



## wwPDB EM Map/Model Validation Report ⓘ

Apr 10, 2016 – 02:10 PM BST

PDB ID : 3J5L  
EMDB ID: : EMD-5771  
Title : Structure of the E. coli 50S subunit with ErmBL nascent chain  
Authors : Arenz, S.; Ramu, H.; Gupta, P.; Berninghausen, O.; Beckmann, R.; Vazquez-Laslop, N.; Mankin, A.S.; Wilson, D.N.  
Deposited on : 2013-10-23  
Resolution : 6.60 Å(reported)  
Based on PDB ID : 3OFR

This is a wwPDB EM Map/Model Validation Report for a publicly released PDB/EMDB entry.  
For rigid body fitted models, validation errors reported here could stem from errors in the original structure(s) used in the fitting.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at  
<http://wwpdb.org/validation/2016/EMValidationReportHelp>

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MolProbity : 4.02b-467  
Mogul : 1.7.1 (RC1), CSD as537be (2016)  
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk27241

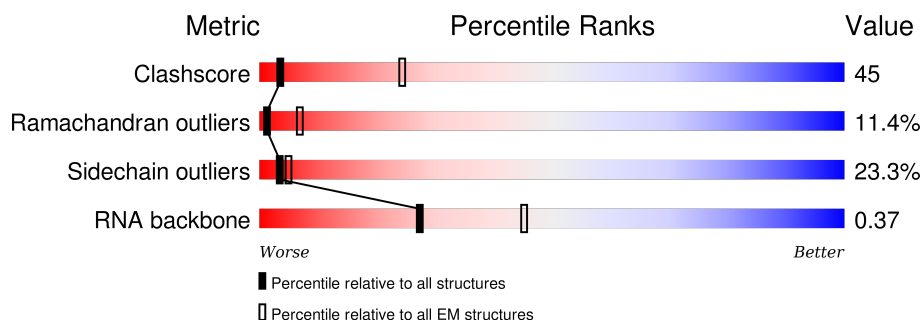
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 6.60 Å.

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







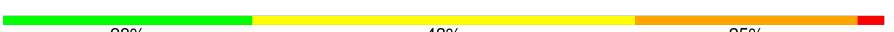
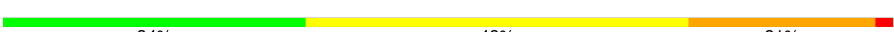
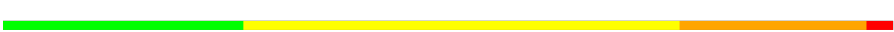





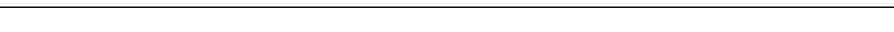

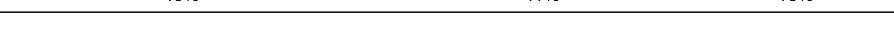

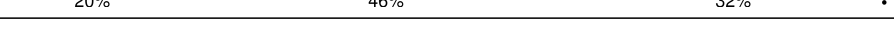

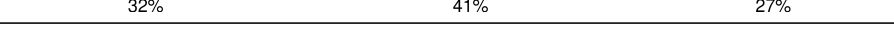


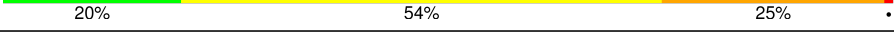


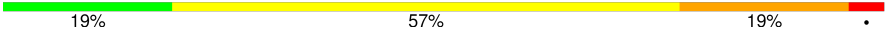
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	114402	924
Ramachandran outliers	111179	726
Sidechain outliers	111093	686
RNA backbone	3027	244

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

Mol	Chain	Length	Quality of chain
1	0	56	34% 48% 18%
2	1	50	32% 48% 20%
3	2	46	46% 33% 22%
4	3	64	36% 45% 17% .
5	4	38	32% 53% 13% .
6	5	2	100%
7	6	10	40% 40% 20%
8	7	3	33% 33% 33%

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Mol	Chain	Length	Quality of chain
9	A	2904	
10	B	118	
11	C	271	
12	D	209	
13	E	201	
14	F	177	
15	G	176	
16	H	56	
17	I	141	
18	J	142	
19	K	122	
20	L	143	
21	M	136	
22	N	120	
23	O	116	
24	P	114	
25	Q	117	
26	R	103	
27	S	110	
28	T	93	
29	U	102	
30	V	94	
31	W	79	
32	X	77	
33	Y	63	

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Mol	Chain	Length	Quality of chain
34	Z	58	<div><div></div><div>41%</div><div>34%</div><div>22%</div><div></div></div>

## 2 Entry composition

There are 36 unique types of molecules in this entry. The entry contains 89382 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S ribosomal protein L32.

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

- Molecule 2 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	1	50	Total	C	N	O	0	0
			410	263	75	72		

- Molecule 3 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
4	3	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 5 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	4	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 6 is a RNA chain called 5'-R(\*CP\*(MA6))-3'.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	5	2	Total	C	N	O	P	0	0
			41	21	8	11	1		

- Molecule 7 is a protein called Erythromycin resistance leader peptide.

Mol	Chain	Residues	Atoms	AltConf	Trace
7	6	8	Total C 8 8	0	8

- Molecule 8 is a RNA chain called 5'-R(\*CP\*CP\*A)-3'.

Mol	Chain	Residues	Atoms	AltConf	Trace
8	7	3	Total C N O P 59 28 11 18 2	0	0

- Molecule 9 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms	AltConf	Trace
9	A	2853	Total C N O P 61251 27324 11274 19800 2853	0	0

- Molecule 10 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms	AltConf	Trace
10	B	117	Total C N O P 2506 1116 459 814 117	0	0

- Molecule 11 is a protein called 50S ribosomal protein L2.

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

- Molecule 12 is a protein called 50S ribosomal protein L3.

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

- Molecule 13 is a protein called 50S ribosomal protein L4.

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

- Molecule 14 is a protein called 50S ribosomal protein L5.

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

- Molecule 15 is a protein called 50S ribosomal protein L6.

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

- Molecule 16 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	H	56	Total	C	N	O	S	0	0
			431	275	77	78	1		

- Molecule 17 is a protein called 50S ribosomal protein L11.

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

- Molecule 18 is a protein called 50S ribosomal protein L13.

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

- Molecule 19 is a protein called 50S ribosomal protein L14.

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

- Molecule 20 is a protein called 50S ribosomal protein L15.

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

- Molecule 21 is a protein called 50S ribosomal protein L16.

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

- Molecule 22 is a protein called 50S ribosomal protein L17.

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

- Molecule 23 is a protein called 50S ribosomal protein L18.

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

- Molecule 24 is a protein called 50S ribosomal protein L19.

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

- Molecule 25 is a protein called 50S ribosomal protein L20.

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

- Molecule 26 is a protein called 50S ribosomal protein L21.

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

- Molecule 27 is a protein called 50S ribosomal protein L22.

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

- Molecule 28 is a protein called 50S ribosomal protein L23.



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

- Molecule 29 is a protein called 50S ribosomal protein L24.

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

- Molecule 30 is a protein called 50S ribosomal protein L25.

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

- Molecule 31 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	W	79	Total	C	N	O	S	0	0
			596	367	120	108	1		

- Molecule 32 is a protein called 50S ribosomal protein L28.

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

- Molecule 33 is a protein called 50S ribosomal protein L29.

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

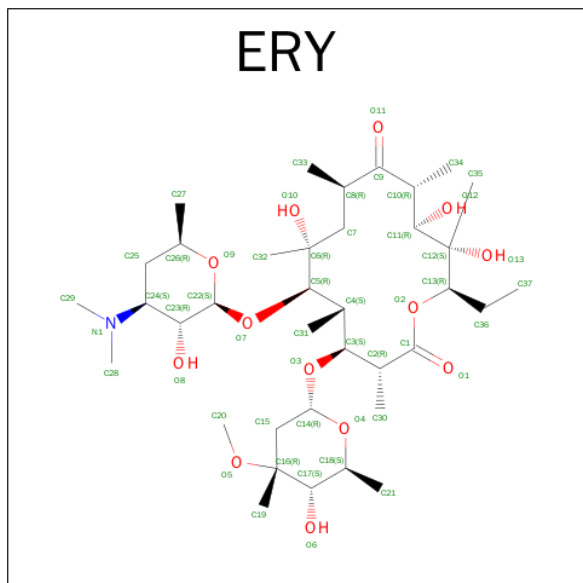
- Molecule 34 is a protein called 50S ribosomal protein L30.

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

- Molecule 35 is UNKNOWN LIGAND (three-letter code: UNL) (formula: ).

Mol	Chain	Residues	Atoms				AltConf
35	5	1	Total	C	N	O	0
			4	2	1	1	

- Molecule 36 is ERYTHROMYCIN A (three-letter code: ERY) (formula:  $C_{37}H_{67}NO_{13}$ ).

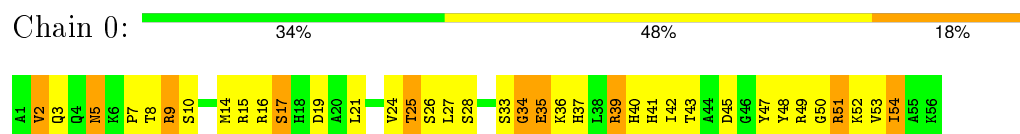


Mol	Chain	Residues	Atoms				AltConf
36	A	1	Total	C	N	O	0
			51	37	1	13	

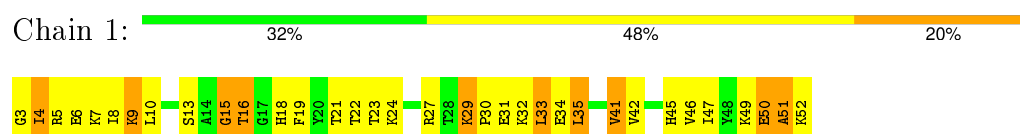
### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

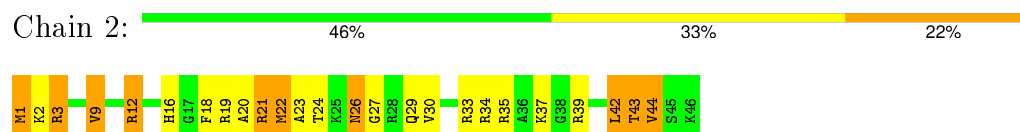
- Molecule 1: 50S ribosomal protein L32



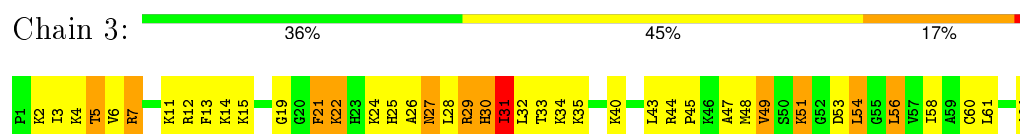
- Molecule 2: 50S ribosomal protein L33



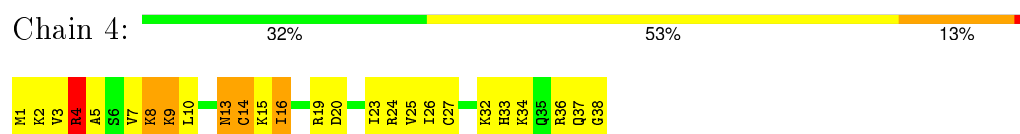
- Molecule 3: 50S ribosomal protein L34



- Molecule 4: 50S ribosomal protein L35



- Molecule 5: 50S ribosomal protein L36



- Molecule 6: 5'-R(\*CP\*(MA6))-3'



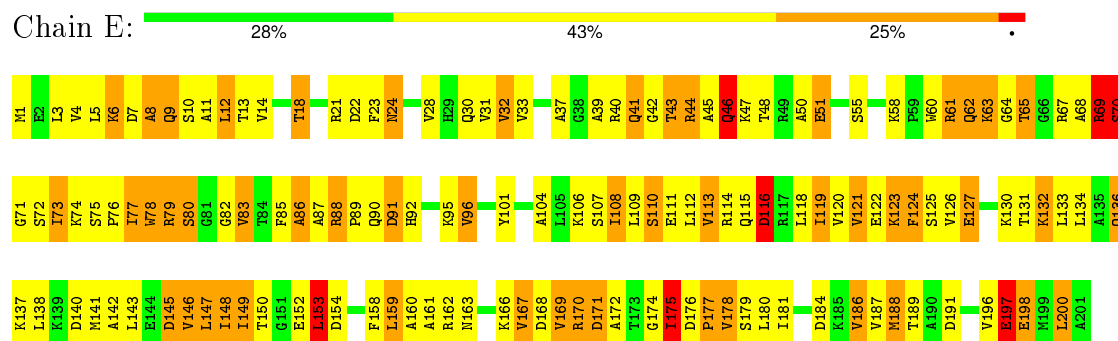




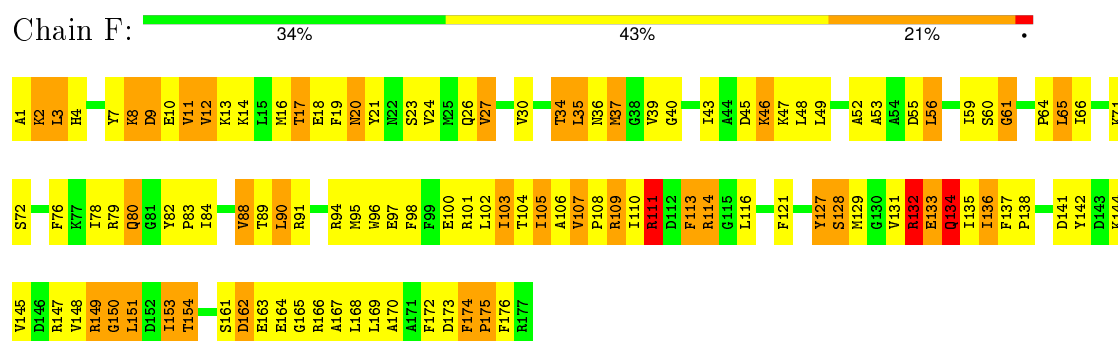

C2666	A2602	C2540	U2479	C2417	C2350	G2290	A2237	U	G2107	A2042	A1977	A1916	G1850	A1785	U1720
C2667	G2603	A2541	C2480	A2418	G2351	U2291	G2228	G	A2108	A2043	A1978	U1917	U1851	A1786	G1721
G2668	U2604	A2542	G2481	U2419	A2352	U2292	U2230	A	U2109	C2043	U1979	A1918	A1852	A1787	A1722
G2669	U2605	G2543	A2482	C2420	G2353	G2293	G2230	A	G2110	C2044	G1980	A1919	A1853	C1788	
A2670	C2606	G2544	G2483	G2421	C2354	G2294	U2231	A	U		U1981	C1920	A1854	A1789	U1726
G2671	G2607	G2545	G2484	C2422	G2355	G2295	C2232	A	U	C2047	U1982	G1921	U1855	C1790	G1727
G2672	G2608	U2546	G2485	U2423	U2356	U2296	U2233	A	U	G2048	G1983	G1922	U1856	C1728	
G2673	U2609	A2547	C2486	C2424	C2357	A2297	G2234	C	A	G2049	G1984	U1923	G1857	G1792	
	C2610	U2548	G2487	A2425	A2358	A2298	G2235	C	U	C2050	G1985	C1924	U1858	C1793	
C2678	C2611	G2549	G2488	A2426		U2299	U2236	A	G	A2051	C1986	C1925	A1859	C1730	
A2679	G2612	C2427	U2489	C2427	C2360	C2300	U2237	C	A	A2052	C1987	C1926	U1860	G1731	
U2680	U2613	G2428	G2490	G2428	C2362	U2302	G2238	C	U	G2053	G1988	A1927	U1864	G1732	
U2681	A2614	U2429	U2491	G2429	G2363	G2303	G2239	A	U	A2054	G1989	A1928	U1864	G1733	
A2682	U2615	A2430	U2492	U2430	C2364	G2303		U2180	G	C2055	C1990	G1929	U1865	G1734	
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C2685	C2618	A2433	G2495	G2367	A2368	C2306	U2245	A2183	G		U1993	A1932	C1868	G1737	
G2686	G2619	U2434	C2496	C2368	C2369	G2307	U2246	A2184	G	A2060	C1994	G1933	C1869	G1738	
	C2620	A2435	A2497			G2308	A2247	U2185	A	G2061	U1995	C1934	C1870	A1739	
U2687	G2621	U2436	C2498	G2437	G2373	A2309	U2248	A2186	G	A2062	C1996	G1935	A1871		
G2688	U2622	G2437	C2499	U2437	C2374	C2310	U2249	U2187	G	C2063	C1997	A1936	A1872	G1740	
G2689	G2623	U2438	U2500	U2438	G2375	U2312	G2250	U2188	G	C2064	A1998	A1937	A1873	U1742	
C2691	G2627	A2439	C2501	A2439		U2313	G2251	U2189	C	C2065	C1999	A1938	C1874	G1743	
G2692	U2628	U2440	G2502	C2440	C2380	A2314	G2252	A2190	U	C2066	C2000	U1939	G1875	A1744	
G2693	G2630	U2441	A2503	U2441	A2381	G2315		A2191	U	G2067	C2001	U1940	A1876	A1745	
G2694	U2631	C2442	U2504	C2442	C2382	G2316		U2192	U	U2068	G2002	C1941	A1877	A1746	
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G2697		C2444	U2506		U2317	G2318	U2257	U2194	A2134	A2070	C2007	U1943	C1879	C1748	
U2698	G2635	U2445	G2507		C2384	G2319	C2258	U2195	A2135	U2079	U2007	U1944	U1880	A1749	
G2699	U2636	G2446	G2508		C2385	G2320	U2259	C2196	G2136	C2072	C2008	G1945	C1817		
G2700	G2637	U2447	G2509	U2448	U2387	U2320	C2260	U2197	U2137	U2075	U2011	U1946	U1882	G1753	
U2701	U2638	U2449	C2510	U2450	A2388	A2321	C2261	A2198	G2138	U2076	G2012	C1947	U1883	A1754	
G2702	A2639	C2451	A2511	A2451	G2389	A2322	U2262	A2199	U2139	A2077	A2013	G1950	G1884	A1755	
G2703	G2640	U2452	A2512	C2452	U2390	G2323	C2263	G2200	G2140	C2078	A2014	U1951	A1885	G1756	
C2704	G2641	A2453	U2513	A2453	A2392	G2324	C2264	G2201	G2141	U2079	A2015	A1952	G1823	A1757	
A2705	G2642	G2454	C2514	G2454	U2393	G2325	U2265	U2202	A2142	A2080	U2016	A1953	G1824	A1758	
		G2455	A2515	G2455	C2394	A2327	A2267	G2204	G2144	U2081	U2017	G1954	U1825	C1760	
U2706	G2643	C2456	C2517	C2456	C2395	A2328	A2268	A2205	C2145	A2082	G2018	U1955	G1826	C1761	
U2707	U2644	U2457	A2518	U2457	G2396	U2329	G2269	C2206	C2146	A2083	A2019	U1956	U1827	A1762	
		G2458	U2519	G2458	G2397	G2330	A2270	C2207	A2147	C2084	A2020	C1957	G1828	G1763	
G2708	C2645	C2459	C2520	A2459	U2398	G2331	G2271	C2208	G2148	U2085	C2021	C1958	C1764	C1764	
		U2460	G2521	U2460	G2399	C2332	U2272	C2209	U2149	U2086	U2022	G1959	U1765		
U2711	U2647	A2461	U2522	A2461	G2400	A2333	A2273	U2210	C2150	G2087	C2023	A1960	G1898	G1766	
G2712	G2648	C2462	G2523	C2462	U2401	U2334	A2274	A2211	U2151	A2088	G2024	C1961	U1899	G1767	
U2713	C2649	C2463	C2524	C2463	U2402	A2335	C2275	A2212	G2152	C2089	C2025	U1962	A1890	U1769	
		G2464	G2525	G2464	C2403	G2336	G2276	U2213	C2153		U2026	U1963	A1836		
		C2465	G2526	C2465	U2404	G2337	G2277	C2214	A2154	G2092	G2027	G1964	C1837		
		U2466	C2527	C2466	G2405	C2338	A2278	C2215	U2155	U2093	U2028	G1965	C1838	A1773	
		C2467	U2528	C2467	A2406	C2339	G2279	G2216	G2156	A2094	G2029	A1966	G1839	C1774	
		A2468	G2529	A2468	A2407	A2340	G2280	G2217	G2157	A2095	A2030	C1967	G1840	U1775	
		U2469	A2530	U2469	U2408	G2341	A2281	U2218	A	C2096	A2031	G1968	G1907	G1776	
		G2470	G2531	G2470	G2409	C2342	G2282	U2219	G	A2097	G2032	A1969	C1908	U1777	
		A2471	U2532	A2471	G2410	U2343	C2283	U2220	C	U2098	A2033	A1970	C1909	U1778	
		C2472	U2533	C2472	A2411	G2345	A2284	G2221	U	U2099	U2034	U1971	G1910	U1779	
		U2473	U2534	U2473	A2412	G2346	C2285	G2222	C		G2035	G1972	U1911	A1780	
			G2535		G2413	A2347	G2286	G2223	A	C2103	C2036	G1973	A1912	U1781	
			U2537		G2414	A2348	A2287	G2224	C	C2104	A2037	C1974	A1913	U1782	
			C2538		G2415	U2349	A2288	A2225	C	U2105	G2038	G1975	A1848	A1783	
			C2539		G2416	G2349	G2289	C2226	U	U2106	U2039	U1976	G1849	A1784	



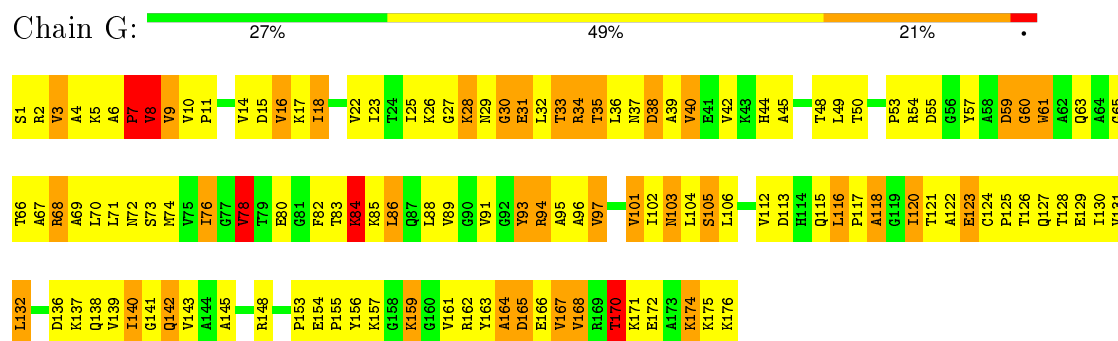
- Molecule 13: 50S ribosomal protein L4



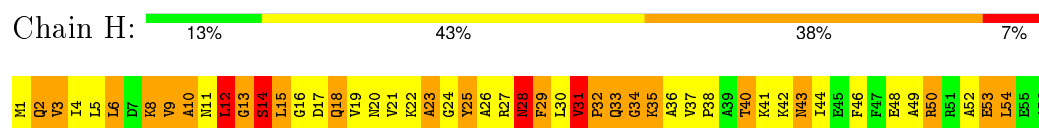
- Molecule 14: 50S ribosomal protein L5



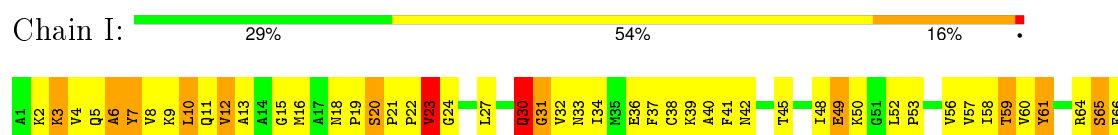
- Molecule 15: 50S ribosomal protein L6



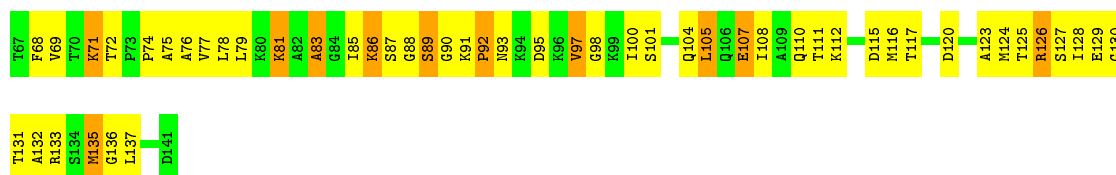
- Molecule 16: 50S ribosomal protein L9



- Molecule 17: 50S ribosomal protein L11

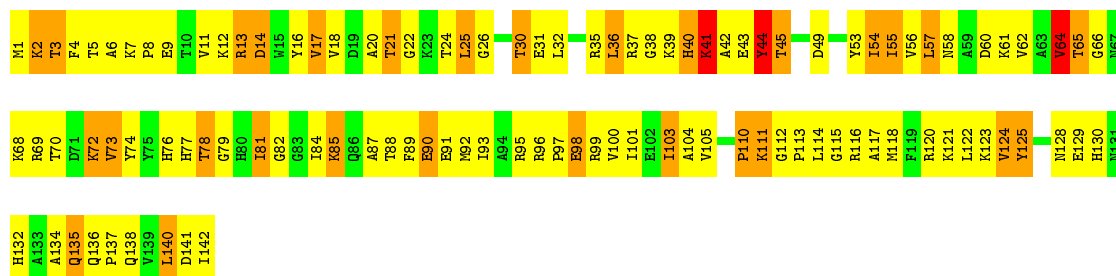






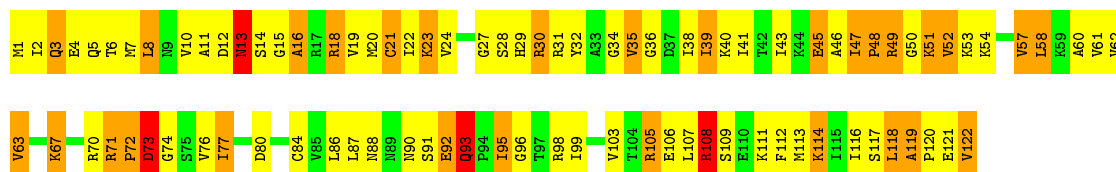
• Molecule 18: 50S ribosomal protein L13

Chain J: 25% 53% 20%



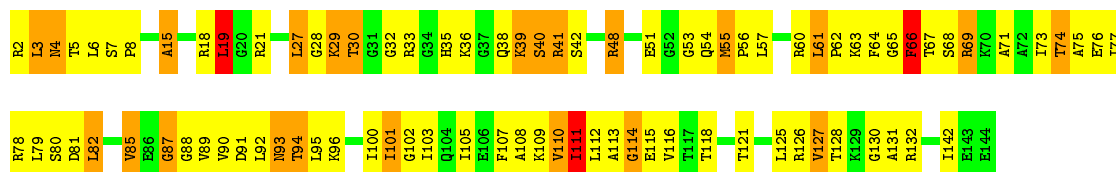
• Molecule 19: 50S ribosomal protein L14

Chain K: 26% 47% 24%



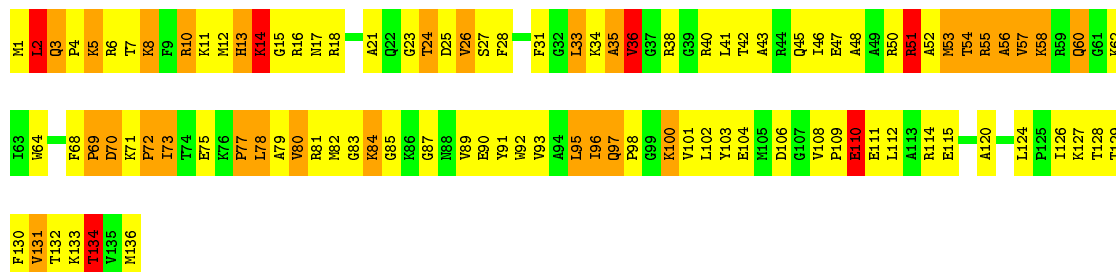
• Molecule 20: 50S ribosomal protein L15

Chain L: 38% 43% 16%

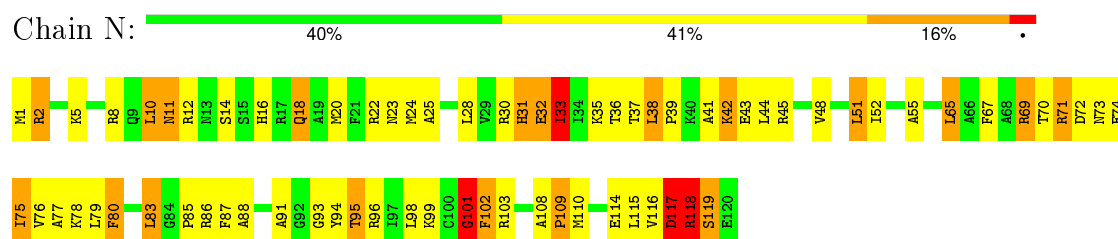


• Molecule 21: 50S ribosomal protein L16

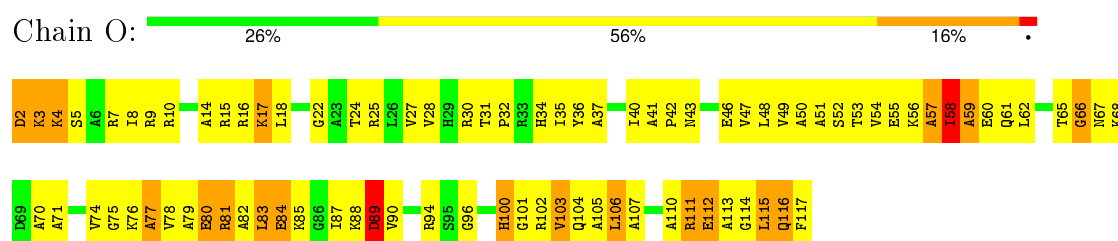
Chain M: 26% 49% 21%



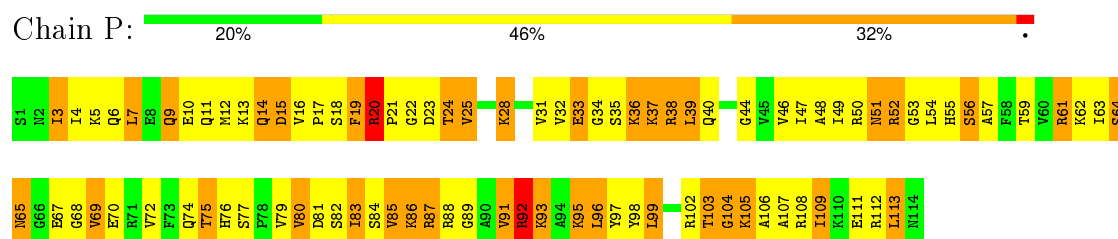
- Molecule 22: 50S ribosomal protein L17



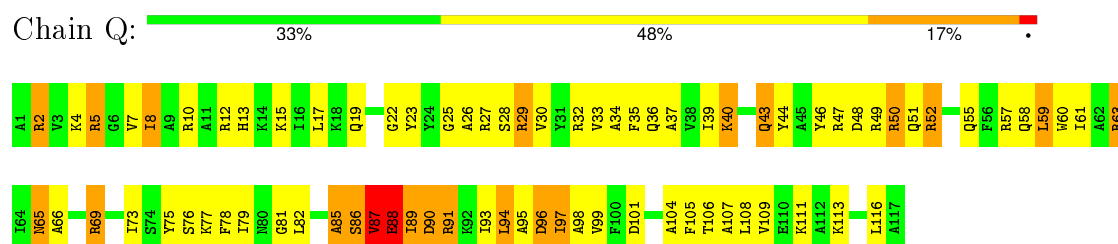
- Molecule 23: 50S ribosomal protein L18



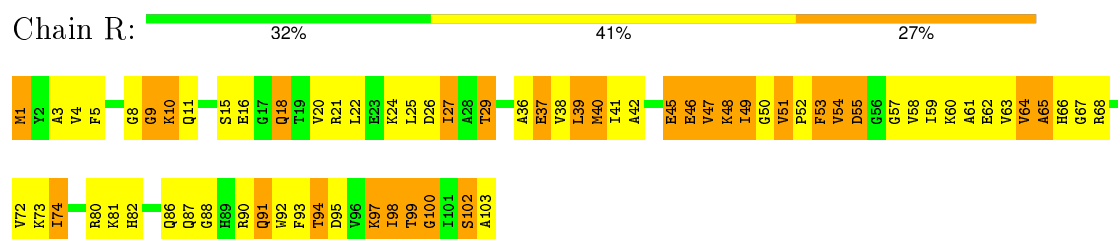
- Molecule 24: 50S ribosomal protein L19



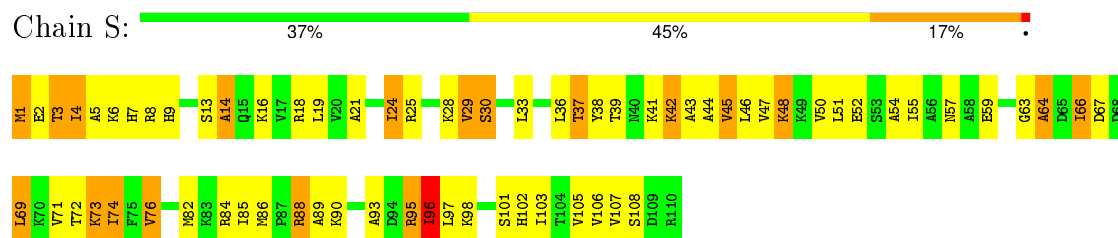
- Molecule 25: 50S ribosomal protein L20



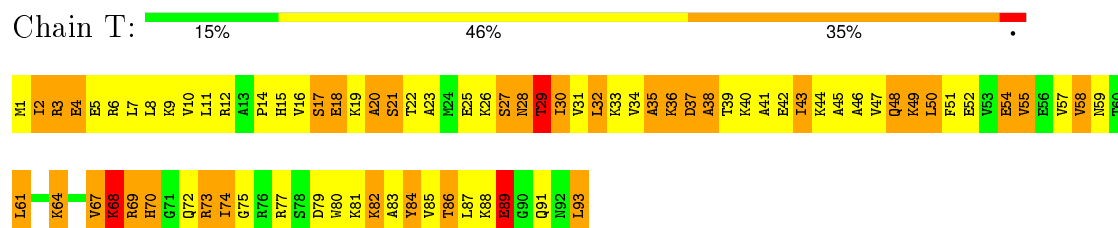
- Molecule 26: 50S ribosomal protein L21



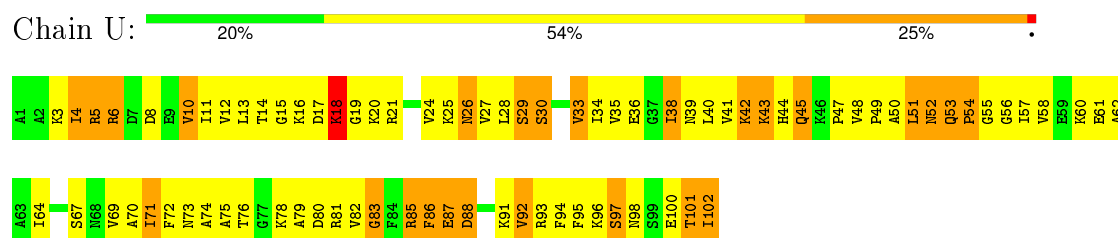
- Molecule 27: 50S ribosomal protein L22



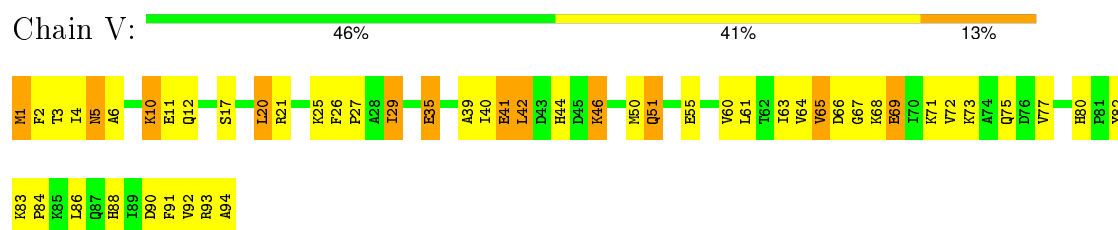
- Molecule 28: 50S ribosomal protein L23



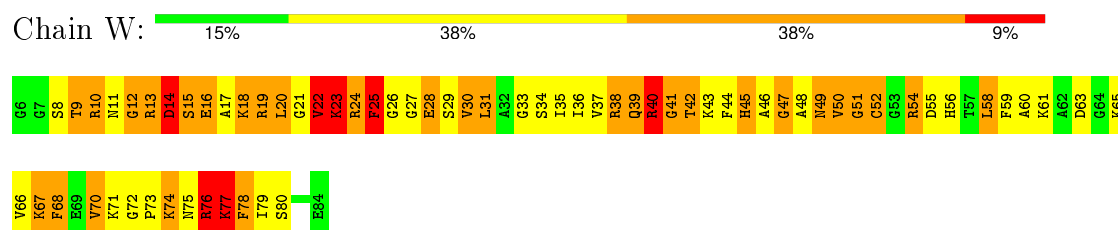
- Molecule 29: 50S ribosomal protein L24



- Molecule 30: 50S ribosomal protein L25

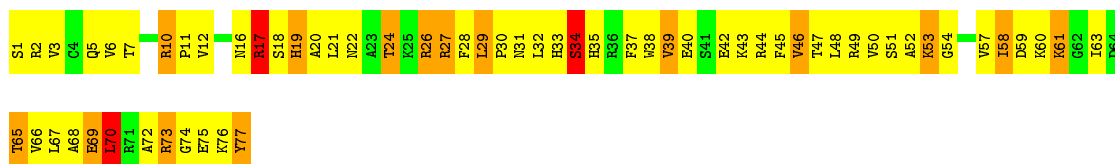


- Molecule 31: 50S ribosomal protein L27



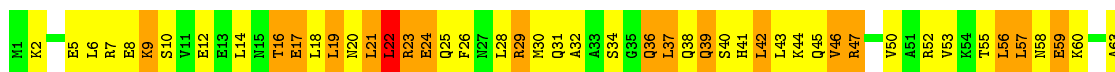
- Molecule 32: 50S ribosomal protein L28





- Molecule 33: 50S ribosomal protein L29

Chain Y: 24% 48% 27%



- Molecule 34: 50S ribosomal protein L30

Chain Z: 41% 34% 22%



## 4 Experimental information

Property	Value	Source
Reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	Depositor
Number of images	349744	Depositor
Resolution determination method	FSC at 0.5 cut-off	Depositor
CTF correction method	Defocus groups	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	200	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	20	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	4500	Depositor
Magnification	148721	Depositor
Image detector	TemCam-F416 CMOS CCD camera	Depositor

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: UNL, ERY, MA6

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	$\# Z  > 2$	RMSZ	$\# Z  > 2$
1	0	0.52	0/450	0.79	0/599
10	B	0.75	0/2801	1.57	48/4365 (1.1%)
11	C	0.48	0/2122	0.74	1/2852 (0.0%)
12	D	0.61	0/1586	0.80	2/2134 (0.1%)
13	E	0.51	0/1571	0.73	0/2113
14	F	0.33	0/1435	0.55	0/1926
15	G	0.38	0/1343	0.61	0/1816
16	H	0.32	0/436	0.57	0/586
17	I	0.23	0/1046	0.47	0/1410
18	J	0.60	0/1152	0.84	1/1551 (0.1%)
19	K	0.61	1/948 (0.1%)	0.83	0/1268
2	1	0.38	0/417	0.64	0/554
20	L	0.50	0/1054	0.80	2/1403 (0.1%)
21	M	0.55	0/1093	0.78	0/1460
22	N	0.55	0/974	0.82	2/1301 (0.2%)
23	O	0.42	0/902	0.66	0/1209
24	P	0.52	0/929	0.72	0/1242
25	Q	0.73	0/960	0.89	1/1278 (0.1%)
26	R	0.68	2/829 (0.2%)	0.85	1/1107 (0.1%)
27	S	0.63	0/864	0.84	0/1156
28	T	0.51	0/745	0.80	0/994
29	U	0.45	0/788	0.75	0/1051
3	2	0.52	0/380	0.71	0/498
30	V	0.47	0/766	0.65	0/1025
31	W	0.67	0/603	0.93	1/797 (0.1%)
32	X	0.43	0/635	0.75	1/848 (0.1%)
33	Y	0.39	0/510	0.63	0/677
34	Z	0.58	0/453	0.93	2/605 (0.3%)
4	3	0.50	0/513	0.70	1/676 (0.1%)
5	4	0.41	0/303	0.64	0/397
6	5	0.31	0/18	0.53	0/26
8	7	0.44	0/65	0.95	1/99 (1.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >2	RMSZ	# Z  >2
9	A	0.85	14/68599 (0.0%)	1.70	1689/107011 (1.6%)
All	All	0.77	17/97290 (0.0%)	1.52	1753/146034 (1.2%)

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
12	D	0	1
18	J	0	1
22	N	0	1
All	All	0	3

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	A	1142	A	N9-C4	-8.37	1.32	1.37
9	A	984	A	C5-C6	-7.42	1.34	1.41
26	R	86	GLN	CB-CG	7.24	1.72	1.52
9	A	1783	A	N7-C5	-6.73	1.35	1.39
9	A	2606	C	N1-C6	-5.88	1.33	1.37
9	A	984	A	N9-C4	-5.85	1.34	1.37
26	R	86	GLN	CG-CD	5.79	1.64	1.51
9	A	1785	A	N7-C5	-5.64	1.35	1.39
9	A	984	A	N3-C4	-5.60	1.31	1.34
9	A	563	A	N7-C5	-5.57	1.35	1.39
9	A	2699	C	N1-C6	-5.54	1.33	1.37
9	A	1299	G	N7-C5	-5.54	1.35	1.39
9	A	1385	A	N9-C4	-5.53	1.34	1.37
9	A	1658	C	N1-C6	-5.25	1.33	1.37
9	A	1654	A	N3-C4	-5.23	1.31	1.34
19	K	122	VAL	CA-CB	5.22	1.65	1.54
9	A	673	C	N1-C6	-5.13	1.34	1.37

