
46	u	83/85 (98%)	78 (94%)	5 (6%)	17	42
47	w	78/78 (100%)	73 (94%)	5 (6%)	16	40
48	y	56/63 (89%)	56 (100%)	0	100	100
49	z	21/62 (34%)	9 (43%)	12 (57%)	0	0
All	All	4572/4808 (95%)	4442 (97%)	130 (3%)	38	57

All (130) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
15	P	1	MET
15	P	6	LEU
15	P	12	LYS
15	P	19	VAL
15	P	29	ASN
15	P	33	ILE

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Mol	Chain	Res	Type
15	P	46	LYS
15	P	55	ASP
15	P	67	ILE
15	P	68	SER
15	P	71	VAL
15	P	80	LYS
21	0	17	ASN
21	0	48	THR
21	0	76	GLU
22	1	2	LYS
22	1	21	LEU
22	1	38	GLN
23	2	10	THR
23	2	36	VAL
24	3	29	SER
24	3	52	ARG
25	4	8	LYS
25	4	47	VAL
26	6	1	MET
26	6	4	THR
26	6	22	MET
26	6	42	LEU
26	6	44	VAL
29	c	59	LYS
29	c	187	ASP
29	c	252	THR
29	c	265	LYS
29	c	267	ILE
29	c	269	ARG
30	d	4	LEU
30	d	32	ASN
30	d	51	THR
30	d	73	VAL
30	d	91	THR
30	d	104	VAL
30	d	150	GLN
30	d	157	LYS
30	d	177	VAL
31	e	41	GLN
31	e	61	ARG
31	e	93	SER
31	e	108	ILE

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Mol	Chain	Res	Type
31	e	109	LEU
31	e	126	VAL
31	e	139	LYS
31	e	187	VAL
32	f	19	GLU
32	f	72	LYS
32	f	89	VAL
32	f	117	LEU
32	f	132	VAL
32	f	133	ARG
32	f	141	ILE
32	f	149	VAL
33	g	24	ILE
33	g	29	LYS
33	g	34	THR
33	g	80	THR
33	g	92	VAL
34	h	42	LYS
34	h	43	ASN
35	j	30	THR
35	j	39	LYS
35	j	124	VAL
35	j	131	ASN
35	j	142	ILE
36	k	67	LYS
36	k	76	VAL
36	k	92	GLU
36	k	110	GLU
37	l	91	ASP
37	l	94	THR
37	l	117	THR
38	m	13	HIS
38	m	47	GLU
39	n	95	THR
39	n	116	VAL
39	n	118	ARG
40	o	5	SER
40	o	20	GLU
40	o	31	THR
40	o	47	VAL
40	o	103	VAL
41	p	19	SER

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Mol	Chain	Res	Type
41	p	26	VAL
41	p	37	LYS
41	p	80	VAL
42	q	16	LYS
42	q	18	LEU
43	r	32	THR
43	r	38	VAL
43	r	46	GLU
43	r	47	VAL
43	r	58	VAL
43	r	102	SER
44	s	41	LYS
44	s	97	LEU
45	t	5	GLU
45	t	10	VAL
45	t	33	LYS
45	t	49	LYS
45	t	56	GLU
46	u	29	LEU
46	u	35	ILE
46	u	41	LEU
46	u	53	ASN
46	u	68	SER
47	w	7	GLU
47	w	20	LEU
47	w	29	ILE
47	w	65	VAL
47	w	66	ASP
49	z	4	GLN
49	z	6	LEU
49	z	7	ILE
49	z	8	SER
49	z	9	GLU
49	z	12	LEU
49	z	13	PHE
49	z	18	TRP
49	z	19	ILE
49	z	21	GLN
49	z	23	GLN
49	z	25	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (86) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	17	HIS
1	B	50	ASN
1	B	92	ASN
1	B	167	HIS
1	B	176	ASN
2	C	24	ASN
2	C	68	HIS
2	C	101	ASN
2	C	139	ASN
2	C	175	HIS
3	D	115	GLN
3	D	125	ASN
3	D	139	ASN
4	E	82	HIS
4	E	88	HIS
4	E	121	ASN
5	F	14	GLN
5	F	37	HIS
5	F	46	GLN
5	F	68	GLN
6	G	51	GLN
8	I	30	ASN
8	I	125	GLN
9	J	99	GLN
10	K	27	ASN
10	K	39	ASN
10	K	118	ASN
11	L	4	ASN
11	L	28	GLN
11	L	45	ASN
11	L	58	ASN
11	L	76	HIS
11	L	111	GLN
12	M	90	HIS
13	N	34	ASN
14	O	34	GLN
14	O	36	ASN
14	O	45	HIS
14	O	49	HIS
14	O	50	HIS
15	P	26	ASN
15	P	29	ASN
15	P	59	HIS

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Mol	Chain	Res	Type
15	P	63	GLN
16	Q	44	HIS
16	Q	49	ASN
18	S	56	HIS
19	T	69	ASN
19	T	74	HIS
21	0	36	HIS
22	1	15	ASN
22	1	25	GLN
22	1	36	GLN
22	1	41	HIS
22	1	45	GLN
26	6	29	GLN
27	7	31	HIS
28	8	37	GLN
29	c	200	HIS
30	d	49	GLN
31	e	46	GLN
31	e	115	GLN
31	e	165	HIS
33	g	38	ASN
34	h	20	ASN
34	h	28	ASN
34	h	43	ASN
34	h	135	HIS
35	j	47	HIS
35	j	86	GLN
35	j	132	HIS
36	k	88	ASN
38	m	13	HIS
38	m	22	GLN
39	n	3	HIS
39	n	73	ASN
41	p	7	GLN
41	p	15	GLN
41	p	66	ASN
42	q	37	GLN
44	s	15	GLN
44	s	31	GLN
44	s	61	ASN
45	t	70	HIS
46	u	74	ASN

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Mol	Chain	Res	Type
47	w	87	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
50	A	1530/1542 (99%)	427 (27%)	36 (2%)
51	X	11/11 (100%)	7 (63%)	2 (18%)
52	a	116/120 (96%)	40 (34%)	0
53	b	2902/2904 (99%)	1245 (42%)	0
54	v	75/76 (98%)	27 (36%)	0
All	All	4634/4653 (99%)	1746 (37%)	38 (0%)

All (1746) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
50	A	6	G
50	A	7	A
50	A	8	A
50	A	9	G
50	A	11	G
50	A	13	U
50	A	29	U
50	A	31	G
50	A	32	A
50	A	39	G
50	A	47	C
50	A	48	C
50	A	51	A
50	A	52	C
50	A	54	C
50	A	57	G
50	A	65	A
50	A	70	U
50	A	71	A
50	A	75	G
50	A	79	G
50	A	81	A
50	A	82	G
50	A	83	C
50	A	84	U
50	A	85	U

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Mol	Chain	Res	Type
50	A	86	G
50	A	87	C
50	A	90	C
50	A	95	C
50	A	97	G
50	A	98	A
50	A	108	G
50	A	116	A
50	A	119	A
50	A	122	G
50	A	126	G
50	A	127	G
50	A	128	G
50	A	130	A
50	A	131	A
50	A	133	U
50	A	137	U
50	A	142	G
50	A	149	A
50	A	157	U
50	A	160	A
50	A	166	U
50	A	177	G
50	A	182	A
50	A	183	C
50	A	184	G
50	A	185	U
50	A	186	C
50	A	196	A
50	A	197	A
50	A	210	C
50	A	211	G
50	A	217	C
50	A	219	U
50	A	229	U
50	A	230	G
50	A	231	U
50	A	239	U
50	A	240	G
50	A	243	A
50	A	244	U
50	A	245	U

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Mol	Chain	Res	Type
50	A	247	G
50	A	251	G
50	A	252	U
50	A	256	U
50	A	264	C
50	A	266	G
50	A	267	C
50	A	275	G
50	A	276	G
50	A	278	G
50	A	280	C
50	A	281	G
50	A	289	G
50	A	302	G
50	A	303	A
50	A	314	C
50	A	324	G
50	A	326	G
50	A	328	C
50	A	330	C
50	A	332	G
50	A	339	C
50	A	342	C
50	A	343	U
50	A	352	C
50	A	354	G
50	A	366	A
50	A	367	U
50	A	368	U
50	A	369	G
50	A	371	A
50	A	372	C
50	A	373	A
50	A	374	A
50	A	376	G
50	A	377	G
50	A	381	C
50	A	385	C
50	A	388	G
50	A	389	A
50	A	390	U
50	A	391	G

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Mol	Chain	Res	Type
50	A	397	A
50	A	398	U
50	A	399	G
50	A	406	G
50	A	411	A
50	A	412	A
50	A	413	G
50	A	414	A
50	A	415	A
50	A	417	G
50	A	422	C
50	A	424	G
50	A	429	U
50	A	435	A
50	A	440	C
50	A	449	G
50	A	451	A
50	A	457	G
50	A	459	A
50	A	461	A
50	A	462	G
50	A	466	A
50	A	468	A
50	A	471	U
50	A	476	U
50	A	477	C
50	A	479	U
50	A	481	G
50	A	484	G
50	A	485	U
50	A	486	U
50	A	496	A
50	A	498	A
50	A	499	A
50	A	508	U
50	A	511	C
50	A	518	C
50	A	521	G
50	A	525	C
50	A	527	G
50	A	531	U
50	A	532	A