All (1753) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	571	U	O4'-C1'-N1	17.58	122.26	108.20
9	A	2848	G	P-O3'-C3'	17.00	140.11	119.70
9	A	627	A	P-O3'-C3'	16.26	139.22	119.70
9	A	984	A	N1-C6-N6	16.12	128.27	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1603	A	P-O3'-C3'	-15.82	100.71	119.70
9	A	2893	A	P-O3'-C3'	15.11	137.83	119.70
9	A	984	A	C2-N3-C4	-15.01	103.10	110.60
9	A	1997	C	N1-C1'-C2'	-14.71	94.87	114.00
9	A	451	U	O4'-C1'-N1	14.65	119.92	108.20
9	A	788	A	P-O3'-C3'	14.60	137.22	119.70
9	A	1012	U	O4'-C1'-N1	14.27	119.61	108.20
9	A	302	C	N1-C1'-C2'	-14.14	95.62	114.00
9	A	250	G	P-O3'-C3'	-14.14	102.73	119.70
9	A	2283	C	N1-C1'-C2'	-14.12	95.64	114.00
9	A	531	C	O4'-C1'-N1	-13.76	97.19	108.20
9	A	2423	U	O4'-C1'-N1	-13.71	97.23	108.20
9	A	2752	C	N1-C1'-C2'	-13.71	96.18	114.00
9	A	2776	A	P-O3'-C3'	13.69	136.13	119.70
9	A	728	G	P-O3'-C3'	13.50	135.90	119.70
9	A	241	A	P-O3'-C3'	13.33	135.69	119.70
9	A	2800	A	P-O3'-C3'	13.18	135.52	119.70
9	A	1151	A	P-O3'-C3'	-13.04	104.05	119.70
9	A	1023	U	N1-C1'-C2'	-12.96	97.15	114.00
10	B	90	C	N1-C1'-C2'	-12.95	97.16	114.00
9	A	1461	C	N1-C1'-C2'	-12.94	97.17	114.00
9	A	783	A	P-O3'-C3'	-12.77	104.37	119.70
10	B	44	G	P-O3'-C3'	12.69	134.92	119.70
9	A	2517	C	O4'-C1'-N1	12.59	118.27	108.20
9	A	390	U	P-O3'-C3'	12.54	134.75	119.70
9	A	1635	A	P-O3'-C3'	-12.48	104.72	119.70
9	A	373	U	N1-C1'-C2'	-12.44	97.83	114.00
9	A	805	G	P-O3'-C3'	12.27	134.42	119.70
9	A	481	G	P-O3'-C3'	12.25	134.40	119.70
9	A	2214	C	N1-C1'-C2'	-12.24	98.09	114.00
9	A	92	U	N1-C1'-C2'	-12.15	98.20	114.00
9	A	227	A	P-O3'-C3'	12.10	134.22	119.70
9	A	847	U	P-O3'-C3'	-12.07	105.22	119.70
9	A	2447	G	P-O3'-C3'	12.05	134.16	119.70
9	A	1602	U	O4'-C1'-N1	12.04	117.83	108.20
9	A	449	A	P-O3'-C3'	-12.03	105.26	119.70
9	A	1435	G	P-O3'-C3'	-12.02	105.28	119.70
9	A	1240	U	O4'-C1'-N1	-11.98	98.61	108.20
9	A	1993	U	N1-C1'-C2'	-11.94	98.47	114.00
9	A	2712	C	P-O3'-C3'	11.88	133.95	119.70
9	A	1971	U	N1-C1'-C2'	-11.82	98.64	114.00
9	A	588	U	N1-C1'-C2'	-11.81	98.65	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	531	C	P-O3'-C3'	11.81	133.87	119.70
9	A	961	C	O4'-C1'-N1	11.79	117.64	108.20
9	A	790	U	N1-C1'-C2'	-11.76	98.72	114.00
10	B	88	C	O4'-C1'-N1	-11.74	98.81	108.20
9	A	984	A	C6-C5-N7	-11.71	124.10	132.30
9	A	2061	G	C4'-C3'-O3'	-11.67	84.89	109.40
9	A	1204	A	P-O3'-C3'	11.66	133.70	119.70
9	A	1815	A	P-O3'-C3'	11.65	133.68	119.70
9	A	2581	G	P-O3'-C3'	11.61	133.64	119.70
9	A	1602	U	P-O3'-C3'	11.55	133.56	119.70
9	A	1287	A	P-O3'-C3'	-11.55	105.84	119.70
9	A	1654	A	N9-C1'-C2'	-11.53	99.01	114.00
9	A	1782	U	N1-C1'-C2'	-11.46	99.10	114.00
9	A	1675	C	N1-C1'-C2'	-11.46	99.11	114.00
9	A	49	A	P-O3'-C3'	11.45	133.44	119.70
9	A	2691	C	N1-C1'-C2'	-11.45	99.12	114.00
9	A	2879	A	P-O3'-C3'	11.37	133.34	119.70
9	A	1963	U	P-O3'-C3'	-11.29	106.15	119.70
9	A	164	C	P-O3'-C3'	-11.24	106.22	119.70
9	A	1859	U	N1-C1'-C2'	-11.22	99.41	114.00
9	A	1779	U	O4'-C1'-N1	11.17	117.14	108.20
9	A	1967	C	N1-C1'-C2'	-11.17	99.48	114.00
9	A	2424	C	P-O3'-C3'	-11.12	106.36	119.70
9	A	1398	C	N1-C1'-C2'	-11.12	99.55	114.00
9	A	229	C	N1-C1'-C2'	-11.02	99.67	114.00
9	A	685	A	P-O3'-C3'	10.99	132.89	119.70
9	A	1394	U	O4'-C1'-N1	-10.99	99.41	108.20
9	A	2809	A	P-O3'-C3'	-10.96	106.55	119.70
9	A	671	C	N1-C1'-C2'	-10.95	99.77	114.00
9	A	573	U	O4'-C1'-N1	10.94	116.95	108.20
9	A	2449	U	O4'-C1'-N1	-10.94	99.45	108.20
9	A	435	C	N1-C1'-C2'	-10.92	99.81	114.00
9	A	2382	G	P-O3'-C3'	10.90	132.78	119.70
9	A	1417	C	N1-C1'-C2'	-10.88	99.86	114.00
9	A	861	A	P-O3'-C3'	-10.87	106.65	119.70
9	A	2894	G	P-O3'-C3'	-10.87	106.66	119.70
9	A	164	C	N1-C1'-C2'	-10.86	99.89	114.00
9	A	1247	A	P-O3'-C3'	10.82	132.69	119.70
9	A	2425	A	P-O3'-C3'	10.82	132.68	119.70
9	A	587	C	O4'-C1'-N1	-10.79	99.56	108.20
9	A	2333	A	P-O3'-C3'	10.78	132.64	119.70
9	A	249	C	P-O3'-C3'	10.75	132.60	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1330	C	N1-C1'-C2'	-10.73	100.05	114.00
9	A	243	U	N1-C1'-C2'	-10.72	100.06	114.00
9	A	784	G	P-O3'-C3'	10.71	132.56	119.70
9	A	790	U	P-O3'-C3'	-10.71	106.85	119.70
10	B	25	U	N1-C1'-C2'	-10.71	100.08	114.00
9	A	1013	C	N1-C1'-C2'	-10.70	100.09	114.00
9	A	995	C	O4'-C1'-N1	-10.69	99.65	108.20
9	A	2022	U	O4'-C1'-N1	10.67	116.73	108.20
9	A	1648	U	N1-C1'-C2'	-10.66	100.14	114.00
9	A	1360	G	P-O3'-C3'	-10.62	106.96	119.70
9	A	934	U	N1-C1'-C2'	-10.60	100.22	114.00
9	A	475	C	N1-C1'-C2'	-10.57	100.26	114.00
9	A	1249	U	N1-C1'-C2'	-10.57	100.26	114.00
9	A	2384	U	P-O3'-C3'	10.55	132.37	119.70
9	A	1427	A	P-O3'-C3'	10.53	132.34	119.70
9	A	2226	C	P-O3'-C3'	-10.50	107.10	119.70
9	A	645	C	P-O3'-C3'	10.47	132.26	119.70
9	A	2086	U	N1-C1'-C2'	-10.45	100.42	114.00
9	A	2068	U	N1-C1'-C2'	-10.44	100.43	114.00
9	A	1565	C	N1-C1'-C2'	10.43	127.56	114.00
9	A	2505	G	O3'-P-O5'	-10.43	84.18	104.00
9	A	2225	A	P-O3'-C3'	10.41	132.19	119.70
9	A	2239	G	P-O3'-C3'	-10.39	107.23	119.70
9	A	2023	C	N1-C1'-C2'	-10.38	100.50	114.00
9	A	1396	U	O4'-C1'-N1	10.37	116.50	108.20
9	A	119	A	P-O3'-C3'	10.36	132.13	119.70
9	A	2801	G	P-O3'-C3'	-10.36	107.27	119.70
9	A	239	C	N1-C1'-C2'	-10.34	100.56	114.00
9	A	1963	U	N1-C1'-C2'	-10.34	100.56	114.00
9	A	687	C	N1-C1'-C2'	-10.32	100.58	114.00
9	A	1045	C	P-O3'-C3'	10.32	132.09	119.70
9	A	2497	A	P-O3'-C3'	10.32	132.08	119.70
9	A	1288	G	O4'-C1'-N9	10.31	116.45	108.20
9	A	178	G	P-O3'-C3'	-10.31	107.33	119.70
9	A	604	G	P-O3'-C3'	-10.27	107.38	119.70
9	A	1634	A	P-O3'-C3'	10.23	131.98	119.70
9	A	1249	U	O4'-C1'-N1	-10.19	100.05	108.20
9	A	1941	C	N1-C1'-C2'	-10.19	100.76	114.00
10	B	57	A	P-O3'-C3'	-10.18	107.48	119.70
9	A	656	G	P-O3'-C3'	-10.17	107.50	119.70
9	A	2044	C	P-O3'-C3'	-10.16	107.50	119.70
9	A	2609	U	O4'-C1'-N1	10.15	116.32	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2036	C	N1-C1'-C2'	-10.14	100.82	114.00
9	A	1954	G	P-O3'-C3'	10.13	131.86	119.70
9	A	61	C	N1-C1'-C2'	-10.09	100.89	114.00
9	A	1971	U	O4'-C1'-N1	10.09	116.27	108.20
9	A	2807	U	O4'-C1'-N1	-10.06	100.15	108.20
9	A	784	G	O4'-C1'-N9	-10.06	100.15	108.20
9	A	646	U	N1-C1'-C2'	-10.03	100.96	114.00
9	A	204	A	P-O3'-C3'	9.99	131.69	119.70
9	A	2030	A	P-O3'-C3'	9.99	131.68	119.70
9	A	2137	U	N1-C1'-C2'	-9.97	101.04	112.00
9	A	2725	A	P-O3'-C3'	9.95	131.64	119.70
9	A	2808	G	P-O3'-C3'	9.94	131.63	119.70
9	A	1034	G	P-O3'-C3'	-9.94	107.77	119.70
9	A	2728	U	P-O3'-C3'	9.93	131.61	119.70
9	A	1250	G	P-O3'-C3'	9.90	131.58	119.70
9	A	1654	A	P-O3'-C3'	-9.90	107.82	119.70
9	A	301	G	P-O3'-C3'	9.88	131.56	119.70
9	A	215	G	P-O3'-C3'	9.88	131.56	119.70
9	A	1272	A	P-O3'-C3'	9.87	131.54	119.70
9	A	2611	C	N1-C1'-C2'	-9.83	101.18	112.00
9	A	2572	A	P-O3'-C3'	9.82	131.48	119.70
9	A	2835	A	P-O3'-C3'	9.81	131.47	119.70
9	A	2824	C	N1-C2-O2	-9.78	113.03	118.90
9	A	1816	C	P-O3'-C3'	-9.78	107.96	119.70
9	A	2756	U	P-O3'-C3'	9.77	131.42	119.70
9	A	85	G	P-O3'-C3'	-9.76	107.99	119.70
9	A	2210	U	P-O3'-C3'	9.75	131.40	119.70
9	A	459	U	N1-C1'-C2'	-9.74	101.29	112.00
9	A	2347	C	N1-C1'-C2'	-9.73	101.29	112.00
9	A	620	G	P-O3'-C3'	9.73	131.38	119.70
9	A	2689	U	O4'-C1'-N1	9.70	115.96	108.20
9	A	747	U	P-O3'-C3'	-9.68	108.08	119.70
9	A	1838	C	P-O3'-C3'	9.68	131.31	119.70
9	A	587	C	N1-C1'-C2'	9.67	126.56	114.00
9	A	126	A	P-O3'-C3'	-9.66	108.11	119.70
9	A	1135	C	N1-C1'-C2'	-9.65	101.38	112.00
9	A	783	A	C5-N7-C8	-9.65	99.08	103.90
9	A	2866	U	O4'-C1'-N1	9.65	115.92	108.20
9	A	616	A	P-O3'-C3'	-9.63	108.15	119.70
9	A	527	C	P-O3'-C3'	9.61	131.23	119.70
9	A	1288	G	P-O3'-C3'	9.60	131.22	119.70
9	A	1647	U	O4'-C1'-N1	9.60	115.88	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	503	A	P-O3'-C3'	9.58	131.20	119.70
9	A	2629	U	P-O3'-C3'	9.55	131.16	119.70
9	A	1476	U	N1-C1'-C2'	-9.54	101.50	112.00
9	A	1329	U	P-O3'-C3'	9.54	131.15	119.70
9	A	2060	A	P-O3'-C3'	9.54	131.15	119.70
9	A	1455	G	P-O3'-C3'	-9.53	108.26	119.70
9	A	2645	G	P-O3'-C3'	9.51	131.11	119.70
9	A	2490	G	P-O3'-C3'	9.50	131.10	119.70
9	A	522	A	P-O3'-C3'	-9.49	108.31	119.70
9	A	238	C	P-O3'-C3'	9.48	131.07	119.70
9	A	506	G	P-O3'-C3'	9.45	131.04	119.70
9	A	984	A	N9-C4-C5	-9.45	102.02	105.80
9	A	1682	G	P-O3'-C3'	-9.45	108.36	119.70
9	A	2312	U	N1-C1'-C2'	-9.45	101.61	112.00
9	A	866	A	N9-C1'-C2'	-9.44	101.61	112.00
10	B	52	A	P-O3'-C3'	9.42	131.01	119.70
9	A	413	C	N1-C1'-C2'	-9.42	101.64	112.00
9	A	2468	A	P-O3'-C3'	9.42	131.00	119.70
9	A	2603	G	P-O3'-C3'	-9.41	108.41	119.70
9	A	2656	U	N1-C1'-C2'	-9.38	101.68	112.00
9	A	621	A	P-O3'-C3'	-9.37	108.46	119.70
9	A	2681	C	P-O3'-C3'	9.36	130.94	119.70
9	A	404	A	P-O3'-C3'	9.36	130.93	119.70
9	A	1265	A	P-O3'-C3'	9.35	130.92	119.70
9	A	1498	C	N1-C1'-C2'	-9.34	101.72	112.00
9	A	2200	C	N1-C1'-C2'	-9.33	101.74	112.00
9	A	2498	C	N1-C1'-C2'	-9.32	101.75	112.00
9	A	2732	G	P-O3'-C3'	9.31	130.88	119.70
9	A	92	U	P-O3'-C3'	-9.31	108.53	119.70
9	A	2197	U	P-O3'-C3'	9.30	130.86	119.70
9	A	727	A	P-O5'-C5'	-9.27	106.06	120.90
10	B	48	U	P-O5'-C5'	-9.27	106.06	120.90
9	A	512	G	O4'-C1'-N9	9.27	115.61	108.20
9	A	200	U	N1-C1'-C2'	-9.25	101.83	112.00
9	A	1779	U	C5-C6-N1	-9.24	118.08	122.70
9	A	671	C	O4'-C1'-N1	9.23	115.59	108.20
9	A	686	U	O4'-C1'-N1	9.22	115.58	108.20
10	B	67	G	P-O3'-C3'	-9.20	108.66	119.70
9	A	1644	C	N1-C1'-C2'	-9.20	101.88	112.00
9	A	143	C	N1-C1'-C2'	-9.16	101.92	112.00
9	A	61	C	P-O3'-C3'	-9.15	108.72	119.70
9	A	1965	C	N1-C1'-C2'	-9.12	101.97	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	62	U	O4'-C1'-N1	9.11	115.49	108.20
9	A	2266	A	P-O3'-C3'	9.11	130.63	119.70
9	A	811	U	P-O3'-C3'	9.08	130.59	119.70
9	A	1920	C	P-O3'-C3'	-9.08	108.81	119.70
9	A	962	G	P-O3'-C3'	-9.07	108.81	119.70
9	A	974	G	C5-N7-C8	-9.07	99.76	104.30
9	A	1499	C	O4'-C1'-N1	9.06	115.45	108.20
9	A	646	U	O4'-C1'-N1	9.06	115.45	108.20
9	A	2354	C	O4'-C1'-N1	-9.06	100.95	108.20
9	A	2319	G	P-O3'-C3'	9.05	130.56	119.70
9	A	2541	A	P-O3'-C3'	9.03	130.53	119.70
9	A	1786	A	O4'-C1'-N9	9.02	115.42	108.20
10	B	40	U	P-O3'-C3'	9.01	130.51	119.70
9	A	2689	U	N1-C1'-C2'	8.97	125.67	114.00
9	A	847	U	N1-C1'-C2'	-8.94	102.16	112.00
9	A	165	A	P-O3'-C3'	-8.94	108.97	119.70
9	A	2051	A	P-O3'-C3'	8.94	130.43	119.70
9	A	27	G	P-O3'-C3'	8.93	130.41	119.70
9	A	208	C	C6-N1-C2	8.91	123.87	120.30
9	A	2230	G	P-O3'-C3'	-8.91	109.01	119.70
9	A	421	C	P-O3'-C3'	8.90	130.38	119.70
9	A	2733	A	P-O3'-C3'	-8.88	109.05	119.70
9	A	2504	U	N1-C1'-C2'	-8.87	102.25	112.00
9	A	1379	U	N1-C1'-C2'	-8.86	102.25	112.00
9	A	1981	A	P-O3'-C3'	-8.86	109.06	119.70
9	A	1434	A	P-O3'-C3'	8.86	130.33	119.70
9	A	369	U	O4'-C1'-N1	-8.85	101.12	108.20
9	A	805	G	P-O5'-C5'	-8.84	106.75	120.90
9	A	34	U	P-O3'-C3'	8.81	130.27	119.70
9	A	984	A	C4-C5-N7	8.80	115.10	110.70
9	A	1716	U	N1-C1'-C2'	-8.79	102.33	112.00
9	A	1568	G	P-O3'-C3'	-8.79	109.15	119.70
9	A	1816	C	N1-C1'-C2'	-8.79	102.33	112.00
9	A	249	C	N1-C1'-C2'	8.78	125.41	114.00
9	A	2517	C	C6-N1-C2	8.77	123.81	120.30
9	A	2880	C	N1-C1'-C2'	-8.77	102.35	112.00
9	A	1326	U	P-O3'-C3'	-8.74	109.21	119.70
9	A	1451	C	O4'-C1'-N1	8.74	115.19	108.20
9	A	2520	C	N1-C1'-C2'	-8.74	102.39	112.00
9	A	1210	G	P-O3'-C3'	8.73	130.18	119.70
9	A	2689	U	P-O3'-C3'	8.72	130.17	119.70
9	A	2727	A	P-O3'-C3'	-8.72	109.23	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1626	A	P-O3'-C3'	8.70	130.14	119.70
9	A	1739	A	P-O3'-C3'	-8.69	109.28	119.70
9	A	748	G	P-O3'-C3'	-8.68	109.29	119.70
9	A	1508	A	P-O3'-C3'	8.66	130.09	119.70
9	A	1942	C	N1-C1'-C2'	-8.66	102.47	112.00
9	A	2519	U	O4'-C1'-N1	8.66	115.13	108.20
9	A	1142	A	C2-N3-C4	-8.65	106.28	110.60
9	A	2612	C	O4'-C1'-N1	8.64	115.12	108.20
9	A	28	A	P-O5'-C5'	-8.64	107.07	120.90
9	A	946	C	N1-C1'-C2'	-8.64	102.49	112.00
9	A	1675	C	P-O3'-C3'	-8.63	109.34	119.70
9	A	1558	C	P-O3'-C3'	8.63	130.06	119.70
9	A	2836	U	N1-C1'-C2'	-8.61	102.53	112.00
9	A	505	A	P-O3'-C3'	-8.61	109.37	119.70
9	A	2797	U	P-O3'-C3'	8.60	130.02	119.70
9	A	474	G	P-O3'-C3'	8.57	129.99	119.70
9	A	2573	C	N1-C1'-C2'	-8.57	102.57	112.00
9	A	2752	C	P-O3'-C3'	-8.57	109.41	119.70
9	A	958	U	O4'-C1'-N1	-8.55	101.36	108.20
9	A	2458	G	P-O3'-C3'	8.55	129.96	119.70
9	A	764	A	O4'-C1'-N9	8.52	115.02	108.20
9	A	2321	U	P-O3'-C3'	-8.51	109.48	119.70
9	A	984	A	N1-C2-N3	8.51	133.55	129.30
9	A	571	U	P-O3'-C3'	8.49	129.89	119.70
9	A	1956	U	N1-C1'-C2'	-8.49	102.66	112.00
9	A	1759	A	P-O3'-C3'	-8.48	109.52	119.70
9	A	1126	A	P-O3'-C3'	8.47	129.86	119.70
9	A	2426	A	P-O3'-C3'	8.47	129.86	119.70
9	A	865	C	P-O3'-C3'	8.46	129.86	119.70
9	A	791	C	O4'-C1'-N1	8.46	114.97	108.20
9	A	1942	C	P-O3'-C3'	-8.45	109.56	119.70
9	A	1407	G	P-O3'-C3'	-8.45	109.56	119.70
9	A	2035	G	P-O3'-C3'	8.44	129.83	119.70
9	A	1157	G	P-O3'-C3'	-8.43	109.59	119.70
9	A	904	G	P-O3'-C3'	-8.42	109.59	119.70
9	A	422	A	P-O3'-C3'	-8.40	109.62	119.70
9	A	783	A	N7-C8-N9	8.40	118.00	113.80
9	A	2093	G	N9-C1'-C2'	-8.38	102.78	112.00
9	A	1639	C	O4'-C1'-N1	8.37	114.90	108.20
9	A	1611	C	P-O3'-C3'	-8.37	109.66	119.70
9	A	1254	A	P-O5'-C5'	-8.36	107.52	120.90
9	A	2321	U	N1-C1'-C2'	-8.36	102.81	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1112	G	P-O3'-C3'	-8.35	109.68	119.70
10	B	42	C	N1-C1'-C2'	-8.35	102.82	112.00
9	A	1522	A	P-O3'-C3'	8.34	129.71	119.70
9	A	2250	G	O4'-C1'-N9	-8.34	101.53	108.20
9	A	391	A	P-O3'-C3'	-8.32	109.71	119.70
9	A	2846	G	P-O5'-C5'	-8.32	107.58	120.90
9	A	1732	C	P-O3'-C3'	8.31	129.68	119.70
9	A	2572	A	N1-C6-N6	8.31	123.59	118.60
9	A	2451	A	O3'-P-O5'	8.29	119.74	104.00
9	A	403	U	P-O3'-C3'	8.25	129.60	119.70
9	A	800	A	P-O3'-C3'	8.25	129.59	119.70
9	A	1653	G	P-O3'-C3'	8.24	129.59	119.70
9	A	673	C	C6-N1-C2	8.23	123.59	120.30
9	A	984	A	N9-C1'-C2'	-8.22	102.95	112.00
9	A	556	A	P-O3'-C3'	-8.22	109.83	119.70
9	A	1848	A	P-O3'-C3'	-8.22	109.84	119.70
9	A	2422	C	O4'-C1'-N1	-8.19	101.65	108.20
9	A	1213	A	P-O5'-C5'	-8.19	107.80	120.90
9	A	1021	A	P-O3'-C3'	-8.18	109.88	119.70
9	A	2215	C	N1-C1'-C2'	-8.18	103.00	112.00
9	A	1859	U	P-O3'-C3'	-8.17	109.90	119.70
9	A	783	A	N9-C1'-C2'	-8.16	103.03	112.00
9	A	144	A	P-O3'-C3'	-8.15	109.92	119.70
9	A	595	C	C6-N1-C2	8.13	123.55	120.30
9	A	2613	U	P-O3'-C3'	8.13	129.46	119.70
9	A	2777	G	P-O3'-C3'	-8.12	109.95	119.70
9	A	1013	C	P-O3'-C3'	-8.12	109.96	119.70
9	A	1901	A	P-O3'-C3'	-8.12	109.96	119.70
9	A	1615	C	P-O3'-C3'	8.10	129.42	119.70
9	A	2601	C	O3'-P-O5'	8.10	119.38	104.00
9	A	783	A	N1-C6-N6	8.09	123.45	118.60
9	A	727	A	P-O3'-C3'	-8.07	110.01	119.70
9	A	1980	G	O4'-C1'-N9	8.04	114.64	108.20
9	A	1324	G	P-O3'-C3'	8.04	129.35	119.70
9	A	2602	A	P-O3'-C3'	-8.03	110.06	119.70
9	A	221	A	P-O3'-C3'	8.02	129.32	119.70
9	A	2646	C	N1-C1'-C2'	-8.00	103.20	112.00
9	A	196	A	O4'-C1'-N9	7.98	114.58	108.20
9	A	1980	G	P-O3'-C3'	7.97	129.27	119.70
9	A	2567	G	P-O3'-C3'	-7.97	110.13	119.70
9	A	2759	G	P-O5'-C5'	-7.97	108.14	120.90
9	A	1357	C	P-O3'-C3'	-7.95	110.16	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	812	C	P-O3'-C3'	-7.94	110.17	119.70
9	A	948	C	C5-C6-N1	-7.94	117.03	121.00
9	A	1782	U	P-O3'-C3'	-7.93	110.18	119.70
9	A	2214	C	P-O3'-C3'	-7.93	110.19	119.70
9	A	860	U	P-O5'-C5'	-7.93	108.22	120.90
9	A	1289	C	P-O3'-C3'	-7.92	110.19	119.70
10	B	16	G	P-O3'-C3'	-7.92	110.19	119.70
9	A	704	G	P-O3'-C3'	7.92	129.20	119.70
9	A	2337	G	P-O3'-C3'	-7.90	110.22	119.70
9	A	2606	C	C5-C6-N1	-7.89	117.06	121.00
9	A	1293	C	P-O3'-C3'	-7.88	110.25	119.70
9	A	531	C	N1-C1'-C2'	7.88	124.24	114.00
9	A	1255	U	N1-C1'-C2'	-7.87	103.34	112.00
9	A	2060	A	O4'-C1'-N9	7.87	114.50	108.20
9	A	2312	U	P-O3'-C3'	-7.87	110.26	119.70
9	A	2152	G	P-O3'-C3'	-7.86	110.27	119.70
9	A	654	A	P-O3'-C3'	7.85	129.12	119.70
9	A	1839	G	P-O3'-C3'	-7.85	110.28	119.70
9	A	2681	C	N1-C2-O2	-7.85	114.19	118.90
9	A	1255	U	O5'-P-OP1	-7.85	98.64	105.70
9	A	33	C	P-O3'-C3'	7.84	129.11	119.70
9	A	454	A	P-O3'-C3'	7.82	129.09	119.70
9	A	1627	G	P-O3'-C3'	-7.82	110.31	119.70
9	A	1026	G	P-O3'-C3'	-7.82	110.32	119.70
9	A	2258	C	P-O3'-C3'	7.81	129.07	119.70
9	A	764	A	P-O3'-C3'	7.81	129.07	119.70
9	A	137	U	O4'-C1'-N1	-7.79	101.96	108.20
9	A	817	C	N1-C2-O2	-7.79	114.22	118.90
9	A	196	A	P-O3'-C3'	7.79	129.05	119.70
9	A	385	C	O4'-C1'-N1	-7.79	101.97	108.20
9	A	1714	U	O4'-C1'-N1	-7.79	101.97	108.20
9	A	1732	C	O4'-C1'-N1	7.78	114.42	108.20
9	A	1127	A	C8-N9-C4	-7.77	102.69	105.80
9	A	2385	C	N1-C1'-C2'	-7.77	103.45	112.00
9	A	1340	U	O4'-C1'-N1	7.77	114.42	108.20
9	A	91	A	P-O3'-C3'	7.77	129.02	119.70
9	A	1885	A	P-O3'-C3'	-7.76	110.39	119.70
9	A	1555	G	P-O3'-C3'	-7.76	110.39	119.70
9	A	1936	A	C2-N3-C4	-7.75	106.72	110.60
9	A	1695	G	P-O3'-C3'	-7.71	110.44	119.70
9	A	2346	A	P-O3'-C3'	7.71	128.95	119.70
9	A	786	C	C6-N1-C2	7.69	123.37	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2506	U	C5'-C4'-O4'	7.68	118.31	109.10
9	A	2662	A	P-O3'-C3'	-7.68	110.49	119.70
9	A	2672	U	O4'-C1'-N1	-7.66	102.07	108.20
9	A	812	C	N1-C1'-C2'	-7.65	103.58	112.00
9	A	1681	G	P-O3'-C3'	7.64	128.87	119.70
9	A	1693	U	P-O3'-C3'	7.64	128.86	119.70
9	A	1306	C	O4'-C1'-N1	7.63	114.31	108.20
9	A	729	G	P-O3'-C3'	-7.63	110.54	119.70
9	A	783	A	C4-C5-N7	7.63	114.51	110.70
9	A	529	A	C8-N9-C4	7.62	108.85	105.80
9	A	697	G	P-O3'-C3'	7.62	128.84	119.70
9	A	1786	A	P-O3'-C3'	7.61	128.83	119.70
9	A	613	A	P-O3'-C3'	7.61	128.83	119.70
9	A	507	A	P-O3'-C3'	-7.60	110.58	119.70
9	A	490	C	P-O5'-C5'	-7.60	108.74	120.90
9	A	1706	C	P-O3'-C3'	7.60	128.82	119.70
9	A	984	A	C4-C5-C6	7.60	120.80	117.00
9	A	2250	G	C5-N7-C8	-7.60	100.50	104.30
9	A	740	C	N1-C1'-C2'	-7.58	103.66	112.00
9	A	482	A	P-O3'-C3'	-7.58	110.61	119.70
9	A	479	A	P-O3'-C3'	7.57	128.78	119.70
9	A	984	A	C5-C6-N6	-7.57	117.64	123.70
9	A	790	U	O4'-C1'-N1	7.57	114.25	108.20
9	A	2086	U	O4'-C1'-N1	7.56	114.25	108.20
9	A	1385	A	P-O3'-C3'	7.55	128.76	119.70
9	A	573	U	P-O3'-C3'	7.55	128.76	119.70
9	A	2566	A	P-O3'-C3'	7.55	128.76	119.70
9	A	2768	U	P-O3'-C3'	-7.55	110.64	119.70
9	A	1510	G	P-O3'-C3'	-7.54	110.65	119.70
9	A	985	C	P-O3'-C3'	-7.54	110.65	119.70
9	A	1416	G	P-O3'-C3'	7.54	128.75	119.70
9	A	1330	C	O4'-C1'-N1	7.53	114.22	108.20
9	A	1152	C	N1-C2-O2	-7.53	114.38	118.90
9	A	509	C	P-O3'-C3'	-7.51	110.69	119.70
9	A	914	G	P-O3'-C3'	-7.50	110.69	119.70
9	A	1286	A	O4'-C1'-N9	7.50	114.20	108.20
9	A	489	G	P-O3'-C3'	7.49	128.69	119.70
9	A	783	A	C6-C5-N7	-7.49	127.06	132.30
9	A	915	C	N1-C1'-C2'	-7.49	103.77	112.00
9	A	233	A	P-O3'-C3'	-7.48	110.72	119.70
9	A	1905	C	O4'-C1'-N1	7.47	114.18	108.20
9	A	1918	A	P-O3'-C3'	7.47	128.66	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1943	U	P-O3'-C3'	7.47	128.66	119.70
9	A	125	A	P-O3'-C3'	7.46	128.65	119.70
10	B	67	G	P-O5'-C5'	-7.46	108.96	120.90
9	A	2575	C	O4'-C1'-N1	7.46	114.17	108.20
10	B	108	A	P-O3'-C3'	7.46	128.65	119.70
9	A	177	G	P-O3'-C3'	7.45	128.64	119.70
9	A	777	G	N9-C1'-C2'	-7.45	103.80	112.00
9	A	1524	G	P-O3'-C3'	-7.43	110.78	119.70
9	A	14	A	P-O3'-C3'	-7.43	110.78	119.70
9	A	1205	A	P-O3'-C3'	7.43	128.62	119.70
9	A	2440	C	N1-C1'-C2'	-7.43	103.83	112.00
9	A	1491	G	P-O3'-C3'	-7.43	110.79	119.70
9	A	199	A	P-O3'-C3'	7.42	128.61	119.70
9	A	1461	C	P-O3'-C3'	-7.41	110.80	119.70
9	A	2423	U	N1-C1'-C2'	7.41	123.64	114.00
9	A	2645	G	O4'-C1'-N9	7.41	114.13	108.20
9	A	1048	A	P-O3'-C3'	-7.41	110.81	119.70
9	A	1119	U	P-O3'-C3'	-7.41	110.81	119.70
9	A	1451	C	P-O3'-C3'	7.41	128.59	119.70
9	A	2267	A	C3'-C2'-C1'	7.41	107.42	101.50
9	A	791	C	N1-C2-O2	-7.40	114.46	118.90
9	A	1063	G	P-O3'-C3'	-7.40	110.82	119.70
9	A	2151	U	O4'-C1'-N1	7.40	114.12	108.20
9	A	2615	U	N1-C1'-C2'	-7.39	103.87	112.00
9	A	995	C	P-O3'-C3'	7.38	128.56	119.70
9	A	1611	C	P-O5'-C5'	-7.38	109.10	120.90
9	A	1965	C	P-O3'-C3'	-7.37	110.85	119.70
9	A	60	G	P-O3'-C3'	7.37	128.54	119.70
9	A	2250	G	C6-C5-N7	-7.37	125.98	130.40
9	A	2151	U	N1-C1'-C2'	-7.35	103.91	112.00
9	A	2430	A	P-O3'-C3'	7.35	128.52	119.70
9	A	967	U	P-O3'-C3'	-7.35	110.88	119.70
9	A	395	U	P-O3'-C3'	7.35	128.52	119.70
9	A	2715	C	P-O3'-C3'	-7.34	110.89	119.70
9	A	835	C	N1-C1'-C2'	-7.34	103.93	112.00
9	A	1463	C	O4'-C1'-N1	-7.33	102.33	108.20
9	A	961	C	P-O3'-C3'	7.33	128.50	119.70
9	A	84	A	P-O3'-C3'	7.33	128.50	119.70
9	A	2431	U	N1-C1'-C2'	-7.32	103.94	112.00
9	A	35	G	P-O5'-C5'	-7.32	109.19	120.90
9	A	671	C	P-O3'-C3'	-7.31	110.93	119.70
9	A	747	U	O5'-P-OP2	-7.30	99.13	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1758	U	N1-C2-N3	7.29	119.28	114.90
9	A	1884	G	O4'-C1'-N9	7.29	114.03	108.20
9	A	1286	A	P-O3'-C3'	7.29	128.45	119.70
9	A	2459	A	P-O3'-C3'	-7.29	110.95	119.70
9	A	2791	G	P-O3'-C3'	-7.29	110.95	119.70
9	A	1867	G	P-O3'-C3'	-7.28	110.96	119.70
9	A	682	G	O4'-C1'-N9	-7.28	102.38	108.20
9	A	1027	A	O4'-C1'-N9	-7.27	102.38	108.20
9	A	1942	C	P-O5'-C5'	-7.27	109.27	120.90
9	A	70	G	P-O3'-C3'	7.27	128.42	119.70
9	A	2064	C	N1-C1'-C2'	-7.26	104.01	112.00
9	A	934	U	P-O3'-C3'	-7.26	110.99	119.70
9	A	984	A	C5-C6-N1	-7.26	114.07	117.70
9	A	324	A	P-O3'-C3'	-7.24	111.01	119.70
9	A	528	A	N1-C6-N6	7.24	122.94	118.60
9	A	726	G	P-O3'-C3'	7.23	128.38	119.70
9	A	752	A	P-O3'-C3'	7.23	128.38	119.70
9	A	2286	G	P-O3'-C3'	7.23	128.38	119.70
9	A	1198	U	O4'-C1'-N1	-7.22	102.42	108.20
9	A	1733	G	P-O3'-C3'	-7.21	111.04	119.70
9	A	974	G	C4-C5-N7	7.21	113.68	110.80
9	A	921	C	O4'-C1'-N1	7.21	113.97	108.20
9	A	2391	G	O4'-C1'-N9	7.21	113.96	108.20
9	A	1116	G	P-O3'-C3'	-7.20	111.06	119.70
9	A	1238	G	N9-C1'-C2'	-7.20	104.08	112.00
9	A	2866	U	P-O3'-C3'	7.17	128.31	119.70
26	R	9	GLY	N-CA-C	-7.17	95.17	113.10
9	A	2250	G	N1-C6-O6	7.17	124.20	119.90
9	A	2067	G	P-O3'-C3'	7.17	128.30	119.70
9	A	1033	U	N1-C1'-C2'	7.16	123.31	114.00
9	A	858	G	P-O3'-C3'	7.16	128.29	119.70
9	A	1818	U	P-O3'-C3'	7.16	128.29	119.70
9	A	1024	G	P-O5'-C5'	-7.15	109.46	120.90
9	A	257	C	O4'-C1'-N1	7.15	113.92	108.20
9	A	637	A	P-O3'-C3'	7.15	128.28	119.70
9	A	2654	A	P-O3'-C3'	7.15	128.28	119.70
9	A	306	U	O4'-C1'-N1	-7.14	102.48	108.20
9	A	951	C	C6-N1-C2	7.14	123.16	120.30
9	A	1278	C	C6-N1-C2	7.14	123.16	120.30
9	A	2797	U	N1-C1'-C2'	7.14	123.29	114.00
9	A	1920	C	N1-C1'-C2'	-7.14	104.14	112.00
9	A	2018	G	N9-C4-C5	7.14	108.26	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2820	A	C2-N3-C4	-7.13	107.04	110.60
9	A	822	G	O4'-C1'-N9	7.12	113.90	108.20
9	A	1396	U	P-O3'-C3'	7.12	128.25	119.70
9	A	1273	U	P-O3'-C3'	-7.12	111.16	119.70
9	A	2275	C	N1-C1'-C2'	7.12	123.26	114.00
9	A	2439	A	P-O3'-C3'	7.12	128.25	119.70
9	A	2424	C	N1-C1'-C2'	-7.11	104.17	112.00
9	A	2343	U	O4'-C1'-N1	-7.10	102.52	108.20
9	A	462	C	C6-N1-C2	7.10	123.14	120.30
9	A	35	G	N1-C6-O6	-7.10	115.64	119.90
9	A	2890	G	N1-C6-O6	7.08	124.14	119.90
9	A	1328	A	P-O3'-C3'	7.07	128.18	119.70
9	A	1499	C	N1-C1'-C2'	-7.05	104.25	112.00
9	A	484	C	O4'-C1'-N1	-7.04	102.56	108.20
9	A	961	C	N3-C4-C5	-7.04	119.08	121.90
9	A	2307	G	P-O3'-C3'	7.02	128.13	119.70
9	A	1272	A	P-O5'-C5'	-7.01	109.68	120.90
9	A	232	G	P-O3'-C3'	7.01	128.11	119.70
9	A	1011	G	P-O3'-C3'	7.01	128.11	119.70
9	A	852	U	P-O3'-C3'	-7.00	111.29	119.70
9	A	434	U	O4'-C1'-N1	7.00	113.80	108.20
9	A	2289	G	P-O3'-C3'	-7.00	111.30	119.70
9	A	386	G	P-O3'-C3'	7.00	128.10	119.70
9	A	2348	U	P-O3'-C3'	-7.00	111.31	119.70
32	X	70	LEU	CA-CB-CG	7.00	131.39	115.30
9	A	1866	A	P-O3'-C3'	-6.99	111.31	119.70
9	A	1651	G	C8-N9-C4	-6.99	103.61	106.40
9	A	1654	A	C3'-C2'-C1'	6.98	107.09	101.50
9	A	2423	U	P-O3'-C3'	6.98	128.07	119.70
9	A	974	G	N7-C8-N9	6.98	116.59	113.10
9	A	1645	G	O4'-C1'-N9	-6.97	102.62	108.20
9	A	1757	A	P-O3'-C3'	6.97	128.06	119.70
9	A	2051	A	C5-C6-N6	-6.97	118.12	123.70
9	A	794	A	P-O3'-C3'	-6.97	111.34	119.70
9	A	442	G	P-O3'-C3'	6.97	128.06	119.70
9	A	1326	U	O4'-C1'-N1	6.97	113.77	108.20
9	A	1999	C	C5-C6-N1	-6.97	117.52	121.00
9	A	1398	C	P-O3'-C3'	-6.96	111.35	119.70
9	A	2815	C	N1-C2-O2	-6.96	114.72	118.90
9	A	1343	G	P-O3'-C3'	-6.96	111.35	119.70
9	A	1351	C	O4'-C1'-N1	6.96	113.77	108.20
9	A	2392	A	P-O3'-C3'	-6.96	111.35	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	989	G	P-O3'-C3'	-6.96	111.35	119.70
9	A	944	C	C6-N1-C2	6.95	123.08	120.30
9	A	906	U	O4'-C1'-N1	6.94	113.75	108.20
9	A	1971	U	O3'-P-O5'	-6.94	90.81	104.00
9	A	510	C	O5'-P-OP2	-6.93	99.46	105.70
9	A	138	U	N1-C1'-C2'	-6.93	104.38	112.00
9	A	1809	A	P-O3'-C3'	-6.92	111.39	119.70
9	A	2383	G	P-O3'-C3'	-6.91	111.40	119.70
9	A	2283	C	P-O3'-C3'	-6.91	111.41	119.70
10	B	86	G	P-O3'-C3'	-6.91	111.41	119.70
9	A	2364	C	O4'-C1'-N1	6.91	113.73	108.20
9	A	163	C	N1-C1'-C2'	-6.91	104.40	112.00
9	A	2637	U	C5-C6-N1	-6.90	119.25	122.70
9	A	2297	A	P-O3'-C3'	-6.90	111.42	119.70
9	A	746	U	P-O3'-C3'	6.90	127.98	119.70
9	A	1266	G	P-O3'-C3'	6.90	127.97	119.70
9	A	1494	A	P-O3'-C3'	-6.89	111.43	119.70
9	A	2611	C	P-O5'-C5'	-6.89	109.88	120.90
9	A	531	C	O3'-P-O5'	-6.88	90.92	104.00
9	A	1738	G	P-O3'-C3'	6.88	127.96	119.70
9	A	1999	C	C6-N1-C2	6.88	123.05	120.30
10	B	13	G	P-O3'-C3'	-6.87	111.46	119.70
9	A	1340	U	O3'-P-O5'	-6.87	90.96	104.00
9	A	1606	C	P-O5'-C5'	-6.86	109.92	120.90
9	A	2062	A	P-O3'-C3'	-6.86	111.47	119.70
9	A	2211	A	P-O3'-C3'	6.86	127.93	119.70
9	A	2572	A	C8-N9-C4	6.86	108.54	105.80
9	A	369	U	N1-C1'-C2'	6.86	122.91	114.00
9	A	531	C	N3-C4-C5	6.86	124.64	121.90
9	A	1386	C	N1-C1'-C2'	-6.86	104.46	112.00
9	A	1340	U	C5-C6-N1	-6.85	119.28	122.70
9	A	93	G	P-O3'-C3'	-6.84	111.49	119.70
9	A	2363	G	P-O3'-C3'	6.83	127.90	119.70
9	A	390	U	N1-C1'-C2'	6.83	122.88	114.00
9	A	741	U	P-O5'-C5'	-6.83	109.97	120.90
9	A	1303	G	P-O3'-C3'	-6.83	111.51	119.70
10	B	87	U	P-O3'-C3'	6.82	127.89	119.70
9	A	1802	A	P-O3'-C3'	-6.82	111.52	119.70
9	A	2499	C	P-O5'-C5'	-6.82	109.99	120.90
9	A	2267	A	P-O5'-C5'	-6.81	110.00	120.90
9	A	2452	C	P-O3'-C3'	-6.81	111.53	119.70
9	A	2673	G	N9-C1'-C2'	-6.80	104.52	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	793	A	C2-N3-C4	-6.80	107.20	110.60
9	A	2264	C	P-O5'-C5'	-6.80	110.02	120.90
9	A	1009	A	P-O3'-C3'	-6.80	111.54	119.70
9	A	1655	A	O5'-P-OP2	-6.80	99.58	105.70
9	A	1681	G	C5-C6-O6	-6.80	124.52	128.60
9	A	806	C	P-O5'-C5'	-6.79	110.03	120.90
9	A	1411	U	O4'-C1'-N1	6.79	113.64	108.20
9	A	1672	A	C8-N9-C4	6.79	108.52	105.80
9	A	1708	C	C6-N1-C2	6.78	123.01	120.30
9	A	1985	C	N1-C2-O2	-6.78	114.83	118.90
9	A	1946	U	O4'-C1'-N1	-6.78	102.78	108.20
9	A	396	G	P-O3'-C3'	-6.78	111.57	119.70
9	A	861	A	P-O5'-C5'	-6.77	110.06	120.90
9	A	680	C	O4'-C1'-N1	-6.77	102.78	108.20
9	A	744	U	O4'-C1'-N1	6.77	113.62	108.20
9	A	1647	U	P-O3'-C3'	6.77	127.82	119.70
9	A	1714	U	P-O3'-C3'	-6.76	111.58	119.70
9	A	1237	A	P-O3'-C3'	6.76	127.81	119.70
9	A	1535	A	O4'-C1'-N9	6.75	113.60	108.20
9	A	1560	G	P-O3'-C3'	-6.75	111.59	119.70
9	A	2426	A	O4'-C1'-N9	-6.75	102.80	108.20
9	A	1428	C	O4'-C1'-N1	6.74	113.59	108.20
9	A	806	C	O4'-C1'-N1	-6.74	102.81	108.20
9	A	806	C	P-O3'-C3'	-6.73	111.62	119.70
9	A	2043	C	O4'-C1'-N1	-6.73	102.81	108.20
9	A	2427	C	C3'-C2'-C1'	6.73	106.89	101.50
9	A	2820	A	O4'-C1'-N9	-6.73	102.81	108.20
9	A	2766	A	O4'-C1'-N9	-6.73	102.82	108.20
9	A	2229	U	P-O3'-C3'	6.73	127.77	119.70
9	A	2215	C	P-O3'-C3'	-6.72	111.63	119.70
9	A	1783	A	P-O3'-C3'	-6.72	111.63	119.70
9	A	2356	U	O4'-C1'-N1	6.72	113.58	108.20
9	A	32	C	O4'-C1'-N1	6.72	113.58	108.20
9	A	1628	G	C6-C5-N7	-6.71	126.37	130.40
9	A	534	U	O4'-C1'-N1	6.69	113.55	108.20
9	A	1236	G	P-O3'-C3'	6.69	127.73	119.70
9	A	1512	C	P-O3'-C3'	-6.69	111.67	119.70
9	A	1996	C	P-O3'-C3'	6.69	127.73	119.70
9	A	583	G	P-O5'-C5'	-6.69	110.20	120.90
9	A	2756	U	N1-C1'-C2'	6.69	122.69	114.00
9	A	1320	C	P-O3'-C3'	6.68	127.72	119.70
9	A	2199	A	P-O3'-C3'	-6.68	111.69	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2631	G	P-O5'-C5'	-6.67	110.22	120.90
9	A	1760	C	C5-C6-N1	-6.67	117.66	121.00
9	A	2506	U	P-O5'-C5'	6.67	131.57	120.90
9	A	2522	U	O4'-C1'-N1	-6.67	102.87	108.20
9	A	34	U	O4'-C1'-N1	-6.66	102.87	108.20
9	A	528	A	C6-C5-N7	-6.66	127.64	132.30
9	A	216	A	P-O3'-C3'	-6.65	111.72	119.70
9	A	1610	A	O4'-C1'-N9	-6.65	102.88	108.20
9	A	1325	U	O4'-C1'-N1	6.64	113.52	108.20
9	A	926	G	P-O5'-C5'	-6.64	110.27	120.90
9	A	1326	U	N1-C1'-C2'	-6.64	104.70	112.00
9	A	1971	U	C3'-C2'-C1'	6.64	106.81	101.50
9	A	933	A	P-O3'-C3'	-6.64	111.74	119.70
9	A	2459	A	N1-C6-N6	-6.64	114.62	118.60
9	A	1498	C	P-O3'-C3'	-6.63	111.74	119.70
9	A	856	G	P-O3'-C3'	6.63	127.66	119.70
9	A	1993	U	C3'-C2'-C1'	6.63	106.81	101.50
9	A	673	C	P-O3'-C3'	-6.63	111.74	119.70
9	A	1760	C	O4'-C1'-N1	-6.63	102.90	108.20
9	A	2226	C	P-O5'-C5'	-6.62	110.30	120.90
9	A	1734	G	P-O3'-C3'	-6.62	111.75	119.70
9	A	996	A	O5'-P-OP2	-6.62	99.74	105.70
9	A	753	A	P-O3'-C3'	-6.62	111.76	119.70
9	A	302	C	P-O3'-C3'	-6.62	111.76	119.70
9	A	443	A	P-O5'-C5'	-6.61	110.33	120.90
9	A	2850	A	P-O3'-C3'	-6.60	111.78	119.70
9	A	1058	U	O4'-C1'-N1	6.60	113.48	108.20
9	A	1045	C	N1-C1'-C2'	6.59	122.57	114.00
9	A	1074	G	P-O3'-C3'	-6.59	111.79	119.70
9	A	434	U	P-O3'-C3'	6.59	127.61	119.70
9	A	783	A	C2-N3-C4	-6.59	107.31	110.60
9	A	2022	U	P-O5'-C5'	-6.58	110.36	120.90
9	A	1457	U	P-O3'-C3'	6.58	127.60	119.70
9	A	1255	U	P-O5'-C5'	-6.58	110.37	120.90
9	A	237	C	O4'-C1'-N1	6.58	113.46	108.20
9	A	2350	C	O4'-C1'-N1	6.58	113.46	108.20
10	B	47	C	O4'-C1'-N1	-6.58	102.94	108.20
10	B	79	G	C5-C6-N1	6.58	114.79	111.50
9	A	1638	C	O4'-C1'-N1	6.58	113.46	108.20
9	A	2672	U	P-O3'-C3'	6.57	127.59	119.70
9	A	2821	A	P-O3'-C3'	-6.57	111.81	119.70
9	A	475	C	P-O3'-C3'	-6.57	111.82	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	414	C	O4'-C1'-N1	6.57	113.45	108.20
9	A	143	C	O4'-C1'-N1	6.56	113.45	108.20
9	A	1311	G	P-O3'-C3'	6.55	127.56	119.70
9	A	1667	G	C5-C6-O6	-6.55	124.67	128.60
9	A	507	A	N9-C1'-C2'	-6.55	104.80	112.00
9	A	1931	U	N1-C1'-C2'	-6.55	104.80	112.00
9	A	2501	C	N1-C1'-C2'	6.54	122.51	114.00
9	A	1386	C	P-O3'-C3'	-6.54	111.85	119.70
9	A	1780	A	P-O3'-C3'	6.54	127.55	119.70
9	A	2567	G	C6-C5-N7	6.54	134.32	130.40
9	A	2820	A	O3'-P-O5'	-6.54	91.58	104.00
9	A	1497	U	O4'-C1'-N1	6.53	113.43	108.20
9	A	1993	U	P-O5'-C5'	-6.53	110.45	120.90
9	A	125	A	O3'-P-O5'	-6.53	91.60	104.00
9	A	1758	U	N3-C2-O2	-6.52	117.63	122.20
9	A	2492	U	P-O3'-C3'	-6.52	111.88	119.70
9	A	2595	G	P-O5'-C5'	-6.52	110.47	120.90
9	A	2296	U	O4'-C1'-N1	6.52	113.41	108.20
9	A	2871	U	O5'-P-OP1	6.51	118.52	110.70
9	A	2555	U	O4'-C1'-N1	6.51	113.41	108.20
9	A	1544	A	P-O5'-C5'	-6.50	110.50	120.90
9	A	593	U	O4'-C1'-N1	6.50	113.40	108.20
9	A	600	G	P-O5'-C5'	-6.50	110.51	120.90
9	A	1939	U	O4'-C1'-N1	6.50	113.40	108.20
10	B	109	A	P-O3'-C3'	-6.50	111.91	119.70
9	A	2778	A	P-O3'-C3'	6.49	127.49	119.70
9	A	2335	A	P-O3'-C3'	-6.49	111.91	119.70
9	A	785	G	C2-N3-C4	-6.49	108.66	111.90
9	A	1756	G	O4'-C1'-N9	-6.49	103.01	108.20
9	A	637	A	O4'-C1'-N9	6.47	113.38	108.20
9	A	1329	U	O4'-C1'-N1	6.47	113.38	108.20
9	A	2431	U	P-O3'-C3'	-6.47	111.94	119.70
9	A	973	A	P-O3'-C3'	6.46	127.46	119.70
9	A	1300	G	O4'-C1'-N9	6.46	113.37	108.20
9	A	1200	C	C6-N1-C2	6.46	122.88	120.30
9	A	1618	A	C5-C6-N6	6.46	128.87	123.70
9	A	1760	C	C6-N1-C2	6.46	122.88	120.30
9	A	2519	U	N1-C1'-C2'	-6.45	104.90	112.00
9	A	1992	G	C4-N9-C1'	-6.45	118.12	126.50
9	A	1275	A	P-O3'-C3'	6.44	127.43	119.70
20	L	19	LEU	CA-CB-CG	6.44	130.12	115.30
9	A	1127	A	C3'-C2'-C1'	6.44	106.65	101.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1024	G	C8-N9-C4	-6.43	103.83	106.40
9	A	807	U	P-O5'-C5'	-6.43	110.61	120.90
9	A	1276	A	P-O3'-C3'	-6.43	111.98	119.70
9	A	575	A	C4-C5-C6	6.42	120.21	117.00
9	A	1299	G	C6-C5-N7	-6.42	126.55	130.40
9	A	2326	C	P-O3'-C3'	6.42	127.41	119.70
9	A	913	U	P-O3'-C3'	6.42	127.41	119.70
9	A	2502	G	P-O5'-C5'	-6.42	110.62	120.90
9	A	63	A	N9-C1'-C2'	-6.42	104.94	112.00
9	A	1378	A	P-O3'-C3'	6.41	127.39	119.70
9	A	1476	U	C3'-C2'-C1'	6.41	106.63	101.50
9	A	1651	G	P-O5'-C5'	-6.41	110.65	120.90
9	A	2562	U	O4'-C1'-N1	-6.40	103.08	108.20
9	A	24	G	P-O3'-C3'	6.40	127.38	119.70
9	A	2606	C	C6-N1-C2	6.40	122.86	120.30
9	A	2089	C	P-O3'-C3'	-6.40	112.03	119.70
9	A	1678	A	N1-C6-N6	6.39	122.44	118.60
9	A	769	U	O4'-C1'-N1	-6.39	103.09	108.20
9	A	835	C	C6-N1-C2	6.39	122.85	120.30
9	A	948	C	C4-C5-C6	6.39	120.59	117.40
9	A	1129	A	C3'-C2'-C1'	6.38	106.61	101.50
9	A	476	G	P-O5'-C5'	-6.38	110.69	120.90
9	A	2425	A	O4'-C1'-N9	6.38	113.30	108.20
9	A	479	A	O4'-C1'-N9	6.37	113.30	108.20
9	A	2628	C	P-O3'-C3'	6.37	127.35	119.70
9	A	100	U	N1-C1'-C2'	6.37	122.28	114.00
9	A	967	U	O4'-C1'-N1	6.37	113.30	108.20
9	A	1945	G	P-O3'-C3'	-6.37	112.06	119.70
9	A	1033	U	P-O3'-C3'	6.37	127.34	119.70
9	A	2656	U	P-O3'-C3'	-6.36	112.07	119.70
9	A	1992	G	C8-N9-C1'	6.36	135.27	127.00
9	A	2728	U	N1-C1'-C2'	6.36	122.26	114.00
9	A	2613	U	O4'-C1'-N1	6.36	113.28	108.20
9	A	1132	U	O4'-C1'-N1	6.35	113.28	108.20
9	A	1340	U	P-O3'-C3'	6.35	127.32	119.70
9	A	1155	A	O4'-C1'-N9	6.34	113.27	108.20
9	A	655	A	P-O3'-C3'	6.34	127.30	119.70
9	A	2504	U	O4'-C1'-N1	6.33	113.27	108.20
9	A	587	C	P-O3'-C3'	6.33	127.30	119.70
9	A	1251	C	C2-N3-C4	-6.33	116.73	119.90
9	A	2297	A	O4'-C1'-N9	-6.33	103.13	108.20
9	A	2056	G	C5-C6-O6	-6.33	124.80	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2492	U	P-O5'-C5'	-6.33	110.78	120.90
9	A	1499	C	P-O3'-C3'	-6.32	112.11	119.70
9	A	2777	G	O4'-C1'-N9	-6.32	103.14	108.20
9	A	846	U	P-O3'-C3'	6.31	127.27	119.70
9	A	451	U	P-O3'-C3'	6.31	127.27	119.70
9	A	1717	A	P-O3'-C3'	-6.31	112.13	119.70
9	A	2384	U	N1-C1'-C2'	6.31	122.20	114.00
9	A	2498	C	P-O3'-C3'	-6.31	112.13	119.70
9	A	523	C	N3-C4-C5	6.31	124.42	121.90
9	A	1459	G	P-O3'-C3'	-6.31	112.13	119.70
9	A	1005	C	N1-C2-O2	6.30	122.68	118.90
9	A	2556	C	O4'-C1'-N1	6.30	113.24	108.20
9	A	1324	G	O4'-C1'-N9	6.29	113.23	108.20
9	A	1009	A	N9-C1'-C2'	-6.29	105.08	112.00
9	A	2388	A	O4'-C1'-N9	6.28	113.23	108.20
9	A	2809	A	P-O5'-C5'	-6.28	110.85	120.90
9	A	1758	U	O4'-C1'-N1	-6.28	103.18	108.20
9	A	1116	G	N9-C1'-C2'	-6.28	105.10	112.00
9	A	2052	A	N9-C1'-C2'	-6.28	105.10	112.00
9	A	2824	C	C4-C5-C6	6.28	120.54	117.40
9	A	1426	G	O4'-C1'-N9	-6.27	103.18	108.20
9	A	1008	A	P-O3'-C3'	6.27	127.22	119.70
9	A	2047	C	O4'-C1'-N1	-6.27	103.19	108.20
9	A	2469	A	N9-C1'-C2'	-6.27	105.10	112.00
9	A	2646	C	P-O5'-C5'	-6.27	110.87	120.90
10	B	15	A	P-O5'-C5'	-6.27	110.87	120.90
9	A	529	A	N7-C8-N9	-6.27	110.67	113.80
9	A	1994	C	N1-C2-O2	-6.26	115.14	118.90
9	A	1419	A	P-O3'-C3'	6.26	127.21	119.70
9	A	1452	G	N3-C4-C5	6.26	131.73	128.60
9	A	2327	A	P-O3'-C3'	-6.26	112.19	119.70
9	A	1735	A	P-O3'-C3'	-6.25	112.20	119.70
9	A	984	A	C8-N9-C4	6.25	108.30	105.80
9	A	603	A	P-O3'-C3'	6.25	127.20	119.70
9	A	1694	C	N1-C1'-C2'	-6.25	105.13	112.00
9	A	2824	C	N3-C4-C5	-6.25	119.40	121.90
9	A	729	G	C3'-C2'-C1'	6.25	106.50	101.50
9	A	985	C	N1-C1'-C2'	-6.24	105.13	112.00
9	A	1759	A	P-O5'-C5'	-6.24	110.92	120.90
9	A	2152	G	N9-C1'-C2'	-6.24	105.14	112.00
9	A	2344	U	P-O3'-C3'	6.24	127.19	119.70
10	B	42	C	P-O3'-C3'	-6.24	112.21	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2875	C	P-O5'-C5'	-6.23	110.92	120.90
9	A	819	A	O4'-C1'-N9	-6.23	103.22	108.20
9	A	776	G	O4'-C1'-N9	-6.22	103.22	108.20
9	A	1707	G	C3'-C2'-C1'	6.22	106.48	101.50
9	A	2517	C	N3-C4-C5	6.22	124.39	121.90
9	A	406	G	P-O3'-C3'	-6.21	112.24	119.70
9	A	2529	G	O4'-C1'-N9	-6.21	103.23	108.20
9	A	2263	C	N1-C2-O2	-6.20	115.18	118.90
9	A	528	A	C5-N7-C8	-6.20	100.80	103.90
9	A	2578	G	P-O3'-C3'	-6.19	112.27	119.70
9	A	621	A	P-O5'-C5'	-6.19	110.99	120.90
9	A	2888	C	P-O3'-C3'	-6.19	112.27	119.70
9	A	482	A	O5'-P-OP2	-6.19	100.13	105.70
9	A	174	U	P-O3'-C3'	-6.19	112.28	119.70
9	A	934	U	C3'-C2'-C1'	6.19	106.45	101.50
9	A	30	G	P-O5'-C5'	-6.18	111.00	120.90
10	B	12	C	N1-C1'-C2'	6.18	122.04	114.00
9	A	63	A	P-O3'-C3'	-6.18	112.28	119.70
9	A	2259	U	N1-C1'-C2'	-6.18	105.21	112.00
9	A	2492	U	N1-C1'-C2'	-6.17	105.21	112.00
9	A	1828	G	P-O5'-C5'	6.17	130.78	120.90
9	A	803	U	O4'-C1'-N1	6.17	113.14	108.20
9	A	729	G	P-O5'-C5'	-6.17	111.03	120.90
9	A	786	C	N3-C4-C5	6.17	124.37	121.90
9	A	2755	C	O4'-C1'-N1	-6.17	103.27	108.20
9	A	588	U	C3'-C2'-C1'	6.16	106.43	101.50
9	A	2630	G	P-O3'-C3'	-6.16	112.31	119.70
9	A	528	A	P-O3'-C3'	-6.15	112.32	119.70
9	A	2226	C	N1-C1'-C2'	-6.15	105.24	112.00
9	A	2250	G	N7-C8-N9	6.14	116.17	113.10
9	A	1613	G	N1-C6-O6	-6.14	116.22	119.90
9	A	2407	A	P-O5'-C5'	-6.13	111.09	120.90
9	A	584	C	O4'-C1'-N1	6.13	113.11	108.20
9	A	1357	C	C6-N1-C2	6.13	122.75	120.30
9	A	1300	G	P-O3'-C3'	6.13	127.05	119.70
9	A	2800	A	C3'-C2'-C1'	6.12	106.40	101.50
9	A	2424	C	N3-C4-N4	-6.12	113.71	118.00
9	A	1315	C	O4'-C1'-N1	-6.12	103.30	108.20
9	A	861	A	OP1-P-O3'	6.12	118.66	105.20
9	A	2646	C	P-O3'-C3'	-6.12	112.36	119.70
10	B	25	U	P-O3'-C3'	-6.11	112.36	119.70
9	A	66	C	O4'-C1'-N1	6.11	113.09	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	760	G	C5-C6-O6	-6.11	124.94	128.60
9	A	1461	C	C3'-C2'-C1'	6.10	106.38	101.50
9	A	2729	G	P-O3'-C3'	-6.10	112.38	119.70
9	A	1421	G	P-O3'-C3'	-6.10	112.38	119.70
9	A	120	U	P-O5'-C5'	-6.10	111.14	120.90
9	A	1682	G	P-O5'-C5'	-6.10	111.15	120.90
9	A	385	C	P-O3'-C3'	6.09	127.01	119.70
9	A	2507	C	C4'-C3'-O3'	-6.09	96.60	109.40
9	A	2691	C	P-O5'-C5'	-6.09	111.15	120.90
10	B	45	A	N9-C1'-C2'	-6.09	105.30	112.00
9	A	620	G	O3'-P-O5'	6.09	115.56	104.00
9	A	1290	C	C5-C6-N1	-6.08	117.96	121.00
9	A	2868	A	P-O3'-C3'	-6.08	112.40	119.70
9	A	1627	G	C8-N9-C4	-6.08	103.97	106.40
9	A	1794	A	P-O3'-C3'	6.08	126.99	119.70
9	A	2463	C	P-O3'-C3'	-6.08	112.41	119.70
9	A	2052	A	P-O5'-C5'	-6.08	111.18	120.90
9	A	557	C	P-O3'-C3'	6.07	126.99	119.70
9	A	2062	A	O3'-P-O5'	-6.07	92.46	104.00
9	A	114	U	O4'-C1'-N1	-6.07	103.34	108.20
9	A	2219	U	O4'-C1'-N1	6.07	113.06	108.20
9	A	1184	U	P-O3'-C3'	6.07	126.98	119.70
9	A	1829	A	P-O3'-C3'	-6.07	112.42	119.70
9	A	491	G	C3'-C2'-C1'	6.07	106.35	101.50
9	A	667	U	O4'-C1'-N1	-6.05	103.36	108.20
9	A	2440	C	C3'-C2'-C1'	6.05	106.34	101.50
9	A	819	A	C8-N9-C4	6.05	108.22	105.80
9	A	2502	G	O5'-P-OP2	-6.05	100.25	105.70
9	A	775	G	O4'-C1'-N9	6.05	113.04	108.20
9	A	346	A	P-O3'-C3'	-6.05	112.44	119.70
9	A	758	C	P-O3'-C3'	6.05	126.96	119.70
9	A	2382	G	O4'-C1'-N9	6.05	113.04	108.20
9	A	2244	U	O4'-C1'-N1	-6.04	103.36	108.20
9	A	1735	A	C3'-C2'-C1'	6.04	106.33	101.50
9	A	206	U	N1-C1'-C2'	-6.04	105.36	112.00
9	A	834	G	C2-N3-C4	-6.04	108.88	111.90
9	A	1398	C	C3'-C2'-C1'	6.04	106.33	101.50
9	A	413	C	P-O3'-C3'	-6.03	112.46	119.70
9	A	575	A	O4'-C1'-N9	6.03	113.03	108.20
10	B	97	C	C6-N1-C2	6.03	122.71	120.30
9	A	255	A	O4'-C1'-N9	-6.03	103.38	108.20
9	A	1761	C	O4'-C1'-N1	-6.03	103.38	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2889	C	N1-C2-O2	-6.03	115.28	118.90
9	A	1963	U	C2-N1-C1'	6.02	124.92	117.70
9	A	13	A	P-O3'-C3'	6.02	126.92	119.70
9	A	273	G	C3'-C2'-C1'	6.02	106.31	101.50
9	A	578	G	O5'-P-OP2	-6.01	100.29	105.70
9	A	802	A	P-O3'-C3'	-6.01	112.48	119.70
9	A	2773	C	C6-N1-C2	6.01	122.71	120.30
9	A	174	U	O4'-C1'-N1	-6.01	103.39	108.20
9	A	115	C	O4'-C1'-N1	-6.01	103.39	108.20
9	A	831	G	N9-C1'-C2'	-6.01	105.39	112.00
9	A	387	U	P-O5'-C5'	-6.01	111.29	120.90
9	A	937	C	C6-N1-C2	6.00	122.70	120.30
9	A	2051	A	OP1-P-O3'	6.00	118.40	105.20
9	A	2311	A	P-O3'-C3'	6.00	126.90	119.70
9	A	2901	C	O4'-C1'-N1	-6.00	103.40	108.20
9	A	1248	G	P-O5'-C5'	-6.00	111.31	120.90
9	A	1694	C	C6-N1-C2	6.00	122.70	120.30
9	A	2880	C	P-O3'-C3'	-6.00	112.50	119.70
9	A	1872	A	C3'-C2'-C1'	5.99	106.30	101.50
9	A	2066	C	C6-N1-C2	5.99	122.70	120.30
9	A	2681	C	N1-C1'-C2'	5.99	121.78	114.00
9	A	2228	G	P-O5'-C5'	-5.98	111.33	120.90
9	A	491	G	N9-C1'-C2'	-5.98	105.42	112.00
9	A	597	G	C6-C5-N7	-5.98	126.81	130.40
9	A	2506	U	O4'-C4'-C3'	5.98	110.88	106.10
9	A	2606	C	N1-C1'-C2'	-5.98	105.42	112.00
9	A	323	C	O4'-C1'-N1	5.98	112.98	108.20
9	A	1458	U	P-O3'-C3'	5.98	126.88	119.70
9	A	914	G	N9-C1'-C2'	-5.98	105.42	112.00
9	A	1248	G	P-O3'-C3'	5.98	126.87	119.70
9	A	1015	U	P-O5'-C5'	-5.97	111.34	120.90
9	A	2874	C	P-O3'-C3'	-5.97	112.53	119.70
9	A	1858	A	C3'-C2'-C1'	5.97	106.27	101.50
9	A	18	U	P-O5'-C5'	-5.96	111.36	120.90
9	A	906	U	P-O5'-C5'	-5.96	111.36	120.90
9	A	567	U	P-O3'-C3'	-5.96	112.55	119.70
9	A	1378	A	O4'-C1'-N9	5.96	112.97	108.20
9	A	206	U	P-O3'-C3'	-5.96	112.55	119.70
9	A	480	A	N9-C1'-C2'	-5.96	105.45	112.00
9	A	1115	G	P-O3'-C3'	5.96	126.85	119.70
9	A	513	A	C3'-C2'-C1'	5.95	106.26	101.50
9	A	1520	U	O4'-C1'-N1	-5.95	103.44	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	628	G	P-O3'-C3'	-5.95	112.56	119.70
9	A	1695	G	C3'-C2'-C1'	5.95	106.26	101.50
9	A	2402	U	O4'-C1'-N1	5.95	112.96	108.20
9	A	829	A	C8-N9-C4	5.95	108.18	105.80
9	A	2447	G	O3'-P-O5'	-5.95	92.70	104.00
9	A	266	G	P-O3'-C3'	-5.95	112.56	119.70
9	A	748	G	O4'-C1'-N9	5.94	112.95	108.20
9	A	2573	C	O4'-C1'-N1	-5.94	103.44	108.20
9	A	1379	U	C3'-C2'-C1'	5.94	106.25	101.50
9	A	914	G	C6-C5-N7	-5.94	126.84	130.40
9	A	2250	G	C4-C5-N7	5.94	113.18	110.80
9	A	2750	A	P-O3'-C3'	5.94	126.83	119.70
9	A	163	C	O4'-C1'-N1	5.94	112.95	108.20
9	A	504	A	P-O5'-C5'	-5.93	111.41	120.90
9	A	1992	G	N3-C4-N9	-5.93	122.44	126.00
9	A	2335	A	C3'-C2'-C1'	5.93	106.25	101.50
9	A	1969	A	P-O3'-C3'	5.93	126.82	119.70
9	A	1013	C	C3'-C2'-C1'	5.93	106.24	101.50
9	A	935	C	P-O3'-C3'	-5.93	112.59	119.70
9	A	2146	C	O4'-C1'-N1	5.92	112.94	108.20
9	A	2715	C	O5'-P-OP2	-5.92	100.37	105.70
9	A	331	C	O4'-C1'-N1	5.92	112.94	108.20
9	A	1780	A	C5-C6-N1	-5.92	114.74	117.70
9	A	2064	C	C3'-C2'-C1'	5.92	106.23	101.50
9	A	372	G	P-O3'-C3'	5.92	126.80	119.70
9	A	523	C	P-O5'-C5'	-5.92	111.43	120.90
9	A	749	A	OP1-P-OP2	5.92	128.48	119.60
9	A	1340	U	C6-N1-C2	5.92	124.55	121.00
9	A	2774	C	O4'-C1'-N1	5.92	112.93	108.20
9	A	1112	G	N9-C1'-C2'	-5.91	105.50	112.00
9	A	1293	C	C6-N1-C2	5.91	122.66	120.30
9	A	1376	C	P-O3'-C3'	5.91	126.79	119.70
9	A	2831	G	N1-C6-O6	5.91	123.45	119.90
9	A	2380	C	P-O5'-C5'	-5.91	111.45	120.90
31	W	20	LEU	CB-CG-CD2	5.90	121.04	111.00
9	A	577	G	OP2-P-O3'	5.90	118.18	105.20
22	N	101	GLY	N-CA-C	5.90	127.85	113.10
9	A	2656	U	C3'-C2'-C1'	5.90	106.22	101.50
9	A	198	C	N3-C4-C5	-5.89	119.54	121.90
9	A	527	C	O4'-C1'-N1	5.89	112.91	108.20
9	A	1178	C	O4'-C1'-N1	5.89	112.91	108.20
9	A	1967	C	C3'-C2'-C1'	5.89	106.21	101.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2321	U	O4'-C1'-N1	-5.89	103.49	108.20
9	A	2337	G	N9-C1'-C2'	-5.89	105.52	112.00
9	A	2462	C	P-O5'-C5'	-5.89	111.47	120.90
9	A	1025	G	P-O3'-C3'	5.89	126.77	119.70
9	A	373	U	C3'-C2'-C1'	5.89	106.21	101.50
9	A	682	G	C4-N9-C1'	5.89	134.16	126.50
9	A	2602	A	C4'-C3'-O3'	-5.89	97.03	109.40
9	A	2683	C	N1-C2-O2	-5.89	115.37	118.90
9	A	2781	A	P-O3'-C3'	-5.89	112.63	119.70
9	A	1020	A	P-O3'-C3'	5.88	126.76	119.70
9	A	2807	U	C5-C6-N1	-5.88	119.76	122.70
9	A	621	A	N9-C1'-C2'	-5.88	105.53	112.00
9	A	2714	G	C5-C6-O6	5.88	132.13	128.60
9	A	761	A	C5-C6-N1	5.88	120.64	117.70
9	A	1273	U	P-O5'-C5'	-5.88	111.50	120.90
9	A	2520	C	C3'-C2'-C1'	5.88	106.20	101.50
9	A	243	U	C3'-C2'-C1'	5.87	106.20	101.50
9	A	669	G	P-O3'-C3'	5.87	126.75	119.70
9	A	73	A	C3'-C2'-C1'	5.87	106.20	101.50
9	A	2249	U	P-O3'-C3'	5.87	126.75	119.70
9	A	1900	A	P-O3'-C3'	5.87	126.74	119.70
9	A	2261	C	P-O3'-C3'	5.87	126.74	119.70
9	A	2712	C	N1-C1'-C2'	5.87	121.63	114.00
9	A	739	A	C4'-C3'-C2'	5.87	108.47	102.60
9	A	1618	A	C5-C6-N1	-5.87	114.77	117.70
9	A	16	C	P-O3'-C3'	-5.86	112.66	119.70
9	A	1526	C	C6-N1-C2	5.86	122.64	120.30
9	A	1288	G	O5'-P-OP2	-5.86	100.42	105.70
9	A	1007	C	N3-C4-C5	5.86	124.24	121.90
9	A	981	A	C8-N9-C4	5.85	108.14	105.80
9	A	1697	G	C5-C6-O6	-5.85	125.09	128.60
9	A	1784	A	P-O3'-C3'	5.85	126.72	119.70
9	A	2025	C	C5-C6-N1	-5.85	118.08	121.00
9	A	2325	G	P-O3'-C3'	-5.85	112.68	119.70
9	A	1662	U	O4'-C1'-N1	5.84	112.88	108.20
9	A	2542	A	P-O5'-C5'	-5.84	111.55	120.90
9	A	690	G	P-O5'-C5'	-5.84	111.55	120.90
9	A	2507	C	C5'-C4'-C3'	-5.84	106.66	116.00
9	A	657	U	O4'-C1'-N1	-5.84	103.53	108.20
9	A	683	U	N1-C1'-C2'	-5.84	105.58	112.00
9	A	2072	C	O3'-P-O5'	-5.83	92.92	104.00
9	A	2137	U	O4'-C1'-N1	5.83	112.87	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	573	U	P-O5'-C5'	-5.83	111.57	120.90
9	A	2556	C	N1-C2-O2	-5.83	115.40	118.90
9	A	52	A	P-O3'-C3'	-5.83	112.71	119.70
9	A	1537	G	P-O3'-C3'	-5.83	112.70	119.70
9	A	1101	U	N1-C1'-C2'	-5.83	105.59	112.00
9	A	506	G	O4'-C1'-N9	5.83	112.86	108.20
9	A	867	C	O4'-C1'-N1	5.83	112.86	108.20
9	A	1943	U	N1-C1'-C2'	5.83	121.57	114.00
9	A	2344	U	N1-C1'-C2'	5.83	121.57	114.00
9	A	2734	A	P-O3'-C3'	-5.83	112.71	119.70
9	A	2653	U	O4'-C1'-N1	5.82	112.86	108.20
10	B	14	U	P-O3'-C3'	5.82	126.69	119.70
9	A	1123	C	C6-N1-C2	5.82	122.63	120.30
9	A	2517	C	P-O3'-C3'	5.82	126.68	119.70
9	A	1135	C	P-O5'-C5'	-5.81	111.60	120.90
9	A	1867	G	N9-C1'-C2'	-5.81	105.61	112.00
9	A	1666	G	P-O5'-C5'	-5.81	111.60	120.90
9	A	2325	G	C3'-C2'-C1'	5.81	106.15	101.50
9	A	2567	G	C5-C6-N1	5.81	114.41	111.50
9	A	753	A	C3'-C2'-C1'	5.81	106.15	101.50
9	A	1839	G	C3'-C2'-C1'	5.81	106.15	101.50
9	A	1996	C	OP1-P-O3'	5.81	117.98	105.20
9	A	456	C	O4'-C1'-N1	-5.81	103.56	108.20
9	A	1452	G	N3-C4-N9	-5.80	122.52	126.00
9	A	1675	C	C5-C6-N1	-5.80	118.10	121.00
9	A	2791	G	O5'-P-OP1	-5.80	100.48	105.70
9	A	2640	G	P-O5'-C5'	-5.80	111.62	120.90
9	A	2200	C	P-O3'-C3'	-5.80	112.75	119.70
9	A	463	G	P-O5'-C5'	-5.79	111.63	120.90
9	A	932	U	P-O3'-C3'	-5.79	112.75	119.70
9	A	1385	A	C8-N9-C4	5.79	108.12	105.80
9	A	1133	A	P-O3'-C3'	-5.79	112.75	119.70
9	A	1417	C	P-O3'-C3'	-5.79	112.75	119.70
9	A	2195	U	O4'-C1'-N1	5.79	112.83	108.20
9	A	452	G	P-O3'-C3'	-5.79	112.76	119.70
9	A	1965	C	P-O5'-C5'	-5.79	111.64	120.90
9	A	1027	A	N1-C6-N6	5.78	122.07	118.60
9	A	2695	U	P-O3'-C3'	5.78	126.64	119.70
9	A	1005	C	N3-C2-O2	-5.78	117.85	121.90
9	A	62	U	P-O3'-C3'	5.77	126.63	119.70
9	A	984	A	C5-N7-C8	-5.77	101.01	103.90
9	A	1160	G	P-O5'-C5'	-5.77	111.67	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	920	A	P-O3'-C3'	-5.77	112.78	119.70
9	A	2230	G	P-O5'-C5'	-5.77	111.67	120.90
9	A	272	A	P-O3'-C3'	-5.76	112.79	119.70
9	A	1975	G	P-O3'-C3'	-5.75	112.80	119.70
9	A	2707	U	C5-C6-N1	-5.75	119.82	122.70
9	A	2890	G	C6-C5-N7	-5.75	126.95	130.40
9	A	14	A	C3'-C2'-C1'	5.75	106.10	101.50
9	A	1063	G	C3'-C2'-C1'	5.75	106.10	101.50
9	A	1379	U	P-O5'-C5'	-5.75	111.70	120.90
9	A	1707	G	N9-C1'-C2'	-5.75	105.68	112.00
9	A	1135	C	C3'-C2'-C1'	5.74	106.09	101.50
9	A	1865	U	P-O3'-C3'	5.74	126.59	119.70
9	A	1253	A	O4'-C1'-N9	-5.74	103.61	108.20
9	A	2530	A	P-O3'-C3'	5.74	126.59	119.70
10	B	15	A	P-O3'-C3'	5.74	126.59	119.70
9	A	20	C	P-O3'-C3'	5.74	126.58	119.70
9	A	2570	G	C2-N3-C4	-5.74	109.03	111.90
9	A	1266	G	C8-N9-C4	5.73	108.69	106.40
9	A	302	C	C3'-C2'-C1'	5.73	106.08	101.50
9	A	412	A	C3'-C2'-C1'	5.73	106.08	101.50
9	A	630	G	P-O3'-C3'	5.73	126.58	119.70
9	A	2637	U	N1-C2-O2	-5.73	118.79	122.80
9	A	1009	A	C3'-C2'-C1'	5.73	106.08	101.50
9	A	1446	C	O4'-C1'-N1	-5.73	103.62	108.20
9	A	2043	C	C6-N1-C2	5.73	122.59	120.30
9	A	2487	G	C5-C6-O6	-5.72	125.17	128.60
10	B	16	G	C3'-C2'-C1'	5.72	106.08	101.50
9	A	346	A	C3'-C2'-C1'	5.72	106.07	101.50
9	A	933	A	C3'-C2'-C1'	5.71	106.07	101.50
9	A	980	A	OP1-P-O3'	5.71	117.77	105.20
9	A	1902	C	N1-C2-O2	-5.71	115.47	118.90
9	A	1947	C	P-O3'-C3'	-5.71	112.85	119.70
9	A	1142	A	C5-C6-N1	-5.71	114.85	117.70
9	A	370	G	O4'-C1'-N9	-5.71	103.64	108.20
9	A	1739	A	P-O5'-C5'	-5.71	111.77	120.90
9	A	2027	G	O5'-P-OP2	-5.71	100.56	105.70
9	A	584	C	N1-C1'-C2'	-5.70	105.72	112.00
9	A	1320	C	N1-C1'-C2'	5.70	121.42	114.00
9	A	1537	G	C3'-C2'-C1'	5.70	106.06	101.50
9	A	74	A	P-O3'-C3'	5.70	126.54	119.70
9	A	1703	G	O3'-P-O5'	-5.70	93.17	104.00
9	A	2347	C	C3'-C2'-C1'	5.70	106.06	101.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	765	C	P-O3'-C3'	-5.70	112.86	119.70
9	A	1206	G	P-O3'-C3'	-5.70	112.87	119.70
9	A	1779	U	N3-C4-O4	-5.69	115.41	119.40
9	A	2623	G	N1-C2-N3	5.69	127.32	123.90
9	A	2543	G	P-O5'-C5'	-5.69	111.80	120.90
9	A	2426	A	N1-C6-N6	5.69	122.01	118.60
9	A	2807	U	C6-N1-C2	5.69	124.41	121.00
9	A	919	U	N1-C2-O2	-5.69	118.82	122.80
9	A	1954	G	C5-C6-N1	5.69	114.34	111.50
9	A	482	A	N9-C1'-C2'	-5.68	105.75	112.00
9	A	2008	C	C4-C5-C6	5.68	120.24	117.40
12	D	141	ARG	NE-CZ-NH1	-5.68	117.46	120.30
9	A	1327	A	P-O3'-C3'	5.68	126.52	119.70
9	A	435	C	C3'-C2'-C1'	5.68	106.04	101.50
9	A	1716	U	P-O3'-C3'	-5.68	112.88	119.70
9	A	2197	U	N1-C1'-C2'	5.68	121.38	114.00
10	B	46	A	N9-C1'-C2'	-5.68	105.75	112.00
9	A	985	C	P-O5'-C5'	-5.68	111.82	120.90
9	A	11	C	N1-C2-O2	-5.67	115.50	118.90
9	A	459	U	C3'-C2'-C1'	5.67	106.04	101.50
9	A	829	A	P-O5'-C5'	-5.67	111.82	120.90
9	A	1999	C	N1-C1'-C2'	-5.67	105.76	112.00
9	A	649	G	P-O5'-C5'	-5.67	111.83	120.90
9	A	918	A	P-O3'-C3'	5.67	126.51	119.70
9	A	1428	C	N3-C2-O2	5.67	125.87	121.90
9	A	1838	C	C6-N1-C2	5.67	122.57	120.30
10	B	87	U	O4'-C1'-N1	5.67	112.74	108.20
9	A	2815	C	O4'-C1'-N1	-5.67	103.67	108.20
9	A	2395	C	P-O5'-C5'	-5.66	111.84	120.90
9	A	201	C	O4'-C1'-N1	5.66	112.73	108.20
9	A	1349	C	O4'-C1'-N1	-5.66	103.67	108.20
9	A	1717	A	N9-C1'-C2'	-5.65	105.78	112.00
9	A	1497	U	P-O3'-C3'	5.65	126.48	119.70
9	A	73	A	P-O5'-C5'	-5.65	111.86	120.90
9	A	774	G	O4'-C1'-N9	5.65	112.72	108.20
9	A	2483	C	O4'-C1'-N1	-5.65	103.68	108.20
9	A	2584	U	P-O3'-C3'	5.65	126.47	119.70
9	A	2887	A	P-O3'-C3'	5.64	126.47	119.70
9	A	413	C	C3'-C2'-C1'	5.64	106.01	101.50
9	A	2018	G	N3-C2-N2	-5.64	115.95	119.90
9	A	2605	U	P-O3'-C3'	-5.64	112.93	119.70
9	A	1956	U	P-O5'-C5'	-5.64	111.88	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2065	C	C6-N1-C2	5.64	122.55	120.30
9	A	2407	A	C3'-C2'-C1'	5.64	106.01	101.50
9	A	310	A	P-O3'-C3'	5.63	126.46	119.70
9	A	2727	A	C3'-C2'-C1'	5.63	106.00	101.50
10	B	109	A	N9-C1'-C2'	-5.63	105.80	112.00
9	A	199	A	O4'-C1'-N9	5.63	112.70	108.20
9	A	1213	A	N9-C1'-C2'	-5.63	105.81	112.00
9	A	2567	G	C4-C5-N7	-5.63	108.55	110.80
9	A	2816	G	N1-C6-O6	-5.63	116.52	119.90
9	A	1395	A	O4'-C1'-N9	5.62	112.70	108.20
9	A	2504	U	N1-C2-O2	5.62	126.74	122.80
9	A	575	A	O5'-P-OP1	-5.62	100.64	105.70
9	A	954	G	P-O3'-C3'	5.62	126.44	119.70
10	B	67	G	C3'-C2'-C1'	5.62	106.00	101.50
9	A	45	G	P-O5'-C5'	-5.62	111.91	120.90
9	A	113	U	P-O5'-C5'	-5.62	111.92	120.90
9	A	2508	G	P-O3'-C3'	-5.62	112.96	119.70
11	C	109	LEU	CA-CB-CG	5.62	128.21	115.30
9	A	486	C	P-O3'-C3'	-5.61	112.96	119.70
9	A	1945	G	C3'-C2'-C1'	5.61	105.99	101.50
9	A	581	C	O4'-C1'-N1	-5.61	103.71	108.20
9	A	1278	C	O4'-C1'-N1	5.61	112.69	108.20
9	A	1428	C	N1-C2-O2	-5.61	115.53	118.90
9	A	2251	G	N9-C1'-C2'	-5.61	105.83	112.00
9	A	528	A	C2-N3-C4	-5.61	107.80	110.60
9	A	2604	U	P-O5'-C5'	-5.61	111.93	120.90
9	A	977	G	OP1-P-O3'	5.61	117.54	105.20
9	A	671	C	C3'-C2'-C1'	5.61	105.98	101.50
9	A	1014	A	N1-C6-N6	-5.61	115.24	118.60
9	A	1499	C	C3'-C2'-C1'	5.61	105.98	101.50
9	A	740	C	P-O3'-C3'	-5.60	112.98	119.70
9	A	980	A	P-O3'-C3'	-5.60	112.98	119.70
9	A	1350	C	P-O3'-C3'	-5.60	112.98	119.70
9	A	2505	G	C3'-C2'-O2'	-5.60	97.06	113.30
9	A	546	U	O4'-C1'-N1	5.60	112.68	108.20
9	A	955	U	C5-C4-O4	-5.60	122.54	125.90
9	A	1303	G	P-O5'-C5'	-5.60	111.95	120.90
9	A	2465	C	C6-N1-C2	5.59	122.54	120.30
9	A	2512	C	P-O3'-C3'	-5.59	112.99	119.70
9	A	2716	C	N3-C4-C5	5.59	124.14	121.90
9	A	229	C	C3'-C2'-C1'	5.59	105.97	101.50
9	A	1730	C	O4'-C1'-N1	5.59	112.67	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	443	A	C3'-C2'-C1'	5.59	105.97	101.50
9	A	1765	U	O4'-C1'-N1	-5.59	103.73	108.20
9	A	137	U	P-O3'-C3'	5.59	126.41	119.70
9	A	763	G	C3'-C2'-C1'	5.59	105.97	101.50
9	A	1250	G	N9-C1'-C2'	5.59	121.27	114.00
9	A	1333	G	N9-C1'-C2'	-5.59	105.85	112.00
9	A	1494	A	C3'-C2'-C1'	5.59	105.97	101.50
9	A	528	A	C5-C6-N1	-5.59	114.91	117.70
9	A	2463	C	O4'-C1'-N1	-5.59	103.73	108.20
9	A	1289	C	P-O5'-C5'	-5.59	111.96	120.90
9	A	1370	C	P-O3'-C3'	5.59	126.40	119.70
9	A	1937	A	P-O5'-C5'	-5.59	111.96	120.90
9	A	455	C	P-O5'-C5'	-5.58	111.97	120.90
9	A	814	C	O5'-P-OP2	-5.58	100.67	105.70
9	A	973	A	N1-C2-N3	5.58	132.09	129.30
9	A	1444	G	O5'-P-OP2	-5.58	100.68	105.70
9	A	2733	A	N9-C1'-C2'	-5.58	105.86	112.00
9	A	2745	C	O4'-C1'-N1	5.58	112.66	108.20
9	A	2831	G	N3-C2-N2	-5.58	116.00	119.90
10	B	42	C	C3'-C2'-C1'	5.58	105.96	101.50
9	A	475	C	C3'-C2'-C1'	5.57	105.96	101.50
9	A	691	C	C5-C6-N1	-5.57	118.21	121.00
9	A	1276	A	O5'-P-OP2	-5.57	100.68	105.70
9	A	1619	G	N1-C6-O6	-5.57	116.56	119.90
9	A	1838	C	N1-C1'-C2'	5.57	121.25	114.00
9	A	2034	U	N1-C1'-C2'	-5.57	105.87	112.00
9	A	1144	A	P-O3'-C3'	-5.57	113.01	119.70
9	A	1695	G	P-O5'-C5'	-5.57	111.98	120.90
9	A	398	C	O4'-C1'-N1	-5.57	103.74	108.20
9	A	672	C	P-O5'-C5'	-5.57	111.99	120.90
9	A	310	A	P-O5'-C5'	-5.57	111.99	120.90
9	A	852	U	C5-C6-N1	-5.57	119.92	122.70
9	A	1255	U	N3-C2-O2	5.57	126.10	122.20
9	A	590	A	P-O3'-C3'	-5.57	113.02	119.70
9	A	1429	G	C3'-C2'-C1'	5.57	105.95	101.50
9	A	2210	U	O4'-C1'-N1	5.57	112.65	108.20
9	A	2673	G	C3'-C2'-C1'	5.56	105.95	101.50
9	A	1565	C	P-O3'-C3'	5.56	126.37	119.70
9	A	1954	G	C5-C6-O6	-5.56	125.26	128.60
9	A	2639	A	P-O3'-C3'	-5.56	113.03	119.70
9	A	223	A	C3'-C2'-C1'	5.56	105.95	101.50
9	A	1313	U	P-O3'-C3'	-5.56	113.03	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2832	U	P-O3'-C3'	5.55	126.36	119.70
9	A	575	A	P-O3'-C3'	-5.55	113.04	119.70
9	A	829	A	P-O3'-C3'	5.55	126.36	119.70
9	A	1997	C	O5'-P-OP1	-5.55	100.71	105.70
10	B	25	U	C3'-C2'-C1'	5.55	105.94	101.50
9	A	1694	C	C5-C6-N1	-5.54	118.23	121.00
9	A	2215	C	P-O5'-C5'	-5.54	112.03	120.90
9	A	1753	G	P-O3'-C3'	5.54	126.35	119.70
9	A	177	G	O4'-C1'-N9	5.54	112.63	108.20
9	A	691	C	C6-N1-C2	5.54	122.52	120.30
9	A	1385	A	O4'-C1'-N9	5.54	112.63	108.20
9	A	1866	A	C3'-C2'-C1'	5.54	105.93	101.50
9	A	2744	G	C5-C6-O6	-5.54	125.28	128.60
9	A	653	U	P-O3'-C3'	5.54	126.34	119.70
9	A	1229	C	C5-C6-N1	-5.54	118.23	121.00
9	A	865	C	N1-C2-O2	-5.53	115.58	118.90
9	A	2567	G	C2-N3-C4	5.53	114.67	111.90
9	A	2001	C	P-O3'-C3'	-5.53	113.06	119.70
9	A	2271	G	N3-C4-C5	-5.53	125.84	128.60
9	A	2808	G	O5'-P-OP2	-5.53	100.73	105.70
9	A	435	C	P-O5'-C5'	-5.53	112.06	120.90
9	A	726	G	N3-C4-N9	-5.53	122.69	126.00
9	A	1198	U	O5'-P-OP2	-5.53	100.73	105.70
9	A	1808	A	O4'-C1'-N9	5.53	112.62	108.20
9	A	1426	G	P-O3'-C3'	5.52	126.33	119.70
9	A	687	C	P-O5'-C5'	-5.52	112.07	120.90
9	A	1033	U	O4'-C1'-N1	5.52	112.62	108.20
9	A	1829	A	C3'-C2'-C1'	5.52	105.92	101.50
9	A	513	A	P-O3'-C3'	-5.52	113.08	119.70
9	A	567	U	O3'-P-O5'	-5.51	93.52	104.00
9	A	2428	G	P-O5'-C5'	-5.51	112.08	120.90
9	A	2691	C	C3'-C2'-C1'	5.51	105.91	101.50
9	A	388	G	C3'-C2'-C1'	5.51	105.91	101.50
9	A	2551	C	P-O3'-C3'	-5.51	113.09	119.70
9	A	2757	A	P-O3'-C3'	-5.51	113.09	119.70
9	A	2546	U	C5-C4-O4	-5.51	122.60	125.90
10	B	89	U	O4'-C1'-N1	5.51	112.61	108.20
9	A	975	A	P-O3'-C3'	-5.50	113.09	119.70
9	A	1554	U	C4'-C3'-C2'	5.50	108.11	102.60
9	A	411	G	P-O3'-C3'	5.50	126.31	119.70
9	A	705	A	P-O3'-C3'	-5.50	113.09	119.70
9	A	747	U	N1-C1'-C2'	-5.50	105.95	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2682	A	C3'-C2'-C1'	5.50	105.90	101.50
9	A	1128	G	O4'-C1'-N9	5.50	112.60	108.20
9	A	2890	G	C5-C6-O6	-5.50	125.30	128.60
9	A	568	U	O4'-C1'-N1	-5.50	103.80	108.20
9	A	1024	G	C3'-C2'-C1'	5.50	105.90	101.50
9	A	2685	G	P-O5'-C5'	-5.50	112.10	120.90
9	A	528	A	N9-C1'-C2'	-5.50	105.95	112.00
9	A	2013	A	OP1-P-O3'	5.49	117.28	105.20
9	A	1142	A	N3-C4-N9	-5.49	123.01	127.40
9	A	2879	A	O4'-C1'-N9	5.49	112.59	108.20
9	A	436	C	O4'-C1'-N1	5.49	112.59	108.20
9	A	1263	U	P-O3'-C3'	5.49	126.29	119.70
9	A	2309	A	C3'-C2'-C1'	5.49	105.89	101.50
9	A	2455	G	P-O3'-C3'	5.49	126.28	119.70
9	A	2571	U	O4'-C1'-N1	-5.49	103.81	108.20
9	A	2424	C	C5-C6-N1	-5.48	118.26	121.00
9	A	2501	C	C2-N1-C1'	-5.48	112.77	118.80
9	A	2319	G	O4'-C1'-N9	5.48	112.59	108.20
9	A	858	G	P-O5'-C5'	-5.48	112.13	120.90
9	A	1024	G	N9-C1'-C2'	-5.48	105.97	112.00
9	A	2503	A	P-O3'-C3'	5.48	126.28	119.70
9	A	1317	G	P-O3'-C3'	-5.48	113.13	119.70
9	A	1944	U	P-O3'-C3'	5.47	126.27	119.70
9	A	1254	A	C3'-C2'-C1'	5.47	105.88	101.50
9	A	535	G	OP2-P-O3'	5.47	117.23	105.20
9	A	1475	G	O4'-C1'-N9	5.47	112.58	108.20
9	A	838	C	N1-C2-O2	-5.47	115.62	118.90
9	A	867	C	N1-C1'-C2'	-5.47	105.98	112.00
9	A	29	U	P-O5'-C5'	-5.47	112.16	120.90
9	A	585	G	O3'-P-O5'	-5.47	93.61	104.00
9	A	1026	G	C3'-C2'-C1'	5.47	105.87	101.50
9	A	1480	C	P-O5'-C5'	-5.47	112.16	120.90
9	A	996	A	C3'-C2'-C1'	5.46	105.87	101.50
9	A	1611	C	C3'-C2'-C1'	5.46	105.87	101.50
9	A	572	A	C3'-C2'-C1'	5.46	105.87	101.50
9	A	1290	C	C6-N1-C2	5.46	122.48	120.30
9	A	1424	G	P-O3'-C3'	5.46	126.25	119.70
9	A	2029	G	OP1-P-O3'	5.46	117.21	105.20
9	A	2281	A	P-O5'-C5'	-5.46	112.16	120.90
9	A	2714	G	P-O3'-C3'	-5.46	113.15	119.70
9	A	14	A	P-O5'-C5'	-5.46	112.17	120.90
9	A	1943	U	O4'-C1'-N1	-5.46	103.83	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1564	C	P-O3'-C3'	5.46	126.25	119.70
9	A	2021	C	O4'-C1'-N1	-5.45	103.84	108.20
9	A	2387	U	O4'-C1'-N1	5.45	112.56	108.20
9	A	2875	C	O4'-C1'-N1	-5.45	103.84	108.20
9	A	694	U	O4'-C1'-N1	5.45	112.56	108.20
10	B	16	G	N9-C1'-C2'	-5.45	106.00	112.00
9	A	1511	G	P-O5'-C5'	-5.45	112.18	120.90
9	A	1674	G	P-O3'-C3'	5.45	126.24	119.70
9	A	2259	U	P-O5'-C5'	-5.45	112.19	120.90
9	A	2508	G	C6-C5-N7	-5.45	127.13	130.40
9	A	530	G	C8-N9-C4	-5.45	104.22	106.40
9	A	1714	U	C3'-C2'-C1'	5.44	105.86	101.50
9	A	2231	U	N1-C1'-C2'	-5.44	106.01	112.00
9	A	2681	C	N3-C2-O2	5.44	125.71	121.90
9	A	1261	C	O4'-C1'-N1	5.44	112.55	108.20
9	A	1702	G	P-O5'-C5'	-5.44	112.20	120.90
9	A	1774	C	O4'-C1'-N1	-5.44	103.85	108.20
9	A	987	C	O4'-C1'-N1	5.43	112.55	108.20
9	A	681	G	P-O5'-C5'	-5.43	112.21	120.90
9	A	955	U	N3-C4-C5	5.43	117.86	114.60
9	A	1619	G	O5'-P-OP2	-5.43	100.81	105.70
9	A	2788	C	P-O5'-C5'	-5.43	112.21	120.90
9	A	765	C	C3'-C2'-C1'	5.43	105.84	101.50
9	A	1153	C	C4-C5-C6	5.43	120.11	117.40
9	A	1681	G	C8-N9-C4	5.43	108.57	106.40
9	A	2615	U	C3'-C2'-C1'	5.42	105.84	101.50
9	A	1255	U	C3'-C2'-C1'	5.42	105.84	101.50
9	A	1360	G	O5'-P-OP2	-5.42	100.82	105.70
10	B	29	A	P-O5'-C5'	-5.42	112.23	120.90
9	A	793	A	N1-C2-N3	5.42	132.01	129.30
9	A	2092	U	N1-C1'-C2'	5.42	121.04	114.00
9	A	2026	U	C5-C6-N1	-5.41	119.99	122.70
9	A	606	U	O4'-C1'-N1	5.41	112.53	108.20
9	A	1692	U	N3-C2-O2	5.41	125.99	122.20
34	Z	16	LEU	CA-CB-CG	-5.41	102.86	115.30
9	A	1816	C	C3'-C2'-C1'	5.41	105.83	101.50
9	A	2333	A	C8-N9-C4	5.41	107.96	105.80
9	A	2383	G	C3'-C2'-C1'	5.41	105.83	101.50
9	A	604	G	C3'-C2'-C1'	5.41	105.82	101.50
9	A	742	A	P-O3'-C3'	-5.41	113.21	119.70
9	A	1780	A	C2-N3-C4	-5.41	107.90	110.60
9	A	2836	U	P-O3'-C3'	-5.40	113.22	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	412	A	N9-C1'-C2'	-5.40	106.06	112.00
9	A	1698	A	P-O3'-C3'	5.40	126.18	119.70
9	A	962	G	P-O5'-C5'	-5.40	112.26	120.90
9	A	463	G	OP2-P-O3'	5.40	117.07	105.20
9	A	2890	G	N9-C4-C5	-5.40	103.24	105.40
9	A	181	A	P-O3'-C3'	-5.39	113.23	119.70
9	A	2607	G	P-O3'-C3'	-5.39	113.23	119.70
9	A	2055	C	C6-N1-C2	5.39	122.46	120.30
9	A	2424	C	C2-N3-C4	-5.39	117.20	119.90
9	A	486	C	C6-N1-C2	5.39	122.45	120.30
9	A	569	U	O4'-C1'-N1	5.39	112.51	108.20
9	A	1240	U	C6-N1-C1'	-5.39	113.66	121.20
9	A	564	C	O4'-C1'-N1	5.38	112.51	108.20
9	A	1943	U	C4'-C3'-C2'	5.38	107.98	102.60
12	D	10	GLY	N-CA-C	5.38	126.56	113.10
9	A	2200	C	C3'-C2'-C1'	5.38	105.81	101.50
9	A	480	A	C3'-C2'-C1'	5.38	105.81	101.50
9	A	792	A	N1-C6-N6	5.37	121.82	118.60
9	A	2258	C	C4'-C3'-C2'	5.37	107.97	102.60
9	A	677	A	OP1-P-O3'	5.37	117.02	105.20
9	A	1459	G	C3'-C2'-C1'	5.37	105.80	101.50
9	A	1822	C	P-O5'-C5'	-5.37	112.30	120.90
9	A	303	G	C3'-C2'-C1'	5.37	105.80	101.50
9	A	1382	G	P-O5'-C5'	-5.37	112.31	120.90
9	A	1272	A	C8-N9-C4	5.37	107.95	105.80
9	A	2705	A	P-O5'-C5'	-5.37	112.32	120.90
9	A	585	G	P-O3'-C3'	5.36	126.14	119.70
9	A	2645	G	O3'-P-O5'	-5.36	93.81	104.00
9	A	2890	G	C4-C5-N7	5.36	112.94	110.80
9	A	914	G	C4-N9-C1'	5.36	133.47	126.50
10	B	45	A	C3'-C2'-C1'	5.36	105.79	101.50
9	A	458	G	C3'-C2'-C1'	-5.36	97.21	101.50
9	A	638	G	P-O3'-C3'	-5.36	113.27	119.70
9	A	1426	G	P-O5'-C5'	-5.36	112.33	120.90
9	A	2007	U	P-O3'-C3'	-5.36	113.27	119.70
9	A	2552	U	O4'-C1'-N1	-5.36	103.92	108.20
9	A	1885	A	C3'-C2'-C1'	5.35	105.78	101.50
9	A	860	U	N3-C2-O2	-5.35	118.45	122.20
9	A	1762	A	O4'-C1'-N9	-5.35	103.92	108.20
9	A	1942	C	C3'-C2'-C1'	5.35	105.78	101.50
9	A	1931	U	P-O3'-C3'	-5.35	113.28	119.70
9	A	2652	C	P-O3'-C3'	-5.35	113.28	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2787	C	N1-C2-O2	-5.35	115.69	118.90
9	A	1125	G	C5-C6-O6	-5.35	125.39	128.60
9	A	984	A	O3'-P-O5'	5.34	114.16	104.00
9	A	1343	G	C3'-C2'-C1'	5.34	105.78	101.50
9	A	324	A	N9-C1'-C2'	-5.34	106.12	112.00
9	A	1838	C	N1-C2-O2	-5.34	115.69	118.90
9	A	22	C	C2-N3-C4	-5.34	117.23	119.90
9	A	1675	C	C2-N3-C4	-5.34	117.23	119.90
9	A	166	U	P-O3'-C3'	-5.34	113.30	119.70
9	A	628	G	P-O5'-C5'	-5.34	112.36	120.90
9	A	2148	G	C3'-C2'-C1'	5.34	105.77	101.50
9	A	1133	A	O4'-C1'-N9	5.33	112.47	108.20
9	A	1941	C	C3'-C2'-C1'	5.33	105.77	101.50
9	A	2022	U	N3-C4-O4	5.33	123.13	119.40
9	A	2508	G	C4-N9-C1'	5.33	133.44	126.50
9	A	36	G	P-O3'-C3'	-5.33	113.30	119.70
9	A	1091	G	O4'-C1'-N9	5.33	112.47	108.20
9	A	2881	U	O4'-C1'-N1	-5.33	103.93	108.20
10	B	79	G	C2-N3-C4	5.33	114.57	111.90
9	A	992	C	O4'-C1'-N1	5.33	112.47	108.20
4	3	21	PHE	N-CA-C	5.33	125.39	111.00
9	A	309	A	P-O3'-C3'	5.33	126.10	119.70
9	A	1631	G	O4'-C1'-N9	5.33	112.46	108.20
9	A	512	G	P-O3'-C3'	5.33	126.09	119.70
9	A	835	C	N3-C2-O2	5.33	125.63	121.90
9	A	2543	G	P-O3'-C3'	-5.33	113.31	119.70
9	A	534	U	C5-C6-N1	-5.32	120.04	122.70
9	A	538	A	P-O5'-C5'	-5.32	112.38	120.90
9	A	2236	U	P-O5'-C5'	-5.32	112.38	120.90
9	A	2324	U	O4'-C1'-N1	-5.32	103.94	108.20
9	A	2561	U	O4'-C1'-N1	5.32	112.46	108.20
9	A	1657	U	P-O3'-C3'	-5.32	113.31	119.70
9	A	750	A	N1-C2-N3	5.32	131.96	129.30
9	A	765	C	P-O5'-C5'	-5.32	112.39	120.90
9	A	489	G	O3'-P-O5'	-5.32	93.89	104.00
9	A	2573	C	C3'-C2'-C1'	5.32	105.75	101.50
9	A	1848	A	C3'-C2'-C1'	5.32	105.75	101.50
9	A	1761	C	N1-C2-O2	-5.31	115.71	118.90
9	A	1989	G	P-O5'-C5'	-5.31	112.40	120.90
9	A	1828	G	P-O3'-C3'	5.31	126.07	119.70
9	A	2632	A	P-O5'-C5'	-5.31	112.41	120.90
34	Z	16	LEU	CB-CG-CD2	-5.31	101.97	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	N	33	ILE	CB-CA-C	-5.31	100.99	111.60
9	A	2729	G	N9-C1'-C2'	-5.30	106.16	112.00
9	A	86	G	O5'-P-OP2	-5.30	100.93	105.70
9	A	1510	G	N9-C1'-C2'	-5.30	106.17	112.00
9	A	35	G	N9-C1'-C2'	-5.30	106.17	112.00
9	A	964	C	P-O5'-C5'	-5.30	112.42	120.90
9	A	2312	U	O4'-C1'-N1	5.30	112.44	108.20
9	A	2508	G	C8-N9-C1'	-5.30	120.11	127.00
9	A	908	C	N1-C2-O2	-5.30	115.72	118.90
9	A	1323	C	C6-N1-C2	5.30	122.42	120.30
9	A	1760	C	P-O3'-C3'	-5.30	113.34	119.70
9	A	958	U	C3'-C2'-C1'	5.29	105.73	101.50
9	A	2569	G	N3-C4-C5	-5.29	125.95	128.60
9	A	2881	U	N3-C2-O2	5.29	125.91	122.20
9	A	386	G	O3'-P-O5'	-5.29	93.94	104.00
9	A	1192	G	P-O5'-C5'	-5.29	112.44	120.90
9	A	1142	A	N1-C6-N6	5.29	121.77	118.60
9	A	2655	G	P-O3'-C3'	5.29	126.05	119.70
20	L	40	SER	N-CA-C	-5.29	96.72	111.00
9	A	1993	U	O4'-C1'-N1	5.29	112.43	108.20
9	A	2602	A	C5'-C4'-O4'	5.29	115.44	109.10
9	A	523	C	C6-N1-C2	5.29	122.41	120.30
9	A	636	G	P-O3'-C3'	5.29	126.04	119.70
9	A	2757	A	N9-C1'-C2'	-5.28	106.19	112.00
9	A	2405	G	P-O3'-C3'	5.28	126.04	119.70
9	A	664	G	O5'-P-OP2	-5.28	100.95	105.70
9	A	1318	U	O4'-C1'-N1	5.28	112.42	108.20
9	A	945	A	O4'-C1'-N9	5.28	112.42	108.20
9	A	2431	U	P-O5'-C5'	-5.27	112.46	120.90
9	A	1025	G	C4'-C3'-C2'	5.27	107.87	102.60
9	A	1716	U	C3'-C2'-C1'	5.27	105.72	101.50
9	A	2830	C	P-O5'-C5'	-5.27	112.47	120.90
9	A	1330	C	C3'-C2'-C1'	5.27	105.71	101.50
9	A	1238	G	O4'-C1'-N9	5.26	112.41	108.20
9	A	1784	A	C8-N9-C4	5.26	107.91	105.80
9	A	2017	U	P-O5'-C5'	-5.26	112.48	120.90
9	A	621	A	C3'-C2'-C1'	5.26	105.71	101.50
9	A	977	G	O3'-P-O5'	-5.26	94.00	104.00
9	A	2836	U	O4'-C1'-N1	5.26	112.41	108.20
9	A	667	U	P-O3'-C3'	5.26	126.01	119.70
9	A	1785	A	C3'-C2'-C1'	5.26	105.71	101.50
10	B	12	C	P-O3'-C3'	5.26	126.01	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1919	A	N9-C1'-C2'	-5.26	106.22	112.00
10	B	90	C	P-O5'-C5'	-5.25	112.49	120.90
9	A	466	A	C2-N3-C4	5.25	113.22	110.60
10	B	5	U	N1-C1'-C2'	-5.25	106.23	112.00
9	A	2580	U	P-O3'-C3'	5.25	126.00	119.70
9	A	2839	G	OP2-P-O3'	5.25	116.74	105.20
9	A	765	C	N1-C1'-C2'	-5.25	106.23	112.00
9	A	209	C	C6-N1-C2	5.24	122.40	120.30
9	A	1429	G	N9-C1'-C2'	-5.24	106.23	112.00
9	A	800	A	C5-N7-C8	-5.24	101.28	103.90
9	A	2619	C	C5-C6-N1	-5.24	118.38	121.00
9	A	2794	C	N3-C2-O2	5.24	125.57	121.90
18	J	64	VAL	N-CA-C	5.24	125.15	111.00
9	A	683	U	C3'-C2'-C1'	5.24	105.69	101.50
9	A	2558	C	P-O5'-C5'	-5.24	112.52	120.90
9	A	2806	C	O3'-P-O5'	-5.24	94.05	104.00
9	A	726	G	O3'-P-O5'	5.23	113.94	104.00
9	A	781	A	P-O3'-C3'	5.23	125.98	119.70
9	A	1682	G	C3'-C2'-C1'	5.23	105.69	101.50
9	A	2611	C	P-O3'-C3'	-5.23	113.42	119.70
9	A	595	C	N3-C4-C5	5.23	123.99	121.90
9	A	1956	U	P-O3'-C3'	-5.23	113.43	119.70
9	A	2543	G	C8-N9-C4	-5.23	104.31	106.40
9	A	2831	G	P-O5'-C5'	-5.23	112.54	120.90
9	A	87	U	P-O3'-C3'	-5.23	113.43	119.70
9	A	673	C	O4'-C1'-N1	5.23	112.38	108.20
9	A	1130	U	N1-C2-O2	5.23	126.46	122.80
9	A	1806	C	O4'-C1'-N1	-5.22	104.02	108.20
9	A	25	U	C6-N1-C2	5.22	124.13	121.00
9	A	530	G	P-O3'-C3'	-5.22	113.43	119.70
9	A	2508	G	O4'-C1'-N9	-5.22	104.02	108.20
9	A	2661	G	P-O3'-C3'	5.22	125.97	119.70
9	A	2815	C	P-O5'-C5'	-5.22	112.55	120.90
9	A	243	U	P-O3'-C3'	-5.22	113.44	119.70
9	A	93	G	N9-C1'-C2'	-5.22	106.26	112.00
9	A	1646	C	P-O3'-C3'	-5.22	113.44	119.70
9	A	390	U	O4'-C1'-N1	-5.21	104.03	108.20
9	A	936	A	P-O5'-C5'	-5.21	112.56	120.90
9	A	1296	G	C5-C6-N1	5.21	114.11	111.50
9	A	1319	C	C6-N1-C2	5.21	122.39	120.30
9	A	2066	C	P-O5'-C5'	-5.21	112.56	120.90
9	A	2264	C	C6-N1-C2	5.21	122.39	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1239	G	O3'-P-O5'	-5.21	94.09	104.00
9	A	476	G	C3'-C2'-C1'	5.21	105.67	101.50
9	A	1617	C	O4'-C1'-N1	5.21	112.37	108.20
9	A	2803	G	P-O5'-C5'	-5.21	112.56	120.90
9	A	1109	C	O4'-C1'-N1	5.21	112.37	108.20
9	A	2813	A	C8-N9-C4	5.21	107.88	105.80
9	A	637	A	N9-C1'-C2'	5.21	120.77	114.00
9	A	2716	C	P-O5'-C5'	-5.21	112.57	120.90
9	A	1760	C	O3'-P-O5'	-5.20	94.12	104.00
9	A	2775	G	OP2-P-O3'	5.20	116.64	105.20
9	A	769	U	P-O5'-C5'	-5.20	112.58	120.90
9	A	116	C	O4'-C1'-N1	5.20	112.36	108.20
10	B	57	A	P-O5'-C5'	-5.20	112.58	120.90
9	A	818	G	C6-N1-C2	-5.20	121.98	125.10
9	A	1794	A	P-O5'-C5'	-5.20	112.59	120.90
9	A	1839	G	N9-C1'-C2'	-5.19	106.29	112.00
9	A	456	C	O5'-P-OP2	-5.19	101.03	105.70
9	A	554	U	P-O3'-C3'	5.19	125.93	119.70
9	A	785	G	P-O5'-C5'	-5.19	112.59	120.90
9	A	1628	G	C5-C6-O6	-5.19	125.48	128.60
9	A	1989	G	C6-C5-N7	-5.19	127.28	130.40
9	A	2609	U	C4'-C3'-C2'	5.19	107.79	102.60
9	A	584	C	C6-N1-C2	5.19	122.38	120.30
9	A	1380	G	N1-C6-O6	-5.19	116.79	119.90
9	A	1989	G	O4'-C1'-N9	-5.19	104.05	108.20
9	A	1992	G	N9-C4-C5	5.19	107.48	105.40
9	A	1380	G	N9-C1'-C2'	-5.19	106.29	112.00
9	A	2506	U	C4'-C3'-O3'	5.19	123.37	113.00
9	A	1210	G	P-O5'-C5'	-5.19	112.60	120.90
9	A	1925	C	O4'-C1'-N1	5.18	112.35	108.20
9	A	333	G	P-O3'-C3'	-5.18	113.48	119.70
9	A	1062	G	C3'-C2'-C1'	5.18	105.64	101.50
9	A	1790	C	C2-N3-C4	-5.18	117.31	119.90
9	A	255	A	C2-N3-C4	-5.18	108.01	110.60
9	A	942	G	O3'-P-O5'	-5.18	94.16	104.00
9	A	1114	C	P-O3'-C3'	5.18	125.92	119.70
9	A	1792	G	N9-C1'-C2'	-5.18	106.30	112.00
9	A	1555	G	C3'-C2'-C1'	5.18	105.64	101.50
9	A	2324	U	N1-C1'-C2'	5.18	120.73	114.00
9	A	909	A	O4'-C1'-N9	-5.17	104.06	108.20
9	A	25	U	C5-C4-O4	-5.17	122.80	125.90
9	A	528	A	O4'-C1'-N9	-5.17	104.06	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	2567	G	N1-C6-O6	-5.17	116.80	119.90
9	A	1963	U	O4'-C1'-N1	-5.17	104.06	108.20
9	A	162	U	O4'-C1'-N1	5.17	112.33	108.20
9	A	981	A	N1-C6-N6	5.17	121.70	118.60
9	A	1421	G	C3'-C2'-C1'	5.17	105.63	101.50
9	A	1678	A	C5-C6-N6	-5.17	119.57	123.70
9	A	270	A	P-O5'-C5'	-5.16	112.64	120.90
9	A	1270	C	N3-C2-O2	5.16	125.51	121.90
9	A	2501	C	P-O5'-C5'	-5.16	112.64	120.90
9	A	614	A	P-O5'-C5'	-5.16	112.64	120.90
9	A	686	U	N3-C2-O2	5.16	125.81	122.20
9	A	2578	G	O4'-C1'-N9	5.16	112.33	108.20
9	A	984	A	N3-C4-C5	5.15	130.41	126.80
9	A	1243	C	P-O5'-C5'	-5.15	112.66	120.90
9	A	451	U	C5-C6-N1	-5.15	120.12	122.70
9	A	2375	G	P-O3'-C3'	-5.15	113.52	119.70
9	A	1829	A	N9-C1'-C2'	-5.15	106.34	112.00
9	A	2690	U	O5'-P-OP2	-5.15	101.07	105.70
9	A	811	U	O4'-C1'-N1	5.15	112.32	108.20
9	A	2055	C	N1-C1'-C2'	-5.15	106.34	112.00
9	A	119	A	O3'-P-O5'	5.14	113.77	104.00
9	A	1971	U	OP1-P-O3'	5.14	116.52	105.20
9	A	809	G	N3-C4-N9	5.14	129.08	126.00
9	A	2752	C	C3'-C2'-C1'	5.14	105.61	101.50
9	A	2683	C	P-O3'-C3'	-5.14	113.53	119.70
9	A	1023	U	C3'-C2'-C1'	5.14	105.61	101.50
9	A	1420	A	P-O5'-C5'	-5.14	112.68	120.90
9	A	1653	G	O5'-P-OP2	-5.14	101.08	105.70
9	A	2893	A	N9-C1'-C2'	5.14	120.68	114.00
9	A	17	G	C8-N9-C4	-5.13	104.35	106.40
9	A	390	U	OP2-P-O3'	5.13	116.49	105.20
9	A	542	C	O3'-P-O5'	-5.13	94.24	104.00
9	A	978	G	C5-C6-N1	5.13	114.07	111.50
9	A	2025	C	C4-C5-C6	5.13	119.97	117.40
9	A	2501	C	C6-N1-C2	5.13	122.35	120.30
9	A	2440	C	O5'-P-OP2	-5.13	101.08	105.70
9	A	630	G	N9-C1'-C2'	-5.13	106.36	112.00
9	A	1303	G	N9-C1'-C2'	-5.13	106.35	112.00
9	A	1619	G	N9-C4-C5	5.13	107.45	105.40
9	A	1802	A	P-O5'-C5'	-5.13	112.69	120.90
9	A	386	G	O4'-C1'-N9	5.13	112.30	108.20
9	A	2832	U	O3'-P-O5'	-5.13	94.26	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1146	C	O4'-C1'-N1	5.13	112.30	108.20
9	A	1327	A	N1-C6-N6	5.13	121.68	118.60
9	A	126	A	C3'-C2'-C1'	5.12	105.60	101.50
9	A	783	A	C5-C6-N1	-5.12	115.14	117.70
9	A	200	U	C3'-C2'-C1'	5.12	105.60	101.50
9	A	668	A	N1-C2-N3	-5.12	126.74	129.30
9	A	1403	A	P-O3'-C3'	-5.12	113.55	119.70
9	A	2787	C	C6-N1-C2	5.12	122.35	120.30
9	A	321	U	O4'-C1'-N1	5.12	112.30	108.20
9	A	1700	A	P-O3'-C3'	-5.12	113.56	119.70
9	A	2821	A	N9-C1'-C2'	-5.12	106.37	112.00
9	A	93	G	C3'-C2'-C1'	5.12	105.59	101.50
9	A	1255	U	OP1-P-OP2	5.12	127.27	119.60
9	A	1981	A	C3'-C2'-C1'	5.12	105.59	101.50
9	A	2590	A	P-O5'-C5'	-5.12	112.71	120.90
8	7	76	A	C4'-C3'-O3'	-5.11	98.66	109.40
9	A	528	A	C4-C5-C6	5.11	119.56	117.00
9	A	1006	C	C5-C6-N1	-5.11	118.44	121.00
9	A	2890	G	C2-N3-C4	-5.11	109.34	111.90
9	A	1785	A	C8-N9-C4	-5.11	103.75	105.80
9	A	683	U	P-O3'-C3'	-5.11	113.57	119.70
9	A	1364	G	P-O3'-C3'	5.11	125.83	119.70
9	A	2051	A	N1-C6-N6	5.11	121.67	118.60
9	A	2608	G	P-O3'-C3'	5.11	125.83	119.70
9	A	507	A	C3'-C2'-C1'	5.11	105.58	101.50
9	A	856	G	O3'-P-O5'	-5.11	94.30	104.00
9	A	860	U	C3'-C2'-C1'	5.11	105.58	101.50
9	A	2307	G	O4'-C1'-N9	5.11	112.29	108.20
10	B	53	A	P-O5'-C5'	-5.11	112.73	120.90
10	B	106	G	C4-C5-N7	5.11	112.84	110.80
9	A	52	A	C3'-C2'-C1'	5.11	105.58	101.50
9	A	662	G	O5'-P-OP2	-5.11	101.11	105.70
9	A	1074	G	C3'-C2'-C1'	5.11	105.58	101.50
9	A	1229	C	C2-N3-C4	-5.11	117.35	119.90
9	A	1568	G	C4-N9-C1'	5.11	133.14	126.50
9	A	972	A	O5'-P-OP2	-5.10	101.11	105.70
10	B	82	U	P-O5'-C5'	-5.10	112.73	120.90
9	A	1700	A	C3'-C2'-C1'	5.10	105.58	101.50
9	A	873	C	C6-N1-C2	5.10	122.34	120.30
9	A	1920	C	C3'-C2'-C1'	5.10	105.58	101.50
9	A	55	G	N3-C2-N2	-5.09	116.33	119.90
9	A	2898	U	O5'-P-OP2	-5.09	101.11	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	85	G	N9-C1'-C2'	-5.09	106.40	112.00
9	A	1799	G	P-O3'-C3'	5.09	125.81	119.70
25	Q	52	ARG	NE-CZ-NH1	-5.09	117.75	120.30
9	A	239	C	C3'-C2'-C1'	5.09	105.57	101.50
9	A	760	G	N1-C6-O6	5.09	122.95	119.90
9	A	2036	C	C3'-C2'-C1'	5.09	105.57	101.50
9	A	2329	U	O4'-C1'-N1	5.09	112.27	108.20
9	A	682	G	C8-N9-C1'	-5.08	120.39	127.00
9	A	2547	A	P-O5'-C5'	-5.08	112.77	120.90
9	A	529	A	C4'-C3'-C2'	5.08	107.68	102.60
9	A	2452	C	C5'-C4'-C3'	-5.08	107.87	116.00
9	A	2508	G	P-O5'-C5'	-5.08	112.77	120.90
9	A	1200	C	C5-C6-N1	-5.08	118.46	121.00
9	A	2199	A	P-O5'-C5'	-5.08	112.78	120.90
9	A	2514	U	C5-C6-N1	-5.08	120.16	122.70
9	A	1607	C	P-O3'-C3'	5.08	125.79	119.70
9	A	2791	G	C8-N9-C4	-5.07	104.37	106.40
9	A	112	U	N1-C2-O2	-5.07	119.25	122.80
9	A	1565	C	O4'-C1'-N1	-5.07	104.14	108.20
10	B	83	G	O5'-P-OP2	-5.07	101.14	105.70
9	A	807	U	N1-C2-N3	5.07	117.94	114.90
9	A	2750	A	C4'-C3'-C2'	5.07	107.67	102.60
9	A	638	G	C3'-C2'-C1'	5.07	105.55	101.50
9	A	2385	C	C3'-C2'-C1'	5.07	105.55	101.50
9	A	1403	A	N9-C1'-C2'	-5.07	106.43	112.00
9	A	35	G	C5'-C4'-O4'	-5.06	103.02	109.10
9	A	1966	A	P-O5'-C5'	-5.06	112.80	120.90
9	A	2450	A	P-O3'-C3'	5.06	125.78	119.70
9	A	1867	G	C3'-C2'-C1'	5.06	105.55	101.50
9	A	1951	U	P-O3'-C3'	5.06	125.77	119.70
9	A	2725	A	O5'-C5'-C4'	-5.06	102.09	111.70
9	A	2868	A	P-O5'-C5'	-5.06	112.81	120.90
9	A	702	U	O4'-C1'-N1	-5.06	104.15	108.20
9	A	767	U	O4'-C1'-N1	5.06	112.25	108.20
9	A	940	G	O5'-P-OP2	-5.06	101.15	105.70
9	A	1240	U	C2-N1-C1'	5.06	123.77	117.70
9	A	1646	C	P-O5'-C5'	-5.06	112.81	120.90
9	A	1664	A	O3'-P-O5'	-5.06	94.39	104.00
9	A	159	G	P-O3'-C3'	5.06	125.77	119.70
9	A	216	A	O5'-P-OP2	-5.05	101.15	105.70
9	A	1128	G	C8-N9-C4	5.05	108.42	106.40
9	A	1977	A	N1-C2-N3	5.05	131.83	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	315	G	P-O5'-C5'	-5.05	112.82	120.90
9	A	1377	G	P-O3'-C3'	5.05	125.76	119.70
9	A	1021	A	C3'-C2'-C1'	5.05	105.54	101.50
9	A	1963	U	C3'-C2'-C1'	5.05	105.54	101.50
9	A	2781	A	C3'-C2'-C1'	5.05	105.54	101.50
9	A	772	C	C6-N1-C2	5.05	122.32	120.30
9	A	1461	C	O4'-C1'-N1	5.05	112.24	108.20
9	A	604	G	N9-C1'-C2'	-5.05	106.45	112.00
9	A	950	G	N3-C2-N2	5.05	123.43	119.90
9	A	934	U	O4'-C1'-N1	5.05	112.24	108.20
9	A	1491	G	C3'-C2'-C1'	5.05	105.54	101.50
9	A	1784	A	C2-N3-C4	-5.05	108.08	110.60
9	A	1913	A	P-O3'-C3'	5.05	125.75	119.70
9	A	938	G	P-O3'-C3'	-5.04	113.65	119.70
9	A	1554	U	O3'-P-O5'	-5.04	94.41	104.00
9	A	931	U	N1-C1'-C2'	5.04	120.56	114.00
9	A	1662	U	P-O5'-C5'	-5.04	112.83	120.90
9	A	1008	A	P-O5'-C5'	5.04	128.97	120.90
9	A	1297	C	P-O5'-C5'	-5.04	112.83	120.90
9	A	2232	C	C6-N1-C2	5.04	122.32	120.30
9	A	812	C	C3'-C2'-C1'	5.04	105.53	101.50
9	A	1261	C	P-O3'-C3'	5.04	125.74	119.70
9	A	856	G	C6-C5-N7	-5.04	127.38	130.40
9	A	2442	C	O5'-P-OP2	-5.03	101.17	105.70
9	A	873	C	C5-C6-N1	-5.03	118.48	121.00
9	A	1669	A	C3'-C2'-C1'	5.03	105.53	101.50
9	A	779	U	N3-C4-O4	5.03	122.92	119.40
9	A	2440	C	P-O3'-C3'	-5.03	113.66	119.70
9	A	612	G	P-O3'-C3'	5.03	125.73	119.70
9	A	2297	A	N9-C1'-C2'	-5.03	106.47	112.00
9	A	26	G	O4'-C1'-N9	-5.03	104.18	108.20
9	A	324	A	C3'-C2'-C1'	5.03	105.52	101.50
9	A	575	A	N9-C4-C5	5.03	107.81	105.80
9	A	2629	U	C5-C6-N1	-5.03	120.19	122.70
9	A	974	G	N3-C4-C5	5.03	131.11	128.60
9	A	1015	U	C6-N1-C2	5.03	124.02	121.00
9	A	2035	G	O4'-C1'-N9	5.03	112.22	108.20
9	A	2068	U	C3'-C2'-C1'	5.03	105.52	101.50
9	A	2486	C	C6-N1-C2	5.03	122.31	120.30
9	A	2368	C	P-O3'-C3'	-5.02	113.67	119.70
9	A	1791	A	OP2-P-O3'	5.02	116.25	105.20
9	A	2683	C	N3-C2-O2	5.02	125.42	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	A	1188	U	N1-C1'-C2'	5.02	120.52	114.00
9	A	1248	G	C6-C5-N7	-5.02	127.39	130.40
9	A	2051	A	C5-C6-N1	5.02	120.21	117.70
9	A	2544	G	P-O5'-C5'	-5.02	112.87	120.90
9	A	2456	C	OP1-P-O3'	5.02	116.23	105.20
9	A	1288	G	C6-C5-N7	-5.01	127.39	130.40
9	A	2071	A	N9-C4-C5	5.01	107.81	105.80
9	A	2249	U	C4'-C3'-C2'	5.01	107.61	102.60
9	A	464	U	P-O3'-C3'	5.01	125.71	119.70
9	A	413	C	P-O5'-C5'	-5.01	112.88	120.90
9	A	946	C	C3'-C2'-C1'	5.01	105.51	101.50
9	A	1134	A	OP1-P-OP2	5.01	127.11	119.60
10	B	82	U	O4'-C1'-N1	-5.01	104.19	108.20
9	A	436	C	P-O3'-C3'	-5.01	113.69	119.70
9	A	773	U	N1-C1'-C2'	5.01	120.51	114.00
9	A	847	U	C4'-C3'-C2'	5.01	107.61	102.60
9	A	1558	C	N1-C1'-C2'	5.01	120.51	114.00
9	A	2055	C	O4'-C1'-N1	5.01	112.20	108.20
9	A	2876	G	C6-C5-N7	-5.01	127.40	130.40
9	A	834	G	C6-C5-N7	-5.00	127.40	130.40
9	A	31	C	P-O3'-C3'	-5.00	113.70	119.70
9	A	533	G	P-O3'-C3'	-5.00	113.70	119.70
9	A	1129	A	P-O3'-C3'	-5.00	113.70	119.70
9	A	1024	G	N3-C4-C5	-5.00	126.10	128.60
9	A	1838	C	N3-C2-O2	5.00	125.40	121.90
9	A	2081	U	C5-C6-N1	-5.00	120.20	122.70
9	A	2880	C	C3'-C2'-C1'	5.00	105.50	101.50

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	D	191	GLY	Peptide
18	J	110	PRO	Peptide
22	N	101	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	0	444	0	461	53	0
2	1	410	0	440	69	0
3	2	377	0	418	27	0
4	3	504	0	574	68	0
5	4	302	0	341	48	0
6	5	41	0	27	3	0
7	6	8	0	0	3	0
8	7	59	0	35	3	0
9	A	61251	0	30809	3080	0
10	B	2506	0	1271	108	0
11	C	2083	0	2157	319	0
12	D	1565	0	1616	271	0
13	E	1552	0	1619	199	0
14	F	1411	0	1447	207	0
15	G	1323	0	1374	223	0
16	H	431	0	451	83	0
17	I	1032	0	1088	132	0
18	J	1129	0	1162	214	0
19	K	939	0	1012	153	0
20	L	1045	0	1117	169	0
21	M	1074	0	1157	149	0
22	N	961	0	1000	121	0
23	O	892	0	923	113	0
24	P	917	0	965	185	0
25	Q	947	0	1022	191	0
26	R	816	0	839	145	0
27	S	857	0	922	91	0
28	T	739	0	807	153	0
29	U	780	0	834	100	0
30	V	753	0	780	60	0
31	W	596	0	610	284	0
32	X	625	0	655	109	0
33	Y	509	0	543	72	0
34	Z	449	0	491	45	0
35	5	4	0	0	0	0
36	A	51	0	67	4	0
All	All	89382	0	59034	6679	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 45.

All (6679) 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)
24:P:50:ARG:CG	24:P:57:ALA:H	1.24	1.48
24:P:50:ARG:HD2	24:P:51:ASN:N	1.27	1.41
24:P:50:ARG:HG2	24:P:57:ALA:N	1.13	1.40
25:Q:63:ARG:NH1	25:Q:96:ASP:HA	1.37	1.35
12:D:114:LYS:HE3	12:D:114:LYS:N	1.41	1.33
9:A:1063:G:OP1	17:I:76:ALA:HB3	1.25	1.32
12:D:151:THR:HG22	12:D:152:PRO:CD	1.60	1.30
24:P:50:ARG:CD	24:P:51:ASN:H	1.42	1.30
18:J:111:LYS:HD3	18:J:112:GLY:N	1.44	1.29
32:X:30:PRO:HB2	32:X:32:LEU:CD1	1.61	1.29
9:A:636:G:C6	20:L:111:ILE:HD11	1.70	1.24
9:A:1073:A:C2'	9:A:1074:G:H5''	1.69	1.22
15:G:84:LYS:HG3	15:G:132:LEU:N	1.53	1.22
9:A:636:G:C5	20:L:111:ILE:HD11	1.77	1.20
14:F:35:LEU:HB3	14:F:153:ILE:CG2	1.71	1.20
24:P:50:ARG:HD3	24:P:56:SER:CB	1.71	1.20
30:V:80:HIS:CD2	30:V:83:LYS:H	1.58	1.20
12:D:99:GLU:HG3	12:D:100:LEU:H	1.08	1.18
19:K:18:ARG:HB2	19:K:45:GLU:CG	1.74	1.18
27:S:66:ILE:HA	27:S:69:LEU:HD22	1.26	1.18
20:L:93:ASN:HD22	20:L:94:THR:N	1.42	1.17
15:G:83:THR:HA	15:G:84:LYS:NZ	1.58	1.17
4:3:31:ILE:CD1	4:3:34:LYS:HD2	1.73	1.16
25:Q:4:LYS:HG3	25:Q:5:ARG:H	1.10	1.16
25:Q:63:ARG:HH12	25:Q:96:ASP:CA	1.59	1.16
15:G:8:VAL:HG11	15:G:49:LEU:HB2	1.25	1.16
26:R:49:ILE:HD12	26:R:52:PRO:CA	1.76	1.15
15:G:137:LYS:HA	15:G:140:ILE:HD11	1.28	1.15
22:N:103:ARG:HB2	22:N:110:MET:HE3	1.17	1.15
2:1:8:ILE:HG23	2:1:51:ALA:HA	1.27	1.14
16:H:32:PRO:HB3	32:X:38:TRP:HB3	1.29	1.14
9:A:265:A:H4'	9:A:266:G:OP1	1.47	1.14
32:X:58:ILE:HD12	32:X:66:VAL:HG21	1.27	1.14
25:Q:69:ARG:CB	25:Q:69:ARG:HH21	1.60	1.13
12:D:151:THR:CG2	12:D:152:PRO:HD3	1.78	1.13
20:L:109:LYS:HG2	20:L:126:ARG:HB3	1.30	1.13
30:V:10:LYS:HD3	30:V:10:LYS:H	1.05	1.13
12:D:106:LYS:HD2	12:D:106:LYS:H	1.11	1.12
9:A:1867:G:O2'	9:A:1868:C:H5'	1.49	1.12
9:A:1188:U:H2'	9:A:1189:A:H5'	1.31	1.12
9:A:1070:A:C2	17:I:9:LYS:HG2	1.84	1.12
15:G:104:LEU:HB2	15:G:112:VAL:CG2	1.79	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:40:GLY:HA2	14:F:84:ILE:HD11	1.27	1.12
26:R:49:ILE:CD1	26:R:52:PRO:HA	1.78	1.11
11:C:16:VAL:HB	11:C:203:VAL:HB	1.25	1.11
9:A:855:G:H21	31:W:23:LYS:HG2	1.13	1.11
14:F:40:GLY:CA	14:F:84:ILE:HD11	1.78	1.11
18:J:44:TYR:CD2	25:Q:63:ARG:HD3	1.86	1.10
9:A:1499:C:O2'	9:A:1500:G:H5'	1.48	1.10
12:D:106:LYS:HB3	12:D:206:ALA:HB3	1.33	1.10
31:W:28:GLU:HB3	31:W:31:LEU:HD21	1.30	1.10
18:J:73:VAL:HG23	18:J:74:TYR:H	1.01	1.10
2:1:24:LYS:HE2	2:1:52:LYS:HB2	1.31	1.10
24:P:13:LYS:HE3	24:P:76:HIS:HA	1.32	1.10
32:X:30:PRO:HB2	32:X:32:LEU:HD11	1.14	1.10
24:P:19:PHE:O	24:P:20:ARG:HB3	1.45	1.10
19:K:18:ARG:HB2	19:K:45:GLU:HG2	1.15	1.09
19:K:71:ARG:HB2	19:K:72:PRO:HD3	1.33	1.09
31:W:23:LYS:HG3	31:W:24:ARG:O	1.52	1.09
9:A:1179:G:C6	9:A:1180:U:H1'	1.87	1.09
9:A:1060:U:C4'	9:A:1061:U:H5'	1.82	1.09
9:A:1073:A:C3'	9:A:1074:G:H5''	1.82	1.09
4:3:31:ILE:HD11	4:3:34:LYS:CD	1.83	1.09
9:A:866:A:C8	9:A:866:A:H5'	1.86	1.09
9:A:866:A:H8	9:A:866:A:H5'	0.95	1.09
19:K:108:ARG:HG2	19:K:108:ARG:HH11	1.16	1.09
13:E:108:ILE:HD11	13:E:180:LEU:HB3	1.31	1.09
11:C:68:ARG:HD3	11:C:103:ILE:HD11	1.27	1.08
33:Y:9:LYS:HA	33:Y:9:LYS:HZ2	1.11	1.08
27:S:1:MET:HA	27:S:1:MET:HE2	1.36	1.08
16:H:5:LEU:HD13	16:H:13:GLY:HA2	1.36	1.08
17:I:79:LEU:HA	17:I:83:ALA:HB3	1.34	1.08
9:A:2309:A:O2'	9:A:2310:C:H5'	1.53	1.08
13:E:170:ARG:HG2	13:E:170:ARG:HH21	0.97	1.08
9:A:1060:U:H4'	9:A:1061:U:C5'	1.82	1.07
12:D:120:GLY:HA2	12:D:162:ALA:CB	1.83	1.07
14:F:35:LEU:HB3	14:F:153:ILE:HG23	1.27	1.07
31:W:76:ARG:HG3	31:W:76:ARG:HH21	1.14	1.07
28:T:29:THR:HG22	28:T:86:THR:HG22	1.27	1.07
18:J:2:LYS:H	18:J:2:LYS:HD3	0.91	1.06
25:Q:69:ARG:HB2	25:Q:69:ARG:NH2	1.68	1.06
33:Y:57:LEU:HA	33:Y:60:LYS:HB3	1.35	1.06
1:0:39:ARG:HH11	1:0:39:ARG:HB2	1.19	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:V:80:HIS:HD2	30:V:83:LYS:N	1.52	1.06
22:N:73:ASN:HA	22:N:76:VAL:HG12	1.30	1.06
9:A:412:A:O2'	9:A:413:C:H5'	1.55	1.06
25:Q:63:ARG:HH22	25:Q:96:ASP:N	1.53	1.06
9:A:1179:G:C5	9:A:1180:U:H1'	1.88	1.06
24:P:50:ARG:HG3	24:P:57:ALA:O	1.53	1.06
9:A:1791:A:O2'	11:C:205:GLY:HA2	1.55	1.06
24:P:77:SER:OG	24:P:79:VAL:HG13	1.54	1.06
23:O:2:ASP:HB3	23:O:5:SER:HB2	1.37	1.05
21:M:2:LEU:HD23	21:M:69:PRO:HD2	1.38	1.05
11:C:246:PRO:HG2	11:C:247:TRP:CZ3	1.92	1.05
15:G:72:ASN:O	15:G:76:ILE:HG22	1.56	1.05
31:W:23:LYS:CE	31:W:24:ARG:HG3	1.86	1.05
9:A:2431:U:H5'	9:A:2431:U:H6	1.18	1.05
31:W:23:LYS:HD2	31:W:24:ARG:H	1.20	1.04
25:Q:86:SER:O	26:R:51:VAL:HA	1.56	1.04
9:A:1064:C:OP1	17:I:87:SER:O	1.72	1.04
25:Q:65:ASN:ND2	25:Q:69:ARG:HH22	1.55	1.04
9:A:1714:U:O2	9:A:1714:U:H2'	1.47	1.04
13:E:79:ARG:HG2	13:E:80:SER:H	1.11	1.04
9:A:1011:G:O2'	9:A:1013:C:H5"	1.58	1.04
9:A:137:U:H5"	9:A:140:C:C5	1.94	1.03
9:A:990:A:H8	9:A:990:A:H5'	1.19	1.03
4:3:31:ILE:HD11	4:3:34:LYS:HD2	1.04	1.03
18:J:81:ILE:HG23	18:J:82:GLY:H	1.19	1.03
24:P:102:ARG:HB3	24:P:107:ALA:HB2	1.38	1.03
9:A:1179:G:H3'	9:A:1180:U:H4'	1.41	1.03
33:Y:47:ARG:HH21	33:Y:47:ARG:HG3	1.19	1.03
34:Z:15:ARG:HG3	34:Z:15:ARG:HH11	1.22	1.03
29:U:5:ARG:HH21	29:U:5:ARG:HG2	1.23	1.03
9:A:1073:A:H2'	9:A:1074:G:H5"	1.35	1.02
9:A:1779:U:H5	9:A:1784:A:N7	1.56	1.02
24:P:52:ARG:HH11	24:P:52:ARG:CG	1.71	1.02
22:N:73:ASN:HA	22:N:76:VAL:CG1	1.89	1.02
28:T:64:LYS:HA	28:T:79:ASP:OD1	1.59	1.02
28:T:61:LEU:O	28:T:61:LEU:HD12	1.57	1.02
23:O:88:LYS:HE2	23:O:116:GLN:HE21	1.17	1.02
9:A:1941:C:H6	9:A:1941:C:H5'	1.21	1.02
24:P:87:ARG:HG2	24:P:87:ARG:HH11	1.23	1.02
14:F:7:TYR:CD2	14:F:11:VAL:HG11	1.94	1.02
31:W:23:LYS:HD2	31:W:24:ARG:N	1.74	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2680:U:OP1	12:D:114:LYS:HE2	1.60	1.01
31:W:24:ARG:HB2	31:W:65:LYS:HD3	1.38	1.01
9:A:2502:G:H5'	9:A:2503:A:H5''	1.41	1.01
14:F:134:GLN:HG2	14:F:135:ILE:H	1.21	1.01
18:J:17:VAL:HG22	18:J:137:PRO:HB2	1.41	1.01
2:1:33:LEU:H	2:1:51:ALA:HB3	1.21	1.01
25:Q:63:ARG:CZ	25:Q:96:ASP:HA	1.88	1.01
21:M:1:MET:HE3	21:M:2:LEU:H	1.27	1.00
18:J:124:VAL:HG23	18:J:125:TYR:H	1.24	1.00
9:A:508:A:H4'	9:A:509:C:OP2	1.59	1.00
27:S:73:LYS:HA	27:S:73:LYS:HE3	1.39	1.00
21:M:40:ARG:HB2	21:M:93:VAL:HG21	1.43	1.00
12:D:114:LYS:CE	12:D:114:LYS:N	2.23	1.00
9:A:2151:U:O2'	9:A:2152:G:H5''	1.62	1.00
9:A:545:U:H2'	9:A:546:U:H4'	1.43	1.00
29:U:25:LYS:HG2	29:U:36:GLU:HB3	1.44	1.00
15:G:137:LYS:CA	15:G:140:ILE:HD11	1.90	1.00
9:A:2353:G:H1'	31:W:30:VAL:CG1	1.92	1.00
11:C:12:ARG:HH11	11:C:12:ARG:HG3	1.23	1.00
12:D:5:VAL:H	12:D:32:ASN:HD21	1.10	1.00
9:A:1458:U:H4'	9:A:1459:G:O5'	1.60	1.00
11:C:251:THR:HG22	11:C:252:LYS:H	1.24	0.99
5:4:36:ARG:HG2	5:4:37:GLN:H	1.22	0.99
31:W:31:LEU:HD23	31:W:31:LEU:N	1.73	0.99
9:A:1813:G:N3	11:C:49:THR:HG21	1.77	0.99
11:C:106:PRO:HB3	11:C:141:HIS:CE1	1.96	0.99
5:4:9:LYS:H	5:4:9:LYS:HD3	1.26	0.99
28:T:50:LEU:H	28:T:50:LEU:HD12	1.25	0.99
14:F:39:VAL:HG11	14:F:49:LEU:HD13	1.42	0.99
9:A:2356:U:H4'	31:W:16:GLU:HG3	1.42	0.99
14:F:11:VAL:HG12	14:F:12:VAL:H	1.28	0.99
9:A:1071:G:H1'	9:A:1089:A:N7	1.78	0.99
9:A:866:A:H8	9:A:866:A:C5'	1.76	0.99
9:A:335:C:H5''	29:U:81:ARG:HD3	1.45	0.99
10:B:90:C:H5''	10:B:90:C:H6	1.23	0.99
9:A:2680:U:P	12:D:114:LYS:HE2	2.02	0.99
14:F:43:ILE:HG22	14:F:82:TYR:CE1	1.97	0.99
31:W:39:GLN:HG2	31:W:41:GLY:H	1.26	0.99
9:A:1716:U:O2'	9:A:1717:A:H5'	1.61	0.99
11:C:75:ALA:HB2	11:C:95:TYR:CD2	1.98	0.99
9:A:2148:G:H2'	9:A:2149:U:O4'	1.63	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:958:U:H6	9:A:958:U:H5'	1.21	0.98
9:A:2214:C:H5'	9:A:2214:C:H6	1.26	0.98
9:A:2440:C:H5'	9:A:2440:C:H6	1.26	0.98
18:J:2:LYS:N	18:J:2:LYS:HD3	1.70	0.98
2:1:34:GLU:HG2	2:1:49:LYS:HG3	1.46	0.98
31:W:18:LYS:HG3	31:W:19:ARG:H	1.28	0.98
24:P:50:ARG:HD3	24:P:56:SER:HB3	1.41	0.98
9:A:762:U:H4'	9:A:763:G:O5'	1.57	0.98
9:A:303:G:H2'	9:A:304:U:H6	1.28	0.98
9:A:1277:G:H5'	22:N:20:MET:CE	1.94	0.98
14:F:71:LYS:HD3	14:F:80:GLN:HG3	1.46	0.98
22:N:24:MET:HG2	22:N:44:LEU:HD22	1.46	0.97
12:D:13:ARG:HH12	24:P:74:GLN:NE2	1.61	0.97
31:W:39:GLN:HG3	31:W:42:THR:N	1.78	0.97
13:E:170:ARG:HH21	13:E:170:ARG:CG	1.77	0.97
14:F:131:VAL:HG22	14:F:151:LEU:HD12	1.45	0.97
19:K:21:CYS:HA	19:K:41:ILE:HD12	1.43	0.97
32:X:38:TRP:HB2	32:X:45:PHE:HE2	1.26	0.97
9:A:1627:G:C8	9:A:1627:G:H5'	1.99	0.97
18:J:88:THR:HG22	18:J:91:GLU:CG	1.92	0.97
25:Q:4:LYS:HG3	25:Q:5:ARG:N	1.76	0.97
9:A:1941:C:C6	9:A:1941:C:H5'	1.98	0.97
15:G:84:LYS:HG3	15:G:132:LEU:H	1.28	0.97
13:E:146:VAL:HG23	13:E:167:VAL:HG23	1.46	0.97
18:J:44:TYR:HD2	25:Q:63:ARG:HD3	1.28	0.97
9:A:1784:A:H4'	9:A:1785:A:O5'	1.64	0.97
9:A:1421:G:O2'	9:A:1422:G:H5'	1.65	0.97
9:A:2328:A:H2'	9:A:2329:U:C6	1.99	0.97
9:A:92:U:H6	9:A:92:U:H5''	1.28	0.97
9:A:1962:C:H4'	9:A:1963:U:OP1	1.65	0.97
5:4:9:LYS:H	5:4:9:LYS:CD	1.77	0.97
16:H:49:ALA:HB3	16:H:50:ARG:NH2	1.79	0.96
31:W:23:LYS:HE3	31:W:24:ARG:HG3	1.44	0.96
20:L:81:ASP:O	20:L:82:LEU:HB3	1.63	0.96
9:A:1084:A:H2'	9:A:1085:A:C8	1.99	0.96
18:J:44:TYR:HB2	25:Q:63:ARG:HB3	1.45	0.96
15:G:83:THR:HA	15:G:84:LYS:HZ1	1.27	0.96
9:A:1188:U:C2'	9:A:1189:A:H5'	1.94	0.96
14:F:11:VAL:HG12	14:F:12:VAL:N	1.77	0.96
18:J:111:LYS:CD	18:J:112:GLY:H	1.77	0.96
21:M:35:ALA:O	21:M:128:THR:HA	1.66	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:J:88:THR:HG22	18:J:91:GLU:HG3	1.45	0.96
14:F:34:THR:HG23	14:F:89:THR:HG23	1.47	0.96
24:P:52:ARG:HH11	24:P:52:ARG:HG3	1.31	0.96
18:J:77:HIS:CD2	18:J:79:GLY:H	1.82	0.96
12:D:61:THR:OG1	12:D:63:PRO:HD2	1.66	0.96
26:R:51:VAL:HB	26:R:52:PRO:CD	1.95	0.95
19:K:71:ARG:CB	19:K:72:PRO:HD3	1.96	0.95
15:G:8:VAL:O	15:G:9:VAL:HG12	1.65	0.95
18:J:44:TYR:CD1	18:J:44:TYR:O	2.20	0.95
9:A:923:G:H21	31:W:23:LYS:NZ	1.63	0.95
25:Q:63:ARG:HH12	25:Q:96:ASP:HA	0.82	0.95
29:U:80:ASP:OD1	29:U:95:PHE:HB3	1.67	0.95
28:T:48:GLN:HE21	28:T:48:GLN:HA	1.29	0.95
9:A:2820:A:H3'	9:A:2820:A:H8	1.28	0.95
17:I:15:GLY:HA2	17:I:50:LYS:HB3	1.47	0.95
9:A:1340:U:H4'	9:A:1341:G:OP2	1.65	0.95
9:A:2197:U:O2'	9:A:2198:A:H2'	1.64	0.95
25:Q:69:ARG:HB2	25:Q:69:ARG:HH21	1.21	0.95
14:F:134:GLN:O	14:F:136:ILE:HG12	1.67	0.95
9:A:2540:C:H2'	9:A:2541:A:H5'	1.49	0.95
24:P:95:LYS:HG2	24:P:97:TYR:CE1	2.02	0.95
9:A:923:G:N3	31:W:23:LYS:HE2	1.80	0.94
9:A:996:A:H4'	25:Q:91:ARG:HG2	1.49	0.94
9:A:35:G:H8	9:A:35:G:H5'	1.30	0.94
9:A:1585:C:C2'	9:A:1586:A:H5'	1.96	0.94
27:S:59:GLU:HA	27:S:64:ALA:CB	1.98	0.94
31:W:18:LYS:HA	31:W:36:ILE:CG1	1.97	0.94
9:A:2820:A:C8	9:A:2820:A:H3'	2.02	0.94
9:A:1020:A:H4'	9:A:1021:A:O5'	1.66	0.94
9:A:100:U:H4'	9:A:101:A:O5'	1.67	0.94
20:L:112:LEU:HD12	20:L:130:GLY:HA3	1.49	0.94
2:I:8:ILE:HD11	2:I:24:LYS:HG2	1.49	0.94
9:A:2352:A:N1	31:W:30:VAL:HG11	1.83	0.94
13:E:119:ILE:CD1	13:E:187:VAL:HA	1.96	0.94
28:T:29:THR:HA	28:T:86:THR:HA	1.49	0.94
18:J:25:LEU:C	18:J:25:LEU:HD22	1.88	0.94
9:A:1063:G:P	17:I:76:ALA:HB3	2.08	0.93
18:J:64:VAL:O	18:J:65:THR:HB	1.68	0.93
12:D:14:ILE:HA	24:P:11:GLN:HE22	1.33	0.93
25:Q:91:ARG:HB3	25:Q:93:ILE:HG22	1.49	0.93
13:E:79:ARG:HG2	13:E:80:SER:N	1.80	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1644:C:O2'	9:A:1645:G:H5'	1.68	0.93
20:L:132:ARG:HG3	20:L:142:ILE:HD12	1.49	0.93
24:P:77:SER:HG	24:P:79:VAL:HG13	1.32	0.93
14:F:129:MET:HG2	14:F:153:ILE:CD1	1.98	0.93
9:A:636:G:C6	20:L:111:ILE:CD1	2.52	0.93
13:E:170:ARG:HG2	13:E:170:ARG:NH2	1.73	0.93
9:A:1885:A:H2'	9:A:1886:U:H6	1.31	0.93
25:Q:4:LYS:HE2	25:Q:7:VAL:HG13	1.51	0.93
9:A:2328:A:H2'	9:A:2329:U:H6	1.30	0.93
9:A:1073:A:H3'	9:A:1074:G:H5''	1.51	0.92
9:A:1064:C:H5'	17:I:88:GLY:HA3	1.50	0.92
19:K:18:ARG:H	19:K:45:GLU:HB2	1.31	0.92
9:A:729:G:N3	9:A:729:G:H2'	1.80	0.92
16:H:4:ILE:HG23	16:H:17:ASP:O	1.68	0.92
12:D:120:GLY:HA2	12:D:162:ALA:HB2	1.50	0.92
28:T:39:THR:HB	28:T:42:GLU:HB2	1.50	0.92
9:A:558:U:P	18:J:113:PRO:HG2	2.09	0.92
13:E:112:LEU:HD13	13:E:186:VAL:HG11	1.51	0.92
12:D:151:THR:CG2	12:D:152:PRO:CD	2.43	0.92
9:A:855:G:N2	31:W:23:LYS:HG2	1.84	0.92
22:N:79:LEU:O	22:N:80:PHE:HB2	1.70	0.92
28:T:32:LEU:H	28:T:83:ALA:HB3	1.33	0.92
18:J:56:VAL:HG12	18:J:57:LEU:H	1.33	0.92
16:H:2:GLN:O	16:H:3:VAL:HG22	1.70	0.92
5:4:23:ILE:HD13	9:A:1032:A:H1'	1.52	0.92
3:2:37:LYS:HE2	9:A:469:G:O6	1.69	0.92
17:I:23:VAL:HB	17:I:27:LEU:HB3	1.49	0.92
9:A:933:A:H2'	9:A:933:A:N3	1.83	0.92
9:A:1664:A:H5''	9:A:1665:A:OP2	1.70	0.92
12:D:113:SER:C	12:D:114:LYS:HE3	1.90	0.92
25:Q:111:LYS:CE	26:R:50:GLY:HA2	1.99	0.92
13:E:119:ILE:HD13	13:E:187:VAL:HA	1.48	0.92
27:S:73:LYS:HE3	27:S:74:ILE:N	1.84	0.92
9:A:491:G:H2'	9:A:492:A:C8	2.04	0.92
18:J:2:LYS:CD	18:J:2:LYS:H	1.81	0.92
11:C:16:VAL:H	11:C:203:VAL:HG12	1.34	0.92
14:F:10:GLU:O	14:F:11:VAL:HB	1.67	0.92
9:A:1277:G:H5'	22:N:20:MET:HE1	1.48	0.91
19:K:21:CYS:HA	19:K:41:ILE:CD1	2.00	0.91
14:F:35:LEU:HB3	14:F:153:ILE:HG22	1.53	0.91
9:A:923:G:H21	31:W:23:LYS:HZ3	1.16	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Y:31:GLN:HG2	33:Y:37:LEU:HB2	1.53	0.91
2:1:33:LEU:N	2:1:51:ALA:HB3	1.84	0.91
14:F:72:SER:HB2	14:F:80:GLN:H	1.36	0.91
9:A:1060:U:H4'	9:A:1061:U:H5'	0.94	0.91
9:A:1585:C:H2'	9:A:1586:A:O4'	1.70	0.91
1:0:9:ARG:HG3	1:0:9:ARG:HH21	1.34	0.91
3:2:3:ARG:HH21	3:2:3:ARG:HG2	1.33	0.91
12:D:120:GLY:HA2	12:D:162:ALA:HB1	1.51	0.91
9:A:2503:A:H4'	9:A:2504:U:OP1	1.67	0.91
11:C:12:ARG:CG	11:C:12:ARG:HH11	1.83	0.91
12:D:99:GLU:HG3	12:D:100:LEU:N	1.85	0.91
23:O:76:LYS:O	23:O:80:GLU:HG2	1.70	0.90
9:A:894:U:H2'	9:A:895:U:C6	2.06	0.90
9:A:1348:C:H2'	9:A:1349:C:H5'	1.53	0.90
18:J:43:GLU:O	18:J:45:THR:CG2	2.19	0.90
32:X:58:ILE:CD1	32:X:66:VAL:HG21	2.02	0.90
18:J:73:VAL:HG23	18:J:74:TYR:N	1.85	0.90
9:A:1929:G:H4'	9:A:1930:G:OP1	1.69	0.90
12:D:91:THR:O	12:D:93:GLY:N	2.05	0.90
11:C:251:THR:HG22	11:C:252:LYS:N	1.86	0.90
25:Q:93:ILE:HG23	25:Q:94:LEU:N	1.86	0.90
27:S:73:LYS:CA	27:S:73:LYS:HE3	2.02	0.90
9:A:962:G:H21	9:A:2250:G:H1	1.14	0.90
8:7:74:C:N3	9:A:2252:G:N2	2.19	0.90
9:A:1110:G:HO2'	9:A:1111:A:H8	1.19	0.90
32:X:5:GLN:HE21	32:X:49:ARG:H	1.20	0.90
9:A:1935:G:H1'	9:A:1964:G:N2	1.86	0.90
12:D:110:THR:HG23	12:D:171:THR:HG22	1.54	0.90
9:A:1936:A:H2	9:A:1943:U:C5	1.89	0.90
9:A:777:G:O2'	9:A:778:G:H5'	1.71	0.90
9:A:2431:U:C6	9:A:2431:U:H5'	2.06	0.90
11:C:28:PRO:HG2	11:C:33:LEU:HD11	1.53	0.90
21:M:114:ARG:HG2	21:M:130:PHE:CE1	2.07	0.90
18:J:124:VAL:HG23	18:J:125:TYR:N	1.87	0.90
9:A:603:A:H4'	9:A:604:G:O5'	1.67	0.90
20:L:110:VAL:O	20:L:111:ILE:HB	1.71	0.89
15:G:104:LEU:HB2	15:G:112:VAL:HG21	1.49	0.89
28:T:61:LEU:HD12	28:T:61:LEU:C	1.91	0.89
9:A:215:G:H4'	9:A:216:A:H4'	1.52	0.89
9:A:1653:G:H1	22:N:11:ASN:ND2	1.69	0.89
9:A:1498:C:O2'	9:A:1499:C:H6	1.55	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:417:C:H2'	9:A:418:C:H6	1.37	0.89
9:A:2540:C:C2'	9:A:2541:A:H5'	2.03	0.89
9:A:784:G:C6	11:C:227:VAL:HG11	2.07	0.89
27:S:96:ILE:HD12	27:S:96:ILE:C	1.92	0.89
2:1:33:LEU:HB3	2:1:51:ALA:CB	2.02	0.89
32:X:6:VAL:HG13	32:X:7:THR:HG23	1.53	0.89
9:A:1799:G:H4'	9:A:1800:C:O5'	1.71	0.89
11:C:106:PRO:HB3	11:C:141:HIS:HE1	1.35	0.89
29:U:5:ARG:HH21	29:U:5:ARG:CG	1.84	0.89
13:E:46:GLN:HG3	13:E:87:ALA:H	1.33	0.89
9:A:1056:G:H5''	9:A:1057:A:H5'	1.54	0.89
11:C:80:LEU:HD11	11:C:109:LEU:HG	1.53	0.89
9:A:1627:G:H8	9:A:1627:G:H5'	1.37	0.89
12:D:106:LYS:HD2	12:D:106:LYS:N	1.87	0.89
2:1:8:ILE:CG2	2:1:51:ALA:HA	2.02	0.89
18:J:25:LEU:HD22	18:J:26:GLY:N	1.88	0.89
13:E:110:SER:O	13:E:113:VAL:HG12	1.73	0.89
28:T:70:HIS:HB2	28:T:73:ARG:O	1.73	0.89
20:L:91:ASP:H	20:L:94:THR:HG21	1.36	0.89
16:H:8:LYS:O	16:H:13:GLY:HA3	1.73	0.89
9:A:990:A:C8	9:A:990:A:H5'	2.08	0.89
16:H:41:LYS:HA	16:H:44:ILE:HG12	1.53	0.89
31:W:14:ASP:O	31:W:15:SER:HB2	1.70	0.88
24:P:50:ARG:HD3	24:P:56:SER:HB2	1.55	0.88
9:A:2502:G:H5'	9:A:2503:A:C5'	2.02	0.88
11:C:20:ASN:HD21	11:C:22:GLU:HG2	1.36	0.88
9:A:483:A:O2'	29:U:56:GLY:HA2	1.73	0.88
15:G:8:VAL:CG1	15:G:49:LEU:HB2	2.04	0.88
31:W:23:LYS:O	31:W:66:VAL:HB	1.73	0.88
28:T:31:VAL:C	28:T:32:LEU:HD23	1.94	0.88
22:N:12:ARG:HG3	22:N:12:ARG:HH21	1.37	0.88
9:A:1746:A:H2'	9:A:1747:U:C6	2.08	0.88
31:W:18:LYS:HG3	31:W:19:ARG:N	1.85	0.88
9:A:1429:G:O2'	9:A:1430:G:H5'	1.73	0.88
18:J:111:LYS:CD	18:J:112:GLY:N	2.33	0.88
28:T:18:GLU:OE2	28:T:18:GLU:HA	1.73	0.88
9:A:1287:A:H5'	22:N:103:ARG:HD2	1.54	0.88
30:V:10:LYS:N	30:V:10:LYS:HD3	1.87	0.88
9:A:153:U:O2'	9:A:154:U:H5'	1.73	0.88
24:P:33:GLU:HG3	24:P:34:GLY:H	1.38	0.88
34:Z:40:THR:HG22	34:Z:43:ILE:HG23	1.55	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:S:73:LYS:HE3	27:S:74:ILE:H	1.36	0.88
9:A:2579:C:C2'	9:A:2580:U:H5'	2.04	0.88
9:A:1056:G:O2'	9:A:1086:A:H1'	1.73	0.88
9:A:409:G:O2'	9:A:410:G:H5'	1.74	0.88
9:A:726:G:O2'	9:A:727:A:P	2.32	0.88
32:X:58:ILE:HD11	32:X:66:VAL:HG11	1.55	0.87
9:A:1188:U:H2'	9:A:1189:A:C5'	2.04	0.87
27:S:43:ALA:HA	27:S:46:LEU:HD12	1.54	0.87
9:A:1414:C:C4	9:A:1415:U:H5	1.91	0.87
9:A:434:U:H4'	9:A:435:C:OP1	1.74	0.87
19:K:95:ILE:O	19:K:95:ILE:HD12	1.73	0.87
9:A:2790:U:H4'	9:A:2791:G:OP1	1.74	0.87
31:W:46:ALA:HB3	31:W:79:ILE:O	1.74	0.87
13:E:149:ILE:HD11	13:E:172:ALA:HA	1.56	0.87
18:J:77:HIS:HD2	18:J:79:GLY:N	1.71	0.87
9:A:2636:C:H2'	9:A:2637:U:C6	2.09	0.87
9:A:1063:G:OP1	17:I:76:ALA:CB	2.19	0.87
31:W:40:ARG:HD3	31:W:45:HIS:CE1	2.09	0.87
24:P:20:ARG:HD3	24:P:112:ARG:NH1	1.89	0.87
9:A:272:A:HO2'	9:A:273:G:H8	0.91	0.87
9:A:357:C:H2'	9:A:358:U:C6	2.09	0.87
9:A:2138:G:H1	9:A:2153:C:N4	1.70	0.87
19:K:19:VAL:HG22	19:K:41:ILE:HG13	1.57	0.87
9:A:1936:A:C2	9:A:1943:U:H5	1.93	0.87
4:3:5:THR:HG21	9:A:243:U:OP1	1.72	0.87
9:A:2138:G:H1	9:A:2153:C:H42	1.23	0.87
11:C:67:LYS:HG2	11:C:150:GLY:HA2	1.56	0.87
18:J:111:LYS:HD3	18:J:112:GLY:H	1.03	0.87
21:M:1:MET:CE	21:M:2:LEU:H	1.88	0.87
18:J:88:THR:CG2	18:J:91:GLU:HG3	2.04	0.87
9:A:2661:G:O2'	9:A:2662:A:H5'	1.74	0.87
9:A:2207:C:H2'	9:A:2208:C:H6	1.39	0.87
10:B:45:A:O2'	10:B:46:A:H5'	1.73	0.87
19:K:18:ARG:HG3	19:K:18:ARG:HH11	1.40	0.86
27:S:66:ILE:HD13	27:S:67:ASP:N	1.88	0.86
9:A:1779:U:C5	9:A:1784:A:N7	2.43	0.86
11:C:33:LEU:HD21	11:C:62:ARG:HD3	1.57	0.86
18:J:77:HIS:HD2	18:J:79:GLY:H	0.90	0.86
21:M:40:ARG:HB2	21:M:93:VAL:CG2	2.05	0.86
9:A:1062:G:OP1	9:A:1070:A:H4'	1.75	0.86
32:X:30:PRO:CB	32:X:32:LEU:HD11	2.03	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:L:110:VAL:HG11	20:L:131:ALA:HB1	1.56	0.86
20:L:93:ASN:ND2	20:L:94:THR:N	2.23	0.86
13:E:79:ARG:CG	13:E:80:SER:H	1.85	0.86
12:D:169:ARG:O	12:D:170:VAL:HG13	1.75	0.86
23:O:40:ILE:HG12	23:O:47:VAL:HG12	1.57	0.86
12:D:97:SER:C	12:D:99:GLU:HG2	1.96	0.86
15:G:126:THR:HG22	15:G:127:GLN:N	1.88	0.86
24:P:102:ARG:CB	24:P:107:ALA:HB2	2.05	0.86
9:A:558:U:OP1	18:J:113:PRO:HG2	1.75	0.86
21:M:64:TRP:HZ3	21:M:106:ASP:HB2	1.39	0.86
29:U:35:VAL:HG12	29:U:38:ILE:HG12	1.57	0.86
9:A:2571:U:O2'	12:D:151:THR:HG21	1.76	0.86
11:C:246:PRO:HG2	11:C:247:TRP:CH2	2.09	0.86
9:A:1510:G:H2'	9:A:1511:G:H8	1.39	0.86
9:A:646:U:H3'	9:A:647:G:H5''	1.58	0.86
22:N:36:THR:HG23	22:N:37:THR:O	1.76	0.86
20:L:110:VAL:HG12	20:L:111:ILE:N	1.89	0.86
28:T:29:THR:CG2	28:T:86:THR:HG22	2.04	0.86
13:E:96:VAL:HG12	13:E:96:VAL:O	1.72	0.86
10:B:46:A:H2'	10:B:47:C:C6	2.11	0.86
31:W:18:LYS:HA	31:W:36:ILE:HG13	1.58	0.85
19:K:108:ARG:CG	19:K:108:ARG:HH11	1.89	0.85
14:F:132:ARG:O	14:F:133:GLU:HB3	1.74	0.85
9:A:1073:A:H3'	9:A:1074:G:C5'	2.03	0.85
26:R:80:ARG:C	26:R:81:LYS:HD3	1.97	0.85
28:T:15:HIS:HB3	28:T:31:VAL:CG2	2.04	0.85
9:A:74:A:H4'	9:A:75:G:O5'	1.75	0.85
33:Y:9:LYS:HA	33:Y:9:LYS:NZ	1.91	0.85
9:A:1885:A:H2'	9:A:1886:U:C6	2.11	0.85
18:J:110:PRO:HB2	18:J:111:LYS:HG3	1.56	0.85
31:W:37:VAL:C	31:W:38:ARG:HG2	1.95	0.85
12:D:174:SER:O	12:D:175:LEU:HB2	1.75	0.85
9:A:1070:A:C2	17:I:9:LYS:CG	2.58	0.85
23:O:88:LYS:CE	23:O:116:GLN:HE21	1.89	0.85
9:A:2444:G:OP2	13:E:63:LYS:HE2	1.75	0.85
24:P:50:ARG:CD	24:P:51:ASN:N	2.14	0.85
12:D:34:VAL:HG22	12:D:94:GLN:H	1.41	0.85
21:M:35:ALA:O	21:M:36:VAL:HG12	1.76	0.85
26:R:49:ILE:HB	26:R:51:VAL:O	1.76	0.85
9:A:528:A:C2	9:A:2043:C:H4'	2.12	0.85
24:P:3:ILE:HD13	24:P:3:ILE:O	1.76	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:S:73:LYS:HA	27:S:73:LYS:CE	1.99	0.85
31:W:37:VAL:HG11	31:W:55:ASP:HB2	1.57	0.85
2:1:24:LYS:HE2	2:1:52:LYS:CB	2.06	0.85
31:W:28:GLU:HB3	31:W:31:LEU:CD2	2.07	0.84
9:A:2353:G:H1'	31:W:30:VAL:HG13	1.58	0.84
27:S:82:MET:HG3	27:S:98:LYS:HB2	1.57	0.84
19:K:113:MET:SD	19:K:116:ILE:HD11	2.17	0.84
26:R:9:GLY:C	26:R:10:LYS:HD3	1.98	0.84
9:A:855:G:H21	31:W:23:LYS:CG	1.88	0.84
15:G:84:LYS:N	15:G:84:LYS:HE2	1.93	0.84
1:0:47:TYR:CE2	1:0:52:LYS:HB2	2.11	0.84
15:G:137:LYS:HA	15:G:140:ILE:CD1	2.06	0.84
9:A:303:G:H2'	9:A:304:U:C6	2.12	0.84
1:0:33:SER:OG	1:0:35:GLU:HG3	1.76	0.84
9:A:2813:A:H2	9:A:2887:A:H61	1.25	0.84
9:A:1068:G:H2'	9:A:1069:A:H5'	1.58	0.84
9:A:2352:A:C2	31:W:30:VAL:HG11	2.12	0.84
9:A:2311:A:H1'	14:F:78:ILE:CD1	2.08	0.84
14:F:131:VAL:CG2	14:F:151:LEU:HD12	2.07	0.84
21:M:62:LYS:HD3	21:M:64:TRP:CZ2	2.13	0.84
11:C:131:MET:HA	11:C:134:ILE:HD12	1.59	0.84
15:G:60:GLY:O	15:G:61:TRP:HB2	1.75	0.84
18:J:44:TYR:HD1	18:J:44:TYR:O	1.59	0.84
16:H:31:VAL:HB	16:H:32:PRO:CD	2.07	0.84
24:P:9:GLN:HA	24:P:12:MET:HG3	1.56	0.84
10:B:109:A:O2'	10:B:110:C:H5'	1.77	0.84
9:A:1150:C:H2'	9:A:1151:A:O5'	1.78	0.84
12:D:104:VAL:HA	12:D:106:LYS:NZ	1.93	0.84
9:A:2440:C:C6	9:A:2440:C:H5'	2.12	0.84
19:K:95:ILE:HD12	19:K:95:ILE:C	1.98	0.84
14:F:43:ILE:HG22	14:F:82:TYR:CD1	2.13	0.84
23:O:7:ARG:HG3	23:O:96:GLY:HA3	1.60	0.84
14:F:37:MET:HG2	14:F:56:LEU:HG	1.58	0.84
9:A:545:U:H2'	9:A:546:U:C4'	2.07	0.84
25:Q:29:ARG:HG3	25:Q:29:ARG:HH11	1.41	0.84
31:W:40:ARG:HB2	31:W:56:HIS:ND1	1.91	0.83
5:4:10:LEU:HD12	5:4:33:HIS:CD2	2.13	0.83
9:A:372:G:O4'	32:X:60:LYS:HE3	1.77	0.83
26:R:24:LYS:HA	26:R:94:THR:HG23	1.59	0.83
11:C:165:ALA:HB3	11:C:172:THR:HG23	1.60	0.83
9:A:856:G:H1'	31:W:23:LYS:HB3	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:958:U:C6	9:A:958:U:H5'	2.10	0.83
4:3:61:LEU:HB3	4:3:64:ALA:HB2	1.60	0.83
18:J:124:VAL:O	18:J:125:TYR:HB2	1.78	0.83
31:W:23:LYS:CD	31:W:24:ARG:H	1.90	0.83
24:P:61:ARG:HG2	24:P:70:GLU:HG2	1.58	0.83
9:A:1178:C:H2'	9:A:1179:G:N7	1.94	0.83
16:H:10:ALA:O	16:H:12:LEU:N	2.12	0.83
19:K:18:ARG:N	19:K:45:GLU:HB2	1.94	0.83
30:V:10:LYS:NZ	30:V:11:GLU:HG3	1.93	0.83
31:W:40:ARG:HG2	31:W:52:CYS:SG	2.17	0.83
9:A:1791:A:HO2'	11:C:205:GLY:HA2	1.42	0.83
9:A:2103:C:H2'	9:A:2104:C:H5'	1.58	0.83
20:L:30:THR:O	20:L:33:ARG:HG2	1.78	0.83
13:E:146:VAL:HG23	13:E:167:VAL:CG2	2.09	0.83
31:W:9:THR:HG22	31:W:10:ARG:NH1	1.94	0.83
9:A:250:G:H2'	9:A:251:A:C8	2.13	0.83
24:P:50:ARG:CD	24:P:56:SER:CB	2.55	0.83
11:C:251:THR:CG2	11:C:252:LYS:H	1.91	0.83
15:G:33:THR:HA	15:G:34:ARG:HH11	1.44	0.83
31:W:17:ALA:HA	31:W:35:ILE:HG23	1.60	0.83
19:K:21:CYS:HB2	19:K:39:ILE:HD11	1.61	0.83
28:T:73:ARG:NH2	28:T:73:ARG:HB3	1.93	0.83
9:A:278:A:C2	9:A:362:A:C8	2.67	0.83
33:Y:17:GLU:HG3	33:Y:18:LEU:N	1.92	0.83
15:G:35:THR:C	15:G:36:LEU:HD22	1.99	0.83
31:W:28:GLU:CG	31:W:29:SER:H	1.92	0.82
9:A:1073:A:C3'	9:A:1074:G:C5'	2.57	0.82
9:A:1286:A:H4'	9:A:1287:A:OP1	1.78	0.82
21:M:2:LEU:CD2	21:M:69:PRO:HD2	2.08	0.82
13:E:23:PHE:CD1	13:E:111:GLU:HG3	2.14	0.82
29:U:93:ARG:NH1	29:U:102:ILE:HD11	1.94	0.82
9:A:1734:G:HO2'	9:A:1735:A:H8	0.83	0.82
31:W:28:GLU:HB3	31:W:31:LEU:HD11	1.61	0.82
16:H:32:PRO:HB3	32:X:38:TRP:CB	2.07	0.82
14:F:11:VAL:CG1	14:F:12:VAL:N	2.42	0.82
14:F:134:GLN:HG2	14:F:135:ILE:N	1.95	0.82
9:A:243:U:O2'	9:A:244:A:H5'	1.79	0.82
9:A:2758:A:H2'	9:A:2759:G:H5'	1.59	0.82
32:X:52:ALA:O	32:X:53:LYS:HB2	1.79	0.82
14:F:34:THR:CG2	14:F:89:THR:HG23	2.09	0.82
14:F:127:TYR:O	14:F:128:SER:HB2	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1078:U:H4'	9:A:1079:C:H6	1.45	0.82
25:Q:85:ALA:O	25:Q:87:VAL:O	1.96	0.82
24:P:50:ARG:HG2	24:P:56:SER:C	1.99	0.82
9:A:1069:A:O2'	9:A:1070:A:H5''	1.79	0.82
27:S:66:ILE:HA	27:S:69:LEU:CD2	2.08	0.82
25:Q:111:LYS:HE2	26:R:50:GLY:HA2	1.62	0.82
28:T:44:LYS:HG3	28:T:55:VAL:HG11	1.61	0.82
11:C:79:ARG:NH2	11:C:92:LEU:HD22	1.94	0.82
9:A:2068:U:H5''	9:A:2068:U:H6	1.44	0.82
4:3:22:LYS:HA	4:3:47:ALA:O	1.80	0.82
9:A:1287:A:OP2	22:N:103:ARG:HG3	1.80	0.82
11:C:16:VAL:H	11:C:203:VAL:CG1	1.92	0.81
9:A:2352:A:C6	31:W:30:VAL:HG11	2.14	0.81
14:F:100:GLU:HG2	14:F:104:THR:OG1	1.80	0.81
19:K:10:VAL:HB	19:K:16:ALA:HB1	1.62	0.81
9:A:2800:A:C2	9:A:2895:G:H1'	2.14	0.81
10:B:53:A:O2'	10:B:54:G:H5'	1.78	0.81
25:Q:91:ARG:NH2	25:Q:93:ILE:HD13	1.96	0.81
9:A:1061:U:H3'	9:A:1062:G:H5''	1.61	0.81
20:L:77:ILE:CD1	20:L:108:ALA:HB1	2.09	0.81
34:Z:15:ARG:HG3	34:Z:15:ARG:NH1	1.90	0.81
9:A:2092:U:H4'	9:A:2093:G:O5'	1.78	0.81
9:A:35:G:H5'	9:A:35:G:C8	2.15	0.81
9:A:1707:G:H2'	9:A:1708:C:C6	2.15	0.81
9:A:1378:A:O2'	9:A:1379:U:H3'	1.80	0.81
24:P:52:ARG:NH1	24:P:52:ARG:HG3	1.94	0.81
9:A:995:C:H6	9:A:995:C:H5'	1.45	0.81
2:1:49:LYS:O	2:1:50:GLU:HB3	1.78	0.81
22:N:73:ASN:CA	22:N:76:VAL:HG12	2.09	0.81
19:K:10:VAL:CB	19:K:16:ALA:HB1	2.10	0.81
10:B:88:C:H5'	10:B:88:C:H6	1.44	0.81
9:A:1248:G:OP2	13:E:44:ARG:NH1	2.13	0.81
26:R:64:VAL:O	26:R:64:VAL:HG12	1.81	0.81
18:J:12:LYS:O	18:J:13:ARG:HB2	1.79	0.81
25:Q:63:ARG:HH22	25:Q:96:ASP:CA	1.94	0.81
15:G:126:THR:HG22	15:G:128:THR:H	1.44	0.81
9:A:704:G:O2'	9:A:726:G:N2	2.13	0.81
15:G:33:THR:C	15:G:34:ARG:HD3	2.00	0.81
9:A:1078:U:H4'	9:A:1079:C:C6	2.16	0.81
23:O:15:ARG:HH11	23:O:15:ARG:HG3	1.44	0.81
9:A:1159:U:C2'	9:A:1160:G:H5'	2.10	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Q:65:ASN:HD21	25:Q:69:ARG:HH22	1.27	0.81
25:Q:8:ILE:HD12	25:Q:8:ILE:O	1.80	0.81
15:G:140:ILE:HD12	15:G:140:ILE:N	1.95	0.81
31:W:23:LYS:CD	31:W:24:ARG:N	2.44	0.81
9:A:1339:G:N2	9:A:1603:A:H1'	1.96	0.81
23:O:41:ALA:HB2	23:O:48:LEU:HD21	1.63	0.81
32:X:35:HIS:HB3	32:X:37:PHE:CE2	2.15	0.81
19:K:91:SER:O	19:K:93:GLN:HB2	1.81	0.81
24:P:92:ARG:O	24:P:93:LYS:HB2	1.79	0.81
15:G:120:ILE:HD11	15:G:132:LEU:HB2	1.63	0.81
9:A:529:A:H4'	9:A:530:G:OP1	1.81	0.81
30:V:20:LEU:HD23	30:V:25:LYS:HB2	1.62	0.81
24:P:51:ASN:O	24:P:52:ARG:HG2	1.80	0.81
13:E:108:ILE:HD11	13:E:180:LEU:CB	2.09	0.81
12:D:118:PHE:HD2	12:D:119:ALA:H	1.28	0.81
9:A:1110:G:O2'	9:A:1111:A:H8	1.63	0.81
24:P:50:ARG:CG	24:P:57:ALA:N	2.04	0.81
9:A:491:G:H2'	9:A:492:A:H8	1.42	0.80
12:D:172:VAL:O	12:D:173:GLN:HB2	1.80	0.80
23:O:31:THR:HG23	23:O:34:HIS:H	1.46	0.80
9:A:1062:G:O2'	9:A:1063:G:C8	2.34	0.80
11:C:15:VAL:HA	11:C:203:VAL:HG11	1.62	0.80
31:W:35:ILE:HG23	31:W:35:ILE:O	1.79	0.80
18:J:73:VAL:CG2	18:J:74:TYR:H	1.84	0.80
11:C:76:VAL:CG2	11:C:76:VAL:O	2.27	0.80
24:P:50:ARG:CD	24:P:56:SER:HB2	2.10	0.80
26:R:49:ILE:CB	26:R:51:VAL:O	2.29	0.80
32:X:65:THR:O	32:X:68:ALA:HB3	1.81	0.80
11:C:106:PRO:O	11:C:109:LEU:HD13	1.81	0.80
9:A:2393:U:H5'	20:L:60:ARG:O	1.81	0.80
9:A:2816:G:O3'	22:N:99:LYS:HE2	1.82	0.80
27:S:48:LYS:O	27:S:52:GLU:HG3	1.81	0.80
31:W:49:ASN:HA	31:W:61:LYS:HB2	1.62	0.80
1:O:39:ARG:HG2	1:O:40:HIS:ND1	1.97	0.80
14:F:72:SER:HB2	14:F:80:GLN:N	1.95	0.80
9:A:2094:A:H4'	16:H:25:TYR:CE1	2.16	0.80
9:A:2188:U:H2'	9:A:2189:U:H6	1.43	0.80
12:D:1:MET:HG2	12:D:205:PRO:HG2	1.64	0.80
12:D:12:THR:HG23	12:D:13:ARG:N	1.95	0.80
15:G:126:THR:HG22	15:G:127:GLN:H	1.43	0.80
9:A:1998:A:OP2	12:D:141:ARG:NH2	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:957:C:H4'	9:A:958:U:OP1	1.78	0.80
10:B:45:A:H2'	10:B:46:A:H8	1.46	0.80
21:M:53:MET:O	21:M:56:ALA:HB3	1.82	0.80
15:G:120:ILE:HD13	15:G:121:THR:N	1.96	0.80
11:C:20:ASN:HD22	11:C:20:ASN:C	1.83	0.80
34:Z:40:THR:CG2	34:Z:43:ILE:HG23	2.12	0.80
9:A:1139:G:O2'	9:A:1140:C:H5'	1.81	0.80
9:A:2543:G:H5'	9:A:2543:G:H8	1.47	0.80
22:N:103:ARG:HD3	22:N:110:MET:HE1	1.64	0.80
23:O:2:ASP:HB3	23:O:5:SER:CB	2.10	0.80
9:A:2425:A:H5'	9:A:2427:C:O4'	1.82	0.80
9:A:1076:C:H2'	9:A:1077:A:H8	1.46	0.80
5:4:9:LYS:C	5:4:10:LEU:HD23	2.02	0.80
19:K:116:ILE:HD12	19:K:117:SER:N	1.97	0.80
28:T:28:ASN:C	28:T:91:GLN:HE22	1.86	0.80
30:V:10:LYS:CD	30:V:10:LYS:H	1.88	0.79
5:4:9:LYS:HB3	5:4:14:CYS:HB3	1.64	0.79
24:P:95:LYS:HG2	24:P:97:TYR:CZ	2.16	0.79
22:N:32:GLU:OE1	22:N:118:ARG:HA	1.83	0.79
9:A:2327:A:H2'	9:A:2328:A:C8	2.17	0.79
9:A:1734:G:O2'	9:A:1735:A:H8	1.64	0.79
9:A:2795:C:H2'	9:A:2796:U:H6	1.48	0.79
9:A:1417:C:O2'	9:A:1418:G:H5'	1.82	0.79
9:A:1253:A:H3'	9:A:1254:A:H5"	1.63	0.79
2:1:7:LYS:HA	2:1:23:THR:HG22	1.63	0.79
26:R:29:THR:O	26:R:63:VAL:HG22	1.81	0.79
16:H:31:VAL:HB	16:H:32:PRO:HD2	1.64	0.79
14:F:105:ILE:HD11	14:F:138:PRO:HG2	1.65	0.79
18:J:43:GLU:O	18:J:45:THR:HG23	1.81	0.79
9:A:143:C:HO2'	9:A:144:A:H8	1.30	0.79
23:O:88:LYS:HE2	23:O:116:GLN:NE2	1.98	0.79
9:A:1022:G:N2	9:A:1142:A:C2	2.49	0.79
9:A:2341:G:H2'	9:A:2342:C:C6	2.17	0.79
26:R:60:LYS:H	26:R:100:GLY:HA3	1.48	0.79
9:A:662:G:H4'	20:L:15:ALA:O	1.82	0.79
9:A:855:G:N3	31:W:23:LYS:HD3	1.98	0.79
9:A:915:C:H6	9:A:915:C:H5"	1.45	0.79
17:I:53:PRO:HD2	17:I:77:VAL:HG21	1.64	0.79
13:E:189:THR:OG1	13:E:191:ASP:HB3	1.81	0.79
33:Y:5:GLU:O	33:Y:8:GLU:HB2	1.82	0.79
33:Y:57:LEU:HA	33:Y:60:LYS:CB	2.13	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:T:40:LYS:CA	28:T:43:ILE:HG23	2.12	0.79
28:T:45:ALA:O	28:T:48:GLN:HB2	1.82	0.79
9:A:1277:G:H4'	22:N:20:MET:HE2	1.65	0.79
20:L:81:ASP:O	20:L:82:LEU:CB	2.29	0.79
9:A:1936:A:C2	9:A:1943:U:C5	2.70	0.79
9:A:2813:A:H2	9:A:2887:A:N6	1.80	0.79
9:A:2887:A:H2'	9:A:2887:A:N3	1.98	0.79
23:O:58:ILE:O	23:O:59:ALA:HB2	1.82	0.79
1:O:8:THR:HG21	9:A:2021:C:P	2.23	0.79
24:P:112:ARG:C	24:P:113:LEU:HD23	2.03	0.79
21:M:73:ILE:HG21	21:M:91:TYR:CZ	2.16	0.79
9:A:2093:G:O2'	9:A:2094:A:H5'	1.82	0.79
23:O:31:THR:HG22	23:O:34:HIS:O	1.82	0.79
20:L:27:LEU:HD12	20:L:27:LEU:N	1.97	0.79
15:G:11:PRO:O	15:G:14:VAL:HG22	1.82	0.79
20:L:68:SER:HB3	20:L:71:ALA:HB2	1.64	0.79
12:D:106:LYS:HB3	12:D:206:ALA:CB	2.13	0.79
15:G:3:VAL:O	15:G:68:ARG:HG3	1.82	0.79
31:W:28:GLU:CB	31:W:31:LEU:HD21	2.12	0.79
28:T:61:LEU:CD1	28:T:61:LEU:C	2.51	0.79
17:I:100:ILE:HG22	17:I:101:SER:H	1.47	0.79
20:L:74:THR:HG23	20:L:107:PHE:HB2	1.62	0.79
9:A:668:A:H2'	9:A:670:A:H62	1.48	0.78
25:Q:4:LYS:NZ	25:Q:8:ILE:HG23	1.98	0.78
18:J:56:VAL:HG12	18:J:57:LEU:N	1.91	0.78
11:C:252:LYS:HZ3	11:C:252:LYS:HB2	1.47	0.78
29:U:87:GLU:HG3	29:U:88:ASP:N	1.98	0.78
18:J:44:TYR:O	18:J:45:THR:HG22	1.83	0.78
12:D:151:THR:HG22	12:D:152:PRO:HD3	0.82	0.78
15:G:142:GLN:NE2	15:G:142:GLN:HA	1.97	0.78
29:U:15:GLY:O	29:U:17:ASP:N	2.15	0.78
9:A:284:U:H2'	9:A:285:G:H8	1.47	0.78
31:W:28:GLU:CB	31:W:31:LEU:HD11	2.12	0.78
28:T:32:LEU:N	28:T:83:ALA:HB3	1.96	0.78
17:I:3:LYS:HD2	17:I:4:VAL:HG23	1.66	0.78
9:A:1326:U:O2'	9:A:1327:A:H5'	1.83	0.78
31:W:51:GLY:HA3	31:W:59:PHE:CE2	2.19	0.78
9:A:1414:C:C4	9:A:1415:U:C5	2.71	0.78
9:A:45:G:H5''	9:A:46:G:OP1	1.83	0.78
20:L:110:VAL:CG1	20:L:111:ILE:N	2.47	0.78
12:D:118:PHE:O	12:D:120:GLY:N	2.16	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1252:G:N3	25:Q:32:ARG:HG2	1.99	0.78
10:B:25:U:O2'	10:B:26:C:H5'	1.83	0.78
15:G:8:VAL:CG1	15:G:9:VAL:N	2.46	0.78
31:W:30:VAL:HA	31:W:60:ALA:HB3	1.66	0.78
9:A:1339:G:H21	9:A:1603:A:H1'	1.48	0.78
9:A:277:G:H4'	9:A:278:A:N7	1.98	0.78
20:L:27:LEU:HD12	20:L:27:LEU:H	1.49	0.78
9:A:2707:U:O2	22:N:71:ARG:NH1	2.17	0.78
27:S:66:ILE:HD13	27:S:66:ILE:C	2.04	0.78
20:L:91:ASP:H	20:L:94:THR:CG2	1.95	0.78
9:A:2210:U:H4'	9:A:2211:A:C5'	2.14	0.78
34:Z:1:ALA:O	34:Z:3:THR:HG22	1.83	0.78
2:1:10:LEU:HD21	2:1:33:LEU:HD23	1.65	0.78
9:A:1735:A:O2'	9:A:1736:U:H5'	1.84	0.78
9:A:2547:A:H2'	9:A:2548:U:C6	2.17	0.78
26:R:16:GLU:HA	26:R:98:ILE:HG22	1.66	0.78
2:1:9:LYS:O	2:1:50:GLU:HG3	1.84	0.78
11:C:246:PRO:CG	11:C:247:TRP:CZ3	2.66	0.78
19:K:43:ILE:CD1	19:K:52:VAL:HG21	2.13	0.78
9:A:2341:G:H2'	9:A:2342:C:H6	1.48	0.78
22:N:65:LEU:HD11	22:N:69:ARG:NH2	1.99	0.78
9:A:641:U:H5''	9:A:642:U:OP2	1.84	0.78
9:A:1199:U:H2'	9:A:1200:C:C6	2.18	0.78
23:O:116:GLN:HA	23:O:116:GLN:OE1	1.83	0.77
25:Q:29:ARG:CG	25:Q:29:ARG:HH11	1.97	0.77
15:G:18:ILE:HD12	15:G:42:VAL:HG13	1.67	0.77
23:O:59:ALA:HA	23:O:62:LEU:HD13	1.66	0.77
24:P:83:ILE:C	24:P:83:ILE:HD13	2.04	0.77
27:S:59:GLU:HA	27:S:64:ALA:HB2	1.65	0.77
9:A:2250:G:N2	9:A:2496:C:H5''	1.99	0.77
9:A:2330:G:H21	31:W:38:ARG:HA	1.48	0.77
31:W:37:VAL:HG13	31:W:55:ASP:O	1.84	0.77
27:S:36:LEU:HD23	27:S:48:LYS:HA	1.66	0.77
2:1:13:SER:HB3	2:1:47:ILE:O	1.83	0.77
17:I:33:ASN:HB3	17:I:36:GLU:HB2	1.66	0.77
20:L:110:VAL:HG12	20:L:111:ILE:H	1.48	0.77
15:G:83:THR:HA	15:G:84:LYS:CE	2.13	0.77
11:C:16:VAL:N	11:C:203:VAL:CG1	2.46	0.77
31:W:73:PRO:CG	31:W:76:ARG:HD2	2.14	0.77
14:F:37:MET:HE3	14:F:37:MET:HA	1.66	0.77
18:J:64:VAL:CG1	18:J:68:LYS:HB2	2.14	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:26:ALA:O	4:3:27:ASN:HB2	1.81	0.77
9:A:1179:G:OP2	9:A:1180:U:H5''	1.84	0.77
29:U:38:ILE:HG22	29:U:39:ASN:N	1.99	0.77
9:A:1434:A:H2'	9:A:1435:G:C8	2.20	0.77
19:K:70:ARG:HD3	19:K:76:VAL:CG2	2.15	0.77
21:M:31:PHE:CE2	21:M:110:GLU:HG2	2.19	0.77
18:J:44:TYR:HA	25:Q:59:LEU:CD2	2.15	0.77
20:L:110:VAL:CG1	20:L:131:ALA:HB1	2.15	0.77
1:0:39:ARG:HB2	1:0:39:ARG:NH1	1.97	0.77
19:K:77:ILE:N	19:K:77:ILE:HD12	1.99	0.77
9:A:1063:G:H2'	9:A:1064:C:H6	1.48	0.77
31:W:39:GLN:C	31:W:41:GLY:N	2.34	0.77
11:C:106:PRO:CB	11:C:141:HIS:HE1	1.95	0.77
11:C:246:PRO:HG2	11:C:247:TRP:CE3	2.20	0.77
9:A:2214:C:H5'	9:A:2214:C:C6	2.17	0.77
1:0:9:ARG:CG	1:0:9:ARG:HH21	1.98	0.77
18:J:44:TYR:CD2	25:Q:63:ARG:CD	2.65	0.77
14:F:39:VAL:CG1	14:F:49:LEU:HD13	2.14	0.77
9:A:1778:U:H2'	9:A:1784:A:N6	2.00	0.77
11:C:76:VAL:O	11:C:76:VAL:HG23	1.84	0.77
18:J:88:THR:HG23	18:J:91:GLU:H	1.49	0.77
15:G:22:VAL:HG22	15:G:36:LEU:CD1	2.14	0.77
28:T:26:LYS:O	28:T:27:SER:HB2	1.84	0.77
26:R:42:ALA:HA	26:R:46:GLU:HB2	1.66	0.77
9:A:1537:G:H5''	9:A:1537:G:N3	2.00	0.77
12:D:151:THR:CG2	12:D:152:PRO:N	2.47	0.77
31:W:24:ARG:CD	31:W:25:PHE:N	2.48	0.77
18:J:17:VAL:CG2	18:J:137:PRO:HB2	2.15	0.77
9:A:1461:C:O2'	9:A:1462:C:H5'	1.85	0.77
20:L:64:PHE:O	20:L:64:PHE:HD1	1.68	0.77
29:U:73:ASN:ND2	29:U:76:THR:HG23	2.01	0.77
10:B:66:A:H61	10:B:107:G:H2'	1.49	0.77
24:P:80:VAL:HG12	24:P:81:ASP:N	1.98	0.76
31:W:28:GLU:HA	31:W:28:GLU:OE2	1.84	0.76
11:C:104:LEU:O	11:C:105:ALA:HB2	1.83	0.76
9:A:1011:G:HO2'	9:A:1013:C:H5''	1.47	0.76
5:4:37:GLN:O	5:4:37:GLN:HG2	1.82	0.76
9:A:324:A:O2'	9:A:325:G:H5'	1.84	0.76
9:A:1993:U:H4'	12:D:133:THR:HG21	1.67	0.76
10:B:33:G:O2'	10:B:34:A:H5'	1.85	0.76
9:A:1784:A:H4'	9:A:1785:A:C5'	2.15	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:T:39:THR:HB	28:T:42:GLU:H	1.49	0.76
20:L:68:SER:HB3	20:L:71:ALA:CB	2.15	0.76
9:A:287:G:H1	9:A:353:C:H42	1.33	0.76
13:E:83:VAL:HG12	13:E:83:VAL:O	1.85	0.76
9:A:2415:G:H4'	20:L:66:PHE:HB3	1.67	0.76
9:A:2847:U:C2'	9:A:2848:G:H5'	2.15	0.76
9:A:272:A:O2'	9:A:273:G:H8	1.67	0.76
27:S:5:ALA:HB3	27:S:54:ALA:HB2	1.68	0.76
29:U:52:ASN:C	29:U:54:PRO:HD2	2.05	0.76
9:A:1073:A:P	9:A:1073:A:H8	2.08	0.76
9:A:274:C:O2'	9:A:275:C:H5'	1.85	0.76
10:B:46:A:H2'	10:B:47:C:H6	1.46	0.76
13:E:119:ILE:HD11	13:E:187:VAL:CG2	2.16	0.76
11:C:244:VAL:HB	11:C:249:VAL:O	1.85	0.76
9:A:276:U:O2'	9:A:278:A:N7	2.19	0.76
24:P:67:GLU:OE1	24:P:67:GLU:HA	1.84	0.76
26:R:39:LEU:HD23	26:R:39:LEU:N	2.00	0.76
9:A:898:C:H2'	9:A:899:A:H5'	1.65	0.76
17:I:104:GLN:O	17:I:105:LEU:HB2	1.84	0.76
9:A:709:U:H2'	9:A:710:U:O4'	1.85	0.76
9:A:893:C:H2'	9:A:894:U:O4'	1.85	0.76
9:A:800:A:H4'	9:A:801:G:O5'	1.86	0.76
9:A:2470:G:O2'	9:A:2471:A:H5'	1.85	0.76
17:I:115:ASP:O	17:I:116:MET:HG2	1.86	0.76
26:R:51:VAL:HB	26:R:52:PRO:HD2	1.64	0.76
31:W:50:VAL:O	31:W:52:CYS:N	2.16	0.76
14:F:109:ARG:CB	14:F:136:ILE:HG22	2.15	0.76
10:B:90:C:H5''	10:B:90:C:C6	2.16	0.76
9:A:1420:A:O2'	9:A:1421:G:H5'	1.86	0.76
9:A:1438:U:O2'	9:A:1439:A:H5'	1.84	0.76
9:A:556:A:H5''	9:A:557:C:OP2	1.84	0.76
22:N:103:ARG:CB	22:N:110:MET:HE3	2.09	0.76
9:A:1873:G:O2'	9:A:1874:C:H5'	1.86	0.76
21:M:64:TRP:CZ3	21:M:106:ASP:HB2	2.20	0.76
31:W:40:ARG:HB2	31:W:56:HIS:CG	2.21	0.76
9:A:92:U:H5''	9:A:92:U:C6	2.17	0.76
24:P:33:GLU:CG	24:P:34:GLY:H	1.97	0.76
9:A:794:A:H2'	9:A:795:C:C6	2.21	0.76
14:F:45:ASP:HB3	14:F:48:LEU:HB2	1.67	0.76
9:A:2199:A:H5'	9:A:2200:C:H5	1.51	0.76
9:A:65:U:H2'	9:A:66:C:H6	1.52	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:P:80:VAL:O	24:P:81:ASP:HB3	1.85	0.75
11:C:257:ARG:CG	11:C:269:ARG:HH22	1.98	0.75
9:A:2086:U:H2'	9:A:2087:G:C8	2.21	0.75
9:A:686:U:H4'	9:A:687:C:OP2	1.84	0.75
9:A:705:A:N6	9:A:726:G:H1'	2.01	0.75
21:M:62:LYS:HD3	21:M:64:TRP:CH2	2.20	0.75
9:A:1820:U:O2	11:C:199:HIS:HB3	1.86	0.75
9:A:2352:A:H5''	9:A:2353:G:OP2	1.86	0.75
14:F:3:LEU:HD23	14:F:100:GLU:HG3	1.66	0.75
31:W:28:GLU:HG3	31:W:29:SER:H	1.49	0.75
28:T:40:LYS:H	28:T:43:ILE:CG2	1.99	0.75
9:A:1141:U:H4'	9:A:1142:A:O5'	1.85	0.75
9:A:914:G:H5''	9:A:914:G:C8	2.22	0.75
17:I:7:TYR:HB3	17:I:58:ILE:H	1.50	0.75
25:Q:81:GLY:HA2	25:Q:116:LEU:CD1	2.16	0.75
25:Q:57:ARG:HG2	25:Q:61:ILE:HD12	1.67	0.75
32:X:38:TRP:HB2	32:X:45:PHE:CE2	2.16	0.75
9:A:2148:G:C2'	9:A:2149:U:O4'	2.34	0.75
11:C:199:HIS:CE1	11:C:202:ARG:HH22	2.04	0.75
9:A:747:U:C5	9:A:2613:U:C5	2.74	0.75
9:A:2630:G:O2'	9:A:2631:G:H5'	1.86	0.75
21:M:23:GLY:O	21:M:101:VAL:HG12	1.86	0.75
9:A:506:G:H4'	9:A:507:A:H5'	1.67	0.75
9:A:2571:U:O2'	12:D:151:THR:CG2	2.35	0.75
12:D:107:VAL:H	12:D:206:ALA:H	1.34	0.75
18:J:64:VAL:HG13	18:J:68:LYS:HB2	1.69	0.75
4:3:12:ARG:HD3	20:L:61:LEU:O	1.85	0.75
9:A:228:C:H4'	9:A:229:C:H5''	1.68	0.75
31:W:40:ARG:H	31:W:56:HIS:HB3	1.49	0.75
9:A:1415:U:O2	9:A:1415:U:H2'	1.86	0.75
21:M:8:LYS:HA	21:M:8:LYS:HE3	1.68	0.75
20:L:101:ILE:CG2	20:L:102:GLY:N	2.49	0.75
9:A:1499:C:O2'	9:A:1500:G:C5'	2.30	0.75
24:P:24:THR:O	24:P:44:GLY:O	2.05	0.75
9:A:2207:C:H2'	9:A:2208:C:C6	2.21	0.75
9:A:513:A:O2'	9:A:514:A:H5'	1.87	0.75
24:P:67:GLU:HG3	24:P:68:GLY:H	1.50	0.75
14:F:106:ALA:N	14:F:108:PRO:HD2	2.02	0.75
21:M:132:THR:HG22	21:M:133:LYS:H	1.50	0.75
25:Q:63:ARG:HH22	25:Q:95:ALA:C	1.88	0.75
25:Q:93:ILE:CG2	25:Q:94:LEU:N	2.50	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:L:109:LYS:CG	20:L:126:ARG:HB3	2.15	0.75
9:A:1871:A:O2'	9:A:1872:A:C8	2.39	0.75
9:A:855:G:N3	31:W:23:LYS:CD	2.50	0.75
9:A:1494:A:O2'	9:A:1495:A:H5'	1.85	0.75
28:T:29:THR:HA	28:T:86:THR:CA	2.16	0.75
9:A:197:A:N6	9:A:2430:A:H2'	2.01	0.75
13:E:46:GLN:HG3	13:E:87:ALA:N	2.01	0.75
10:B:66:A:H4'	10:B:67:G:OP1	1.85	0.75
28:T:4:GLU:OE1	28:T:6:ARG:HG3	1.86	0.75
15:G:86:LEU:HD12	15:G:86:LEU:N	2.01	0.74
14:F:129:MET:CE	14:F:153:ILE:HD11	2.17	0.74
31:W:40:ARG:HD3	31:W:45:HIS:HE1	1.51	0.74
31:W:77:LYS:O	31:W:78:PHE:HB2	1.85	0.74
12:D:121:THR:HG22	12:D:125:TRP:HD1	1.52	0.74
18:J:88:THR:HG22	18:J:91:GLU:CB	2.17	0.74
9:A:1707:G:H2'	9:A:1708:C:H6	1.52	0.74
25:Q:26:ALA:HB1	25:Q:30:VAL:CG2	2.17	0.74
9:A:1182:G:H2'	9:A:1183:U:O4'	1.87	0.74
26:R:39:LEU:H	26:R:39:LEU:HD23	1.52	0.74
31:W:47:GLY:O	31:W:49:ASN:N	2.20	0.74
9:A:1654:A:H4'	12:D:118:PHE:CZ	2.21	0.74
29:U:25:LYS:O	29:U:26:ASN:HB3	1.86	0.74
22:N:2:ARG:HA	22:N:5:LYS:HD2	1.68	0.74
9:A:2210:U:H4'	9:A:2211:A:O5'	1.86	0.74
12:D:70:LYS:O	12:D:71:ALA:CB	2.35	0.74
15:G:8:VAL:HG12	15:G:49:LEU:H	1.51	0.74
25:Q:69:ARG:HH21	25:Q:69:ARG:CG	2.00	0.74
9:A:1462:C:C2'	9:A:1463:C:H5'	2.16	0.74
9:A:2742:G:C2'	9:A:2743:U:H5'	2.18	0.74
11:C:94:LEU:HD12	11:C:95:TYR:N	2.02	0.74
17:I:33:ASN:HD22	17:I:64:ARG:NH2	1.85	0.74
12:D:15:PHE:H	24:P:11:GLN:NE2	1.85	0.74
18:J:39:LYS:HA	18:J:43:GLU:HG3	1.69	0.74
15:G:84:LYS:CG	15:G:132:LEU:H	1.99	0.74
14:F:84:ILE:O	14:F:84:ILE:HG13	1.86	0.74
31:W:39:GLN:HG2	31:W:40:ARG:N	2.01	0.74
33:Y:56:LEU:O	33:Y:57:LEU:HB3	1.86	0.74
9:A:1653:G:H1	22:N:11:ASN:HD21	1.33	0.74
18:J:6:ALA:CB	18:J:45:THR:HG21	2.17	0.74
32:X:34:SER:HA	32:X:49:ARG:HA	1.70	0.74
15:G:84:LYS:CG	15:G:132:LEU:N	2.45	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:H:5:LEU:CD1	16:H:13:GLY:HA2	2.15	0.74
15:G:104:LEU:HD22	15:G:106:LEU:HD11	1.67	0.74
9:A:2438:U:O2'	9:A:2439:A:H5''	1.88	0.74
9:A:2795:C:H2'	9:A:2796:U:C6	2.23	0.74
18:J:114:LEU:HD22	18:J:118:MET:HE3	1.69	0.74
9:A:2297:A:H5''	9:A:2297:A:C8	2.22	0.74
9:A:2358:A:H61	20:L:54:GLN:HE22	1.35	0.74
11:C:15:VAL:CA	11:C:203:VAL:HG11	2.17	0.74
31:W:39:GLN:CG	31:W:41:GLY:H	1.99	0.74
28:T:54:GLU:O	28:T:55:VAL:HB	1.88	0.74
17:I:78:LEU:HD13	17:I:108:ILE:HG23	1.69	0.74
9:A:1919:A:H5'	9:A:1919:A:C8	2.21	0.74
9:A:1064:C:H5'	17:I:88:GLY:CA	2.17	0.74
9:A:2052:A:H4'	12:D:148:GLN:O	1.88	0.74
9:A:2152:G:O2'	9:A:2153:C:H5'	1.86	0.74
24:P:63:ILE:HA	24:P:68:GLY:HA2	1.69	0.74
30:V:5:ASN:H	30:V:5:ASN:ND2	1.86	0.74
17:I:79:LEU:HD13	17:I:135:MET:SD	2.28	0.74
32:X:30:PRO:HB2	32:X:32:LEU:HD13	1.67	0.74
20:L:127:VAL:HG11	20:L:142:ILE:HG21	1.70	0.74
9:A:1430:G:O2'	9:A:1431:A:H5'	1.88	0.74
15:G:30:GLY:HA3	15:G:78:VAL:HG12	1.70	0.74
9:A:996:A:O2'	25:Q:91:ARG:HG3	1.88	0.74
26:R:49:ILE:HD12	26:R:52:PRO:HA	0.86	0.74
30:V:10:LYS:HZ1	30:V:11:GLU:HG3	1.53	0.74
11:C:15:VAL:HA	11:C:203:VAL:CG1	2.16	0.74
28:T:15:HIS:HB3	28:T:31:VAL:HG23	1.69	0.74
9:A:2094:A:H5'	16:H:25:TYR:CD1	2.23	0.74
9:A:2656:U:C5	9:A:2664:G:N2	2.56	0.74
23:O:24:THR:HG22	23:O:42:PRO:HD3	1.68	0.74
28:T:8:LEU:HD12	28:T:46:ALA:HA	1.67	0.74
18:J:6:ALA:HB2	18:J:45:THR:HG21	1.69	0.74
20:L:91:ASP:HB3	20:L:94:THR:HB	1.69	0.74
9:A:1498:C:HO2'	9:A:1499:C:H6	0.76	0.74
18:J:74:TYR:OH	18:J:100:VAL:HG13	1.87	0.74
31:W:73:PRO:HG3	31:W:76:ARG:HD2	1.69	0.74
33:Y:59:GLU:O	33:Y:63:ALA:HB3	1.87	0.74
9:A:2503:A:O2'	9:A:2505:G:OP2	2.06	0.74
11:C:77:VAL:HA	11:C:93:VAL:HA	1.68	0.74
9:A:1084:A:H2'	9:A:1085:A:H8	1.51	0.74
11:C:79:ARG:NH2	11:C:81:GLU:OE2	2.21	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:R:49:ILE:O	26:R:51:VAL:O	2.05	0.73
16:H:18:GLN:HA	16:H:18:GLN:HE21	1.53	0.73
11:C:257:ARG:HG3	11:C:269:ARG:HH22	1.51	0.73
9:A:2150:C:H2'	9:A:2151:U:C5	2.23	0.73
29:U:91:LYS:O	29:U:92:VAL:HB	1.86	0.73
9:A:2383:G:O2'	9:A:2384:U:H5'	1.89	0.73
9:A:1590:A:H2'	9:A:1591:A:C8	2.23	0.73
9:A:1901:A:H2'	9:A:1902:C:H6	1.51	0.73
9:A:384:A:H2'	9:A:385:C:H5'	1.68	0.73
18:J:44:TYR:C	18:J:45:THR:HG22	2.09	0.73
17:I:126:ARG:HA	17:I:129:GLU:HB2	1.69	0.73
2:1:34:GLU:CG	2:1:49:LYS:HG3	2.18	0.73
27:S:1:MET:HE1	27:S:2:GLU:H	1.52	0.73
15:G:73:SER:HA	15:G:76:ILE:CG2	2.18	0.73
9:A:2773:C:OP1	12:D:171:THR:HG23	1.88	0.73
1:0:2:VAL:HG23	9:A:2015:A:C2	2.23	0.73
9:A:2758:A:C2'	9:A:2759:G:H5'	2.18	0.73
15:G:68:ARG:C	15:G:68:ARG:HD2	2.06	0.73
9:A:2808:G:N2	9:A:2891:U:C6	2.56	0.73
9:A:613:A:C8	9:A:616:A:N1	2.55	0.73
31:W:67:LYS:O	31:W:68:PHE:HB2	1.88	0.73
16:H:6:LEU:O	16:H:15:LEU:HA	1.86	0.73
14:F:43:ILE:HG22	14:F:82:TYR:HE1	1.53	0.73
22:N:1:MET:O	22:N:2:ARG:HB2	1.87	0.73
9:A:1644:C:HO2'	9:A:1645:G:H5'	1.53	0.73
17:I:33:ASN:HD22	17:I:64:ARG:HH22	1.36	0.73
25:Q:23:TYR:O	25:Q:28:SER:HB3	1.89	0.73
28:T:33:LYS:HG3	28:T:80:TRP:CE3	2.22	0.73
11:C:104:LEU:O	11:C:105:ALA:CB	2.35	0.73
9:A:2250:G:H21	9:A:2496:C:H5''	1.51	0.73
15:G:59:ASP:HB2	15:G:63:GLN:HG2	1.70	0.73
30:V:20:LEU:CD2	30:V:25:LYS:HB2	2.17	0.73
15:G:23:ILE:H	15:G:23:ILE:HD12	1.52	0.73
25:Q:63:ARG:NH2	25:Q:96:ASP:HA	2.02	0.73
11:C:257:ARG:NE	11:C:269:ARG:NH2	2.37	0.73
5:4:36:ARG:HG2	5:4:37:GLN:N	2.02	0.73
9:A:864:G:O2'	9:A:865:C:H5'	1.89	0.73
9:A:2492:U:O2'	9:A:2493:U:H5'	1.88	0.73
12:D:114:LYS:HE3	12:D:114:LYS:H	1.52	0.73
33:Y:47:ARG:HG3	33:Y:47:ARG:NH2	1.97	0.73
13:E:142:ALA:C	13:E:143:LEU:HD23	2.08	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:X:52:ALA:O	32:X:53:LYS:CB	2.36	0.73
18:J:114:LEU:HD22	18:J:118:MET:CE	2.18	0.73
9:A:1870:C:H4'	9:A:1871:A:OP1	1.88	0.73
31:W:50:VAL:HG12	31:W:51:GLY:N	2.04	0.73
11:C:29:PHE:CE2	11:C:31:PRO:HG2	2.24	0.73
19:K:114:LYS:HA	19:K:114:LYS:HE2	1.70	0.73
9:A:1738:G:HO2'	9:A:1739:A:H8	1.37	0.73
10:B:28:C:OP1	23:O:31:THR:HG21	1.88	0.73
10:B:112:G:H2'	10:B:113:C:C6	2.24	0.73
1:O:42:ILE:HD11	22:N:98:LEU:HD22	1.69	0.73
9:A:1152:C:O2'	9:A:1153:C:H5'	1.88	0.73
15:G:84:LYS:HB3	15:G:132:LEU:O	1.88	0.73
31:W:31:LEU:CD2	31:W:31:LEU:N	2.46	0.73
24:P:87:ARG:NH1	24:P:87:ARG:HG2	1.94	0.73
13:E:142:ALA:O	13:E:143:LEU:HD23	1.88	0.73
9:A:962:G:N2	9:A:2250:G:H1	1.86	0.73
15:G:10:VAL:O	15:G:10:VAL:HG23	1.88	0.73
9:A:2355:G:H4'	31:W:20:LEU:HD13	1.69	0.73
9:A:855:G:H1'	31:W:23:LYS:HD3	1.70	0.73
9:A:1150:C:C2'	9:A:1151:A:O5'	2.37	0.73
18:J:111:LYS:HE2	18:J:115:GLY:H	1.52	0.72
25:Q:4:LYS:HZ3	25:Q:5:ARG:CA	2.02	0.72
26:R:49:ILE:HG21	26:R:53:PHE:H	1.54	0.72
29:U:5:ARG:NH2	29:U:5:ARG:HG2	1.91	0.72
16:H:49:ALA:HB3	16:H:50:ARG:HH21	1.53	0.72
11:C:79:ARG:HH22	11:C:92:LEU:HD22	1.51	0.72
9:A:1558:C:H4'	9:A:1559:U:O5'	1.88	0.72
11:C:259:ASN:O	11:C:260:LYS:HB2	1.88	0.72
18:J:44:TYR:HB2	25:Q:63:ARG:CB	2.17	0.72
11:C:80:LEU:CD1	11:C:109:LEU:HG	2.19	0.72
11:C:89:ASN:O	11:C:90:ILE:HD13	1.89	0.72
9:A:1277:G:C5'	22:N:20:MET:CE	2.67	0.72
20:L:77:ILE:HG12	20:L:95:LEU:HD13	1.70	0.72
31:W:76:ARG:HG3	31:W:76:ARG:NH2	1.92	0.72
18:J:56:VAL:CG1	18:J:57:LEU:H	2.02	0.72
9:A:2777:G:H5''	9:A:2778:A:OP1	1.89	0.72
22:N:109:PRO:HG2	22:N:109:PRO:O	1.89	0.72
20:L:127:VAL:HG23	20:L:131:ALA:HB3	1.71	0.72
34:Z:9:THR:HG23	34:Z:10:ARG:HB2	1.71	0.72
28:T:39:THR:H	28:T:43:ILE:HG22	1.53	0.72
11:C:251:THR:HG22	11:C:252:LYS:NZ	2.04	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1277:G:C5'	22:N:20:MET:HE1	2.19	0.72
31:W:37:VAL:HG22	31:W:55:ASP:O	1.89	0.72
28:T:8:LEU:N	28:T:8:LEU:HD22	2.05	0.72
9:A:346:A:C2	9:A:347:A:H1'	2.24	0.72
26:R:45:GLU:HA	26:R:45:GLU:OE2	1.89	0.72
21:M:17:ASN:O	21:M:38:ARG:HD3	1.90	0.72
20:L:94:THR:HG22	20:L:95:LEU:H	1.52	0.72
15:G:85:LYS:C	15:G:86:LEU:HD12	2.10	0.72
13:E:119:ILE:HD11	13:E:187:VAL:HG22	1.72	0.72
28:T:2:ILE:HG12	28:T:3:ARG:HG2	1.71	0.72
9:A:2146:C:H4'	9:A:2147:A:O5'	1.88	0.72
29:U:71:ILE:HD11	29:U:81:ARG:H	1.53	0.72
9:A:1253:A:C3'	9:A:1254:A:H5''	2.19	0.72
33:Y:45:GLN:O	33:Y:46:VAL:HB	1.90	0.72
26:R:74:ILE:HB	26:R:87:GLN:HB3	1.70	0.72
28:T:39:THR:HG22	28:T:41:ALA:HB3	1.71	0.72
9:A:1988:G:C2'	9:A:1989:G:H5'	2.19	0.72
26:R:81:LYS:N	26:R:81:LYS:HD3	2.03	0.72
9:A:2820:A:C8	9:A:2820:A:C3'	2.68	0.72
9:A:580:U:H2'	9:A:581:C:C6	2.24	0.72
26:R:97:LYS:O	26:R:98:ILE:HB	1.89	0.72
12:D:70:LYS:O	12:D:71:ALA:HB3	1.90	0.72
29:U:78:LYS:HG2	29:U:79:ALA:H	1.55	0.72
9:A:438:G:C2'	9:A:439:A:H5'	2.19	0.72
23:O:106:LEU:HD12	23:O:106:LEU:C	2.10	0.72
9:A:1867:G:O2'	9:A:1868:C:C5'	2.34	0.72
14:F:134:GLN:N	14:F:134:GLN:HE21	1.87	0.72
9:A:1268:A:C2	9:A:2013:A:C4	2.78	0.72
9:A:1695:G:C8	11:C:7:PRO:HG2	2.24	0.72
21:M:42:THR:OG1	21:M:45:GLN:HG3	1.90	0.72
26:R:21:ARG:NH2	26:R:93:PHE:CZ	2.57	0.72
19:K:18:ARG:CB	19:K:45:GLU:HG2	2.08	0.71
9:A:1654:A:O2'	12:D:118:PHE:CG	2.41	0.71
9:A:989:G:C8	34:Z:13:ILE:HD11	2.24	0.71
9:A:357:C:H2'	9:A:358:U:H6	1.50	0.71
29:U:87:GLU:HG3	29:U:88:ASP:H	1.55	0.71
9:A:1857:G:H1'	9:A:1884:G:N2	2.05	0.71
9:A:1179:G:H3'	9:A:1180:U:C4'	2.20	0.71
9:A:1179:G:C5	9:A:1180:U:C1'	2.71	0.71
11:C:141:HIS:HB2	11:C:190:THR:HB	1.72	0.71
21:M:114:ARG:HG2	21:M:130:PHE:CZ	2.24	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2786:U:O2'	12:D:66:GLY:HA3	1.90	0.71
9:A:1364:G:OP2	32:X:1:SER:N	2.23	0.71
9:A:1063:G:H2'	9:A:1064:C:C6	2.25	0.71
17:I:89:SER:HB3	17:I:92:PRO:HG3	1.72	0.71
9:A:1714:U:C2'	9:A:1714:U:O2	2.33	0.71
34:Z:13:ILE:HG22	34:Z:14:GLY:N	2.03	0.71
22:N:33:ILE:HG23	22:N:114:GLU:HB3	1.71	0.71
27:S:63:GLY:O	27:S:64:ALA:HB3	1.89	0.71
9:A:2210:U:H4'	9:A:2211:A:H5'	1.73	0.71
19:K:70:ARG:HD3	19:K:76:VAL:HG22	1.72	0.71
20:L:64:PHE:CD1	20:L:64:PHE:O	2.43	0.71
9:A:679:C:O2'	9:A:680:C:H5'	1.91	0.71
18:J:81:ILE:HG23	18:J:82:GLY:N	2.00	0.71
28:T:39:THR:CB	28:T:42:GLU:HB2	2.20	0.71
9:A:1107:G:H2'	9:A:1108:U:H6	1.54	0.71
1:0:33:SER:CB	1:0:35:GLU:HG3	2.19	0.71
23:O:31:THR:CG2	23:O:34:HIS:H	2.02	0.71
9:A:1427:A:H4'	9:A:1428:C:O5'	1.90	0.71
23:O:43:ASN:HD21	23:O:46:GLU:HG2	1.51	0.71
24:P:4:ILE:HG22	24:P:5:LYS:N	2.04	0.71
9:A:412:A:C2'	9:A:413:C:H5'	2.21	0.71
11:C:93:VAL:CG1	11:C:94:LEU:N	2.52	0.71
9:A:894:U:H2'	9:A:895:U:H6	1.52	0.71
14:F:3:LEU:CD2	14:F:100:GLU:HG3	2.20	0.71
23:O:15:ARG:NH1	23:O:15:ARG:HG3	2.03	0.71
31:W:54:ARG:HB2	31:W:54:ARG:HH11	1.54	0.71
9:A:2667:C:C2'	9:A:2668:G:H5'	2.21	0.71
9:A:2480:C:H2'	9:A:2481:G:H5'	1.72	0.71
9:A:2325:G:C6	9:A:2326:C:N4	2.59	0.71
9:A:671:C:H3'	20:L:42:SER:OG	1.88	0.71
11:C:108:GLY:C	11:C:109:LEU:HD22	2.11	0.71
9:A:2211:A:H4'	9:A:2211:A:OP2	1.89	0.71
23:O:75:GLY:HA2	23:O:106:LEU:HD13	1.70	0.71
5:4:32:LYS:HD3	9:A:2478:A:H5'	1.73	0.71
9:A:573:U:H4'	9:A:574:A:OP1	1.91	0.71
27:S:2:GLU:O	27:S:3:THR:CG2	2.39	0.71
3:2:3:ARG:NH2	3:2:3:ARG:HG2	1.97	0.71
9:A:1747:U:H2'	9:A:1748:C:C6	2.26	0.71
9:A:313:G:C2'	9:A:314:C:H5'	2.20	0.71
9:A:2396:G:O2'	9:A:2397:G:H5'	1.91	0.71
25:Q:4:LYS:HZ1	25:Q:8:ILE:HG23	1.53	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:D:176:ASP:OD2	12:D:176:ASP:N	2.23	0.71
9:A:2269:G:H4'	31:W:18:LYS:HE2	1.71	0.71
31:W:39:GLN:HG3	31:W:42:THR:H	1.52	0.71
9:A:2667:C:H2'	9:A:2668:G:H5'	1.73	0.71
18:J:9:GLU:OE2	18:J:9:GLU:HA	1.87	0.71
9:A:1788:C:C2'	9:A:1789:A:H5'	2.21	0.71
20:L:4:ASN:HD22	20:L:4:ASN:H	1.39	0.71
24:P:13:LYS:HE3	24:P:76:HIS:CA	2.18	0.71
9:A:1080:A:O2'	17:I:126:ARG:CG	2.39	0.71
20:L:77:ILE:HD11	20:L:108:ALA:HB1	1.71	0.71
31:W:23:LYS:CG	31:W:24:ARG:N	2.54	0.71
25:Q:85:ALA:O	25:Q:86:SER:C	2.29	0.71
3:2:21:ARG:NH1	9:A:684:G:OP1	2.24	0.71
12:D:14:ILE:CA	24:P:11:GLN:HE22	2.02	0.70
16:H:4:ILE:HG12	16:H:18:GLN:NE2	2.06	0.70
28:T:40:LYS:N	28:T:43:ILE:HG23	2.05	0.70
23:O:88:LYS:O	23:O:89:ASP:HB2	1.91	0.70
9:A:1459:G:O2'	9:A:1460:U:H5'	1.91	0.70
15:G:6:ALA:HB1	15:G:7:PRO:HD2	1.72	0.70
9:A:1794:A:H2'	9:A:1795:C:H6	1.56	0.70
29:U:72:PHE:CE2	29:U:74:ALA:HA	2.26	0.70
9:A:454:A:H4'	9:A:455:C:OP2	1.91	0.70
27:S:2:GLU:O	27:S:107:VAL:O	2.09	0.70
9:A:1015:U:O2'	9:A:1016:G:H5'	1.90	0.70
9:A:1747:U:O2'	9:A:1748:C:H5'	1.90	0.70
12:D:108:ASP:OD2	12:D:173:GLN:HA	1.91	0.70
21:M:46:ILE:HD12	21:M:46:ILE:C	2.11	0.70
13:E:61:ARG:NH1	13:E:64:GLY:HA3	2.05	0.70
10:B:16:G:O2'	10:B:17:C:H5'	1.90	0.70
13:E:150:THR:HG21	13:E:153:LEU:HA	1.73	0.70
31:W:51:GLY:HA3	31:W:59:PHE:CZ	2.25	0.70
11:C:159:THR:O	11:C:194:VAL:HG12	1.92	0.70
21:M:72:PRO:O	21:M:91:TYR:O	2.09	0.70
9:A:1734:G:N3	9:A:1735:A:C8	2.59	0.70
9:A:869:G:O2'	21:M:8:LYS:HD3	1.90	0.70
21:M:8:LYS:HD2	21:M:8:LYS:N	2.05	0.70
14:F:66:ILE:HG13	14:F:66:ILE:O	1.90	0.70
18:J:58:ASN:HD21	18:J:128:ASN:HB2	1.55	0.70
15:G:104:LEU:CB	15:G:112:VAL:CG2	2.65	0.70
31:W:18:LYS:CA	31:W:36:ILE:HG13	2.19	0.70
9:A:1798:U:OP1	11:C:257:ARG:HB2	1.90	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1654:A:H1'	12:D:118:PHE:CD1	2.26	0.70
9:A:1813:G:N3	11:C:49:THR:CG2	2.53	0.70
10:B:90:C:H6	10:B:90:C:C5'	2.00	0.70
11:C:77:VAL:HG22	11:C:111:ALA:HA	1.74	0.70
11:C:33:LEU:CD2	11:C:62:ARG:HD3	2.22	0.70
10:B:45:A:H2'	10:B:46:A:C8	2.25	0.70
1:0:3:GLN:HA	9:A:2615:U:C2	2.25	0.70
4:3:44:ARG:N	4:3:45:PRO:HD2	2.05	0.70
15:G:83:THR:HA	15:G:84:LYS:HZ3	1.56	0.70
9:A:923:G:N2	31:W:23:LYS:HZ3	1.87	0.70
15:G:33:THR:HA	15:G:34:ARG:NH1	2.06	0.70
9:A:2180:U:H2'	9:A:2181:U:C5	2.27	0.70
9:A:196:A:H2'	9:A:805:G:O6	1.92	0.70
20:L:91:ASP:CB	20:L:94:THR:HB	2.21	0.70
15:G:34:ARG:HD3	15:G:34:ARG:N	2.06	0.70
9:A:368:A:H2'	9:A:369:U:H5'	1.74	0.70
9:A:675:A:OP1	13:E:58:LYS:HE2	1.91	0.70
25:Q:63:ARG:NH2	25:Q:95:ALA:C	2.45	0.70
20:L:95:LEU:HD13	20:L:100:ILE:HD11	1.73	0.70
12:D:101:PHE:CZ	12:D:203:VAL:HG22	2.27	0.70
9:A:2309:A:O2'	9:A:2310:C:C5'	2.38	0.70
9:A:2154:A:H2'	9:A:2155:U:O4'	1.92	0.70
9:A:271:G:O2'	9:A:272:A:H5''	1.91	0.70
9:A:285:G:H2'	9:A:285:G:N3	2.06	0.70
12:D:97:SER:O	12:D:99:GLU:HG2	1.91	0.70
31:W:23:LYS:NZ	31:W:24:ARG:HG3	2.06	0.70
28:T:29:THR:CA	28:T:86:THR:HA	2.21	0.70
14:F:134:GLN:N	14:F:134:GLN:NE2	2.39	0.70
9:A:1450:G:C6	9:A:1451:C:N4	2.60	0.70
15:G:126:THR:CG2	15:G:127:GLN:H	2.04	0.70
14:F:127:TYR:O	14:F:128:SER:CB	2.40	0.70
31:W:54:ARG:HB2	31:W:54:ARG:NH1	2.06	0.70
9:A:2728:U:O2'	9:A:2729:G:O5'	2.09	0.70
25:Q:4:LYS:CG	25:Q:5:ARG:N	2.53	0.70
31:W:22:VAL:HG13	31:W:25:PHE:CE2	2.26	0.70
9:A:1945:G:H2'	9:A:1946:U:C6	2.27	0.70
31:W:8:SER:O	31:W:9:THR:CB	2.37	0.70
9:A:308:G:O2'	9:A:309:A:H5'	1.92	0.70
12:D:69:ALA:HA	12:D:73:VAL:HG13	1.73	0.70
9:A:2192:U:O2'	9:A:2193:G:H5'	1.91	0.70
9:A:1019:U:H3	9:A:1142:A:H62	1.40	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1288:G:C4	9:A:1327:A:C2	2.80	0.69
9:A:646:U:H3'	9:A:647:G:C5'	2.21	0.69
19:K:76:VAL:HB	24:P:72:VAL:HG22	1.72	0.69
9:A:63:A:O2'	9:A:64:A:H5'	1.92	0.69
9:A:2480:C:C2'	9:A:2481:G:H5'	2.22	0.69
9:A:1794:A:H2'	9:A:1795:C:C6	2.28	0.69
4:3:14:LYS:O	4:3:21:PHE:O	2.10	0.69
9:A:620:G:H4'	9:A:621:A:O5'	1.93	0.69
9:A:1250:G:OP2	20:L:21:ARG:NH2	2.26	0.69
9:A:485:C:H2'	9:A:486:C:H6	1.56	0.69
20:L:29:LYS:HG3	20:L:30:THR:HG23	1.73	0.69
28:T:29:THR:HA	28:T:86:THR:H	1.58	0.69
28:T:50:LEU:HD12	28:T:50:LEU:N	2.04	0.69
9:A:1508:A:H4'	9:A:1509:A:H5'	1.74	0.69
9:A:2221:G:O2'	9:A:2222:C:H5'	1.92	0.69
27:S:13:SER:O	27:S:14:ALA:HB2	1.90	0.69
20:L:77:ILE:HG12	20:L:95:LEU:CD1	2.21	0.69
12:D:104:VAL:HA	12:D:106:LYS:HZ3	1.57	0.69
9:A:386:G:H4'	9:A:387:U:OP2	1.90	0.69
9:A:990:A:C5'	9:A:990:A:H8	2.02	0.69
14:F:37:MET:CG	14:F:56:LEU:HG	2.22	0.69
19:K:10:VAL:CG2	19:K:16:ALA:HB1	2.22	0.69
19:K:93:GLN:HA	19:K:93:GLN:OE1	1.91	0.69
9:A:21:A:O2'	9:A:22:C:H5'	1.92	0.69
26:R:49:ILE:O	26:R:49:ILE:HG13	1.91	0.69
31:W:24:ARG:HD2	31:W:25:PHE:N	2.06	0.69
12:D:122:VAL:HG12	12:D:123:LYS:N	2.06	0.69
29:U:71:ILE:HD11	29:U:81:ARG:N	2.06	0.69
9:A:2444:G:OP2	13:E:63:LYS:CE	2.40	0.69
17:I:74:PRO:O	17:I:77:VAL:HG22	1.93	0.69
4:3:26:ALA:O	4:3:27:ASN:CB	2.39	0.69
9:A:746:U:O2'	9:A:747:U:OP2	2.10	0.69
13:E:12:LEU:O	13:E:12:LEU:HD13	1.92	0.69
9:A:395:U:O2'	9:A:396:G:N7	2.23	0.69
24:P:13:LYS:CE	24:P:76:HIS:HA	2.17	0.69
17:I:98:GLY:HA3	17:I:137:LEU:HD23	1.75	0.69
15:G:120:ILE:HD13	15:G:121:THR:H	1.56	0.69
31:W:19:ARG:NH1	31:W:22:VAL:HG11	2.07	0.69
31:W:42:THR:HG22	31:W:43:LYS:HG2	1.74	0.69
24:P:113:LEU:O	24:P:113:LEU:HG	1.91	0.69
9:A:1963:U:C3'	9:A:1963:U:H6	2.03	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1430:G:C2'	9:A:1431:A:H5'	2.22	0.69
31:W:37:VAL:HG12	31:W:38:ARG:H	1.58	0.69
9:A:2180:U:H2'	9:A:2181:U:H5	1.57	0.69
18:J:95:ARG:HG3	18:J:95:ARG:O	1.91	0.69
9:A:1256:G:C2'	13:E:77:ILE:HD11	2.22	0.69
9:A:1116:G:O2'	9:A:1117:C:H5'	1.92	0.69
14:F:9:ASP:O	14:F:10:GLU:HB2	1.92	0.69
9:A:2305:U:C4	14:F:150:GLY:O	2.46	0.69
9:A:1462:C:H2'	9:A:1463:C:H5'	1.72	0.69
9:A:1434:A:H2'	9:A:1435:G:H8	1.55	0.69
20:L:114:GLY:C	20:L:115:GLU:HG3	2.11	0.69
9:A:851:C:O2'	34:Z:45:GLY:HA3	1.93	0.69
24:P:4:ILE:O	24:P:5:LYS:HB3	1.91	0.69
26:R:49:ILE:HG22	26:R:54:VAL:N	2.07	0.69
16:H:32:PRO:CB	32:X:38:TRP:HB3	2.16	0.69
32:X:40:GLU:O	32:X:43:LYS:HD2	1.92	0.69
9:A:2353:G:O2'	31:W:31:LEU:CD2	2.41	0.69
13:E:187:VAL:HG12	13:E:188:MET:N	2.08	0.69
11:C:90:ILE:CG2	11:C:102:TYR:CD1	2.75	0.69
21:M:80:VAL:CG2	21:M:81:ARG:N	2.55	0.69
8:7:74:C:H42	9:A:2252:G:H1	1.40	0.69
9:A:2661:G:H2'	9:A:2662:A:C8	2.28	0.69
9:A:1510:G:H2'	9:A:1511:G:C8	2.25	0.69
11:C:199:HIS:CE1	11:C:202:ARG:NH2	2.60	0.69
9:A:479:A:O2'	9:A:481:G:H5'	1.93	0.69
9:A:1559:U:H4'	9:A:1560:G:OP2	1.92	0.69
9:A:438:G:O2'	9:A:439:A:H5'	1.93	0.69
25:Q:89:ILE:O	25:Q:90:ASP:HB2	1.93	0.69
9:A:80:G:C2'	9:A:81:G:H5'	2.22	0.69
23:O:49:VAL:HG21	23:O:82:ALA:HA	1.74	0.69
25:Q:97:ILE:HD11	25:Q:105:PHE:HB2	1.73	0.69
9:A:2689:U:H4'	9:A:2690:U:OP2	1.92	0.69
24:P:50:ARG:NE	24:P:56:SER:HB2	2.08	0.69
31:W:30:VAL:C	31:W:31:LEU:HD23	2.12	0.69
31:W:72:GLY:N	31:W:73:PRO:HD2	2.07	0.69
17:I:20:SER:HB3	17:I:21:PRO:HD3	1.75	0.69
9:A:62:U:H4'	9:A:63:A:OP1	1.93	0.69
10:B:112:G:H2'	10:B:113:C:H6	1.57	0.69
9:A:2373:G:H2'	9:A:2374:C:C6	2.28	0.69
22:N:38:LEU:HB3	22:N:39:PRO:HD3	1.73	0.69
9:A:1159:U:O2'	9:A:1160:G:H5'	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:J:4:PHE:O	18:J:44:TYR:CE1	2.45	0.69
12:D:114:LYS:CE	12:D:114:LYS:H	2.02	0.69
9:A:1073:A:C2'	9:A:1074:G:C5'	2.61	0.69
20:L:132:ARG:HG3	20:L:142:ILE:CD1	2.20	0.69
15:G:86:LEU:N	15:G:86:LEU:CD1	2.56	0.69
18:J:74:TYR:HB2	18:J:87:ALA:O	1.93	0.69
14:F:37:MET:CE	14:F:151:LEU:HB3	2.23	0.69
9:A:1585:C:H2'	9:A:1586:A:H5'	1.74	0.69
15:G:22:VAL:HG22	15:G:36:LEU:HD13	1.73	0.69
15:G:15:ASP:CG	15:G:16:VAL:H	1.95	0.69
9:A:1795:C:H2'	9:A:1796:U:H6	1.58	0.69
10:B:70:C:O2'	10:B:71:C:H5'	1.93	0.69
9:A:995:C:O2'	9:A:996:A:P	2.51	0.68
25:Q:91:ARG:HH21	25:Q:93:ILE:HD13	1.58	0.68
9:A:1060:U:H5''	9:A:1061:U:OP1	1.93	0.68
2:1:34:GLU:O	2:1:35:LEU:HB3	1.92	0.68
15:G:137:LYS:C	15:G:140:ILE:CD1	2.61	0.68
32:X:40:GLU:HG3	32:X:43:LYS:NZ	2.08	0.68
31:W:18:LYS:CA	31:W:36:ILE:CG1	2.70	0.68
33:Y:7:ARG:HG3	33:Y:7:ARG:O	1.94	0.68
9:A:527:C:H4'	9:A:528:A:O5'	1.93	0.68
18:J:43:GLU:O	18:J:45:THR:HG22	1.91	0.68
9:A:1063:G:O2'	9:A:1064:C:O4'	2.11	0.68
9:A:2311:A:H1'	14:F:78:ILE:HD13	1.74	0.68
34:Z:26:LEU:O	34:Z:37:ARG:NH1	2.26	0.68
9:A:407:G:O2'	9:A:408:G:H5'	1.93	0.68
9:A:2886:A:H2'	9:A:2887:A:O4'	1.93	0.68
31:W:8:SER:O	31:W:9:THR:HB	1.91	0.68
23:O:57:ALA:O	23:O:59:ALA:N	2.27	0.68
25:Q:40:LYS:HA	25:Q:43:GLN:CG	2.23	0.68
9:A:1490:A:H5'	9:A:1491:G:OP2	1.93	0.68
9:A:143:C:O2'	9:A:144:A:H8	1.75	0.68
5:4:23:ILE:CD1	9:A:1032:A:H1'	2.22	0.68
12:D:92:VAL:O	12:D:93:GLY:C	2.31	0.68
29:U:85:ARG:HA	29:U:91:LYS:O	1.92	0.68
9:A:1901:A:H2'	9:A:1902:C:C6	2.28	0.68
9:A:1801:A:C5	11:C:261:ARG:NH1	2.61	0.68
24:P:51:ASN:O	24:P:52:ARG:CG	2.41	0.68
12:D:114:LYS:HE3	12:D:114:LYS:CA	2.24	0.68
11:C:16:VAL:CB	11:C:203:VAL:HB	2.15	0.68
14:F:37:MET:CE	14:F:37:MET:HA	2.23	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:5:THR:CG2	9:A:243:U:OP1	2.42	0.68
15:G:15:ASP:CG	15:G:16:VAL:N	2.47	0.68
15:G:163:TYR:O	15:G:164:ALA:CB	2.42	0.68
9:A:1996:C:H4'	9:A:1997:C:OP1	1.92	0.68
26:R:47:VAL:O	26:R:47:VAL:HG12	1.94	0.68
31:W:28:GLU:CG	31:W:29:SER:N	2.57	0.68
23:O:104:GLN:O	23:O:107:ALA:HB3	1.94	0.68
23:O:111:ARG:HD3	23:O:112:GLU:N	2.08	0.68
4:3:2:LYS:HE2	9:A:242:G:OP2	1.94	0.68
9:A:1735:A:H2'	9:A:1736:U:C6	2.28	0.68
18:J:12:LYS:O	18:J:13:ARG:CB	2.40	0.68
15:G:115:GLN:H	15:G:115:GLN:CD	1.97	0.68
13:E:145:ASP:HB3	13:E:184:ASP:HB2	1.76	0.68
25:Q:97:ILE:HD11	25:Q:105:PHE:CA	2.23	0.68
9:A:2752:C:H2'	9:A:2753:A:C8	2.29	0.68
9:A:1402:U:H2'	9:A:1403:A:O5'	1.94	0.68
24:P:4:ILE:HG22	24:P:5:LYS:H	1.59	0.68
9:A:1061:U:H3'	9:A:1062:G:C5'	2.24	0.68
12:D:99:GLU:CG	12:D:100:LEU:H	1.93	0.68
24:P:87:ARG:NH2	24:P:111:GLU:HG3	2.09	0.68
11:C:161:VAL:O	11:C:161:VAL:HG12	1.94	0.68
22:N:79:LEU:O	22:N:80:PHE:CB	2.42	0.68
28:T:39:THR:HG22	28:T:39:THR:O	1.94	0.68
9:A:1107:G:H2'	9:A:1108:U:C6	2.29	0.68
13:E:95:LYS:O	13:E:96:VAL:HB	1.93	0.68
9:A:358:U:H2'	9:A:359:G:O4'	1.94	0.68
31:W:9:THR:OG1	31:W:10:ARG:N	2.26	0.68
9:A:2415:G:H4'	20:L:65:GLY:O	1.94	0.68
20:L:65:GLY:O	20:L:66:PHE:HB3	1.94	0.68
9:A:1858:A:O2'	9:A:1859:U:C5'	2.42	0.68
9:A:1188:U:C2'	9:A:1189:A:C5'	2.68	0.68
21:M:2:LEU:HD23	21:M:69:PRO:CD	2.21	0.68
14:F:134:GLN:H	14:F:134:GLN:NE2	1.92	0.68
24:P:37:LYS:HG2	24:P:37:LYS:O	1.94	0.68
9:A:581:C:OP1	25:Q:32:ARG:HB2	1.93	0.68
17:I:7:TYR:HA	17:I:58:ILE:HB	1.75	0.68
9:A:861:A:H5''	9:A:862:G:OP2	1.93	0.68
9:A:1688:U:O2	9:A:1700:A:H5''	1.94	0.68
13:E:127:GLU:H	13:E:127:GLU:CD	1.97	0.68
18:J:2:LYS:CD	18:J:2:LYS:N	2.47	0.68
18:J:5:THR:HG22	18:J:6:ALA:O	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1079:C:C4	9:A:1088:A:H2	2.12	0.68
9:A:587:C:N3	20:L:33:ARG:NH2	2.42	0.68
2:1:8:ILE:HG22	2:1:9:LYS:N	2.08	0.68
14:F:71:LYS:HA	14:F:80:GLN:CG	2.23	0.68
29:U:93:ARG:HH11	29:U:102:ILE:HD11	1.56	0.68
4:3:22:LYS:O	4:3:22:LYS:HG2	1.92	0.68
22:N:71:ARG:HH21	22:N:71:ARG:CG	2.06	0.68
21:M:46:ILE:HD12	21:M:47:GLU:N	2.09	0.68
9:A:2729:G:H5'	9:A:2729:G:H8	1.58	0.68
24:P:52:ARG:HG2	24:P:52:ARG:HH11	1.58	0.68
25:Q:63:ARG:NH1	25:Q:98:ALA:HB3	2.09	0.68
20:L:29:LYS:CG	20:L:30:THR:HG23	2.24	0.68
4:3:11:LYS:HE3	9:A:247:G:O6	1.93	0.68
9:A:1115:G:HO2'	9:A:1116:G:H8	1.40	0.68
2:1:29:LYS:HD2	2:1:31:GLU:OE1	1.94	0.68
18:J:31:GLU:OE2	18:J:35:ARG:HD2	1.94	0.68
19:K:71:ARG:CB	19:K:72:PRO:CD	2.72	0.67
9:A:1654:A:C1'	12:D:118:PHE:CE1	2.77	0.67
9:A:224:U:H2'	9:A:225:C:O5'	1.94	0.67
9:A:244:A:C2	9:A:255:A:C4	2.82	0.67
9:A:22:C:H2'	9:A:23:G:O5'	1.94	0.67
9:A:1486:U:O2'	9:A:1487:U:H5'	1.94	0.67
9:A:1161:C:H1'	26:R:8:GLY:O	1.95	0.67
18:J:44:TYR:HA	25:Q:59:LEU:HD21	1.73	0.67
15:G:82:PHE:CZ	15:G:137:LYS:HB2	2.29	0.67
28:T:7:LEU:HD21	28:T:42:GLU:OE2	1.95	0.67
13:E:28:VAL:O	13:E:32:VAL:HG13	1.93	0.67
31:W:9:THR:HG22	31:W:10:ARG:HH11	1.57	0.67
33:Y:18:LEU:O	33:Y:18:LEU:HD13	1.94	0.67
18:J:21:THR:HG22	18:J:22:GLY:N	2.07	0.67
20:L:132:ARG:HA	20:L:142:ILE:HD11	1.77	0.67
31:W:9:THR:HG23	31:W:10:ARG:N	2.10	0.67
9:A:26:G:H1'	9:A:514:A:N6	2.10	0.67
9:A:1572:A:O2'	9:A:1573:G:H5'	1.93	0.67
9:A:923:G:C2	31:W:23:LYS:HE2	2.29	0.67
11:C:12:ARG:NH1	11:C:12:ARG:HG3	2.01	0.67
19:K:7:MET:SD	19:K:20:MET:HB2	2.34	0.67
4:3:29:ARG:HD3	9:A:2394:C:OP2	1.92	0.67
9:A:789:A:OP1	9:A:790:U:H5	1.77	0.67
19:K:108:ARG:HG2	19:K:108:ARG:NH1	1.98	0.67
9:A:2440:C:H6	9:A:2440:C:C5'	2.04	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:962:G:H2'	9:A:963:U:C6	2.29	0.67
9:A:1248:G:O2'	25:Q:2:ARG:HA	1.95	0.67
9:A:1676:A:C2	9:A:1993:U:H5'	2.30	0.67
20:L:92:LEU:HA	20:L:125:LEU:HD21	1.74	0.67
24:P:50:ARG:HH21	24:P:51:ASN:HA	1.59	0.67
22:N:44:LEU:O	22:N:44:LEU:HD12	1.93	0.67
12:D:110:THR:CG2	12:D:171:THR:HG22	2.24	0.67
9:A:2636:C:H2'	9:A:2637:U:H6	1.57	0.67
9:A:1510:G:H5'	9:A:1510:G:H8	1.60	0.67
9:A:2800:A:O2'	9:A:2801:G:OP1	2.12	0.67
29:U:42:LYS:HD3	29:U:42:LYS:N	2.08	0.67
9:A:1793:C:O2'	9:A:1794:A:H5'	1.94	0.67
27:S:51:LEU:O	27:S:55:ILE:HG13	1.94	0.67
23:O:52:SER:OG	23:O:54:VAL:HG12	1.95	0.67
20:L:94:THR:HG22	20:L:95:LEU:N	2.10	0.67
31:W:18:LYS:HA	31:W:36:ILE:CD1	2.24	0.67
21:M:78:LEU:HD23	21:M:79:ALA:N	2.10	0.67
11:C:85:ASN:OD1	11:C:85:ASN:N	2.28	0.67
25:Q:26:ALA:HB1	25:Q:30:VAL:HG23	1.77	0.67
9:A:1386:C:H2'	9:A:1387:A:C8	2.30	0.67
11:C:69:ASN:O	11:C:70:LYS:HB2	1.94	0.67
9:A:2402:U:H2'	9:A:2403:C:OP2	1.95	0.67
25:Q:63:ARG:NH2	25:Q:96:ASP:CA	2.56	0.67
26:R:39:LEU:HA	26:R:49:ILE:HG21	1.77	0.67
11:C:245:THR:OG1	11:C:249:VAL:HB	1.95	0.67
27:S:21:ALA:HB1	27:S:74:ILE:HD13	1.77	0.67
31:W:37:VAL:C	31:W:38:ARG:CG	2.61	0.67
13:E:152:GLU:O	13:E:153:LEU:HG	1.95	0.67
1:O:27:LEU:H	1:O:27:LEU:HD23	1.59	0.67
20:L:100:ILE:HD12	20:L:101:ILE:HD13	1.77	0.67
26:R:49:ILE:HG21	26:R:53:PHE:N	2.10	0.67
28:T:29:THR:HA	28:T:86:THR:N	2.09	0.67
9:A:1712:U:C2	9:A:1713:A:N7	2.63	0.67
27:S:4:ILE:HG22	27:S:106:VAL:HG13	1.76	0.67
9:A:335:C:C5'	29:U:81:ARG:HD3	2.24	0.67
22:N:24:MET:HG2	22:N:44:LEU:CD2	2.24	0.67
9:A:659:G:H21	13:E:30:GLN:HE22	1.43	0.67
9:A:2579:C:H2'	9:A:2580:U:H5'	1.77	0.67
9:A:1788:C:H2'	9:A:1789:A:H5'	1.75	0.67
15:G:148:ARG:HD2	15:G:163:TYR:CE2	2.30	0.67
14:F:121:PHE:HB3	14:F:162:ASP:OD2	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1515:A:H2'	9:A:1516:G:O4'	1.95	0.67
25:Q:94:LEU:HD23	26:R:11:GLN:HB2	1.76	0.67
2:1:8:ILE:HG23	2:1:51:ALA:CA	2.17	0.67
32:X:38:TRP:NE1	32:X:40:GLU:HB2	2.10	0.67
5:4:9:LYS:N	5:4:9:LYS:HD3	2.06	0.67
14:F:16:MET:O	14:F:20:ASN:HA	1.95	0.67
9:A:2019:A:H4'	25:Q:33:VAL:HG21	1.75	0.67
9:A:364:C:H2'	9:A:365:U:C6	2.30	0.67
14:F:35:LEU:HD23	14:F:153:ILE:CG2	2.25	0.66
4:3:31:ILE:O	4:3:35:LYS:HE3	1.95	0.66
9:A:1585:C:O2'	9:A:1586:A:H5'	1.94	0.66
9:A:1510:G:O2'	9:A:1511:G:H5'	1.96	0.66
23:O:53:THR:HB	23:O:65:THR:HG22	1.77	0.66
9:A:475:C:O2'	9:A:476:G:H5'	1.95	0.66
18:J:44:TYR:CE2	25:Q:63:ARG:HD3	2.30	0.66
9:A:1071:G:H1'	9:A:1089:A:C5	2.31	0.66
15:G:155:PRO:O	15:G:170:THR:HA	1.95	0.66
9:A:1498:C:O2'	9:A:1499:C:C5'	2.44	0.66
9:A:914:G:H5''	9:A:914:G:H8	1.58	0.66
9:A:1988:G:H2'	9:A:1989:G:H5'	1.77	0.66
9:A:2473:U:O2	9:A:2473:U:H2'	1.94	0.66
17:I:42:ASN:HA	17:I:45:THR:HB	1.78	0.66
26:R:49:ILE:CG1	26:R:51:VAL:O	2.43	0.66
32:X:38:TRP:HE1	32:X:40:GLU:HB2	1.61	0.66
9:A:2331:G:O2'	9:A:2336:A:N1	2.28	0.66
31:W:28:GLU:OE2	31:W:28:GLU:CA	2.43	0.66
28:T:32:LEU:H	28:T:83:ALA:CB	2.05	0.66
24:P:92:ARG:HH11	24:P:92:ARG:HB2	1.61	0.66
9:A:1253:A:H3'	9:A:1254:A:C5'	2.24	0.66
19:K:76:VAL:C	19:K:77:ILE:HD12	2.15	0.66
12:D:182:ALA:C	12:D:184:ARG:N	2.46	0.66
9:A:1941:C:H2'	9:A:1942:C:C6	2.30	0.66
9:A:1082:U:H5'	17:I:117:THR:O	1.94	0.66
9:A:1435:G:O2'	9:A:1436:G:H5'	1.95	0.66
14:F:13:LYS:O	14:F:17:THR:HG23	1.95	0.66
20:L:127:VAL:HG23	20:L:131:ALA:CB	2.26	0.66
31:W:17:ALA:O	31:W:18:LYS:HB3	1.96	0.66
31:W:30:VAL:H	31:W:31:LEU:HD23	1.59	0.66
27:S:1:MET:CE	27:S:1:MET:HA	2.20	0.66
9:A:2311:A:O3'	9:A:2312:U:C6	2.48	0.66
9:A:958:U:H6	9:A:958:U:C5'	2.01	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:P:33:GLU:CG	24:P:34:GLY:N	2.58	0.66
9:A:2085:U:O2'	9:A:2086:U:H5'	1.94	0.66
14:F:161:SER:OG	14:F:164:GLU:HG3	1.96	0.66
14:F:169:LEU:N	14:F:169:LEU:HD12	2.11	0.66
9:A:151:C:H5'	9:A:1360:G:OP1	1.95	0.66
31:W:39:GLN:HG2	31:W:41:GLY:N	2.05	0.66
23:O:88:LYS:CE	23:O:116:GLN:NE2	2.58	0.66
9:A:2152:G:O2'	9:A:2153:C:C5'	2.43	0.66
11:C:79:ARG:NH2	11:C:92:LEU:CD2	2.58	0.66
9:A:915:C:C6	9:A:915:C:H5''	2.30	0.66
18:J:36:LEU:HD21	18:J:122:LEU:HB2	1.78	0.66
9:A:2080:A:H5'	32:X:18:SER:CB	2.26	0.66
9:A:1425:G:C2'	9:A:1426:G:H5'	2.26	0.66
30:V:44:HIS:HE1	30:V:86:LEU:H	1.41	0.66
1:O:16:ARG:HG2	1:O:19:ASP:OD1	1.95	0.66
11:C:39:SER:C	11:C:41:GLY:H	1.97	0.66
2:1:35:LEU:O	2:1:35:LEU:HD23	1.96	0.66
31:W:24:ARG:CB	31:W:65:LYS:HD3	2.22	0.66
24:P:25:VAL:N	24:P:85:VAL:O	2.25	0.66
13:E:175:ILE:HG23	13:E:175:ILE:O	1.96	0.66
33:Y:6:LEU:O	33:Y:7:ARG:HB3	1.94	0.66
12:D:94:GLN:O	12:D:95:SER:HB2	1.96	0.66
27:S:24:ILE:HG12	27:S:36:LEU:HD11	1.77	0.66
9:A:1416:G:O2'	9:A:1417:C:O5'	2.14	0.66
14:F:107:VAL:N	14:F:108:PRO:CD	2.58	0.66
9:A:132:G:O2'	9:A:133:U:H5'	1.95	0.66
11:C:166:ARG:CG	11:C:166:ARG:O	2.44	0.66
9:A:2038:G:H2'	9:A:2039:U:O4'	1.95	0.66
9:A:77:G:OP1	33:Y:52:ARG:HD3	1.96	0.66
9:A:2704:C:H5''	9:A:2705:A:OP2	1.96	0.66
14:F:129:MET:CG	14:F:153:ILE:HD11	2.26	0.66
9:A:84:A:H62	9:A:101:A:H2	1.42	0.66
9:A:726:G:O2'	9:A:727:A:OP2	2.11	0.66
23:O:62:LEU:HD23	23:O:70:ALA:HA	1.78	0.66
9:A:289:G:H2'	9:A:290:U:O4'	1.96	0.66
9:A:1820:U:C2	11:C:200:MET:HG3	2.31	0.66
9:A:869:G:O2'	21:M:8:LYS:CD	2.44	0.66
9:A:1624:U:H2'	9:A:1625:C:H6	1.59	0.66
9:A:836:G:H5''	9:A:837:C:OP2	1.94	0.66
20:L:94:THR:CG2	20:L:95:LEU:N	2.58	0.66
21:M:36:VAL:HG12	21:M:127:LYS:O	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:N:103:ARG:HB2	22:N:110:MET:CE	2.10	0.66
31:W:28:GLU:HG3	31:W:29:SER:N	2.11	0.66
28:T:39:THR:HB	28:T:42:GLU:CB	2.24	0.66
28:T:48:GLN:HA	28:T:48:GLN:NE2	2.08	0.66
9:A:1734:G:C4	9:A:1735:A:N7	2.64	0.66
28:T:19:LYS:O	28:T:23:ALA:N	2.26	0.66
19:K:76:VAL:HB	24:P:72:VAL:CG2	2.26	0.66
9:A:63:A:H8	9:A:63:A:H5'	1.60	0.66
21:M:132:THR:HG22	21:M:133:LYS:N	2.10	0.66
9:A:2346:A:H3'	9:A:2347:C:H5''	1.77	0.66
9:A:1970:A:H4'	9:A:1971:U:O5'	1.94	0.66
9:A:1842:G:H2'	9:A:1843:C:C6	2.31	0.66
15:G:93:TYR:CD2	15:G:106:LEU:HA	2.31	0.66
31:W:49:ASN:C	31:W:49:ASN:ND2	2.49	0.66
9:A:2352:A:N1	31:W:30:VAL:HG21	2.11	0.66
21:M:12:MET:CE	21:M:71:LYS:HG3	2.26	0.66
9:A:1056:G:HO2'	9:A:1086:A:H1'	1.59	0.66
31:W:9:THR:CG2	31:W:10:ARG:HH11	2.08	0.66
19:K:10:VAL:HG21	19:K:16:ALA:HB1	1.78	0.66
3:2:18:PHE:O	3:2:22:MET:HB2	1.96	0.66
33:Y:39:GLN:HG3	33:Y:42:LEU:HD22	1.77	0.66
9:A:2671:G:C2'	9:A:2672:U:H5'	2.26	0.66
9:A:1474:U:H2'	9:A:1475:G:H5'	1.77	0.66
18:J:44:TYR:C	18:J:44:TYR:CD1	2.69	0.65
31:W:19:ARG:HA	31:W:34:SER:HA	1.78	0.65
9:A:2540:C:H2'	9:A:2541:A:C5'	2.25	0.65
9:A:1414:C:C5	9:A:1415:U:H5	2.13	0.65
9:A:1045:C:C3'	9:A:1046:A:H5'	2.25	0.65
12:D:48:ILE:HG23	12:D:84:LEU:HD21	1.78	0.65
9:A:706:A:OP1	11:C:6:LYS:HE3	1.96	0.65
22:N:8:ARG:HD2	22:N:43:GLU:HG3	1.77	0.65
9:A:1079:C:C4	9:A:1088:A:C2	2.84	0.65
9:A:1080:A:O2'	17:I:126:ARG:HG2	1.96	0.65
25:Q:4:LYS:CE	25:Q:7:VAL:HG13	2.26	0.65
15:G:8:VAL:HG12	15:G:9:VAL:H	1.61	0.65
9:A:856:G:H1'	31:W:23:LYS:CB	2.26	0.65
28:T:50:LEU:O	28:T:51:PHE:HB2	1.96	0.65
9:A:962:G:H2'	9:A:963:U:H6	1.61	0.65
31:W:37:VAL:HG13	31:W:55:ASP:C	2.15	0.65
25:Q:39:ILE:O	25:Q:43:GLN:HG2	1.95	0.65
30:V:39:ALA:C	30:V:40:ILE:HD13	2.17	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2476:A:C2'	9:A:2477:U:H5'	2.26	0.65
32:X:30:PRO:O	32:X:32:LEU:HD13	1.96	0.65
32:X:5:GLN:NE2	32:X:49:ARG:H	1.91	0.65
20:L:93:ASN:C	20:L:93:ASN:HD22	2.00	0.65
32:X:46:VAL:HG21	32:X:67:LEU:HD11	1.78	0.65
9:A:1654:A:H1'	12:D:118:PHE:CE1	2.31	0.65
28:T:86:THR:O	28:T:87:LEU:HD23	1.97	0.65
25:Q:81:GLY:CA	25:Q:116:LEU:CD1	2.74	0.65
9:A:2315:G:O2'	9:A:2316:G:H5'	1.97	0.65
18:J:44:TYR:HD1	18:J:44:TYR:C	1.98	0.65
9:A:1071:G:H1'	9:A:1089:A:C8	2.32	0.65
9:A:2431:U:C5'	9:A:2431:U:H6	2.03	0.65
28:T:39:THR:O	28:T:40:LYS:HB2	1.95	0.65
16:H:27:ARG:NH1	16:H:38:PRO:HG3	2.12	0.65
28:T:28:ASN:HA	28:T:91:GLN:NE2	2.12	0.65
9:A:2199:A:H3'	9:A:2200:C:H6	1.61	0.65
19:K:35:VAL:HG12	19:K:36:GLY:N	2.10	0.65
9:A:1980:G:HO2'	9:A:1982:U:H5	1.44	0.65
24:P:50:ARG:HD2	24:P:51:ASN:CA	2.25	0.65
9:A:1059:G:H5''	9:A:1060:U:H3'	1.79	0.65
31:W:18:LYS:N	31:W:36:ILE:HG12	2.12	0.65
13:E:7:ASP:O	13:E:9:GLN:N	2.30	0.65
14:F:133:GLU:H	14:F:150:GLY:HA3	1.62	0.65
5:4:9:LYS:CD	5:4:9:LYS:N	2.55	0.65
33:Y:32:ALA:HA	33:Y:37:LEU:HB3	1.78	0.65
9:A:215:G:C4'	9:A:216:A:H4'	2.27	0.65
9:A:2791:G:H5''	9:A:2791:G:H8	1.61	0.65
31:W:8:SER:O	31:W:9:THR:HG22	1.96	0.65
9:A:2134:A:N6	9:A:2157:G:C5	2.65	0.65
9:A:1680:U:H2'	9:A:1681:G:O4'	1.96	0.65
18:J:43:GLU:O	18:J:45:THR:N	2.30	0.65
9:A:1059:G:O2'	17:I:128:ILE:HD13	1.96	0.65
13:E:1:MET:HG2	13:E:14:VAL:HG23	1.78	0.65
9:A:2726:A:O2'	9:A:2727:A:H5'	1.96	0.65
9:A:2197:U:O2'	9:A:2198:A:C2'	2.44	0.65
21:M:53:MET:HE2	21:M:120:ALA:CB	2.26	0.65
9:A:1059:G:H1'	17:I:127:SER:HB2	1.78	0.65
11:C:68:ARG:HD3	11:C:103:ILE:CD1	2.16	0.65
14:F:134:GLN:O	14:F:136:ILE:N	2.28	0.65
23:O:28:VAL:HG23	23:O:106:LEU:HD21	1.78	0.65
9:A:1681:G:O2'	9:A:1762:A:H1'	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:T:54:GLU:OE1	28:T:88:LYS:HG3	1.96	0.65
9:A:475:C:C4	9:A:481:G:O6	2.49	0.65
12:D:69:ALA:HA	12:D:73:VAL:CG1	2.25	0.65
2:1:3:GLY:O	2:1:5:ARG:N	2.24	0.65
21:M:21:ALA:CB	21:M:100:LYS:N	2.60	0.65
24:P:28:LYS:HE3	24:P:82:SER:OG	1.96	0.65
15:G:104:LEU:CB	15:G:112:VAL:HG21	2.26	0.65
9:A:548:G:H8	9:A:548:G:H3'	1.61	0.65
9:A:2439:A:H1'	9:A:2587:A:OP1	1.96	0.65
15:G:60:GLY:O	15:G:61:TRP:CB	2.45	0.65
9:A:2188:U:H2'	9:A:2189:U:C6	2.30	0.65
9:A:485:C:H2'	9:A:486:C:C6	2.32	0.65
11:C:39:SER:O	11:C:41:GLY:N	2.30	0.65
27:S:37:THR:HB	27:S:38:TYR:CD1	2.32	0.65
31:W:23:LYS:HD2	31:W:24:ARG:CB	2.27	0.65
28:T:40:LYS:N	28:T:43:ILE:CG2	2.60	0.65
9:A:1941:C:C5'	9:A:1941:C:H6	2.06	0.65
14:F:109:ARG:HB3	14:F:136:ILE:HG22	1.79	0.65
28:T:73:ARG:CZ	28:T:73:ARG:HB3	2.25	0.65
9:A:646:U:C3'	9:A:647:G:H5''	2.27	0.65
29:U:48:VAL:O	29:U:53:GLN:HB3	1.97	0.65
20:L:78:ARG:HB3	20:L:113:ALA:HB3	1.77	0.65
9:A:1539:U:H2'	9:A:1540:G:H8	1.62	0.65
24:P:13:LYS:HE3	24:P:75:THR:O	1.97	0.64
9:A:2491:U:H5''	9:A:2570:G:H5''	1.79	0.64
32:X:5:GLN:HE21	32:X:49:ARG:N	1.91	0.64
26:R:49:ILE:HG13	26:R:51:VAL:O	1.97	0.64
9:A:1338:G:O2'	9:A:1339:G:H5'	1.97	0.64
14:F:131:VAL:CG2	14:F:151:LEU:CD1	2.75	0.64
23:O:58:ILE:O	23:O:59:ALA:CB	2.44	0.64
9:A:747:U:C4	9:A:2613:U:C5	2.85	0.64
14:F:142:TYR:O	14:F:145:VAL:HG22	1.97	0.64
19:K:63:VAL:HG22	19:K:107:LEU:HD22	1.80	0.64
20:L:55:MET:HE3	20:L:55:MET:HA	1.78	0.64
20:L:87:GLY:O	20:L:89:VAL:N	2.29	0.64
24:P:52:ARG:H	24:P:56:SER:HB3	1.63	0.64
31:W:19:ARG:NH2	31:W:22:VAL:HG21	2.12	0.64
9:A:1654:A:O2'	12:D:118:PHE:CD1	2.48	0.64
11:C:245:THR:HB	11:C:247:TRP:CE3	2.33	0.64
18:J:25:LEU:C	18:J:25:LEU:CD2	2.63	0.64
9:A:1644:C:C2'	9:A:1645:G:H5'	2.26	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2292:U:H2'	9:A:2293:G:C8	2.31	0.64
20:L:68:SER:O	20:L:69:ARG:HB2	1.97	0.64
29:U:73:ASN:O	29:U:75:ALA:N	2.27	0.64
23:O:106:LEU:O	23:O:106:LEU:HD12	1.97	0.64
9:A:404:A:H1'	9:A:405:U:OP2	1.96	0.64
30:V:80:HIS:CD2	30:V:82:TYR:H	2.15	0.64
31:W:70:VAL:O	31:W:70:VAL:HG13	1.96	0.64
9:A:2801:G:O2'	9:A:2802:G:H5'	1.96	0.64
9:A:2339:C:H2'	9:A:2340:A:H8	1.63	0.64
28:T:8:LEU:N	28:T:8:LEU:CD2	2.60	0.64
9:A:617:G:C2'	9:A:618:G:H5'	2.27	0.64
9:A:1842:G:O4'	11:C:242:HIS:CE1	2.49	0.64
5:4:13:ASN:ND2	5:4:13:ASN:H	1.95	0.64
9:A:2889:C:H2'	9:A:2890:G:O5'	1.98	0.64
26:R:58:VAL:HG12	26:R:102:SER:HB2	1.78	0.64
19:K:98:ARG:O	19:K:99:ILE:HD13	1.97	0.64
9:A:2408:U:H2'	9:A:2409:G:C8	2.33	0.64
2:1:16:THR:CG2	2:1:41:VAL:CG2	2.75	0.64
9:A:2266:A:H4'	9:A:2267:A:O5'	1.98	0.64
12:D:174:SER:O	12:D:175:LEU:CB	2.44	0.64
9:A:1190:G:H5''	20:L:32:GLY:HA2	1.79	0.64
31:W:30:VAL:HG23	31:W:60:ALA:O	1.98	0.64
13:E:112:LEU:HD13	13:E:186:VAL:CG1	2.26	0.64
21:M:114:ARG:HA	21:M:130:PHE:CE1	2.31	0.64
9:A:1733:G:HO2'	9:A:1734:G:H8	1.44	0.64
9:A:1735:A:O2'	9:A:1736:U:C5'	2.45	0.64
9:A:309:A:O3'	29:U:15:GLY:HA2	1.98	0.64
29:U:42:LYS:HA	29:U:58:VAL:O	1.98	0.64
9:A:2492:U:H2'	9:A:2493:U:H6	1.61	0.64
18:J:7:LYS:O	18:J:11:VAL:HG23	1.98	0.64
10:B:24:G:N7	10:B:56:G:H2'	2.13	0.64
20:L:93:ASN:HD22	20:L:94:THR:H	1.43	0.64
33:Y:47:ARG:CG	33:Y:47:ARG:HH21	2.01	0.64
22:N:33:ILE:HG12	22:N:118:ARG:CZ	2.27	0.64
9:A:274:C:H2'	9:A:275:C:H6	1.63	0.64
9:A:898:C:C2'	9:A:899:A:H5'	2.27	0.64
9:A:1475:G:O2'	9:A:1476:U:P	2.56	0.64
30:V:41:GLU:C	30:V:42:LEU:HD23	2.18	0.64
21:M:10:ARG:NH2	21:M:89:VAL:HB	2.13	0.64
9:A:571:U:H4'	9:A:572:A:OP1	1.98	0.64
21:M:35:ALA:O	21:M:36:VAL:CG1	2.44	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:49:LYS:HG2	2:1:50:GLU:H	1.62	0.64
28:T:1:MET:HB2	28:T:2:ILE:HD13	1.78	0.64
9:A:1775:U:H2'	9:A:1776:G:O5'	1.98	0.64
9:A:1141:U:C6	18:J:65:THR:CG2	2.81	0.64
19:K:88:ASN:HD22	19:K:90:ASN:H	1.44	0.64
9:A:2544:G:O2'	9:A:2545:G:H5'	1.97	0.64
9:A:1416:G:O2'	9:A:1417:C:H6	1.81	0.64
10:B:12:C:H4'	10:B:13:G:OP1	1.97	0.64
9:A:1682:G:H2'	9:A:1683:U:C6	2.32	0.64
3:2:26:ASN:OD1	9:A:682:G:H5'	1.98	0.64
25:Q:63:ARG:NH1	25:Q:96:ASP:CA	2.30	0.64
32:X:50:VAL:CG1	32:X:51:SER:N	2.60	0.64
25:Q:87:VAL:O	25:Q:88:GLU:CB	2.46	0.64
32:X:38:TRP:CB	32:X:45:PHE:HE2	2.05	0.64
9:A:1499:C:H2'	9:A:1500:G:H8	1.62	0.64
9:A:544:C:N3	9:A:548:G:OP1	2.30	0.64
9:A:37:C:O2'	9:A:38:A:H5'	1.98	0.64
15:G:63:GLN:OE1	15:G:63:GLN:HA	1.98	0.64
20:L:66:PHE:C	20:L:66:PHE:CD1	2.70	0.64
15:G:31:GLU:O	15:G:31:GLU:HG3	1.97	0.64
12:D:35:THR:OG1	12:D:49:GLN:HG2	1.98	0.64
21:M:57:VAL:HA	21:M:112:LEU:HD21	1.80	0.64
11:C:203:VAL:O	11:C:204:LEU:HB2	1.96	0.64
31:W:39:GLN:O	31:W:41:GLY:N	2.31	0.64
9:A:2352:A:C3'	9:A:2353:G:H5'	2.25	0.64
31:W:28:GLU:CD	31:W:29:SER:H	2.02	0.64
13:E:119:ILE:HD11	13:E:187:VAL:HA	1.74	0.64
11:C:91:ALA:HB3	11:C:103:ILE:HG22	1.79	0.64
14:F:37:MET:HE3	14:F:151:LEU:HB3	1.79	0.64
9:A:1935:G:H1	9:A:1962:C:H2'	1.62	0.64
27:S:84:ARG:HB2	27:S:96:ILE:HD11	1.80	0.64
34:Z:40:THR:HG23	34:Z:43:ILE:H	1.62	0.64
34:Z:6:ILE:O	34:Z:35:VAL:HG12	1.97	0.64
9:A:580:U:H2'	9:A:581:C:H6	1.61	0.64
18:J:32:LEU:O	18:J:36:LEU:HB2	1.97	0.64
9:A:93:G:O2'	9:A:94:A:H5'	1.97	0.64
9:A:2520:C:O2'	9:A:2521:C:H5'	1.98	0.64
18:J:140:LEU:HD13	18:J:140:LEU:C	2.18	0.64
15:G:132:LEU:CD1	15:G:143:VAL:HG12	2.27	0.64
9:A:1654:A:H2'	9:A:1655:A:H8	1.63	0.64
9:A:2796:U:H3	9:A:2799:A:H61	1.46	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Z:3:THR:HA	34:Z:38:GLU:HA	1.80	0.64
15:G:148:ARG:HA	15:G:161:VAL:CG1	2.27	0.64
12:D:53:GLY:HA3	12:D:77:ARG:HB2	1.79	0.64
9:A:1906:G:H2'	9:A:1907:G:O5'	1.97	0.64
30:V:26:PHE:HB2	30:V:27:PRO:CD	2.28	0.64
11:C:80:LEU:HD11	11:C:109:LEU:CG	2.27	0.64
5:4:15:LYS:O	5:4:16:ILE:HB	1.98	0.64
13:E:24:ASN:O	13:E:28:VAL:HG12	1.98	0.64
9:A:528:A:H2	9:A:2043:C:C5'	2.10	0.64
9:A:1820:U:C2	11:C:200:MET:CG	2.80	0.64
12:D:68:PHE:CD2	12:D:75:ALA:HA	2.32	0.64
23:O:105:ALA:O	23:O:106:LEU:HB3	1.96	0.64
11:C:144:GLU:HA	11:C:151:GLY:HA2	1.80	0.64
18:J:44:TYR:CD2	25:Q:63:ARG:HG2	2.32	0.63
9:A:1866:A:H2'	9:A:1867:G:O4'	1.98	0.63
31:W:17:ALA:O	31:W:18:LYS:CB	2.46	0.63
31:W:23:LYS:NZ	31:W:24:ARG:CG	2.61	0.63
11:C:106:PRO:CB	11:C:141:HIS:CE1	2.74	0.63
11:C:229:HIS:CD2	11:C:246:PRO:HA	2.33	0.63
19:K:19:VAL:HG22	19:K:41:ILE:CG1	2.26	0.63
26:R:41:ILE:O	26:R:46:GLU:HB2	1.98	0.63
13:E:153:LEU:C	13:E:153:LEU:HD12	2.19	0.63
12:D:182:ALA:O	12:D:184:ARG:N	2.31	0.63
12:D:8:LYS:HB2	12:D:201:LEU:CD2	2.28	0.63
25:Q:63:ARG:NH2	25:Q:96:ASP:N	2.37	0.63
12:D:149:ASN:CG	12:D:150:GLN:H	2.00	0.63
15:G:132:LEU:N	15:G:132:LEU:HD23	2.13	0.63
4:3:33:THR:HG23	4:3:34:LYS:N	2.12	0.63
25:Q:85:ALA:O	25:Q:88:GLU:HB2	1.98	0.63
31:W:46:ALA:O	31:W:47:GLY:O	2.16	0.63
9:A:1799:G:N2	11:C:153:LEU:HD23	2.13	0.63
33:Y:9:LYS:HZ1	33:Y:10:SER:H	1.46	0.63
11:C:12:ARG:CG	11:C:12:ARG:NH1	2.53	0.63
19:K:1:MET:HE3	19:K:32:TYR:CD1	2.34	0.63
16:H:53:GLU:O	16:H:53:GLU:HG2	1.98	0.63
16:H:21:VAL:HG21	16:H:25:TYR:HD2	1.64	0.63
16:H:44:ILE:O	16:H:48:GLU:HB2	1.97	0.63
9:A:277:G:C8	9:A:361:G:O6	2.51	0.63
9:A:1417:C:H2'	9:A:1418:G:C8	2.33	0.63
12:D:8:LYS:HB2	12:D:201:LEU:HD21	1.79	0.63
3:2:24:THR:HG23	3:2:27:GLY:H	1.61	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:712:G:H2'	9:A:713:G:H5'	1.80	0.63
11:C:180:MET:HG3	11:C:268:ARG:NH1	2.13	0.63
9:A:996:A:C4'	25:Q:91:ARG:HG2	2.26	0.63
15:G:104:LEU:O	15:G:112:VAL:HG22	1.99	0.63
31:W:18:LYS:HA	31:W:36:ILE:HD11	1.81	0.63
31:W:28:GLU:HB3	31:W:31:LEU:CD1	2.28	0.63
12:D:121:THR:O	12:D:122:VAL:HB	1.98	0.63
13:E:79:ARG:CG	13:E:80:SER:N	2.51	0.63
9:A:142:A:O2'	9:A:143:C:C6	2.52	0.63
18:J:130:HIS:CD2	18:J:132:HIS:H	2.16	0.63
18:J:130:HIS:HD2	18:J:132:HIS:H	1.45	0.63
18:J:88:THR:HG22	18:J:91:GLU:HB2	1.79	0.63
22:N:1:MET:O	22:N:2:ARG:CB	2.45	0.63
9:A:417:C:H2'	9:A:418:C:C6	2.25	0.63
33:Y:18:LEU:O	33:Y:22:LEU:CB	2.46	0.63
9:A:2134:A:O2'	9:A:2135:A:H5''	1.99	0.63
18:J:55:ILE:HG13	18:J:55:ILE:O	1.97	0.63
21:M:12:MET:HE2	21:M:71:LYS:HG3	1.80	0.63
9:A:2654:A:H4'	9:A:2655:G:OP1	1.97	0.63
28:T:27:SER:C	28:T:28:ASN:CG	2.57	0.63
9:A:2334:U:H4'	9:A:2335:A:OP2	1.98	0.63
15:G:168:VAL:O	15:G:170:THR:HG23	1.98	0.63
9:A:973:A:O4'	9:A:1188:U:C6	2.52	0.63
31:W:22:VAL:O	31:W:25:PHE:HD2	1.82	0.63
12:D:5:VAL:H	12:D:32:ASN:ND2	1.90	0.63
11:C:30:ALA:HB3	11:C:31:PRO:CD	2.29	0.63
9:A:638:G:H2'	9:A:639:U:C6	2.32	0.63
9:A:863:A:O2'	9:A:864:G:H5'	1.99	0.63
12:D:47:ALA:HA	12:D:84:LEU:HG	1.81	0.63
9:A:825:A:O2'	9:A:826:U:H5'	1.99	0.63
9:A:1061:U:H1'	9:A:1070:A:H1'	1.81	0.63
15:G:8:VAL:HG12	15:G:49:LEU:N	2.13	0.63
16:H:26:ALA:HA	16:H:30:LEU:HB2	1.79	0.63
9:A:2151:U:O2'	9:A:2152:G:C5'	2.45	0.63
33:Y:26:PHE:HD2	33:Y:29:ARG:HH11	1.45	0.63
19:K:61:VAL:HG22	19:K:87:LEU:HD11	1.80	0.63
20:L:19:LEU:HB2	20:L:27:LEU:HD22	1.81	0.63
15:G:10:VAL:CG2	15:G:10:VAL:O	2.46	0.63
9:A:686:U:H2'	9:A:788:A:N1	2.13	0.63
30:V:51:GLN:HG2	30:V:86:LEU:HD11	1.80	0.63
9:A:1875:G:HO2'	9:A:1876:A:H8	1.47	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1606:C:HO2'	9:A:1607:C:P	2.22	0.63
11:C:83:ASP:OD1	11:C:84:PRO:HD2	1.98	0.63
32:X:77:TYR:CD1	32:X:77:TYR:O	2.52	0.63
31:W:39:GLN:O	31:W:40:ARG:C	2.37	0.63
9:A:1498:C:O2'	9:A:1499:C:H5'	1.97	0.63
9:A:748:G:OP2	27:S:88:ARG:HG3	1.99	0.63
9:A:287:G:H1	9:A:353:C:N4	1.96	0.63
9:A:611:C:H2'	9:A:612:G:C5'	2.28	0.63
9:A:2728:U:O2'	9:A:2729:G:C5'	2.46	0.63
9:A:1425:G:O2'	9:A:1426:G:H5'	1.99	0.63
9:A:563:A:C2	9:A:564:C:C2	2.87	0.63
12:D:13:ARG:NH1	24:P:74:GLN:NE2	2.42	0.63
14:F:129:MET:CG	14:F:153:ILE:CD1	2.74	0.63
25:Q:86:SER:HB2	26:R:50:GLY:O	1.98	0.63
14:F:105:ILE:CD1	14:F:138:PRO:HG2	2.28	0.63
9:A:84:A:H4'	9:A:85:G:O5'	1.98	0.63
19:K:95:ILE:CD1	19:K:95:ILE:C	2.64	0.63
12:D:111:GLY:O	12:D:169:ARG:O	2.16	0.63
23:O:62:LEU:CD2	23:O:70:ALA:HA	2.28	0.63
9:A:503:A:H4'	9:A:504:A:O5'	1.98	0.63
13:E:73:ILE:O	13:E:73:ILE:HG12	1.98	0.63
13:E:48:THR:HG22	13:E:86:ALA:HB3	1.79	0.63
9:A:2641:G:OP1	18:J:76:HIS:HE1	1.82	0.63
12:D:142:VAL:HG23	12:D:143:PRO:N	2.13	0.63
9:A:754:U:H2'	9:A:755:U:C6	2.34	0.63
9:A:946:C:H2'	9:A:947:A:H8	1.64	0.63
9:A:1074:G:O2'	9:A:1075:C:H6	1.82	0.63
32:X:29:LEU:CD2	32:X:29:LEU:N	2.61	0.63
12:D:97:SER:OG	12:D:99:GLU:HG2	1.99	0.63
15:G:8:VAL:HG13	15:G:9:VAL:N	2.14	0.63
14:F:7:TYR:CD2	14:F:11:VAL:CG1	2.78	0.63
11:C:77:VAL:HG22	11:C:77:VAL:O	1.98	0.63
24:P:33:GLU:N	24:P:36:LYS:O	2.32	0.63
9:A:1734:G:C4	9:A:1735:A:C8	2.86	0.63
29:U:100:GLU:O	29:U:101:THR:HB	1.99	0.63
13:E:150:THR:HG23	13:E:153:LEU:H	1.62	0.63
4:3:21:PHE:H	4:3:48:MET:CE	2.11	0.63
14:F:169:LEU:H	14:F:169:LEU:CD1	2.12	0.63
9:A:2071:A:H2'	9:A:2072:C:C6	2.34	0.63
9:A:1556:C:C2'	9:A:1557:C:H5'	2.28	0.63
12:D:4:LEU:HD13	12:D:100:LEU:HD23	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:20:ASN:ND2	11:C:20:ASN:C	2.50	0.62
9:A:2339:C:H2'	9:A:2340:A:C8	2.32	0.62
9:A:1303:G:H2'	9:A:1304:A:H8	1.64	0.62
9:A:1579:A:O2'	9:A:1580:A:H5'	1.99	0.62
2:1:33:LEU:HB3	2:1:51:ALA:HB1	1.81	0.62
11:C:15:VAL:HG22	11:C:204:LEU:O	1.98	0.62
9:A:974:G:C8	9:A:989:G:C2	2.86	0.62
9:A:1747:U:H2'	9:A:1748:C:H6	1.64	0.62
9:A:2816:G:O2'	9:A:2817:U:H5'	1.98	0.62
9:A:503:A:H5'	9:A:505:A:OP1	1.98	0.62
13:E:61:ARG:HH11	13:E:64:GLY:HA3	1.63	0.62
9:A:2847:U:H2'	9:A:2848:G:H5'	1.80	0.62
9:A:1105:U:H2'	9:A:1106:G:H8	1.64	0.62
26:R:1:MET:HG3	26:R:1:MET:O	1.99	0.62
9:A:320:A:H4'	9:A:322:A:N7	2.13	0.62
25:Q:27:ARG:HH11	25:Q:27:ARG:HG3	1.64	0.62
9:A:995:C:C6	9:A:995:C:H5'	2.30	0.62
14:F:39:VAL:HG13	14:F:40:GLY:N	2.13	0.62
9:A:855:G:H1'	31:W:23:LYS:NZ	2.15	0.62
21:M:1:MET:O	21:M:2:LEU:HB2	1.99	0.62
9:A:1023:U:C6	9:A:1023:U:H5'	2.35	0.62
11:C:182:LYS:O	11:C:183:VAL:HG23	1.99	0.62
17:I:71:LYS:HG2	17:I:72:THR:H	1.63	0.62
9:A:859:G:H8	9:A:859:G:OP2	1.82	0.62
9:A:2495:G:C2'	9:A:2496:C:H5'	2.30	0.62
13:E:24:ASN:C	13:E:24:ASN:HD22	2.01	0.62
19:K:36:GLY:HA2	19:K:62:VAL:O	2.00	0.62
9:A:2408:U:H2'	9:A:2409:G:H8	1.64	0.62
30:V:93:ARG:O	30:V:94:ALA:HB2	1.99	0.62
24:P:85:VAL:O	24:P:86:LYS:HB2	1.99	0.62
12:D:125:TRP:O	12:D:126:ASN:HB2	1.99	0.62
24:P:104:GLY:O	24:P:106:ALA:N	2.33	0.62
9:A:1022:G:C6	9:A:1141:U:C5	2.88	0.62
9:A:1110:G:O2'	9:A:1111:A:C8	2.41	0.62
26:R:29:THR:C	26:R:63:VAL:HG22	2.20	0.62
9:A:12:U:H2'	9:A:12:U:O2	1.97	0.62
12:D:16:THR:CG2	12:D:20:VAL:HB	2.29	0.62
9:A:13:A:O2'	9:A:15:G:N7	2.33	0.62
9:A:1366:A:C2	9:A:1367:A:H1'	2.34	0.62
25:Q:87:VAL:O	25:Q:88:GLU:HB3	2.00	0.62
9:A:137:U:H3	9:A:142:A:N6	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2214:C:H2'	9:A:2215:C:H6	1.65	0.62
27:S:24:ILE:HG23	27:S:71:VAL:HG11	1.80	0.62
10:B:17:C:O2'	10:B:18:G:H5'	1.99	0.62
9:A:1996:C:P	19:K:31:ARG:HH21	2.22	0.62
9:A:1845:G:O2'	9:A:1846:G:H5'	2.00	0.62
9:A:574:A:H4'	9:A:575:A:O5'	1.99	0.62
20:L:101:ILE:HG22	20:L:102:GLY:H	1.64	0.62
16:H:8:LYS:O	16:H:9:VAL:HB	2.00	0.62
11:C:16:VAL:N	11:C:203:VAL:HG11	2.14	0.62
9:A:855:G:C1'	31:W:23:LYS:HD3	2.29	0.62
24:P:102:ARG:O	24:P:103:THR:CG2	2.48	0.62
18:J:135:GLN:HA	18:J:135:GLN:HE21	1.64	0.62
19:K:21:CYS:CA	19:K:41:ILE:CD1	2.75	0.62
16:H:3:VAL:HA	16:H:37:VAL:O	2.00	0.62
9:A:1432:G:O2'	9:A:1433:A:H5'	1.99	0.62
13:E:150:THR:CG2	13:E:153:LEU:HA	2.30	0.62
9:A:2136:G:C2	9:A:2137:U:C4	2.87	0.62
9:A:405:U:H3'	9:A:406:G:H5'	1.82	0.62
12:D:33:ARG:HH21	12:D:51:THR:HG23	1.64	0.62
19:K:18:ARG:HG3	19:K:18:ARG:NH1	2.11	0.62
28:T:43:ILE:O	28:T:47:VAL:HG23	2.00	0.62
15:G:61:TRP:HA	15:G:61:TRP:CE3	2.34	0.62
26:R:42:ALA:CA	26:R:46:GLU:HB2	2.29	0.62
9:A:1256:G:H2'	13:E:77:ILE:HD11	1.81	0.62
26:R:48:LYS:HD2	26:R:48:LYS:O	1.99	0.62
9:A:1287:A:OP2	22:N:103:ARG:CG	2.48	0.62
28:T:39:THR:CG2	28:T:41:ALA:HB3	2.30	0.62
9:A:2140:G:H8	9:A:2140:G:OP2	1.83	0.62
9:A:610:C:O2'	9:A:611:C:H5'	2.00	0.62
15:G:23:ILE:HG21	15:G:71:LEU:HD11	1.82	0.62
9:A:1428:C:C5	9:A:1569:A:H5''	2.35	0.62
25:Q:97:ILE:HD11	25:Q:105:PHE:CB	2.30	0.62
9:A:2134:A:N6	9:A:2135:A:N6	2.47	0.62
12:D:53:GLY:HA3	12:D:77:ARG:H	1.63	0.62
9:A:945:A:H5'	9:A:946:C:OP2	1.99	0.62
9:A:1556:C:O2'	9:A:1557:C:H5'	2.00	0.62
9:A:2720:U:OP1	24:P:52:ARG:NH2	2.33	0.61
2:1:32:LYS:HG2	2:1:52:LYS:OXT	1.99	0.61
32:X:44:ARG:CG	32:X:45:PHE:N	2.62	0.61
9:A:1656:C:H5''	12:D:141:ARG:HB2	1.82	0.61
27:S:73:LYS:C	27:S:73:LYS:HE3	2.19	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:E:143:LEU:HD13	13:E:146:VAL:HG11	1.82	0.61
9:A:1963:U:H6	9:A:1963:U:H3'	1.64	0.61
21:M:77:PRO:HD2	21:M:80:VAL:HG11	1.81	0.61
9:A:588:U:H1'	13:E:85:PHE:CD1	2.34	0.61
14:F:167:ALA:O	14:F:170:ALA:HB3	1.99	0.61
25:Q:109:VAL:HG12	25:Q:113:LYS:HD2	1.81	0.61
9:A:42:A:C3'	9:A:43:G:H5''	2.30	0.61
18:J:4:PHE:N	18:J:44:TYR:OH	2.33	0.61
9:A:2678:C:C2'	9:A:2679:A:H5'	2.30	0.61
20:L:100:ILE:HD12	20:L:100:ILE:O	2.00	0.61
14:F:35:LEU:HD23	14:F:153:ILE:HG21	1.81	0.61
26:R:49:ILE:C	26:R:51:VAL:O	2.38	0.61
24:P:19:PHE:O	24:P:20:ARG:CB	2.32	0.61
9:A:1507:C:C2	9:A:1508:A:C2	2.88	0.61
9:A:1722:A:N6	9:A:1738:G:H1'	2.15	0.61
9:A:686:U:H2'	9:A:788:A:C2	2.35	0.61
9:A:2729:G:O2'	9:A:2730:C:H5'	2.00	0.61
9:A:2476:A:H2'	9:A:2477:U:H5'	1.81	0.61
12:D:45:TYR:CD1	12:D:45:TYR:N	2.68	0.61
25:Q:49:ARG:HG3	25:Q:49:ARG:HH11	1.65	0.61
3:2:29:GLN:O	3:2:33:ARG:HG3	2.00	0.61
22:N:116:VAL:O	22:N:116:VAL:HG22	2.00	0.61
15:G:1:SER:HA	15:G:5:LYS:HG3	1.81	0.61
9:A:2405:G:H1'	9:A:2412:A:N6	2.15	0.61
31:W:18:LYS:CG	31:W:19:ARG:H	2.09	0.61
15:G:10:VAL:HG11	15:G:16:VAL:HG21	1.82	0.61
29:U:17:ASP:HB3	29:U:20:LYS:HD2	1.82	0.61
29:U:17:ASP:O	29:U:19:GLY:N	2.32	0.61
26:R:15:SER:O	26:R:18:GLN:HB3	2.00	0.61
9:A:480:A:H2	9:A:499:U:O2	1.83	0.61
4:3:21:PHE:H	4:3:48:MET:HE3	1.65	0.61
12:D:9:VAL:CG2	12:D:26:VAL:CG1	2.78	0.61
9:A:1836:C:H2'	9:A:1837:C:H5'	1.82	0.61
22:N:44:LEU:HD11	22:N:48:VAL:CG2	2.31	0.61
18:J:25:LEU:HB2	18:J:62:VAL:HG21	1.83	0.61
9:A:1746:A:H2'	9:A:1747:U:H6	1.65	0.61
9:A:528:A:H8	9:A:528:A:H3'	1.65	0.61
30:V:6:ALA:HB2	30:V:42:LEU:HD22	1.82	0.61
9:A:666:A:H4'	20:L:48:ARG:HE	1.65	0.61
9:A:1062:G:C2'	9:A:1063:G:C8	2.83	0.61
22:N:103:ARG:HD3	22:N:110:MET:CE	2.29	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:H:32:PRO:HA	32:X:38:TRP:HD1	1.65	0.61
9:A:2269:G:O2'	31:W:18:LYS:HG2	2.01	0.61
21:M:1:MET:O	21:M:2:LEU:CB	2.49	0.61
9:A:2505:G:O2'	9:A:2506:U:H6	1.84	0.61
1:0:2:VAL:HG23	9:A:2015:A:N1	2.15	0.61
11:C:132:ARG:HH12	11:C:169:ALA:HA	1.65	0.61
14:F:97:GLU:O	14:F:101:ARG:HG2	1.99	0.61
9:A:2292:U:H2'	9:A:2293:G:H8	1.65	0.61
9:A:790:U:HO2'	9:A:791:C:P	2.22	0.61
9:A:1171:G:C6	9:A:1172:C:C4	2.89	0.61
9:A:634:C:H6	9:A:634:C:O5'	1.83	0.61
15:G:37:ASN:O	15:G:38:ASP:HB3	2.00	0.61
32:X:50:VAL:HG12	32:X:51:SER:N	2.16	0.61
9:A:1286:A:O2'	9:A:1288:G:OP2	2.18	0.61
11:C:142:ASN:O	11:C:142:ASN:ND2	2.34	0.61
9:A:1964:G:H4'	9:A:1965:C:OP2	1.99	0.61
9:A:1057:A:C2	9:A:1082:U:C2	2.88	0.61
9:A:2820:A:O2'	9:A:2821:A:P	2.57	0.61
9:A:2663:G:H2'	9:A:2664:G:H8	1.65	0.61
31:W:9:THR:CG2	31:W:10:ARG:NH1	2.64	0.61
9:A:2520:C:C6	9:A:2567:G:H1'	2.36	0.61
4:3:56:LEU:CD2	4:3:56:LEU:N	2.63	0.61
9:A:2023:C:H2'	9:A:2023:C:O2	1.99	0.61
9:A:1315:C:O2'	9:A:1316:U:H5'	2.00	0.61
30:V:65:VAL:CG2	30:V:65:VAL:O	2.49	0.61
14:F:52:ALA:O	14:F:55:ASP:HB2	2.00	0.61
9:A:2591:C:OP1	11:C:237:ARG:HG3	2.01	0.61
9:A:2784:U:H2'	9:A:2785:C:C6	2.35	0.61
26:R:10:LYS:HD3	26:R:10:LYS:N	2.15	0.61
25:Q:8:ILE:HD12	25:Q:8:ILE:C	2.21	0.61
9:A:910:A:C4	21:M:13:HIS:CE1	2.89	0.61
12:D:62:LYS:HB2	12:D:63:PRO:HD3	1.82	0.61
9:A:483:A:C8	9:A:484:C:C5	2.88	0.61
15:G:33:THR:CA	15:G:34:ARG:HH11	2.12	0.61
10:B:49:C:OP1	23:O:102:ARG:HG3	2.00	0.61
9:A:623:C:H2'	9:A:624:C:C6	2.36	0.61
9:A:2402:U:C2'	9:A:2403:C:OP2	2.48	0.61
9:A:2075:U:H2'	9:A:2238:G:N2	2.16	0.61
9:A:712:G:C2'	9:A:713:G:H5'	2.29	0.61
9:A:1073:A:C8	9:A:1073:A:P	2.94	0.61
15:G:83:THR:C	15:G:84:LYS:HE2	2.20	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:D:98:VAL:O	12:D:99:GLU:C	2.38	0.61
25:Q:86:SER:HB3	26:R:51:VAL:HG13	1.81	0.61
11:C:14:HIS:O	11:C:203:VAL:HG11	2.00	0.61
24:P:85:VAL:CG1	24:P:86:LYS:N	2.64	0.61
9:A:1797:G:O3'	11:C:255:LYS:HA	2.00	0.61
9:A:1392:A:H61	28:T:18:GLU:CD	2.04	0.61
11:C:252:LYS:CB	11:C:252:LYS:HZ3	2.14	0.61
9:A:34:U:H1'	9:A:35:G:OP1	2.01	0.61
14:F:98:PHE:O	14:F:102:LEU:HB2	2.00	0.61
9:A:610:C:C2'	9:A:611:C:H5'	2.31	0.61
9:A:613:A:H8	9:A:616:A:N1	1.95	0.61
12:D:9:VAL:HG21	12:D:26:VAL:CG1	2.30	0.61
9:A:1204:A:H4'	9:A:1205:A:O5'	2.01	0.61
9:A:1534:U:H5'	9:A:1535:A:OP1	2.00	0.61
9:A:1098:A:H5'	9:A:1099:G:OP2	2.00	0.61
17:I:120:ASP:HB3	17:I:123:ALA:HB3	1.83	0.61
9:A:574:A:H2	12:D:150:GLN:HE22	1.48	0.61
15:G:9:VAL:HA	15:G:48:THR:HA	1.82	0.61
9:A:1501:G:C2'	9:A:1502:A:H5'	2.31	0.61
13:E:6:LYS:HG2	13:E:7:ASP:N	2.15	0.61
11:C:257:ARG:HG3	11:C:269:ARG:NH2	2.15	0.61
9:A:1340:U:H3'	28:T:61:LEU:CD2	2.30	0.61
22:N:10:LEU:O	22:N:12:ARG:HG3	2.01	0.61
19:K:113:MET:SD	19:K:116:ILE:CD1	2.89	0.61
19:K:77:ILE:N	19:K:77:ILE:CD1	2.64	0.61
9:A:322:A:C5	9:A:340:A:C2	2.89	0.61
4:3:56:LEU:N	4:3:56:LEU:HD22	2.16	0.61
19:K:5:GLN:O	19:K:6:THR:HB	2.01	0.61
21:M:34:LYS:HE3	21:M:131:VAL:HG11	1.83	0.61
9:A:2846:G:OP2	24:P:51:ASN:HB2	2.01	0.61
9:A:1061:U:C5	17:I:9:LYS:HG3	2.36	0.61
9:A:572:A:C2	9:A:2033:A:C2	2.88	0.61
15:G:84:LYS:HG3	15:G:131:VAL:C	2.19	0.61
31:W:23:LYS:HD2	31:W:24:ARG:CA	2.30	0.61
19:K:107:LEU:O	19:K:109:SER:N	2.32	0.61
7:6:7:ARG:CA	7:6:8:ASN:CA	2.78	0.61
9:A:751:A:H5'	27:S:90:LYS:HA	1.83	0.61
24:P:28:LYS:HB2	24:P:82:SER:HB3	1.82	0.60
18:J:44:TYR:HD2	25:Q:63:ARG:CD	2.07	0.60
9:A:1062:G:H2'	9:A:1063:G:C8	2.36	0.60
31:W:25:PHE:O	31:W:65:LYS:HA	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:141:HIS:N	11:C:190:THR:O	2.29	0.60
21:M:1:MET:CE	21:M:2:LEU:N	2.64	0.60
14:F:4:HIS:O	14:F:7:TYR:HB3	2.00	0.60
14:F:147:ARG:HG3	14:F:148:VAL:N	2.16	0.60
9:A:1106:G:C2	9:A:1107:G:C8	2.89	0.60
9:A:656:G:H2'	9:A:657:U:C6	2.35	0.60
24:P:33:GLU:HB3	24:P:36:LYS:H	1.65	0.60
10:B:45:A:HO2'	10:B:46:A:H5'	1.64	0.60
9:A:617:G:O2'	9:A:618:G:H5'	2.01	0.60
9:A:1809:A:H2'	9:A:1810:A:C8	2.36	0.60
9:A:1850:G:C6	9:A:1851:U:C4	2.89	0.60
32:X:34:SER:HA	32:X:48:LEU:O	2.01	0.60
9:A:1867:G:HO2'	9:A:1868:C:H5'	1.60	0.60
9:A:1494:A:C2	9:A:1495:A:C4	2.87	0.60
9:A:1277:G:C4'	22:N:20:MET:HE2	2.30	0.60
4:3:5:THR:HG23	9:A:242:G:O2'	2.01	0.60
9:A:1673:G:C2'	9:A:1674:G:H5'	2.31	0.60
24:P:53:GLY:O	24:P:55:HIS:N	2.34	0.60
18:J:44:TYR:HA	25:Q:59:LEU:HD22	1.83	0.60
9:A:1061:U:H1'	9:A:1070:A:C1'	2.31	0.60
32:X:38:TRP:HE3	32:X:45:PHE:CE2	2.18	0.60
31:W:45:HIS:N	31:W:45:HIS:ND1	2.48	0.60
9:A:1495:A:O2'	9:A:1496:A:H5'	2.01	0.60
1:0:39:ARG:CB	1:0:39:ARG:HH11	2.05	0.60
9:A:548:G:C8	9:A:548:G:H3'	2.37	0.60
11:C:94:LEU:HD13	11:C:100:ARG:HD3	1.82	0.60
16:H:50:ARG:O	16:H:54:LEU:HB2	2.01	0.60
9:A:1081:U:OP2	9:A:1081:U:H6	1.84	0.60
9:A:2103:C:C2'	9:A:2104:C:H5'	2.30	0.60
31:W:8:SER:O	31:W:9:THR:CG2	2.49	0.60
9:A:687:C:H2'	9:A:688:U:C6	2.36	0.60
9:A:1911:U:C2	9:A:1918:A:C2	2.89	0.60
9:A:1402:U:C2'	9:A:1403:A:O5'	2.49	0.60
18:J:18:VAL:HG22	18:J:140:LEU:CD1	2.31	0.60
10:B:40:U:O2	10:B:43:C:H3'	2.01	0.60
27:S:8:ARG:HB3	27:S:102:HIS:ND1	2.16	0.60
9:A:1060:U:C5'	9:A:1061:U:H5'	2.30	0.60
16:H:31:VAL:HG13	16:H:36:ALA:O	2.01	0.60
18:J:72:LYS:HD3	18:J:74:TYR:CE1	2.37	0.60
9:A:1713:A:H4'	9:A:1714:U:OP1	1.99	0.60
9:A:1011:G:H5''	25:Q:76:SER:OG	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:141:G:N1	28:T:2:ILE:CG2	2.65	0.60
33:Y:43:LEU:O	33:Y:47:ARG:HB2	2.01	0.60
12:D:62:LYS:N	12:D:63:PRO:CD	2.64	0.60
9:A:960:A:H5''	9:A:961:C:OP2	2.02	0.60
22:N:12:ARG:CG	22:N:12:ARG:HH21	2.11	0.60
9:A:250:G:H2'	9:A:251:A:H8	1.62	0.60
9:A:639:U:H2'	9:A:640:C:C6	2.36	0.60
9:A:2258:C:C2	9:A:2426:A:H4'	2.36	0.60
7:6:9:VAL:CA	7:6:10:ASP:CA	2.80	0.60
15:G:4:ALA:HB2	15:G:65:GLY:HA2	1.82	0.60
18:J:4:PHE:O	18:J:44:TYR:HE1	1.84	0.60
9:A:2231:U:OP1	32:X:29:LEU:CD2	2.50	0.60
2:1:9:LYS:HD3	2:1:9:LYS:N	2.17	0.60
11:C:90:ILE:HA	11:C:104:LEU:O	2.01	0.60
9:A:2310:C:C5	14:F:76:PHE:CZ	2.90	0.60
28:T:32:LEU:N	28:T:32:LEU:HD23	2.16	0.60
27:S:59:GLU:HA	27:S:64:ALA:CA	2.32	0.60
9:A:2773:C:OP1	12:D:171:THR:CG2	2.49	0.60
13:E:41:GLN:HB2	13:E:43:THR:HG23	1.84	0.60
9:A:368:A:C2'	9:A:369:U:H5'	2.32	0.60
20:L:78:ARG:HB3	20:L:113:ALA:CB	2.31	0.60
9:A:364:C:H2'	9:A:365:U:H6	1.65	0.60
9:A:754:U:H2'	9:A:755:U:H6	1.67	0.60
14:F:114:ARG:N	14:F:114:ARG:HD2	2.16	0.60
9:A:1405:U:H2'	9:A:1406:U:C6	2.36	0.60
9:A:1033:U:H4'	9:A:1034:G:OP1	2.01	0.60
18:J:3:THR:HG22	18:J:44:TYR:OH	2.02	0.60
32:X:31:ASN:OD1	32:X:33:HIS:NE2	2.34	0.60
25:Q:69:ARG:CB	25:Q:69:ARG:NH2	2.35	0.60
11:C:140:VAL:HA	11:C:190:THR:O	2.01	0.60
9:A:142:A:H2'	9:A:143:C:C5	2.36	0.60
9:A:1461:C:O2'	9:A:1462:C:C5'	2.49	0.60
9:A:1026:G:O2'	9:A:1027:A:H5'	2.00	0.60
19:K:88:ASN:ND2	19:K:90:ASN:H	1.99	0.60
12:D:172:VAL:O	12:D:173:GLN:CB	2.49	0.60
27:S:24:ILE:HG12	27:S:36:LEU:CD1	2.32	0.60
28:T:27:SER:C	28:T:28:ASN:ND2	2.55	0.60
9:A:1416:G:HO2'	9:A:1417:C:H6	1.48	0.60
9:A:2485:G:H5''	21:M:45:GLN:HE22	1.67	0.60
13:E:48:THR:OG1	13:E:50:ALA:HB3	2.01	0.60
9:A:42:A:H3'	9:A:43:G:H5''	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2524:G:H2'	9:A:2525:G:O5'	2.01	0.60
9:A:1698:A:H4'	9:A:1699:G:O5'	2.00	0.60
18:J:44:TYR:O	18:J:45:THR:CG2	2.49	0.60
32:X:69:GLU:HA	32:X:72:ALA:HB3	1.84	0.60
15:G:93:TYR:CE2	15:G:106:LEU:HA	2.36	0.60
9:A:387:U:H4'	9:A:388:G:O5'	2.01	0.60
9:A:141:G:H1	28:T:2:ILE:HG23	1.65	0.60
34:Z:35:VAL:HG21	34:Z:37:ARG:NH1	2.16	0.60
15:G:36:LEU:HD22	15:G:36:LEU:N	2.17	0.60
30:V:17:SER:O	30:V:20:LEU:HB2	2.02	0.60
9:A:1252:G:C2	25:Q:32:ARG:HG2	2.37	0.60
9:A:1845:G:C2'	9:A:1846:G:H5'	2.31	0.60
9:A:1464:G:O2'	9:A:1465:G:H5'	2.01	0.60
9:A:2679:A:C2'	9:A:2680:U:O5'	2.49	0.60
20:L:101:ILE:HG23	20:L:102:GLY:N	2.17	0.60
30:V:80:HIS:CD2	30:V:83:LYS:N	2.42	0.60
31:W:24:ARG:HD3	31:W:25:PHE:N	2.16	0.60
24:P:87:ARG:CZ	24:P:111:GLU:HG3	2.32	0.60
11:C:255:LYS:O	11:C:256:THR:HG23	2.02	0.60
9:A:962:G:O2'	9:A:963:U:H5'	2.01	0.60
9:A:1510:G:O2'	9:A:1511:G:C5'	2.50	0.60
15:G:22:VAL:HG22	15:G:36:LEU:HD11	1.82	0.60
23:O:59:ALA:C	23:O:61:GLN:H	2.04	0.60
9:A:792:A:N3	9:A:2072:C:O2'	2.30	0.60
9:A:2849:U:H4'	9:A:2868:A:C2	2.37	0.60
9:A:1159:U:H2'	9:A:1160:G:H5'	1.83	0.60
9:A:866:A:C8	9:A:866:A:C5'	2.65	0.60
28:T:32:LEU:O	28:T:34:VAL:HG13	2.02	0.60
14:F:7:TYR:HD2	14:F:11:VAL:HG11	1.60	0.60
9:A:92:U:H6	9:A:92:U:C5'	2.09	0.60
29:U:102:ILE:O	29:U:102:ILE:HG13	2.01	0.60
11:C:136:VAL:HG23	11:C:166:ARG:NH1	2.17	0.60
9:A:2134:A:C6	9:A:2135:A:C6	2.89	0.60
9:A:1059:G:C6	9:A:1060:U:C4	2.90	0.60
20:L:77:ILE:HD13	20:L:108:ALA:HB1	1.84	0.60
32:X:58:ILE:HD12	32:X:66:VAL:CG2	2.16	0.60
31:W:24:ARG:C	31:W:24:ARG:CD	2.70	0.60
9:A:2214:C:H2'	9:A:2215:C:C6	2.37	0.60
9:A:1104:C:H2'	9:A:1105:U:C6	2.37	0.60
17:I:15:GLY:CA	17:I:50:LYS:HB3	2.28	0.60
9:A:2543:G:H2'	9:A:2544:G:C8	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:325:G:O2'	9:A:326:G:H5'	2.02	0.60
17:I:105:LEU:HA	17:I:108:ILE:HB	1.84	0.60
13:E:126:VAL:HG22	13:E:127:GLU:H	1.67	0.60
21:M:68:PHE:C	21:M:68:PHE:CD2	2.74	0.60
9:A:1076:C:H2'	9:A:1077:A:C8	2.33	0.59
20:L:110:VAL:CG1	20:L:131:ALA:CB	2.80	0.59
4:3:30:HIS:CE1	4:3:31:ILE:CG2	2.85	0.59
16:H:14:SER:OG	16:H:17:ASP:HB2	2.01	0.59
25:Q:65:ASN:ND2	25:Q:69:ARG:NH2	2.38	0.59
14:F:43:ILE:HA	14:F:82:TYR:CE1	2.37	0.59
9:A:855:G:H1'	31:W:23:LYS:CD	2.31	0.59
9:A:1499:C:HO2'	9:A:1500:G:H5'	1.66	0.59
14:F:147:ARG:HG3	14:F:148:VAL:H	1.67	0.59
5:4:25:VAL:C	5:4:26:ILE:HD13	2.22	0.59
9:A:1716:U:H2'	9:A:1717:A:C8	2.37	0.59
9:A:2439:A:H4'	9:A:2440:C:O5'	2.02	0.59
17:I:10:LEU:HD13	17:I:27:LEU:HA	1.84	0.59
12:D:92:VAL:O	12:D:92:VAL:HG12	2.02	0.59
9:A:2778:A:H4'	9:A:2779:U:OP2	2.02	0.59
1:0:33:SER:HB2	1:0:35:GLU:HG3	1.84	0.59
27:S:36:LEU:HD23	27:S:48:LYS:CA	2.32	0.59
9:A:2415:G:H2'	9:A:2416:C:H6	1.66	0.59
25:Q:40:LYS:HA	25:Q:43:GLN:HG3	1.83	0.59
9:A:1476:U:C6	9:A:1476:U:OP2	2.54	0.59
9:A:2599:G:N7	11:C:234:GLY:HA2	2.16	0.59
2:1:27:ARG:O	2:1:30:PRO:HD3	2.02	0.59
18:J:44:TYR:CD2	25:Q:63:ARG:CG	2.84	0.59
11:C:254:LYS:O	11:C:255:LYS:HB2	2.02	0.59
16:H:43:ASN:N	16:H:43:ASN:HD22	1.99	0.59
9:A:705:A:H62	9:A:726:G:H1'	1.66	0.59
9:A:2636:C:H4'	12:D:81:GLU:OE2	2.02	0.59
19:K:113:MET:CG	19:K:116:ILE:HD11	2.31	0.59
19:K:61:VAL:HG21	19:K:112:PHE:CE2	2.38	0.59
9:A:1254:A:H8	9:A:1254:A:H5'	1.67	0.59
9:A:2291:U:H2'	9:A:2292:U:C6	2.37	0.59
9:A:877:A:C6	9:A:899:A:C6	2.90	0.59
9:A:2200:C:O2'	9:A:2201:G:H5'	2.02	0.59