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Mol	Chain	Res	Type
50	A	533	A
50	A	543	U
50	A	545	C
50	A	547	A
50	A	548	G
50	A	549	C
50	A	562	U
50	A	563	A
50	A	564	C
50	A	565	U
50	A	566	G
50	A	572	A
50	A	575	G
50	A	576	C
50	A	577	G
50	A	578	C
50	A	579	A
50	A	588	G
50	A	589	U
50	A	591	U
50	A	607	A
50	A	614	C
50	A	618	C
50	A	619	U
50	A	620	C
50	A	621	A
50	A	623	C
50	A	632	U
50	A	633	G
50	A	636	U
50	A	637	C
50	A	652	U
50	A	653	U
50	A	665	A
50	A	687	A
50	A	688	G
50	A	691	G
50	A	693	G
50	A	695	A
50	A	696	A
50	A	697	U
50	A	700	G

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Mol	Chain	Res	Type
50	A	701	U
50	A	702	A
50	A	703	G
50	A	704	A
50	A	710	G
50	A	718	A
50	A	720	C
50	A	721	G
50	A	722	G
50	A	723	U
50	A	724	G
50	A	729	A
50	A	731	G
50	A	734	G
50	A	747	A
50	A	748	G
50	A	753	A
50	A	755	G
50	A	764	C
50	A	779	C
50	A	781	A
50	A	790	A
50	A	793	U
50	A	794	A
50	A	802	A
50	A	812	G
50	A	815	A
50	A	817	C
50	A	818	G
50	A	819	A
50	A	820	U
50	A	821	G
50	A	822	U
50	A	826	C
50	A	828	U
50	A	829	G
50	A	832	G
50	A	841	C
50	A	842	U
50	A	843	U
50	A	845	A
50	A	846	G

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Mol	Chain	Res	Type
50	A	847	G
50	A	849	G
50	A	851	G
50	A	853	C
50	A	857	C
50	A	860	A
50	A	869	G
50	A	871	U
50	A	873	A
50	A	882	C
50	A	887	G
50	A	889	A
50	A	890	G
50	A	891	U
50	A	902	G
50	A	914	A
50	A	922	G
50	A	927	G
50	A	931	C
50	A	932	C
50	A	934	C
50	A	935	A
50	A	945	G
50	A	948	C
50	A	954	G
50	A	958	A
50	A	960	U
50	A	961	U
50	A	969	A
50	A	971	G
50	A	974	A
50	A	975	A
50	A	976	G
50	A	977	A
50	A	982	U
50	A	983	A
50	A	985	C
50	A	987	G
50	A	992	U
50	A	993	G
50	A	996	A
50	A	997	U

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Mol	Chain	Res	Type
50	A	998	C
50	A	999	C
50	A	1004	A
50	A	1010	U
50	A	1018	G
50	A	1020	G
50	A	1022	A
50	A	1028	C
50	A	1030	U
50	A	1031	C
50	A	1034	G
50	A	1046	A
50	A	1053	G
50	A	1056	U
50	A	1057	G
50	A	1064	G
50	A	1065	U
50	A	1066	C
50	A	1070	U
50	A	1071	C
50	A	1085	U
50	A	1091	U
50	A	1093	A
50	A	1094	G
50	A	1095	U
50	A	1101	A
50	A	1102	A
50	A	1103	C
50	A	1108	G
50	A	1112	C
50	A	1125	U
50	A	1130	A
50	A	1131	G
50	A	1132	C
50	A	1135	U
50	A	1136	C
50	A	1138	G
50	A	1139	G
50	A	1140	C
50	A	1143	G
50	A	1152	A
50	A	1157	A

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Mol	Chain	Res	Type
50	A	1159	U
50	A	1160	G
50	A	1164	G
50	A	1168	U
50	A	1169	A
50	A	1184	G
50	A	1186	G
50	A	1189	U
50	A	1192	C
50	A	1193	G
50	A	1196	A
50	A	1197	A
50	A	1201	A
50	A	1202	U
50	A	1210	C
50	A	1212	U
50	A	1213	A
50	A	1215	G
50	A	1225	A
50	A	1226	C
50	A	1227	A
50	A	1228	C
50	A	1233	G
50	A	1234	C
50	A	1238	A
50	A	1240	U
50	A	1241	G
50	A	1246	A
50	A	1256	A
50	A	1258	G
50	A	1261	A
50	A	1270	G
50	A	1272	G
50	A	1279	G
50	A	1280	A
50	A	1285	A
50	A	1286	U
50	A	1287	A
50	A	1292	G
50	A	1298	U
50	A	1300	G
50	A	1301	U

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Mol	Chain	Res	Type
50	A	1302	C
50	A	1303	C
50	A	1305	G
50	A	1312	G
50	A	1316	G
50	A	1319	A
50	A	1320	C
50	A	1322	C
50	A	1323	G
50	A	1324	A
50	A	1331	G
50	A	1333	A
50	A	1336	C
50	A	1338	G
50	A	1339	A
50	A	1340	A
50	A	1342	C
50	A	1343	G
50	A	1346	A
50	A	1347	G
50	A	1348	U
50	A	1349	A
50	A	1350	A
50	A	1353	G
50	A	1358	U
50	A	1362	A
50	A	1363	A
50	A	1364	U
50	A	1365	G
50	A	1378	C
50	A	1398	A
50	A	1399	C
50	A	1401	G
50	A	1402	C
50	A	1403	C
50	A	1419	G
50	A	1432	G
50	A	1436	U
50	A	1440	U
50	A	1441	A
50	A	1443	C
50	A	1446	A

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Mol	Chain	Res	Type
50	A	1448	C
50	A	1449	C
50	A	1452	C
50	A	1454	G
50	A	1469	C
50	A	1477	U
50	A	1484	C
50	A	1493	A
50	A	1494	G
50	A	1497	G
50	A	1499	A
50	A	1503	A
50	A	1505	G
50	A	1506	U
50	A	1508	A
50	A	1514	G
50	A	1517	G
50	A	1519	A
50	A	1520	C
50	A	1528	U
50	A	1529	G
50	A	1530	G
50	A	1534	A
51	X	13	C
51	X	14	U
51	X	15	G
51	X	17	C
51	X	18	C
51	X	19	C
51	X	20	U
52	a	3	C
52	a	4	C
52	a	8	C
52	a	9	G
52	a	12	C
52	a	13	G
52	a	15	A
52	a	16	G
52	a	18	G
52	a	21	G
52	a	24	G
52	a	25	U

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Mol	Chain	Res	Type
52	a	26	C
52	a	30	C
52	a	35	C
52	a	37	C
52	a	42	C
52	a	43	C
52	a	44	G
52	a	50	A
52	a	51	G
52	a	52	A
52	a	53	A
52	a	54	G
52	a	57	A
52	a	59	A
52	a	67	G
52	a	84	G
52	a	85	G
52	a	86	G
52	a	88	C
52	a	89	U
52	a	90	C
52	a	91	C
52	a	96	G
52	a	99	A
52	a	100	G
52	a	106	G
52	a	109	A
52	a	115	A
53	b	4	U
53	b	10	A
53	b	11	C
53	b	13	A
53	b	14	A
53	b	15	G
53	b	20	C
53	b	23	G
53	b	24	G
53	b	27	G
53	b	28	A
53	b	29	U
53	b	34	U
53	b	35	G

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Mol	Chain	Res	Type
53	b	39	G
53	b	45	G
53	b	46	G
53	b	49	A
53	b	51	G
53	b	55	G
53	b	62	U
53	b	63	A
53	b	71	A
53	b	73	A
53	b	74	A
53	b	75	G
53	b	76	C
53	b	77	G
53	b	80	G
53	b	82	U
53	b	83	A
53	b	84	A
53	b	85	G
53	b	87	U
53	b	88	G
53	b	91	A
53	b	100	U
53	b	101	A
53	b	102	U
53	b	103	A
53	b	109	C
53	b	111	A
53	b	114	U
53	b	116	C
53	b	118	A
53	b	119	A
53	b	120	U
53	b	126	A
53	b	127	A
53	b	136	G
53	b	140	C
53	b	143	C
53	b	144	A
53	b	147	C
53	b	149	A
53	b	158	U

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Mol	Chain	Res	Type
53	b	159	G
53	b	160	A
53	b	162	U
53	b	163	C
53	b	164	C
53	b	165	A
53	b	172	A
53	b	176	A
53	b	177	G
53	b	178	G
53	b	181	A
53	b	186	G
53	b	196	A
53	b	197	A
53	b	201	C
53	b	202	U
53	b	204	A
53	b	205	G
53	b	210	C
53	b	212	G
53	b	215	G
53	b	216	A
53	b	221	A
53	b	222	A
53	b	223	A
53	b	225	C
53	b	226	A
53	b	228	C
53	b	229	C
53	b	231	A
53	b	233	A
53	b	234	U
53	b	235	U
53	b	239	C
53	b	240	C
53	b	241	A
53	b	242	G
53	b	243	U
53	b	245	G
53	b	248	G
53	b	249	C
53	b	250	G

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Mol	Chain	Res	Type
53	b	251	A
53	b	252	G
53	b	254	G
53	b	255	A
53	b	264	C
53	b	265	A
53	b	266	G
53	b	267	C
53	b	270	A
53	b	271	G
53	b	272	A
53	b	273	G
53	b	276	U
53	b	277	G
53	b	278	A
53	b	279	A
53	b	280	U
53	b	281	C
53	b	282	A
53	b	289	G
53	b	294	A
53	b	298	G
53	b	299	A
53	b	300	A
53	b	307	G
53	b	308	G
53	b	309	A
53	b	310	A
53	b	311	A
53	b	312	G
53	b	322	A
53	b	323	C
53	b	324	A
53	b	326	G
53	b	329	G
53	b	330	A
53	b	331	C
53	b	332	A
53	b	333	G
53	b	338	G
53	b	344	A
53	b	345	A