9:A:622:G:H2'	9:A:623:C:C6	2.37	0.59
9:A:1115:G:O2'	9:A:1116:G:H8	1.84	0.59
9:A:2133:G:H21	9:A:2133:G:P	2.26	0.59
9:A:2648:G:H2'	9:A:2649:C:C6	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:35:LEU:CB	14:F:153:ILE:HG22	2.31	0.59
12:D:97:SER:O	12:D:99:GLU:CG	2.50	0.59
31:W:40:ARG:N	31:W:56:HIS:HB3	2.17	0.59
18:J:74:TYR:CD2	18:J:92:MET:HE1	2.36	0.59
24:P:112:ARG:O	24:P:113:LEU:HD23	2.02	0.59
13:E:7:ASP:CG	13:E:8:ALA:H	2.06	0.59
27:S:2:GLU:O	27:S:3:THR:HG22	2.01	0.59
28:T:1:MET:CB	28:T:2:ILE:HD13	2.33	0.59
9:A:1338:G:O2'	28:T:18:GLU:HG2	2.02	0.59
9:A:2014:A:H2'	9:A:2015:A:C8	2.37	0.59
1:O:2:VAL:HG23	9:A:2015:A:C6	2.38	0.59
9:A:2531:A:OP1	15:G:174:LYS:HG3	2.01	0.59
31:W:37:VAL:HG12	31:W:38:ARG:N	2.16	0.59
11:C:196:ASN:O	11:C:197:ALA:HB3	2.03	0.59
9:A:2405:G:O2'	9:A:2411:A:N6	2.35	0.59
15:G:37:ASN:HB3	15:G:40:VAL:CG1	2.32	0.59
26:R:90:ARG:O	26:R:91:GLN:CB	2.50	0.59
9:A:1113:U:C2	9:A:1114:C:C5	2.89	0.59
25:Q:91:ARG:NH2	25:Q:93:ILE:CD1	2.65	0.59
15:G:8:VAL:HG12	15:G:9:VAL:N	2.17	0.59
31:W:22:VAL:HG13	31:W:25:PHE:HE2	1.64	0.59
19:K:71:ARG:HB2	19:K:72:PRO:CD	2.22	0.59
9:A:1963:U:C3'	9:A:1963:U:C6	2.78	0.59
21:M:80:VAL:HG23	21:M:81:ARG:N	2.17	0.59
9:A:65:U:H2'	9:A:66:C:C6	2.36	0.59
9:A:478:A:N6	9:A:480:A:N6	2.49	0.59
15:G:23:ILE:N	15:G:23:ILE:HD12	2.17	0.59
9:A:2109:U:H2'	9:A:2110:G:H5'	1.85	0.59
9:A:1300:G:H5''	9:A:1301:A:H5'	1.85	0.59
12:D:16:THR:HG23	12:D:20:VAL:HB	1.85	0.59
9:A:1673:G:H2'	9:A:1674:G:H5'	1.84	0.59
9:A:2524:G:N2	9:A:2539:C:O2	2.34	0.59
9:A:2076:U:O5'	9:A:2076:U:O2	2.20	0.59
9:A:1609:A:O2'	9:A:1610:A:H5''	2.02	0.59
1:O:24:VAL:C	1:O:25:THR:HG23	2.23	0.59
25:Q:91:ARG:HB3	25:Q:93:ILE:CG2	2.29	0.59
9:A:1060:U:O4'	9:A:1062:G:H5''	2.03	0.59
22:N:103:ARG:CD	22:N:110:MET:HE1	2.33	0.59
9:A:2353:G:H1'	31:W:30:VAL:HG12	1.80	0.59
9:A:1392:A:C6	9:A:1393:A:C6	2.90	0.59
14:F:30:VAL:CG1	14:F:96:TRP:CH2	2.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:93:VAL:HG13	11:C:94:LEU:N	2.17	0.59
24:P:92:ARG:CG	24:P:92:ARG:O	2.51	0.59
26:R:21:ARG:NH2	26:R:93:PHE:CE1	2.71	0.59
13:E:72:SER:C	13:E:74:LYS:H	2.06	0.59
9:A:851:C:H2'	9:A:852:U:C6	2.38	0.59
29:U:94:PHE:O	29:U:94:PHE:CD1	2.56	0.59
24:P:50:ARG:HD3	24:P:56:SER:CA	2.33	0.59
14:F:40:GLY:CA	14:F:84:ILE:CD1	2.69	0.59
14:F:39:VAL:HG13	14:F:84:ILE:HD12	1.83	0.59
11:C:143:VAL:HG21	11:C:161:VAL:HG11	1.83	0.59
29:U:38:ILE:O	29:U:40:LEU:HG	2.02	0.59
9:A:1419:A:H2'	9:A:1421:G:N7	2.17	0.59
9:A:1885:A:C2	9:A:1886:U:H1'	2.37	0.59
9:A:216:A:H2'	9:A:217:A:H8	1.68	0.59
18:J:13:ARG:O	18:J:14:ASP:HB2	2.02	0.59
22:N:65:LEU:HD11	22:N:69:ARG:HH21	1.66	0.59
9:A:286:U:H2'	9:A:287:G:O4'	2.02	0.59
29:U:43:LYS:O	29:U:57:ILE:HA	2.03	0.59
9:A:18:U:O3'	25:Q:22:GLY:HA2	2.03	0.59
20:L:76:GLU:C	20:L:77:ILE:HD12	2.22	0.59
31:W:41:GLY:O	31:W:42:THR:C	2.41	0.59
28:T:2:ILE:HD13	28:T:2:ILE:N	2.16	0.59
18:J:54:ILE:C	18:J:54:ILE:HD12	2.23	0.59
13:E:147:LEU:HB2	13:E:186:VAL:HB	1.84	0.59
9:A:287:G:H2'	9:A:288:U:C6	2.37	0.59
9:A:2199:A:H3'	9:A:2200:C:C6	2.36	0.59
9:A:2080:A:H5'	32:X:18:SER:HB2	1.84	0.59
9:A:1836:C:C2'	9:A:1837:C:H5'	2.33	0.59
9:A:2599:G:C2'	9:A:2600:A:H5'	2.33	0.59
9:A:319:G:C4	9:A:333:G:N2	2.71	0.59
9:A:1882:U:O2'	9:A:1883:U:H5'	2.03	0.59
9:A:1456:G:C5	9:A:1457:U:C5	2.91	0.59
20:L:2:ARG:HA	20:L:5:THR:OG1	2.02	0.59
9:A:1505:A:C2'	9:A:1506:U:H5'	2.32	0.59
9:A:1818:U:O2'	9:A:1819:A:OP2	2.18	0.59
23:O:111:ARG:C	23:O:113:ALA:H	2.05	0.59
9:A:1058:U:O2'	17:I:117:THR:HG23	2.02	0.59
9:A:309:A:H4'	29:U:15:GLY:HA2	1.84	0.59
9:A:22:C:C2'	9:A:23:G:O5'	2.51	0.59
11:C:24:HIS:CE1	11:C:25:LYS:O	2.55	0.59
2:I:9:LYS:NZ	2:I:50:GLU:OE2	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:H:32:PRO:HA	32:X:38:TRP:CD1	2.37	0.59
31:W:47:GLY:C	31:W:49:ASN:H	2.05	0.59
9:A:1494:A:O2'	9:A:1495:A:C5'	2.50	0.59
11:C:139:THR:O	11:C:161:VAL:O	2.20	0.59
18:J:124:VAL:O	18:J:125:TYR:CB	2.45	0.59
9:A:303:G:C5	9:A:304:U:C5	2.90	0.59
27:S:85:ILE:HG22	27:S:86:MET:N	2.17	0.59
9:A:1113:U:H2'	9:A:1114:C:H6	1.68	0.59
5:4:4:ARG:HB2	9:A:2466:C:OP1	2.03	0.59
24:P:98:TYR:CE2	24:P:99:LEU:HD13	2.38	0.59
9:A:568:U:O2	9:A:570:G:C8	2.56	0.59
9:A:584:C:OP1	25:Q:5:ARG:HB3	2.03	0.59
26:R:49:ILE:HG22	26:R:53:PHE:C	2.23	0.59
14:F:131:VAL:HG22	14:F:151:LEU:H	1.68	0.59
9:A:1575:C:H2'	9:A:1576:U:O4'	2.03	0.59
9:A:893:C:O2'	9:A:894:U:H5'	2.02	0.59
12:D:169:ARG:O	12:D:170:VAL:CG1	2.48	0.59
9:A:1507:C:C6	9:A:1508:A:H2	2.21	0.59
9:A:2747:G:O6	9:A:2755:C:H5''	2.03	0.59
9:A:1676:A:H2	9:A:1993:U:H5'	1.68	0.59
30:V:6:ALA:HB1	30:V:40:ILE:HG22	1.85	0.59
2:1:16:THR:CG2	2:1:41:VAL:HG21	2.33	0.59
9:A:588:U:H2'	9:A:589:U:C6	2.38	0.59
4:3:56:LEU:CD2	4:3:56:LEU:H	2.15	0.59
9:A:1132:U:H5'	18:J:84:ILE:HD13	1.84	0.59
9:A:2681:C:C5	9:A:2724:U:C5	2.91	0.59
9:A:1165:A:O2'	9:A:1166:G:H5'	2.03	0.59
9:A:1074:G:HO2'	9:A:1075:C:H6	1.48	0.58
9:A:1070:A:C6	9:A:1097:U:H4'	2.38	0.58
15:G:137:LYS:C	15:G:140:ILE:HD11	2.20	0.58
9:A:221:A:H4'	9:A:222:A:O5'	2.03	0.58
24:P:102:ARG:O	24:P:103:THR:HG22	2.02	0.58
16:H:53:GLU:O	16:H:54:LEU:HD22	2.03	0.58
16:H:38:PRO:HB2	16:H:40:THR:HG23	1.85	0.58
9:A:455:C:N3	9:A:472:A:H2'	2.18	0.58
16:H:29:PHE:O	16:H:33:GLN:HB3	2.02	0.58
13:E:121:VAL:O	13:E:189:THR:HA	2.01	0.58
23:O:4:LYS:O	23:O:8:ILE:HG13	2.02	0.58
9:A:988:A:C2'	9:A:989:G:O5'	2.51	0.58
13:E:45:ALA:C	13:E:46:GLN:HG2	2.22	0.58
33:Y:18:LEU:O	33:Y:22:LEU:HB2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:T:20:ALA:O	28:T:22:THR:N	2.37	0.58
21:M:108:VAL:HG13	21:M:109:PRO:HD2	1.85	0.58
9:A:2732:G:H8	9:A:2732:G:OP2	1.86	0.58
15:G:96:ALA:O	15:G:97:VAL:HB	2.03	0.58
13:E:160:ALA:O	13:E:161:ALA:HB3	2.03	0.58
31:W:47:GLY:N	31:W:80:SER:HB3	2.18	0.58
11:C:114:GLN:O	11:C:115:ILE:HD12	2.03	0.58
11:C:80:LEU:HD11	11:C:109:LEU:HB2	1.86	0.58
11:C:78:GLU:OE1	11:C:100:ARG:NE	2.36	0.58
14:F:72:SER:H	14:F:80:GLN:HB2	1.68	0.58
9:A:790:U:O2'	9:A:791:C:O5'	2.20	0.58
14:F:172:PHE:O	14:F:173:ASP:C	2.41	0.58
12:D:73:VAL:HG23	12:D:74:GLU:H	1.67	0.58
9:A:1801:A:C6	11:C:261:ARG:NH1	2.70	0.58
9:A:2674:G:H4'	19:K:30:ARG:HG3	1.84	0.58
9:A:1761:C:C2'	9:A:1762:A:H5'	2.33	0.58
9:A:1408:G:O2'	9:A:1409:U:H5'	2.03	0.58
9:A:1238:G:O2'	9:A:1239:G:H5'	2.03	0.58
9:A:422:A:H2'	9:A:423:A:C8	2.37	0.58
9:A:2555:U:C5	9:A:2556:C:C6	2.92	0.58
9:A:373:U:O2'	9:A:374:A:H5'	2.03	0.58
9:A:1471:G:H2'	9:A:1472:C:H6	1.67	0.58
15:G:83:THR:CA	15:G:84:LYS:CE	2.81	0.58
12:D:107:VAL:O	12:D:174:SER:O	2.22	0.58
9:A:2356:U:C4'	31:W:16:GLU:HG3	2.24	0.58
18:J:25:LEU:HB2	18:J:62:VAL:CG2	2.34	0.58
31:W:13:ARG:O	31:W:14:ASP:C	2.41	0.58
31:W:37:VAL:O	31:W:38:ARG:CG	2.51	0.58
9:A:2104:C:H2'	9:A:2105:U:O4'	2.03	0.58
9:A:1993:U:H4'	12:D:133:THR:CG2	2.33	0.58
9:A:1858:A:H2'	9:A:1859:U:C5	2.38	0.58
15:G:97:VAL:HG23	15:G:124:CYS:SG	2.44	0.58
30:V:2:PHE:CB	30:V:61:LEU:HD22	2.33	0.58
31:W:24:ARG:CZ	31:W:65:LYS:HE2	2.33	0.58
13:E:148:ILE:HA	13:E:187:VAL:HB	1.85	0.58
9:A:1016:G:H2'	9:A:1017:G:O5'	2.04	0.58
23:O:111:ARG:HD3	23:O:111:ARG:C	2.24	0.58
19:K:39:ILE:HG22	19:K:60:ALA:O	2.02	0.58
15:G:59:ASP:O	15:G:60:GLY:C	2.42	0.58
9:A:369:U:HO2'	9:A:370:G:P	2.26	0.58
2:1:29:LYS:NZ	2:1:29:LYS:HB3	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:N:75:ILE:HD12	22:N:75:ILE:O	2.03	0.58
10:B:2:G:N1	10:B:119:A:C2	2.72	0.58
9:A:693:A:H2'	9:A:694:U:O4'	2.04	0.58
24:P:105:LYS:HA	24:P:108:ARG:HH21	1.68	0.58
3:2:9:VAL:HG13	9:A:1309:G:OP1	2.03	0.58
9:A:348:A:H2'	9:A:349:U:O4'	2.03	0.58
32:X:39:VAL:O	32:X:40:GLU:HB3	2.02	0.58
31:W:24:ARG:O	31:W:25:PHE:HB2	2.04	0.58
9:A:1131:G:C8	18:J:77:HIS:CE1	2.91	0.58
11:C:49:THR:HG22	11:C:50:THR:N	2.17	0.58
9:A:1106:G:N2	9:A:1107:G:H1'	2.18	0.58
9:A:2531:A:P	15:G:174:LYS:HG3	2.44	0.58
9:A:68:G:N2	9:A:74:A:OP2	2.36	0.58
32:X:53:LYS:O	32:X:57:VAL:HG23	2.03	0.58
9:A:1161:C:C2'	9:A:1162:G:O5'	2.52	0.58
9:A:1759:A:C8	9:A:2696:U:H1'	2.39	0.58
5:4:5:ALA:HB3	9:A:2466:C:H5'	1.85	0.58
9:A:2897:U:H2'	9:A:2898:U:C6	2.38	0.58
9:A:2352:A:C2	31:W:30:VAL:CG1	2.87	0.58
9:A:138:U:C3'	9:A:139:U:H5'	2.32	0.58
18:J:124:VAL:CG2	18:J:125:TYR:N	2.63	0.58
21:M:71:LYS:HB3	21:M:93:VAL:O	2.04	0.58
22:N:24:MET:CE	22:N:44:LEU:HB2	2.34	0.58
9:A:528:A:C8	9:A:528:A:C3'	2.87	0.58
25:Q:26:ALA:HB1	25:Q:30:VAL:HG21	1.84	0.58
9:A:90:U:H2'	9:A:91:A:C8	2.38	0.58
20:L:89:VAL:HA	20:L:121:THR:HG23	1.85	0.58
13:E:154:ASP:C	13:E:154:ASP:OD2	2.42	0.58
24:P:50:ARG:CG	24:P:57:ALA:O	2.42	0.58
26:R:49:ILE:CG2	26:R:53:PHE:N	2.67	0.58
9:A:1179:G:C2	9:A:1180:U:O2'	2.56	0.58
9:A:197:A:H62	9:A:2430:A:H2'	1.67	0.58
9:A:33:C:O2'	9:A:34:U:H5'	2.04	0.58
27:S:85:ILE:CG2	27:S:86:MET:N	2.66	0.58
10:B:28:C:H2'	10:B:29:A:O4'	2.03	0.58
9:A:1858:A:H2'	9:A:1859:U:C6	2.39	0.58
9:A:363:G:O2'	9:A:364:C:H5'	2.02	0.58
11:C:64:VAL:HG11	11:C:66:PHE:CZ	2.38	0.58
9:A:1728:C:O2'	9:A:1729:U:H6	1.87	0.58
9:A:1786:A:H1'	9:A:1938:A:N6	2.19	0.58
2:1:22:THR:OG1	2:1:23:THR:N	2.34	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1327:A:H2'	9:A:1328:A:O4'	2.04	0.58
12:D:106:LYS:HB2	12:D:206:ALA:H	1.68	0.58
19:K:71:ARG:HG3	19:K:106:GLU:OE2	2.03	0.58
9:A:1016:G:C2'	9:A:1017:G:O5'	2.52	0.58
9:A:1463:C:H5'	9:A:1463:C:H6	1.67	0.58
9:A:1585:C:H2'	9:A:1586:A:C5'	2.34	0.58
9:A:2637:U:C2'	9:A:2638:G:H5'	2.34	0.58
19:K:61:VAL:CG2	19:K:87:LEU:HD11	2.33	0.58
9:A:2547:A:H2'	9:A:2548:U:H6	1.67	0.58
9:A:60:G:C8	9:A:62:U:C6	2.92	0.58
3:2:12:ARG:HH21	3:2:12:ARG:HB2	1.69	0.58
18:J:117:ALA:HA	18:J:120:ARG:NH2	2.19	0.58
30:V:6:ALA:CB	30:V:42:LEU:HD22	2.34	0.58
15:G:37:ASN:HB3	15:G:40:VAL:HG11	1.86	0.58
9:A:1241:A:C2'	9:A:1242:U:H5'	2.33	0.58
9:A:2552:U:H2'	9:A:2554:U:OP2	2.03	0.58
9:A:2260:C:O2'	9:A:2261:C:H5'	2.03	0.58
21:M:83:GLY:O	21:M:85:GLY:N	2.37	0.58
9:A:1257:C:H5'	13:E:78:TRP:CZ3	2.38	0.58
9:A:1592:C:O2'	9:A:1593:A:H5'	2.04	0.58
12:D:12:THR:CG2	12:D:13:ARG:N	2.67	0.58
24:P:85:VAL:HG12	24:P:86:LYS:N	2.19	0.58
11:C:255:LYS:C	11:C:256:THR:HG23	2.25	0.58
23:O:2:ASP:O	23:O:3:LYS:CB	2.52	0.58
9:A:1422:G:C4	9:A:1423:G:C8	2.92	0.58
9:A:783:A:C8	9:A:784:G:H4'	2.38	0.58
9:A:528:A:H2	9:A:2043:C:H5'	1.69	0.58
20:L:68:SER:CB	20:L:71:ALA:HB2	2.34	0.58
9:A:1853:A:N1	9:A:2087:G:H1'	2.18	0.58
12:D:69:ALA:N	12:D:73:VAL:HG12	2.19	0.58
9:A:1165:A:H2'	9:A:1166:G:C8	2.39	0.58
9:A:2228:G:H2'	9:A:2229:U:C6	2.39	0.58
9:A:1068:G:C2'	9:A:1069:A:H5'	2.31	0.57
21:M:35:ALA:O	21:M:36:VAL:CB	2.52	0.57
31:W:30:VAL:O	31:W:30:VAL:HG22	2.04	0.57
28:T:59:ASN:O	28:T:83:ALA:O	2.21	0.57
9:A:2196:C:O2'	9:A:2197:U:H5'	2.03	0.57
9:A:1141:U:H6	18:J:65:THR:HG21	1.68	0.57
9:A:273:G:O2'	9:A:274:C:C5'	2.52	0.57
9:A:1508:A:O2'	9:A:1509:A:O5'	2.22	0.57
9:A:2544:G:C2'	9:A:2545:G:H5'	2.33	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:284:U:H2'	9:A:285:G:C8	2.35	0.57
15:G:30:GLY:HA3	15:G:78:VAL:CG1	2.33	0.57
9:A:1842:G:H2'	9:A:1843:C:H6	1.67	0.57
12:D:51:THR:OG1	12:D:76:GLY:HA3	2.04	0.57
9:A:1065:U:H3'	9:A:1065:U:P	2.44	0.57
9:A:145:C:O2'	9:A:146:A:H5'	2.04	0.57
20:L:39:LYS:C	20:L:40:SER:O	2.38	0.57
24:P:4:ILE:HA	24:P:7:LEU:HB2	1.85	0.57
12:D:151:THR:HG23	12:D:152:PRO:N	2.18	0.57
29:U:6:ARG:O	29:U:24:VAL:HB	2.05	0.57
29:U:71:ILE:HD12	29:U:71:ILE:N	2.18	0.57
14:F:72:SER:OG	14:F:79:ARG:HA	2.04	0.57
16:H:49:ALA:CB	16:H:50:ARG:NH2	2.63	0.57
9:A:2661:G:O2'	9:A:2662:A:C5'	2.51	0.57
10:B:46:A:C5	10:B:47:C:C4	2.92	0.57
15:G:23:ILE:HG21	15:G:71:LEU:CD1	2.33	0.57
11:C:39:SER:C	11:C:41:GLY:N	2.56	0.57
11:C:18:VAL:O	11:C:18:VAL:HG22	2.04	0.57
4:3:30:HIS:HD2	9:A:2421:G:N7	2.02	0.57
9:A:2365:G:H2'	9:A:2366:A:C8	2.39	0.57
18:J:132:HIS:HB3	18:J:135:GLN:HG2	1.86	0.57
9:A:1084:A:C6	9:A:1085:A:C6	2.92	0.57
9:A:933:A:C2'	9:A:933:A:N3	2.64	0.57
9:A:272:A:O2'	9:A:273:G:O5'	2.21	0.57
9:A:2211:A:OP2	9:A:2211:A:C4'	2.52	0.57
9:A:1927:A:C6	9:A:1928:A:C6	2.92	0.57
26:R:74:ILE:N	26:R:74:ILE:CD1	2.68	0.57
14:F:64:PRO:HA	14:F:88:VAL:HG23	1.85	0.57
9:A:112:U:H5'	33:Y:58:ASN:HD21	1.70	0.57
9:A:996:A:C2	9:A:997:G:C8	2.92	0.57
12:D:3:GLY:O	12:D:4:LEU:HD12	2.04	0.57
9:A:390:U:O2'	9:A:391:A:OP2	2.21	0.57
23:O:79:ALA:HB1	23:O:113:ALA:HB3	1.86	0.57
9:A:1108:U:H2'	9:A:1109:C:O4'	2.05	0.57
9:A:224:U:C2'	9:A:225:C:O5'	2.50	0.57
9:A:2747:G:O2'	15:G:66:THR:HG22	2.04	0.57
10:B:16:G:O2'	10:B:17:C:C5'	2.52	0.57
18:J:31:GLU:HG3	18:J:142:ILE:HD12	1.86	0.57
11:C:166:ARG:HG2	11:C:166:ARG:O	2.04	0.57
9:A:1476:U:H6	9:A:1476:U:OP2	1.86	0.57
9:A:1148:U:H3'	9:A:1148:U:C6	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:582:A:C2	9:A:1259:G:C2	2.92	0.57
9:A:2203:U:H5''	9:A:2204:G:OP1	2.05	0.57
15:G:39:ALA:HB1	15:G:57:TYR:CG	2.40	0.57
24:P:5:LYS:O	24:P:9:GLN:HG2	2.05	0.57
11:C:245:THR:HB	11:C:247:TRP:HE3	1.69	0.57
9:A:780:G:H21	9:A:783:A:H62	1.52	0.57
9:A:276:U:H2'	9:A:276:U:O2	2.03	0.57
15:G:142:GLN:HE21	15:G:142:GLN:HA	1.68	0.57
9:A:2808:G:C2	9:A:2891:U:C5	2.93	0.57
9:A:1115:G:O2'	9:A:1116:G:O5'	2.22	0.57
9:A:2276:G:OP2	21:M:83:GLY:O	2.23	0.57
28:T:74:ILE:CG2	28:T:75:GLY:N	2.66	0.57
9:A:996:A:H4'	25:Q:91:ARG:CG	2.30	0.57
20:L:101:ILE:HG22	20:L:102:GLY:N	2.19	0.57
4:3:30:HIS:CE1	4:3:31:ILE:HG22	2.40	0.57
26:R:38:VAL:HG23	26:R:40:MET:H	1.70	0.57
22:N:101:GLY:HA3	22:N:102:PHE:CD2	2.39	0.57
16:H:31:VAL:O	16:H:32:PRO:C	2.43	0.57
12:D:105:LYS:O	12:D:105:LYS:HD2	2.05	0.57
18:J:124:VAL:CG2	18:J:125:TYR:H	2.07	0.57
15:G:154:GLU:OE1	15:G:157:LYS:N	2.38	0.57
9:A:511:U:C5	9:A:512:G:C5	2.92	0.57
9:A:313:G:H2'	9:A:314:C:H5'	1.85	0.57
2:1:16:THR:HG22	2:1:41:VAL:CG2	2.35	0.57
18:J:140:LEU:CD1	18:J:140:LEU:C	2.73	0.57
9:A:2593:U:H2'	9:A:2594:C:H6	1.69	0.57
25:Q:78:PHE:CZ	25:Q:82:LEU:HD11	2.40	0.57
9:A:2332:C:OP1	31:W:44:PHE:HZ	1.88	0.57
9:A:2150:C:O2'	9:A:2151:U:C6	2.49	0.57
9:A:303:G:C4	9:A:304:U:C5	2.93	0.57
13:E:141:MET:HB2	13:E:143:LEU:HG	1.86	0.57
9:A:1020:A:N1	9:A:1141:U:O2'	2.37	0.57
9:A:482:A:N6	9:A:506:G:O2'	2.35	0.57
9:A:1361:G:C5	9:A:1371:G:N2	2.73	0.57
9:A:1452:G:H2'	9:A:1457:U:O4	2.04	0.57
9:A:806:C:O5'	9:A:806:C:H6	1.87	0.57
10:B:5:U:O2'	10:B:6:G:H5'	2.05	0.57
9:A:1153:C:H2'	9:A:1154:G:O5'	2.04	0.57
15:G:83:THR:CA	15:G:84:LYS:HE2	2.35	0.57
15:G:84:LYS:O	15:G:85:LYS:HB2	2.05	0.57
26:R:51:VAL:HB	26:R:52:PRO:HD3	1.83	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:G:82:PHE:CE2	15:G:137:LYS:HB2	2.39	0.57
11:C:203:VAL:CG1	11:C:204:LEU:N	2.68	0.57
9:A:2362:C:C2'	9:A:2363:G:H5'	2.34	0.57
9:A:545:U:H2'	9:A:546:U:C5'	2.35	0.57
17:I:48:ILE:HG13	17:I:49:GLU:H	1.68	0.57
9:A:1738:G:O2'	9:A:1739:A:H8	1.88	0.57
25:Q:81:GLY:HA2	25:Q:116:LEU:HD12	1.84	0.57
9:A:869:G:H4'	21:M:8:LYS:HD3	1.85	0.57
14:F:106:ALA:C	14:F:108:PRO:HD2	2.25	0.57
15:G:148:ARG:HA	15:G:161:VAL:HG11	1.86	0.57
33:Y:39:GLN:HB2	33:Y:41:HIS:CD2	2.40	0.57
12:D:9:VAL:HG21	12:D:26:VAL:HG11	1.86	0.57
9:A:2555:U:C5	9:A:2556:C:C2	2.92	0.57
9:A:654:A:H3'	9:A:654:A:N3	2.19	0.57
29:U:27:VAL:HA	29:U:33:VAL:HG12	1.87	0.57
9:A:2051:A:H4'	9:A:2052:A:OP1	2.05	0.57
9:A:2571:U:HO2'	12:D:151:THR:HG21	1.70	0.57
27:S:96:ILE:HD12	27:S:96:ILE:O	2.04	0.57
9:A:627:A:C6	9:A:637:A:C8	2.93	0.57
27:S:13:SER:O	27:S:14:ALA:CB	2.53	0.57
13:E:145:ASP:HB2	13:E:184:ASP:OD2	2.05	0.57
2:1:31:GLU:O	2:1:31:GLU:HG2	2.04	0.57
9:A:1474:U:C2'	9:A:1475:G:H5'	2.35	0.57
9:A:1952:A:C5	19:K:22:ILE:HG21	2.39	0.57
9:A:1080:A:H4'	17:I:126:ARG:HG3	1.87	0.57
20:L:110:VAL:HG12	20:L:131:ALA:CB	2.35	0.57
15:G:86:LEU:HB3	15:G:162:ARG:O	2.05	0.57
9:A:1872:A:O2'	9:A:1873:G:O4'	2.23	0.57
14:F:39:VAL:CG1	14:F:84:ILE:HD12	2.35	0.57
9:A:2353:G:O2'	31:W:31:LEU:HD22	2.04	0.57
9:A:1819:A:OP1	11:C:154:ALA:HA	2.05	0.57
9:A:1056:G:H5''	9:A:1057:A:C5'	2.30	0.57
9:A:528:A:H2	9:A:2043:C:H4'	1.67	0.57
9:A:1735:A:H2'	9:A:1736:U:H6	1.66	0.57
9:A:289:G:H2'	9:A:290:U:C6	2.40	0.57
27:S:6:LYS:HB2	27:S:103:ILE:O	2.04	0.57
9:A:2682:A:C8	12:D:11:MET:HG2	2.40	0.57
9:A:2233:U:H2'	9:A:2234:G:C8	2.40	0.57
9:A:855:G:N3	31:W:23:LYS:CG	2.68	0.56
9:A:1941:C:C6	9:A:1941:C:C5'	2.83	0.56
22:N:28:LEU:HD23	22:N:48:VAL:HG11	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:E:147:LEU:O	13:E:168:ASP:O	2.23	0.56
23:O:59:ALA:CA	23:O:62:LEU:HD13	2.35	0.56
9:A:64:A:H2'	9:A:65:U:C6	2.40	0.56
9:A:2383:G:H2'	9:A:2384:U:C6	2.40	0.56
9:A:2492:U:H2'	9:A:2493:U:C6	2.40	0.56
2:1:16:THR:HG22	2:1:41:VAL:HG21	1.87	0.56
9:A:1505:A:C6	9:A:1506:U:N3	2.73	0.56
9:A:2592:G:N1	9:A:2603:G:C6	2.73	0.56
12:D:155:VAL:CG1	12:D:159:LYS:HG3	2.34	0.56
9:A:996:A:P	25:Q:91:ARG:HH12	2.28	0.56
14:F:35:LEU:CB	14:F:153:ILE:HG23	2.20	0.56
9:A:819:A:C4	9:A:1189:A:C2	2.93	0.56
15:G:104:LEU:HB2	15:G:112:VAL:HG23	1.78	0.56
31:W:47:GLY:H	31:W:80:SER:HB3	1.69	0.56
9:A:142:A:O2'	9:A:143:C:O5'	2.22	0.56
18:J:81:ILE:CG2	18:J:82:GLY:H	1.96	0.56
28:T:7:LEU:C	28:T:9:LYS:H	2.08	0.56
14:F:71:LYS:HA	14:F:80:GLN:HG2	1.86	0.56
23:O:34:HIS:CD2	23:O:53:THR:OG1	2.58	0.56
9:A:2471:A:H2'	9:A:2472:G:H5'	1.86	0.56
9:A:619:G:H5''	9:A:620:G:OP2	2.05	0.56
9:A:2080:A:C5'	32:X:18:SER:CB	2.83	0.56
9:A:1476:U:HO2'	9:A:1477:A:C5'	2.18	0.56
9:A:2524:G:C2'	9:A:2525:G:O5'	2.53	0.56
9:A:636:G:C5	20:L:111:ILE:CD1	2.70	0.56
12:D:107:VAL:H	12:D:206:ALA:N	2.02	0.56
9:A:1495:A:H2'	9:A:1496:A:C8	2.38	0.56
9:A:1179:G:N1	9:A:1180:U:O2'	2.38	0.56
13:E:5:LEU:HD22	13:E:121:VAL:HA	1.87	0.56
28:T:32:LEU:O	28:T:83:ALA:HB2	2.06	0.56
14:F:7:TYR:O	14:F:11:VAL:HG12	2.05	0.56
21:M:41:LEU:O	21:M:93:VAL:HG23	2.04	0.56
9:A:1056:G:H4'	9:A:1086:A:H8	1.70	0.56
9:A:1054:A:H2'	9:A:1055:G:C8	2.40	0.56
9:A:784:G:O2'	9:A:785:G:H5''	2.06	0.56
9:A:277:G:H8	9:A:361:G:O6	1.87	0.56
31:W:37:VAL:O	31:W:38:ARG:CB	2.52	0.56
17:I:53:PRO:O	17:I:74:PRO:HD2	2.04	0.56
29:U:48:VAL:HG13	29:U:48:VAL:O	2.05	0.56
13:E:153:LEU:O	13:E:153:LEU:HD12	2.05	0.56
20:L:92:LEU:HD23	20:L:125:LEU:HD23	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2136:G:O2'	9:A:2137:U:C6	2.58	0.56
9:A:1876:A:C2'	9:A:1877:A:H5'	2.34	0.56
9:A:1565:C:O2'	9:A:1566:A:H2'	2.04	0.56
9:A:1300:G:H5''	9:A:1301:A:C5'	2.35	0.56
5:4:3:VAL:O	5:4:4:ARG:O	2.24	0.56
9:A:832:U:H2'	9:A:833:A:C8	2.40	0.56
33:Y:16:THR:O	33:Y:20:ASN:N	2.32	0.56
9:A:2275:C:O2	21:M:84:LYS:HG2	2.04	0.56
9:A:2865:U:C4	9:A:2866:U:C4	2.93	0.56
9:A:181:A:C2	9:A:182:A:C4	2.92	0.56
2:1:50:GLU:HA	2:1:50:GLU:OE1	2.05	0.56
33:Y:56:LEU:HA	33:Y:59:GLU:CG	2.35	0.56
5:4:16:ILE:HD13	5:4:25:VAL:HG22	1.86	0.56
9:A:2214:C:H6	9:A:2214:C:C5'	2.11	0.56
22:N:32:GLU:CB	22:N:115:LEU:HD12	2.36	0.56
19:K:43:ILE:HD12	19:K:52:VAL:CG2	2.35	0.56
9:A:659:G:H4'	13:E:95:LYS:HD2	1.86	0.56
12:D:169:ARG:C	12:D:170:VAL:CG1	2.74	0.56
9:A:1224:U:H4'	26:R:88:GLY:O	2.06	0.56
14:F:169:LEU:CD1	14:F:169:LEU:N	2.69	0.56
9:A:1205:A:H3'	9:A:1206:G:H5'	1.87	0.56
9:A:134:G:H2'	9:A:135:U:O4'	2.06	0.56
9:A:1249:U:C6	9:A:1249:U:H5'	2.40	0.56
9:A:58:G:N2	9:A:70:G:C4	2.74	0.56
12:D:4:LEU:HD23	12:D:29:VAL:HG11	1.88	0.56
2:1:10:LEU:HD21	2:1:33:LEU:CD2	2.32	0.56
5:4:9:LYS:H	5:4:9:LYS:CE	2.17	0.56
19:K:1:MET:HE3	19:K:32:TYR:CG	2.40	0.56
17:I:58:ILE:O	17:I:60:VAL:HG23	2.06	0.56
11:C:234:GLY:O	11:C:236:GLY:N	2.38	0.56
9:A:979:A:H2'	9:A:982:C:H42	1.71	0.56
1:0:14:MET:O	1:0:17:SER:HB3	2.04	0.56
9:A:1340:U:C5	9:A:1603:A:C8	2.94	0.56
29:U:25:LYS:HB2	29:U:34:ILE:O	2.05	0.56
11:C:252:LYS:NZ	11:C:252:LYS:CB	2.67	0.56
9:A:611:C:H2'	9:A:612:G:O5'	2.05	0.56
19:K:24:VAL:HG12	19:K:30:ARG:HD2	1.86	0.56
9:A:2554:U:C4	9:A:2555:U:O4	2.59	0.56
12:D:158:GLY:O	12:D:159:LYS:C	2.44	0.56
9:A:717:C:H2'	9:A:717:C:O2	2.06	0.56
9:A:2458:G:O2'	9:A:2460:U:O4	2.17	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1216:G:C5	9:A:1217:U:C5	2.93	0.56
18:J:99:ARG:O	18:J:103:ILE:HG23	2.04	0.56
9:A:645:C:N4	9:A:2350:C:H4'	2.20	0.56
18:J:41:LYS:N	25:Q:66:ALA:HB1	2.20	0.56
9:A:1071:G:H4'	9:A:1088:A:O2'	2.06	0.56
9:A:1079:C:N4	9:A:1088:A:C2	2.74	0.56
9:A:1501:G:O2'	9:A:1502:A:H5'	2.05	0.56
23:O:111:ARG:O	23:O:113:ALA:N	2.39	0.56
18:J:88:THR:CG2	18:J:91:GLU:H	2.19	0.56
17:I:23:VAL:HG23	17:I:24:GLY:H	1.71	0.56
9:A:271:G:H4'	9:A:272:A:OP1	2.06	0.56
17:I:3:LYS:CD	17:I:4:VAL:HG23	2.35	0.56
9:A:788:A:O2'	9:A:789:A:OP2	2.22	0.56
9:A:747:U:C4	9:A:2613:U:C4	2.94	0.56
9:A:2615:U:O2'	9:A:2616:C:H5'	2.06	0.56
9:A:2784:U:H2'	9:A:2785:C:H6	1.70	0.56
9:A:1641:A:H2'	9:A:1642:G:O4'	2.06	0.56
9:A:1289:C:H2'	9:A:1290:C:H6	1.71	0.56
24:P:50:ARG:HG2	24:P:56:SER:CA	2.36	0.56
20:L:93:ASN:O	20:L:95:LEU:N	2.38	0.56
21:M:36:VAL:O	21:M:36:VAL:HG13	2.04	0.56
16:H:6:LEU:HD22	16:H:36:ALA:N	2.20	0.56
19:K:95:ILE:HG13	19:K:96:GLY:N	2.20	0.56
9:A:1508:A:O2'	9:A:1509:A:C5'	2.53	0.56
11:C:121:ALA:HB3	11:C:129:LEU:HD21	1.87	0.56
11:C:165:ALA:HB3	11:C:172:THR:CG2	2.35	0.56
9:A:2279:G:N7	31:W:10:ARG:NH2	2.53	0.56
9:A:1736:U:H2'	9:A:1737:G:O4'	2.06	0.56
9:A:481:G:C4	9:A:507:A:C2	2.94	0.56
29:U:100:GLU:O	29:U:101:THR:CB	2.54	0.56
10:B:2:G:C2	10:B:119:A:C2	2.94	0.56
9:A:1334:G:C6	9:A:1335:C:C4	2.93	0.56
18:J:44:TYR:O	18:J:45:THR:CB	2.54	0.56
25:Q:94:LEU:C	25:Q:96:ASP:H	2.09	0.56
9:A:1080:A:O2'	17:I:126:ARG:HG3	2.06	0.56
9:A:1064:C:H4'	17:I:90:GLY:H	1.71	0.56
24:P:25:VAL:CG1	24:P:46:VAL:HG23	2.36	0.56
13:E:1:MET:HB3	13:E:14:VAL:O	2.05	0.56
11:C:246:PRO:CG	11:C:247:TRP:CH2	2.85	0.56
14:F:133:GLU:H	14:F:150:GLY:CA	2.18	0.56
21:M:78:LEU:CD2	21:M:79:ALA:N	2.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:659:G:H21	13:E:30:GLN:NE2	2.04	0.56
9:A:275:C:H3'	9:A:276:U:H5''	1.88	0.56
10:B:11:C:O2	10:B:109:A:N1	2.39	0.56
25:Q:29:ARG:HG3	25:Q:29:ARG:NH1	2.11	0.56
23:O:35:ILE:HG21	23:O:71:ALA:HA	1.88	0.56
12:D:53:GLY:HA3	12:D:77:ARG:CB	2.35	0.56
9:A:2784:U:H4'	12:D:42:ASN:HD21	1.71	0.56
9:A:31:C:O3'	9:A:1238:G:C5'	2.54	0.56
11:C:64:VAL:HG11	11:C:66:PHE:CE2	2.41	0.56
9:A:734:A:C4	9:A:735:A:C8	2.94	0.56
9:A:2400:G:O2'	9:A:2401:U:H5'	2.06	0.56
18:J:40:HIS:C	18:J:41:LYS:CG	2.75	0.56
13:E:120:VAL:HA	13:E:188:MET:O	2.06	0.56
9:A:138:U:H3'	9:A:139:U:H5'	1.88	0.56
28:T:40:LYS:O	28:T:44:LYS:N	2.38	0.56
9:A:301:G:OP2	29:U:81:ARG:NH1	2.39	0.56
9:A:875:G:C2'	9:A:876:C:H5'	2.36	0.56
9:A:1857:G:O2'	9:A:1858:A:P	2.64	0.56
25:Q:97:ILE:HD13	25:Q:104:ALA:HB3	1.88	0.56
30:V:44:HIS:CE1	30:V:86:LEU:H	2.22	0.56
11:C:250:GLN:H	11:C:250:GLN:CD	2.09	0.56
32:X:16:ASN:HB2	32:X:24:THR:OG1	2.06	0.56
12:D:85:ALA:O	12:D:86:GLU:HB2	2.06	0.56
22:N:117:ASP:O	22:N:119:SER:N	2.37	0.56
25:Q:48:ASP:HA	25:Q:51:GLN:HB2	1.88	0.55
15:G:137:LYS:O	15:G:140:ILE:CD1	2.53	0.55
11:C:15:VAL:C	11:C:203:VAL:HG11	2.26	0.55
23:O:2:ASP:O	23:O:3:LYS:HG2	2.06	0.55
9:A:740:C:H5'	9:A:1784:A:H3'	1.88	0.55
9:A:2144:G:N2	9:A:2148:G:C8	2.75	0.55
11:C:119:VAL:HG12	11:C:133:ASN:ND2	2.21	0.55
11:C:170:TYR:CD2	11:C:184:GLU:HA	2.41	0.55
9:A:1435:G:H5''	9:A:1435:G:H8	1.71	0.55
29:U:78:LYS:HG2	29:U:79:ALA:N	2.20	0.55
1:O:15:ARG:NE	9:A:1266:G:OP1	2.38	0.55
9:A:1997:C:C4'	9:A:1997:C:OP1	2.52	0.55
10:B:78:A:C2	10:B:99:A:C4	2.94	0.55
9:A:405:U:C3'	9:A:406:G:H5'	2.36	0.55
9:A:1465:G:C6	9:A:1466:U:N3	2.73	0.55
9:A:2386:A:H2'	9:A:2387:U:C6	2.41	0.55
9:A:2862:G:H2'	9:A:2863:C:H6	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1160:G:N2	26:R:10:LYS:HD2	2.21	0.55
9:A:1059:G:C6	9:A:1080:A:C6	2.94	0.55
27:S:1:MET:CE	27:S:2:GLU:H	2.18	0.55
9:A:1654:A:C4'	12:D:118:PHE:CZ	2.89	0.55
31:W:76:ARG:CG	31:W:76:ARG:HH21	2.02	0.55
9:A:2430:A:H5'	9:A:2431:U:OP2	2.06	0.55
23:O:78:VAL:HG23	23:O:79:ALA:N	2.21	0.55
12:D:34:VAL:CG2	12:D:94:GLN:H	2.16	0.55
9:A:1585:C:C3'	9:A:1586:A:H5'	2.35	0.55
9:A:226:A:N6	9:A:227:A:C6	2.74	0.55
9:A:359:G:H3'	9:A:360:U:H6	1.70	0.55
15:G:59:ASP:CB	15:G:63:GLN:HG2	2.35	0.55
9:A:1693:U:O2'	11:C:13:ARG:NH2	2.40	0.55
22:N:38:LEU:HD12	22:N:38:LEU:O	2.06	0.55
9:A:2080:A:H5'	32:X:18:SER:HB3	1.86	0.55
9:A:189:G:H2'	9:A:205:G:N2	2.21	0.55
9:A:1064:C:OP1	17:I:87:SER:C	2.45	0.55
20:L:93:ASN:ND2	20:L:94:THR:H	2.03	0.55
16:H:34:GLY:O	16:H:35:LYS:HG3	2.06	0.55
14:F:30:VAL:HG11	14:F:96:TRP:CH2	2.42	0.55
9:A:1056:G:H4'	9:A:1086:A:C8	2.40	0.55
28:T:22:THR:O	28:T:25:GLU:N	2.36	0.55
23:O:59:ALA:C	23:O:61:GLN:N	2.60	0.55
9:A:63:A:C8	9:A:63:A:H5'	2.41	0.55
23:O:75:GLY:HA3	23:O:106:LEU:HA	1.88	0.55
18:J:31:GLU:O	18:J:32:LEU:C	2.42	0.55
9:A:1098:A:C6	9:A:1099:G:N1	2.74	0.55
9:A:1612:C:H2'	9:A:1613:G:O5'	2.07	0.55
9:A:2575:C:H5''	9:A:2576:G:OP2	2.05	0.55
9:A:2319:G:O2'	9:A:2320:U:H5	1.90	0.55
24:P:3:ILE:HD13	24:P:3:ILE:C	2.27	0.55
9:A:1061:U:H6	9:A:1070:A:C1'	2.19	0.55
9:A:1179:G:O5'	9:A:1180:U:O5'	2.25	0.55
16:H:27:ARG:HH12	16:H:38:PRO:HG3	1.70	0.55
9:A:84:A:N1	9:A:98:G:O2'	2.29	0.55
17:I:19:PRO:HG2	17:I:23:VAL:CG2	2.37	0.55
24:P:37:LYS:CG	24:P:37:LYS:O	2.55	0.55
27:S:45:VAL:HG22	27:S:46:LEU:N	2.22	0.55
9:A:271:G:O2'	9:A:272:A:C5'	2.54	0.55
19:K:113:MET:HA	19:K:116:ILE:HG13	1.87	0.55
9:A:2793:C:H2'	9:A:2794:C:H6	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2485:G:H5''	21:M:45:GLN:NE2	2.22	0.55
9:A:1360:G:O6	9:A:1372:U:C2	2.60	0.55
10:B:2:G:C2	10:B:119:A:N3	2.74	0.55
12:D:155:VAL:HG13	12:D:159:LYS:HG3	1.88	0.55
13:E:18:THR:HA	13:E:106:LYS:HG2	1.89	0.55
1:O:37:HIS:HB3	1:O:43:THR:HG22	1.87	0.55
9:A:1678:A:C2'	9:A:1679:A:H5'	2.37	0.55
19:K:74:GLY:HA3	24:P:74:GLN:HE21	1.72	0.55
24:P:80:VAL:CG1	24:P:81:ASP:N	2.67	0.55
19:K:18:ARG:HB2	19:K:45:GLU:HG3	1.81	0.55
2:1:18:HIS:ND1	2:1:19:PHE:N	2.55	0.55
24:P:25:VAL:HG11	24:P:46:VAL:HG23	1.87	0.55
9:A:1799:G:N2	9:A:1818:U:O2'	2.32	0.55
9:A:2310:C:C4	14:F:76:PHE:CZ	2.94	0.55
9:A:1935:G:N1	9:A:1962:C:H2'	2.22	0.55
34:Z:34:THR:HG22	34:Z:35:VAL:N	2.21	0.55
34:Z:2:LYS:O	34:Z:3:THR:HG23	2.07	0.55
15:G:70:LEU:O	15:G:74:MET:HG3	2.06	0.55
12:D:85:ALA:O	12:D:86:GLU:CB	2.55	0.55
24:P:39:LEU:H	24:P:39:LEU:HD12	1.70	0.55
18:J:53:TYR:CD1	18:J:121:LYS:HG2	2.41	0.55
19:K:47:ILE:HG13	19:K:48:PRO:HD2	1.87	0.55
30:V:75:GLN:HB2	30:V:92:VAL:HG23	1.89	0.55
9:A:2665:A:O2'	9:A:2666:C:H5'	2.06	0.55
11:C:68:ARG:CD	11:C:103:ILE:HD11	2.20	0.55
19:K:113:MET:O	19:K:116:ILE:HG13	2.06	0.55
9:A:1735:A:C2	9:A:1736:U:C2	2.94	0.55
20:L:27:LEU:N	20:L:27:LEU:CD1	2.69	0.55
9:A:339:U:C2'	9:A:340:A:H5'	2.36	0.55
9:A:287:G:N3	9:A:354:A:C2	2.75	0.55
9:A:1579:A:C2'	9:A:1580:A:H5'	2.36	0.55
9:A:1259:G:H2'	9:A:1260:A:C8	2.41	0.55
9:A:181:A:H2'	9:A:182:A:C8	2.42	0.55
14:F:46:LYS:HD2	14:F:46:LYS:N	2.21	0.55
30:V:72:VAL:HG23	30:V:73:LYS:N	2.22	0.55
9:A:812:C:O2'	9:A:813:U:H5'	2.05	0.55
1:O:53:VAL:O	1:O:54:ILE:C	2.44	0.55
9:A:2678:C:O2'	9:A:2679:A:H5'	2.07	0.55
9:A:1075:C:C4	9:A:1076:C:N4	2.75	0.55
9:A:2332:C:H5''	9:A:2333:A:OP1	2.06	0.55
34:Z:9:THR:CG2	34:Z:10:ARG:HB2	2.34	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:J:135:GLN:CA	18:J:135:GLN:HE21	2.18	0.55
27:S:73:LYS:CE	27:S:74:ILE:H	2.15	0.55
14:F:71:LYS:HA	14:F:80:GLN:HG3	1.89	0.55
17:I:24:GLY:O	17:I:27:LEU:HG	2.07	0.55
9:A:435:C:O2'	9:A:436:C:H5'	2.07	0.55
9:A:1733:G:O2'	9:A:1734:G:O5'	2.25	0.55
9:A:2800:A:H8	9:A:2800:A:H5''	1.71	0.55
9:A:1197:G:O2'	9:A:1198:U:H5'	2.06	0.55
15:G:25:ILE:HD11	15:G:71:LEU:HD12	1.88	0.55
9:A:1203:U:H1'	20:L:4:ASN:HB3	1.88	0.55
15:G:163:TYR:O	15:G:164:ALA:HB3	2.06	0.55
9:A:1385:A:C2	9:A:1386:C:C2	2.95	0.55
12:D:182:ALA:C	12:D:184:ARG:H	2.08	0.55
9:A:1300:G:C5'	9:A:1301:A:H5'	2.36	0.55
22:N:30:ARG:NH1	22:N:74:GLU:OE2	2.39	0.55
9:A:156:A:O2'	9:A:157:C:H5'	2.07	0.55
9:A:901:C:H2'	9:A:902:C:H6	1.71	0.55
9:A:1060:U:O4'	9:A:1062:G:C5'	2.55	0.55
9:A:636:G:C4	20:L:111:ILE:HD11	2.35	0.55
9:A:141:G:N1	28:T:2:ILE:HG23	2.21	0.55
18:J:65:THR:CG2	18:J:66:GLY:N	2.69	0.55
26:R:62:GLU:O	26:R:64:VAL:HG23	2.07	0.55
9:A:789:A:OP1	9:A:790:U:C5	2.58	0.55
9:A:1695:G:H2'	9:A:1696:G:O4'	2.07	0.55
9:A:80:G:H2'	9:A:81:G:H5'	1.88	0.55
25:Q:97:ILE:HD11	25:Q:105:PHE:N	2.22	0.55
9:A:1761:C:H2'	9:A:1762:A:H5'	1.88	0.55
9:A:1052:C:C2'	9:A:1053:C:H5'	2.36	0.55
9:A:1909:C:C2	9:A:1922:G:N2	2.75	0.55
12:D:151:THR:O	12:D:152:PRO:C	2.42	0.55
15:G:171:LYS:HD3	15:G:172:GLU:H	1.72	0.55
12:D:118:PHE:HD2	12:D:119:ALA:N	2.03	0.55
14:F:132:ARG:O	14:F:133:GLU:CB	2.53	0.55
9:A:2093:G:H1'	9:A:2198:A:C2	2.42	0.55
9:A:1945:G:H2'	9:A:1946:U:H6	1.69	0.55
26:R:66:HIS:ND1	26:R:94:THR:HB	2.22	0.55
9:A:851:C:C2'	9:A:852:U:O5'	2.55	0.55
9:A:1098:A:C5	9:A:1099:G:C6	2.95	0.55
28:T:74:ILE:HG23	28:T:75:GLY:N	2.21	0.55
9:A:1321:A:H8	9:A:1321:A:H5''	1.71	0.55
9:A:232:G:H4'	9:A:233:A:OP1	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1001:A:H2'	9:A:1002:G:C5'	2.37	0.55
9:A:1001:A:C2'	9:A:1002:G:H5'	2.37	0.55
32:X:29:LEU:H	32:X:29:LEU:HD23	1.72	0.55
2:1:8:ILE:HG22	2:1:9:LYS:H	1.69	0.55
22:N:103:ARG:CD	22:N:110:MET:CE	2.85	0.55
31:W:18:LYS:N	31:W:36:ILE:CG1	2.70	0.55
19:K:43:ILE:CD1	19:K:52:VAL:CG2	2.83	0.55
9:A:2250:G:O5'	9:A:2250:G:H8	1.89	0.55
9:A:526:A:H5''	9:A:527:C:OP1	2.06	0.55
26:R:61:ALA:HB1	26:R:98:ILE:H	1.71	0.55
9:A:2199:A:C5'	9:A:2200:C:H5	2.19	0.55
9:A:687:C:O2'	9:A:1780:A:N1	2.40	0.55
21:M:6:ARG:HB2	21:M:6:ARG:CZ	2.37	0.55
14:F:175:PRO:O	14:F:176:PHE:HB2	2.07	0.55
9:A:2750:A:O2'	9:A:2752:C:N4	2.35	0.55
9:A:163:C:C6	9:A:163:C:OP1	2.60	0.55
32:X:29:LEU:HB2	32:X:30:PRO:CD	2.37	0.54
9:A:1287:A:O2'	9:A:1288:G:H5'	2.07	0.54
21:M:2:LEU:O	21:M:3:GLN:HB3	2.06	0.54
9:A:1784:A:H4'	9:A:1785:A:H5''	1.90	0.54
9:A:1778:U:H2'	9:A:1784:A:H62	1.69	0.54
9:A:1462:C:O2'	9:A:1463:C:H5''	2.07	0.54
9:A:1348:C:H2'	9:A:1349:C:C5'	2.32	0.54
9:A:606:U:H4'	9:A:658:U:HO2'	1.71	0.54
34:Z:4:ILE:HD11	34:Z:43:ILE:HD11	1.89	0.54
9:A:361:G:OP2	9:A:361:G:H8	1.91	0.54
28:T:27:SER:O	28:T:28:ASN:CG	2.46	0.54
17:I:104:GLN:O	17:I:105:LEU:CB	2.54	0.54
12:D:66:GLY:O	12:D:69:ALA:HB3	2.07	0.54
25:Q:40:LYS:HG2	25:Q:44:TYR:CE1	2.42	0.54
14:F:53:ALA:O	14:F:64:PRO:HG2	2.07	0.54
24:P:64:SER:O	24:P:65:ASN:C	2.45	0.54
10:B:74:U:O2	30:V:29:ILE:CD1	2.55	0.54
9:A:1154:G:OP2	25:Q:57:ARG:NH1	2.40	0.54
2:1:22:THR:HG23	2:1:23:THR:N	2.22	0.54
14:F:133:GLU:O	14:F:136:ILE:HD11	2.07	0.54
18:J:16:TYR:HA	18:J:138:GLN:O	2.06	0.54
9:A:1026:G:C8	9:A:1134:A:C4	2.95	0.54
9:A:1056:G:HO2'	9:A:1086:A:H8	1.54	0.54
9:A:777:G:O2'	9:A:778:G:C5'	2.52	0.54
20:L:68:SER:O	20:L:69:ARG:CB	2.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:288:U:O2'	9:A:289:G:H5'	2.07	0.54
9:A:871:U:H2'	9:A:872:U:C6	2.42	0.54
30:V:5:ASN:N	30:V:5:ASN:ND2	2.51	0.54
30:V:61:LEU:O	30:V:71:LYS:HA	2.06	0.54
15:G:162:ARG:CZ	15:G:168:VAL:HG21	2.38	0.54
12:D:101:PHE:CE2	12:D:203:VAL:HG22	2.42	0.54
12:D:97:SER:H	12:D:99:GLU:CD	2.11	0.54
25:Q:85:ALA:O	25:Q:87:VAL:C	2.46	0.54
26:R:39:LEU:CD2	26:R:39:LEU:N	2.69	0.54
22:N:108:ALA:O	22:N:110:MET:HG2	2.07	0.54
11:C:93:VAL:HG12	11:C:94:LEU:H	1.73	0.54
9:A:1277:G:C4'	22:N:20:MET:CE	2.86	0.54
9:A:2772:C:H2'	9:A:2773:C:C6	2.42	0.54
9:A:274:C:C5	9:A:275:C:C5	2.95	0.54
28:T:19:LYS:HA	28:T:22:THR:OG1	2.07	0.54
22:N:71:ARG:NH2	22:N:71:ARG:CG	2.68	0.54
9:A:1794:A:O2'	9:A:1795:C:H5'	2.08	0.54
19:K:34:GLY:O	19:K:35:VAL:C	2.45	0.54
9:A:2134:A:C6	9:A:2135:A:N6	2.75	0.54
3:2:30:VAL:O	3:2:34:ARG:HG3	2.08	0.54
9:A:813:U:H2'	9:A:814:C:C6	2.42	0.54
9:A:2243:U:H2'	9:A:2244:U:C6	2.42	0.54
25:Q:75:TYR:CE2	25:Q:79:ILE:HG13	2.42	0.54
18:J:111:LYS:HD3	18:J:111:LYS:C	2.22	0.54
27:S:69:LEU:HA	27:S:108:SER:O	2.08	0.54
14:F:40:GLY:N	14:F:84:ILE:HD11	2.23	0.54
31:W:23:LYS:CG	31:W:24:ARG:O	2.41	0.54
31:W:40:ARG:NH1	31:W:45:HIS:CE1	2.76	0.54
13:E:79:ARG:O	13:E:80:SER:C	2.46	0.54
9:A:1731:G:C5	9:A:1733:G:N7	2.75	0.54
9:A:1733:G:O2'	9:A:1734:G:H8	1.91	0.54
9:A:2068:U:H6	9:A:2068:U:C5'	2.18	0.54
12:D:68:PHE:C	12:D:73:VAL:HG12	2.28	0.54
9:A:2808:G:C2	9:A:2891:U:C6	2.96	0.54
9:A:1857:G:N2	9:A:1884:G:O2'	2.41	0.54
9:A:2109:U:C4	9:A:2181:U:O4	2.61	0.54
9:A:618:G:C6	9:A:619:G:C4	2.95	0.54
25:Q:40:LYS:HG2	25:Q:44:TYR:CD1	2.43	0.54
14:F:169:LEU:H	14:F:169:LEU:HD12	1.71	0.54
9:A:826:U:O2'	20:L:53:GLY:HA3	2.07	0.54
9:A:2555:U:C5	9:A:2556:C:N1	2.75	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1094:U:H2'	9:A:1096:A:OP2	2.08	0.54
25:Q:63:ARG:HH11	25:Q:99:VAL:HG23	1.72	0.54
18:J:110:PRO:O	18:J:111:LYS:HD2	2.08	0.54
28:T:54:GLU:HB3	28:T:88:LYS:CG	2.38	0.54
14:F:7:TYR:O	14:F:11:VAL:CG1	2.55	0.54
9:A:545:U:C6	9:A:546:U:H4'	2.43	0.54
9:A:1947:C:C2	9:A:1960:A:C2	2.96	0.54
9:A:528:A:C2	9:A:2043:C:C5'	2.90	0.54
1:O:33:SER:O	1:O:34:GLY:O	2.26	0.54
9:A:1901:A:C4	9:A:1902:C:C5	2.96	0.54
25:Q:35:PHE:CE1	25:Q:39:ILE:HD11	2.42	0.54
9:A:1360:G:H2'	9:A:1361:G:H5'	1.89	0.54
9:A:1371:G:O2'	9:A:1372:U:H5'	2.07	0.54
12:D:136:ASN:ND2	12:D:139:SER:O	2.36	0.54
9:A:2083:G:C2'	9:A:2084:C:H5'	2.38	0.54
11:C:124:LYS:HB3	11:C:127:ASN:ND2	2.23	0.54
31:W:30:VAL:H	31:W:31:LEU:CD2	2.20	0.54
24:P:20:ARG:HG2	24:P:20:ARG:O	2.08	0.54
27:S:59:GLU:HA	27:S:64:ALA:HA	1.90	0.54
1:O:35:GLU:OE1	1:O:45:ASP:HB2	2.07	0.54
12:D:68:PHE:CE2	12:D:75:ALA:HA	2.42	0.54
9:A:1912:A:O2'	9:A:1913:A:H5''	2.08	0.54
9:A:1539:U:C2	9:A:1540:G:C8	2.95	0.54
33:Y:16:THR:O	33:Y:19:LEU:N	2.41	0.54
9:A:1067:A:H8	9:A:1067:A:OP2	1.89	0.54
15:G:165:ASP:N	15:G:165:ASP:OD1	2.41	0.54
9:A:1059:G:C6	9:A:1060:U:N3	2.76	0.54
2:1:22:THR:HG21	9:A:2286:G:O6	2.08	0.54
12:D:104:VAL:HA	12:D:106:LYS:HZ2	1.69	0.54
28:T:86:THR:C	28:T:87:LEU:HD23	2.28	0.54
9:A:1392:A:N6	9:A:1393:A:N6	2.56	0.54
9:A:2725:A:O2'	9:A:2726:A:H2'	2.07	0.54
19:K:20:MET:C	19:K:41:ILE:HD11	2.28	0.54
21:M:81:ARG:HG3	21:M:82:MET:H	1.73	0.54
11:C:29:PHE:CD2	11:C:31:PRO:HG2	2.42	0.54
9:A:605:G:H1'	9:A:657:U:H1'	1.90	0.54
31:W:37:VAL:CG1	31:W:55:ASP:HB2	2.33	0.54
19:K:10:VAL:HG11	19:K:16:ALA:HB2	1.89	0.54
17:I:64:ARG:HG3	17:I:65:SER:N	2.22	0.54
9:A:1439:A:C2	9:A:1553:A:C5	2.96	0.54
9:A:860:U:C6	9:A:860:U:H5'	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2314:A:O2'	9:A:2315:G:H5'	2.07	0.54
12:D:35:THR:HG1	12:D:49:GLN:HG2	1.72	0.54
9:A:1667:G:OP1	19:K:6:THR:HA	2.08	0.54
9:A:31:C:O3'	9:A:1238:G:H5''	2.07	0.54
11:C:250:GLN:NE2	11:C:250:GLN:N	2.55	0.54
9:A:1001:A:H2'	9:A:1002:G:H5'	1.89	0.54
9:A:2345:G:C5	9:A:2381:A:C2	2.96	0.54
9:A:2804:U:H2'	9:A:2805:C:C6	2.43	0.54
9:A:1614:A:C2	27:S:93:ALA:HB2	2.42	0.54
18:J:111:LYS:CE	18:J:115:GLY:H	2.20	0.54
9:A:1866:A:O2'	9:A:1867:G:H5'	2.08	0.54
9:A:1871:A:H8	9:A:1872:A:C5	2.25	0.54
14:F:84:ILE:O	14:F:84:ILE:CG1	2.52	0.54
33:Y:56:LEU:HA	33:Y:59:GLU:HG2	1.90	0.54
9:A:1775:U:C2'	9:A:1776:G:O5'	2.55	0.54
16:H:27:ARG:HG3	32:X:59:ASP:OD1	2.08	0.54
10:B:110:C:O2'	10:B:111:U:H5'	2.07	0.54
28:T:4:GLU:O	28:T:8:LEU:HD23	2.08	0.54
9:A:78:U:H2'	9:A:79:C:C6	2.42	0.54
9:A:2672:U:C2'	9:A:2673:G:O5'	2.56	0.54
14:F:90:LEU:C	14:F:95:MET:HB2	2.28	0.54
18:J:97:PRO:O	18:J:98:GLU:C	2.46	0.54
1:O:54:ILE:O	1:O:54:ILE:HG22	2.06	0.54
30:V:68:LYS:O	30:V:68:LYS:HG2	2.07	0.54
13:E:196:VAL:HG13	13:E:200:LEU:CD2	2.38	0.54
9:A:2847:U:O2'	9:A:2848:G:H5'	2.08	0.54
9:A:994:C:O3'	9:A:995:C:H3'	2.08	0.54
18:J:43:GLU:O	18:J:44:TYR:C	2.46	0.54
31:W:16:GLU:O	31:W:17:ALA:HB3	2.07	0.54
31:W:49:ASN:CA	31:W:61:LYS:HB2	2.36	0.54
9:A:2431:U:C6	9:A:2431:U:C5'	2.87	0.54
28:T:54:GLU:O	28:T:55:VAL:CB	2.56	0.54
18:J:16:TYR:O	18:J:55:ILE:HG23	2.08	0.54
9:A:1568:G:H4'	11:C:58:LYS:HB3	1.90	0.54
9:A:74:A:H5''	9:A:74:A:N3	2.22	0.54
2:1:47:ILE:HD12	2:1:47:ILE:H	1.73	0.54
4:3:44:ARG:N	4:3:45:PRO:CD	2.71	0.54
9:A:1360:G:C2'	9:A:1361:G:H5'	2.37	0.54
9:A:1761:C:O5'	9:A:1761:C:H6	1.91	0.54
21:M:21:ALA:HB2	21:M:97:GLN:O	2.08	0.54
9:A:2567:G:H2'	9:A:2568:U:C6	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:D:9:VAL:HG22	12:D:26:VAL:HB	1.89	0.54
15:G:37:ASN:O	15:G:38:ASP:CB	2.56	0.54
9:A:1090:A:O2'	9:A:1091:G:H5'	2.08	0.54
9:A:1092:C:H2'	9:A:1093:G:O4'	2.08	0.54
9:A:833:A:OP2	20:L:39:LYS:HE3	2.08	0.54
9:A:163:C:HO2'	9:A:164:C:C5'	2.21	0.54
9:A:1773:A:C2'	9:A:1774:C:H5'	2.38	0.54
18:J:40:HIS:H	18:J:40:HIS:CD2	2.25	0.54
31:W:72:GLY:N	31:W:73:PRO:CD	2.71	0.54
21:M:13:HIS:O	21:M:14:LYS:CB	2.56	0.54
9:A:765:C:H2'	9:A:766:U:C6	2.43	0.54
19:K:58:LEU:HD23	19:K:58:LEU:N	2.23	0.54
9:A:2776:A:H4'	9:A:2778:A:OP1	2.08	0.54
21:M:54:THR:O	21:M:56:ALA:N	2.40	0.54
9:A:2706:A:C2	9:A:2707:U:C2	2.96	0.54
22:N:71:ARG:NH2	22:N:71:ARG:HG3	2.23	0.54
9:A:1675:C:H2'	9:A:1676:A:C8	2.43	0.54
9:A:1821:A:H2'	9:A:1822:C:C6	2.42	0.54
11:C:199:HIS:O	11:C:202:ARG:HG3	2.09	0.54
9:A:1858:A:O2'	9:A:1859:U:H5'	2.06	0.54
9:A:2760:C:C2'	9:A:2761:A:H5'	2.38	0.54
15:G:166:GLU:OE2	15:G:168:VAL:HG22	2.09	0.53
15:G:83:THR:C	15:G:84:LYS:CE	2.76	0.53
2:1:8:ILE:CG2	2:1:51:ALA:CA	2.83	0.53
9:A:1131:G:OP1	18:J:82:GLY:HA2	2.08	0.53
23:O:116:GLN:CA	23:O:116:GLN:OE1	2.53	0.53
9:A:1054:A:C4	9:A:1055:G:C8	2.96	0.53
9:A:2758:A:H2'	9:A:2759:G:C5'	2.35	0.53
21:M:109:PRO:O	21:M:110:GLU:C	2.46	0.53
9:A:2630:G:HO2'	9:A:2631:G:H5'	1.72	0.53
9:A:611:C:H2'	9:A:612:G:H5'	1.90	0.53
9:A:1858:A:O2'	9:A:1859:U:O5'	2.25	0.53
9:A:852:U:H2'	9:A:853:C:C6	2.43	0.53
9:A:2564:A:C2	9:A:2647:U:H4'	2.42	0.53
13:E:124:PHE:C	13:E:124:PHE:CD1	2.82	0.53
12:D:46:ARG:NH1	12:D:46:ARG:HG2	2.22	0.53
9:A:1441:G:O2'	9:A:1442:U:H5'	2.08	0.53
9:A:2850:A:H2'	9:A:2851:A:C8	2.43	0.53
25:Q:75:TYR:CD2	25:Q:75:TYR:C	2.82	0.53
17:I:126:ARG:HA	17:I:129:GLU:CG	2.39	0.53
9:A:2515:C:O2'	9:A:2516:A:H5'	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:R:53:PHE:CD1	26:R:53:PHE:N	2.73	0.53
20:L:109:LYS:HD2	20:L:126:ARG:HE	1.73	0.53
13:E:148:ILE:H	13:E:187:VAL:H	1.56	0.53
9:A:2310:C:C5	14:F:76:PHE:HZ	2.26	0.53
9:A:1454:C:H41	22:N:73:ASN:HD21	1.57	0.53
9:A:137:U:N3	9:A:142:A:N6	2.55	0.53
34:Z:8:GLN:O	34:Z:9:THR:HG22	2.08	0.53
14:F:134:GLN:O	14:F:135:ILE:HB	2.08	0.53
9:A:1028:A:H61	9:A:1125:G:H2'	1.73	0.53
9:A:36:G:O2'	9:A:37:C:H5'	2.07	0.53
9:A:2816:G:H1'	9:A:2883:A:O2'	2.08	0.53
15:G:26:LYS:HB3	15:G:32:LEU:HG	1.90	0.53
13:E:145:ASP:CB	13:E:184:ASP:OD2	2.56	0.53
9:A:983:A:C6	9:A:984:A:C2	2.96	0.53
15:G:54:ARG:HD3	15:G:54:ARG:C	2.28	0.53
9:A:2682:A:H8	12:D:11:MET:HG2	1.73	0.53
19:K:86:LEU:N	19:K:86:LEU:HD23	2.24	0.53
9:A:2810:A:H2'	9:A:2811:G:O4'	2.08	0.53
10:B:30:C:H2'	10:B:31:C:H5'	1.90	0.53
9:A:1394:U:H3'	9:A:1394:U:C6	2.42	0.53
9:A:995:C:HO2'	9:A:996:A:P	2.31	0.53
9:A:2680:U:P	12:D:114:LYS:CE	2.90	0.53
32:X:32:LEU:O	32:X:33:HIS:CG	2.62	0.53
15:G:136:ASP:O	15:G:140:ILE:HD11	2.08	0.53
31:W:17:ALA:HA	31:W:35:ILE:CG2	2.35	0.53
9:A:2742:G:O2'	9:A:2743:U:H5'	2.07	0.53
3:2:37:LYS:CE	9:A:469:G:O6	2.51	0.53
9:A:725:G:C6	9:A:726:G:N1	2.76	0.53
9:A:1508:A:C4'	9:A:1509:A:H5'	2.37	0.53
1:0:8:THR:HG21	9:A:2021:C:OP1	2.08	0.53
9:A:1919:A:H5'	9:A:1919:A:H8	1.66	0.53
9:A:2135:A:O2'	9:A:2136:G:H8	1.91	0.53
9:A:2136:G:O6	9:A:2156:G:C2	2.62	0.53
9:A:947:A:HO2'	9:A:984:A:H2	1.55	0.53
10:B:2:G:C6	10:B:119:A:C2	2.96	0.53
9:A:1522:A:O2'	9:A:1523:U:P	2.67	0.53
9:A:52:A:O2'	9:A:53:A:H5'	2.09	0.53
14:F:35:LEU:CB	14:F:153:ILE:CG2	2.66	0.53
9:A:1870:C:H3'	9:A:1871:A:C2	2.43	0.53
27:S:74:ILE:HG13	27:S:105:VAL:HG22	1.91	0.53
27:S:25:ARG:HD3	27:S:73:LYS:HZ2	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:12:ARG:NH1	9:A:250:G:OP2	2.41	0.53
9:A:286:U:O2'	9:A:287:G:H5'	2.09	0.53
29:U:51:LEU:HA	29:U:53:GLN:OE1	2.08	0.53
9:A:2383:G:H2'	9:A:2384:U:H6	1.73	0.53
14:F:165:GLY:O	14:F:168:LEU:HB3	2.07	0.53
22:N:8:ARG:HD2	22:N:43:GLU:CG	2.37	0.53
5:4:13:ASN:H	5:4:13:ASN:HD22	1.55	0.53
24:P:98:TYR:CD2	24:P:99:LEU:HD13	2.43	0.53
9:A:2511:U:O4	9:A:2575:C:N3	2.42	0.53
9:A:2318:G:C6	9:A:2319:G:N1	2.76	0.53
9:A:814:C:O2'	9:A:815:C:H5'	2.09	0.53
9:A:1394:U:H6	9:A:1394:U:H3'	1.73	0.53
9:A:2459:A:N3	9:A:2459:A:H2'	2.23	0.53
27:S:18:ARG:HG2	27:S:76:VAL:HG13	1.89	0.53
11:C:43:ASN:HB3	11:C:45:ASN:H	1.74	0.53
17:I:126:ARG:HA	17:I:129:GLU:CB	2.36	0.53
11:C:252:LYS:NZ	11:C:252:LYS:CA	2.72	0.53
9:A:303:G:C4	9:A:304:U:C6	2.96	0.53
9:A:1104:C:H2'	9:A:1105:U:H6	1.71	0.53
9:A:2885:G:H3'	9:A:2886:A:H5''	1.90	0.53
1:0:8:THR:HG22	9:A:2020:A:H5'	1.90	0.53
9:A:27:G:O2'	9:A:28:A:P	2.66	0.53
9:A:721:A:H2'	9:A:722:A:C8	2.44	0.53
17:I:60:VAL:HG22	17:I:66:PHE:HB2	1.90	0.53
3:2:16:HIS:HD2	9:A:684:G:OP1	1.91	0.53
20:L:7:SER:HB2	20:L:8:PRO:HD2	1.90	0.53
9:A:1728:C:O2'	9:A:1729:U:C6	2.61	0.53
9:A:2804:U:H2'	9:A:2805:C:H6	1.73	0.53
10:B:81:G:C2'	10:B:82:U:H5'	2.38	0.53
10:B:85:G:O2'	10:B:86:G:H5'	2.08	0.53
9:A:1006:C:C2	9:A:1138:G:N2	2.77	0.53
25:Q:88:GLU:C	25:Q:88:GLU:OE1	2.47	0.53
15:G:140:ILE:H	15:G:140:ILE:HD12	1.70	0.53
9:A:2365:G:H4'	31:W:59:PHE:CZ	2.43	0.53
11:C:257:ARG:NE	11:C:269:ARG:HH22	2.06	0.53
9:A:2742:G:H2'	9:A:2743:U:H5'	1.88	0.53
9:A:301:G:O2'	9:A:302:C:P	2.66	0.53
29:U:71:ILE:O	29:U:71:ILE:HD12	2.07	0.53
9:A:271:G:C6	9:A:272:A:N6	2.77	0.53
9:A:359:G:C2	9:A:360:U:H1'	2.43	0.53
9:A:1508:A:O2'	9:A:1509:A:C8	2.62	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:35:C:C2'	10:B:36:C:O5'	2.56	0.53
21:M:8:LYS:H	21:M:8:LYS:HD2	1.74	0.53
15:G:30:GLY:CA	15:G:78:VAL:HG12	2.36	0.53
9:A:2109:U:N3	9:A:2181:U:C4	2.76	0.53
23:O:82:ALA:O	23:O:87:ILE:HG12	2.09	0.53
9:A:2679:A:H2'	9:A:2680:U:O5'	2.08	0.53
20:L:85:VAL:CG2	20:L:94:THR:HG23	2.38	0.53
14:F:40:GLY:C	14:F:84:ILE:HD11	2.26	0.53
9:A:2331:G:H2'	9:A:2332:C:C6	2.43	0.53
9:A:923:G:H21	31:W:23:LYS:CE	2.21	0.53
12:D:124:ARG:HG2	12:D:125:TRP:NE1	2.23	0.53
9:A:1017:G:O2'	9:A:1018:U:H5'	2.08	0.53
9:A:142:A:C5	9:A:143:C:N4	2.76	0.53
9:A:1057:A:N7	9:A:1086:A:H2'	2.24	0.53
21:M:80:VAL:HG23	21:M:81:ARG:H	1.74	0.53
19:K:113:MET:HG3	19:K:116:ILE:HD11	1.89	0.53
9:A:1537:G:H2'	9:A:1538:G:O4'	2.08	0.53
17:I:105:LEU:HD23	17:I:108:ILE:HG21	1.91	0.53
9:A:1911:U:O4	9:A:1918:A:H2'	2.09	0.53
11:C:70:LYS:HE2	11:C:73:ILE:HG13	1.91	0.53
9:A:2134:A:HO2'	9:A:2135:A:H8	1.56	0.53
9:A:1864:U:OP1	9:A:2411:A:H5'	2.09	0.53
14:F:114:ARG:H	14:F:114:ARG:HD2	1.73	0.53
11:C:63:ILE:O	11:C:64:VAL:HB	2.08	0.53
9:A:900:A:C5	9:A:901:C:C5	2.97	0.53
19:K:73:ASP:C	19:K:73:ASP:OD1	2.46	0.53
31:W:22:VAL:CG1	31:W:25:PHE:HE2	2.20	0.53
9:A:1178:C:N4	9:A:1180:U:C4	2.76	0.53
9:A:247:G:H4'	9:A:386:G:C5	2.43	0.53
9:A:987:C:C2'	9:A:988:A:H5'	2.38	0.53
9:A:1459:G:O2'	9:A:1460:U:H3'	2.07	0.53
9:A:1348:C:C2'	9:A:1349:C:H5'	2.34	0.53
9:A:1378:A:H2'	9:A:1380:G:N7	2.23	0.53
17:I:78:LEU:HD23	17:I:81:LYS:HE3	1.90	0.53
9:A:1801:A:C4	11:C:261:ARG:NH1	2.76	0.53
13:E:127:GLU:HG2	13:E:133:LEU:HD13	1.90	0.53
9:A:95:A:O2'	33:Y:41:HIS:HD2	1.91	0.53
9:A:1223:G:OP2	26:R:68:ARG:NH1	2.42	0.53
29:U:82:VAL:O	29:U:94:PHE:O	2.27	0.53
9:A:1165:A:H2'	9:A:1166:G:H8	1.73	0.53
9:A:112:U:H5'	33:Y:58:ASN:ND2	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1782:U:C6	9:A:2609:U:C5	2.96	0.53
21:M:96:ILE:HD12	21:M:96:ILE:C	2.28	0.53
9:A:1833:C:H2'	9:A:1834:U:H6	1.73	0.53
9:A:2848:G:O2'	9:A:2867:G:N2	2.34	0.53
9:A:1063:G:H5'	17:I:76:ALA:CB	2.39	0.53
4:3:31:ILE:HD12	4:3:31:ILE:C	2.29	0.53
4:3:33:THR:CG2	4:3:34:LYS:N	2.71	0.53
31:W:19:ARG:HH22	31:W:22:VAL:HG21	1.74	0.53
23:O:2:ASP:C	23:O:2:ASP:OD1	2.47	0.53
29:U:10:VAL:HB	29:U:70:ALA:O	2.09	0.53
9:A:2152:G:O2'	9:A:2153:C:O4'	2.25	0.53
9:A:289:G:H2'	9:A:290:U:H6	1.73	0.53
9:A:1256:G:O2'	13:E:77:ILE:HD11	2.07	0.53
9:A:2373:G:H2'	9:A:2374:C:H6	1.74	0.53
9:A:706:A:H2'	9:A:707:G:O4'	2.08	0.53
9:A:403:U:O2'	9:A:404:A:OP2	2.22	0.53
9:A:1773:A:H2'	9:A:1774:C:H5'	1.91	0.53
9:A:2765:A:H2'	9:A:2765:A:N3	2.23	0.53
11:C:216:ARG:HB2	11:C:217:PRO:HD2	1.91	0.53
9:A:674:G:O2'	13:E:69:ARG:HD2	2.08	0.53
9:A:460:A:H2'	9:A:461:C:O4'	2.09	0.53
20:L:100:ILE:HD12	20:L:100:ILE:C	2.29	0.53
32:X:77:TYR:O	32:X:77:TYR:CG	2.61	0.53
12:D:106:LYS:CD	12:D:106:LYS:N	2.64	0.53
31:W:44:PHE:O	31:W:78:PHE:HA	2.08	0.53
31:W:30:VAL:N	31:W:31:LEU:HD23	2.23	0.53
24:P:25:VAL:HA	24:P:84:SER:O	2.08	0.53
23:O:3:LYS:CG	23:O:4:LYS:H	2.21	0.53
11:C:229:HIS:HD2	11:C:246:PRO:HA	1.71	0.53
28:T:39:THR:O	28:T:41:ALA:N	2.42	0.53
27:S:73:LYS:HB3	27:S:106:VAL:HB	1.91	0.53
14:F:71:LYS:CD	14:F:80:GLN:HG3	2.31	0.53
9:A:1107:G:C4	9:A:1108:U:C5	2.97	0.53
9:A:1141:U:H6	18:J:65:THR:CG2	2.20	0.53
16:H:43:ASN:HA	16:H:46:PHE:HB3	1.91	0.53
9:A:409:G:C2'	9:A:410:G:H5'	2.38	0.53
11:C:129:LEU:HB2	11:C:134:ILE:HD11	1.91	0.53
19:K:93:GLN:OE1	19:K:93:GLN:CA	2.57	0.53
9:A:1912:A:C2	9:A:1919:A:C6	2.96	0.53
2:1:3:GLY:O	2:1:4:ILE:HG12	2.10	0.53
22:N:70:THR:HG21	22:N:75:ILE:HD11	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1562:U:H2'	9:A:1563:U:O4'	2.08	0.53
9:A:2418:A:C5	9:A:2419:U:C5	2.98	0.53
9:A:1670:C:C5	9:A:1671:U:C4	2.97	0.53
31:W:22:VAL:O	31:W:23:LYS:O	2.26	0.52
9:A:1022:G:O2'	9:A:1023:U:OP2	2.28	0.52
9:A:1568:G:H4'	11:C:58:LYS:HG2	1.90	0.52
9:A:339:U:H2'	9:A:340:A:H5'	1.91	0.52
9:A:2414:G:C2'	9:A:2415:G:H5'	2.39	0.52
10:B:12:C:C4'	10:B:13:G:OP1	2.56	0.52
9:A:860:U:H6	9:A:860:U:H5'	1.74	0.52
9:A:1301:A:N3	9:A:1301:A:H2'	2.25	0.52
9:A:2648:G:H2'	9:A:2649:C:H6	1.73	0.52
9:A:300:A:N1	9:A:333:G:O2'	2.34	0.52
9:A:1148:U:C6	9:A:1148:U:C3'	2.92	0.52
13:E:21:ARG:HG2	13:E:22:ASP:O	2.09	0.52
9:A:495:G:H1'	27:S:57:ASN:ND2	2.24	0.52
18:J:44:TYR:CG	25:Q:63:ARG:HG2	2.44	0.52
25:Q:91:ARG:NE	26:R:11:GLN:H	2.06	0.52
32:X:38:TRP:HE3	32:X:45:PHE:CD2	2.28	0.52
1:0:39:ARG:O	1:0:40:HIS:HB2	2.09	0.52
11:C:229:HIS:HD2	11:C:246:PRO:CA	2.22	0.52
29:U:10:VAL:HG23	29:U:11:ILE:N	2.23	0.52
28:T:38:ALA:HB1	28:T:43:ILE:CG2	2.38	0.52
19:K:21:CYS:CA	19:K:41:ILE:HD12	2.28	0.52
12:D:62:LYS:N	12:D:63:PRO:HD3	2.23	0.52
34:Z:6:ILE:O	34:Z:34:THR:HA	2.09	0.52
9:A:2663:G:C2'	9:A:2664:G:H5'	2.39	0.52
24:P:91:VAL:HG11	24:P:96:LEU:HD21	1.90	0.52
9:A:532:A:N7	9:A:2021:C:H2'	2.24	0.52
9:A:324:A:O2'	9:A:325:G:C5'	2.57	0.52
9:A:687:C:H2'	9:A:688:U:H6	1.72	0.52
25:Q:27:ARG:HA	25:Q:33:VAL:HG12	1.91	0.52
13:E:48:THR:H	13:E:51:GLU:CG	2.22	0.52
9:A:1259:G:H2'	9:A:1260:A:H8	1.74	0.52
9:A:981:A:H5''	9:A:982:C:OP2	2.10	0.52
9:A:2467:C:C2'	9:A:2468:A:H5'	2.39	0.52
15:G:168:VAL:O	15:G:168:VAL:HG23	2.10	0.52
9:A:866:A:C4'	9:A:866:A:C8	2.91	0.52
11:C:108:GLY:O	11:C:109:LEU:HD22	2.09	0.52
29:U:13:LEU:HD12	29:U:69:VAL:CA	2.38	0.52
9:A:2197:U:HO2'	9:A:2198:A:P	2.33	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:934:U:H2'	9:A:935:C:C6	2.44	0.52
33:Y:21:LEU:HA	33:Y:25:GLN:HB3	1.92	0.52
19:K:92:GLU:OE1	19:K:92:GLU:N	2.43	0.52
9:A:2415:G:H2'	9:A:2416:C:C6	2.43	0.52
30:V:5:ASN:H	30:V:5:ASN:HD22	1.54	0.52
22:N:109:PRO:O	22:N:109:PRO:CG	2.58	0.52
18:J:20:ALA:O	18:J:21:THR:C	2.46	0.52
30:V:26:PHE:HD1	30:V:27:PRO:O	1.93	0.52
13:E:115:GLN:HA	13:E:115:GLN:OE1	2.08	0.52
9:A:9:G:C6	9:A:2629:U:C6	2.98	0.52
9:A:1070:A:N1	9:A:1097:U:H4'	2.24	0.52
19:K:18:ARG:H	19:K:45:GLU:CB	2.13	0.52
18:J:89:PHE:CE1	18:J:93:ILE:HG13	2.44	0.52
11:C:91:ALA:O	11:C:102:TYR:HA	2.10	0.52
21:M:1:MET:HE3	21:M:2:LEU:N	2.10	0.52
23:O:89:ASP:H	23:O:116:GLN:HB2	1.73	0.52
9:A:658:U:O2'	13:E:95:LYS:NZ	2.40	0.52
11:C:184:GLU:O	11:C:185:ALA:HB3	2.09	0.52
9:A:580:U:C2'	9:A:581:C:H5'	2.39	0.52
9:A:627:A:C5	9:A:637:A:C8	2.97	0.52
26:R:42:ALA:HA	26:R:46:GLU:CB	2.37	0.52
29:U:53:GLN:N	29:U:54:PRO:CD	2.73	0.52
9:A:2199:A:H5'	9:A:2200:C:C5	2.40	0.52
33:Y:45:GLN:O	33:Y:46:VAL:CB	2.57	0.52
13:E:126:VAL:HG22	13:E:127:GLU:N	2.23	0.52
9:A:946:C:O2'	9:A:947:A:H5'	2.09	0.52
9:A:1172:C:N3	9:A:1173:U:H1'	2.24	0.52
27:S:8:ARG:O	27:S:9:HIS:HB2	2.10	0.52
9:A:1052:C:H2'	9:A:1053:C:H5'	1.91	0.52
10:B:73:A:H4'	10:B:73:A:OP1	2.08	0.52
25:Q:46:TYR:CZ	25:Q:50:ARG:NH1	2.77	0.52
19:K:13:ASN:O	19:K:15:GLY:N	2.40	0.52
14:F:60:SER:O	14:F:61:GLY:C	2.48	0.52
17:I:123:ALA:C	17:I:125:THR:H	2.10	0.52
15:G:131:VAL:CG2	15:G:131:VAL:O	2.58	0.52
9:A:1288:G:C5	9:A:1327:A:C2	2.98	0.52
31:W:18:LYS:HE3	31:W:19:ARG:CG	2.40	0.52
9:A:1799:G:C2	11:C:153:LEU:HD23	2.44	0.52
33:Y:8:GLU:O	33:Y:9:LYS:CB	2.55	0.52
9:A:412:A:C2'	9:A:413:C:C5'	2.86	0.52
22:N:33:ILE:HD11	22:N:118:ARG:NH2	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1421:G:C2	9:A:1422:G:N7	2.77	0.52
9:A:603:A:C4'	9:A:604:G:O5'	2.50	0.52
9:A:783:A:H8	9:A:784:G:H4'	1.73	0.52
33:Y:18:LEU:O	33:Y:22:LEU:HB3	2.09	0.52
9:A:2793:C:H2'	9:A:2794:C:C6	2.44	0.52
26:R:61:ALA:HB2	26:R:98:ILE:HA	1.92	0.52
9:A:1359:A:H2'	9:A:1360:G:O5'	2.10	0.52
9:A:2273:A:H2'	9:A:2274:A:C8	2.45	0.52
18:J:101:ILE:O	18:J:104:ALA:HB3	2.09	0.52
9:A:1669:A:N3	9:A:1669:A:H2'	2.24	0.52
23:O:55:GLU:O	23:O:56:LYS:C	2.47	0.52
9:A:1073:A:C8	9:A:1073:A:OP1	2.62	0.52
9:A:2491:U:O5'	9:A:2491:U:H2'	2.10	0.52
20:L:96:LYS:HD3	20:L:103:ILE:HA	1.92	0.52
12:D:105:LYS:HE3	12:D:176:ASP:HB3	1.92	0.52
11:C:90:ILE:HD12	11:C:103:ILE:O	2.10	0.52
9:A:1999:C:O2'	9:A:2000:C:H5'	2.10	0.52
9:A:412:A:O2'	9:A:413:C:C5'	2.44	0.52
9:A:197:A:H2'	9:A:198:C:H5'	1.91	0.52
9:A:1157:G:H2'	9:A:1158:C:H6	1.74	0.52
9:A:1056:G:N2	9:A:1102:C:C5	2.78	0.52
9:A:1047:G:N2	9:A:1110:G:C4	2.77	0.52
9:A:2772:C:H2'	9:A:2773:C:H6	1.74	0.52
9:A:27:G:N2	9:A:512:G:O2'	2.37	0.52
3:2:12:ARG:NH2	3:2:12:ARG:HB2	2.25	0.52
32:X:12:VAL:HG23	32:X:28:PHE:HB2	1.92	0.52
9:A:2405:G:H1'	9:A:2412:A:H61	1.73	0.52
30:V:2:PHE:HD1	30:V:50:MET:CE	2.23	0.52
9:A:1593:A:H2'	9:A:1594:U:O4'	2.10	0.52
9:A:2593:U:H2'	9:A:2594:C:C6	2.44	0.52
9:A:163:C:O2'	9:A:164:C:P	2.67	0.52
9:A:1637:A:H4'	9:A:2711:A:O2'	2.09	0.52
12:D:97:SER:CA	12:D:99:GLU:HG2	2.39	0.52
9:A:1872:A:H2'	9:A:1873:G:O4'	2.10	0.52
31:W:19:ARG:CZ	31:W:22:VAL:HB	2.40	0.52
9:A:855:G:H21	31:W:23:LYS:CB	2.23	0.52
12:D:121:THR:HG22	12:D:125:TRP:CD1	2.41	0.52
9:A:142:A:C5	9:A:143:C:C4	2.98	0.52
9:A:2305:U:O2'	9:A:2306:C:H5'	2.09	0.52
9:A:1626:A:O2'	9:A:1627:G:OP2	2.27	0.52
22:N:12:ARG:HD3	22:N:16:HIS:CG	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:372:G:C8	32:X:60:LYS:HE2	2.44	0.52
9:A:2221:G:C2'	9:A:2222:C:H5'	2.40	0.52
26:R:97:LYS:O	26:R:98:ILE:CB	2.57	0.52
20:L:4:ASN:N	20:L:4:ASN:HD22	1.99	0.52
9:A:2673:G:H2'	9:A:2674:G:H8	1.75	0.52
9:A:1535:A:H4'	9:A:1536:C:OP2	2.08	0.52
9:A:1485:U:C2	9:A:1505:A:C2	2.97	0.52
9:A:885:C:H3'	9:A:885:C:H6	1.75	0.52
17:I:86:LYS:HD2	17:I:86:LYS:H	1.74	0.52
9:A:2733:A:O2'	9:A:2734:A:H5'	2.10	0.52
34:Z:29:ARG:C	34:Z:30:ARG:HG3	2.30	0.52
18:J:40:HIS:C	18:J:41:LYS:HG2	2.30	0.52
9:A:570:G:H2'	9:A:2030:A:N7	2.24	0.52
16:H:35:LYS:O	16:H:36:ALA:HB2	2.09	0.52
28:T:29:THR:N	28:T:86:THR:HA	2.25	0.52
9:A:1157:G:H2'	9:A:1158:C:C6	2.45	0.52
9:A:1644:C:H2'	9:A:1644:C:O2	2.09	0.52
9:A:215:G:H4'	9:A:216:A:OP1	2.10	0.52
29:U:93:ARG:NH1	29:U:102:ILE:CD1	2.70	0.52
9:A:1161:C:H2'	9:A:1162:G:O5'	2.10	0.52
9:A:859:G:N2	9:A:916:G:H2'	2.25	0.52
9:A:559:G:H1'	25:Q:55:GLN:NE2	2.24	0.52
9:A:259:G:O2'	9:A:260:G:H5'	2.09	0.52
11:C:241:LYS:O	11:C:243:PRO:HD3	2.10	0.52
9:A:560:C:O2	25:Q:47:ARG:NH1	2.41	0.52
25:Q:91:ARG:CZ	26:R:11:GLN:H	2.23	0.52
20:L:110:VAL:O	20:L:111:ILE:CB	2.49	0.52
12:D:29:VAL:HB	12:D:98:VAL:HG13	1.91	0.52
19:K:18:ARG:N	19:K:45:GLU:CB	2.69	0.52
9:A:1189:A:H2'	9:A:1190:G:O5'	2.10	0.52
11:C:90:ILE:CG2	11:C:102:TYR:HD1	2.21	0.52
21:M:73:ILE:HG21	21:M:91:TYR:CE2	2.44	0.52
9:A:784:G:C5'	11:C:225:ASN:OD1	2.58	0.52
27:S:84:ARG:O	27:S:95:ARG:O	2.26	0.52
9:A:2662:A:H2'	9:A:2663:G:O4'	2.09	0.52
11:C:119:VAL:HG12	11:C:133:ASN:HD21	1.75	0.52
15:G:33:THR:H	15:G:34:ARG:NH1	2.08	0.52
26:R:1:MET:HA	26:R:42:ALA:O	2.10	0.52
11:C:259:ASN:C	11:C:261:ARG:H	2.14	0.52
26:R:74:ILE:HD12	26:R:74:ILE:N	2.25	0.52
25:Q:97:ILE:C	25:Q:97:ILE:HD12	2.30	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1385:A:O2'	9:A:1396:U:O2	2.28	0.52
20:L:125:LEU:N	20:L:125:LEU:HD23	2.25	0.52
2:1:15:GLY:O	2:1:16:THR:O	2.28	0.52
9:A:648:G:O2'	9:A:2351:G:OP1	2.16	0.52
9:A:1668:A:H4'	9:A:1669:A:O5'	2.10	0.52
4:3:40:LYS:HA	4:3:43:LEU:HD12	1.91	0.52
9:A:310:A:O2'	9:A:311:A:P	2.67	0.52
9:A:2469:A:C6	9:A:2482:A:C8	2.98	0.52
16:H:31:VAL:C	16:H:33:GLN:N	2.63	0.52
13:E:5:LEU:HD13	13:E:122:GLU:CG	2.40	0.52
31:W:75:ASN:O	31:W:76:ARG:HB2	2.09	0.52
33:Y:47:ARG:CG	33:Y:47:ARG:NH2	2.66	0.52
28:T:30:ILE:HG12	28:T:30:ILE:O	2.09	0.52
27:S:25:ARG:HD3	27:S:73:LYS:NZ	2.25	0.52
12:D:34:VAL:O	12:D:34:VAL:HG23	2.09	0.52
9:A:301:G:C6	9:A:317:G:C6	2.98	0.52
9:A:1585:C:H2'	9:A:1586:A:C4'	2.40	0.52
9:A:1936:A:H2	9:A:1943:U:C4	2.28	0.52
9:A:784:G:H5''	11:C:225:ASN:OD1	2.10	0.52
9:A:784:G:C5	11:C:227:VAL:HG11	2.45	0.52
13:E:41:GLN:HB2	13:E:43:THR:CG2	2.40	0.52
9:A:2659:G:N2	9:A:2661:G:H3'	2.25	0.52
17:I:56:VAL:HG23	17:I:69:VAL:O	2.10	0.52
9:A:1115:G:O2'	9:A:1116:G:C5'	2.57	0.52
9:A:2314:A:C2'	9:A:2315:G:H5'	2.39	0.52
9:A:1505:A:O2'	9:A:1506:U:H5'	2.09	0.52
15:G:97:VAL:HA	15:G:101:VAL:O	2.10	0.52
9:A:234:U:C2'	9:A:235:U:H5'	2.40	0.52
9:A:1838:C:C5	9:A:1899:A:C5	2.98	0.52
21:M:11:LYS:HE2	21:M:87:GLY:O	2.09	0.52
9:A:1377:G:H8	9:A:1377:G:O5'	1.93	0.52
25:Q:86:SER:HB3	26:R:51:VAL:CG1	2.40	0.51
18:J:74:TYR:CD2	18:J:92:MET:CE	2.93	0.51
31:W:70:VAL:HG23	31:W:75:ASN:OD1	2.08	0.51
11:C:244:VAL:HG23	11:C:245:THR:O	2.10	0.51
9:A:1626:A:HO2'	9:A:1627:G:P	2.32	0.51
9:A:1106:G:C2	9:A:1107:G:N9	2.78	0.51
9:A:37:C:H2'	9:A:38:A:O5'	2.10	0.51
9:A:646:U:H5'	9:A:647:G:H5''	1.91	0.51
9:A:2330:G:N2	31:W:38:ARG:HA	2.23	0.51
4:3:53:ASP:HB3	20:L:57:LEU:HD22	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:514:A:H1'	9:A:581:C:O2'	2.09	0.51
21:M:132:THR:CG2	21:M:133:LYS:H	2.20	0.51
9:A:294:A:C5	9:A:345:A:C2	2.98	0.51
9:A:2109:U:O4	9:A:2110:G:C5	2.63	0.51
9:A:2728:U:HO2'	9:A:2729:G:P	2.32	0.51
9:A:857:G:H2'	9:A:858:G:O4'	2.09	0.51
9:A:1534:U:H2'	9:A:1534:U:O2	2.09	0.51
9:A:1405:U:N3	9:A:1406:U:C4	2.77	0.51
9:A:2564:A:OP1	9:A:2648:G:H4'	2.09	0.51
9:A:1394:U:C6	9:A:1394:U:C3'	2.93	0.51
17:I:75:ALA:HB3	17:I:131:THR:HG21	1.91	0.51
9:A:211:C:O2'	9:A:212:G:H5'	2.10	0.51
9:A:1932:A:H2'	9:A:1933:G:O4'	2.10	0.51
9:A:1767:G:O2'	9:A:1768:C:H5'	2.10	0.51
21:M:36:VAL:HG23	30:V:82:TYR:CD1	2.44	0.51
12:D:117:GLY:C	12:D:118:PHE:CG	2.81	0.51
9:A:1744:A:H5''	9:A:1745:A:OP2	2.09	0.51
16:H:24:GLY:O	16:H:28:ASN:HB2	2.09	0.51
9:A:1644:C:O2'	9:A:1645:G:C5'	2.53	0.51
9:A:2340:A:H2'	9:A:2341:G:C8	2.46	0.51
34:Z:38:GLU:OE1	34:Z:38:GLU:N	2.41	0.51
17:I:107:GLU:O	17:I:111:THR:HG23	2.10	0.51
19:K:45:GLU:HA	19:K:45:GLU:OE2	2.10	0.51
11:C:103:ILE:HG23	11:C:104:LEU:N	2.25	0.51
31:W:73:PRO:HG2	31:W:76:ARG:HD2	1.91	0.51
9:A:137:U:C4	9:A:142:A:N6	2.72	0.51
9:A:2182:U:H2'	9:A:2183:A:OP1	2.10	0.51
9:A:2182:U:C2'	9:A:2183:A:OP1	2.58	0.51
9:A:408:G:O2'	9:A:409:G:H5'	2.09	0.51
9:A:1378:A:HO2'	9:A:1379:U:P	2.33	0.51
9:A:26:G:H1'	9:A:514:A:H61	1.73	0.51
9:A:871:U:OP1	21:M:5:LYS:HG3	2.10	0.51
9:A:2889:C:C2'	9:A:2890:G:O5'	2.58	0.51
9:A:1471:G:H2'	9:A:1472:C:C6	2.43	0.51
18:J:69:ARG:O	18:J:90:GLU:HG2	2.11	0.51
9:A:2063:C:H2'	9:A:2064:C:H5'	1.92	0.51
9:A:118:A:C8	9:A:119:A:C8	2.98	0.51
32:X:29:LEU:N	32:X:29:LEU:HD23	2.24	0.51
12:D:29:VAL:HB	12:D:98:VAL:CG1	2.40	0.51
9:A:923:G:H4'	31:W:25:PHE:CE1	2.45	0.51
31:W:46:ALA:CB	31:W:79:ILE:O	2.52	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2149:U:HO2'	9:A:2150:C:C4'	2.23	0.51
22:N:25:ALA:HA	22:N:48:VAL:CG2	2.40	0.51
19:K:20:MET:C	19:K:41:ILE:CD1	2.79	0.51
4:3:2:LYS:HE2	9:A:242:G:P	2.50	0.51
9:A:2757:A:N1	15:G:66:THR:HG21	2.25	0.51
23:O:59:ALA:O	23:O:61:GLN:N	2.44	0.51
9:A:2225:A:H4'	9:A:2226:C:O5'	2.11	0.51
17:I:32:VAL:HG13	17:I:66:PHE:CE2	2.46	0.51
9:A:345:A:O2'	9:A:347:A:N7	2.44	0.51
27:S:29:VAL:HG12	27:S:30:SER:N	2.25	0.51
9:A:1360:G:H5''	9:A:1360:G:H8	1.76	0.51
5:4:3:VAL:C	5:4:4:ARG:HG2	2.30	0.51
20:L:40:SER:O	20:L:41:ARG:CB	2.58	0.51
9:A:163:C:O2'	9:A:164:C:O5'	2.27	0.51
9:A:1838:C:C4	9:A:1899:A:C4	2.99	0.51
9:A:2063:C:C2'	9:A:2064:C:H5'	2.41	0.51
32:X:10:ARG:HB2	32:X:11:PRO:CD	2.40	0.51
9:A:1411:U:C2'	9:A:1412:U:H5'	2.40	0.51
9:A:839:U:H2'	9:A:840:C:C6	2.45	0.51
9:A:1153:C:C2'	9:A:1154:G:O5'	2.59	0.51
25:Q:91:ARG:CZ	25:Q:93:ILE:HG21	2.41	0.51
9:A:571:U:C4	9:A:575:A:C5	2.98	0.51
25:Q:4:LYS:HZ3	25:Q:5:ARG:HA	1.74	0.51
9:A:855:G:C2	31:W:23:LYS:HG2	2.46	0.51
31:W:42:THR:CG2	31:W:43:LYS:HZ2	2.24	0.51
24:P:87:ARG:NH1	24:P:87:ARG:CG	2.68	0.51
9:A:1027:A:C6	9:A:1126:A:N3	2.79	0.51
10:B:92:C:C2'	10:B:93:C:O5'	2.58	0.51
11:C:93:VAL:O	11:C:94:LEU:HB3	2.10	0.51
9:A:1945:G:C4	9:A:1946:U:C5	2.99	0.51
9:A:1738:G:O2'	9:A:1739:A:O5'	2.29	0.51
22:N:65:LEU:C	22:N:65:LEU:HD12	2.30	0.51
23:O:75:GLY:HA2	23:O:106:LEU:CD1	2.39	0.51
9:A:395:U:O2'	9:A:396:G:C8	2.62	0.51
9:A:1572:A:C2'	9:A:1573:G:H5'	2.40	0.51
26:R:90:ARG:O	26:R:91:GLN:HB3	2.10	0.51
9:A:2898:U:O2	18:J:134:ALA:HB1	2.10	0.51
9:A:2400:G:C2'	9:A:2401:U:H5'	2.40	0.51
18:J:49:ASP:OD1	18:J:121:LYS:NZ	2.43	0.51
13:E:119:ILE:HD13	13:E:119:ILE:H	1.76	0.51
28:T:34:VAL:HG11	28:T:43:ILE:HD12	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:545:U:H6	9:A:546:U:H4'	1.75	0.51
9:A:1627:G:C2	9:A:1628:G:C8	2.99	0.51
9:A:1055:G:H3'	9:A:1056:G:H8	1.75	0.51
9:A:601:C:O2	9:A:605:G:H4'	2.10	0.51
9:A:659:G:N2	13:E:30:GLN:HE22	2.09	0.51
9:A:2663:G:H2'	9:A:2664:G:C8	2.44	0.51
31:W:37:VAL:CG1	31:W:55:ASP:O	2.56	0.51
23:O:31:THR:CG2	23:O:34:HIS:N	2.72	0.51
17:I:33:ASN:HB3	17:I:36:GLU:CB	2.38	0.51
9:A:2630:G:C2'	9:A:2631:G:H5'	2.40	0.51
15:G:30:GLY:O	15:G:32:LEU:N	2.44	0.51
13:E:12:LEU:O	13:E:13:THR:HB	2.11	0.51
1:O:27:LEU:H	1:O:27:LEU:CD2	2.24	0.51
3:2:27:GLY:O	3:2:30:VAL:HB	2.10	0.51
11:C:44:ASN:OD1	11:C:44:ASN:C	2.49	0.51
9:A:103:A:H2'	9:A:104:A:C8	2.46	0.51
24:P:56:SER:O	24:P:75:THR:HG23	2.11	0.51
18:J:40:HIS:O	18:J:41:LYS:HG2	2.10	0.51
17:I:89:SER:OG	17:I:135:MET:HA	2.11	0.51
9:A:570:G:C4	9:A:2030:A:N7	2.78	0.51
32:X:34:SER:CA	32:X:49:ARG:HA	2.39	0.51
31:W:42:THR:HG22	31:W:43:LYS:N	2.26	0.51
9:A:2311:A:O3'	9:A:2312:U:H6	1.92	0.51
28:T:85:VAL:O	28:T:86:THR:O	2.29	0.51
9:A:1013:C:H2'	9:A:1014:A:H8	1.75	0.51
18:J:81:ILE:CG2	18:J:82:GLY:N	2.68	0.51
18:J:81:ILE:HG12	18:J:82:GLY:N	2.25	0.51
34:Z:13:ILE:CG2	34:Z:14:GLY:N	2.72	0.51
9:A:548:G:H4'	9:A:549:G:H5'	1.93	0.51
9:A:1105:U:H2'	9:A:1106:G:C8	2.45	0.51
9:A:845:A:C6	9:A:847:U:C6	2.98	0.51
9:A:1947:C:N3	9:A:1960:A:C2	2.79	0.51
9:A:2579:C:O2'	9:A:2580:U:H5'	2.10	0.51
9:A:1730:C:H1'	9:A:1731:G:C2	2.46	0.51
24:P:92:ARG:O	24:P:92:ARG:HG3	2.11	0.51
25:Q:77:LYS:HE2	25:Q:116:LEU:CD2	2.40	0.51
9:A:1590:A:H2'	9:A:1591:A:H8	1.73	0.51
9:A:439:A:H2'	9:A:440:C:O5'	2.11	0.51
9:A:1906:G:C2'	9:A:1907:G:O5'	2.59	0.51
5:4:7:VAL:HG13	5:4:38:GLY:HA2	1.92	0.51
24:P:53:GLY:O	24:P:56:SER:OG	2.23	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Q:63:ARG:NH2	25:Q:95:ALA:O	2.43	0.51
9:A:1327:A:H2'	9:A:1328:A:O5'	2.11	0.51
9:A:1497:U:H5''	9:A:1498:C:OP2	2.11	0.51
11:C:108:GLY:O	11:C:109:LEU:CD2	2.58	0.51
11:C:246:PRO:HD2	11:C:247:TRP:CZ3	2.46	0.51
18:J:135:GLN:CA	18:J:135:GLN:NE2	2.74	0.51
9:A:763:G:O2'	9:A:765:C:H5'	2.11	0.51
9:A:1935:G:H1'	9:A:1964:G:H21	1.70	0.51
9:A:1430:G:H2'	9:A:1431:A:H8	1.75	0.51
34:Z:43:ILE:CD1	34:Z:47:ILE:HD11	2.40	0.51
9:A:361:G:HO2'	9:A:362:A:C5'	2.24	0.51
19:K:91:SER:O	19:K:92:GLU:C	2.48	0.51
9:A:2210:U:C2	9:A:2212:A:N7	2.79	0.51
25:Q:40:LYS:HD3	25:Q:44:TYR:CE1	2.46	0.51
13:E:127:GLU:OE1	13:E:127:GLU:N	2.44	0.51
9:A:2134:A:O2'	9:A:2135:A:C8	2.64	0.51
9:A:1760:C:H2'	9:A:1761:C:O4'	2.10	0.51
9:A:1206:G:O2'	9:A:1207:C:H5'	2.11	0.51
9:A:1535:A:O2'	9:A:1536:C:OP1	2.28	0.51
10:B:43:C:O2	14:F:91:ARG:NH2	2.44	0.51
4:3:28:LEU:HD11	4:3:40:LYS:HB3	1.93	0.51
5:4:7:VAL:HG23	5:4:8:LYS:H	1.74	0.51
24:P:80:VAL:HG12	24:P:81:ASP:H	1.72	0.51
9:A:1064:C:H4'	17:I:89:SER:N	2.26	0.51
20:L:85:VAL:HG21	20:L:94:THR:HG23	1.92	0.51
14:F:129:MET:HE3	14:F:153:ILE:HD11	1.90	0.51
25:Q:4:LYS:NZ	25:Q:5:ARG:HA	2.26	0.51
12:D:104:VAL:HG13	12:D:106:LYS:CD	2.41	0.51
14:F:39:VAL:CG1	14:F:40:GLY:N	2.73	0.51
23:O:2:ASP:O	23:O:3:LYS:CG	2.59	0.51
9:A:1712:U:N3	9:A:1713:A:C5	2.79	0.51
29:U:35:VAL:HG12	29:U:38:ILE:CG1	2.32	0.51
28:T:31:VAL:CA	28:T:32:LEU:HD23	2.41	0.51
14:F:131:VAL:C	14:F:132:ARG:HG3	2.32	0.51
10:B:92:C:H2'	10:B:93:C:O5'	2.11	0.51
23:O:67:ASN:H	23:O:70:ALA:HB3	1.76	0.51
9:A:1820:U:OP1	11:C:176:ARG:HG2	2.11	0.51
9:A:1857:G:N3	9:A:1884:G:C2	2.79	0.51
9:A:1795:C:H2'	9:A:1796:U:C6	2.42	0.51
9:A:2080:A:C5'	32:X:18:SER:HB3	2.41	0.51
21:M:57:VAL:O	21:M:58:LYS:HB2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:D:142:VAL:HG23	12:D:143:PRO:CD	2.41	0.51
9:A:2784:U:H4'	12:D:42:ASN:ND2	2.25	0.51
9:A:980:A:C6	9:A:981:A:N1	2.78	0.51
9:A:2806:C:C2'	9:A:2807:U:H5'	2.41	0.51
9:A:1009:A:H8	9:A:1009:A:O5'	1.94	0.51
9:A:1897:G:C2	9:A:1898:U:C2	2.98	0.51
20:L:132:ARG:HA	20:L:142:ILE:CD1	2.41	0.51
31:W:51:GLY:H	31:W:61:LYS:HZ2	1.58	0.51
11:C:142:ASN:HA	11:C:153:LEU:O	2.11	0.51
28:T:39:THR:O	28:T:39:THR:CG2	2.59	0.51
21:M:40:ARG:HB3	21:M:95:LEU:HD12	1.93	0.51
9:A:1459:G:C5	9:A:1461:C:C4	2.99	0.51
9:A:1277:G:H4'	22:N:20:MET:CE	2.38	0.51
19:K:52:VAL:HG23	19:K:53:LYS:N	2.26	0.51
9:A:1627:G:C5'	9:A:1627:G:C8	2.85	0.51
13:E:141:MET:O	13:E:142:ALA:HB3	2.10	0.51
9:A:2013:A:H2'	9:A:2014:A:H5'	1.93	0.51
23:O:24:THR:N	23:O:42:PRO:HG3	2.26	0.51
25:Q:26:ALA:CB	25:Q:30:VAL:HG23	2.40	0.51
13:E:127:GLU:CD	13:E:127:GLU:N	2.64	0.51
9:A:1424:G:H2'	9:A:1425:G:O4'	2.11	0.51
9:A:945:A:C4	9:A:2448:A:C2	2.98	0.51
9:A:859:G:OP2	9:A:859:G:C8	2.64	0.51
9:A:112:U:C5'	33:Y:58:ASN:HD21	2.24	0.51
9:A:1523:U:O2'	9:A:1524:G:H5'	2.10	0.51
9:A:2451:A:OP1	9:A:2497:A:N6	2.44	0.51
15:G:117:PRO:O	15:G:118:ALA:O	2.28	0.51
9:A:996:A:O3'	25:Q:91:ARG:HG2	2.11	0.50
20:L:96:LYS:HA	20:L:101:ILE:HG22	1.93	0.50
21:M:36:VAL:HG12	21:M:127:LYS:C	2.31	0.50
26:R:47:VAL:CG1	26:R:54:VAL:HB	2.41	0.50
25:Q:65:ASN:HD22	25:Q:69:ARG:HH22	1.52	0.50
9:A:1500:G:O2'	9:A:1501:G:H5'	2.11	0.50
23:O:111:ARG:C	23:O:113:ALA:N	2.64	0.50
14:F:131:VAL:HG21	14:F:151:LEU:CD1	2.40	0.50
9:A:302:C:O2'	9:A:303:G:C5'	2.59	0.50
10:B:90:C:C2'	10:B:91:C:O5'	2.59	0.50
9:A:2197:U:O2'	9:A:2198:A:P	2.69	0.50
9:A:2656:U:C4	9:A:2664:G:N2	2.79	0.50
9:A:511:U:H5	9:A:512:G:C5	2.28	0.50
9:A:2563:U:O2	9:A:2565:A:H8	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:I:58:ILE:HG22	17:I:60:VAL:HG23	1.92	0.50
9:A:1694:C:H4'	9:A:1695:G:C5'	2.41	0.50
3:2:20:ALA:O	3:2:23:ALA:HB3	2.10	0.50
25:Q:40:LYS:HA	25:Q:43:GLN:HG2	1.93	0.50
27:S:29:VAL:CG1	27:S:30:SER:N	2.74	0.50
30:V:6:ALA:HB1	30:V:40:ILE:CG2	2.41	0.50
9:A:1875:G:H2'	9:A:1876:A:OP2	2.11	0.50
9:A:1247:A:C4	9:A:1249:U:C5	2.99	0.50
9:A:1240:U:H5''	9:A:1240:U:C6	2.46	0.50
13:E:37:ALA:C	13:E:39:ALA:H	2.15	0.50
9:A:554:U:O4	9:A:555:G:C6	2.64	0.50
9:A:2720:U:C6	9:A:2872:A:N6	2.79	0.50
25:Q:93:ILE:CG2	25:Q:94:LEU:H	2.24	0.50
9:A:568:U:OP1	20:L:36:LYS:HE3	2.12	0.50
26:R:39:LEU:HB3	26:R:49:ILE:HD13	1.94	0.50
16:H:9:VAL:O	16:H:13:GLY:HA3	2.12	0.50
32:X:40:GLU:HG3	32:X:43:LYS:HZ3	1.75	0.50
15:G:93:TYR:O	15:G:94:ARG:HB3	2.11	0.50
11:C:141:HIS:HE2	11:C:193:GLU:C	2.15	0.50
31:W:75:ASN:OD1	31:W:76:ARG:N	2.44	0.50
11:C:247:TRP:O	11:C:249:VAL:N	2.44	0.50
28:T:32:LEU:N	28:T:83:ALA:CB	2.70	0.50
14:F:105:ILE:O	14:F:105:ILE:HG13	2.12	0.50
9:A:2140:G:C8	9:A:2140:G:OP2	2.63	0.50
9:A:37:C:H1'	13:E:45:ALA:HB2	1.92	0.50
13:E:42:GLY:C	13:E:43:THR:HG23	2.31	0.50
15:G:36:LEU:CD2	15:G:36:LEU:N	2.74	0.50
26:R:18:GLN:O	26:R:97:LYS:O	2.29	0.50
9:A:1437:C:H2'	9:A:1438:U:C6	2.45	0.50
21:M:5:LYS:HZ2	21:M:5:LYS:HB3	1.75	0.50
9:A:2728:U:O2'	9:A:2729:G:H5''	2.11	0.50
12:D:35:THR:CG2	12:D:51:THR:HG22	2.41	0.50
5:4:7:VAL:HG23	5:4:8:LYS:N	2.27	0.50
15:G:117:PRO:O	15:G:118:ALA:C	2.49	0.50
13:E:134:LEU:HD11	13:E:138:LEU:HD11	1.93	0.50
17:I:135:MET:HG2	17:I:137:LEU:HG	1.92	0.50
31:W:22:VAL:CG1	31:W:25:PHE:CE2	2.92	0.50
27:S:73:LYS:CA	27:S:73:LYS:CE	2.71	0.50
5:4:9:LYS:O	5:4:10:LEU:HD23	2.11	0.50
9:A:1141:U:C4'	9:A:1142:A:O5'	2.58	0.50
9:A:28:A:C2	9:A:513:A:C8	3.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:622:G:H2'	9:A:623:C:H6	1.74	0.50
15:G:115:GLN:N	15:G:115:GLN:OE1	2.44	0.50
9:A:151:C:H2'	9:A:152:A:C8	2.47	0.50
9:A:2077:A:O2'	9:A:2078:C:H5'	2.12	0.50
26:R:102:SER:O	26:R:103:ALA:O	2.29	0.50
9:A:1565:C:O2'	9:A:1566:A:O5'	2.30	0.50
11:C:238:ASN:O	11:C:239:PHE:HB2	2.12	0.50
9:A:830:G:H4'	9:A:831:G:OP2	2.11	0.50
9:A:238:C:C6	9:A:238:C:H3'	2.47	0.50
11:C:123:ILE:O	11:C:123:ILE:CG1	2.58	0.50
9:A:2280:G:C2	9:A:2281:A:C8	2.99	0.50
32:X:70:LEU:HB3	32:X:75:GLU:HB2	1.93	0.50
14:F:153:ILE:O	14:F:153:ILE:HD12	2.12	0.50
19:K:1:MET:CE	19:K:32:TYR:CE1	2.95	0.50
9:A:1568:G:H4'	11:C:58:LYS:CG	2.42	0.50
34:Z:34:THR:CG2	34:Z:35:VAL:N	2.75	0.50
9:A:2635:A:H2'	9:A:2636:C:O5'	2.11	0.50
21:M:64:TRP:HB2	21:M:104:GLU:HB2	1.94	0.50
9:A:2543:G:H5'	9:A:2543:G:C8	2.36	0.50
9:A:611:C:C2'	9:A:612:G:H5'	2.42	0.50
25:Q:104:ALA:O	25:Q:107:ALA:HB3	2.11	0.50
9:A:2134:A:O2'	9:A:2135:A:H8	1.94	0.50
9:A:1405:U:C2	9:A:1406:U:C5	2.99	0.50
9:A:1195:G:N3	9:A:1226:A:H2	2.08	0.50
12:D:25:THR:HG22	12:D:25:THR:O	2.09	0.50
19:K:120:PRO:HG3	24:P:65:ASN:HD21	1.77	0.50
14:F:27:VAL:O	14:F:27:VAL:CG1	2.59	0.50
31:W:71:LYS:N	31:W:71:LYS:HD3	2.26	0.50
13:E:91:ASP:OD2	13:E:91:ASP:C	2.49	0.50
32:X:19:HIS:C	32:X:21:LEU:H	2.13	0.50
1:0:50:GLY:O	1:0:51:ARG:O	2.29	0.50
4:3:51:LYS:NZ	4:3:54:LEU:HD23	2.26	0.50
9:A:1650:A:H2'	9:A:1651:G:H5''	1.93	0.50
32:X:31:ASN:O	32:X:51:SER:HA	2.11	0.50
15:G:84:LYS:CB	15:G:132:LEU:H	2.25	0.50
2:1:8:ILE:CG2	2:1:9:LYS:N	2.74	0.50
15:G:137:LYS:O	15:G:140:ILE:HD13	2.10	0.50
1:0:41:HIS:CD2	22:N:101:GLY:H	2.29	0.50
32:X:67:LEU:HD22	32:X:77:TYR:CG	2.46	0.50
12:D:104:VAL:HG13	12:D:106:LYS:HD3	1.92	0.50
31:W:39:GLN:CG	31:W:42:THR:H	2.23	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:O:111:ARG:O	23:O:114:GLY:N	2.42	0.50
28:T:50:LEU:HD23	33:Y:26:PHE:CE1	2.46	0.50
22:N:44:LEU:HD11	22:N:48:VAL:HG23	1.93	0.50
9:A:1945:G:O2'	9:A:1946:U:H5'	2.12	0.50
9:A:659:G:C5	9:A:660:C:C5	2.99	0.50
31:W:37:VAL:CG2	31:W:55:ASP:O	2.59	0.50
9:A:324:A:N6	9:A:339:U:O4'	2.44	0.50
9:A:876:C:H2'	9:A:877:A:C8	2.47	0.50
28:T:11:LEU:HG	28:T:46:ALA:HB1	1.93	0.50
9:A:1788:C:H2'	9:A:1789:A:C5'	2.39	0.50
17:I:72:THR:HB	17:I:112:LYS:NZ	2.26	0.50
9:A:978:G:O2'	9:A:979:A:H5'	2.12	0.50
9:A:734:A:C5	9:A:735:A:N7	2.80	0.50
9:A:1678:A:H2'	9:A:1679:A:H5'	1.94	0.50
15:G:2:ARG:HG3	15:G:2:ARG:HH21	1.76	0.50
25:Q:91:ARG:HD3	26:R:11:GLN:CG	2.41	0.50
9:A:2489:U:H2'	9:A:2490:G:O5'	2.12	0.50
20:L:93:ASN:O	20:L:94:THR:HG22	2.12	0.50
15:G:162:ARG:NH1	15:G:168:VAL:HG21	2.26	0.50
4:3:31:ILE:HG13	4:3:31:ILE:O	2.12	0.50
13:E:10:SER:O	13:E:11:ALA:HB3	2.12	0.50
9:A:1656:C:H5''	12:D:141:ARG:CB	2.41	0.50
12:D:121:THR:HB	12:D:127:PHE:CD1	2.46	0.50
11:C:247:TRP:C	11:C:249:VAL:H	2.15	0.50
18:J:56:VAL:CG1	18:J:57:LEU:N	2.59	0.50
9:A:1058:U:O4'	17:I:117:THR:HG21	2.11	0.50
9:A:153:U:C2'	9:A:154:U:H5'	2.42	0.50
9:A:2579:C:C3'	9:A:2580:U:H5'	2.39	0.50
9:A:272:A:O2'	9:A:273:G:P	2.69	0.50
9:A:275:C:N4	9:A:276:U:C6	2.79	0.50
9:A:359:G:H5''	9:A:360:U:OP2	2.12	0.50
21:M:5:LYS:HB3	21:M:5:LYS:NZ	2.26	0.50
9:A:1694:C:H4'	9:A:1695:G:H5''	1.92	0.50
9:A:398:C:H2'	9:A:399:U:O5'	2.11	0.50
9:A:1305:C:H2'	9:A:1305:C:O2	2.11	0.50
30:V:29:ILE:HG22	30:V:90:ASP:HA	1.92	0.50
9:A:103:A:H2'	9:A:104:A:O4'	2.12	0.50
9:A:1356:G:C2	9:A:1357:C:C2	3.00	0.50
9:A:451:U:C2	9:A:453:A:N7	2.80	0.50
15:G:94:ARG:HG3	15:G:127:GLN:OE1	2.12	0.50
9:A:2250:G:H21	9:A:2496:C:C5'	2.22	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:38:A:O2'	13:E:43:THR:HA	2.12	0.50
34:Z:40:THR:CG2	34:Z:43:ILE:H	2.23	0.50
9:A:2659:G:P	15:G:157:LYS:HE3	2.51	0.50
10:B:46:A:C5	10:B:47:C:C5	3.00	0.50
9:A:2444:G:P	13:E:63:LYS:HE2	2.52	0.50
14:F:128:SER:OG	14:F:154:THR:HB	2.12	0.50
9:A:2425:A:H5''	9:A:2427:C:H5'	1.94	0.50
26:R:61:ALA:HB2	26:R:98:ILE:HD13	1.93	0.50
9:A:2085:U:H2'	9:A:2086:U:O5'	2.11	0.50
9:A:2297:A:H8	9:A:2297:A:H5''	1.73	0.50
19:K:12:ASP:HA	19:K:98:ARG:O	2.12	0.50
9:A:2520:C:O2'	9:A:2521:C:C5'	2.60	0.50
12:D:53:GLY:CA	12:D:77:ARG:H	2.24	0.50
25:Q:49:ARG:NH1	25:Q:49:ARG:HG3	2.26	0.50
9:A:1610:A:H4'	9:A:1611:C:OP2	2.12	0.50
9:A:1240:U:H6	9:A:1240:U:H5''	1.75	0.50
9:A:2321:U:H6	9:A:2321:U:H5''	1.76	0.50
9:A:1074:G:H2'	9:A:1075:C:C6	2.47	0.50
15:G:126:THR:CG2	15:G:127:GLN:N	2.55	0.50
31:W:24:ARG:HD2	31:W:25:PHE:CA	2.42	0.50
31:W:40:ARG:HH11	31:W:45:HIS:CE1	2.30	0.50
28:T:29:THR:CA	28:T:86:THR:H	2.24	0.50
28:T:2:ILE:HG13	28:T:3:ARG:CZ	2.42	0.50
9:A:988:A:OP2	34:Z:11:SER:HB3	2.11	0.50
11:C:94:LEU:HD12	11:C:94:LEU:C	2.28	0.50
19:K:21:CYS:N	19:K:41:ILE:HD11	2.26	0.50
9:A:1081:U:OP2	9:A:1081:U:C6	2.64	0.50
16:H:1:MET:HB3	16:H:21:VAL:O	2.12	0.50
9:A:1275:A:O2'	9:A:1645:G:N3	2.44	0.50
9:A:216:A:H2'	9:A:217:A:C8	2.47	0.50
9:A:357:C:C6	9:A:358:U:C5	3.00	0.50
4:3:26:ALA:HB1	9:A:2392:A:O3'	2.12	0.50
9:A:2199:A:N3	9:A:2199:A:H2'	2.27	0.50
17:I:6:ALA:HB3	17:I:60:VAL:H	1.77	0.50
9:A:2897:U:H2'	9:A:2898:U:H6	1.75	0.50
12:D:146:ILE:HB	12:D:159:LYS:HD2	1.93	0.50
30:V:68:LYS:O	30:V:69:GLU:C	2.49	0.50
9:A:920:A:C6	9:A:921:C:C4	2.99	0.50
9:A:207:A:H2'	9:A:208:C:O4'	2.11	0.50
32:X:44:ARG:HE	32:X:46:VAL:HG13	1.76	0.50
31:W:77:LYS:O	31:W:78:PHE:CB	2.58	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1179:G:N7	9:A:1180:U:H1'	2.24	0.50
13:E:5:LEU:O	13:E:6:LYS:C	2.50	0.50
27:S:2:GLU:O	27:S:3:THR:HG23	2.10	0.50
9:A:142:A:C2	9:A:143:C:C2	3.00	0.50
9:A:2503:A:H3'	9:A:2503:A:OP2	2.12	0.50
9:A:332:A:C5	9:A:335:C:C4	3.00	0.50
9:A:2637:U:OP1	12:D:83:ARG:NH2	2.45	0.50
19:K:10:VAL:HB	19:K:16:ALA:CB	2.35	0.50
18:J:13:ARG:O	18:J:14:ASP:CB	2.60	0.50
25:Q:97:ILE:CD1	25:Q:105:PHE:HB2	2.42	0.50
14:F:168:LEU:HG	14:F:169:LEU:HD12	1.92	0.50
20:L:55:MET:HE2	20:L:56:PRO:HD2	1.93	0.50
9:A:1098:A:H3'	9:A:1099:G:C8	2.47	0.50
9:A:1223:G:N2	9:A:1226:A:OP2	2.41	0.50
9:A:31:C:H4'	9:A:1238:G:H4'	1.94	0.50
30:V:2:PHE:HB3	30:V:61:LEU:HD22	1.94	0.50
9:A:2865:U:C4	9:A:2866:U:C5	3.00	0.50
9:A:1249:U:H5'	9:A:1249:U:H6	1.77	0.50
19:K:118:LEU:O	19:K:119:ALA:HB3	2.12	0.50
13:E:4:VAL:HG12	13:E:4:VAL:O	2.11	0.50
9:A:1520:U:H2'	9:A:1521:G:O5'	2.12	0.50
9:A:912:C:H2'	9:A:913:U:C6	2.47	0.50
9:A:1754:A:C6	9:A:1755:A:C6	3.00	0.50
15:G:89:VAL:O	15:G:159:LYS:HA	2.12	0.50
18:J:6:ALA:H	18:J:45:THR:HG21	1.76	0.49
25:Q:65:ASN:O	25:Q:69:ARG:HB3	2.12	0.49
9:A:1869:G:N2	9:A:1873:G:C6	2.80	0.49
9:A:1188:U:O2'	9:A:1189:A:H5'	2.12	0.49
31:W:22:VAL:O	31:W:25:PHE:HB2	2.12	0.49
31:W:24:ARG:C	31:W:24:ARG:HD2	2.32	0.49
28:T:14:PRO:O	28:T:14:PRO:HG2	2.12	0.49
28:T:14:PRO:HA	28:T:32:LEU:HB3	1.93	0.49
28:T:40:LYS:HA	28:T:43:ILE:HG23	1.90	0.49
10:B:89:U:H3'	10:B:90:C:H5''	1.94	0.49
22:N:24:MET:HE2	22:N:44:LEU:HB2	1.94	0.49
16:H:1:MET:O	16:H:20:ASN:ND2	2.44	0.49
4:3:61:LEU:CB	4:3:64:ALA:HB2	2.39	0.49
9:A:2199:A:C4	9:A:2225:A:C2	2.99	0.49
9:A:947:A:O2'	9:A:984:A:H2	1.95	0.49
12:D:20:VAL:CG1	12:D:21:SER:N	2.74	0.49
19:K:4:GLU:O	19:K:5:GLN:HB2	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:L:38:GLN:O	20:L:40:SER:O	2.30	0.49
9:A:2861:U:O2'	9:A:2862:G:H5'	2.12	0.49
9:A:2575:C:H2'	9:A:2578:G:O6	2.12	0.49
9:A:2006:C:O5'	9:A:2006:C:H6	1.94	0.49
34:Z:24:LEU:HG	34:Z:24:LEU:O	2.11	0.49
31:W:11:ASN:C	31:W:12:GLY:O	2.50	0.49
14:F:1:ALA:O	14:F:2:LYS:HB3	2.12	0.49
9:A:2352:A:N1	31:W:30:VAL:CG1	2.66	0.49
27:S:1:MET:CA	27:S:1:MET:HE2	2.24	0.49
14:F:134:GLN:CG	14:F:135:ILE:N	2.65	0.49
28:T:51:PHE:C	28:T:52:GLU:HG2	2.30	0.49
19:K:2:ILE:O	19:K:3:GLN:O	2.30	0.49
9:A:1055:G:H2'	9:A:1055:G:N3	2.26	0.49
9:A:1936:A:H2'	9:A:1945:G:O6	2.12	0.49
9:A:2638:G:O2'	9:A:2775:G:N2	2.45	0.49
33:Y:18:LEU:HD13	33:Y:22:LEU:HB2	1.94	0.49
20:L:67:THR:CG2	20:L:68:SER:N	2.72	0.49
9:A:478:A:C6	9:A:480:A:C6	3.00	0.49
9:A:616:A:H4'	13:E:101:TYR:CE2	2.47	0.49
9:A:79:C:O2'	9:A:346:A:H1'	2.12	0.49
19:K:63:VAL:HG22	19:K:107:LEU:CD2	2.41	0.49
9:A:182:A:O2'	9:A:183:C:H5'	2.12	0.49
9:A:1923:U:H2'	9:A:1924:C:H6	1.77	0.49
12:D:38:LYS:O	12:D:46:ARG:HA	2.12	0.49
9:A:2840:C:H2'	9:A:2841:C:H6	1.77	0.49
9:A:1469:A:H2'	9:A:1470:A:C8	2.48	0.49
9:A:2846:G:H2'	9:A:2847:U:O4'	2.13	0.49
31:W:16:GLU:CA	31:W:16:GLU:OE2	2.60	0.49
31:W:40:ARG:NH1	31:W:45:HIS:NE2	2.60	0.49
23:O:2:ASP:O	23:O:3:LYS:HB3	2.12	0.49
28:T:57:VAL:HG22	28:T:58:VAL:N	2.28	0.49
11:C:251:THR:CG2	11:C:252:LYS:N	2.54	0.49
5:4:10:LEU:HD12	5:4:33:HIS:HD2	1.69	0.49
9:A:1106:G:C4	9:A:1107:G:C8	3.00	0.49
9:A:1643:G:C2'	9:A:1644:C:O5'	2.60	0.49
28:T:22:THR:O	28:T:25:GLU:HB3	2.12	0.49
9:A:1416:G:O2'	9:A:1417:C:C5'	2.60	0.49
26:R:67:GLY:HA3	26:R:93:PHE:CZ	2.47	0.49
9:A:1856:U:O4	9:A:1857:G:N1	2.45	0.49
10:B:14:U:OP2	10:B:70:C:O2'	2.31	0.49
25:Q:40:LYS:NZ	25:Q:40:LYS:HB2	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2704:C:H2'	9:A:2704:C:O2	2.11	0.49
9:A:1742:U:O2'	9:A:1743:G:H5'	2.11	0.49
25:Q:91:ARG:HD3	26:R:11:GLN:HG3	1.94	0.49
9:A:1179:G:C6	9:A:1180:U:O2'	2.64	0.49
13:E:108:ILE:CD1	13:E:180:LEU:CD1	2.91	0.49
9:A:2307:G:N2	9:A:2311:A:C8	2.81	0.49
33:Y:57:LEU:CA	33:Y:60:LYS:HB3	2.24	0.49
11:C:229:HIS:CD2	11:C:230:PRO:HD2	2.47	0.49
9:A:1131:G:O2'	9:A:2026:U:H5'	2.12	0.49
24:P:103:THR:O	24:P:103:THR:HG23	2.11	0.49
23:O:116:GLN:O	23:O:117:PHE:HB3	2.12	0.49
14:F:151:LEU:CD1	14:F:151:LEU:C	2.79	0.49
27:S:74:ILE:O	27:S:74:ILE:HG23	2.11	0.49
9:A:1958:C:C2'	9:A:1959:G:H5'	2.42	0.49
9:A:2217:G:H2'	9:A:2218:G:O4'	2.13	0.49
10:B:52:A:H4'	10:B:53:A:OP1	2.11	0.49
19:K:61:VAL:CG2	19:K:112:PHE:CE2	2.95	0.49
9:A:27:G:O2'	9:A:28:A:OP2	2.27	0.49
24:P:17:PRO:HG3	24:P:83:ILE:O	2.12	0.49
10:B:35:C:H2'	10:B:36:C:O5'	2.11	0.49
30:V:5:ASN:HB3	30:V:64:VAL:HB	1.95	0.49
9:A:1856:U:C4	9:A:1857:G:C6	3.01	0.49
12:D:9:VAL:CG2	12:D:10:GLY:N	2.75	0.49
9:A:1850:G:C5	9:A:1851:U:C4	3.00	0.49
9:A:2601:C:C2	9:A:2603:G:N7	2.80	0.49
9:A:2435:A:C2'	9:A:2436:G:O5'	2.61	0.49
12:D:39:ASP:CG	12:D:40:LEU:N	2.65	0.49
10:B:19:C:O2'	10:B:20:G:H5'	2.12	0.49
6:5:76:MA6:H103	9:A:2584:U:H5'	1.93	0.49
26:R:49:ILE:CD1	26:R:53:PHE:H	2.24	0.49
31:W:23:LYS:HG3	31:W:24:ARG:N	2.28	0.49
31:W:39:GLN:HG3	31:W:42:THR:CA	2.42	0.49
31:W:76:ARG:CG	31:W:76:ARG:NH2	2.68	0.49
9:A:987:C:H2'	9:A:988:A:H5'	1.93	0.49
9:A:1296:G:H2'	9:A:1297:C:O5'	2.12	0.49
9:A:2495:G:O2'	9:A:2496:C:H5'	2.12	0.49
9:A:273:G:O2'	9:A:274:C:O5'	2.30	0.49
9:A:2756:U:H4'	9:A:2757:A:O5'	2.12	0.49
14:F:174:PHE:CD1	14:F:176:PHE:CE1	3.00	0.49
25:Q:105:PHE:O	25:Q:108:LEU:N	2.46	0.49
9:A:2672:U:H2'	9:A:2673:G:O5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:L:55:MET:HE2	20:L:56:PRO:CD	2.41	0.49
9:A:1257:C:C5'	13:E:78:TRP:CZ3	2.95	0.49
9:A:2385:C:O2'	9:A:2386:A:H5'	2.12	0.49
9:A:839:U:H1'	9:A:1191:G:H1'	1.94	0.49
9:A:71:A:N3	9:A:71:A:H5''	2.28	0.49
19:K:51:LYS:O	19:K:51:LYS:CE	2.61	0.49
19:K:28:SER:O	19:K:29:HIS:HB2	2.12	0.49
9:A:908:C:O2'	9:A:909:A:H5'	2.12	0.49
9:A:466:A:H2'	9:A:467:G:H5'	1.95	0.49
9:A:927:A:H2'	9:A:928:A:C8	2.48	0.49
24:P:50:ARG:HG2	24:P:57:ALA:H	0.40	0.49
25:Q:60:TRP:CH2	25:Q:93:ILE:HB	2.47	0.49
9:A:571:U:C4	9:A:2030:A:N1	2.80	0.49
9:A:2489:U:O2	9:A:2491:U:C4	2.66	0.49
14:F:39:VAL:CG1	14:F:49:LEU:CD1	2.89	0.49
24:P:24:THR:O	24:P:25:VAL:O	2.30	0.49
13:E:149:ILE:HD12	13:E:175:ILE:HB	1.95	0.49
23:O:7:ARG:HA	23:O:10:ARG:NH2	2.27	0.49
9:A:2152:G:O2'	9:A:2153:C:C4'	2.61	0.49
17:I:16:MET:O	17:I:19:PRO:HD3	2.12	0.49
9:A:846:U:H2'	9:A:846:U:O2	2.13	0.49
9:A:1430:G:H2'	9:A:1431:A:C8	2.47	0.49
9:A:1507:C:C4	9:A:1508:A:C2	3.01	0.49
9:A:1510:G:H5'	9:A:1510:G:C8	2.45	0.49
10:B:53:A:O2'	10:B:54:G:C5'	2.57	0.49
9:A:2188:U:O2'	9:A:2189:U:H5'	2.13	0.49
10:B:49:C:O3'	23:O:68:LYS:HE2	2.12	0.49
20:L:68:SER:HB3	20:L:71:ALA:HB3	1.95	0.49
9:A:499:U:H2'	9:A:500:G:O4'	2.13	0.49
9:A:1927:A:H2'	9:A:1928:A:C8	2.48	0.49
9:A:1383:A:H2'	9:A:1384:A:C8	2.47	0.49
9:A:2681:C:C2	9:A:2724:U:O4	2.66	0.49
12:D:86:GLU:HA	12:D:86:GLU:OE1	2.13	0.49
9:A:2805:C:C4	9:A:2806:C:C4	3.01	0.49
9:A:2264:C:H41	31:W:11:ASN:ND2	2.10	0.49
9:A:1513:U:C2'	9:A:1514:G:H5'	2.43	0.49
9:A:2282:G:H5''	9:A:2283:C:O4'	2.13	0.49
9:A:536:G:H2'	9:A:537:G:O5'	2.13	0.49
14:F:110:ILE:O	14:F:111:ARG:C	2.51	0.49
9:A:1005:C:H1'	9:A:1012:U:C4	2.47	0.49
9:A:1073:A:H2'	9:A:1074:G:C5'	2.23	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:R:49:ILE:HG22	26:R:54:VAL:HG12	1.95	0.49
29:U:12:VAL:HA	29:U:69:VAL:HG12	1.95	0.49
28:T:44:LYS:O	28:T:48:GLN:HG2	2.13	0.49
17:I:27:LEU:C	17:I:27:LEU:HD12	2.32	0.49
9:A:847:U:O2'	9:A:848:C:H5'	2.13	0.49
21:M:77:PRO:CD	21:M:80:VAL:HG11	2.42	0.49
21:M:114:ARG:HA	21:M:130:PHE:HE1	1.74	0.49
1:O:2:VAL:HG21	9:A:2015:A:C4	2.47	0.49
9:A:1429:G:N3	9:A:1568:G:C2	2.81	0.49
19:K:113:MET:O	19:K:116:ILE:CD1	2.60	0.49
29:U:33:VAL:O	29:U:64:ILE:HG22	2.13	0.49
9:A:1612:C:C2'	9:A:1613:G:O5'	2.61	0.49
31:W:71:LYS:N	31:W:71:LYS:CD	2.76	0.49
20:L:79:LEU:HD13	20:L:116:VAL:HG12	1.94	0.49
9:A:2056:G:C2	9:A:2057:G:C8	3.00	0.49
9:A:998:C:OP2	25:Q:57:ARG:NH2	2.43	0.49
18:J:3:THR:HG21	25:Q:60:TRP:HE1	1.78	0.49
9:A:1074:G:H2'	9:A:1075:C:C5	2.48	0.49
9:A:1088:A:H4'	9:A:1089:A:H8	1.78	0.49
17:I:90:GLY:O	17:I:92:PRO:HD3	2.12	0.49
13:E:119:ILE:CD1	13:E:187:VAL:HG22	2.43	0.49
13:E:5:LEU:HD12	13:E:10:SER:HB3	1.95	0.49
11:C:90:ILE:HG21	11:C:102:TYR:CD1	2.47	0.49
33:Y:9:LYS:HB3	33:Y:12:GLU:HG3	1.95	0.49
22:N:73:ASN:ND2	22:N:76:VAL:HG11	2.28	0.49
23:O:115:LEU:HD12	23:O:116:GLN:H	1.78	0.49
9:A:1296:G:C2'	9:A:1297:C:O5'	2.60	0.49
9:A:1936:A:N3	9:A:1943:U:H5	2.11	0.49
33:Y:17:GLU:OE2	33:Y:21:LEU:HD11	2.12	0.49
15:G:7:PRO:O	15:G:68:ARG:NH1	2.45	0.49
17:I:32:VAL:HG22	17:I:66:PHE:CG	2.47	0.49
26:R:73:LYS:C	26:R:74:ILE:HD12	2.33	0.49
9:A:1694:C:H4'	9:A:1695:G:O5'	2.13	0.49
19:K:103:VAL:O	19:K:122:VAL:HB	2.12	0.49
9:A:1214:A:H4'	9:A:1239:G:H4'	1.95	0.49
29:U:27:VAL:HG22	29:U:28:LEU:N	2.27	0.49
9:A:928:A:C2'	9:A:929:U:H5'	2.42	0.49
9:A:1210:G:P	9:A:1212:G:H5'	2.53	0.49
20:L:95:LEU:HD22	20:L:100:ILE:HG12	1.95	0.49
16:H:6:LEU:N	16:H:6:LEU:HD13	2.28	0.49
32:X:67:LEU:HD22	32:X:77:TYR:CD2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:W:23:LYS:HZ2	31:W:24:ARG:CG	2.23	0.49
31:W:39:GLN:CG	31:W:42:THR:N	2.66	0.49
23:O:3:LYS:CG	23:O:4:LYS:N	2.75	0.49
21:M:1:MET:HA	21:M:1:MET:CE	2.43	0.49
9:A:137:U:O2'	9:A:138:U:P	2.71	0.49
24:P:103:THR:O	24:P:104:GLY:O	2.30	0.49
9:A:2148:G:O2'	9:A:2149:U:O4'	2.31	0.49
9:A:2149:U:O2'	9:A:2150:C:C4'	2.61	0.49
9:A:2107:G:O6	9:A:2183:A:C5	2.66	0.49
29:U:80:ASP:O	29:U:81:ARG:HB2	2.12	0.49
9:A:1739:A:H5''	9:A:1739:A:C8	2.47	0.49
23:O:31:THR:HG23	23:O:34:HIS:N	2.23	0.49
28:T:20:ALA:O	28:T:21:SER:C	2.50	0.49
22:N:65:LEU:O	22:N:65:LEU:HD12	2.13	0.49
1:O:42:ILE:CD1	1:O:48:TYR:HB2	2.43	0.49
9:A:314:C:O2'	9:A:315:G:H5'	2.13	0.49
18:J:30:THR:HG22	18:J:31:GLU:N	2.27	0.49
9:A:1206:G:C5	9:A:1207:C:C5	3.01	0.49
9:A:1786:A:C4	9:A:1938:A:C6	3.00	0.49
19:K:51:LYS:HE3	19:K:51:LYS:C	2.32	0.49
17:I:61:TYR:N	17:I:61:TYR:CD2	2.81	0.49
9:A:1604:C:H2'	9:A:1605:C:C6	2.47	0.49
29:U:44:HIS:O	29:U:45:GLN:C	2.51	0.49
20:L:28:GLY:O	26:R:82:HIS:NE2	2.46	0.49
14:F:129:MET:HG2	14:F:153:ILE:HD12	1.90	0.49
27:S:72:THR:HG21	27:S:108:SER:OG	2.13	0.49
2:1:8:ILE:CD1	2:1:24:LYS:HG2	2.33	0.49
9:A:1499:C:H2'	9:A:1500:G:C8	2.46	0.49
24:P:111:GLU:H	24:P:111:GLU:CD	2.16	0.49
24:P:102:ARG:HB3	24:P:107:ALA:CB	2.25	0.49
29:U:5:ARG:HH21	29:U:5:ARG:CB	2.26	0.49
23:O:110:ALA:O	23:O:113:ALA:HB3	2.13	0.49
9:A:845:A:H3'	9:A:845:A:N3	2.28	0.49
9:A:244:A:H2'	9:A:245:G:O4'	2.13	0.49
20:L:18:ARG:O	20:L:19:LEU:O	2.31	0.49
15:G:142:GLN:CA	15:G:142:GLN:NE2	2.74	0.49
26:R:42:ALA:CB	26:R:46:GLU:HB2	2.43	0.49
15:G:71:LEU:HD13	15:G:74:MET:SD	2.52	0.49
9:A:626:A:C2	20:L:78:ARG:HD3	2.48	0.49
2:1:16:THR:HG21	2:1:41:VAL:HG22	1.95	0.49
9:A:1171:G:C5	9:A:1172:C:C5	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1406:U:O2'	9:A:1407:G:O5'	2.31	0.49
9:A:1485:U:N3	9:A:1505:A:C2	2.80	0.49
19:K:13:ASN:N	19:K:13:ASN:OD1	2.41	0.49
9:A:2824:C:H2'	9:A:2825:G:O5'	2.12	0.49
9:A:699:A:H1'	9:A:1634:A:H2'	1.95	0.49
22:N:52:ILE:HG21	22:N:94:TYR:CG	2.48	0.49
16:H:5:LEU:O	16:H:16:GLY:HA2	2.13	0.48
33:Y:8:GLU:O	33:Y:9:LYS:HB3	2.13	0.48
12:D:119:ALA:HB1	12:D:123:LYS:HB3	1.95	0.48
34:Z:15:ARG:CG	34:Z:15:ARG:HH11	2.06	0.48
27:S:21:ALA:CB	27:S:74:ILE:HD13	2.43	0.48
9:A:729:G:H2'	9:A:1775:U:H1'	1.95	0.48
22:N:32:GLU:HB3	22:N:115:LEU:HD12	1.94	0.48
9:A:1934:C:H4'	9:A:1974:C:O3'	2.13	0.48
24:P:33:GLU:C	24:P:33:GLU:OE1	2.51	0.48
15:G:61:TRP:HE3	15:G:61:TRP:HA	1.76	0.48
23:O:59:ALA:N	23:O:62:LEU:CD1	2.76	0.48
20:L:19:LEU:HA	20:L:27:LEU:O	2.14	0.48
9:A:2210:U:O2	9:A:2212:A:C8	2.66	0.48
29:U:73:ASN:HD22	29:U:76:THR:H	1.59	0.48
9:A:320:A:H4'	9:A:322:A:C8	2.48	0.48
9:A:864:G:C6	9:A:865:C:N4	2.80	0.48
26:R:57:GLY:HA2	26:R:103:ALA:O	2.13	0.48
9:A:792:A:C3'	9:A:793:A:H5'	2.43	0.48
9:A:2405:G:O2'	9:A:2406:A:P	2.71	0.48
9:A:807:U:O2'	9:A:808:G:H5'	2.12	0.48
9:A:310:A:HO2'	9:A:311:A:P	2.36	0.48
24:P:62:LYS:HB3	24:P:69:VAL:HG13	1.94	0.48
10:B:37:C:C5	10:B:38:C:C5	3.01	0.48
9:A:930:G:C5'	9:A:931:U:OP2	2.62	0.48
18:J:40:HIS:H	18:J:40:HIS:HD2	1.60	0.48
9:A:1059:G:C2	9:A:1080:A:C4	3.00	0.48
9:A:1069:A:N1	9:A:1074:G:N7	2.61	0.48
20:L:77:ILE:N	20:L:77:ILE:HD12	2.28	0.48
26:R:49:ILE:HB	26:R:53:PHE:N	2.28	0.48
31:W:23:LYS:HD2	31:W:24:ARG:HB3	1.95	0.48
31:W:22:VAL:HG13	31:W:25:PHE:CD2	2.48	0.48
31:W:51:GLY:O	31:W:52:CYS:O	2.31	0.48
9:A:1655:A:H3'	9:A:1656:C:H6	1.78	0.48
12:D:118:PHE:O	12:D:119:ALA:HB3	2.12	0.48
22:N:73:ASN:C	22:N:76:VAL:HG12	2.33	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:246:PRO:CD	11:C:247:TRP:CZ3	2.96	0.48
28:T:30:ILE:HG12	28:T:32:LEU:CD2	2.43	0.48
9:A:2505:G:H1'	9:A:2506:U:H5	1.78	0.48
18:J:125:TYR:HH	18:J:132:HIS:CD2	2.26	0.48
18:J:54:ILE:HD12	18:J:55:ILE:N	2.28	0.48
9:A:302:C:HO2'	9:A:303:G:H8	1.60	0.48
16:H:52:ALA:C	16:H:54:LEU:H	2.17	0.48
27:S:84:ARG:HB2	27:S:96:ILE:CD1	2.43	0.48
9:A:278:A:N3	9:A:278:A:H2'	2.28	0.48
9:A:528:A:H8	9:A:528:A:C3'	2.24	0.48
31:W:9:THR:CG2	31:W:10:ARG:HD3	2.43	0.48
31:W:9:THR:O	31:W:10:ARG:O	2.30	0.48
9:A:250:G:C6	9:A:251:A:C6	3.00	0.48
26:R:64:VAL:O	26:R:65:ALA:HB3	2.12	0.48
21:M:50:ARG:O	21:M:53:MET:HB3	2.13	0.48
9:A:2210:U:H6	9:A:2210:U:OP1	1.96	0.48
9:A:745:G:H2'	9:A:746:U:H5'	1.95	0.48
13:E:75:SER:OG	13:E:77:ILE:HG23	2.13	0.48
9:A:1116:G:O2'	9:A:1117:C:C5'	2.58	0.48
30:V:4:ILE:O	30:V:63:ILE:HA	2.13	0.48
23:O:81:ARG:O	23:O:84:GLU:HB3	2.13	0.48
27:S:39:THR:HG22	27:S:44:ALA:HB2	1.95	0.48
17:I:12:VAL:HG23	17:I:13:ALA:H	1.78	0.48
9:A:594:U:H2'	9:A:595:C:C6	2.48	0.48
9:A:292:U:H2'	9:A:293:U:O4'	2.13	0.48
9:A:2798:U:OP2	9:A:2798:U:H3'	2.13	0.48
20:L:29:LYS:HG2	20:L:30:THR:HG23	1.95	0.48
11:C:80:LEU:HD11	11:C:109:LEU:CB	2.44	0.48
19:K:21:CYS:HB2	19:K:39:ILE:CD1	2.39	0.48
17:I:21:PRO:HB2	17:I:22:PRO:HD3	1.94	0.48
9:A:1735:A:O2'	9:A:1736:U:O4'	2.27	0.48
9:A:1139:G:C2'	9:A:1140:C:H5'	2.44	0.48
9:A:1820:U:H4'	9:A:1821:A:OP2	2.13	0.48
3:2:21:ARG:C	3:2:23:ALA:H	2.17	0.48
5:4:13:ASN:ND2	5:4:13:ASN:N	2.62	0.48
9:A:1565:C:HO2'	9:A:1566:A:P	2.34	0.48
9:A:2065:C:H2'	9:A:2066:C:H6	1.79	0.48
9:A:321:U:H1'	13:E:159:LEU:HG	1.95	0.48
9:A:520:G:H2'	9:A:521:U:C6	2.48	0.48
9:A:996:A:O2'	25:Q:91:ARG:CG	2.60	0.48
23:O:3:LYS:HG3	23:O:4:LYS:N	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:37:MET:HE3	14:F:151:LEU:CB	2.43	0.48
19:K:19:VAL:HG23	19:K:43:ILE:HA	1.95	0.48
9:A:657:U:H2'	9:A:658:U:C6	2.49	0.48
31:W:8:SER:C	31:W:9:THR:HG22	2.34	0.48
24:P:92:ARG:HH11	24:P:92:ARG:CB	2.25	0.48
9:A:2414:G:H2'	9:A:2415:G:H5'	1.94	0.48
9:A:1476:U:O2'	9:A:1477:A:H5'	2.13	0.48
19:K:121:GLU:O	19:K:122:VAL:C	2.52	0.48
9:A:1682:G:H2'	9:A:1683:U:H6	1.78	0.48
12:D:9:VAL:CG2	12:D:26:VAL:HG12	2.44	0.48
15:G:97:VAL:HG22	15:G:102:ILE:HG12	1.96	0.48
9:A:70:G:H2'	9:A:113:U:O2'	2.12	0.48
9:A:1394:U:H2'	9:A:1395:A:O5'	2.13	0.48
13:E:115:GLN:O	13:E:116:ASP:C	2.51	0.48
4:3:28:LEU:HA	4:3:28:LEU:HD12	1.73	0.48
9:A:1983:G:O2'	9:A:1984:G:H5'	2.12	0.48
9:A:108:G:O2'	9:A:109:C:H5'	2.13	0.48
9:A:1872:A:C2'	9:A:1873:G:O4'	2.61	0.48
31:W:49:ASN:O	31:W:49:ASN:CG	2.50	0.48
13:E:108:ILE:CD1	13:E:180:LEU:CB	2.88	0.48
11:C:161:VAL:HG22	11:C:175:LEU:HA	1.96	0.48
9:A:2151:U:C4	9:A:2152:G:N7	2.82	0.48
9:A:548:G:C3'	9:A:548:G:C8	2.94	0.48
17:I:19:PRO:HG2	17:I:23:VAL:HG22	1.96	0.48
9:A:416:U:C4	9:A:417:C:C4	3.01	0.48
13:E:113:VAL:CG1	13:E:114:ARG:N	2.76	0.48
11:C:182:LYS:C	11:C:183:VAL:HG23	2.33	0.48
9:A:1820:U:O2	11:C:200:MET:HG3	2.13	0.48
14:F:107:VAL:HG11	14:F:175:PRO:HG2	1.94	0.48
14:F:107:VAL:HG13	14:F:113:PHE:CZ	2.49	0.48
9:A:1559:U:H6	9:A:1559:U:OP1	1.96	0.48
12:D:182:ALA:O	12:D:183:GLU:C	2.50	0.48
9:A:2595:G:H1	11:C:238:ASN:HD21	1.61	0.48
9:A:1849:G:H2'	9:A:1850:G:H8	1.79	0.48
9:A:520:G:H2'	9:A:521:U:H6	1.77	0.48
33:Y:38:GLN:N	33:Y:38:GLN:OE1	2.47	0.48
9:A:696:G:O2'	9:A:697:G:H5'	2.13	0.48
9:A:1079:C:N4	9:A:1088:A:H2	2.10	0.48
15:G:8:VAL:O	15:G:9:VAL:CG1	2.51	0.48
32:X:44:ARG:HG2	32:X:45:PHE:N	2.28	0.48
30:V:10:LYS:N	30:V:10:LYS:CD	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:40:GLY:N	14:F:84:ILE:CD1	2.77	0.48
13:E:187:VAL:O	13:E:188:MET:CB	2.59	0.48
11:C:106:PRO:CA	11:C:141:HIS:HE1	2.25	0.48
31:W:74:LYS:O	31:W:75:ASN:C	2.51	0.48
11:C:230:PRO:HG2	11:C:245:THR:O	2.14	0.48
5:4:10:LEU:HD23	5:4:10:LEU:N	2.27	0.48
9:A:1588:G:C2	9:A:1589:U:C6	3.01	0.48
9:A:153:U:H2'	9:A:154:U:O5'	2.13	0.48
9:A:274:C:C2'	9:A:275:C:H5'	2.43	0.48
9:A:2661:G:C2'	9:A:2662:A:O5'	2.62	0.48
19:K:113:MET:HA	19:K:116:ILE:CG1	2.43	0.48
4:3:24:LYS:HD3	20:L:62:PRO:HG3	1.95	0.48
33:Y:21:LEU:O	33:Y:22:LEU:C	2.51	0.48
9:A:2755:C:O5'	9:A:2755:C:H6	1.96	0.48
9:A:580:U:O3'	25:Q:30:VAL:CG1	2.61	0.48
21:M:31:PHE:CZ	21:M:110:GLU:HG2	2.48	0.48
9:A:61:C:O5'	9:A:61:C:H6	1.96	0.48
9:A:686:U:C4'	9:A:687:C:OP2	2.59	0.48
9:A:17:G:H2'	9:A:18:U:C6	2.49	0.48
29:U:33:VAL:HG23	29:U:64:ILE:CG2	2.43	0.48
11:C:23:LEU:HD12	11:C:82:TYR:N	2.29	0.48
9:A:1063:G:O2'	9:A:1064:C:C5'	2.62	0.48
31:W:19:ARG:HH12	31:W:22:VAL:HG11	1.78	0.48
13:E:172:ALA:O	13:E:175:ILE:HG22	2.14	0.48
18:J:56:VAL:O	18:J:124:VAL:O	2.32	0.48
21:M:95:LEU:HA	21:M:95:LEU:HD12	1.60	0.48
9:A:2149:U:O2'	9:A:2150:C:O5'	2.30	0.48
9:A:1716:U:H2'	9:A:1717:A:H8	1.78	0.48
9:A:1081:U:O2	9:A:1081:U:H2'	2.11	0.48
9:A:2094:A:C2	9:A:2196:C:C2	3.02	0.48
1:0:9:ARG:CG	1:0:9:ARG:NH2	2.64	0.48
9:A:2393:U:H2'	9:A:2394:C:O4'	2.14	0.48
15:G:35:THR:O	15:G:36:LEU:HD22	2.14	0.48
9:A:1378:A:HO2'	9:A:1379:U:H3'	1.77	0.48
9:A:60:G:C8	9:A:62:U:H2'	2.48	0.48
9:A:872:U:H2'	9:A:873:C:C6	2.48	0.48
9:A:611:C:C2'	9:A:612:G:O5'	2.62	0.48
9:A:1360:G:C6	9:A:1372:U:C2	3.02	0.48
9:A:132:G:C2'	9:A:133:U:H5'	2.44	0.48
9:A:2523:G:O2'	9:A:2524:G:H5'	2.13	0.48
9:A:134:G:N2	9:A:146:A:C4	2.82	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2862:G:H2'	9:A:2863:C:C6	2.48	0.48
32:X:70:LEU:O	32:X:74:GLY:N	2.47	0.48
32:X:73:ARG:HG3	32:X:73:ARG:O	2.14	0.48
10:B:48:U:H2'	10:B:48:U:O2	2.14	0.48
3:2:1:MET:CE	3:2:2:LYS:H	2.27	0.48
9:A:1050:A:C2	9:A:2751:G:C5	3.01	0.48
9:A:1365:A:O5'	32:X:27:ARG:NH2	2.42	0.48
22:N:18:GLN:HE21	22:N:22:ARG:NH1	2.12	0.48
17:I:85:ILE:HD13	17:I:88:GLY:HA2	1.96	0.48
9:A:2489:U:C2'	9:A:2490:G:O5'	2.62	0.48
9:A:2515:C:O2	9:A:2570:G:C2	2.67	0.48
18:J:125:TYR:OH	18:J:132:HIS:NE2	2.35	0.48
9:A:2150:C:C2'	9:A:2151:U:C5	2.96	0.48
5:4:15:LYS:O	5:4:16:ILE:CB	2.61	0.48
5:4:16:ILE:HA	5:4:24:ARG:O	2.13	0.48
11:C:93:VAL:HG12	11:C:94:LEU:N	2.26	0.48
9:A:1577:C:H2'	9:A:1578:U:C1'	2.43	0.48
9:A:2094:A:C5'	16:H:25:TYR:CD1	2.93	0.48
9:A:33:C:H4'	9:A:34:U:OP1	2.12	0.48
9:A:1020:A:C2	9:A:1141:U:O2'	2.64	0.48
22:N:16:HIS:O	22:N:16:HIS:HD2	1.97	0.48
26:R:25:LEU:N	26:R:94:THR:CG2	2.77	0.48
9:A:2800:A:HO2'	9:A:2801:G:P	2.36	0.48
9:A:28:A:C4	9:A:29:U:C6	3.02	0.48
14:F:45:ASP:CB	14:F:48:LEU:HB2	2.41	0.48
9:A:1570:A:H2'	9:A:1571:A:C8	2.48	0.48
9:A:1842:G:O4'	11:C:242:HIS:ND1	2.47	0.48
9:A:1845:G:H2'	9:A:1846:G:C5'	2.43	0.48
9:A:807:U:C2'	9:A:808:G:H5'	2.43	0.48
9:A:2319:G:HO2'	9:A:2320:U:H5	1.61	0.48
9:A:2064:C:H2'	9:A:2065:C:C6	2.49	0.48
32:X:38:TRP:CE3	32:X:45:PHE:CE2	3.01	0.48
12:D:106:LYS:CD	12:D:106:LYS:H	1.97	0.48
9:A:1871:A:C8	9:A:1872:A:C6	3.01	0.48
28:T:29:THR:CG2	28:T:86:THR:CG2	2.87	0.48
33:Y:56:LEU:O	33:Y:57:LEU:CB	2.55	0.48
9:A:141:G:C5'	9:A:142:A:C8	2.97	0.48
9:A:141:G:H5'	9:A:142:A:N7	2.29	0.48
9:A:2148:G:O2'	9:A:2149:U:C4'	2.61	0.48
9:A:1577:C:H2'	9:A:1578:U:O4'	2.14	0.48
9:A:85:G:H8	9:A:85:G:H5''	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2773:C:H2'	9:A:2774:C:H6	1.79	0.48
9:A:1435:G:H5''	9:A:1435:G:C8	2.49	0.48
26:R:1:MET:CG	26:R:1:MET:O	2.61	0.48
3:2:12:ARG:NH2	9:A:686:U:O4	2.46	0.48
9:A:2267:A:H5''	9:A:2268:A:H5'	1.96	0.48
9:A:1534:U:H5'	9:A:1535:A:P	2.53	0.48
9:A:2665:A:C2	9:A:2666:C:C6	3.02	0.48
9:A:1924:C:C2	9:A:1925:C:C6	3.02	0.48
21:M:24:THR:O	21:M:24:THR:HG23	2.13	0.48
24:P:4:ILE:CG2	24:P:5:LYS:N	2.74	0.48
25:Q:94:LEU:HD12	25:Q:94:LEU:O	2.14	0.48
20:L:91:ASP:HB2	20:L:94:THR:HB	1.96	0.48
29:U:40:LEU:O	29:U:41:VAL:HG13	2.14	0.48
19:K:1:MET:HG3	19:K:67:LYS:HG3	1.96	0.48
13:E:112:LEU:CD1	13:E:186:VAL:HG11	2.34	0.48
9:A:604:G:H2'	9:A:605:G:C8	2.49	0.48
11:C:20:ASN:ND2	11:C:22:GLU:H	2.12	0.48
9:A:1508:A:O2'	9:A:1509:A:P	2.72	0.48
9:A:2887:A:C2'	9:A:2887:A:N3	2.75	0.48
29:U:48:VAL:O	29:U:53:GLN:CB	2.61	0.48
9:A:62:U:C4'	9:A:63:A:OP1	2.61	0.48
10:B:17:C:C2'	10:B:18:G:H5'	2.43	0.48
9:A:1449:G:H2'	9:A:1450:G:O5'	2.14	0.48
9:A:1848:A:O2'	9:A:1849:G:H5'	2.14	0.48
9:A:1464:G:C2'	9:A:1465:G:H5'	2.44	0.48
9:A:832:U:O2'	9:A:833:A:H5'	2.14	0.48
9:A:2578:G:H2'	9:A:2578:G:N3	2.28	0.48
9:A:2850:A:H2'	9:A:2851:A:H8	1.78	0.48
9:A:9:G:C5	9:A:2629:U:C5	3.02	0.48
9:A:2264:C:H41	31:W:11:ASN:HD21	1.62	0.48
9:A:2582:G:N3	9:A:2582:G:H2'	2.28	0.48
9:A:445:C:O2'	9:A:446:G:H5'	2.14	0.48
9:A:1381:G:C2'	9:A:1382:G:H5'	2.43	0.48
24:P:22:GLY:O	24:P:109:ILE:HD11	2.13	0.48
9:A:2572:A:N7	12:D:150:GLN:HB3	2.28	0.47
20:L:29:LYS:HG3	20:L:30:THR:CG2	2.43	0.47
16:H:31:VAL:CG1	16:H:36:ALA:O	2.60	0.47
15:G:126:THR:CG2	15:G:128:THR:H	2.20	0.47
11:C:80:LEU:HA	11:C:80:LEU:HD23	1.46	0.47
31:W:70:VAL:CG2	31:W:75:ASN:OD1	2.62	0.47
9:A:391:A:C6	9:A:411:G:C2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:139:U:C5	28:T:1:MET:SD	3.07	0.47
14:F:134:GLN:C	14:F:136:ILE:H	2.16	0.47
16:H:50:ARG:C	16:H:52:ALA:H	2.16	0.47
9:A:1430:G:H2'	9:A:1431:A:C5'	2.43	0.47
21:M:28:PHE:HD2	21:M:104:GLU:OE1	1.97	0.47
26:R:21:ARG:NH2	26:R:93:PHE:CE2	2.82	0.47
9:A:1569:A:C2	9:A:1570:A:C4	3.02	0.47
15:G:148:ARG:HD2	15:G:163:TYR:HE2	1.77	0.47
19:K:63:VAL:CG1	19:K:103:VAL:HG12	2.43	0.47
12:D:16:THR:HG21	12:D:20:VAL:HB	1.96	0.47
9:A:1465:G:C5	9:A:1466:U:C4	3.02	0.47
9:A:2204:G:O5'	11:C:149:LYS:HE3	2.14	0.47
9:A:2513:A:H2	12:D:148:GLN:HE21	1.62	0.47
22:N:101:GLY:C	22:N:102:PHE:CD2	2.87	0.47
16:H:18:GLN:HA	16:H:18:GLN:NE2	2.24	0.47
19:K:71:ARG:CG	19:K:106:GLU:OE2	2.62	0.47
9:A:1654:A:H2'	9:A:1655:A:C8	2.48	0.47
12:D:118:PHE:C	12:D:120:GLY:H	2.14	0.47
11:C:229:HIS:HD2	11:C:246:PRO:HB3	1.79	0.47
9:A:988:A:H2'	9:A:989:G:O5'	2.12	0.47
23:O:79:ALA:HA	23:O:115:LEU:HD22	1.94	0.47
21:M:73:ILE:HG12	21:M:93:VAL:HG12	1.95	0.47
9:A:1462:C:O2'	9:A:1463:C:C5'	2.62	0.47
9:A:1028:A:N6	9:A:1125:G:H2'	2.29	0.47
9:A:1962:C:O2'	9:A:1964:G:OP2	2.33	0.47
16:H:2:GLN:O	16:H:3:VAL:CG2	2.54	0.47
9:A:1707:G:C5	9:A:1756:G:C6	3.02	0.47
9:A:580:U:O2'	9:A:581:C:H5'	2.14	0.47
17:I:56:VAL:HG22	17:I:57:VAL:N	2.29	0.47
9:A:1912:A:N1	9:A:1919:A:N7	2.62	0.47
11:C:7:PRO:CB	11:C:13:ARG:HB2	2.43	0.47
9:A:608:A:C2	9:A:621:A:C2	3.02	0.47
9:A:80:G:C2	9:A:107:G:C2	3.02	0.47
25:Q:34:ALA:O	25:Q:37:ALA:HB3	2.14	0.47
12:D:142:VAL:HG23	12:D:144:GLY:H	1.79	0.47
22:N:87:PHE:HE1	22:N:116:VAL:CG1	2.26	0.47
9:A:1113:U:N3	9:A:1114:C:C5	2.83	0.47
9:A:146:A:H2'	9:A:147:C:H6	1.79	0.47
9:A:1520:U:O2'	9:A:1521:G:H5'	2.14	0.47
9:A:2:G:H2'	9:A:3:U:C6	2.49	0.47
24:P:50:ARG:HG3	24:P:57:ALA:C	2.31	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:D:106:LYS:O	12:D:175:LEU:O	2.32	0.47
15:G:93:TYR:O	15:G:105:SER:HB3	2.15	0.47
11:C:76:VAL:O	11:C:77:VAL:O	2.32	0.47
24:P:31:VAL:O	24:P:37:LYS:HA	2.14	0.47
9:A:2531:A:C6	9:A:2532:G:C5	3.03	0.47
9:A:68:G:C2	9:A:74:A:C4	3.02	0.47
9:A:1731:G:C6	9:A:1733:G:C5	3.01	0.47
19:K:38:ILE:HD11	19:K:112:PHE:HZ	1.78	0.47
9:A:531:C:H4'	9:A:532:A:H5''	1.95	0.47
9:A:626:A:H2'	20:L:78:ARG:CZ	2.44	0.47
19:K:63:VAL:HG13	19:K:103:VAL:HG12	1.97	0.47
11:C:83:ASP:OD1	11:C:84:PRO:CD	2.62	0.47
13:E:47:LYS:HB3	13:E:51:GLU:HG3	1.96	0.47
9:A:1534:U:H3'	9:A:1536:C:H5	1.79	0.47
9:A:319:G:C5	9:A:333:G:C2	3.02	0.47
28:T:67:VAL:C	28:T:68:LYS:HD3	2.35	0.47
9:A:39:G:H2'	9:A:40:U:C6	2.50	0.47
2:1:33:LEU:HB3	2:1:51:ALA:HB3	1.91	0.47
9:A:1189:A:C2'	9:A:1190:G:O5'	2.62	0.47
15:G:93:TYR:HE2	15:G:106:LEU:C	2.18	0.47
9:A:2331:G:O2'	31:W:39:GLN:O	2.31	0.47
31:W:18:LYS:H	31:W:36:ILE:HG12	1.78	0.47
14:F:134:GLN:C	14:F:136:ILE:HG12	2.34	0.47
18:J:136:GLN:N	18:J:137:PRO:CD	2.77	0.47
9:A:2540:C:O2'	9:A:2541:A:H5'	2.14	0.47
18:J:25:LEU:CD2	18:J:26:GLY:N	2.70	0.47
16:H:41:LYS:C	16:H:43:ASN:N	2.65	0.47
4:3:2:LYS:HE2	9:A:242:G:O5'	2.14	0.47
9:A:528:A:H2	9:A:2043:C:C4'	2.25	0.47
23:O:30:ARG:HG2	23:O:31:THR:N	2.27	0.47
4:3:27:ASN:HD22	4:3:27:ASN:N	2.12	0.47
24:P:63:ILE:HG22	24:P:63:ILE:O	2.14	0.47
29:U:42:LYS:HB3	29:U:57:ILE:HG23	1.97	0.47
9:A:623:C:H2'	9:A:624:C:H6	1.78	0.47
23:O:54:VAL:O	23:O:54:VAL:HG22	2.14	0.47
14:F:142:TYR:HA	14:F:145:VAL:HG13	1.96	0.47
15:G:38:ASP:H	15:G:40:VAL:CG1	2.27	0.47
26:R:91:GLN:HA	26:R:91:GLN:OE1	2.14	0.47
30:V:1:MET:HG3	30:V:2:PHE:N	2.29	0.47
9:A:734:A:C5	9:A:735:A:C8	3.02	0.47
9:A:2082:A:H2'	9:A:2083:G:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1299:G:H2'	9:A:1639:C:N4	2.29	0.47
9:A:2722:G:H8	9:A:2722:G:O5'	1.96	0.47
9:A:414:C:H4'	9:A:1879:C:O2	2.15	0.47
9:A:1985:C:C2'	9:A:1986:C:O5'	2.62	0.47
9:A:1542:U:H2'	9:A:1543:G:O4'	2.15	0.47
9:A:1488:C:H2'	9:A:1489:C:H6	1.79	0.47
17:I:18:ASN:ND2	17:I:38:CYS:HB3	2.29	0.47
18:J:3:THR:HG21	25:Q:60:TRP:NE1	2.29	0.47
26:R:39:LEU:HA	26:R:49:ILE:CG2	2.44	0.47
26:R:47:VAL:O	26:R:47:VAL:CG1	2.61	0.47
16:H:32:PRO:O	16:H:33:GLN:HB2	2.13	0.47
11:C:221:GLY:HA3	11:C:229:HIS:CE1	2.48	0.47
28:T:40:LYS:HG2	28:T:58:VAL:O	2.15	0.47
9:A:1462:C:C2'	9:A:1463:C:C5'	2.91	0.47
19:K:1:MET:C	19:K:2:ILE:HD12	2.35	0.47
9:A:1276:A:H5''	9:A:1276:A:H8	1.79	0.47
9:A:786:C:O2'	9:A:787:C:H5'	2.14	0.47
9:A:308:G:C2'	9:A:309:A:H5'	2.44	0.47
20:L:64:PHE:CD1	20:L:64:PHE:C	2.88	0.47
17:I:60:VAL:HG22	17:I:66:PHE:CB	2.45	0.47
25:Q:81:GLY:CA	25:Q:116:LEU:HD13	2.44	0.47
9:A:481:G:O2'	9:A:482:A:P	2.72	0.47
9:A:503:A:C6	9:A:506:G:C6	3.03	0.47
13:E:145:ASP:HA	13:E:166:LYS:O	2.14	0.47
9:A:2078:C:O2'	9:A:2079:U:H5'	2.14	0.47
9:A:95:A:O2'	33:Y:41:HIS:CD2	2.67	0.47
15:G:88:LEU:HD11	15:G:95:ALA:HB2	1.96	0.47
9:A:2552:U:H6	9:A:2552:U:O5'	1.98	0.47
30:V:2:PHE:HD1	30:V:50:MET:HE1	1.78	0.47
9:A:1052:C:C6	9:A:1052:C:H3'	2.48	0.47
21:M:96:ILE:O	21:M:96:ILE:HG13	2.14	0.47
31:W:11:ASN:O	31:W:12:GLY:O	2.33	0.47
9:A:1604:C:H2'	9:A:1605:C:H6	1.80	0.47
9:A:2740:A:C6	9:A:2764:A:C8	3.02	0.47
9:A:171:U:O2'	9:A:172:A:H5'	2.13	0.47
9:A:1282:U:H2'	9:A:1283:G:O4'	2.14	0.47
9:A:1079:C:N3	9:A:1080:A:N7	2.62	0.47
17:I:126:ARG:HA	17:I:129:GLU:CD	2.35	0.47
32:X:50:VAL:HG12	32:X:51:SER:O	2.13	0.47
2:1:49:LYS:HG2	2:1:50:GLU:N	2.26	0.47
15:G:139:VAL:O	15:G:140:ILE:C	2.51	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:W:28:GLU:HB2	31:W:31:LEU:HD11	1.93	0.47
18:J:89:PHE:C	18:J:89:PHE:CD1	2.88	0.47
11:C:141:HIS:HB3	11:C:142:ASN:H	1.30	0.47
15:G:72:ASN:O	15:G:76:ILE:CG2	2.47	0.47
23:O:37:ALA:HB3	23:O:78:VAL:HG11	1.96	0.47
21:M:72:PRO:O	21:M:73:ILE:O	2.33	0.47
29:U:71:ILE:O	29:U:71:ILE:CD1	2.63	0.47
9:A:1083:U:O2	9:A:1086:A:N1	2.48	0.47
9:A:2660:A:C2	9:A:2661:G:C4	3.02	0.47
14:F:100:GLU:C	14:F:102:LEU:N	2.67	0.47
9:A:1416:G:O2'	9:A:1417:C:C6	2.59	0.47
9:A:2562:U:C4	9:A:2563:U:C5	3.01	0.47
26:R:61:ALA:CB	26:R:98:ILE:H	2.28	0.47
31:W:67:LYS:O	31:W:68:PHE:CB	2.59	0.47
9:A:363:G:H2'	9:A:364:C:C6	2.49	0.47
11:C:144:GLU:OE2	11:C:188:ARG:HB2	2.15	0.47
9:A:1542:U:O2'	9:A:1543:G:H5'	2.14	0.47
9:A:2754:U:H6	9:A:2754:U:O5'	1.96	0.47
20:L:3:LEU:HA	20:L:3:LEU:HD23	1.49	0.47
14:F:23:SER:O	14:F:26:GLN:HB3	2.15	0.47
17:I:91:LYS:O	17:I:97:VAL:HG21	2.14	0.47
9:A:2388:A:H5'	9:A:2389:G:OP2	2.14	0.47
24:P:28:LYS:O	24:P:80:VAL:O	2.32	0.47
25:Q:94:LEU:HD23	26:R:11:GLN:CB	2.45	0.47
26:R:80:ARG:O	26:R:81:LYS:HD3	2.13	0.47
20:L:95:LEU:HD22	20:L:100:ILE:HD11	1.97	0.47
2:1:9:LYS:CD	2:1:9:LYS:N	2.77	0.47
26:R:49:ILE:HG21	26:R:53:PHE:CA	2.45	0.47