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Mol	Chain	Res	Type
53	b	346	A
53	b	349	U
53	b	353	C
53	b	355	U
53	b	356	G
53	b	358	U
53	b	359	G
53	b	361	G
53	b	362	A
53	b	364	C
53	b	366	C
53	b	368	A
53	b	369	U
53	b	370	G
53	b	371	A
53	b	372	G
53	b	373	U
53	b	374	A
53	b	375	G
53	b	385	C
53	b	386	G
53	b	387	U
53	b	388	G
53	b	391	A
53	b	392	U
53	b	395	U
53	b	396	G
53	b	400	G
53	b	401	A
53	b	402	A
53	b	403	U
53	b	405	U
53	b	406	G
53	b	409	G
53	b	411	G
53	b	412	A
53	b	413	C
53	b	418	C
53	b	419	U
53	b	421	C
53	b	422	A
53	b	424	G

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Mol	Chain	Res	Type
53	b	425	G
53	b	431	U
53	b	434	U
53	b	435	C
53	b	436	C
53	b	442	G
53	b	443	A
53	b	446	G
53	b	447	A
53	b	448	U
53	b	449	A
53	b	451	U
53	b	452	G
53	b	454	A
53	b	455	C
53	b	456	C
53	b	457	A
53	b	461	C
53	b	465	G
53	b	466	A
53	b	475	C
53	b	477	A
53	b	479	A
53	b	480	A
53	b	481	G
53	b	483	A
53	b	489	G
53	b	490	C
53	b	491	G
53	b	492	A
53	b	502	A
53	b	503	A
53	b	504	A
53	b	505	A
53	b	508	A
53	b	509	C
53	b	510	C
53	b	518	G
53	b	519	U
53	b	521	U
53	b	526	A
53	b	527	C

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Mol	Chain	Res	Type
53	b	529	A
53	b	530	G
53	b	531	C
53	b	532	A
53	b	538	A
53	b	544	C
53	b	545	U
53	b	546	U
53	b	547	A
53	b	548	G
53	b	549	G
53	b	550	C
53	b	559	G
53	b	560	C
53	b	562	U
53	b	563	A
53	b	568	U
53	b	569	U
53	b	571	U
53	b	572	A
53	b	573	U
53	b	574	A
53	b	575	A
53	b	584	C
53	b	586	A
53	b	587	C
53	b	588	U
53	b	603	A
53	b	604	G
53	b	607	U
53	b	608	A
53	b	612	G
53	b	613	A
53	b	614	A
53	b	615	U
53	b	617	G
53	b	618	G
53	b	620	G
53	b	621	A
53	b	622	G
53	b	625	G
53	b	627	A

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Mol	Chain	Res	Type
53	b	628	G
53	b	631	A
53	b	632	A
53	b	636	G
53	b	637	A
53	b	642	U
53	b	644	A
53	b	646	U
53	b	647	G
53	b	650	C
53	b	651	G
53	b	652	U
53	b	653	U
53	b	654	A
53	b	655	A
53	b	656	G
53	b	657	U
53	b	659	G
53	b	662	G
53	b	664	G
53	b	668	A
53	b	670	A
53	b	671	C
53	b	672	C
53	b	675	A
53	b	686	U
53	b	696	G
53	b	701	G
53	b	704	G
53	b	705	A
53	b	707	G
53	b	711	G
53	b	713	G
53	b	715	A
53	b	716	A
53	b	717	C
53	b	718	A
53	b	719	C
53	b	720	U
53	b	723	C
53	b	727	A
53	b	730	A

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Mol	Chain	Res	Type
53	b	733	G
53	b	734	A
53	b	738	G
53	b	745	G
53	b	746	U
53	b	747	U
53	b	748	G
53	b	749	A
53	b	750	A
53	b	752	A
53	b	753	A
53	b	757	G
53	b	758	C
53	b	763	G
53	b	764	A
53	b	765	C
53	b	766	U
53	b	770	G
53	b	775	G
53	b	776	G
53	b	777	G
53	b	781	A
53	b	782	A
53	b	783	A
53	b	784	G
53	b	785	G
53	b	788	A
53	b	789	A
53	b	790	U
53	b	791	C
53	b	792	A
53	b	794	A
53	b	798	G
53	b	799	G
53	b	800	A
53	b	801	G
53	b	805	G
53	b	812	C
53	b	819	A
53	b	822	G
53	b	827	U
53	b	828	U

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Mol	Chain	Res	Type
53	b	836	G
53	b	844	A
53	b	845	A
53	b	846	U
53	b	847	U
53	b	848	C
53	b	856	G
53	b	858	G
53	b	859	G
53	b	866	A
53	b	867	C
53	b	869	G
53	b	872	U
53	b	873	C
53	b	874	G
53	b	876	C
53	b	877	A
53	b	878	A
53	b	879	G
53	b	880	G
53	b	881	G
53	b	882	G
53	b	883	G
53	b	887	U
53	b	888	C
53	b	889	C
53	b	893	C
53	b	895	U
53	b	896	A
53	b	897	C
53	b	899	A
53	b	900	A
53	b	902	C
53	b	910	A
53	b	911	A
53	b	912	C
53	b	914	G
53	b	915	C
53	b	919	U
53	b	931	U
53	b	932	U
53	b	934	U

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Mol	Chain	Res	Type
53	b	938	G
53	b	941	A
53	b	945	A
53	b	946	C
53	b	948	C
53	b	951	C
53	b	957	C
53	b	958	U
53	b	959	A
53	b	961	C
53	b	962	G
53	b	964	C
53	b	965	C
53	b	968	C
53	b	969	G
53	b	972	A
53	b	973	A
53	b	974	G
53	b	975	A
53	b	979	A
53	b	980	A
53	b	981	A
53	b	983	A
53	b	984	A
53	b	985	C
53	b	986	C
53	b	995	C
53	b	996	A
53	b	1003	G
53	b	1005	C
53	b	1006	C
53	b	1010	A
53	b	1011	G
53	b	1012	U
53	b	1013	C
53	b	1018	U
53	b	1019	U
53	b	1022	G
53	b	1023	U
53	b	1025	G
53	b	1026	G
53	b	1027	A

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Mol	Chain	Res	Type
53	b	1028	A
53	b	1032	A
53	b	1033	U
53	b	1034	G
53	b	1036	G
53	b	1037	G
53	b	1038	G
53	b	1039	A
53	b	1044	C
53	b	1047	G
53	b	1048	A
53	b	1049	C
53	b	1051	G
53	b	1052	C
53	b	1053	C
53	b	1054	A
53	b	1055	G
53	b	1056	G
53	b	1057	A
53	b	1058	U
53	b	1059	G
53	b	1060	U
53	b	1061	U
53	b	1062	G
53	b	1063	G
53	b	1064	C
53	b	1065	U
53	b	1067	A
53	b	1068	G
53	b	1069	A
53	b	1070	A
53	b	1071	G
53	b	1072	C
53	b	1073	A
53	b	1074	G
53	b	1078	U
53	b	1079	C
53	b	1080	A
53	b	1081	U
53	b	1084	A
53	b	1085	A
53	b	1086	A

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Mol	Chain	Res	Type
53	b	1087	G
53	b	1088	A
53	b	1089	A
53	b	1090	A
53	b	1091	G
53	b	1092	C
53	b	1093	G
53	b	1095	A
53	b	1096	A
53	b	1097	U
53	b	1098	A
53	b	1099	G
53	b	1100	C
53	b	1102	C
53	b	1103	A
53	b	1104	C
53	b	1105	U
53	b	1106	G
53	b	1107	G
53	b	1109	C
53	b	1110	G
53	b	1111	A
53	b	1112	G
53	b	1115	G
53	b	1116	G
53	b	1117	C
53	b	1121	C
53	b	1122	G
53	b	1126	A
53	b	1130	U
53	b	1132	U
53	b	1133	A
53	b	1134	A
53	b	1135	C
53	b	1136	G
53	b	1138	G
53	b	1139	G
53	b	1141	U
53	b	1142	A
53	b	1143	A
53	b	1144	A
53	b	1145	C

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Mol	Chain	Res	Type
53	b	1148	U
53	b	1156	A
53	b	1157	G
53	b	1163	G
53	b	1165	A
53	b	1169	A
53	b	1171	G
53	b	1172	C
53	b	1173	U
53	b	1174	U
53	b	1175	A
53	b	1176	U
53	b	1178	C
53	b	1179	G
53	b	1184	U
53	b	1185	G
53	b	1187	G
53	b	1188	U
53	b	1195	G
53	b	1200	C
53	b	1203	U
53	b	1204	A
53	b	1205	A
53	b	1206	G
53	b	1207	C
53	b	1208	C
53	b	1209	U
53	b	1210	G
53	b	1211	C
53	b	1218	G
53	b	1221	C
53	b	1222	U
53	b	1223	G
53	b	1224	U
53	b	1225	G
53	b	1227	G
53	b	1231	U
53	b	1232	G
53	b	1234	U
53	b	1236	G
53	b	1237	A
53	b	1238	G

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Mol	Chain	Res	Type
53	b	1240	U
53	b	1241	A
53	b	1247	A
53	b	1248	G
53	b	1249	U
53	b	1251	C
53	b	1252	G
53	b	1253	A
53	b	1254	A
53	b	1255	U
53	b	1256	G
53	b	1258	U
53	b	1260	A
53	b	1265	A
53	b	1266	G
53	b	1267	U
53	b	1268	A
53	b	1269	A
53	b	1272	A
53	b	1273	U
53	b	1274	A
53	b	1275	A
53	b	1276	A
53	b	1288	G
53	b	1289	C
53	b	1294	U
53	b	1296	G
53	b	1299	G
53	b	1300	G
53	b	1301	A
53	b	1302	A
53	b	1306	C
53	b	1307	A
53	b	1311	G
53	b	1312	U
53	b	1314	C
53	b	1316	U
53	b	1318	U
53	b	1319	C
53	b	1320	C
53	b	1322	A
53	b	1323	C

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Mol	Chain	Res	Type
53	b	1326	U
53	b	1327	A
53	b	1329	U
53	b	1330	C
53	b	1332	G
53	b	1337	G
53	b	1338	G
53	b	1341	G
53	b	1342	A
53	b	1343	G
53	b	1344	U
53	b	1347	A
53	b	1348	C
53	b	1349	C
53	b	1352	U
53	b	1355	G
53	b	1358	G
53	b	1365	A
53	b	1368	G
53	b	1369	G
53	b	1373	A
53	b	1374	G
53	b	1378	A
53	b	1379	U
53	b	1382	G
53	b	1383	A
53	b	1384	A
53	b	1390	U
53	b	1392	A
53	b	1393	A
53	b	1394	U
53	b	1395	A
53	b	1396	U
53	b	1397	U
53	b	1398	C
53	b	1400	U
53	b	1401	G
53	b	1403	A
53	b	1408	G
53	b	1416	G
53	b	1419	A
53	b	1420	A

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Mol	Chain	Res	Type
53	b	1421	G
53	b	1422	G
53	b	1424	G
53	b	1426	G
53	b	1427	A
53	b	1428	C
53	b	1429	G
53	b	1435	G
53	b	1438	U
53	b	1451	C
53	b	1452	G
53	b	1453	A
53	b	1454	C
53	b	1458	U
53	b	1459	G
53	b	1460	U
53	b	1461	C
53	b	1467	U
53	b	1471	G
53	b	1476	U
53	b	1477	A
53	b	1478	G
53	b	1481	U
53	b	1482	G
53	b	1483	G
53	b	1487	U
53	b	1494	A
53	b	1495	A
53	b	1496	A
53	b	1497	U
53	b	1498	C
53	b	1499	C
53	b	1500	G
53	b	1503	A
53	b	1507	C
53	b	1508	A
53	b	1509	A
53	b	1510	G
53	b	1517	G
53	b	1522	A
53	b	1523	U
53	b	1524	G

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Mol	Chain	Res	Type
53	b	1526	C
53	b	1529	G
53	b	1530	G
53	b	1534	U
53	b	1535	A
53	b	1536	C
53	b	1537	G
53	b	1539	U
53	b	1540	G
53	b	1542	U
53	b	1552	A
53	b	1554	U
53	b	1556	C
53	b	1558	C
53	b	1562	U
53	b	1565	C
53	b	1566	A
53	b	1568	G
53	b	1569	A
53	b	1570	A
53	b	1572	A
53	b	1576	U
53	b	1578	U
53	b	1583	A
53	b	1584	U
53	b	1585	C
53	b	1592	C
53	b	1595	C
53	b	1598	A
53	b	1600	C
53	b	1602	U
53	b	1603	A
53	b	1606	C
53	b	1607	C
53	b	1608	A
53	b	1609	A
53	b	1610	A
53	b	1612	C
53	b	1615	C
53	b	1616	A
53	b	1617	C
53	b	1618	A

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Mol	Chain	Res	Type
53	b	1624	U
53	b	1631	G
53	b	1632	A
53	b	1633	G
53	b	1634	A
53	b	1635	A
53	b	1643	G
53	b	1644	C
53	b	1646	C
53	b	1647	U
53	b	1648	U
53	b	1649	G
53	b	1653	G
53	b	1654	A
53	b	1656	C
53	b	1658	C
53	b	1660	G
53	b	1663	G
53	b	1667	G
53	b	1668	A
53	b	1669	A
53	b	1674	G
53	b	1681	G
53	b	1682	G
53	b	1683	U
53	b	1687	G
53	b	1693	U
53	b	1694	C
53	b	1695	G
53	b	1697	G
53	b	1698	A
53	b	1699	G
53	b	1700	A
53	b	1703	G
53	b	1705	A
53	b	1706	C
53	b	1707	G
53	b	1710	G
53	b	1713	A
53	b	1714	U
53	b	1715	G
53	b	1731	G

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Mol	Chain	Res	Type
53	b	1732	C
53	b	1733	G
53	b	1738	G
53	b	1739	A
53	b	1746	A
53	b	1750	G
53	b	1754	A
53	b	1755	A
53	b	1757	A
53	b	1758	U
53	b	1761	C
53	b	1763	G
53	b	1764	C
53	b	1766	G
53	b	1773	A
53	b	1774	C
53	b	1775	U
53	b	1776	G
53	b	1783	A
53	b	1785	A
53	b	1786	A
53	b	1787	A
53	b	1792	G
53	b	1794	A
53	b	1800	C
53	b	1801	A
53	b	1802	A
53	b	1807	G
53	b	1808	A
53	b	1809	A
53	b	1811	G
53	b	1815	A
53	b	1816	C
53	b	1817	G
53	b	1818	U
53	b	1819	A
53	b	1823	G
53	b	1825	U
53	b	1826	G
53	b	1829	A
53	b	1833	C
53	b	1839	G

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Mol	Chain	Res	Type
53	b	1840	G
53	b	1843	C
53	b	1846	G
53	b	1848	A
53	b	1849	G
53	b	1853	A
53	b	1854	A
53	b	1858	A
53	b	1860	G
53	b	1862	G
53	b	1865	U
53	b	1866	A
53	b	1867	G
53	b	1868	C
53	b	1870	C
53	b	1871	A
53	b	1872	A
53	b	1873	G
53	b	1875	G
53	b	1876	A
53	b	1890	A
53	b	1897	G
53	b	1905	C
53	b	1906	G
53	b	1907	G
53	b	1908	C
53	b	1913	A
53	b	1915	U
53	b	1917	U
53	b	1918	A
53	b	1919	A
53	b	1924	C
53	b	1928	A
53	b	1929	G
53	b	1930	G
53	b	1931	U
53	b	1932	A
53	b	1936	A
53	b	1937	A
53	b	1938	A
53	b	1939	U
53	b	1940	U

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Mol	Chain	Res	Type
53	b	1941	C
53	b	1943	U
53	b	1944	U
53	b	1951	U
53	b	1952	A
53	b	1954	G
53	b	1955	U
53	b	1963	U
53	b	1964	G
53	b	1966	A
53	b	1967	C
53	b	1969	A
53	b	1970	A
53	b	1971	U
53	b	1972	G
53	b	1975	G
53	b	1980	G
53	b	1981	A
53	b	1982	U
53	b	1991	U
53	b	1993	U
53	b	1997	C
53	b	1999	C
53	b	2007	U
53	b	2014	A
53	b	2016	U
53	b	2019	A
53	b	2020	A
53	b	2021	C
53	b	2022	U
53	b	2023	C
53	b	2030	A
53	b	2031	A
53	b	2032	G
53	b	2033	A
53	b	2035	G
53	b	2036	C
53	b	2043	C
53	b	2046	G
53	b	2051	A
53	b	2052	A
53	b	2054	A

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Mol	Chain	Res	Type
53	b	2055	C
53	b	2056	G
53	b	2060	A
53	b	2061	G
53	b	2063	C
53	b	2065	C
53	b	2066	C
53	b	2068	U
53	b	2069	G
53	b	2077	A
53	b	2080	A
53	b	2083	G
53	b	2087	G
53	b	2088	A
53	b	2092	U
53	b	2093	G
53	b	2094	A
53	b	2102	G
53	b	2104	C
53	b	2105	U
53	b	2107	G
53	b	2109	U
53	b	2110	G
53	b	2111	U
53	b	2112	G
53	b	2113	U
53	b	2114	A
53	b	2115	G
53	b	2116	G
53	b	2117	A
53	b	2118	U
53	b	2119	A
53	b	2120	G
53	b	2123	G
53	b	2124	G
53	b	2125	G
53	b	2127	G
53	b	2128	G
53	b	2129	C
53	b	2130	U
53	b	2131	U
53	b	2132	U

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Mol	Chain	Res	Type
53	b	2133	G
53	b	2135	A
53	b	2138	G
53	b	2144	G
53	b	2145	C
53	b	2146	C
53	b	2147	A
53	b	2149	U
53	b	2150	C
53	b	2153	C
53	b	2156	G
53	b	2158	A
53	b	2159	G
53	b	2160	C
53	b	2161	C
53	b	2162	G
53	b	2163	A
53	b	2164	C
53	b	2165	C
53	b	2166	U
53	b	2168	G
53	b	2169	A
53	b	2170	A
53	b	2171	A
53	b	2172	U
53	b	2173	A
53	b	2174	C
53	b	2175	C
53	b	2176	A
53	b	2177	C
53	b	2178	C
53	b	2179	C
53	b	2182	U
53	b	2185	U
53	b	2193	G
53	b	2198	A
53	b	2199	A
53	b	2202	U
53	b	2203	U
53	b	2204	G
53	b	2206	C
53	b	2207	C

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Mol	Chain	Res	Type
53	b	2210	U
53	b	2211	A
53	b	2212	A
53	b	2213	U
53	b	2214	C
53	b	2215	C
53	b	2225	A
53	b	2230	G
53	b	2238	G
53	b	2239	G
53	b	2243	U
53	b	2249	U
53	b	2250	G
53	b	2255	G
53	b	2257	U
53	b	2258	C
53	b	2259	U
53	b	2265	U
53	b	2266	A
53	b	2267	A
53	b	2268	A
53	b	2273	A
53	b	2274	A
53	b	2275	C
53	b	2276	G
53	b	2279	G
53	b	2282	G
53	b	2283	C
53	b	2286	G
53	b	2287	A
53	b	2288	A
53	b	2289	G
53	b	2297	A
53	b	2304	G
53	b	2305	U
53	b	2308	G
53	b	2309	A
53	b	2319	G
53	b	2320	U
53	b	2321	U
53	b	2322	A
53	b	2324	U