16:H:18:GLN:HE21	16:H:18:GLN:CA	2.22	0.47
16:H:8:LYS:O	16:H:13:GLY:CA	2.53	0.47
16:H:14:SER:O	16:H:16:GLY:N	2.47	0.47
31:W:49:ASN:O	31:W:50:VAL:HG23	2.14	0.47
31:W:46:ALA:CB	31:W:80:SER:HB3	2.44	0.47
31:W:50:VAL:C	31:W:52:CYS:N	2.67	0.47
24:P:24:THR:C	24:P:25:VAL:HG12	2.35	0.47
11:C:257:ARG:CD	11:C:269:ARG:NH2	2.78	0.47
9:A:1654:A:C4'	12:D:118:PHE:CE1	2.98	0.47
24:P:102:ARG:C	24:P:103:THR:HG22	2.34	0.47
14:F:109:ARG:HB2	14:F:136:ILE:HG22	1.96	0.47
14:F:134:GLN:NE2	14:F:148:VAL:O	2.48	0.47
21:M:13:HIS:O	21:M:14:LYS:HB3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1963:U:O2'	9:A:1964:G:H5''	2.14	0.47
9:A:1974:C:H2'	9:A:1975:G:O5'	2.14	0.47
16:H:53:GLU:CG	16:H:53:GLU:O	2.62	0.47
9:A:1022:G:N2	9:A:1142:A:N1	2.62	0.47
9:A:1967:C:H2'	9:A:1968:G:C8	2.49	0.47
11:C:29:PHE:CZ	11:C:31:PRO:CG	2.97	0.47
11:C:33:LEU:HD23	11:C:33:LEU:HA	1.63	0.47
11:C:33:LEU:HD21	11:C:62:ARG:CD	2.39	0.47
26:R:24:LYS:HA	26:R:94:THR:CG2	2.37	0.47
30:V:21:ARG:HA	30:V:25:LYS:O	2.15	0.47
10:B:49:C:OP1	23:O:101:GLY:HA3	2.15	0.47
2:1:13:SER:OG	2:1:46:VAL:HG13	2.15	0.47
23:O:103:VAL:O	23:O:105:ALA:O	2.32	0.47
9:A:918:A:H4'	10:B:97:C:O2	2.15	0.47
9:A:1476:U:O2'	9:A:1477:A:C5'	2.63	0.47
19:K:35:VAL:HG12	19:K:36:GLY:H	1.78	0.47
9:A:2136:G:O6	9:A:2156:G:N3	2.47	0.47
22:N:75:ILE:C	22:N:75:ILE:HD12	2.35	0.47
9:A:235:U:H2'	9:A:236:C:H6	1.80	0.47
6:5:75:C:O2'	9:A:2507:C:H4'	2.15	0.47
13:E:132:LYS:HB3	13:E:132:LYS:NZ	2.29	0.47
9:A:1824:G:H2'	9:A:1825:U:H6	1.80	0.47
29:U:97:SER:O	29:U:98:ASN:CB	2.61	0.47
13:E:60:TRP:CZ2	13:E:70:SER:HB3	2.50	0.47
9:A:2788:C:H2'	9:A:2789:C:C6	2.49	0.47
9:A:1088:A:H4'	9:A:1089:A:C8	2.50	0.47
25:Q:88:GLU:O	25:Q:88:GLU:OE1	2.33	0.47
13:E:174:GLY:O	13:E:175:ILE:C	2.53	0.47
9:A:1818:U:H2'	11:C:152:GLN:O	2.14	0.47
11:C:142:ASN:CG	11:C:142:ASN:O	2.53	0.47
28:T:39:THR:HB	28:T:42:GLU:N	2.24	0.47
28:T:48:GLN:HB3	28:T:49:LYS:HE3	1.97	0.47
9:A:2107:G:H2'	9:A:2152:G:OP1	2.14	0.47
9:A:1748:C:H2'	9:A:1749:A:H8	1.80	0.47
4:3:7:ARG:HG3	9:A:245:G:O6	2.13	0.47
26:R:25:LEU:N	26:R:94:THR:HG21	2.29	0.47
10:B:35:C:H2'	10:B:36:C:O4'	2.15	0.47
9:A:875:G:H2'	9:A:876:C:H5'	1.96	0.47
9:A:1901:A:N3	9:A:1902:C:C6	2.83	0.47
12:D:33:ARG:NH2	12:D:51:THR:HG23	2.29	0.47
18:J:140:LEU:N	18:J:140:LEU:HD12	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:U:83:GLY:HA3	29:U:96:LYS:HE2	1.96	0.47
9:A:163:C:HO2'	9:A:164:C:P	2.38	0.47
9:A:2344:U:H4'	9:A:2345:G:OP1	2.14	0.47
12:D:46:ARG:HH11	12:D:46:ARG:HG2	1.78	0.47
9:A:1782:U:H1'	9:A:2609:U:O4'	2.14	0.47
14:F:141:ASP:HB3	14:F:144:LYS:HB2	1.97	0.47
9:A:1787:A:O4'	9:A:2589:A:H4'	2.14	0.47
9:A:279:A:H2'	9:A:280:U:O4'	2.15	0.47
9:A:2870:C:H2'	9:A:2871:U:H5'	1.97	0.47
9:A:2500:U:H5''	9:A:2501:C:OP2	2.15	0.47
18:J:44:TYR:O	18:J:45:THR:HB	2.15	0.47
16:H:30:LEU:O	16:H:35:LYS:HB2	2.14	0.47
15:G:126:THR:HG22	15:G:128:THR:N	2.20	0.47
31:W:22:VAL:O	31:W:25:PHE:CD2	2.66	0.47
9:A:412:A:H2'	9:A:413:C:H6	1.80	0.47
21:M:41:LEU:HD22	21:M:124:LEU:HD22	1.97	0.47
9:A:2140:G:H2'	9:A:2141:G:H8	1.79	0.47
9:A:2249:U:H4'	9:A:2250:G:OP2	2.14	0.47
9:A:1430:G:C2'	9:A:1431:A:C5'	2.91	0.47
9:A:726:G:O2'	9:A:727:A:O5'	2.32	0.47
15:G:15:ASP:O	15:G:16:VAL:HB	2.14	0.47
9:A:65:U:C2	9:A:66:C:C5	3.02	0.47
17:I:56:VAL:HG11	17:I:68:PHE:HD2	1.80	0.47
15:G:26:LYS:HB3	15:G:32:LEU:HA	1.96	0.47
9:A:1840:G:C2	9:A:1841:U:C2	3.03	0.47
9:A:2192:U:H2'	9:A:2193:G:H8	1.80	0.47
9:A:608:A:N3	9:A:621:A:C2	2.83	0.47
9:A:1385:A:C2	9:A:1386:C:N3	2.83	0.47
9:A:2080:A:C5'	32:X:18:SER:HB2	2.44	0.47
9:A:2671:G:H2'	9:A:2672:U:H5'	1.97	0.47
26:R:58:VAL:HG12	26:R:102:SER:CB	2.45	0.47
9:A:1034:G:C5	9:A:1122:G:C2	3.03	0.47
9:A:2648:G:C2	9:A:2649:C:C2	3.03	0.47
9:A:645:C:H42	9:A:2350:C:C1'	2.28	0.47
4:3:54:LEU:HD13	4:3:54:LEU:HA	1.76	0.47
31:W:58:LEU:HD12	31:W:58:LEU:HA	1.51	0.47
23:O:74:VAL:O	23:O:77:ALA:HB3	2.14	0.47
9:A:2300:C:O5'	9:A:2300:C:H6	1.98	0.47
9:A:178:G:O2'	9:A:179:C:H5'	2.14	0.47
9:A:670:A:H4'	9:A:671:C:H5''	1.97	0.47
2:1:10:LEU:O	2:1:19:PHE:HB2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2362:C:H2'	9:A:2363:G:H5'	1.96	0.47
11:C:254:LYS:O	11:C:255:LYS:CB	2.63	0.47
11:C:230:PRO:HD2	11:C:246:PRO:HA	1.96	0.47
9:A:2149:U:O2'	9:A:2150:C:O4'	2.26	0.47
9:A:545:U:O2	9:A:545:U:O4'	2.33	0.47
18:J:64:VAL:HG11	18:J:68:LYS:HB2	1.92	0.47
9:A:659:G:C6	9:A:660:C:C4	3.03	0.47
19:K:87:LEU:HD22	19:K:93:GLN:N	2.29	0.47
9:A:638:G:C5	9:A:651:G:C2	3.03	0.47
9:A:870:U:C2'	9:A:871:U:H5'	2.44	0.47
15:G:23:ILE:CD1	15:G:23:ILE:H	2.25	0.47
26:R:87:GLN:HG2	26:R:88:GLY:N	2.30	0.47
9:A:397:U:C2'	9:A:398:C:H5'	2.45	0.47
12:D:142:VAL:HG23	12:D:144:GLY:N	2.30	0.47
32:X:73:ARG:O	32:X:73:ARG:CG	2.62	0.47
9:A:2617:U:H2'	9:A:2618:G:O4'	2.14	0.47
12:D:191:GLY:O	12:D:192:ALA:HB3	2.14	0.47
25:Q:12:ARG:O	25:Q:13:HIS:C	2.50	0.47
9:A:2768:U:H2'	9:A:2769:U:O5'	2.15	0.47
9:A:1059:G:H4'	17:I:116:MET:CE	2.45	0.46
15:G:167:VAL:O	15:G:168:VAL:C	2.53	0.46
9:A:1327:A:C2'	9:A:1328:A:O5'	2.63	0.46
31:W:18:LYS:HG3	31:W:19:ARG:HG3	1.97	0.46
24:P:21:PRO:HA	24:P:46:VAL:HG12	1.97	0.46
13:E:5:LEU:HD23	13:E:120:VAL:O	2.14	0.46
11:C:141:HIS:NE2	11:C:193:GLU:C	2.68	0.46
21:M:4:PRO:CG	21:M:70:ASP:HA	2.45	0.46
34:Z:11:SER:O	34:Z:15:ARG:NE	2.47	0.46
34:Z:8:GLN:HB3	34:Z:31:ILE:HA	1.97	0.46
28:T:37:ASP:C	28:T:38:ALA:O	2.51	0.46
9:A:2152:G:HO2'	9:A:2153:C:C4'	2.27	0.46
22:N:44:LEU:CD1	22:N:48:VAL:HG23	2.45	0.46
22:N:44:LEU:HD11	22:N:48:VAL:HG21	1.96	0.46
9:A:154:U:H2'	9:A:155:A:C8	2.50	0.46
9:A:361:G:C8	9:A:361:G:OP2	2.67	0.46
9:A:1379:U:H6	9:A:1379:U:H5'	1.81	0.46
9:A:1378:A:O2'	9:A:1379:U:P	2.73	0.46
27:S:24:ILE:HD12	27:S:24:ILE:HA	1.49	0.46
29:U:85:ARG:HG3	29:U:86:PHE:N	2.30	0.46
26:R:67:GLY:C	26:R:93:PHE:CE2	2.89	0.46
9:A:364:C:O2'	9:A:365:U:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:N:96:ARG:O	22:N:96:ARG:HG3	2.15	0.46
9:A:1243:C:H2'	9:A:1244:A:O4'	2.16	0.46
9:A:2619:C:H5'	12:D:155:VAL:O	2.15	0.46
9:A:2345:G:C4	9:A:2381:A:C2	3.03	0.46
9:A:1524:G:O2'	9:A:1525:A:H5'	2.15	0.46
9:A:2422:C:H6	9:A:2422:C:H5''	1.80	0.46
9:A:2780:G:H4'	9:A:2781:A:OP2	2.14	0.46
9:A:263:G:C2'	9:A:264:C:O5'	2.63	0.46
24:P:3:ILE:C	24:P:3:ILE:CD1	2.83	0.46
25:Q:57:ARG:HG2	25:Q:61:ILE:CD1	2.41	0.46
12:D:113:SER:O	12:D:167:ASN:N	2.42	0.46
9:A:1080:A:O3'	17:I:126:ARG:HG3	2.15	0.46
2:1:50:GLU:OE1	2:1:50:GLU:CA	2.61	0.46
16:H:5:LEU:HD23	16:H:36:ALA:HB2	1.97	0.46
13:E:119:ILE:HD11	13:E:187:VAL:HG23	1.97	0.46
11:C:159:THR:OG1	11:C:194:VAL:HG11	2.16	0.46
11:C:68:ARG:HH22	11:C:115:ILE:HG23	1.80	0.46
9:A:411:G:H5''	9:A:412:A:OP1	2.15	0.46
23:O:89:ASP:O	23:O:90:VAL:HG13	2.15	0.46
9:A:1717:A:H2'	9:A:1718:G:O4'	2.15	0.46
34:Z:6:ILE:HD11	34:Z:47:ILE:HD11	1.98	0.46
9:A:1739:A:H2'	9:A:1740:G:O4'	2.15	0.46
28:T:28:ASN:C	28:T:91:GLN:NE2	2.64	0.46
22:N:71:ARG:HH21	22:N:71:ARG:HG3	1.76	0.46
9:A:2258:C:C2	9:A:2426:A:C4'	2.98	0.46
9:A:2525:G:C2	9:A:2539:C:C2	3.03	0.46
18:J:60:ASP:OD1	18:J:61:LYS:HG3	2.15	0.46
9:A:252:G:N2	9:A:253:C:H1'	2.30	0.46
9:A:566:U:O2'	9:A:809:G:OP2	2.26	0.46
9:A:1064:C:H4'	17:I:89:SER:HB2	1.98	0.46
16:H:6:LEU:CD1	16:H:6:LEU:N	2.78	0.46
32:X:40:GLU:C	32:X:42:GLU:N	2.68	0.46
13:E:149:ILE:O	13:E:188:MET:HA	2.16	0.46
13:E:8:ALA:O	13:E:9:GLN:C	2.54	0.46
9:A:1655:A:H5'	12:D:118:PHE:CD2	2.51	0.46
9:A:197:A:C2'	9:A:198:C:H5'	2.45	0.46
33:Y:44:LYS:O	33:Y:47:ARG:HB3	2.14	0.46
9:A:1665:A:C2'	9:A:1666:G:H5'	2.45	0.46
9:A:227:A:N6	9:A:410:G:H1'	2.30	0.46
9:A:1733:G:C2	9:A:1734:G:C5	3.03	0.46
9:A:2757:A:H2'	9:A:2757:A:N3	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:P:59:THR:HG23	24:P:72:VAL:HG12	1.98	0.46
14:F:116:LEU:O	14:F:176:PHE:HA	2.15	0.46
9:A:2808:G:O2'	9:A:2809:A:OP2	2.34	0.46
9:A:2145:C:H3'	9:A:2146:C:H5''	1.96	0.46
9:A:1385:A:C5	9:A:1403:A:C6	3.03	0.46
9:A:1241:A:H2'	9:A:1242:U:H5'	1.97	0.46
9:A:423:A:H5''	9:A:424:G:O5'	2.15	0.46
9:A:2083:G:H2'	9:A:2084:C:H5'	1.96	0.46
9:A:1522:A:O2'	9:A:1523:U:OP2	2.32	0.46
9:A:321:U:O2'	13:E:162:ARG:NH1	2.48	0.46
29:U:60:LYS:HA	29:U:60:LYS:HD2	1.60	0.46
9:A:2714:G:H2'	9:A:2715:C:C6	2.51	0.46
9:A:149:A:H2'	9:A:150:U:H6	1.80	0.46
12:D:12:THR:HG22	12:D:24:VAL:HG22	1.97	0.46
9:A:1153:C:H2'	9:A:1154:G:C5'	2.45	0.46
25:Q:94:LEU:HD13	25:Q:94:LEU:HA	1.29	0.46
17:I:79:LEU:HD22	17:I:137:LEU:CD1	2.46	0.46
9:A:636:G:N1	20:L:111:ILE:HD11	2.21	0.46
26:R:49:ILE:CG2	26:R:53:PHE:CA	2.94	0.46
31:W:28:GLU:C	31:W:63:ASP:HB3	2.36	0.46
9:A:1178:C:H2'	9:A:1178:C:O2	2.15	0.46
9:A:2304:G:H22	9:A:2312:U:H3	1.62	0.46
9:A:974:G:C4	9:A:1186:G:C2	3.03	0.46
11:C:252:LYS:HZ2	11:C:252:LYS:HA	1.80	0.46
9:A:1106:G:C6	9:A:1107:G:N7	2.83	0.46
24:P:31:VAL:HG22	24:P:32:VAL:N	2.31	0.46
9:A:360:U:H5''	9:A:361:G:OP1	2.16	0.46
9:A:245:G:H2'	9:A:246:C:H6	1.81	0.46
21:M:26:VAL:HG13	21:M:104:GLU:OE2	2.16	0.46
9:A:2544:G:O5'	9:A:2544:G:H8	1.99	0.46
3:2:12:ARG:HB2	9:A:686:U:O4	2.15	0.46
9:A:475:C:C4	9:A:481:G:C6	3.04	0.46
21:M:45:GLN:O	21:M:46:ILE:C	2.53	0.46
27:S:13:SER:OG	27:S:16:LYS:HG3	2.16	0.46
9:A:2136:G:C6	9:A:2137:U:O4	2.69	0.46
2:1:16:THR:HB	2:1:41:VAL:HG21	1.97	0.46
9:A:1206:G:C6	9:A:1207:C:C4	3.03	0.46
3:2:9:VAL:CG1	9:A:1309:G:OP1	2.64	0.46
10:B:74:U:O2	30:V:29:ILE:HD12	2.15	0.46
9:A:2807:U:H6	9:A:2807:U:O5'	1.98	0.46
9:A:2825:G:H2'	9:A:2826:A:H5'	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:N:18:GLN:NE2	22:N:22:ARG:NH1	2.63	0.46
9:A:1345:C:H2'	9:A:1345:C:O2	2.15	0.46
9:A:1233:C:C4	9:A:1234:U:C5	3.04	0.46
5:4:1:MET:CE	5:4:34:LYS:HG2	2.46	0.46
24:P:7:LEU:O	24:P:10:GLU:HG2	2.15	0.46
9:A:1061:U:H1'	9:A:1070:A:O4'	2.16	0.46
9:A:570:G:H2'	9:A:2030:A:C8	2.51	0.46
12:D:148:GLN:HB2	12:D:152:PRO:HG2	1.98	0.46
2:1:7:LYS:HE3	4:3:33:THR:HG21	1.96	0.46
16:H:31:VAL:CB	16:H:32:PRO:HD2	2.42	0.46
31:W:25:PHE:HB3	31:W:66:VAL:HG23	1.98	0.46
11:C:161:VAL:HG22	11:C:175:LEU:HD12	1.98	0.46
9:A:1998:A:H2'	9:A:1999:C:C6	2.50	0.46
9:A:1024:G:N2	9:A:1142:A:H2	2.12	0.46
9:A:2496:C:OP1	21:M:82:MET:HB2	2.16	0.46
9:A:780:G:H2'	9:A:782:A:N7	2.31	0.46
24:P:32:VAL:O	24:P:33:GLU:O	2.32	0.46
24:P:33:GLU:HG3	24:P:34:GLY:N	2.15	0.46
26:R:24:LYS:CA	26:R:94:THR:HG23	2.39	0.46
11:C:182:LYS:O	11:C:183:VAL:CG2	2.62	0.46
9:A:1733:G:O2'	9:A:1734:G:P	2.73	0.46
9:A:1417:C:O2'	9:A:1418:G:C5'	2.60	0.46
9:A:915:C:H6	9:A:915:C:C5'	2.24	0.46
12:D:133:THR:HG23	12:D:134:HIS:N	2.30	0.46
12:D:77:ARG:HD3	12:D:200:ASP:OD1	2.16	0.46
4:3:56:LEU:HD23	4:3:56:LEU:H	1.79	0.46
9:A:901:C:H2'	9:A:902:C:C6	2.50	0.46
9:A:2851:A:H2'	9:A:2852:G:O4'	2.15	0.46
27:S:18:ARG:CG	27:S:76:VAL:HG13	2.44	0.46
13:E:68:ALA:O	13:E:69:ARG:C	2.54	0.46
9:A:912:C:C4	9:A:913:U:O4	2.68	0.46
3:2:35:ARG:HG2	3:2:42:LEU:HD21	1.97	0.46
9:A:2557:G:H2'	9:A:2558:C:C6	2.51	0.46
1:0:5:ASN:O	1:0:7:PRO:HD3	2.15	0.46
9:A:2032:G:N1	9:A:2572:A:C8	2.83	0.46
12:D:97:SER:OG	12:D:99:GLU:CG	2.63	0.46
25:Q:8:ILE:CD1	25:Q:8:ILE:C	2.83	0.46
25:Q:85:ALA:O	25:Q:88:GLU:CB	2.64	0.46
9:A:819:A:OP2	9:A:1187:G:N2	2.43	0.46
15:G:93:TYR:HA	15:G:93:TYR:HD2	1.67	0.46
11:C:156:SER:O	11:C:194:VAL:HG11	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1826:G:C5	9:A:1827:U:C5	3.04	0.46
9:A:1014:A:H2'	9:A:1015:U:C6	2.50	0.46
14:F:135:ILE:C	14:F:137:PHE:N	2.68	0.46
13:E:147:LEU:HB2	13:E:186:VAL:HA	1.97	0.46
9:A:960:A:N7	9:A:962:G:C8	2.84	0.46
9:A:1945:G:H2'	9:A:1946:U:C5	2.51	0.46
15:G:154:GLU:OE1	15:G:157:LYS:HB2	2.15	0.46
23:O:70:ALA:O	23:O:71:ALA:C	2.54	0.46
9:A:2415:G:C5	9:A:2416:C:C5	3.03	0.46
9:A:669:G:C6	9:A:801:G:O6	2.68	0.46
12:D:69:ALA:CA	12:D:73:VAL:CG1	2.94	0.46
26:R:21:ARG:HG3	26:R:95:ASP:OD1	2.14	0.46
20:L:21:ARG:HD3	20:L:21:ARG:HA	1.69	0.46
9:A:1403:A:O2'	9:A:1404:C:H5'	2.16	0.46
9:A:1358:G:N2	9:A:1374:G:C5	2.84	0.46
9:A:1244:A:O5'	20:L:7:SER:HB3	2.15	0.46
23:O:36:TYR:CD2	23:O:36:TYR:N	2.84	0.46
9:A:430:A:H5''	9:A:431:U:OP2	2.16	0.46
9:A:2508:G:H2'	9:A:2509:G:O4'	2.16	0.46
24:P:13:LYS:NZ	24:P:80:VAL:CG1	2.78	0.46
9:A:996:A:P	25:Q:91:ARG:NH1	2.89	0.46
9:A:1059:G:C2	9:A:1080:A:N3	2.83	0.46
9:A:1063:G:H5'	17:I:76:ALA:HB3	1.98	0.46
15:G:166:GLU:OE2	15:G:167:VAL:N	2.49	0.46
9:A:2336:A:N6	31:W:40:ARG:HD2	2.31	0.46
31:W:36:ILE:O	31:W:39:GLN:HB3	2.16	0.46
19:K:105:ARG:NE	19:K:106:GLU:OE2	2.49	0.46
9:A:1798:U:C4	9:A:1819:A:C2	3.04	0.46
11:C:257:ARG:CD	11:C:269:ARG:HH22	2.29	0.46
28:T:29:THR:HG22	28:T:86:THR:CG2	2.20	0.46
9:A:1011:G:H5''	25:Q:76:SER:HG	1.80	0.46
23:O:107:ALA:O	23:O:110:ALA:HB3	2.15	0.46
14:F:151:LEU:HD12	14:F:151:LEU:C	2.36	0.46
9:A:544:C:O2	9:A:544:C:H2'	2.16	0.46
11:C:75:ALA:HB1	11:C:94:LEU:O	2.16	0.46
9:A:1421:G:C2	9:A:1422:G:C8	3.04	0.46
9:A:1934:C:H2'	9:A:1935:G:O5'	2.15	0.46
9:A:1507:C:H2'	9:A:1508:A:N3	2.30	0.46
9:A:2222:C:H4'	11:C:184:GLU:OE1	2.16	0.46
9:A:2103:C:H2'	9:A:2104:C:C5'	2.38	0.46
9:A:1734:G:O2'	9:A:1735:A:C8	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1820:U:C2	11:C:200:MET:HG2	2.50	0.46
21:M:132:THR:CG2	21:M:133:LYS:N	2.78	0.46
18:J:120:ARG:O	18:J:123:LYS:HE2	2.16	0.46
9:A:1857:G:H1'	9:A:1884:G:H22	1.81	0.46
10:B:15:A:O2'	10:B:16:G:H5'	2.15	0.46
10:B:70:C:C2'	10:B:71:C:H5'	2.46	0.46
9:A:1450:G:H2'	9:A:1451:C:C6	2.50	0.46
9:A:2302:U:H2'	9:A:2303:G:H8	1.81	0.46
9:A:1565:C:H3'	11:C:17:LYS:HZ3	1.81	0.46
9:A:1289:C:H2'	9:A:1290:C:C6	2.50	0.46
1:O:36:LYS:O	1:O:37:HIS:HB3	2.16	0.46
9:A:2447:G:C4	9:A:2500:U:C5	3.04	0.46
10:B:75:G:O2'	30:V:88:HIS:HE1	1.99	0.46
36:A:9000:ERY:H321	36:A:9000:ERY:H8	1.58	0.46
9:A:2720:U:C2	9:A:2872:A:C6	3.04	0.46
9:A:995:C:H42	18:J:2:LYS:HB2	1.81	0.46
9:A:1060:U:C5'	9:A:1061:U:OP1	2.62	0.46
9:A:1069:A:C6	9:A:1074:G:C5	3.03	0.46
17:I:79:LEU:HD11	17:I:132:ALA:HA	1.97	0.46
15:G:136:ASP:OD1	15:G:136:ASP:C	2.53	0.46
31:W:49:ASN:ND2	31:W:50:VAL:N	2.64	0.46
33:Y:9:LYS:NZ	33:Y:10:SER:H	2.13	0.46
9:A:2308:G:H2'	9:A:2310:C:H5	1.80	0.46
16:H:37:VAL:HG23	16:H:38:PRO:HD2	1.97	0.46
21:M:114:ARG:CA	21:M:130:PHE:CE1	2.98	0.46
9:A:2663:G:O2'	9:A:2664:G:H5'	2.15	0.46
22:N:67:PHE:HE2	22:N:71:ARG:NH1	2.14	0.46
29:U:54:PRO:HG2	29:U:55:GLY:H	1.80	0.46
9:A:2383:G:O2'	9:A:2384:U:C5'	2.59	0.46
9:A:2325:G:C6	9:A:2326:C:C4	3.04	0.46
18:J:31:GLU:HG3	18:J:142:ILE:HG21	1.98	0.46
9:A:1360:G:H5''	9:A:1360:G:C8	2.51	0.46
33:Y:42:LEU:HD12	33:Y:42:LEU:HA	1.71	0.46
30:V:42:LEU:N	30:V:42:LEU:HD23	2.30	0.46
11:C:237:ARG:O	11:C:238:ASN:HB2	2.15	0.46
11:C:123:ILE:HG12	11:C:123:ILE:O	2.15	0.46
9:A:728:G:O2'	9:A:730:A:H5''	2.15	0.46
25:Q:63:ARG:HH12	25:Q:96:ASP:C	2.14	0.46
9:A:670:A:H4'	9:A:671:C:O5'	2.15	0.46
2:1:7:LYS:CA	2:1:23:THR:HG22	2.41	0.46
2:1:8:ILE:HG21	2:1:51:ALA:CB	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:32:LEU:O	4:3:33:THR:C	2.53	0.46
9:A:136:G:H2'	9:A:137:U:C6	2.51	0.46
29:U:10:VAL:CG1	29:U:24:VAL:HG23	2.46	0.46
18:J:132:HIS:HB3	18:J:135:GLN:CG	2.46	0.46
9:A:544:C:H3'	9:A:545:U:O2	2.16	0.46
16:H:49:ALA:HB3	16:H:50:ARG:HH22	1.72	0.46
9:A:1023:U:H6	9:A:1023:U:H5'	1.79	0.46
9:A:1644:C:C2'	9:A:1644:C:O2	2.60	0.46
12:D:90:PHE:CD1	12:D:90:PHE:N	2.83	0.46
21:M:78:LEU:O	21:M:80:VAL:N	2.49	0.46
9:A:2794:C:H2'	9:A:2795:C:C6	2.51	0.46
21:M:6:ARG:O	21:M:7:THR:HG23	2.16	0.46
21:M:43:ALA:O	21:M:46:ILE:HG13	2.16	0.46
9:A:1606:C:O2'	9:A:1607:C:O5'	2.34	0.46
9:A:1845:G:H2'	9:A:1846:G:H5'	1.97	0.46
9:A:634:C:H2'	9:A:635:C:C6	2.50	0.46
9:A:1673:G:C3'	9:A:1674:G:H5'	2.46	0.46
15:G:95:ALA:HA	15:G:103:ASN:O	2.15	0.46
19:K:47:ILE:HG13	19:K:48:PRO:CD	2.45	0.46
9:A:2804:U:O2'	9:A:2805:C:H5'	2.16	0.46
9:A:103:A:H2'	9:A:104:A:H8	1.81	0.46
9:A:2840:C:H4'	22:N:91:ALA:O	2.16	0.46
9:A:108:G:C2'	9:A:109:C:H5'	2.46	0.46
9:A:2639:A:H4'	18:J:96:ARG:NH2	2.31	0.46
9:A:1059:G:C6	9:A:1080:A:N1	2.84	0.46
12:D:148:GLN:N	12:D:148:GLN:OE1	2.50	0.46
12:D:98:VAL:O	12:D:101:PHE:N	2.47	0.46
9:A:1655:A:C2	9:A:1656:C:H1'	2.51	0.46
9:A:1791:A:N6	9:A:1828:G:O2'	2.45	0.46
29:U:10:VAL:HG21	29:U:69:VAL:HB	1.97	0.46
29:U:25:LYS:N	29:U:34:ILE:O	2.49	0.46
21:M:77:PRO:HB2	21:M:80:VAL:CG1	2.46	0.46
9:A:441:U:H2'	9:A:442:G:C8	2.50	0.46
9:A:441:U:O2'	13:E:41:GLN:NE2	2.49	0.46
9:A:226:A:C6	9:A:227:A:C6	3.04	0.46
33:Y:23:ARG:NE	33:Y:23:ARG:HA	2.31	0.46
23:O:67:ASN:O	23:O:68:LYS:C	2.55	0.46
9:A:1198:U:H2'	9:A:1199:U:C6	2.51	0.46
9:A:2470:G:C2'	9:A:2471:A:H5'	2.45	0.46
9:A:1853:A:C5	9:A:1889:A:C6	3.04	0.46
9:A:475:C:O5'	9:A:475:C:H6	1.99	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:T:10:VAL:HG23	28:T:11:LEU:HD23	1.98	0.46
9:A:312:G:H2'	9:A:313:G:H8	1.81	0.46
9:A:925:A:H2'	9:A:926:G:O4'	2.16	0.46
9:A:2752:C:H2'	9:A:2753:A:H8	1.74	0.46
9:A:861:A:C2	9:A:917:A:C4	3.04	0.46
30:V:6:ALA:HB1	30:V:41:GLU:O	2.16	0.46
9:A:1980:G:O2'	9:A:1982:U:H5	1.99	0.46
9:A:2578:G:C5	12:D:145:SER:HB2	2.51	0.46
9:A:1441:G:H2'	9:A:1442:U:C6	2.51	0.46
18:J:70:THR:HA	18:J:90:GLU:HG2	1.98	0.46
9:A:263:G:H2'	9:A:264:C:O5'	2.15	0.46
9:A:565:C:H2'	9:A:566:U:O4'	2.15	0.46
5:4:1:MET:HE2	5:4:34:LYS:HG2	1.97	0.46
9:A:2610:C:H4'	36:A:9000:ERY:C30	2.46	0.46
9:A:2428:G:H5''	9:A:2429:G:OP1	2.15	0.46
9:A:160:A:C6	9:A:161:A:C6	3.04	0.46
15:G:27:GLY:O	15:G:28:LYS:C	2.54	0.46
9:A:817:C:H2'	9:A:818:G:O4'	2.15	0.46
17:I:123:ALA:HA	17:I:126:ARG:CZ	2.46	0.45
15:G:136:ASP:O	15:G:140:ILE:CD1	2.64	0.45
9:A:923:G:H4'	31:W:25:PHE:CZ	2.51	0.45
11:C:141:HIS:O	11:C:143:VAL:N	2.50	0.45
29:U:5:ARG:NH2	29:U:5:ARG:CG	2.56	0.45
28:T:37:ASP:OD2	28:T:37:ASP:N	2.49	0.45
23:O:51:ALA:HB3	23:O:78:VAL:HG13	1.98	0.45
9:A:1025:G:H4'	9:A:1026:G:OP2	2.15	0.45
19:K:40:LYS:HE3	19:K:57:VAL:HG13	1.98	0.45
20:L:82:LEU:HG	20:L:90:VAL:HG21	1.97	0.45
9:A:2093:G:OP1	16:H:24:GLY:N	2.41	0.45
9:A:1587:G:C4	9:A:1588:G:C8	3.04	0.45
9:A:409:G:HO2'	9:A:410:G:H5'	1.77	0.45
9:A:2635:A:C2'	9:A:2636:C:O5'	2.64	0.45
9:A:356:G:C6	9:A:357:C:C4	3.04	0.45
9:A:528:A:C2	9:A:2042:A:H2'	2.51	0.45
9:A:2393:U:O3'	20:L:62:PRO:HA	2.15	0.45
23:O:14:ALA:O	23:O:15:ARG:C	2.54	0.45
9:A:897:C:H5''	9:A:898:C:OP2	2.16	0.45
17:I:105:LEU:HA	17:I:108:ILE:HD12	1.97	0.45
17:I:40:ALA:HB3	17:I:68:PHE:CE1	2.50	0.45
9:A:2397:G:H2'	9:A:2398:U:H6	1.81	0.45
22:N:38:LEU:C	22:N:38:LEU:HD12	2.36	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1161:C:C1'	26:R:8:GLY:O	2.63	0.45
26:R:58:VAL:HG22	26:R:59:ILE:N	2.31	0.45
11:C:17:LYS:HE3	11:C:17:LYS:HA	1.97	0.45
9:A:1300:G:H2'	9:A:1635:A:OP1	2.16	0.45
12:D:9:VAL:HG22	12:D:26:VAL:CG1	2.44	0.45
14:F:52:ALA:HB2	14:F:149:ARG:HD3	1.97	0.45
9:A:1850:G:C5	9:A:1851:U:C5	3.04	0.45
9:A:735:A:H3'	9:A:736:C:C6	2.51	0.45
9:A:2507:C:H2'	9:A:2507:C:O2	2.17	0.45
9:A:160:A:C4	9:A:167:A:C2	3.04	0.45
13:E:65:THR:O	13:E:65:THR:HG23	2.17	0.45
20:L:95:LEU:HD22	20:L:100:ILE:CD1	2.46	0.45
26:R:49:ILE:CG2	26:R:54:VAL:HG12	2.45	0.45
31:W:24:ARG:NE	31:W:65:LYS:HE2	2.32	0.45
9:A:1654:A:C1'	12:D:118:PHE:CD1	2.95	0.45
9:A:2151:U:N3	9:A:2152:G:C5	2.84	0.45
5:4:37:GLN:HG3	9:A:1125:G:H5'	1.97	0.45
9:A:1588:G:N3	9:A:1589:U:C6	2.85	0.45
9:A:1507:C:C4	9:A:1508:A:N1	2.84	0.45
9:A:2105:U:OP2	9:A:2105:U:H6	1.99	0.45
14:F:3:LEU:HD23	14:F:100:GLU:CG	2.41	0.45
28:T:26:LYS:O	28:T:27:SER:CB	2.59	0.45
9:A:1416:G:C4	9:A:1417:C:C5	3.04	0.45
9:A:1256:G:H21	13:E:77:ILE:HG13	1.80	0.45
9:A:861:A:N3	10:B:79:G:O2'	2.47	0.45
9:A:1624:U:H2'	9:A:1625:C:C6	2.46	0.45
9:A:1624:U:C2	9:A:1625:C:C5	3.04	0.45
9:A:2134:A:N6	9:A:2157:G:C6	2.80	0.45
26:R:37:GLU:CD	26:R:37:GLU:N	2.66	0.45
5:4:5:ALA:HB3	9:A:2466:C:C5'	2.46	0.45
9:A:1594:U:H2'	9:A:1595:C:C6	2.51	0.45
9:A:2850:A:C2	9:A:2851:A:C4	3.04	0.45
32:X:26:ARG:NH1	32:X:27:ARG:O	2.49	0.45
9:A:1220:G:H2'	9:A:1221:C:C6	2.51	0.45
9:A:718:A:H2'	9:A:719:C:H5'	1.98	0.45
18:J:111:LYS:CG	18:J:112:GLY:H	2.18	0.45
25:Q:4:LYS:CD	25:Q:7:VAL:HG13	2.46	0.45
14:F:82:TYR:O	14:F:84:ILE:HG22	2.17	0.45
9:A:2356:U:H4'	31:W:16:GLU:CG	2.31	0.45
13:E:175:ILE:HD11	13:E:180:LEU:HD11	1.99	0.45
9:A:1744:A:H3'	9:A:1745:A:H8	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:957:C:C4'	9:A:958:U:OP1	2.59	0.45
9:A:274:C:C6	9:A:275:C:C5	3.03	0.45
9:A:1509:A:N3	9:A:1510:G:C8	2.85	0.45
4:3:29:ARG:HH21	9:A:2394:C:P	2.39	0.45
9:A:28:A:H2'	9:A:29:U:H6	1.81	0.45
9:A:2547:A:C2	9:A:2562:U:C2	3.04	0.45
26:R:42:ALA:CB	26:R:46:GLU:CB	2.94	0.45
14:F:174:PHE:HD1	14:F:176:PHE:CE1	2.35	0.45
9:A:2461:A:H1'	9:A:2492:U:C2	2.52	0.45
9:A:369:U:O2'	9:A:370:G:P	2.75	0.45
12:D:49:GLN:NE2	12:D:67:HIS:CE1	2.85	0.45
12:D:49:GLN:HE22	12:D:67:HIS:CE1	2.34	0.45
9:A:1606:C:O2'	9:A:1607:C:P	2.72	0.45
14:F:90:LEU:HB3	14:F:95:MET:HA	1.97	0.45
9:A:1223:G:P	26:R:68:ARG:HH12	2.40	0.45
29:U:94:PHE:O	29:U:94:PHE:CG	2.68	0.45
10:B:5:U:H2'	10:B:6:G:C8	2.52	0.45
9:A:1000:A:C6	9:A:1001:A:C6	3.04	0.45
9:A:1394:U:C2'	9:A:1395:A:O5'	2.65	0.45
28:T:93:LEU:HA	28:T:93:LEU:HD13	1.62	0.45
9:A:636:G:H3'	20:L:128:THR:HG21	1.98	0.45
12:D:2:ILE:HG13	12:D:100:LEU:HD21	1.97	0.45
2:1:10:LEU:HD23	2:1:50:GLU:O	2.17	0.45
31:W:18:LYS:H	31:W:36:ILE:CG1	2.30	0.45
31:W:46:ALA:HB3	31:W:80:SER:HB3	1.99	0.45
24:P:88:ARG:CG	24:P:112:ARG:NH2	2.80	0.45
19:K:108:ARG:CG	19:K:108:ARG:NH1	2.56	0.45
13:E:174:GLY:O	13:E:175:ILE:O	2.34	0.45
13:E:108:ILE:CD1	13:E:180:LEU:HD13	2.47	0.45
11:C:159:THR:N	11:C:194:VAL:CG1	2.79	0.45
31:W:75:ASN:O	31:W:76:ARG:CB	2.64	0.45
23:O:3:LYS:HG3	23:O:4:LYS:H	1.81	0.45
9:A:142:A:C4	9:A:143:C:C4	3.03	0.45
14:F:131:VAL:CG2	14:F:151:LEU:H	2.27	0.45
9:A:1460:U:H3'	9:A:1461:C:C5'	2.46	0.45
28:T:12:ARG:HD2	33:Y:29:ARG:NH2	2.31	0.45
9:A:1276:A:H5''	9:A:1276:A:C8	2.52	0.45
27:S:96:ILE:CD1	27:S:96:ILE:C	2.68	0.45
22:N:12:ARG:HG3	22:N:12:ARG:NH2	2.16	0.45
11:C:131:MET:HA	11:C:134:ILE:CD1	2.39	0.45
26:R:24:LYS:HB3	26:R:24:LYS:HE2	1.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:24:LYS:CD	20:L:62:PRO:HG3	2.47	0.45
20:L:27:LEU:H	20:L:27:LEU:CD1	2.25	0.45
29:U:49:PRO:O	29:U:51:LEU:N	2.49	0.45
9:A:478:A:N6	9:A:480:A:C6	2.84	0.45
9:A:1858:A:HO2'	9:A:1859:U:H6	1.64	0.45
9:A:1450:G:C4	9:A:1451:C:C5	3.05	0.45
27:S:29:VAL:HG22	27:S:55:ILE:HD11	1.97	0.45
19:K:11:ALA:O	19:K:99:ILE:HA	2.16	0.45
9:A:1301:A:C2	9:A:1303:G:C6	3.04	0.45
9:A:2023:C:O2	9:A:2023:C:C2'	2.60	0.45
26:R:68:ARG:HD3	26:R:92:TRP:CZ2	2.51	0.45
30:V:29:ILE:O	30:V:91:PHE:N	2.50	0.45
17:I:107:GLU:HA	17:I:110:GLN:HB3	1.98	0.45
5:4:7:VAL:O	5:4:8:LYS:HB2	2.16	0.45
9:A:239:C:O2'	9:A:240:C:H5'	2.17	0.45
15:G:175:LYS:O	15:G:176:LYS:C	2.53	0.45
9:A:573:U:O2'	9:A:574:A:H3'	2.17	0.45
12:D:107:VAL:O	12:D:107:VAL:HG12	2.15	0.45
9:A:1866:A:O2'	9:A:1867:G:C5'	2.64	0.45
31:W:18:LYS:HE3	31:W:19:ARG:HG3	1.97	0.45
31:W:28:GLU:HB3	31:W:31:LEU:CG	2.46	0.45
9:A:1655:A:H2'	9:A:1656:C:O4'	2.17	0.45
11:C:245:THR:HB	11:C:246:PRO:HD2	1.97	0.45
29:U:10:VAL:CG2	29:U:69:VAL:HB	2.46	0.45
5:4:36:ARG:HD3	9:A:2742:G:OP1	2.15	0.45
9:A:958:U:H5''	21:M:14:LYS:HZ2	1.81	0.45
16:H:3:VAL:CA	16:H:37:VAL:O	2.63	0.45
9:A:777:G:H2'	9:A:778:G:H8	1.82	0.45
13:E:32:VAL:CG2	13:E:33:VAL:N	2.79	0.45
11:C:196:ASN:OD1	11:C:197:ALA:N	2.49	0.45
9:A:479:A:N3	9:A:481:G:H5''	2.31	0.45
9:A:611:C:C2'	9:A:612:G:C5'	2.94	0.45
9:A:447:A:N1	9:A:454:A:H2'	2.31	0.45
25:Q:40:LYS:HB2	25:Q:40:LYS:HZ3	1.82	0.45
14:F:162:ASP:O	14:F:163:GLU:C	2.55	0.45
9:A:1359:A:C2'	9:A:1360:G:O5'	2.64	0.45
9:A:1374:G:C2'	9:A:1375:U:H5'	2.47	0.45
9:A:1681:G:H4'	9:A:1763:G:C8	2.51	0.45
9:A:1410:G:C2	9:A:1593:A:C2	3.04	0.45
9:A:2385:C:H2'	9:A:2386:A:C8	2.51	0.45
12:D:39:ASP:CG	12:D:40:LEU:H	2.19	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1135:C:H5''	9:A:1135:C:H6	1.81	0.45
9:A:186:G:H2'	9:A:187:G:H8	1.82	0.45
9:A:2874:C:H2'	9:A:2875:C:H6	1.80	0.45
24:P:4:ILE:O	24:P:5:LYS:CB	2.56	0.45
25:Q:57:ARG:HA	25:Q:60:TRP:CE3	2.51	0.45
12:D:113:SER:HB2	12:D:114:LYS:NZ	2.31	0.45
9:A:1326:U:C2'	9:A:1327:A:H5'	2.46	0.45
31:W:19:ARG:NH1	31:W:22:VAL:CG1	2.79	0.45
18:J:89:PHE:CE1	18:J:93:ILE:CG1	3.00	0.45
24:P:88:ARG:HD3	24:P:112:ARG:HH21	1.82	0.45
9:A:1818:U:HO2'	9:A:1819:A:P	2.40	0.45
31:W:73:PRO:HG2	31:W:76:ARG:HB2	1.98	0.45
9:A:2139:U:O2	9:A:2152:G:N2	2.49	0.45
5:4:26:ILE:N	5:4:26:ILE:HD13	2.31	0.45
9:A:1107:G:N3	9:A:1108:U:C6	2.84	0.45
11:C:29:PHE:CZ	11:C:31:PRO:HG3	2.51	0.45
9:A:748:G:O5'	27:S:89:ALA:HB2	2.16	0.45
9:A:2532:G:C5	9:A:2533:U:C5	3.04	0.45
9:A:28:A:H2'	9:A:29:U:O4'	2.15	0.45
10:B:33:G:C2'	10:B:34:A:H5'	2.47	0.45
24:P:67:GLU:CG	24:P:68:GLY:H	2.24	0.45
18:J:58:ASN:ND2	18:J:128:ASN:HB2	2.29	0.45
9:A:270:A:C2	9:A:369:U:H4'	2.51	0.45
9:A:621:A:H2'	9:A:622:G:O4'	2.16	0.45
15:G:115:GLN:N	15:G:115:GLN:CD	2.68	0.45
9:A:1486:U:C2'	9:A:1487:U:H5'	2.47	0.45
11:C:70:LYS:HG3	11:C:101:ARG:CZ	2.47	0.45
18:J:18:VAL:CG2	18:J:140:LEU:CD1	2.95	0.45
12:D:142:VAL:CB	12:D:143:PRO:CD	2.94	0.45
12:D:139:SER:HA	12:D:142:VAL:HG13	1.98	0.45
14:F:88:VAL:CG1	14:F:90:LEU:CD1	2.94	0.45
13:E:159:LEU:HD12	13:E:159:LEU:HA	1.53	0.45
29:U:98:ASN:C	29:U:98:ASN:OD1	2.55	0.45
9:A:1343:G:H2'	9:A:1344:U:C6	2.52	0.45
9:A:341:C:H2'	9:A:342:A:O4'	2.17	0.45
9:A:2834:G:O6	9:A:2879:A:H2'	2.16	0.45
21:M:51:ARG:O	21:M:52:ALA:C	2.53	0.45
9:A:1398:C:H2'	9:A:1399:C:C6	2.52	0.45
9:A:672:C:OP2	20:L:42:SER:OG	2.28	0.45
20:L:29:LYS:C	20:L:30:THR:HG23	2.37	0.45
20:L:29:LYS:O	20:L:30:THR:HG23	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:49:LYS:O	2:1:50:GLU:CB	2.56	0.45
9:A:2356:U:C5'	31:W:16:GLU:HG3	2.46	0.45
13:E:108:ILE:HD13	13:E:180:LEU:HD13	1.98	0.45
11:C:141:HIS:CD2	11:C:194:VAL:N	2.85	0.45
9:A:412:A:H2'	9:A:413:C:C5'	2.46	0.45
21:M:69:PRO:O	21:M:70:ASP:CG	2.54	0.45
9:A:142:A:C2	9:A:143:C:N3	2.84	0.45
9:A:602:A:C2	9:A:656:G:C6	3.05	0.45
9:A:2043:C:N3	9:A:2777:G:C2	2.85	0.45
5:4:19:ARG:NH1	9:A:2755:C:C4	2.85	0.45
9:A:1438:U:HO2'	9:A:1439:A:H5'	1.77	0.45
9:A:1822:C:O5'	9:A:1822:C:H6	2.00	0.45
9:A:2480:C:H2'	9:A:2481:G:C5'	2.45	0.45
9:A:81:G:C2	9:A:106:C:C2	3.04	0.45
14:F:13:LYS:HG3	14:F:14:LYS:N	2.31	0.45
9:A:1374:G:C5	9:A:1375:U:C5	3.04	0.45
19:K:24:VAL:CG1	19:K:30:ARG:HD2	2.47	0.45
2:1:3:GLY:C	2:1:4:ILE:HG12	2.36	0.45
9:A:825:A:C2'	9:A:826:U:H5'	2.47	0.45
9:A:1567:G:H2'	11:C:84:PRO:HG3	1.99	0.45
13:E:85:PHE:O	13:E:86:ALA:C	2.54	0.45
9:A:2641:G:H5''	18:J:78:THR:HB	1.98	0.45
15:G:96:ALA:O	15:G:97:VAL:CB	2.61	0.45
9:A:806:C:H2'	9:A:807:U:H6	1.81	0.45
9:A:2865:U:C2	9:A:2866:U:C5	3.04	0.45
1:0:10:SER:O	1:0:14:MET:HG3	2.16	0.45
9:A:900:A:C5	9:A:901:C:C6	3.05	0.45
30:V:77:VAL:HG13	30:V:77:VAL:O	2.17	0.45
9:A:1467:U:C4	9:A:1546:G:C2	3.04	0.45
9:A:567:U:C2'	9:A:568:U:O5'	2.65	0.45
9:A:2287:A:C8	9:A:2289:G:C8	3.05	0.45
15:G:112:VAL:HG23	15:G:113:ASP:N	2.32	0.45
31:W:26:GLY:O	31:W:27:GLY:C	2.55	0.45
11:C:256:THR:O	11:C:257:ARG:C	2.54	0.45
11:C:229:HIS:O	11:C:231:HIS:O	2.35	0.45
11:C:246:PRO:HG2	11:C:247:TRP:CZ2	2.51	0.45
29:U:25:LYS:CG	29:U:36:GLU:HB3	2.32	0.45
9:A:1510:G:C4	9:A:1511:G:C8	3.05	0.45
1:0:47:TYR:CZ	1:0:52:LYS:HB2	2.49	0.45
10:B:110:C:H2'	10:B:111:U:C5'	2.47	0.45
9:A:26:G:C6	9:A:27:G:N1	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1917:U:C4	9:A:1918:A:C5	3.05	0.45
9:A:2485:G:OP1	21:M:45:GLN:NE2	2.50	0.45
9:A:1859:U:H2'	9:A:1860:G:H8	1.82	0.45
27:S:37:THR:HB	27:S:38:TYR:CE1	2.52	0.45
9:A:946:C:H2'	9:A:947:A:C8	2.46	0.45
9:A:1556:C:H2'	9:A:1557:C:H5'	1.97	0.45
9:A:1303:G:O2'	9:A:1304:A:H5'	2.16	0.45
9:A:374:A:H2'	9:A:375:G:C5'	2.47	0.45
9:A:645:C:N4	9:A:2350:C:C4'	2.80	0.45
9:A:306:U:C3'	9:A:307:G:H5'	2.44	0.45
9:A:2435:A:H2'	9:A:2436:G:O5'	2.16	0.45
9:A:2463:C:O5'	9:A:2463:C:H6	2.00	0.45
9:A:1783:A:H5'	9:A:2608:G:H4'	1.99	0.45
9:A:2748:A:N6	9:A:2749:A:C6	2.85	0.45
9:A:995:C:OP2	25:Q:52:ARG:NH1	2.50	0.45
15:G:85:LYS:HA	15:G:130:ILE:O	2.16	0.45
25:Q:82:LEU:HD22	25:Q:88:GLU:OE2	2.16	0.45
9:A:2352:A:H8	9:A:2352:A:O5'	2.00	0.45
12:D:122:VAL:O	12:D:126:ASN:HA	2.17	0.45
28:T:31:VAL:C	28:T:32:LEU:CD2	2.74	0.45
9:A:1946:U:C2	9:A:1947:C:C5	3.05	0.45
23:O:28:VAL:HG23	23:O:106:LEU:CD2	2.46	0.45
21:M:21:ALA:HB3	21:M:100:LYS:N	2.32	0.45
18:J:84:ILE:HG23	18:J:84:ILE:O	2.17	0.45
9:A:31:C:O3'	9:A:1238:G:H5'	2.16	0.45
9:A:2601:C:N3	9:A:2603:G:O6	2.50	0.45
9:A:1774:C:H4'	9:A:1979:U:O2	2.16	0.45
10:B:19:C:C2'	10:B:20:G:H5'	2.47	0.45
9:A:930:G:H5''	9:A:931:U:OP2	2.16	0.45
9:A:2856:A:C2'	9:A:2857:G:H5'	2.47	0.45
23:O:25:ARG:HG3	23:O:27:VAL:CG2	2.47	0.45
9:A:760:G:H2'	9:A:761:A:O4'	2.16	0.45
12:D:14:ILE:HA	24:P:11:GLN:NE2	2.15	0.45
15:G:131:VAL:HG23	15:G:131:VAL:O	2.16	0.45
32:X:77:TYR:CD1	32:X:77:TYR:C	2.90	0.45
12:D:105:LYS:CE	12:D:176:ASP:HB3	2.47	0.45
9:A:923:G:N2	31:W:23:LYS:HE2	2.31	0.45
31:W:19:ARG:NH2	31:W:22:VAL:CG2	2.78	0.45
9:A:2353:G:H2'	9:A:2354:C:O5'	2.17	0.45
9:A:867:C:C4	9:A:868:U:C5	3.05	0.45
11:C:106:PRO:CA	11:C:141:HIS:CE1	2.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:O:79:ALA:HB1	23:O:113:ALA:CB	2.47	0.45
24:P:95:LYS:CG	24:P:97:TYR:CZ	2.96	0.45
11:C:20:ASN:HA	11:C:21:PRO:HD2	1.90	0.45
26:R:41:ILE:HG22	26:R:42:ALA:N	2.32	0.45
9:A:2225:A:H4'	9:A:2226:C:H6	1.82	0.45
9:A:480:A:H3'	9:A:481:G:C5'	2.47	0.45
9:A:869:G:H2'	9:A:870:U:O4'	2.17	0.45
9:A:396:G:H2'	9:A:397:U:C6	2.53	0.45
14:F:16:MET:O	14:F:20:ASN:N	2.50	0.45
9:A:2136:G:C2	9:A:2137:U:O4	2.69	0.45
11:C:180:MET:CG	11:C:268:ARG:NH1	2.79	0.45
9:A:1607:C:H4'	9:A:1608:A:O5'	2.17	0.45
9:A:752:A:O2'	9:A:753:A:P	2.75	0.45
9:A:2023:C:H5''	9:A:2023:C:C6	2.52	0.45
14:F:91:ARG:N	14:F:95:MET:HB2	2.32	0.45
9:A:831:G:C6	9:A:832:U:C4	3.06	0.45
9:A:1216:G:H2'	9:A:1217:U:H6	1.82	0.45
13:E:196:VAL:HG13	13:E:200:LEU:HD22	1.99	0.45
21:M:25:ASP:OD2	21:M:25:ASP:N	2.50	0.45
9:A:2536:G:C5	9:A:2537:U:C4	3.05	0.45
9:A:2185:U:C5	9:A:2186:G:N7	2.85	0.45
9:A:670:A:H4'	9:A:671:C:C5'	2.47	0.44
12:D:105:LYS:N	12:D:106:LYS:HD2	2.31	0.44
11:C:254:LYS:HE3	11:C:254:LYS:HB3	1.72	0.44
9:A:1585:C:C2'	9:A:1586:A:C5'	2.81	0.44
17:I:24:GLY:O	17:I:34:ILE:HD12	2.16	0.44
9:A:956:G:H4'	21:M:82:MET:HE1	1.98	0.44
9:A:659:G:C5	9:A:660:C:C4	3.05	0.44
9:A:37:C:C2'	9:A:38:A:O5'	2.66	0.44
9:A:277:G:H4'	9:A:278:A:C8	2.52	0.44
9:A:2415:G:C4	9:A:2416:C:C6	3.05	0.44
17:I:52:LEU:N	17:I:52:LEU:HD12	2.32	0.44
9:A:2470:G:N2	9:A:2471:A:C4	2.85	0.44
9:A:869:G:C6	9:A:870:U:C4	3.06	0.44
14:F:106:ALA:C	14:F:108:PRO:CD	2.85	0.44
23:O:75:GLY:CA	23:O:106:LEU:HD13	2.43	0.44
9:A:1539:U:H2'	9:A:1540:G:C8	2.47	0.44
22:N:87:PHE:CE1	22:N:116:VAL:HG12	2.53	0.44
9:A:633:A:H2'	9:A:634:C:H5'	1.99	0.44
9:A:187:G:C2	9:A:210:C:O2	2.70	0.44
9:A:1844:C:C3'	9:A:1844:C:C6	3.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1313:U:H2'	9:A:1313:U:O2	2.16	0.44
9:A:2838:G:H2'	9:A:2839:G:O4'	2.17	0.44
9:A:497:A:H2'	9:A:498:G:O4'	2.17	0.44
12:D:15:PHE:H	24:P:11:GLN:HE21	1.59	0.44
2:1:8:ILE:CG2	2:1:9:LYS:H	2.29	0.44
26:R:39:LEU:O	26:R:40:MET:HB2	2.16	0.44
26:R:52:PRO:O	26:R:53:PHE:HB2	2.16	0.44
32:X:40:GLU:HG3	32:X:43:LYS:HZ1	1.78	0.44
32:X:46:VAL:HG11	32:X:77:TYR:CD1	2.52	0.44
11:C:203:VAL:HG12	11:C:204:LEU:N	2.32	0.44
11:C:103:ILE:O	11:C:104:LEU:O	2.34	0.44
28:T:29:THR:CB	28:T:86:THR:HG22	2.47	0.44
10:B:90:C:OP1	21:M:16:ARG:HB3	2.18	0.44
9:A:2540:C:C2'	9:A:2541:A:C5'	2.86	0.44
9:A:558:U:P	18:J:113:PRO:CG	2.96	0.44
33:Y:37:LEU:O	33:Y:37:LEU:HD13	2.18	0.44
4:3:2:LYS:HA	9:A:592:A:O2'	2.17	0.44
10:B:110:C:C2'	10:B:111:U:H5'	2.48	0.44
4:3:60:CYS:O	4:3:61:LEU:HD23	2.17	0.44
20:L:57:LEU:HD11	20:L:61:LEU:HD21	2.00	0.44
21:M:55:ARG:O	21:M:56:ALA:HB2	2.16	0.44
9:A:2340:A:H2'	9:A:2341:G:H8	1.80	0.44
24:P:83:ILE:CD1	24:P:83:ILE:C	2.78	0.44
9:A:345:A:O2'	9:A:346:A:N7	2.51	0.44
9:A:1695:G:H8	11:C:7:PRO:HG2	1.78	0.44
9:A:2729:G:H5''	9:A:2729:G:C8	2.46	0.44
10:B:78:A:H2'	10:B:79:G:O4'	2.17	0.44
9:A:1487:U:N3	9:A:1503:A:C2	2.85	0.44
9:A:1842:G:H2'	9:A:1843:C:O4'	2.18	0.44
9:A:2671:G:C3'	9:A:2672:U:H5'	2.48	0.44
11:C:250:GLN:CD	11:C:250:GLN:N	2.71	0.44
6:5:75:C:H2'	6:5:76:MA6:O4'	2.18	0.44
13:E:178:VAL:O	13:E:181:ILE:N	2.47	0.44
9:A:2097:A:O2'	9:A:2098:U:H5'	2.16	0.44
9:A:1950:G:H5''	9:A:1951:U:OP2	2.17	0.44
9:A:2001:C:C2	9:A:2002:G:C8	3.05	0.44
12:D:13:ARG:HD2	24:P:55:HIS:ND1	2.32	0.44
24:P:50:ARG:O	24:P:51:ASN:HB2	2.17	0.44
20:L:91:ASP:O	20:L:93:ASN:O	2.34	0.44
9:A:2356:U:H5''	31:W:16:GLU:HG3	1.98	0.44
9:A:1178:C:C4	9:A:1180:U:C4	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:E:175:ILE:CG2	13:E:175:ILE:O	2.65	0.44
9:A:1337:G:O2'	9:A:1338:G:H5'	2.18	0.44
28:T:17:SER:O	28:T:18:GLU:CB	2.63	0.44
28:T:88:LYS:O	28:T:89:GLU:CB	2.63	0.44
14:F:10:GLU:O	14:F:11:VAL:CB	2.50	0.44
19:K:40:LYS:HG3	19:K:41:ILE:N	2.32	0.44
9:A:83:A:N6	9:A:101:A:C4	2.86	0.44
9:A:933:A:H3'	9:A:934:U:C5'	2.46	0.44
9:A:847:U:O2	9:A:934:U:H1'	2.17	0.44
9:A:2494:G:O2'	21:M:79:ALA:HA	2.17	0.44
9:A:726:G:O2'	9:A:727:A:H8	1.99	0.44
27:S:43:ALA:O	27:S:46:LEU:HB2	2.16	0.44
11:C:131:MET:O	11:C:132:ARG:C	2.55	0.44
11:C:184:GLU:O	11:C:186:ASP:N	2.47	0.44
15:G:68:ARG:O	15:G:68:ARG:HD2	2.17	0.44
2:1:13:SER:OG	2:1:46:VAL:CG1	2.65	0.44
9:A:2415:G:C6	9:A:2416:C:C4	3.04	0.44
9:A:1857:G:O2'	9:A:1858:A:OP2	2.34	0.44
10:B:71:C:H2'	10:B:72:G:H5'	1.99	0.44
24:P:98:TYR:CE2	24:P:99:LEU:CD1	3.00	0.44
9:A:30:G:H2'	9:A:31:C:C6	2.53	0.44
9:A:2665:A:H2	9:A:2666:C:C2	2.35	0.44
9:A:414:C:O2'	9:A:415:A:H5'	2.17	0.44
12:D:177:VAL:CG2	12:D:177:VAL:O	2.65	0.44
18:J:40:HIS:N	18:J:40:HIS:CD2	2.85	0.44
17:I:126:ARG:CA	17:I:129:GLU:HB2	2.43	0.44
32:X:34:SER:H	32:X:50:VAL:H	1.65	0.44
26:R:4:VAL:HG22	26:R:40:MET:HB3	2.00	0.44
22:N:101:GLY:HA2	22:N:110:MET:H	1.81	0.44
12:D:106:LYS:CB	12:D:206:ALA:H	2.30	0.44
15:G:94:ARG:HA	15:G:127:GLN:O	2.17	0.44
24:P:87:ARG:HG3	24:P:88:ARG:H	1.82	0.44
9:A:1013:C:H2'	9:A:1014:A:C8	2.53	0.44
34:Z:15:ARG:HD3	34:Z:53:MET:SD	2.57	0.44
28:T:15:HIS:O	28:T:17:SER:N	2.51	0.44
28:T:38:ALA:HB1	28:T:43:ILE:HG21	1.99	0.44
9:A:2107:G:C2'	9:A:2152:G:OP1	2.66	0.44
5:4:9:LYS:HG3	5:4:16:ILE:HG13	2.00	0.44
21:M:16:ARG:HA	21:M:16:ARG:HD3	1.91	0.44
9:A:2820:A:OP1	22:N:2:ARG:NH2	2.50	0.44
9:A:2094:A:C4'	16:H:25:TYR:CE1	2.96	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1021:A:C6	9:A:1023:U:C5	3.05	0.44
15:G:156:TYR:O	15:G:157:LYS:HG3	2.17	0.44
26:R:15:SER:H	26:R:18:GLN:NE2	2.16	0.44
12:D:68:PHE:CB	12:D:73:VAL:HG12	2.48	0.44
9:A:2492:U:C2	9:A:2493:U:C5	3.05	0.44
32:X:12:VAL:CG2	32:X:28:PHE:HB2	2.48	0.44
20:L:113:ALA:O	20:L:114:GLY:O	2.35	0.44
9:A:1687:G:H2'	9:A:1688:U:C6	2.52	0.44
2:1:16:THR:CG2	2:1:41:VAL:HG22	2.48	0.44
22:N:96:ARG:NH1	22:N:116:VAL:HG23	2.32	0.44
12:D:9:VAL:CG2	12:D:26:VAL:HB	2.47	0.44
12:D:9:VAL:HG22	12:D:26:VAL:CB	2.48	0.44
9:A:2647:U:O2'	9:A:2648:G:H5'	2.17	0.44
9:A:2682:A:C8	12:D:11:MET:CG	3.00	0.44
12:D:25:THR:HG22	12:D:27:ILE:HG13	2.00	0.44
14:F:46:LYS:H	14:F:46:LYS:HE3	1.82	0.44
9:A:2824:C:C2'	9:A:2825:G:O5'	2.66	0.44
22:N:85:PRO:HA	22:N:88:ALA:HB2	2.00	0.44
9:A:2855:C:O5'	9:A:2855:C:H6	2.00	0.44
9:A:571:U:C5	9:A:575:A:C6	3.06	0.44
11:C:105:ALA:HA	11:C:106:PRO:HD2	1.62	0.44
1:0:39:ARG:HG2	1:0:40:HIS:CE1	2.52	0.44
29:U:24:VAL:HA	29:U:35:VAL:HG22	2.00	0.44
14:F:109:ARG:C	14:F:136:ILE:HG22	2.38	0.44
11:C:76:VAL:O	11:C:77:VAL:C	2.56	0.44
9:A:1959:G:H2'	9:A:1960:A:O5'	2.17	0.44
9:A:528:A:C8	9:A:528:A:H3'	2.47	0.44
9:A:1733:G:O2'	9:A:1734:G:C5'	2.66	0.44
23:O:59:ALA:CA	23:O:62:LEU:CD1	2.95	0.44
9:A:2563:U:H1'	9:A:2566:A:N6	2.32	0.44
10:B:34:A:H2'	10:B:35:C:OP2	2.17	0.44
9:A:1854:A:H2	9:A:2087:G:N3	2.16	0.44
17:I:30:GLN:NE2	17:I:32:VAL:HB	2.33	0.44
9:A:1912:A:N1	9:A:1919:A:C5	2.86	0.44
1:0:48:TYR:O	1:0:49:ARG:HB2	2.18	0.44
9:A:2615:U:H2'	9:A:2616:C:H6	1.82	0.44
9:A:851:C:H2'	9:A:852:U:H6	1.82	0.44
9:A:1996:C:OP1	19:K:31:ARG:NE	2.51	0.44
9:A:2752:C:H6	9:A:2752:C:O5'	2.01	0.44
22:N:87:PHE:HE1	22:N:116:VAL:HG12	1.82	0.44
12:D:9:VAL:CG1	12:D:28:GLU:HB2	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:323:C:C4	9:A:333:G:C8	3.05	0.44
9:A:1595:C:O5'	9:A:1595:C:H6	1.99	0.44
9:A:1052:C:C6	9:A:1052:C:C3'	3.00	0.44
9:A:2243:U:O2	9:A:2434:A:C2	2.70	0.44
9:A:1376:C:O2'	9:A:1377:G:H5'	2.17	0.44
11:C:32:LEU:HA	11:C:32:LEU:HD23	1.76	0.44
9:A:968:C:O2'	9:A:969:G:H5'	2.18	0.44
13:E:197:GLU:O	13:E:198:GLU:C	2.56	0.44
9:A:2645:G:H4'	9:A:2646:C:OP2	2.18	0.44
25:Q:15:LYS:O	25:Q:19:GLN:HG3	2.17	0.44
10:B:57:A:H2'	10:B:58:A:C8	2.52	0.44
9:A:1071:G:C4	9:A:1089:A:C6	3.06	0.44
19:K:18:ARG:HB2	19:K:45:GLU:CB	2.43	0.44
9:A:2289:G:O2'	9:A:2290:G:H5'	2.18	0.44
32:X:6:VAL:HG23	32:X:66:VAL:HG13	2.00	0.44
9:A:1865:U:O2'	9:A:1866:A:H5''	2.16	0.44
24:P:88:ARG:HD3	24:P:112:ARG:NH2	2.33	0.44
13:E:5:LEU:HD13	13:E:122:GLU:HG3	2.00	0.44
13:E:7:ASP:CG	13:E:8:ALA:N	2.69	0.44
21:M:4:PRO:HG2	21:M:92:TRP:CZ3	2.52	0.44
9:A:547:A:N1	9:A:549:G:N2	2.65	0.44
5:4:36:ARG:CG	5:4:37:GLN:H	2.04	0.44
9:A:304:U:O2'	9:A:305:C:H5'	2.18	0.44
9:A:1081:U:N3	9:A:1082:U:C5	2.85	0.44
27:S:86:MET:HG3	27:S:88:ARG:HD3	1.99	0.44
11:C:121:ALA:HB3	11:C:129:LEU:CD2	2.47	0.44
26:R:66:HIS:CE1	26:R:94:THR:HB	2.52	0.44
15:G:33:THR:CA	15:G:34:ARG:NH1	2.76	0.44
9:A:1721:G:H22	9:A:1738:G:H2'	1.82	0.44
9:A:2756:U:H1'	9:A:2757:A:H5''	1.99	0.44
9:A:1416:G:O2'	9:A:1417:C:P	2.76	0.44
9:A:28:A:C5	9:A:29:U:C5	3.06	0.44
13:E:82:GLY:O	13:E:83:VAL:HB	2.17	0.44
9:A:2551:C:H2'	9:A:2552:U:C6	2.52	0.44
10:B:5:U:H2'	10:B:6:G:H8	1.82	0.44
9:A:900:A:C4	9:A:901:C:C6	3.06	0.44
9:A:2244:U:H2'	9:A:2245:U:O4'	2.18	0.44
9:A:2417:C:H2'	9:A:2418:A:O5'	2.17	0.44
14:F:61:GLY:HA3	14:F:94:ARG:HD2	1.98	0.44
9:A:119:A:H4'	9:A:120:U:O5'	2.17	0.44
13:E:37:ALA:O	13:E:39:ALA:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:N:93:GLY:C	22:N:95:THR:H	2.21	0.44
9:A:2643:G:H2'	9:A:2644:G:O4'	2.17	0.44
9:A:540:C:O2'	9:A:541:A:H5'	2.17	0.44
18:J:37:ARG:CG	18:J:37:ARG:O	2.66	0.44
9:A:2693:G:O2'	9:A:2694:G:H5'	2.16	0.44
9:A:579:G:C2	9:A:1262:A:C5	3.06	0.44
15:G:162:ARG:NH2	15:G:168:VAL:HG21	2.32	0.44
31:W:24:ARG:HD3	31:W:65:LYS:CD	2.48	0.44
27:S:2:GLU:C	27:S:3:THR:HG22	2.38	0.44
13:E:170:ARG:CG	13:E:170:ARG:NH2	2.48	0.44
28:T:7:LEU:O	28:T:7:LEU:HG	2.18	0.44
18:J:130:HIS:HD2	18:J:132:HIS:N	2.14	0.44
9:A:1058:U:H4'	17:I:117:THR:CG2	2.48	0.44
1:O:2:VAL:CG2	9:A:2015:A:C5	3.01	0.44
16:H:41:LYS:CA	16:H:44:ILE:HG12	2.35	0.44
9:A:68:G:N2	9:A:74:A:C4	2.86	0.44
4:3:24:LYS:HB3	20:L:62:PRO:HG2	2.00	0.44
9:A:1731:G:C6	9:A:1733:G:C6	3.06	0.44
14:F:102:LEU:HD13	14:F:102:LEU:C	2.38	0.44
24:P:47:ILE:HA	24:P:96:LEU:HB2	1.99	0.44
28:T:20:ALA:C	28:T:22:THR:N	2.70	0.44
28:T:25:GLU:O	28:T:27:SER:N	2.42	0.44
9:A:289:G:C8	9:A:290:U:C5	3.05	0.44
9:A:63:A:HO2'	9:A:64:A:H5'	1.80	0.44
9:A:480:A:OP2	29:U:43:LYS:HD2	2.18	0.44
9:A:1403:A:H2'	9:A:1404:C:C6	2.53	0.44
9:A:2302:U:H3	9:A:2314:A:H61	1.65	0.44
21:M:97:GLN:HB2	21:M:98:PRO:CD	2.48	0.44
9:A:1304:A:C2	9:A:1305:C:C6	3.06	0.44
12:D:16:THR:HG1	12:D:18:ASP:CG	2.21	0.44
9:A:666:A:H4'	20:L:48:ARG:NE	2.31	0.44
18:J:121:LYS:HE3	18:J:121:LYS:HB2	1.71	0.44
18:J:49:ASP:C	18:J:49:ASP:OD2	2.56	0.44
9:A:2081:U:H2'	9:A:2082:A:C8	2.52	0.44
9:A:117:G:C6	9:A:119:A:N6	2.86	0.44
9:A:2715:C:C4	9:A:2716:C:C5	3.06	0.44
9:A:1725:U:H2'	9:A:1726:C:O4'	2.18	0.44
18:J:44:TYR:HB2	25:Q:63:ARG:CG	2.47	0.44
20:L:110:VAL:HG12	20:L:131:ALA:HB2	1.99	0.44
22:N:103:ARG:NE	22:N:110:MET:CE	2.80	0.44
15:G:112:VAL:HG23	15:G:113:ASP:H	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:923:G:N2	31:W:23:LYS:NZ	2.46	0.44
31:W:28:GLU:OE2	31:W:29:SER:N	2.51	0.44
24:P:19:PHE:N	24:P:19:PHE:CD2	2.86	0.44
12:D:120:GLY:CA	12:D:162:ALA:HB2	2.34	0.44
9:A:1711:A:H2'	9:A:1712:U:H6	1.83	0.44
28:T:2:ILE:HG13	28:T:3:ARG:NH2	2.32	0.44
29:U:39:ASN:HB3	29:U:62:ALA:O	2.18	0.44
23:O:117:PHE:O	23:O:117:PHE:CD1	2.70	0.44
9:A:1885:A:H2'	9:A:1886:U:O4'	2.18	0.44
1:O:9:ARG:NH2	9:A:517:C:OP2	2.37	0.44
21:M:77:PRO:HB2	21:M:80:VAL:HG12	1.99	0.44
9:A:275:C:C4	9:A:276:U:H6	2.36	0.44
14:F:98:PHE:CD2	14:F:98:PHE:C	2.90	0.44
29:U:17:ASP:O	29:U:18:LYS:C	2.56	0.44
26:R:16:GLU:HA	26:R:98:ILE:CG2	2.40	0.44
13:E:12:LEU:HD22	13:E:12:LEU:HA	1.85	0.44
27:S:28:LYS:O	27:S:29:VAL:C	2.56	0.44
9:A:1566:A:O2'	9:A:1567:G:H5'	2.18	0.44
4:3:3:ILE:CG2	20:L:48:ARG:HH21	2.31	0.44
9:A:2076:U:O4'	9:A:2076:U:O2	2.36	0.44
29:U:28:LEU:O	29:U:30:SER:N	2.51	0.44
11:C:116:GLN:N	11:C:127:ASN:OD1	2.44	0.44
9:A:1520:U:O5'	9:A:1520:U:H6	2.01	0.44
9:A:536:G:H2'	9:A:537:G:C5'	2.48	0.44
27:S:42:LYS:HE2	27:S:42:LYS:HB2	1.47	0.44
9:A:1074:G:N3	9:A:1075:C:C5	2.86	0.44
25:Q:4:LYS:HZ3	25:Q:5:ARG:N	2.15	0.44
25:Q:69:ARG:CG	25:Q:69:ARG:NH2	2.72	0.44
9:A:2365:G:C2'	9:A:2366:A:C8	3.01	0.44
9:A:855:G:N2	31:W:23:LYS:HB3	2.33	0.44
31:W:49:ASN:O	31:W:50:VAL:CG2	2.66	0.44
24:P:44:GLY:HA3	24:P:61:ARG:O	2.18	0.44
11:C:269:ARG:HD3	11:C:269:ARG:HA	1.71	0.44
22:N:78:LYS:O	22:N:79:LEU:C	2.53	0.44
11:C:30:ALA:N	11:C:31:PRO:HD2	2.32	0.44
9:A:527:C:N3	9:A:2779:U:H2'	2.32	0.44
9:A:2888:C:H2'	9:A:2888:C:O2	2.17	0.44
11:C:170:TYR:HD2	11:C:183:VAL:C	2.21	0.44
21:M:53:MET:HE2	21:M:120:ALA:HB2	1.98	0.44
23:O:57:ALA:O	23:O:58:ILE:C	2.54	0.44
9:A:2683:C:O2	19:K:70:ARG:NH2	2.44	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2415:G:H4'	20:L:66:PHE:CB	2.42	0.44
9:A:1918:A:O2'	9:A:1919:A:N7	2.51	0.44
1:0:42:ILE:HD12	1:0:48:TYR:HB2	2.00	0.44
9:A:1693:U:O5'	9:A:1694:C:H5	2.01	0.44
9:A:1858:A:OP2	9:A:1858:A:H8	2.00	0.44
3:2:19:ARG:O	3:2:23:ALA:HB2	2.18	0.44
9:A:1759:A:H2'	9:A:1760:C:C6	2.53	0.44
9:A:2783:U:H2'	9:A:2784:U:C6	2.53	0.44
9:A:2865:U:C2	9:A:2866:U:H5	2.36	0.44
9:A:50:U:H4'	9:A:51:G:OP2	2.18	0.44
9:A:2745:C:C4	9:A:2746:U:C4	3.06	0.44
9:A:802:A:H2'	9:A:803:U:C6	2.53	0.44
20:L:75:ALA:HB2	20:L:105:ILE:CD1	2.48	0.44
9:A:597:G:C2	9:A:661:A:C2	3.05	0.44
12:D:163:GLY:O	12:D:164:GLN:C	2.56	0.44
18:J:44:TYR:HB2	25:Q:63:ARG:HG2	2.00	0.43
9:A:1080:A:C3'	17:I:126:ARG:HG3	2.48	0.43
17:I:92:PRO:HB2	17:I:93:ASN:H	1.65	0.43
9:A:2570:G:C2'	9:A:2571:U:H5'	2.48	0.43
20:L:101:ILE:HD12	20:L:101:ILE:HA	1.53	0.43
9:A:855:G:H1'	31:W:23:LYS:HZ3	1.81	0.43
9:A:1494:A:H2'	9:A:1495:A:C8	2.53	0.43
11:C:175:LEU:HD12	11:C:175:LEU:HA	1.72	0.43
12:D:117:GLY:O	12:D:118:PHE:CD1	2.71	0.43
21:M:3:GLN:HE21	21:M:3:GLN:HB3	1.61	0.43
9:A:138:U:H3'	9:A:139:U:C5'	2.47	0.43
12:D:32:ASN:O	12:D:95:SER:HA	2.17	0.43
9:A:1277:G:H5'	22:N:20:MET:HE3	1.91	0.43
9:A:1946:U:H2'	9:A:1947:C:C6	2.53	0.43
9:A:225:C:H2'	9:A:226:A:O4'	2.18	0.43
9:A:704:G:O2'	9:A:726:G:C2	2.71	0.43
9:A:528:A:C2	9:A:2043:C:C4'	2.91	0.43
15:G:59:ASP:O	15:G:60:GLY:O	2.36	0.43
31:W:9:THR:HG23	31:W:10:ARG:CG	2.48	0.43
9:A:1735:A:N3	9:A:1736:U:C6	2.86	0.43
21:M:46:ILE:CD1	21:M:47:GLU:N	2.80	0.43
13:E:133:LEU:O	13:E:136:GLN:HB2	2.17	0.43
9:A:1609:A:O2'	9:A:1610:A:C5'	2.66	0.43
9:A:1471:G:O2'	9:A:1472:C:H5'	2.18	0.43
27:S:57:ASN:HD22	27:S:57:ASN:HA	1.61	0.43
4:3:54:LEU:O	4:3:58:ILE:HG13	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:M:102:LEU:CD1	21:M:102:LEU:N	2.81	0.43
9:A:1319:C:O2'	9:A:1320:C:H5'	2.17	0.43
9:A:883:G:H2'	9:A:884:U:O4'	2.18	0.43
9:A:2142:A:H2'	9:A:2143:C:OP2	2.18	0.43
9:A:1070:A:C2	9:A:1097:U:H4'	2.53	0.43
12:D:149:ASN:O	12:D:152:PRO:HD2	2.17	0.43
32:X:38:TRP:HA	32:X:45:PHE:CD2	2.53	0.43
9:A:855:G:N2	31:W:23:LYS:CG	2.63	0.43
31:W:39:GLN:HE21	31:W:42:THR:CG2	2.31	0.43
31:W:41:GLY:HA2	31:W:44:PHE:CZ	2.53	0.43
11:C:255:LYS:O	11:C:256:THR:CB	2.67	0.43
9:A:1999:C:H4'	9:A:2723:C:O2	2.18	0.43
9:A:2149:U:O2'	9:A:2150:C:P	2.76	0.43
5:4:16:ILE:CD1	5:4:25:VAL:HG22	2.48	0.43
9:A:302:C:O2'	9:A:303:G:H5'	2.18	0.43
9:A:1085:A:H3'	9:A:1086:A:C2	2.53	0.43
11:C:29:PHE:CZ	11:C:31:PRO:HG2	2.53	0.43
9:A:2013:A:C2	27:S:88:ARG:NH1	2.87	0.43
9:A:153:U:C2'	9:A:154:U:C5'	2.95	0.43
9:A:2663:G:C4	9:A:2664:G:C8	3.06	0.43
15:G:66:THR:OG1	15:G:67:ALA:N	2.51	0.43
9:A:1753:G:OP1	24:P:92:ARG:HD3	2.18	0.43
26:R:60:LYS:N	26:R:100:GLY:HA3	2.24	0.43
9:A:511:U:C5	9:A:512:G:C4	3.06	0.43
10:B:32:U:O2'	10:B:33:G:H5'	2.18	0.43
9:A:286:U:H2'	9:A:287:G:H8	1.82	0.43
12:D:72:GLY:O	12:D:73:VAL:O	2.36	0.43
9:A:1789:A:OP2	11:C:220:ARG:NH1	2.51	0.43
9:A:1266:G:N7	27:S:16:LYS:HE2	2.33	0.43
9:A:1997:C:C5'	9:A:1997:C:H6	2.30	0.43
33:Y:40:SER:C	33:Y:42:LEU:N	2.72	0.43
9:A:1045:C:H3'	9:A:1046:A:H5'	1.99	0.43
10:B:55:U:H2'	10:B:56:G:O4'	2.18	0.43
9:A:2343:U:H2'	9:A:2344:U:C6	2.54	0.43
9:A:554:U:C4	9:A:555:G:C6	3.06	0.43
9:A:553:G:H2'	9:A:554:U:O4'	2.18	0.43
1:0:51:ARG:HB2	1:0:51:ARG:HE	1.61	0.43
9:A:2840:C:H2'	9:A:2841:C:C6	2.53	0.43
9:A:2:G:O2'	9:A:3:U:H5'	2.18	0.43
28:T:67:VAL:HG23	28:T:68:LYS:N	2.33	0.43
9:A:820:A:H2'	9:A:821:A:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1398:C:H2'	9:A:1399:C:H6	1.83	0.43
23:O:83:LEU:HA	23:O:83:LEU:HD12	1.56	0.43
14:F:103:ILE:H	14:F:103:ILE:HG12	1.56	0.43
9:A:2256:G:O2'	9:A:2257:U:H5'	2.18	0.43
9:A:1330:C:O2'	9:A:1331:G:H5'	2.18	0.43
9:A:1269:A:H2'	9:A:1270:C:C6	2.54	0.43
9:A:2697:G:C5	9:A:2698:U:C5	3.06	0.43
9:A:1662:U:H2'	9:A:1663:G:O4'	2.18	0.43
9:A:2491:U:C2'	9:A:2491:U:O5'	2.66	0.43
9:A:668:A:H2'	9:A:670:A:N6	2.25	0.43
16:H:4:ILE:HG12	16:H:18:GLN:HE22	1.82	0.43
9:A:1829:A:N3	11:C:14:HIS:HE1	2.16	0.43
11:C:229:HIS:HE1	11:C:231:HIS:ND1	2.16	0.43
9:A:1185:G:H5''	9:A:1186:G:P	2.58	0.43
9:A:729:G:C2'	9:A:1775:U:H1'	2.48	0.43
17:I:49:GLU:HG2	17:I:50:LYS:H	1.83	0.43
9:A:1275:A:H4'	9:A:1276:A:O5'	2.17	0.43
9:A:417:C:H6	9:A:417:C:O5'	2.01	0.43
9:A:2637:U:O2'	9:A:2638:G:H5'	2.17	0.43
9:A:1738:G:O2'	9:A:1739:A:P	2.76	0.43
9:A:637:A:H4'	9:A:638:G:O5'	2.18	0.43
9:A:2086:U:H2'	9:A:2087:G:H8	1.74	0.43
9:A:615:U:H4'	9:A:616:A:OP2	2.18	0.43
9:A:2492:U:HO2'	9:A:2493:U:H5'	1.78	0.43
10:B:69:G:C2'	10:B:70:C:H5'	2.48	0.43
30:V:35:GLU:HG3	30:V:93:ARG:HD3	2.00	0.43
7:6:10:ASP:CA	8:7:76:A:O3'	2.67	0.43
26:R:68:ARG:HH11	26:R:90:ARG:HH11	1.65	0.43
22:N:72:ASP:OD1	22:N:75:ILE:HG23	2.19	0.43
9:A:146:A:H2'	9:A:147:C:C6	2.52	0.43
18:J:53:TYR:CE1	18:J:121:LYS:HG2	2.53	0.43
9:A:460:A:C2	9:A:470:A:C4	3.06	0.43
9:A:2299:U:O5'	9:A:2299:U:H6	2.01	0.43
15:G:17:LYS:HE3	15:G:17:LYS:HB2	1.67	0.43
23:O:17:LYS:HD3	23:O:17:LYS:O	2.18	0.43
21:M:103:TYR:N	21:M:103:TYR:CD1	2.86	0.43
9:A:1956:U:C2'	9:A:1957:C:H5'	2.48	0.43
34:Z:39:ASP:OD1	34:Z:44:ARG:NE	2.41	0.43
24:P:53:GLY:C	24:P:55:HIS:N	2.71	0.43
18:J:42:ALA:O	18:J:45:THR:HG22	2.18	0.43
25:Q:59:LEU:HA	25:Q:59:LEU:HD23	1.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Q:61:ILE:HG23	25:Q:75:TYR:CE1	2.53	0.43
9:A:1324:G:C4	9:A:1328:A:N6	2.87	0.43
31:W:49:ASN:HA	31:W:61:LYS:H	1.82	0.43
9:A:1819:A:H5''	11:C:159:THR:HG21	2.00	0.43
21:M:1:MET:CE	21:M:1:MET:CA	2.97	0.43
14:F:131:VAL:HG11	14:F:151:LEU:HD11	2.00	0.43
9:A:547:A:C8	9:A:548:G:N3	2.87	0.43
9:A:302:C:H2'	9:A:303:G:H8	1.84	0.43
9:A:910:A:C6	9:A:911:A:C6	3.06	0.43
14:F:72:SER:N	14:F:80:GLN:HB2	2.32	0.43
9:A:1588:G:C2	9:A:1589:U:C5	3.07	0.43
9:A:372:G:H5''	32:X:60:LYS:HE3	2.00	0.43
20:L:51:GLU:OE2	20:L:60:ARG:NH1	2.51	0.43
17:I:100:ILE:HG22	17:I:101:SER:N	2.23	0.43
34:Z:2:LYS:C	34:Z:3:THR:CG2	2.87	0.43
9:A:64:A:N1	9:A:91:A:N6	2.67	0.43
9:A:1820:U:H3	11:C:197:ALA:HA	1.82	0.43
10:B:13:G:O2'	10:B:15:A:OP2	2.36	0.43
13:E:153:LEU:HB3	13:E:171:ASP:HB2	2.00	0.43
18:J:128:ASN:O	18:J:128:ASN:CG	2.56	0.43
18:J:142:ILE:OXT	18:J:142:ILE:HG22	2.18	0.43
9:A:2599:G:H2'	9:A:2600:A:H5'	2.00	0.43
5:4:2:LYS:HB2	5:4:4:ARG:HD3	2.00	0.43
15:G:123:GLU:CD	15:G:124:CYS:N	2.72	0.43
9:A:2870:C:C2'	9:A:2871:U:H5'	2.48	0.43
29:U:4:ILE:O	29:U:4:ILE:HG22	2.15	0.43
9:A:1972:G:H2'	9:A:1973:G:H8	1.83	0.43
16:H:22:LYS:O	16:H:23:ALA:C	2.57	0.43
12:D:13:ARG:NE	12:D:15:PHE:CZ	2.86	0.43
24:P:13:LYS:HZ2	24:P:80:VAL:CG1	2.31	0.43
26:R:49:ILE:CB	26:R:53:PHE:N	2.81	0.43
9:A:2364:C:C2'	9:A:2365:G:H5'	2.48	0.43
31:W:16:GLU:OE2	31:W:16:GLU:HA	2.18	0.43
13:E:5:LEU:HD21	13:E:120:VAL:HG22	2.00	0.43
9:A:247:G:H4'	9:A:386:G:C6	2.54	0.43
9:A:141:G:H2'	9:A:142:A:O4'	2.18	0.43
9:A:1600:C:OP1	28:T:81:LYS:NZ	2.52	0.43
14:F:131:VAL:O	14:F:132:ARG:C	2.57	0.43
9:A:2148:G:HO2'	9:A:2149:U:P	2.41	0.43
9:A:1462:C:H2'	9:A:1463:C:C6	2.53	0.43
9:A:2771:C:H2'	9:A:2772:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:659:G:H4'	13:E:95:LYS:CD	2.48	0.43
9:A:2013:A:N3	27:S:88:ARG:NH1	2.66	0.43
19:K:10:VAL:HG11	19:K:16:ALA:CB	2.48	0.43
23:O:48:LEU:N	23:O:48:LEU:HD23	2.34	0.43
9:A:2816:G:H2'	9:A:2817:U:O5'	2.18	0.43
12:D:73:VAL:CG2	12:D:74:GLU:H	2.29	0.43
12:D:71:ALA:O	12:D:73:VAL:N	2.52	0.43
9:A:1570:A:C6	9:A:1571:A:C6	3.06	0.43
9:A:21:A:C2'	9:A:22:C:H5'	2.48	0.43
9:A:1315:C:C2'	9:A:1316:U:H5'	2.48	0.43
30:V:65:VAL:O	30:V:66:ASP:OD1	2.37	0.43
14:F:88:VAL:HG13	14:F:90:LEU:CD1	2.48	0.43
9:A:1506:U:H3'	9:A:1506:U:H6	1.83	0.43
15:G:123:GLU:CD	15:G:124:CYS:H	2.22	0.43
15:G:54:ARG:HG3	15:G:57:TYR:CD1	2.53	0.43
9:A:2350:C:C2'	9:A:2351:G:H5'	2.48	0.43
14:F:46:LYS:N	14:F:46:LYS:CD	2.81	0.43
9:A:553:G:N7	9:A:554:U:C5	2.87	0.43
9:A:1007:C:H5''	18:J:37:ARG:NH2	2.33	0.43
9:A:1689:A:O2'	9:A:1690:A:H5'	2.19	0.43
9:A:2832:U:O2'	9:A:2833:U:P	2.77	0.43
9:A:2029:G:H2'	9:A:2031:A:OP1	2.18	0.43
9:A:381:G:OP1	32:X:17:ARG:NH2	2.44	0.43
24:P:14:GLN:O	24:P:15:ASP:HB3	2.17	0.43
25:Q:94:LEU:O	25:Q:96:ASP:N	2.51	0.43
12:D:150:GLN:HG3	12:D:151:THR:N	2.22	0.43
9:A:2230:G:O3'	32:X:29:LEU:HD23	2.19	0.43
15:G:84:LYS:HG2	15:G:85:LYS:N	2.34	0.43
4:3:30:HIS:ND1	4:3:31:ILE:CG2	2.82	0.43
9:A:2286:G:H5''	9:A:2287:A:O4'	2.19	0.43
9:A:1287:A:C5'	22:N:103:ARG:HD2	2.37	0.43
9:A:1869:G:H8	9:A:1869:G:OP2	2.01	0.43
31:W:21:GLY:C	31:W:22:VAL:HG12	2.38	0.43
9:A:1498:C:C2'	9:A:1499:C:H6	2.30	0.43
13:E:3:LEU:O	13:E:11:ALA:HA	2.18	0.43
34:Z:8:GLN:O	34:Z:10:ARG:N	2.52	0.43
28:T:37:ASP:O	28:T:38:ALA:O	2.36	0.43
18:J:54:ILE:HD11	18:J:56:VAL:CG2	2.48	0.43
9:A:1141:U:H5'	9:A:1142:A:O4'	2.19	0.43
34:Z:4:ILE:HG12	34:Z:37:ARG:O	2.18	0.43
9:A:2661:G:H2'	9:A:2662:A:O5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2443:C:O2'	9:A:2444:G:H5'	2.18	0.43
1:O:33:SER:O	1:O:34:GLY:C	2.54	0.43
11:C:134:ILE:HA	11:C:135:PRO:HD2	1.79	0.43
9:A:2222:C:H2'	9:A:2223:G:O5'	2.18	0.43
33:Y:17:GLU:HG3	33:Y:18:LEU:H	1.78	0.43
9:A:1733:G:N3	9:A:1734:G:C8	2.86	0.43
17:I:3:LYS:HD2	17:I:4:VAL:H	1.82	0.43
9:A:513:A:HO2'	9:A:514:A:H5'	1.84	0.43
2:1:46:VAL:CG1	2:1:47:ILE:N	2.81	0.43
13:E:72:SER:C	13:E:74:LYS:N	2.71	0.43
11:C:83:ASP:HA	11:C:84:PRO:HD3	1.72	0.43
12:D:139:SER:HA	12:D:142:VAL:CG1	2.49	0.43
15:G:116:LEU:HD21	15:G:122:ALA:HB3	2.00	0.43
9:A:183:C:O2	9:A:432:A:H2	2.02	0.43
9:A:164:C:H2'	9:A:165:A:O4'	2.19	0.43
9:A:2733:A:O5'	9:A:2733:A:H8	2.02	0.43
13:E:37:ALA:C	13:E:39:ALA:N	2.71	0.43
9:A:797:G:H2'	9:A:798:G:O4'	2.18	0.43
9:A:2830:C:O3'	12:D:56:LYS:NZ	2.52	0.43
9:A:2205:A:C6	9:A:2206:C:C4	3.07	0.43
9:A:828:U:O4	9:A:2247:A:H1'	2.19	0.43
17:I:123:ALA:C	17:I:125:THR:N	2.72	0.43
15:G:83:THR:C	15:G:84:LYS:CD	2.86	0.43
9:A:855:G:H21	31:W:23:LYS:HB3	1.83	0.43
31:W:47:GLY:C	31:W:49:ASN:N	2.70	0.43
13:E:5:LEU:CD2	13:E:121:VAL:HA	2.48	0.43
9:A:141:G:H5'	9:A:142:A:C8	2.53	0.43
23:O:79:ALA:HB2	23:O:110:ALA:HA	2.00	0.43
14:F:8:LYS:HA	14:F:12:VAL:CG1	2.49	0.43
27:S:25:ARG:HE	27:S:73:LYS:HZ1	1.67	0.43
9:A:2151:U:O4	9:A:2152:G:O6	2.37	0.43
28:T:50:LEU:H	28:T:50:LEU:CD1	2.03	0.43
16:H:42:LYS:O	16:H:46:PHE:HB2	2.19	0.43
9:A:2531:A:OP1	15:G:174:LYS:CG	2.65	0.43
11:C:132:ARG:NH1	11:C:169:ALA:HA	2.29	0.43
4:3:13:PHE:CE1	20:L:61:LEU:HD23	2.54	0.43
10:B:88:C:H6	10:B:88:C:C5'	2.24	0.43
9:A:2187:U:C2	9:A:2188:U:C5	3.06	0.43
29:U:17:ASP:CB	29:U:20:LYS:HD2	2.46	0.43
22:N:71:ARG:HG2	22:N:71:ARG:HH21	1.82	0.43
9:A:1858:A:C2'	9:A:1859:U:C6	3.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:16:HIS:CE1	9:A:464:U:O2'	2.72	0.43
25:Q:35:PHE:CE1	25:Q:39:ILE:CD1	3.02	0.43
1:0:27:LEU:HD23	1:0:27:LEU:N	2.26	0.43
9:A:2079:U:O2'	32:X:22:ASN:ND2	2.49	0.43
9:A:2704:C:C2'	9:A:2704:C:O2	2.66	0.43
9:A:2672:U:H2'	9:A:2673:G:C5'	2.49	0.43
26:R:36:ALA:HA	26:R:58:VAL:HG23	2.01	0.43
9:A:1206:G:H2'	9:A:1207:C:H6	1.83	0.43
29:U:27:VAL:CG2	29:U:28:LEU:N	2.82	0.43
9:A:1922:G:H2'	9:A:1923:U:O4'	2.19	0.43
17:I:59:THR:HG22	17:I:61:TYR:CE2	2.53	0.43
9:A:2049:G:N2	9:A:2620:C:C2	2.87	0.43
24:P:9:GLN:C	24:P:11:GLN:H	2.22	0.43
9:A:1074:G:O2'	9:A:1075:C:H5'	2.19	0.43
9:A:1062:G:N1	9:A:1077:A:C6	2.87	0.43
17:I:79:LEU:HD21	17:I:132:ALA:HB1	2.01	0.43
32:X:30:PRO:CB	32:X:32:LEU:CD1	2.58	0.43
32:X:51:SER:O	32:X:54:GLY:N	2.52	0.43
32:X:44:ARG:HH21	32:X:46:VAL:CG1	2.32	0.43
15:G:93:TYR:O	15:G:105:SER:O	2.37	0.43
31:W:22:VAL:CG2	31:W:23:LYS:N	2.82	0.43
9:A:1496:A:H2'	9:A:1498:C:N4	2.33	0.43
24:P:25:VAL:HG11	24:P:46:VAL:CG2	2.48	0.43
9:A:2437:G:O2'	9:A:2438:U:H5'	2.18	0.43
9:A:1054:A:H3'	9:A:1055:G:H8	1.83	0.43
9:A:1586:A:C8	9:A:1587:G:C8	3.07	0.43
9:A:655:A:H4'	9:A:656:G:OP1	2.17	0.43
9:A:273:G:O2'	9:A:274:C:H5'	2.19	0.43
9:A:2330:G:OP2	9:A:2330:G:H8	2.02	0.43
9:A:528:A:N1	9:A:2042:A:H2'	2.34	0.43
9:A:2103:C:C2'	9:A:2104:C:C5'	2.96	0.43
9:A:1753:G:H5''	24:P:92:ARG:HE	1.84	0.43
17:I:53:PRO:HB2	17:I:74:PRO:CG	2.49	0.43
9:A:1252:G:N1	25:Q:36:GLN:OE1	2.38	0.43
9:A:640:C:C2'	9:A:641:U:O5'	2.67	0.43
9:A:2087:G:H2'	9:A:2088:A:H8	1.84	0.43
9:A:384:A:C2'	9:A:385:C:H5'	2.44	0.43
10:B:71:C:H2'	10:B:72:G:C5'	2.49	0.43
9:A:2109:U:O4	9:A:2110:G:C4	2.71	0.43
4:3:21:PHE:N	4:3:48:MET:CE	2.81	0.43
9:A:2136:G:N3	9:A:2137:U:C4	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:K:98:ARG:C	19:K:99:ILE:HD13	2.39	0.43
18:J:140:LEU:HD13	18:J:141:ASP:N	2.33	0.43
9:A:319:G:C8	9:A:333:G:N2	2.87	0.43
9:A:1132:U:H5'	18:J:84:ILE:CD1	2.48	0.43
15:G:54:ARG:O	15:G:57:TYR:HB2	2.19	0.43
9:A:2601:C:C2'	9:A:2602:A:OP2	2.66	0.43
9:A:1246:A:H2'	9:A:1247:A:O5'	2.18	0.43
9:A:259:G:C2'	9:A:260:G:H5'	2.49	0.43
9:A:310:A:O2'	9:A:311:A:O5'	2.36	0.43
32:X:19:HIS:C	32:X:21:LEU:N	2.71	0.43
19:K:27:GLY:O	19:K:28:SER:C	2.56	0.43
9:A:2627:G:H2'	9:A:2628:C:C6	2.54	0.43
9:A:1265:A:O4'	9:A:1267:U:C6	2.72	0.43
33:Y:30:MET:O	33:Y:34:SER:HB3	2.18	0.43
9:A:1201:U:H2'	9:A:1202:G:O4'	2.18	0.43
12:D:15:PHE:H	24:P:11:GLN:HE22	1.66	0.43
14:F:56:LEU:HD22	14:F:56:LEU:HA	1.83	0.43
11:C:12:ARG:HD2	11:C:12:ARG:HA	1.82	0.43
11:C:76:VAL:HG22	11:C:76:VAL:O	2.14	0.43
9:A:2093:G:O2'	9:A:2094:A:C5'	2.61	0.43
9:A:216:A:C4	9:A:217:A:C8	3.07	0.43
10:B:44:G:O2'	10:B:45:A:OP2	2.32	0.43
31:W:9:THR:CG2	31:W:10:ARG:N	2.70	0.43
23:O:31:THR:O	23:O:32:PRO:C	2.57	0.43
9:A:640:C:H2'	9:A:641:U:C6	2.54	0.43
24:P:59:THR:HG23	24:P:72:VAL:CG1	2.49	0.43
9:A:877:A:N6	9:A:899:A:N6	2.67	0.43
9:A:613:A:O2'	9:A:614:A:OP1	2.33	0.43
9:A:1691:C:H2'	9:A:1692:U:O5'	2.19	0.43
9:A:1992:G:N2	9:A:1996:C:O2'	2.46	0.43
9:A:1486:U:H2'	9:A:1487:U:C6	2.54	0.43
9:A:1680:U:C2'	9:A:1681:G:H5'	2.49	0.43
12:D:53:GLY:O	12:D:54:ALA:HB2	2.18	0.43
9:A:588:U:H1'	13:E:85:PHE:CG	2.54	0.43
9:A:1114:C:O2	9:A:1114:C:H2'	2.18	0.43
18:J:49:ASP:O	18:J:49:ASP:OD2	2.37	0.43
1:O:50:GLY:O	1:O:51:ARG:C	2.57	0.43
9:A:695:G:C2	9:A:696:G:C8	3.07	0.43
10:B:57:A:O2'	10:B:58:A:H5'	2.19	0.43
3:2:43:THR:O	3:2:44:VAL:HG22	2.19	0.43
9:A:749:A:H4'	9:A:1271:G:N3	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2684:U:H2'	9:A:2685:G:O5'	2.18	0.43
9:A:998:C:H2'	9:A:999:U:O5'	2.19	0.43
9:A:571:U:C5	9:A:575:A:C5	3.07	0.43
26:R:47:VAL:HG12	26:R:54:VAL:HG11	2.01	0.43
16:H:9:VAL:HG12	16:H:13:GLY:H	1.82	0.43
9:A:2364:C:O2'	9:A:2365:G:H5'	2.19	0.43
9:A:2366:A:C2	9:A:2367:G:H1'	2.54	0.43
31:W:39:GLN:HE21	31:W:42:THR:HB	1.84	0.43
13:E:170:ARG:NH1	13:E:176:ASP:OD2	2.52	0.43
27:S:50:VAL:HG12	27:S:105:VAL:HB	2.01	0.43
9:A:1430:G:H2'	9:A:1431:A:H5'	1.99	0.43
9:A:2888:C:O2	9:A:2888:C:C2'	2.67	0.43
33:Y:18:LEU:HD22	33:Y:18:LEU:HA	1.84	0.43
9:A:1737:G:H5''	9:A:1738:G:OP2	2.19	0.43
9:A:10:A:C5	9:A:2800:A:C6	3.06	0.43
23:O:65:THR:O	23:O:66:GLY:C	2.57	0.43
9:A:640:C:H2'	9:A:641:U:O5'	2.19	0.43
9:A:669:G:C5	9:A:801:G:C6	3.06	0.43
9:A:1821:A:H8	9:A:1821:A:O5'	2.01	0.43
17:I:56:VAL:CG2	17:I:68:PHE:HB2	2.49	0.43
12:D:69:ALA:N	12:D:73:VAL:CG1	2.81	0.43
9:A:262:A:H5'	9:A:610:C:O2'	2.19	0.43
9:A:1692:U:H2'	9:A:1694:C:C4	2.53	0.43
9:A:860:U:C2'	9:A:861:A:O5'	2.67	0.43
14:F:16:MET:O	14:F:20:ASN:CA	2.65	0.43
21:M:21:ALA:HA	21:M:97:GLN:HG2	2.00	0.43
9:A:753:A:H2'	9:A:754:U:C6	2.54	0.43
33:Y:20:ASN:HB3	33:Y:50:VAL:HG23	2.01	0.43
9:A:2275:C:O2'	21:M:84:LYS:HA	2.19	0.43
12:D:85:ALA:O	12:D:86:GLU:HG2	2.19	0.43
9:A:1050:A:C2	9:A:2751:G:C4	3.06	0.43
9:A:1824:G:C6	9:A:1825:U:C4	3.07	0.43
9:A:2536:G:C6	9:A:2537:U:C4	3.07	0.43
9:A:1615:C:C5	9:A:1617:C:C4	3.07	0.43
9:A:708:G:N2	9:A:724:U:H1'	2.33	0.43
9:A:54:G:C5	9:A:55:G:C8	3.07	0.43
12:D:13:ARG:HD2	24:P:55:HIS:CE1	2.54	0.42
9:A:1074:G:C2'	9:A:1075:C:H6	2.32	0.42
20:L:77:ILE:O	20:L:110:VAL:O	2.37	0.42
9:A:1190:G:OP1	20:L:32:GLY:HA2	2.18	0.42
31:W:50:VAL:CG1	31:W:51:GLY:N	2.69	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:1654:A:H4'	12:D:118:PHE:HZ	1.80	0.42
9:A:544:C:N4	9:A:548:G:OP1	2.50	0.42
12:D:89:GLU:HG3	12:D:94:GLN:OE1	2.18	0.42
5:4:9:LYS:O	5:4:9:LYS:HE2	2.19	0.42
9:A:763:G:O2'	9:A:764:A:H3'	2.18	0.42
19:K:57:VAL:C	19:K:58:LEU:HD23	2.40	0.42
9:A:1082:U:C4	9:A:1083:U:N3	2.87	0.42
9:A:1101:U:C4	9:A:1102:C:C5	3.07	0.42
9:A:2822:G:P	12:D:115:GLY:HA3	2.59	0.42
13:E:147:LEU:HD22	13:E:147:LEU:HA	1.53	0.42
17:I:19:PRO:HB2	17:I:22:PRO:HD2	2.01	0.42
33:Y:36:GLN:O	33:Y:37:LEU:HB3	2.19	0.42
9:A:2495:G:H2'	9:A:2496:C:H5'	2.00	0.42
21:M:80:VAL:HG22	21:M:81:ARG:O	2.19	0.42
11:C:29:PHE:O	11:C:30:ALA:C	2.57	0.42
22:N:16:HIS:CD2	22:N:16:HIS:O	2.71	0.42
27:S:45:VAL:CG2	27:S:46:LEU:N	2.82	0.42
9:A:356:G:O2'	9:A:357:C:H5'	2.19	0.42
9:A:2548:U:C2'	9:A:2549:G:O5'	2.66	0.42
9:A:2087:G:H2'	9:A:2088:A:C8	2.54	0.42
9:A:1802:A:N1	9:A:1822:C:H1'	2.34	0.42
21:M:47:GLU:O	21:M:48:ALA:C	2.57	0.42
9:A:608:A:C6	9:A:609:A:C6	3.07	0.42
22:N:38:LEU:HB3	22:N:39:PRO:CD	2.46	0.42
10:B:116:G:H4'	23:O:54:VAL:O	2.18	0.42
2:1:16:THR:CB	2:1:41:VAL:HG21	2.49	0.42
12:D:16:THR:OG1	12:D:18:ASP:OD1	2.32	0.42
15:G:1:SER:CA	15:G:5:LYS:HG3	2.46	0.42
9:A:1848:A:O2'	9:A:1849:G:C5'	2.67	0.42
10:B:40:U:HO2'	10:B:43:C:H5	1.58	0.42
9:A:2459:A:O5'	9:A:2459:A:C8	2.72	0.42
9:A:1520:U:C2'	9:A:1521:G:O5'	2.67	0.42
9:A:209:C:C2'	9:A:210:C:H5'	2.49	0.42
18:J:37:ARG:HG2	18:J:37:ARG:O	2.19	0.42
9:A:1075:C:H2'	9:A:1076:C:C6	2.53	0.42
9:A:571:U:C4	9:A:2030:A:C6	3.07	0.42
15:G:155:PRO:O	15:G:171:LYS:N	2.52	0.42
14:F:35:LEU:CD2	14:F:153:ILE:CG2	2.97	0.42
33:Y:57:LEU:CA	33:Y:60:LYS:CB	2.91	0.42
9:A:1341:G:C4	28:T:84:TYR:CD1	3.06	0.42
10:B:91:C:OP2	21:M:18:ARG:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:3:ARG:HH21	3:2:3:ARG:CG	2.12	0.42
9:A:418:C:H2'	9:A:419:U:O4'	2.18	0.42
4:3:7:ARG:HD2	4:3:7:ARG:HA	1.66	0.42
19:K:113:MET:O	19:K:114:LYS:C	2.57	0.42
11:C:131:MET:CA	11:C:134:ILE:HD12	2.39	0.42
33:Y:23:ARG:O	33:Y:24:GLU:C	2.57	0.42
9:A:2414:G:N2	20:L:66:PHE:CE2	2.86	0.42
9:A:1889:A:H2'	9:A:1890:A:O4'	2.18	0.42
9:A:914:G:C5'	9:A:914:G:H8	2.30	0.42
9:A:747:U:H2'	9:A:2613:U:O4	2.18	0.42
29:U:86:PHE:CE1	29:U:101:THR:HG21	2.54	0.42
32:X:1:SER:O	32:X:3:VAL:N	2.52	0.42
9:A:1996:C:OP1	19:K:31:ARG:NH2	2.51	0.42
9:A:917:A:C2'	9:A:918:A:H5'	2.49	0.42
11:C:73:ILE:H	11:C:73:ILE:HG12	1.68	0.42
9:A:2019:A:H4'	25:Q:33:VAL:CG2	2.48	0.42
9:A:2890:G:H8	9:A:2890:G:O5'	2.02	0.42
24:P:99:LEU:HA	24:P:99:LEU:HD12	1.55	0.42
9:A:1410:G:C2	9:A:1593:A:N3	2.88	0.42
9:A:157:C:C3'	9:A:157:C:C6	3.02	0.42
18:J:101:ILE:O	18:J:105:VAL:HG13	2.19	0.42
9:A:1281:G:H2'	9:A:1282:U:C6	2.54	0.42
9:A:2874:C:H2'	9:A:2875:C:C6	2.54	0.42
13:E:169:VAL:CG2	13:E:169:VAL:O	2.62	0.42
9:A:768:G:C5	9:A:769:U:C5	3.06	0.42
9:A:1059:G:C5	9:A:1060:U:C4	3.07	0.42
9:A:587:C:C6	9:A:671:C:H1'	2.54	0.42
9:A:2571:U:HO2'	12:D:151:THR:CG2	2.29	0.42
16:H:33:GLN:HB2	16:H:33:GLN:HE21	1.69	0.42
14:F:43:ILE:CG2	14:F:82:TYR:HE1	2.27	0.42
11:C:257:ARG:HG3	11:C:269:ARG:HH12	1.83	0.42
9:A:1654:A:O3'	12:D:118:PHE:CE2	2.72	0.42
12:D:118:PHE:CD2	12:D:119:ALA:N	2.80	0.42
9:A:197:A:H62	9:A:2430:A:C2'	2.30	0.42
28:T:54:GLU:CB	28:T:88:LYS:HB2	2.49	0.42
14:F:134:GLN:C	14:F:136:ILE:N	2.72	0.42
14:F:59:ILE:HD13	14:F:137:PHE:CE2	2.54	0.42
11:C:252:LYS:HZ2	11:C:252:LYS:CA	2.33	0.42
9:A:729:G:C4	9:A:1775:U:C2	3.07	0.42
9:A:2821:A:H2'	9:A:2822:G:H8	1.84	0.42
20:L:112:LEU:HD12	20:L:130:GLY:CA	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:782:A:N1	11:C:224:MET:CE	2.83	0.42
9:A:2795:C:O2'	9:A:2796:U:H5'	2.19	0.42
9:A:638:G:H2'	9:A:639:U:H6	1.84	0.42
9:A:2471:A:C2'	9:A:2472:G:H5'	2.48	0.42
9:A:2470:G:HO2'	9:A:2471:A:H5'	1.82	0.42
9:A:60:G:O2'	9:A:61:C:P	2.78	0.42
9:A:90:U:C4	9:A:91:A:C5	3.07	0.42
9:A:229:C:H2'	9:A:230:G:O4'	2.19	0.42
14:F:173:ASP:O	14:F:174:PHE:O	2.36	0.42
11:C:7:PRO:HB3	11:C:13:ARG:HB2	2.01	0.42
9:A:1795:C:C2	9:A:1796:U:C6	3.07	0.42
10:B:71:C:C2'	10:B:72:G:H5'	2.50	0.42
9:A:398:C:C3'	9:A:398:C:C6	3.02	0.42
9:A:1115:G:O2'	9:A:1116:G:H5''	2.19	0.42
23:O:85:LYS:HB2	23:O:87:ILE:HD11	2.02	0.42
18:J:20:ALA:O	18:J:21:THR:O	2.37	0.42
33:Y:2:LYS:HE3	33:Y:52:ARG:CZ	2.49	0.42
9:A:1759:A:H8	9:A:2696:U:H1'	1.84	0.42
9:A:947:A:H2'	9:A:948:C:C6	2.55	0.42
9:A:792:A:H3'	9:A:793:A:H5'	2.02	0.42
12:D:9:VAL:HG22	12:D:26:VAL:HG12	2.01	0.42
9:A:1317:G:C2	9:A:1336:A:C2	3.08	0.42
30:V:65:VAL:HG22	30:V:65:VAL:O	2.19	0.42
9:A:1849:G:H2'	9:A:1850:G:C8	2.53	0.42
9:A:1848:A:H2'	9:A:1849:G:H8	1.84	0.42
9:A:1411:U:H2'	9:A:1412:U:O4'	2.20	0.42
9:A:912:C:H2'	9:A:913:U:H6	1.83	0.42
9:A:1844:C:C6	9:A:1844:C:H3'	2.54	0.42
9:A:1007:C:H5''	18:J:37:ARG:HH21	1.83	0.42
19:K:23:LYS:HE3	19:K:23:LYS:HB2	1.96	0.42
9:A:2847:U:H2'	9:A:2848:G:C5'	2.47	0.42
9:A:1060:U:C1'	9:A:1062:G:H5'	2.49	0.42
32:X:29:LEU:H	32:X:29:LEU:CD2	2.30	0.42
12:D:101:PHE:O	12:D:102:ALA:C	2.57	0.42
25:Q:111:LYS:NZ	26:R:50:GLY:HA2	2.35	0.42
9:A:923:G:N3	31:W:23:LYS:CE	2.67	0.42
13:E:177:PRO:O	13:E:180:LEU:HB2	2.19	0.42
9:A:1799:G:C2	11:C:153:LEU:CD2	3.02	0.42
9:A:1015:U:HO2'	9:A:1016:G:H5'	1.84	0.42
9:A:141:G:H5''	9:A:142:A:C8	2.55	0.42
9:A:301:G:O2'	9:A:302:C:O5'	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:89:U:H3'	10:B:90:C:C5'	2.49	0.42
21:M:15:GLY:O	21:M:16:ARG:HD3	2.19	0.42
22:N:31:HIS:O	22:N:33:ILE:N	2.49	0.42
19:K:2:ILE:HG21	19:K:39:ILE:HD12	2.00	0.42
21:M:78:LEU:HD23	21:M:79:ALA:CA	2.49	0.42
11:C:28:PRO:HB2	11:C:29:PHE:H	1.56	0.42
9:A:783:A:H2'	9:A:783:A:H8	1.41	0.42
13:E:111:GLU:HG2	13:E:114:ARG:NH1	2.35	0.42
9:A:153:U:C2'	9:A:154:U:O5'	2.67	0.42
9:A:227:A:C6	9:A:2407:A:C8	3.08	0.42
9:A:1507:C:C5	9:A:1508:A:H2	2.38	0.42
9:A:2796:U:H3	9:A:2799:A:N6	2.17	0.42
9:A:532:A:C8	9:A:2021:C:C6	3.07	0.42
9:A:283:G:C5	9:A:284:U:C5	3.07	0.42
9:A:2415:G:C4	9:A:2416:C:C5	3.08	0.42
9:A:869:G:C4'	21:M:8:LYS:HD3	2.49	0.42
28:T:33:LYS:HG3	28:T:80:TRP:HE3	1.79	0.42
10:B:17:C:H2'	10:B:18:G:C5'	2.48	0.42
9:A:20:C:O2'	9:A:21:A:H5'	2.18	0.42
9:A:625:G:H2'	9:A:626:A:O5'	2.20	0.42
25:Q:89:ILE:O	25:Q:90:ASP:CB	2.63	0.42
23:O:49:VAL:CG1	23:O:50:ALA:N	2.82	0.42
9:A:2079:U:C2	9:A:2080:A:C8	3.07	0.42
9:A:916:G:O5'	9:A:916:G:H8	2.02	0.42
9:A:2591:C:P	11:C:237:ARG:HG3	2.59	0.42
9:A:1384:A:H1'	9:A:1405:U:O4'	2.20	0.42
9:A:31:C:O2'	9:A:1238:G:H5'	2.19	0.42
9:A:1952:A:C6	9:A:1953:A:N1	2.87	0.42
9:A:182:A:H2'	9:A:183:C:C6	2.55	0.42
9:A:2620:C:H2'	9:A:2621:G:O4'	2.19	0.42
1:O:21:LEU:HD12	27:S:19:LEU:O	2.18	0.42
9:A:2720:U:C4	9:A:2872:A:N1	2.88	0.42
9:A:1074:G:C2	9:A:1075:C:C5	3.07	0.42
9:A:2231:U:OP1	32:X:29:LEU:HD23	2.18	0.42
15:G:83:THR:C	15:G:84:LYS:HD3	2.38	0.42
9:A:1327:A:C8	9:A:1327:A:H3'	2.55	0.42
14:F:40:GLY:H	14:F:84:ILE:CD1	2.31	0.42
9:A:1499:C:HO2'	9:A:1500:G:C5'	2.29	0.42
24:P:86:LYS:HA	24:P:86:LYS:HD3	1.72	0.42
9:A:1178:C:O2	9:A:1178:C:C2'	2.65	0.42
12:D:124:ARG:HG2	12:D:125:TRP:CD1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:E:24:ASN:ND2	13:E:24:ASN:C	2.70	0.42
9:A:1413:A:H2'	9:A:1414:C:O4'	2.20	0.42
10:B:45:A:C4	10:B:46:A:C8	3.07	0.42
9:A:2800:A:H3'	9:A:2801:G:H5'	2.01	0.42
15:G:10:VAL:HB	15:G:14:VAL:CG2	2.50	0.42
29:U:73:ASN:ND2	29:U:75:ALA:HB3	2.34	0.42
9:A:65:U:N3	9:A:66:C:C5	2.87	0.42
9:A:1820:U:N3	11:C:197:ALA:HA	2.35	0.42
11:C:202:ARG:H	11:C:202:ARG:HG3	1.66	0.42
9:A:1839:G:H2'	9:A:1840:G:H8	1.84	0.42
9:A:94:A:H2'	9:A:95:A:O4'	2.20	0.42
18:J:7:LYS:HA	18:J:8:PRO:HD3	1.86	0.42
13:E:48:THR:N	13:E:51:GLU:HG3	2.34	0.42
14:F:52:ALA:CB	14:F:149:ARG:HD3	2.49	0.42
9:A:2318:G:C5	9:A:2319:G:C6	3.08	0.42
21:M:96:ILE:HD11	21:M:126:ILE:CD1	2.49	0.42
9:A:470:A:H61	28:T:72:GLN:HE22	1.68	0.42
12:D:178:VAL:CG1	12:D:178:VAL:O	2.68	0.42
9:A:350:G:O2'	9:A:351:C:H5'	2.18	0.42
9:A:191:A:H2'	9:A:192:C:C6	2.54	0.42
9:A:295:G:C2	9:A:296:U:C6	3.07	0.42
20:L:28:GLY:O	20:L:29:LYS:O	2.37	0.42
2:1:6:GLU:O	2:1:23:THR:HA	2.19	0.42
9:A:1324:G:H1'	9:A:1616:A:N6	2.35	0.42
12:D:103:ASP:CG	12:D:104:VAL:H	2.22	0.42
9:A:1868:C:H2'	9:A:1869:G:O4'	2.19	0.42
31:W:22:VAL:O	31:W:23:LYS:C	2.57	0.42
19:K:80:ASP:OD2	24:P:61:ARG:NH1	2.53	0.42
9:A:1178:C:H2'	9:A:1179:G:C8	2.53	0.42
13:E:176:ASP:OD1	13:E:176:ASP:C	2.57	0.42
22:N:55:ALA:HA	22:N:80:PHE:CE1	2.55	0.42
9:A:1711:A:H2'	9:A:1712:U:C6	2.55	0.42
9:A:2505:G:O2'	9:A:2506:U:C6	2.70	0.42
9:A:2144:G:H3'	9:A:2144:G:N3	2.34	0.42
19:K:20:MET:O	19:K:41:ILE:HD12	2.20	0.42
19:K:43:ILE:HD12	19:K:52:VAL:HG23	2.01	0.42
9:A:1084:A:C6	9:A:1085:A:N6	2.87	0.42
9:A:1885:A:O2'	9:A:1886:U:C5'	2.68	0.42
9:A:271:G:C4	9:A:272:A:N7	2.88	0.42
4:3:4:LYS:HG2	9:A:242:G:C8	2.55	0.42
32:X:60:LYS:O	32:X:61:LYS:C	2.57	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:12:ARG:HG3	20:L:63:LYS:HA	2.02	0.42
15:G:66:THR:O	15:G:69:ALA:N	2.53	0.42
9:A:2794:C:C2	9:A:2795:C:C5	3.07	0.42
13:E:76:PRO:HA	13:E:82:GLY:HA3	2.01	0.42
14:F:107:VAL:N	14:F:108:PRO:HD2	2.34	0.42
29:U:86:PHE:HB2	29:U:92:VAL:HB	2.02	0.42
1:0:15:ARG:HH12	9:A:1264:A:P	2.42	0.42
9:A:851:C:H2'	9:A:852:U:O5'	2.19	0.42
25:Q:35:PHE:C	25:Q:37:ALA:N	2.72	0.42
20:L:92:LEU:HA	20:L:125:LEU:CD2	2.48	0.42
9:A:1652:A:OP1	22:N:8:ARG:NH2	2.53	0.42
9:A:1681:G:O2'	9:A:1762:A:C1'	2.67	0.42
20:L:55:MET:HA	20:L:56:PRO:HD3	1.63	0.42
9:A:1242:U:H2'	9:A:1243:C:C6	2.54	0.42
15:G:124:CYS:HA	15:G:129:GLU:O	2.20	0.42
29:U:64:ILE:HG23	29:U:64:ILE:O	2.19	0.42
9:A:736:C:N3	9:A:737:C:C5	2.88	0.42
9:A:976:G:C2	9:A:977:G:C8	3.08	0.42
9:A:1878:G:C6	9:A:1879:C:N3	2.88	0.42
9:A:2716:C:O2'	9:A:2717:C:H5'	2.20	0.42
9:A:2607:G:H2'	9:A:2608:G:O4'	2.19	0.42
9:A:966:G:C5	9:A:967:U:C4	3.08	0.42
9:A:2454:G:C5	9:A:2455:G:C8	3.07	0.42
9:A:2284:A:C2'	9:A:2285:C:H5'	2.50	0.42
9:A:2007:U:H2'	9:A:2008:C:C6	2.54	0.42
25:Q:91:ARG:NH1	26:R:10:LYS:HB3	2.35	0.42
9:A:1097:U:O2	17:I:8:VAL:HG12	2.19	0.42
9:A:568:U:P	20:L:36:LYS:HE3	2.60	0.42
18:J:72:LYS:HB3	18:J:89:PHE:HB2	2.02	0.42
9:A:1170:C:N4	9:A:1180:U:C2	2.87	0.42
9:A:1744:A:N3	9:A:1744:A:H2'	2.34	0.42
9:A:508:A:C4'	9:A:509:C:OP2	2.45	0.42
9:A:1460:U:H3'	9:A:1461:C:H5'	2.02	0.42
9:A:1026:G:H2'	9:A:1027:A:C8	2.53	0.42
9:A:1974:C:C2'	9:A:1975:G:O5'	2.67	0.42
20:L:80:SER:C	20:L:81:ASP:O	2.56	0.42
11:C:30:ALA:CB	11:C:31:PRO:CD	2.94	0.42
9:A:782:A:C2	11:C:224:MET:HE2	2.55	0.42
1:0:2:VAL:CG2	9:A:2015:A:C4	3.03	0.42
9:A:1431:A:C2'	9:A:1432:G:O5'	2.67	0.42
29:U:53:GLN:N	29:U:54:PRO:HD2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:60:G:HO2'	9:A:61:C:P	2.42	0.42
9:A:2085:U:C2'	9:A:2086:U:H5'	2.50	0.42
4:3:21:PHE:N	4:3:48:MET:HE1	2.35	0.42
3:2:18:PHE:CE1	3:2:22:MET:HG2	2.55	0.42
19:K:35:VAL:CG1	19:K:36:GLY:H	2.31	0.42
21:M:100:LYS:HA	21:M:100:LYS:HD3	1.76	0.42
9:A:1225:G:C6	9:A:1226:A:N6	2.88	0.42
11:C:116:GLN:O	11:C:127:ASN:HB3	2.19	0.42
15:G:159:LYS:HE2	15:G:159:LYS:HB3	1.86	0.42
9:A:1488:C:H2'	9:A:1489:C:C6	2.54	0.42
24:P:48:ALA:O	24:P:49:ILE:HG12	2.19	0.42
12:D:12:THR:HG23	12:D:13:ARG:H	1.79	0.42
24:P:50:ARG:HG2	24:P:56:SER:HA	2.01	0.42
24:P:57:ALA:HA	24:P:75:THR:CG2	2.50	0.42
9:A:2569:G:C2	9:A:2570:G:C8	3.08	0.42
32:X:29:LEU:N	32:X:29:LEU:HD22	2.35	0.42
4:3:31:ILE:CG1	4:3:31:ILE:O	2.67	0.42
32:X:40:GLU:C	32:X:43:LYS:H	2.23	0.42
9:A:1872:A:HO2'	9:A:1873:G:C4'	2.32	0.42
31:W:23:LYS:CD	31:W:24:ARG:HG3	2.45	0.42
13:E:108:ILE:HG12	13:E:108:ILE:O	2.19	0.42
9:A:1999:C:O2	9:A:2687:U:O2'	2.37	0.42
22:N:76:VAL:O	22:N:79:LEU:O	2.38	0.42
11:C:245:THR:HG1	11:C:249:VAL:HB	1.84	0.42
14:F:134:GLN:CA	14:F:134:GLN:HE21	2.32	0.42
9:A:543:G:C2	9:A:544:C:H1'	2.55	0.42
24:P:37:LYS:HD3	24:P:37:LYS:H	1.85	0.42
28:T:5:GLU:OE1	33:Y:22:LEU:HD22	2.20	0.42
9:A:1722:A:H62	9:A:1738:G:H1'	1.84	0.42
9:A:529:A:C4'	9:A:530:G:OP1	2.61	0.42
10:B:66:A:N6	10:B:107:G:H2'	2.28	0.42
9:A:287:G:C2	9:A:354:A:C2	3.08	0.42
25:Q:77:LYS:HE2	25:Q:116:LEU:HD23	2.02	0.42
21:M:6:ARG:HD2	21:M:8:LYS:NZ	2.34	0.42
9:A:616:A:H4'	13:E:101:TYR:CZ	2.54	0.42
9:A:439:A:H3'	9:A:439:A:C8	2.55	0.42
9:A:447:A:C2	9:A:454:A:H2'	2.55	0.42
9:A:396:G:H1'	32:X:28:PHE:HB3	2.02	0.42
9:A:1402:U:C6	9:A:1402:U:H3'	2.55	0.42
25:Q:27:ARG:HG3	25:Q:27:ARG:NH1	2.31	0.42
9:A:1229:C:C2	9:A:1230:A:C8	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:236:GLY:O	11:C:237:ARG:HB2	2.20	0.42
9:A:1506:U:H3'	9:A:1506:U:C6	2.55	0.42
9:A:2555:U:C6	9:A:2556:C:C6	3.08	0.42
18:J:97:PRO:O	18:J:99:ARG:N	2.52	0.42
9:A:2665:A:C2	9:A:2666:C:C2	3.07	0.42
22:N:18:GLN:NE2	22:N:22:ARG:HH12	2.17	0.42
29:U:97:SER:O	29:U:98:ASN:CG	2.57	0.42
9:A:2698:U:H2'	9:A:2699:C:C6	2.55	0.42
9:A:350:G:C2'	9:A:351:C:H5'	2.50	0.42
9:A:2701:U:H2'	9:A:2702:G:OP1	2.20	0.42
14:F:129:MET:HE2	14:F:153:ILE:HD11	1.97	0.42
16:H:30:LEU:HD23	16:H:30:LEU:HA	1.79	0.42
9:A:221:A:C8	9:A:266:G:O6	2.73	0.42
31:W:24:ARG:O	31:W:25:PHE:CB	2.62	0.42
14:F:151:LEU:HD12	14:F:151:LEU:H	1.85	0.42
13:E:137:LYS:O	13:E:141:MET:HG3	2.19	0.42
9:A:1083:U:H6	9:A:1083:U:H3'	1.85	0.42
9:A:1056:G:O2'	9:A:1086:A:C8	2.70	0.42
9:A:1056:G:O2'	9:A:1086:A:H8	2.03	0.42
16:H:3:VAL:HB	16:H:37:VAL:O	2.19	0.42
9:A:1585:C:O5'	9:A:1585:C:H6	2.03	0.42
11:C:61:TYR:HA	11:C:85:ASN:HD21	1.84	0.42
9:A:2531:A:H5'	15:G:156:TYR:CZ	2.54	0.42
9:A:2777:G:C8	9:A:2777:G:O5'	2.73	0.42
25:Q:25:GLY:O	25:Q:29:ARG:HG3	2.19	0.42
28:T:22:THR:C	28:T:25:GLU:H	2.21	0.42
9:A:289:G:C5	9:A:290:U:C4	3.08	0.42
9:A:438:G:H2'	9:A:439:A:H5'	1.99	0.42
21:M:42:THR:HG23	21:M:45:GLN:OE1	2.20	0.42
9:A:1857:G:C1'	9:A:1884:G:N2	2.80	0.42
9:A:2109:U:C2'	9:A:2110:G:H5'	2.49	0.42
9:A:1374:G:O2'	9:A:1375:U:H5'	2.19	0.42
12:D:8:LYS:HB2	12:D:201:LEU:HD22	2.01	0.42
9:A:2641:G:OP1	18:J:76:HIS:CE1	2.69	0.42
9:A:569:U:H1'	9:A:947:A:O4'	2.20	0.42
14:F:88:VAL:CG1	14:F:90:LEU:HD13	2.49	0.42
9:A:319:G:N9	9:A:333:G:N2	2.68	0.42
9:A:2262:U:H5'	9:A:2387:U:O2	2.20	0.42
9:A:157:C:C2'	9:A:158:U:O5'	2.68	0.42
34:Z:29:ARG:O	34:Z:30:ARG:HG3	2.19	0.42
32:X:63:ILE:HG13	32:X:63:ILE:H	1.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:15:LYS:HE2	4:3:19:GLY:HA2	2.01	0.42
19:K:49:ARG:HB3	19:K:50:GLY:H	1.63	0.42
11:C:137:GLY:N	11:C:163:ILE:O	2.51	0.42
24:P:9:GLN:C	24:P:11:GLN:N	2.72	0.42
18:J:42:ALA:O	18:J:43:GLU:C	2.58	0.42
1:0:41:HIS:HD2	22:N:101:GLY:H	1.67	0.42
9:A:2307:G:C2	9:A:2311:A:N7	2.88	0.42
9:A:1827:U:O2'	9:A:1828:G:H5'	2.20	0.42
9:A:1130:U:O2'	9:A:1131:G:H2'	2.20	0.42
9:A:740:C:H2'	9:A:740:C:O2	2.19	0.42
9:A:1340:U:H3'	28:T:61:LEU:HD22	2.00	0.42
18:J:17:VAL:HG13	18:J:55:ILE:CG1	2.50	0.42
22:N:28:LEU:O	22:N:32:GLU:N	2.47	0.42
9:A:1057:A:H62	9:A:1087:G:P	2.40	0.42
9:A:2771:C:H2'	9:A:2772:C:H6	1.85	0.42
28:T:73:ARG:HH21	28:T:73:ARG:HB3	1.77	0.42
9:A:1508:A:O2'	9:A:1509:A:H8	2.02	0.42
11:C:172:THR:HA	11:C:182:LYS:HA	2.02	0.42
33:Y:17:GLU:HB2	33:Y:53:VAL:HG11	2.01	0.42
14:F:3:LEU:HD13	14:F:3:LEU:HA	1.68	0.42
9:A:627:A:C4	9:A:637:A:N7	2.88	0.42
24:P:17:PRO:HD2	24:P:83:ILE:HG23	2.02	0.42
9:A:2471:A:C6	9:A:2472:G:C4	3.08	0.42
9:A:1916:A:H2'	9:A:1917:U:O4'	2.19	0.42
9:A:2485:G:C5'	21:M:45:GLN:NE2	2.82	0.42
4:3:21:PHE:HB2	4:3:49:VAL:HG13	2.01	0.42
9:A:681:G:C2'	9:A:682:G:O5'	2.67	0.42
9:A:323:C:N4	9:A:333:G:N7	2.68	0.42
9:A:2233:U:H2'	9:A:2234:G:H8	1.85	0.42
9:A:691:C:H2'	9:A:692:C:H6	1.85	0.42
22:N:51:LEU:HA	22:N:51:LEU:HD12	1.63	0.42
9:A:1041:G:O2'	9:A:1042:G:H5'	2.19	0.42
9:A:336:C:O2'	9:A:337:C:H5'	2.20	0.42
17:I:130:GLY:HA2	17:I:133:ARG:HB3	2.01	0.42
9:A:1079:C:C4	9:A:1080:A:N7	2.87	0.41
9:A:974:G:N3	9:A:1186:G:N2	2.67	0.41
9:A:1341:G:O2'	28:T:59:ASN:ND2	2.52	0.41
14:F:4:HIS:CD2	14:F:96:TRP:NE1	2.88	0.41
9:A:2107:G:O6	9:A:2183:A:C6	2.72	0.41
9:A:729:G:H4'	9:A:763:G:H5'	2.01	0.41
27:S:59:GLU:CA	27:S:64:ALA:HB2	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:960:A:H2'	9:A:962:G:H5'	2.02	0.41
9:A:604:G:H2'	9:A:605:G:H8	1.85	0.41
9:A:782:A:N1	11:C:224:MET:HE1	2.35	0.41
9:A:2887:A:C5	9:A:2888:C:C5	3.08	0.41
9:A:2105:U:H2'	9:A:2106:U:C6	2.55	0.41
4:3:12:ARG:HG2	20:L:62:PRO:O	2.19	0.41
9:A:1378:A:H4'	9:A:1379:U:OP1	2.20	0.41
9:A:1252:G:N3	25:Q:32:ARG:CG	2.75	0.41
9:A:288:U:C2'	9:A:289:G:H5'	2.50	0.41
18:J:114:LEU:HD23	18:J:114:LEU:C	2.41	0.41
14:F:19:PHE:O	14:F:20:ASN:C	2.58	0.41
9:A:1759:A:C2	9:A:1760:C:C2	3.07	0.41
26:R:3:ALA:HB3	26:R:59:ILE:HD11	2.01	0.41
30:V:26:PHE:HB2	30:V:27:PRO:HD2	2.02	0.41
9:A:323:C:N4	9:A:333:G:C5	2.88	0.41
20:L:79:LEU:HD13	20:L:116:VAL:CG1	2.49	0.41
9:A:321:U:OP1	13:E:130:LYS:HE3	2.20	0.41
9:A:149:A:C5	9:A:150:U:C5	3.08	0.41
33:Y:28:LEU:HA	33:Y:28:LEU:HD23	1.64	0.41
18:J:110:PRO:C	18:J:111:LYS:HD2	2.40	0.41
26:R:5:PHE:HA	26:R:39:LEU:CD2	2.50	0.41
9:A:1491:G:C6	9:A:1500:G:C2	3.08	0.41
28:T:30:ILE:HG12	28:T:32:LEU:HD21	2.02	0.41
19:K:43:ILE:HD13	19:K:52:VAL:HG21	1.96	0.41
19:K:67:LYS:HD3	19:K:67:LYS:HA	1.81	0.41
9:A:1934:C:C2'	9:A:1935:G:O5'	2.68	0.41
12:D:90:PHE:C	12:D:92:VAL:N	2.73	0.41
9:A:785:G:C6	9:A:786:C:C4	3.08	0.41
27:S:96:ILE:HD12	27:S:97:LEU:N	2.34	0.41
9:A:372:G:N2	9:A:400:G:H2'	2.35	0.41
9:A:2068:U:H5''	9:A:2068:U:C6	2.36	0.41
23:O:41:ALA:HA	23:O:42:PRO:HD3	1.89	0.41
24:P:92:ARG:O	24:P:93:LYS:CB	2.54	0.41
13:E:12:LEU:O	13:E:13:THR:CB	2.65	0.41
9:A:983:A:N6	9:A:984:A:C2	2.88	0.41
9:A:1610:A:H8	9:A:1610:A:H5'	1.84	0.41
15:G:54:ARG:HG3	15:G:57:TYR:HD1	1.85	0.41
9:A:2436:G:N3	9:A:2598:A:H2	2.18	0.41
19:K:51:LYS:O	19:K:51:LYS:NZ	2.52	0.41
9:A:2824:C:H6	9:A:2824:C:O5'	2.03	0.41
9:A:2700:A:N1	9:A:2708:G:C6	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2441:U:OP2	9:A:2586:U:O2'	2.36	0.41
9:A:2095:A:H2'	9:A:2096:C:C6	2.55	0.41
9:A:1445:G:H2'	9:A:1446:C:C6	2.55	0.41
9:A:2766:A:C2	9:A:2767:C:C6	3.08	0.41
9:A:1070:A:H2	17:I:9:LYS:HG2	1.65	0.41
25:Q:4:LYS:O	25:Q:5:ARG:HB3	2.20	0.41
12:D:106:LYS:O	12:D:107:VAL:HB	2.20	0.41
9:A:866:A:O2'	9:A:867:C:H5'	2.21	0.41
9:A:2138:G:C5	9:A:2154:A:C6	3.08	0.41
9:A:2151:U:C5	9:A:2152:G:N7	2.88	0.41
9:A:2151:U:HO2'	9:A:2152:G:H8	1.63	0.41
9:A:1459:G:C6	9:A:1461:C:C4	3.08	0.41
5:4:14:CYS:HA	5:4:26:ILE:O	2.19	0.41
10:B:90:C:C6	10:B:90:C:C4'	3.03	0.41
9:A:2770:G:H5''	9:A:2771:C:OP2	2.20	0.41
13:E:23:PHE:CZ	13:E:28:VAL:HG11	2.54	0.41
19:K:61:VAL:HG22	19:K:112:PHE:CZ	2.56	0.41
9:A:308:G:C4	9:A:501:A:C8	3.09	0.41
9:A:287:G:C4	9:A:354:A:C2	3.08	0.41
9:A:480:A:H3'	9:A:481:G:H5''	2.02	0.41
9:A:2808:G:N1	9:A:2891:U:C5	2.88	0.41
9:A:314:C:C2'	9:A:315:G:H5'	2.50	0.41
29:U:82:VAL:HG12	29:U:83:GLY:N	2.34	0.41
9:A:182:A:C6	9:A:183:C:C4	3.08	0.41
9:A:977:G:N3	9:A:1001:A:H2	2.18	0.41
9:A:1782:U:O4'	9:A:2609:U:C2	2.73	0.41
9:A:2765:A:N3	9:A:2765:A:C2'	2.83	0.41
9:A:171:U:H2'	9:A:172:A:C8	2.55	0.41
9:A:1824:G:C5	9:A:1825:U:C5	3.08	0.41
9:A:1313:U:H4'	9:A:1332:G:H4'	2.02	0.41
9:A:2684:U:C2'	9:A:2685:G:O5'	2.68	0.41
26:R:20:VAL:HG21	26:R:22:LEU:HD21	2.02	0.41
9:A:49:A:N6	9:A:177:G:C4	2.89	0.41
13:E:88:ARG:HB3	13:E:89:PRO:HD2	2.01	0.41
17:I:115:ASP:OD1	17:I:115:ASP:C	2.59	0.41
30:V:80:HIS:CD2	30:V:83:LYS:HB2	2.55	0.41
28:T:2:ILE:HB	28:T:3:ARG:CZ	2.50	0.41
29:U:5:ARG:O	29:U:6:ARG:C	2.58	0.41
28:T:54:GLU:HB2	28:T:88:LYS:HB2	2.02	0.41
9:A:2726:A:O2'	9:A:2727:A:C5'	2.65	0.41
9:A:1930:G:N2	9:A:1968:G:H2'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2655:G:N2	9:A:2664:G:H2'	2.36	0.41
11:C:181:ARG:HG2	11:C:182:LYS:O	2.20	0.41
4:3:53:ASP:HB3	20:L:57:LEU:CD2	2.51	0.41
14:F:98:PHE:HA	14:F:101:ARG:HG3	2.01	0.41
9:A:2799:A:C6	9:A:2801:G:C5	3.09	0.41
9:A:2259:U:C6	9:A:2427:C:C4	3.09	0.41
9:A:915:C:O2	10:B:100:G:H4'	2.20	0.41
23:O:58:ILE:HG13	23:O:58:ILE:H	1.59	0.41
9:A:2212:A:H4'	9:A:2213:U:OP1	2.20	0.41
34:Z:2:LYS:O	34:Z:3:THR:CG2	2.67	0.41
17:I:57:VAL:HG12	17:I:58:ILE:N	2.35	0.41
9:A:1840:G:C6	9:A:1841:U:C4	3.09	0.41
9:A:612:G:H2'	9:A:614:A:C8	2.55	0.41
10:B:16:G:C5	10:B:69:G:C2	3.08	0.41
26:R:36:ALA:N	26:R:37:GLU:OE2	2.53	0.41
30:V:65:VAL:HG23	30:V:65:VAL:O	2.19	0.41
19:K:4:GLU:O	19:K:5:GLN:CB	2.68	0.41
1:0:24:VAL:O	1:0:25:THR:HG23	2.21	0.41
9:A:423:A:H5''	9:A:424:G:C5'	2.50	0.41
15:G:39:ALA:HB1	15:G:57:TYR:HB3	2.02	0.41
9:A:912:C:C6	9:A:913:U:H5	2.38	0.41
9:A:174:U:H2'	9:A:175:G:O4'	2.20	0.41
32:X:30:PRO:C	32:X:32:LEU:HD13	2.40	0.41
24:P:85:VAL:HG12	24:P:86:LYS:H	1.86	0.41
11:C:190:THR:CG2	11:C:191:LEU:N	2.82	0.41
9:A:1131:G:C4	18:J:77:HIS:ND1	2.89	0.41
28:T:54:GLU:HB3	28:T:88:LYS:HG3	2.02	0.41
9:A:729:G:O2'	9:A:1775:U:H1'	2.21	0.41
22:N:33:ILE:HG12	22:N:118:ARG:NE	2.35	0.41
9:A:1056:G:C4'	9:A:1086:A:H8	2.32	0.41
11:C:33:LEU:HA	11:C:61:TYR:O	2.21	0.41
9:A:603:A:C8	9:A:655:A:C6	3.09	0.41
9:A:2531:A:C5	9:A:2532:G:N7	2.88	0.41
9:A:1731:G:C4	9:A:1733:G:C8	3.09	0.41
10:B:49:C:H6	10:B:49:C:O5'	2.03	0.41
9:A:322:A:C4	9:A:340:A:C2	3.09	0.41
17:I:56:VAL:CG2	17:I:57:VAL:N	2.83	0.41
17:I:58:ILE:HG22	17:I:60:VAL:CG2	2.50	0.41
9:A:479:A:C2	9:A:480:A:C4	3.08	0.41
21:M:6:ARG:CB	21:M:6:ARG:CZ	2.98	0.41
14:F:106:ALA:CA	14:F:108:PRO:HD2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2297:A:C5'	9:A:2297:A:C8	2.99	0.41
9:A:1918:A:C3'	9:A:1920:C:H41	2.33	0.41
9:A:1858:A:N6	9:A:1884:G:H1'	2.36	0.41
9:A:1386:C:H5''	9:A:1396:U:O2	2.20	0.41
9:A:1606:C:C2'	9:A:1607:C:OP2	2.68	0.41
9:A:1848:A:H2'	9:A:1849:G:C8	2.54	0.41
9:A:2811:G:H2'	9:A:2812:G:O4'	2.21	0.41
11:C:216:ARG:CB	11:C:217:PRO:HD2	2.49	0.41
9:A:2611:C:H6	9:A:2611:C:C5'	2.34	0.41
9:A:2611:C:H5'	36:A:9000:ERY:H301	2.01	0.41
21:M:134:THR:O	21:M:134:THR:HG22	2.21	0.41
25:Q:63:ARG:NH1	25:Q:99:VAL:HG23	2.36	0.41
9:A:1074:G:N3	9:A:1075:C:C6	2.88	0.41
17:I:93:ASN:OD1	17:I:136:GLY:HA2	2.21	0.41
26:R:81:LYS:O	26:R:82:HIS:C	2.58	0.41
9:A:1792:G:OP1	11:C:203:VAL:O	2.39	0.41
9:A:1179:G:C3'	9:A:1180:U:H4'	2.31	0.41
9:A:2430:A:C3'	9:A:2431:U:C5'	2.97	0.41
29:U:11:ILE:HG13	29:U:21:ARG:HG3	2.02	0.41
9:A:2140:G:H2'	9:A:2141:G:C8	2.55	0.41
9:A:1126:A:H4'	9:A:1127:A:H5''	2.02	0.41
28:T:50:LEU:HD23	33:Y:26:PHE:CD1	2.56	0.41
9:A:332:A:C2	9:A:335:C:C5	3.08	0.41
10:B:90:C:C6	10:B:90:C:C5'	2.91	0.41
9:A:1057:A:C2	9:A:1082:U:N3	2.88	0.41
11:C:57:HIS:ND1	11:C:58:LYS:N	2.65	0.41
10:B:46:A:C4	10:B:47:C:C6	3.09	0.41
14:F:98:PHE:O	14:F:98:PHE:CD2	2.74	0.41
19:K:88:ASN:HB3	19:K:92:GLU:O	2.20	0.41
24:P:91:VAL:O	24:P:92:ARG:HG2	2.21	0.41
22:N:67:PHE:CE2	22:N:71:ARG:NH1	2.88	0.41
28:T:8:LEU:HD12	28:T:46:ALA:CA	2.43	0.41
9:A:1858:A:H62	9:A:1884:G:H1'	1.86	0.41
9:A:2397:G:H2'	9:A:2398:U:C6	2.56	0.41
9:A:1875:G:C2'	9:A:1876:A:OP2	2.68	0.41
9:A:157:C:H3'	9:A:157:C:C6	2.56	0.41
19:K:119:ALA:HA	19:K:120:PRO:HD2	1.84	0.41
9:A:51:G:H4'	9:A:52:A:H5'	2.02	0.41
9:A:920:A:OP1	34:Z:18:LYS:HE3	2.20	0.41
9:A:2142:A:C2'	9:A:2143:C:OP2	2.69	0.41
22:N:83:LEU:HA	22:N:83:LEU:HD12	1.72	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:47:LYS:NZ	14:F:47:LYS:CB	2.83	0.41
9:A:1647:U:H3'	9:A:1647:U:OP2	2.20	0.41
9:A:2527:C:C2'	9:A:2528:U:H5'	2.51	0.41
26:R:27:ILE:HG12	26:R:27:ILE:H	1.73	0.41
9:A:1893:C:H2'	9:A:1894:C:O4'	2.21	0.41
9:A:2735:G:C6	9:A:2736:A:C5	3.08	0.41
24:P:3:ILE:HD12	24:P:7:LEU:HD22	2.03	0.41
9:A:995:C:P	25:Q:52:ARG:NH1	2.93	0.41
9:A:995:C:P	25:Q:52:ARG:HH11	2.43	0.41
9:A:1063:G:P	17:I:76:ALA:CB	2.96	0.41
9:A:2489:U:C4	9:A:2490:G:C6	3.09	0.41
12:D:149:ASN:CG	12:D:150:GLN:N	2.71	0.41
18:J:112:GLY:O	18:J:116:ARG:HB2	2.21	0.41
15:G:84:LYS:CE	15:G:84:LYS:N	2.74	0.41
13:E:3:LEU:HD12	13:E:14:VAL:HG11	2.03	0.41
33:Y:7:ARG:H	33:Y:60:LYS:NZ	2.19	0.41
9:A:388:G:N7	9:A:390:U:H2'	2.35	0.41
34:Z:15:ARG:CG	34:Z:15:ARG:NH1	2.69	0.41
34:Z:9:THR:HG21	34:Z:53:MET:C	2.41	0.41
9:A:548:G:C4'	9:A:549:G:H5'	2.50	0.41
9:A:1459:G:C2'	9:A:1460:U:H5''	2.51	0.41
9:A:2496:C:H5''	21:M:82:MET:HG3	2.03	0.41
9:A:2662:A:H8	9:A:2662:A:O5'	2.04	0.41
15:G:174:LYS:O	15:G:174:LYS:HD2	2.21	0.41
10:B:46:A:C4	10:B:47:C:C5	3.08	0.41
11:C:133:ASN:C	11:C:134:ILE:HG13	2.40	0.41
9:A:1720:U:H5''	9:A:1721:G:OP2	2.20	0.41
9:A:1373:A:H8	9:A:1373:A:O5'	2.03	0.41
9:A:2075:U:H2'	9:A:2238:G:H22	1.82	0.41
30:V:51:GLN:O	30:V:51:GLN:NE2	2.54	0.41
9:A:1247:A:C2	9:A:1249:U:C6	3.08	0.41
9:A:9:G:H2'	9:A:2629:U:O4	2.20	0.41
9:A:306:U:H5''	9:A:307:G:OP2	2.21	0.41
9:A:234:U:H2'	9:A:235:U:H5'	2.03	0.41
13:E:134:LEU:HD12	13:E:138:LEU:HG	2.02	0.41
9:A:2098:U:C4	9:A:2099:U:C4	3.09	0.41
9:A:2854:G:H2'	9:A:2855:C:C6	2.56	0.41
13:E:40:ARG:HD2	13:E:92:HIS:ND1	2.35	0.41
18:J:38:GLY:C	18:J:40:HIS:H	2.24	0.41
25:Q:91:ARG:NE	25:Q:93:ILE:HG21	2.36	0.41
9:A:1062:G:O2'	9:A:1063:G:O5'	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:M:33:LEU:CD2	21:M:128:THR:HB	2.51	0.41
31:W:18:LYS:HD2	31:W:36:ILE:HD11	2.01	0.41
9:A:866:A:C8	9:A:866:A:C3'	3.03	0.41
9:A:2505:G:C2'	9:A:2506:U:O5'	2.69	0.41
9:A:1125:G:O5'	9:A:1125:G:H8	2.04	0.41
17:I:49:GLU:HG2	17:I:50:LYS:N	2.35	0.41
9:A:1023:U:H2'	9:A:1023:U:O2	2.15	0.41
9:A:960:A:C8	9:A:962:G:C8	3.09	0.41
9:A:784:G:H5'	11:C:225:ASN:OD1	2.21	0.41
9:A:2776:A:H4'	9:A:2777:G:H5''	2.03	0.41
26:R:66:HIS:ND1	26:R:94:THR:CG2	2.83	0.41
21:M:54:THR:HG22	21:M:55:ARG:N	2.36	0.41
26:R:46:GLU:O	26:R:46:GLU:OE1	2.38	0.41
9:A:404:A:C8	9:A:406:G:C6	3.08	0.41
9:A:858:G:C5	9:A:2268:A:C2	3.08	0.41
30:V:46:LYS:O	30:V:50:MET:HG3	2.20	0.41
18:J:97:PRO:C	18:J:99:ARG:N	2.74	0.41
19:K:47:ILE:HD12	19:K:47:ILE:HA	1.78	0.41
9:A:2639:A:O3'	18:J:96:ARG:NH1	2.54	0.41
13:E:65:THR:H	13:E:65:THR:HG22	1.65	0.41
9:A:1894:C:O5'	9:A:1894:C:H6	2.04	0.41
22:N:23:ASN:H	22:N:23:ASN:ND2	2.19	0.41
13:E:123:LYS:HD3	13:E:123:LYS:HA	1.94	0.41
9:A:220:G:H2'	9:A:427:U:O4	2.21	0.41
9:A:2842:G:C4	9:A:2876:G:N2	2.89	0.41
18:J:41:LYS:HB2	18:J:42:ALA:H	1.69	0.41
9:A:1059:G:H4'	17:I:116:MET:HE1	2.02	0.41
9:A:572:A:OP2	26:R:80:ARG:NH2	2.46	0.41
9:A:571:U:N3	9:A:2030:A:C2	2.89	0.41
9:A:2052:A:H2'	9:A:2053:G:H8	1.86	0.41
20:L:127:VAL:HG22	20:L:128:THR:O	2.20	0.41
32:X:67:LEU:O	32:X:69:GLU:O	2.38	0.41
9:A:855:G:N2	31:W:23:LYS:CB	2.84	0.41
31:W:25:PHE:C	31:W:27:GLY:H	2.24	0.41
24:P:111:GLU:O	24:P:113:LEU:HD22	2.20	0.41
24:P:21:PRO:HA	24:P:46:VAL:CG1	2.50	0.41
13:E:172:ALA:O	13:E:175:ILE:CG2	2.69	0.41
11:C:257:ARG:CG	11:C:269:ARG:NH2	2.73	0.41
13:E:176:ASP:CG	13:E:179:SER:HG	2.23	0.41
12:D:117:GLY:C	12:D:118:PHE:CD1	2.94	0.41
12:D:141:ARG:HD3	12:D:141:ARG:HH11	1.65	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C:229:HIS:HD2	11:C:246:PRO:CB	2.34	0.41
18:J:54:ILE:O	18:J:54:ILE:HG13	2.21	0.41
9:A:1460:U:C3'	9:A:1461:C:C5'	2.99	0.41
5:4:15:LYS:HB3	5:4:15:LYS:HE3	1.90	0.41
9:A:764:A:H3'	9:A:765:C:H5'	2.02	0.41
9:A:2726:A:N3	19:K:67:LYS:NZ	2.62	0.41
13:E:143:LEU:N	13:E:143:LEU:HD23	2.33	0.41
9:A:83:A:N6	9:A:101:A:C5	2.89	0.41
9:A:1274:A:N3	9:A:1297:C:H1'	2.35	0.41
9:A:1905:C:H4'	9:A:1929:G:H8	1.85	0.41
9:A:2013:A:OP1	27:S:96:ILE:HA	2.20	0.41
13:E:46:GLN:HE21	13:E:87:ALA:H	1.69	0.41
9:A:1429:G:O2'	9:A:1430:G:C5'	2.57	0.41
9:A:153:U:H2'	9:A:154:U:C5'	2.50	0.41
34:Z:33:HIS:O	34:Z:34:THR:HB	2.20	0.41
9:A:75:G:H8	9:A:75:G:H5''	1.85	0.41
10:B:10:G:H2'	10:B:11:C:H5'	2.02	0.41
11:C:181:ARG:HH21	11:C:181:ARG:HG2	1.86	0.41
21:M:50:ARG:HH21	21:M:50:ARG:HG2	1.86	0.41
9:A:2293:G:H2'	9:A:2294:G:O4'	2.21	0.41
15:G:15:ASP:O	15:G:16:VAL:CB	2.69	0.41
15:G:142:GLN:O	15:G:145:ALA:HB3	2.21	0.41
25:Q:26:ALA:CB	25:Q:30:VAL:CG2	2.92	0.41
26:R:61:ALA:HA	26:R:99:THR:HG23	2.02	0.41
18:J:114:LEU:O	18:J:117:ALA:N	2.54	0.41
15:G:29:ASN:O	15:G:78:VAL:HG12	2.21	0.41
9:A:1839:G:C6	9:A:1927:A:C5	3.08	0.41
9:A:1927:A:N1	9:A:1928:A:C2	2.89	0.41
9:A:2808:G:O2'	9:A:2809:A:P	2.78	0.41
21:M:46:ILE:CD1	21:M:46:ILE:C	2.80	0.41
9:A:2397:G:C2	9:A:2420:C:C2	3.09	0.41
9:A:369:U:O2'	9:A:370:G:OP2	2.38	0.41
17:I:41:PHE:CE2	17:I:45:THR:HG21	2.56	0.41
9:A:1359:A:N7	9:A:1373:A:C2	2.89	0.41
9:A:77:G:N2	9:A:110:G:H1'	2.36	0.41
26:R:37:GLU:OE1	26:R:37:GLU:O	2.38	0.41
18:J:76:HIS:CD2	18:J:85:LYS:HB2	2.55	0.41
9:A:1316:U:H2'	9:A:1317:G:C8	2.56	0.41
9:A:2599:G:O2'	9:A:2600:A:H5'	2.20	0.41
12:D:42:ASN:O	12:D:43:ASP:O	2.39	0.41
13:E:158:PHE:O	13:E:160:ALA:O	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:G:102:ILE:CD1	15:G:116:LEU:HD11	2.51	0.41
24:P:105:LYS:HA	24:P:108:ARG:HD3	2.03	0.41
9:A:1260:A:C6	9:A:1261:C:C4	3.09	0.41
9:A:1148:U:H6	9:A:1148:U:H3'	1.82	0.41
12:D:11:MET:HA	12:D:25:THR:HA	2.02	0.41
9:A:1637:A:H2'	9:A:1638:C:O4'	2.20	0.41
4:3:25:HIS:HB3	4:3:43:LEU:CD2	2.51	0.41
9:A:238:C:C6	9:A:238:C:C3'	3.03	0.41
32:X:27:ARG:HH11	32:X:27:ARG:HD3	1.73	0.41
14:F:21:TYR:CD1	14:F:26:GLN:HG2	2.56	0.41
9:A:149:A:H2'	9:A:150:U:C6	2.56	0.41
36:A:9000:ERY:O13	36:A:9000:ERY:H343	2.21	0.41
10:B:8:C:O3'	23:O:25:ARG:NH1	2.54	0.41
9:A:496:G:C5	9:A:497:A:C8	3.09	0.41
9:A:2031:A:C6	9:A:2498:C:H1'	2.55	0.41
9:A:2454:G:C4	9:A:2455:G:C8	3.08	0.41
21:M:134:THR:HG23	21:M:136:MET:H	1.86	0.41
9:A:2518:A:H2'	9:A:2518:A:N3	2.36	0.41
34:Z:16:LEU:HD23	34:Z:16:LEU:HA	1.17	0.41
9:A:1447:C:H6	9:A:1447:C:O5'	2.04	0.41
11:C:270:ARG:HG2	11:C:270:ARG:HH11	1.86	0.41
9:A:2432:A:N1	32:X:20:ALA:HA	2.36	0.41
9:A:457:A:O4'	9:A:459:U:C6	2.74	0.41
10:B:42:C:C5	14:F:65:LEU:HD22	2.56	0.41
24:P:52:ARG:CG	24:P:52:ARG:NH1	2.42	0.41
9:A:1078:U:H5''	9:A:1079:C:O5'	2.20	0.41
16:H:12:LEU:HB2	16:H:19:VAL:HG11	2.03	0.41
14:F:49:LEU:HA	14:F:49:LEU:HD12	1.96	0.41
34:Z:9:THR:HG23	34:Z:9:THR:O	2.14	0.41
28:T:43:ILE:O	28:T:43:ILE:CG1	2.69	0.41
18:J:135:GLN:HA	18:J:135:GLN:NE2	2.34	0.41
9:A:276:U:C2'	9:A:277:G:O5'	2.69	0.41
9:A:1730:C:H2'	9:A:1730:C:H6	1.69	0.41
9:A:1733:G:C2	9:A:1734:G:C8	3.09	0.41
9:A:286:U:H2'	9:A:287:G:C8	2.55	0.41
21:M:46:ILE:HD12	21:M:47:GLU:CA	2.51	0.41
11:C:220:ARG:HB3	11:C:222:THR:HG22	2.03	0.41
25:Q:27:ARG:CG	25:Q:27:ARG:NH1	2.83	0.41
30:V:39:ALA:O	30:V:40:ILE:HD13	2.21	0.41
26:R:58:VAL:HG22	26:R:59:ILE:H	1.85	0.41
9:A:1406:U:HO2'	9:A:1407:G:H8	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F:94:ARG:HB2	14:F:94:ARG:HE	1.72	0.41
9:A:1638:C:N4	9:A:1639:C:C4	2.88	0.41
9:A:117:G:C6	9:A:119:A:C6	3.09	0.41
9:A:2255:G:C2'	9:A:2256:G:H5'	2.51	0.41
9:A:1444:G:H2'	9:A:1445:G:O4'	2.21	0.41
12:D:193:VAL:HB	12:D:194:PRO:HD2	2.03	0.41
9:A:2902:C:O2'	9:A:2903:U:H5'	2.21	0.41
9:A:2828:G:H2'	9:A:2829:A:O5'	2.21	0.41
13:E:31:VAL:HG21	13:E:104:ALA:HB2	2.03	0.41
24:P:50:ARG:CG	24:P:56:SER:HA	2.51	0.40
2:1:10:LEU:CD2	2:1:33:LEU:HD23	2.44	0.40
25:Q:88:GLU:CD	25:Q:88:GLU:O	2.59	0.40
32:X:68:ALA:C	32:X:69:GLU:O	2.58	0.40
24:P:24:THR:HB	24:P:87:ARG:HB3	2.03	0.40
11:C:90:ILE:HG22	11:C:102:TYR:CD1	2.56	0.40
12:D:121:THR:O	12:D:122:VAL:CB	2.66	0.40
12:D:125:TRP:O	12:D:126:ASN:CB	2.65	0.40
9:A:137:U:OP2	9:A:137:U:C5	2.74	0.40
28:T:34:VAL:O	28:T:35:ALA:O	2.39	0.40
28:T:61:LEU:HD11	28:T:82:LYS:HD2	2.03	0.40
13:E:137:LYS:O	13:E:140:ASP:HB2	2.21	0.40
18:J:25:LEU:HD22	18:J:26:GLY:CA	2.50	0.40
24:P:33:GLU:OE2	24:P:38:ARG:NH1	2.54	0.40
9:A:278:A:H2	9:A:362:A:C8	2.31	0.40
9:A:1719:G:C5	9:A:1720:U:C5	3.09	0.40
23:O:31:THR:HG22	23:O:34:HIS:C	2.38	0.40
15:G:3:VAL:O	15:G:6:ALA:HB3	2.21	0.40
17:I:31:GLY:HA3	17:I:60:VAL:HG11	2.03	0.40
17:I:5:GLN:O	17:I:6:ALA:HB2	2.21	0.40
9:A:1402:U:C3'	9:A:1402:U:C6	3.04	0.40
14:F:121:PHE:CB	14:F:162:ASP:OD2	2.67	0.40
9:A:2315:G:C4	9:A:2316:G:C8	3.10	0.40
9:A:1845:G:C2'	9:A:1846:G:C5'	2.98	0.40
11:C:234:GLY:C	11:C:236:GLY:H	2.22	0.40
9:A:2601:C:H2'	9:A:2602:A:OP2	2.21	0.40
22:N:74:GLU:O	22:N:77:ALA:HB3	2.20	0.40
9:A:1834:U:O2	9:A:1834:U:H2'	2.19	0.40
9:A:2263:C:H2'	9:A:2264:C:C6	2.55	0.40
9:A:2797:U:O2'	9:A:2798:U:P	2.79	0.40
9:A:497:A:C4	9:A:498:G:C8	3.10	0.40
9:A:2027:G:H2'	9:A:2028:U:H6	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:P:9:GLN:HE21	24:P:9:GLN:HB3	1.51	0.40
20:L:95:LEU:HD22	20:L:100:ILE:CG1	2.51	0.40
15:G:84:LYS:HB2	15:G:132:LEU:H	1.87	0.40
12:D:3:GLY:C	12:D:4:LEU:HD12	2.41	0.40
25:Q:4:LYS:CE	25:Q:8:ILE:HG23	2.51	0.40
26:R:49:ILE:O	26:R:49:ILE:CG1	2.64	0.40
9:A:2332:C:H5''	9:A:2333:A:P	2.61	0.40
9:A:2331:G:H4'	31:W:41:GLY:HA3	2.03	0.40
9:A:1498:C:O2'	9:A:1499:C:O5'	2.39	0.40
33:Y:56:LEU:HA	33:Y:59:GLU:HG3	2.02	0.40
9:A:1599:U:H2'	9:A:1600:C:C6	2.57	0.40
14:F:105:ILE:O	14:F:109:ARG:HD3	2.20	0.40
18:J:17:VAL:HG13	18:J:55:ILE:HG12	2.03	0.40
9:A:2140:G:C5	9:A:2152:G:N2	2.89	0.40
9:A:1627:G:C5'	9:A:1627:G:H8	2.21	0.40
9:A:2328:A:C5	9:A:2329:U:C5	3.10	0.40
9:A:1085:A:C2	9:A:1086:A:N7	2.90	0.40
9:A:847:U:H5''	9:A:847:U:C6	2.55	0.40
9:A:602:A:C2	9:A:656:G:C5	3.09	0.40
9:A:37:C:O2'	13:E:45:ALA:CB	2.69	0.40
9:A:407:G:C2'	9:A:408:G:H5'	2.50	0.40
22:N:36:THR:HG23	22:N:37:THR:N	2.35	0.40
10:B:10:G:C2'	10:B:11:C:H5'	2.51	0.40
9:A:1720:U:H2'	9:A:1721:G:O4'	2.22	0.40
9:A:2068:U:C6	9:A:2068:U:C4'	3.04	0.40
9:A:1139:G:HO2'	9:A:1140:C:H5'	1.85	0.40
9:A:2544:G:H2'	9:A:2545:G:H5'	2.03	0.40
26:R:60:LYS:HB2	26:R:100:GLY:CA	2.50	0.40
15:G:6:ALA:HB1	15:G:7:PRO:CD	2.48	0.40
9:A:285:G:N3	9:A:285:G:C2'	2.80	0.40
17:I:52:LEU:HD11	17:I:81:LYS:HE2	2.03	0.40
11:C:87:SER:HB2	11:C:199:HIS:CD2	2.56	0.40
9:A:870:U:C4	9:A:871:U:C5	3.09	0.40
9:A:679:C:H2'	9:A:680:C:C6	2.56	0.40
33:Y:39:GLN:O	33:Y:42:LEU:HB2	2.20	0.40
9:A:1091:G:O2'	9:A:1092:C:C5'	2.68	0.40
9:A:58:G:N2	9:A:70:G:C5	2.89	0.40
9:A:2319:G:O2'	9:A:2320:U:C5	2.70	0.40
10:B:81:G:H2'	10:B:82:U:H5'	2.03	0.40
9:A:885:C:C6	9:A:885:C:C3'	3.05	0.40
9:A:535:G:C2	9:A:559:G:C5	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2065:C:H2'	9:A:2066:C:C6	2.55	0.40
13:E:130:LYS:O	13:E:131:THR:C	2.59	0.40
28:T:67:VAL:C	28:T:68:LYS:CD	2.90	0.40
9:A:2869:G:H2'	9:A:2870:C:O4'	2.22	0.40
15:G:175:LYS:HA	15:G:175:LYS:HD3	1.75	0.40
9:A:209:C:H2'	9:A:210:C:H5'	2.04	0.40
9:A:55:G:C2	9:A:56:A:C8	3.10	0.40
9:A:2700:A:H2'	9:A:2701:U:C6	2.57	0.40
26:R:26:ASP:O	26:R:27:ILE:C	2.59	0.40
9:A:1314:C:H2'	9:A:1314:C:O2	2.20	0.40
9:A:985:C:H6	9:A:985:C:O5'	2.04	0.40
25:Q:51:GLN:O	25:Q:52:ARG:C	2.58	0.40
20:L:95:LEU:HB3	20:L:100:ILE:HD11	2.03	0.40
15:G:171:LYS:CG	15:G:172:GLU:N	2.85	0.40
26:R:52:PRO:O	26:R:53:PHE:CB	2.69	0.40
9:A:1286:A:C6	9:A:1329:U:C2	3.10	0.40
16:H:9:VAL:O	16:H:10:ALA:O	2.39	0.40
31:W:24:ARG:HD3	31:W:65:LYS:HD3	2.04	0.40
21:M:1:MET:HE2	21:M:2:LEU:N	2.37	0.40
29:U:38:ILE:HG22	29:U:39:ASN:H	1.80	0.40
23:O:88:LYS:HE3	23:O:116:GLN:NE2	2.33	0.40
5:4:9:LYS:CA	5:4:9:LYS:HE2	2.49	0.40
9:A:1965:C:H6	9:A:1965:C:H5'	1.85	0.40
16:H:2:GLN:HA	16:H:20:ASN:HA	2.03	0.40
18:J:65:THR:HG23	18:J:66:GLY:N	2.36	0.40
26:R:25:LEU:HD12	26:R:25:LEU:HA	1.86	0.40
9:A:790:U:O2'	9:A:791:C:P	2.76	0.40
9:A:346:A:C2'	9:A:347:A:O5'	2.70	0.40
29:U:78:LYS:CG	29:U:79:ALA:H	2.27	0.40
29:U:3:LYS:O	29:U:82:VAL:HG21	2.22	0.40
15:G:124:CYS:HA	15:G:125:PRO:HD2	1.92	0.40
33:Y:16:THR:O	33:Y:19:LEU:HB2	2.21	0.40
9:A:157:C:H2'	9:A:158:U:O5'	2.22	0.40
9:A:1909:C:C2'	9:A:1910:G:H5'	2.51	0.40
19:K:13:ASN:C	19:K:15:GLY:H	2.23	0.40
9:A:1824:G:H2'	9:A:1825:U:C6	2.55	0.40
9:A:2190:G:H2'	9:A:2191:A:H8	1.86	0.40
24:P:23:ASP:HA	24:P:89:GLY:H	1.87	0.40
12:D:12:THR:HG22	12:D:24:VAL:CG2	2.50	0.40
15:G:171:LYS:HG3	15:G:172:GLU:N	2.37	0.40
2:1:8:ILE:H	2:1:23:THR:HA	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A:2331:G:C5	9:A:2332:C:C4	3.10	0.40
9:A:924:G:H4'	31:W:24:ARG:HH21	1.87	0.40
9:A:2307:G:H1'	9:A:2308:G:C5	2.57	0.40
9:A:390:U:O2'	9:A:391:A:P	2.80	0.40
11:C:229:HIS:CD2	11:C:246:PRO:CA	3.00	0.40
28:T:38:ALA:HB3	28:T:81:LYS:HE2	2.03	0.40
10:B:91:C:O2'	10:B:92:C:H5'	2.22	0.40
9:A:1716:U:O2'	9:A:1717:A:C5'	2.50	0.40
22:N:24:MET:CG	22:N:44:LEU:HD22	2.33	0.40
19:K:7:MET:C	19:K:8:LEU:HD22	2.42	0.40
9:A:2822:G:OP2	12:D:115:GLY:HA3	2.22	0.40
33:Y:22:LEU:O	33:Y:23:ARG:O	2.40	0.40
9:A:2800:A:C3'	9:A:2801:G:H5'	2.50	0.40
9:A:2802:G:H2'	9:A:2803:G:O4'	2.22	0.40
10:B:25:U:H2'	10:B:26:C:C6	2.56	0.40
9:A:2296:U:H4'	9:A:2297:A:OP1	2.21	0.40
9:A:1857:G:C1'	9:A:1884:G:H22	2.34	0.40
9:A:397:U:O2'	9:A:398:C:H5'	2.22	0.40
13:E:74:LYS:O	13:E:75:SER:C	2.59	0.40
14:F:162:ASP:OD1	14:F:162:ASP:N	2.54	0.40
13:E:48:THR:C	13:E:50:ALA:N	2.72	0.40
9:A:2783:U:H2'	9:A:2784:U:H6	1.87	0.40
9:A:1090:A:C2	9:A:1091:G:C8	3.09	0.40
9:A:2553:G:N1	9:A:2554:U:O2	2.55	0.40
9:A:1613:G:C2	9:A:1619:G:C5	3.10	0.40
9:A:2805:C:H2'	9:A:2806:C:H6	1.86	0.40
9:A:260:G:H2'	9:A:261:G:O5'	2.21	0.40
9:A:2628:C:O2'	9:A:2781:A:H2'	2.21	0.40
9:A:2096:C:H2'	9:A:2096:C:O2	2.20	0.40
9:A:256:A:O2'	9:A:257:C:H5'	2.22	0.40
9:A:121:G:C2	9:A:131:A:C5	3.10	0.40
22:N:42:LYS:O	22:N:45:ARG:HG3	2.21	0.40
12:D:186:LEU:HD11	24:P:3:ILE:CD1	2.51	0.40
24:P:13:LYS:NZ	24:P:80:VAL:HG12	2.37	0.40
17:I:126:ARG:HD3	17:I:126:ARG:H	1.86	0.40
20:L:35:HIS:O	20:L:36:LYS:HB2	2.22	0.40
2:I:8:ILE:CD1	2:I:52:LYS:CG	3.00	0.40
26:R:38:VAL:O	26:R:53:PHE:HA	2.22	0.40
15:G:140:ILE:HD12	15:G:141:GLY:H	1.86	0.40
16:H:32:PRO:HB3	32:X:38:TRP:CG	2.55	0.40
19:K:72:PRO:O	19:K:72:PRO:HD2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:E:119:ILE:HG12	13:E:119:ILE:O	2.22	0.40
23:O:4:LYS:HD3	23:O:7:ARG:NH2	2.37	0.40
9:A:142:A:H2'	9:A:143:C:C6	2.56	0.40
9:A:990:A:OP1	9:A:1157:G:H5''	2.22	0.40
19:K:60:ALA:HB1	19:K:84:CYS:HB2	2.03	0.40
9:A:1058:U:C1'	17:I:117:THR:HG21	2.51	0.40
9:A:846:U:C2'	9:A:847:U:OP2	2.69	0.40
9:A:1967:C:O2'	9:A:1968:G:H5'	2.21	0.40
9:A:2531:A:H4'	15:G:156:TYR:CE1	2.57	0.40
9:A:1509:A:O2'	9:A:1510:G:H5'	2.21	0.40
31:W:37:VAL:CG1	31:W:38:ARG:N	2.84	0.40
19:K:116:ILE:HD12	19:K:117:SER:H	1.83	0.40
9:A:1436:G:H2'	9:A:1437:C:O5'	2.22	0.40
14:F:116:LEU:HA	14:F:116:LEU:HD13	1.92	0.40
9:A:2728:U:C2'	9:A:2729:G:H5''	2.51	0.40
9:A:1387:A:C2	9:A:1401:G:C2	3.09	0.40
9:A:1688:U:H1'	9:A:1701:A:C5	2.57	0.40
9:A:2889:C:H2'	9:A:2890:G:C5'	2.52	0.40
9:A:2523:G:C2'	9:A:2524:G:H5'	2.51	0.40
15:G:96:ALA:HB3	15:G:103:ASN:CB	2.51	0.40
9:A:422:A:C2	9:A:423:A:C4	3.10	0.40
11:C:66:PHE:HZ	11:C:86:ARG:NH1	2.20	0.40
9:A:1247:A:C5	9:A:1249:U:C5	3.10	0.40
32:X:21:LEU:HD23	32:X:21:LEU:HA	1.70	0.40
11:C:82:TYR:C	11:C:82:TYR:CD1	2.95	0.40
9:A:170:U:H2'	9:A:171:U:O5'	2.22	0.40
9:A:2299:U:O2'	9:A:2300:C:H5'	2.21	0.40
9:A:240:C:H2'	9:A:241:A:C8	2.56	0.40
9:A:342:A:C2	9:A:343:C:H1'	2.57	0.40
20:L:73:ILE:C	20:L:105:ILE:HD13	2.41	0.40
9:A:1881:C:C3'	9:A:1881:C:C6	3.05	0.40
11:C:209:ALA:HA	11:C:212:TRP:NE1	2.37	0.40
9:A:700:G:H2'	9:A:701:G:O4'	2.22	0.40
9:A:1176:U:H2'	9:A:1177:G:C4	2.56	0.40
9:A:630:G:H5''	9:A:631:A:OP2	2.21	0.40
9:A:649:G:C5	9:A:650:C:C4	3.10	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	54/56 (96%)	41 (76%)	9 (17%)	4 (7%)	1	21
2	1	48/50 (96%)	37 (77%)	6 (12%)	5 (10%)	1	12
3	2	44/46 (96%)	37 (84%)	7 (16%)	0	100	100
4	3	62/64 (97%)	53 (86%)	5 (8%)	4 (6%)	1	25
5	4	36/38 (95%)	24 (67%)	9 (25%)	3 (8%)	1	18
11	C	269/271 (99%)	197 (73%)	47 (18%)	25 (9%)	1	16
12	D	207/209 (99%)	141 (68%)	32 (16%)	34 (16%)	0	5
13	E	199/201 (99%)	145 (73%)	34 (17%)	20 (10%)	1	14
14	F	175/177 (99%)	123 (70%)	36 (21%)	16 (9%)	1	17
15	G	174/176 (99%)	111 (64%)	38 (22%)	25 (14%)	0	6
16	H	54/56 (96%)	21 (39%)	13 (24%)	20 (37%)	0	0
17	I	139/141 (99%)	84 (60%)	41 (30%)	14 (10%)	1	14
18	J	140/142 (99%)	104 (74%)	24 (17%)	12 (9%)	1	17
19	K	120/122 (98%)	88 (73%)	18 (15%)	14 (12%)	0	9
20	L	141/143 (99%)	100 (71%)	30 (21%)	11 (8%)	1	20
21	M	134/136 (98%)	96 (72%)	18 (13%)	20 (15%)	0	5
22	N	118/120 (98%)	91 (77%)	16 (14%)	11 (9%)	1	16
23	O	114/116 (98%)	85 (75%)	18 (16%)	11 (10%)	1	15
24	P	112/114 (98%)	78 (70%)	20 (18%)	14 (12%)	0	8
25	Q	115/117 (98%)	100 (87%)	7 (6%)	8 (7%)	1	22
26	R	101/103 (98%)	76 (75%)	14 (14%)	11 (11%)	0	11
27	S	108/110 (98%)	89 (82%)	14 (13%)	5 (5%)	3	32
28	T	91/93 (98%)	49 (54%)	26 (29%)	16 (18%)	0	4
29	U	100/102 (98%)	66 (66%)	15 (15%)	19 (19%)	0	3
30	V	92/94 (98%)	75 (82%)	15 (16%)	2 (2%)	8	49