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Mol	Chain	Res	Type
53	b	2331	G
53	b	2333	A
53	b	2334	U
53	b	2335	A
53	b	2336	A
53	b	2339	C
53	b	2340	A
53	b	2344	U
53	b	2345	G
53	b	2347	C
53	b	2350	C
53	b	2351	G
53	b	2361	G
53	b	2366	A
53	b	2371	G
53	b	2376	A
53	b	2377	A
53	b	2379	G
53	b	2382	G
53	b	2383	G
53	b	2385	C
53	b	2388	A
53	b	2396	G
53	b	2398	U
53	b	2400	G
53	b	2402	U
53	b	2403	C
53	b	2406	A
53	b	2407	A
53	b	2410	G
53	b	2411	A
53	b	2420	C
53	b	2423	U
53	b	2425	A
53	b	2427	C
53	b	2428	G
53	b	2429	G
53	b	2430	A
53	b	2434	A
53	b	2439	A
53	b	2440	C
53	b	2441	U

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Mol	Chain	Res	Type
53	b	2445	G
53	b	2448	A
53	b	2449	U
53	b	2450	A
53	b	2453	A
53	b	2454	G
53	b	2458	G
53	b	2459	A
53	b	2460	U
53	b	2465	C
53	b	2471	A
53	b	2472	G
53	b	2473	U
53	b	2474	U
53	b	2475	C
53	b	2476	A
53	b	2478	A
53	b	2481	G
53	b	2484	G
53	b	2490	G
53	b	2491	U
53	b	2492	U
53	b	2498	C
53	b	2502	G
53	b	2505	G
53	b	2509	G
53	b	2510	C
53	b	2513	A
53	b	2517	C
53	b	2518	A
53	b	2519	U
53	b	2525	G
53	b	2527	C
53	b	2529	G
53	b	2530	A
53	b	2534	A
53	b	2535	G
53	b	2536	G
53	b	2541	A
53	b	2542	A
53	b	2544	G
53	b	2547	A

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Mol	Chain	Res	Type
53	b	2554	U
53	b	2556	C
53	b	2562	U
53	b	2564	A
53	b	2565	A
53	b	2566	A
53	b	2567	G
53	b	2572	A
53	b	2573	C
53	b	2576	G
53	b	2578	G
53	b	2581	G
53	b	2582	G
53	b	2584	U
53	b	2585	U
53	b	2586	U
53	b	2587	A
53	b	2588	G
53	b	2590	A
53	b	2593	U
53	b	2595	G
53	b	2596	U
53	b	2598	A
53	b	2599	G
53	b	2600	A
53	b	2601	C
53	b	2602	A
53	b	2603	G
53	b	2606	C
53	b	2608	G
53	b	2609	U
53	b	2613	U
53	b	2614	A
53	b	2615	U
53	b	2621	G
53	b	2625	G
53	b	2629	U
53	b	2632	A
53	b	2634	A
53	b	2638	G
53	b	2639	A
53	b	2641	G

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Mol	Chain	Res	Type
53	b	2645	G
53	b	2646	C
53	b	2655	G
53	b	2657	A
53	b	2658	C
53	b	2659	G
53	b	2660	A
53	b	2661	G
53	b	2663	G
53	b	2673	G
53	b	2677	G
53	b	2685	G
53	b	2688	G
53	b	2689	U
53	b	2690	U
53	b	2691	C
53	b	2699	C
53	b	2702	G
53	b	2703	C
53	b	2707	U
53	b	2712	C
53	b	2713	U
53	b	2714	G
53	b	2716	C
53	b	2718	G
53	b	2719	G
53	b	2722	G
53	b	2727	A
53	b	2729	G
53	b	2733	A
53	b	2735	G
53	b	2736	A
53	b	2738	A
53	b	2744	G
53	b	2746	U
53	b	2747	G
53	b	2750	A
53	b	2751	G
53	b	2752	C
53	b	2753	A
53	b	2755	C
53	b	2757	A

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Mol	Chain	Res	Type
53	b	2758	A
53	b	2761	A
53	b	2765	A
53	b	2766	A
53	b	2773	C
53	b	2776	A
53	b	2778	A
53	b	2779	U
53	b	2781	A
53	b	2782	G
53	b	2790	U
53	b	2791	G
53	b	2792	A
53	b	2793	C
53	b	2795	C
53	b	2797	U
53	b	2798	U
53	b	2799	A
53	b	2800	A
53	b	2807	U
53	b	2808	G
53	b	2812	G
53	b	2818	U
53	b	2820	A
53	b	2821	A
53	b	2823	A
53	b	2824	C
53	b	2826	A
53	b	2833	U
53	b	2837	A
53	b	2847	U
53	b	2849	U
53	b	2858	C
53	b	2859	G
53	b	2861	U
53	b	2866	U
53	b	2867	G
53	b	2868	A
53	b	2872	A
53	b	2873	A
53	b	2874	C
53	b	2876	G

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Mol	Chain	Res	Type
53	b	2880	C
53	b	2883	A
53	b	2884	U
53	b	2885	G
53	b	2886	A
53	b	2887	A
53	b	2891	U
53	b	2893	A
53	b	2894	G
53	b	2898	U
53	b	2900	A
53	b	2902	C
53	b	2903	U
54	v	5	A
54	v	6	C
54	v	7	G
54	v	9	A
54	v	16	C
54	v	17	C
54	v	18	G
54	v	19	G
54	v	20	U
54	v	21	A
54	v	28	C
54	v	31	C
54	v	34	G
54	v	36	C
54	v	39	G
54	v	40	U
54	v	41	C
54	v	46	G
54	v	47	U
54	v	48	C
54	v	49	G
54	v	50	G
54	v	52	G
54	v	60	U
54	v	64	C
54	v	72	G
54	v	76	A

All (38) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
50	A	5	U
50	A	14	U
50	A	30	U
50	A	51	A
50	A	64	G
50	A	66	A
50	A	94	G
50	A	132	C
50	A	184	G
50	A	243	A
50	A	279	A
50	A	301	G
50	A	372	C
50	A	484	G
50	A	497	G
50	A	695	A
50	A	701	U
50	A	702	A
50	A	703	G
50	A	811	C
50	A	840	C
50	A	997	U
50	A	998	C
50	A	1065	U
50	A	1129	C
50	A	1135	U
50	A	1201	A
50	A	1300	G
50	A	1302	C
50	A	1332	A
50	A	1346	A
50	A	1347	G
50	A	1348	U
50	A	1377	A
50	A	1493	A
50	A	1527	U
51	X	12	G
51	X	14	U

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
53	b	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	b	1087:G	O3'	1088:A	P	1.81
1	b	2055:C	O3'	2056:G	P	1.80

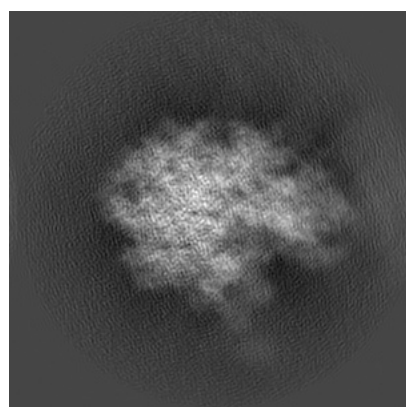
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-6483. These allow visual inspection of the internal detail of the map and identification of artifacts.

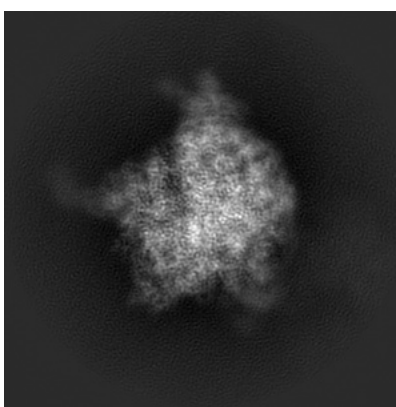
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

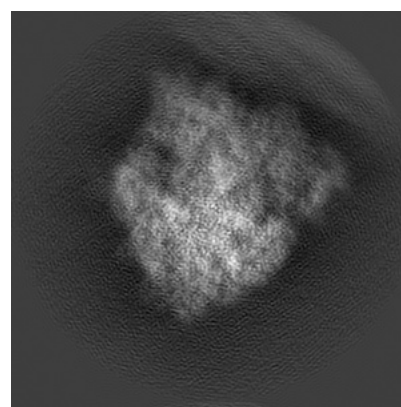
6.1.1 Primary map



X



Y

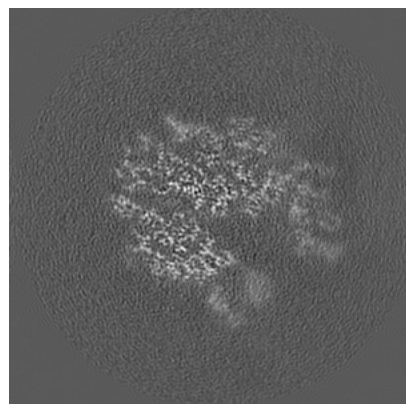


Z

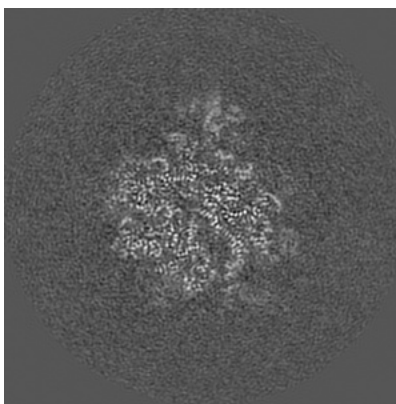
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

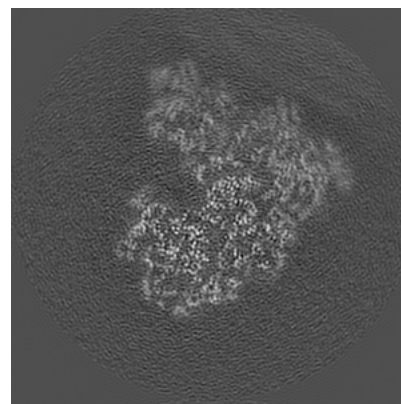
6.2.1 Primary map



X Index: 160



Y Index: 160

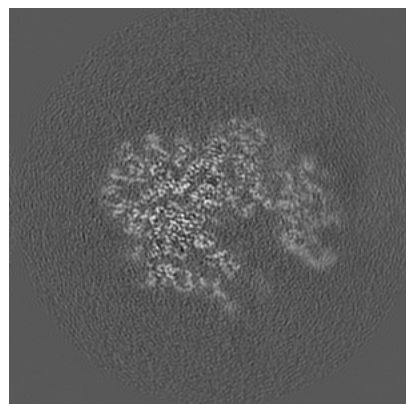


Z Index: 160

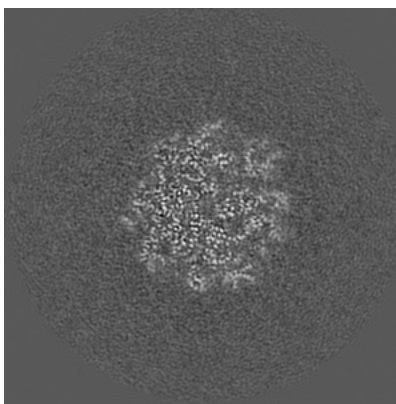
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

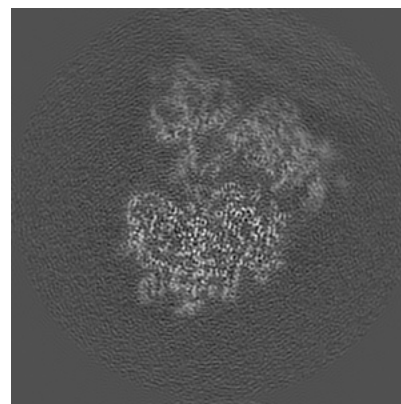
6.3.1 Primary map



X Index: 153



Y Index: 138

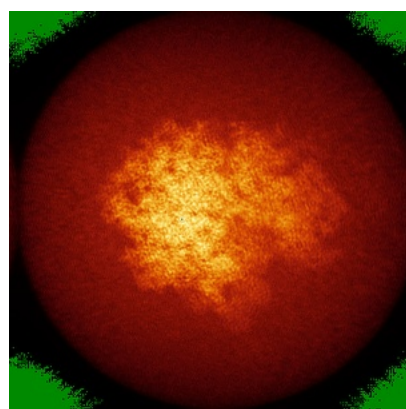


Z Index: 153

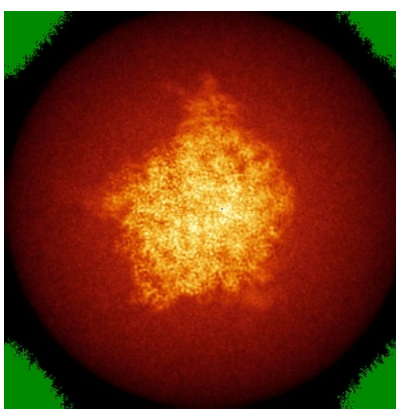
The images above show the largest variance slices of the map in three orthogonal directions.

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

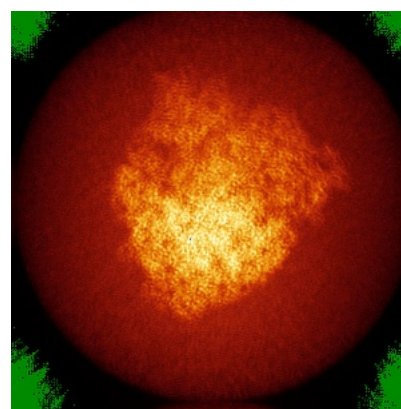
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views

This section was not generated.

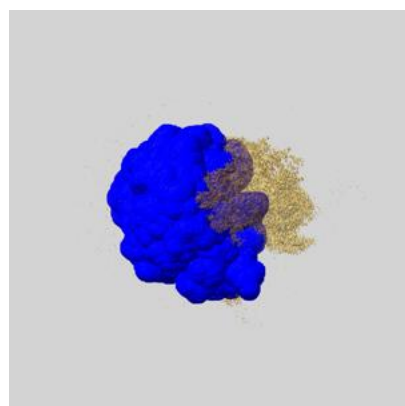
6.6 Mask visualisation [i](#)

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

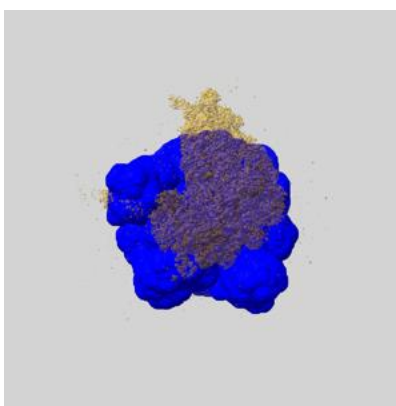
A mask typically either:

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

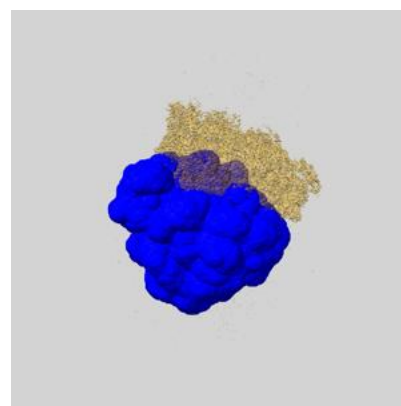
6.6.1 emd_6483_msk_1.map [i](#)