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
31	W	77/79 (98%)	31 (40%)	22 (29%)	24 (31%)	0	0
32	X	75/77 (97%)	58 (77%)	10 (13%)	7 (9%)	1	16
33	Y	61/63 (97%)	38 (62%)	15 (25%)	8 (13%)	0	7
34	Z	56/58 (97%)	47 (84%)	5 (9%)	4 (7%)	1	22
All	All	3216/3274 (98%)	2285 (71%)	564 (18%)	367 (11%)	1	10

All (367) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	0	51	ARG
1	0	54	ILE
2	1	16	THR
5	4	4	ARG
11	C	77	VAL
11	C	104	LEU
11	C	105	ALA
11	C	142	ASN
11	C	239	PHE
12	D	43	ASP
12	D	73	VAL
12	D	92	VAL
12	D	99	GLU
12	D	103	ASP
12	D	122	VAL
13	E	6	LYS
13	E	8	ALA
13	E	62	GLN
13	E	69	ARG
13	E	79	ARG
13	E	175	ILE
14	F	11	VAL
14	F	61	GLY
14	F	134	GLN
14	F	174	PHE
14	F	175	PRO
15	G	8	VAL
15	G	28	LYS
15	G	31	GLU
15	G	38	ASP
15	G	44	HIS
15	G	45	ALA