X



Y

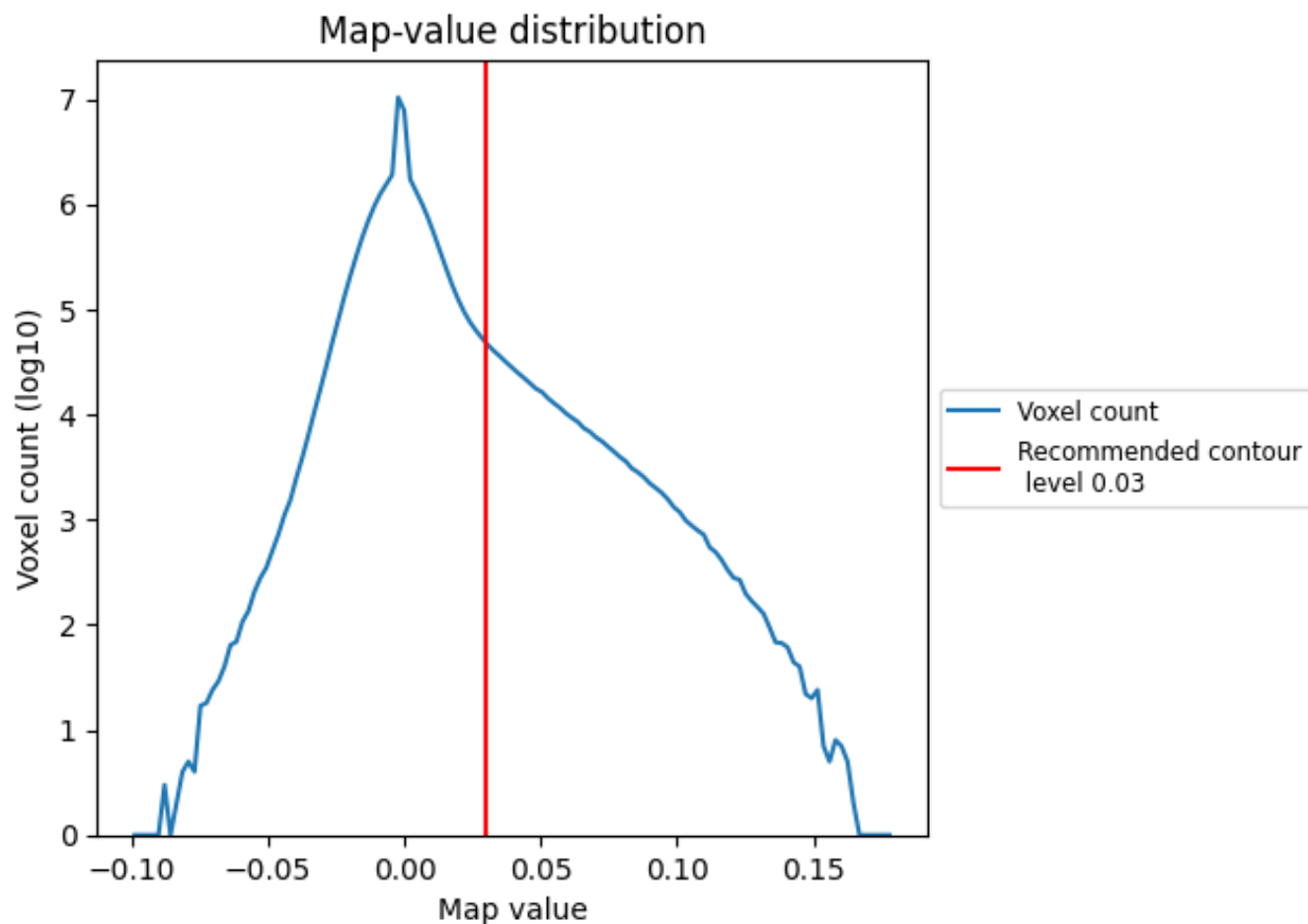


Z

7 Map analysis [i](#)

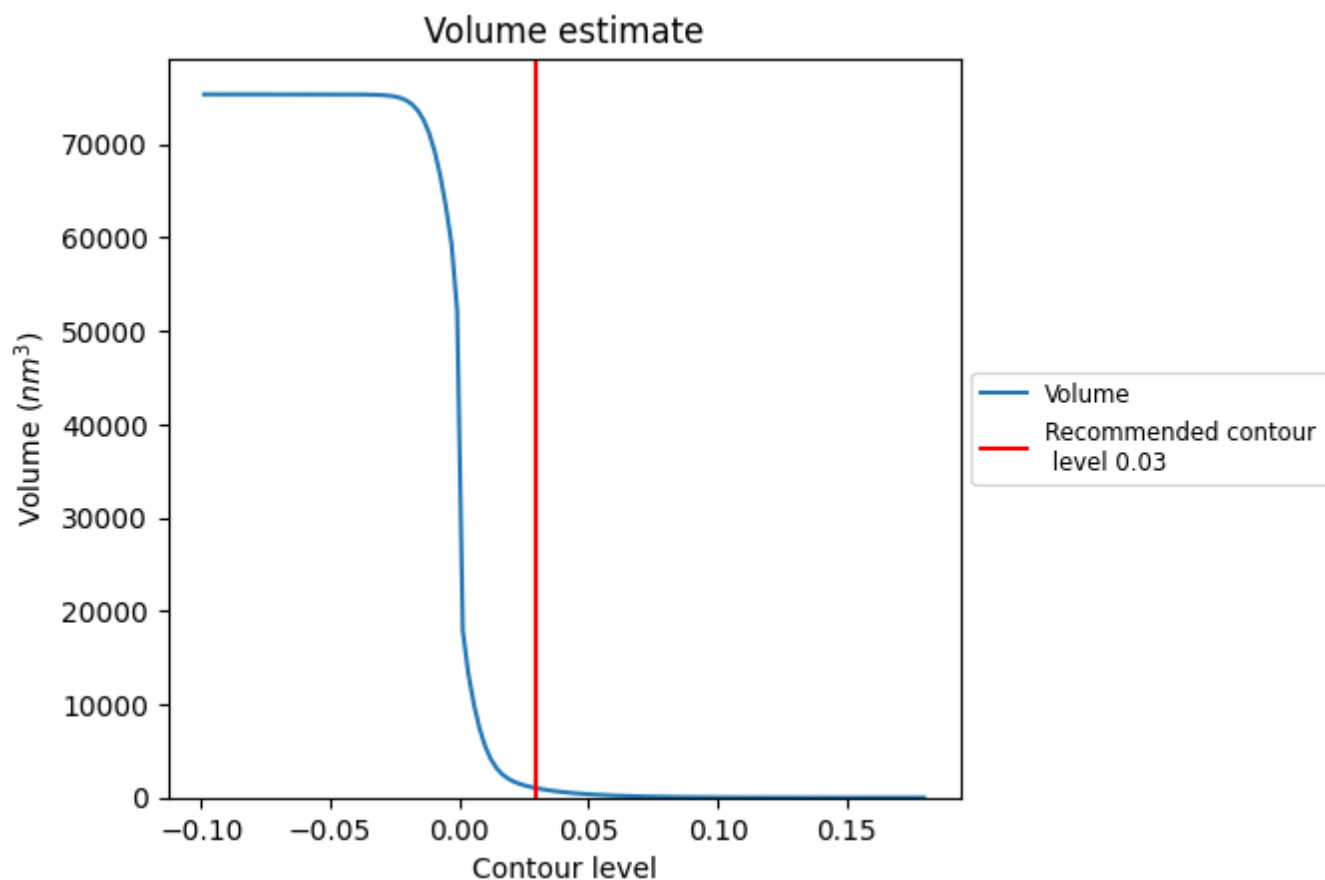
This section contains the results of statistical analysis of the map.

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.

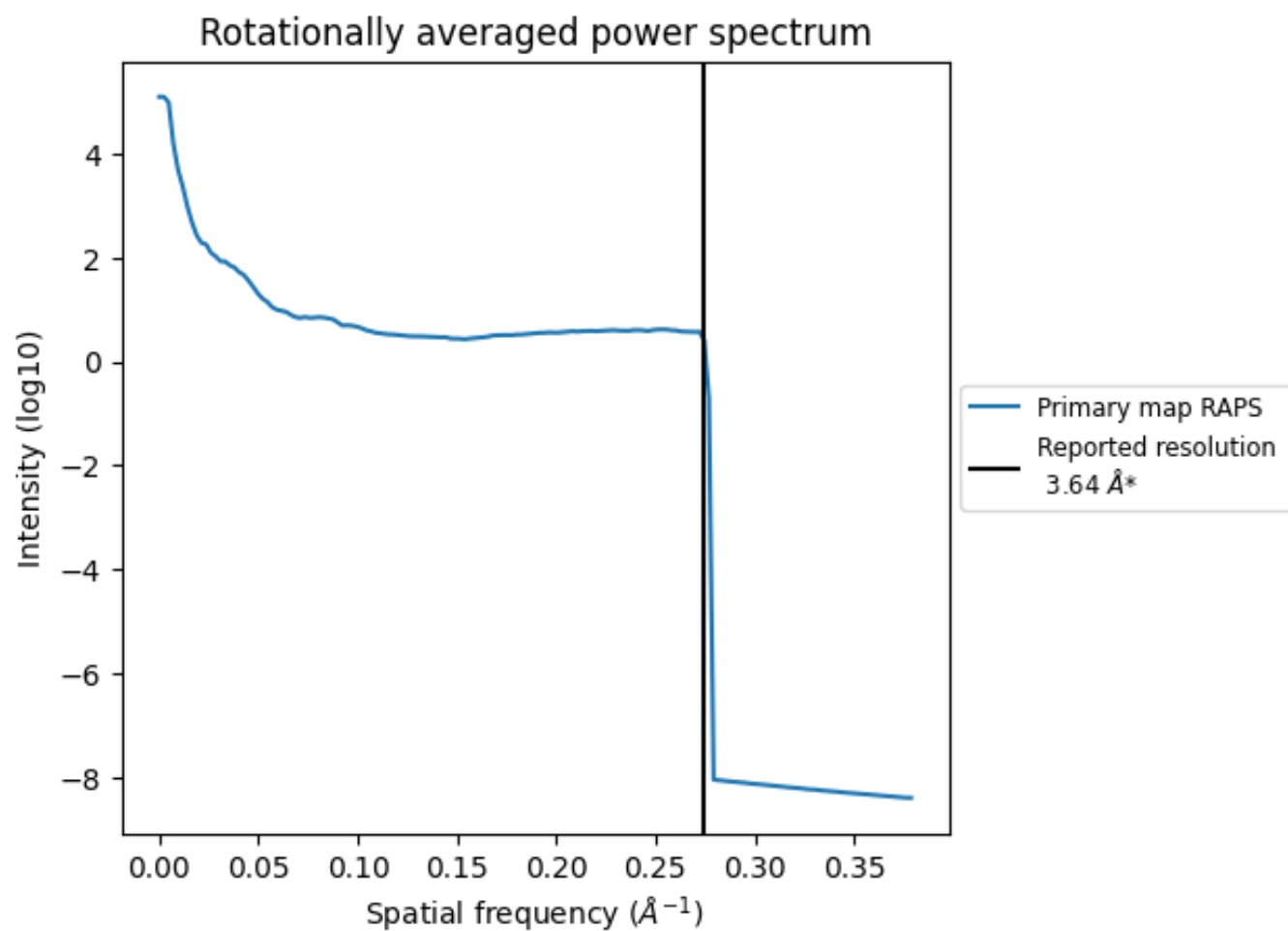
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 995 nm³; this corresponds to an approximate mass of 899 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 ⓘ