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Mol	Chain	Res	Type
15	G	61	TRP
15	G	84	LYS
15	G	118	ALA
15	G	170	THR
16	H	10	ALA
16	H	11	ASN
16	H	14	SER
16	H	15	LEU
16	H	23	ALA
16	H	28	ASN
16	H	32	PRO
16	H	33	GLN
17	I	65	SER
17	I	92	PRO
18	J	13	ARG
18	J	21	THR
18	J	41	LYS
18	J	45	THR
18	J	73	VAL
18	J	81	ILE
19	K	49	ARG
19	K	71	ARG
19	K	108	ARG
20	L	66	PHE
20	L	88	GLY
21	M	35	ALA
21	M	36	VAL
21	M	56	ALA
21	M	69	PRO
22	N	11	ASN
22	N	80	PHE
22	N	102	PHE
23	O	3	LYS
23	O	57	ALA
23	O	58	ILE
24	P	15	ASP
24	P	20	ARG
24	P	25	VAL
24	P	33	GLU
24	P	93	LYS
24	P	105	LYS
25	Q	90	ASP

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Mol	Chain	Res	Type
25	Q	91	ARG
26	R	27	ILE
26	R	55	ASP
26	R	91	GLN
27	S	14	ALA
28	T	27	SER
28	T	29	THR
28	T	35	ALA
28	T	36	LYS
28	T	69	ARG
28	T	86	THR
28	T	89	GLU
29	U	6	ARG
29	U	16	LYS
29	U	18	LYS
29	U	29	SER
29	U	51	LEU
29	U	88	ASP
30	V	69	GLU
31	W	9	THR
31	W	10	ARG
31	W	18	LYS
31	W	23	LYS
31	W	30	VAL
31	W	40	ARG
31	W	47	GLY
31	W	50	VAL
31	W	51	GLY
32	X	53	LYS
33	Y	22	LEU
33	Y	23	ARG
33	Y	24	GLU
1	0	34	GLY
2	1	4	ILE
4	3	27	ASN
11	C	110	LYS
11	C	120	ASP
11	C	121	ALA
11	C	140	VAL
11	C	196	ASN
11	C	243	PRO
11	C	255	LYS