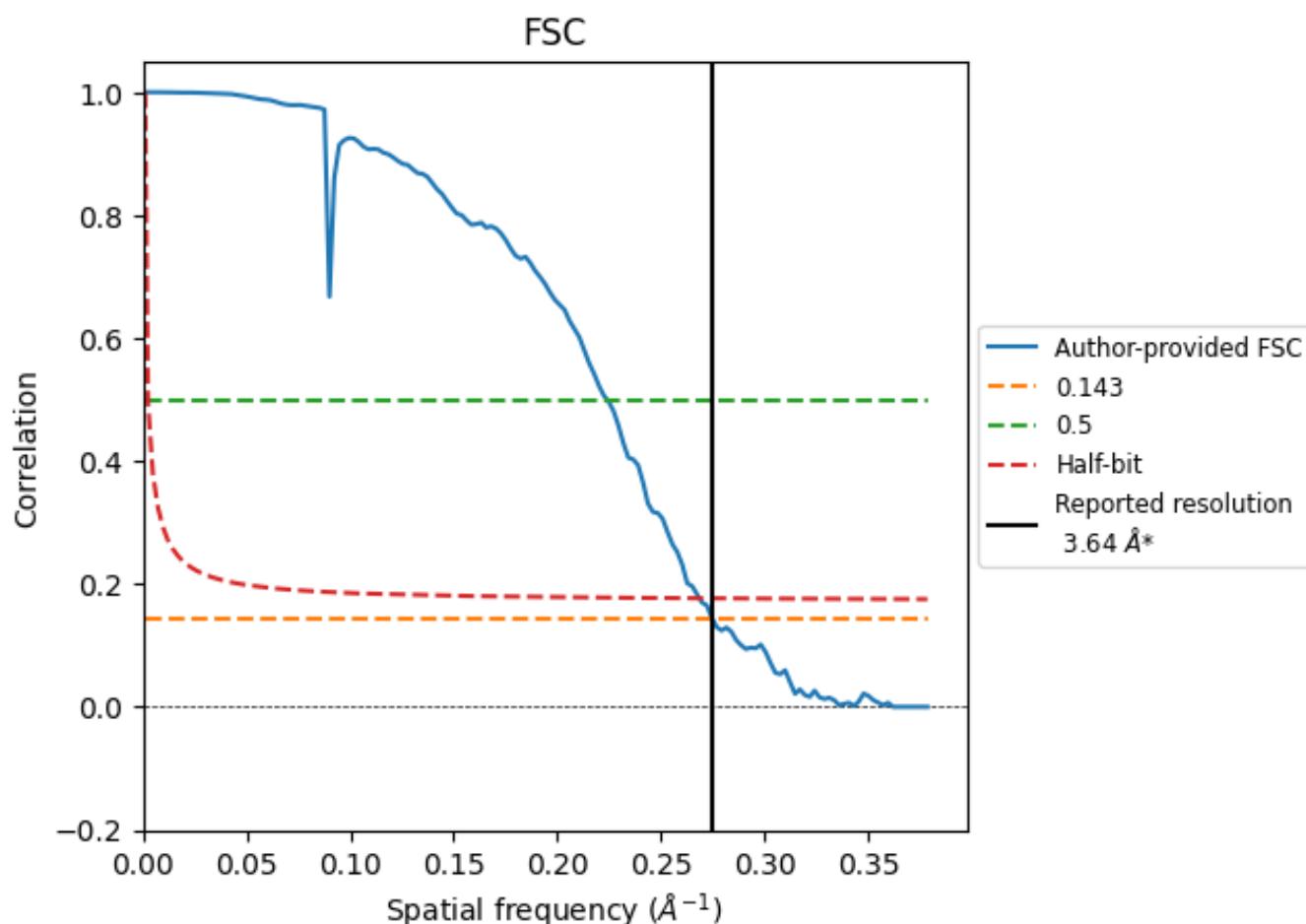


*Reported resolution corresponds to spatial frequency of 0.275 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.275 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	-	-	-
Author-provided FSC curve	3.64	4.46	3.72
Unmasked-calculated*	-	-	-

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

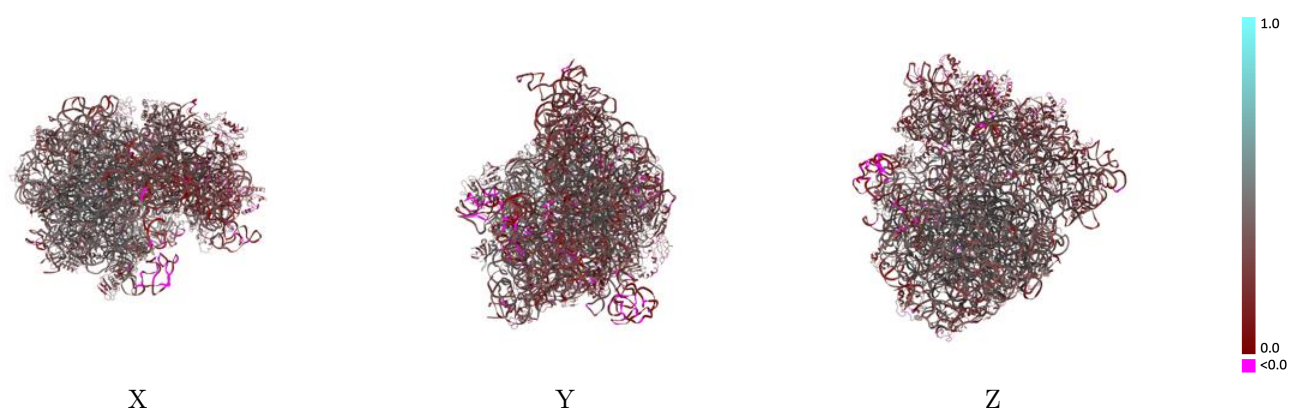
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-6483 and PDB model 3JBU. Per-residue inclusion information can be found in section 3 on page 14.

9.1 Map-model overlay [i](#)

This section was not generated.

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

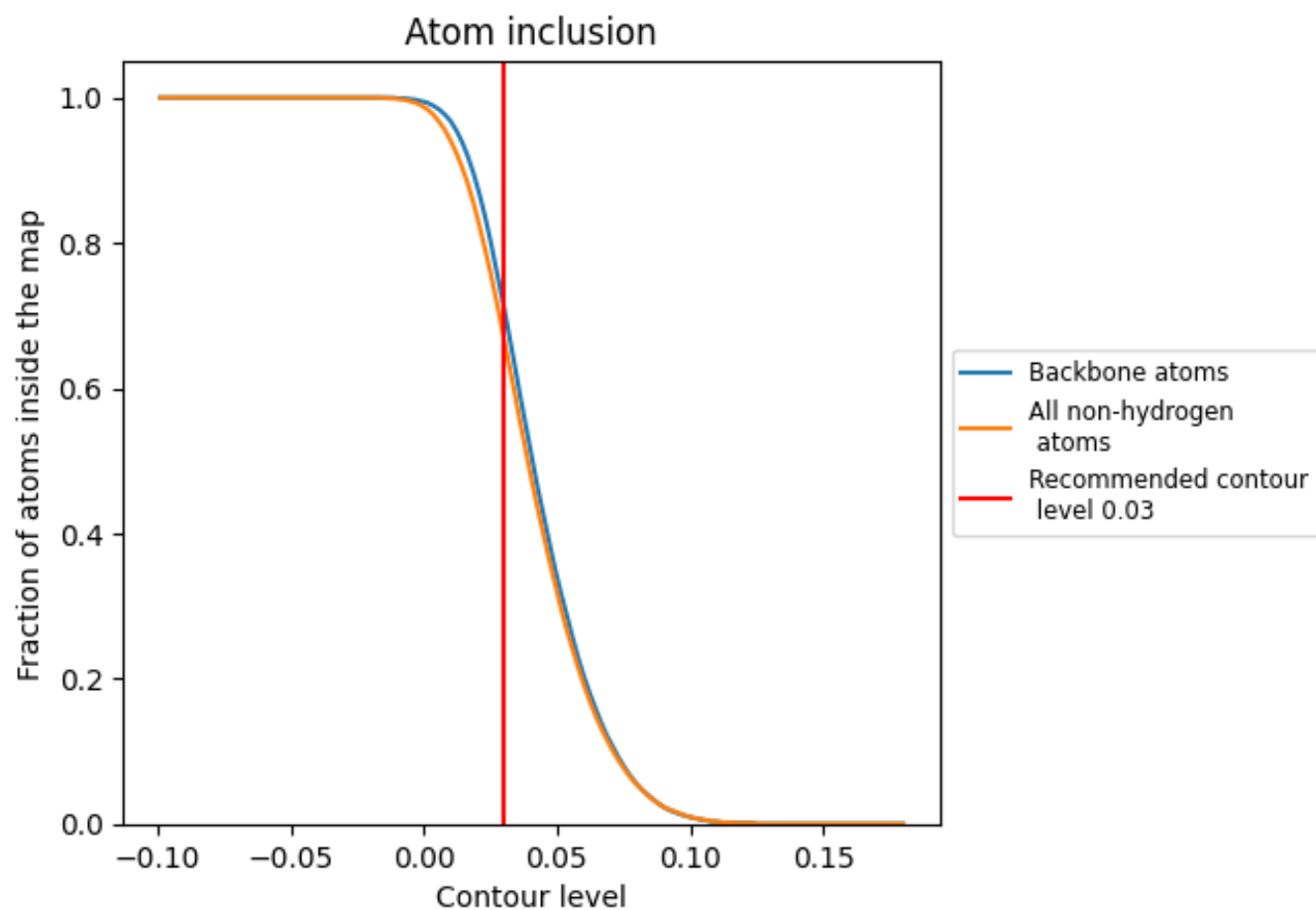


The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

This section was not generated.

9.4 Atom inclusion [i](#)



At the recommended contour level, 71% of all backbone atoms, 67% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6710	 0.3410
0	 0.6670	 0.3850
1	 0.4720	 0.2700
2	 0.6660	 0.3800
3	 0.6280	 0.3380
4	 0.6230	 0.3710
6	 0.7470	 0.4140
7	 0.7350	 0.4340
8	 0.6880	 0.4020
A	 0.6530	 0.3220
B	 0.1160	 0.2000
C	 0.1570	 0.1960
D	 0.1660	 0.1960
E	 0.2730	 0.2450
F	 0.4640	 0.3230
G	 0.3450	 0.2520
H	 0.2660	 0.2590
I	 0.2180	 0.1810
J	 0.1410	 0.1890
K	 0.4950	 0.3390
L	 0.4650	 0.3250
M	 0.3820	 0.2680
N	 0.2220	 0.2110
O	 0.5200	 0.2980
P	 0.3000	 0.2170
Q	 0.4000	 0.2910
R	 0.4380	 0.3410
S	 0.3240	 0.2680
T	 0.4570	 0.2500
U	 0.3130	 0.2140
X	 0.4480	 0.2590
a	 0.8220	 0.3620
b	 0.8130	 0.3760
c	 0.7110	 0.3900
d	 0.6570	 0.3880



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Chain	Atom inclusion	Q-score
e	 0.5800	 0.3340
f	 0.5290	 0.2630
g	 0.4890	 0.3040
h	 0.2420	 0.1940
j	 0.6860	 0.3860
k	 0.6070	 0.3850
l	 0.6440	 0.3720
m	 0.6620	 0.3920
n	 0.6630	 0.3710
o	 0.5840	 0.2880
p	 0.5890	 0.3400
q	 0.7090	 0.3910
r	 0.6050	 0.3710
s	 0.6590	 0.3890
t	 0.5650	 0.3130
u	 0.5060	 0.2760
v	 0.5580	 0.2800
w	 0.6060	 0.3440
y	 0.7050	 0.4020
z	 0.1850	 0.3150