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Mol	Chain	Res	Type
12	D	54	ALA
12	D	71	ALA
12	D	72	GLY
12	D	93	GLY
12	D	104	VAL
12	D	106	LYS
12	D	118	PHE
12	D	144	GLY
12	D	145	SER
12	D	183	GLU
12	D	184	ARG
12	D	191	GLY
13	E	46	GLN
13	E	153	LEU
14	F	111	ARG
14	F	128	SER
15	G	9	VAL
15	G	30	GLY
15	G	60	GLY
15	G	164	ALA
15	G	168	VAL
16	H	3	VAL
16	H	13	GLY
16	H	29	PHE
16	H	34	GLY
16	H	35	LYS
17	I	30	GLN
17	I	105	LEU
19	K	3	GLN
19	K	13	ASN
19	K	35	VAL
19	K	48	PRO
19	K	72	PRO
20	L	15	ALA
20	L	29	LYS
20	L	69	ARG
20	L	82	LEU
20	L	111	ILE
20	L	114	GLY
21	M	2	LEU
21	M	14	LYS
21	M	54	THR

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Mol	Chain	Res	Type
21	M	55	ARG
21	M	73	ILE
21	M	110	GLU
22	N	2	ARG
22	N	118	ARG
22	N	119	SER
23	O	22	GLY
23	O	59	ALA
23	O	100	HIS
23	O	112	GLU
24	P	54	LEU
24	P	92	ARG
24	P	103	THR
24	P	104	GLY
24	P	113	LEU
25	Q	5	ARG
25	Q	86	SER
25	Q	88	GLU
26	R	29	THR
26	R	64	VAL
27	S	3	THR
28	T	16	VAL
29	U	38	ILE
29	U	50	ALA
29	U	92	VAL
29	U	97	SER
31	W	12	GLY
31	W	48	ALA
31	W	52	CYS
31	W	70	VAL
31	W	77	LYS
32	X	2	ARG
33	Y	36	GLN
34	Z	3	THR
1	0	35	GLU
2	1	50	GLU
2	1	51	ALA
4	3	31	ILE
5	4	16	ILE
11	C	28	PRO
11	C	64	VAL
11	C	256	THR

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Mol	Chain	Res	Type
12	D	11	MET
12	D	91	THR
12	D	169	ARG
12	D	173	GLN
12	D	175	LEU
12	D	192	ALA
13	E	71	GLY
13	E	83	VAL
13	E	86	ALA
13	E	197	GLU
14	F	20	ASN
14	F	113	PHE
14	F	127	TYR
14	F	132	ARG
14	F	149	ARG
15	G	7	PRO
15	G	53	PRO
16	H	12	LEU
17	I	59	THR
18	J	44	TYR
18	J	98	GLU
18	J	125	TYR
19	K	16	ALA
20	L	41	ARG
21	M	78	LEU
21	M	84	LYS
21	M	111	GLU
22	N	32	GLU
22	N	117	ASP
23	O	60	GLU
23	O	77	ALA
25	Q	85	ALA
25	Q	101	ASP
26	R	98	ILE
27	S	64	ALA
27	S	95	ARG
27	S	96	ILE
28	T	38	ALA
28	T	49	LYS
28	T	55	VAL
28	T	68	LYS
28	T	70	HIS

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Mol	Chain	Res	Type
28	T	84	TYR
29	U	45	GLN
29	U	87	GLU
31	W	14	ASP
31	W	25	PHE
31	W	39	GLN
31	W	41	GLY
32	X	34	SER
32	X	61	LYS
32	X	69	GLU
32	X	76	LYS
33	Y	9	LYS
33	Y	17	GLU
33	Y	37	LEU
2	1	15	GLY
5	4	8	LYS
11	C	109	LEU
11	C	157	ALA
11	C	230	PRO
11	C	235	GLU
11	C	248	GLY
12	D	53	GLY
12	D	86	GLU
12	D	107	VAL
12	D	170	VAL
12	D	182	ALA
13	E	9	GLN
13	E	67	ARG
13	E	70	SER
14	F	133	GLU
16	H	8	LYS
16	H	9	VAL
16	H	25	TYR
17	I	6	ALA
17	I	83	ALA
19	K	14	SER
19	K	93	GLN
19	K	119	ALA
21	M	51	ARG
21	M	53	MET
21	M	58	LYS
21	M	60	GLN

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Mol	Chain	Res	Type
21	M	77	PRO
21	M	134	THR
24	P	65	ASN
24	P	86	LYS
25	Q	87	VAL
26	R	65	ALA
28	T	20	ALA
28	T	21	SER
29	U	26	ASN
29	U	83	GLY
29	U	85	ARG
29	U	101	THR
31	W	22	VAL
31	W	33	GLY
31	W	74	LYS
31	W	76	ARG
34	Z	34	THR
4	3	22	LYS
11	C	40	GLY
11	C	135	PRO
11	C	204	LEU
13	E	96	VAL
13	E	116	ASP
13	E	188	MET
14	F	2	LYS
15	G	16	VAL
15	G	33	THR
15	G	94	ARG
15	G	97	VAL
16	H	31	VAL
16	H	40	THR
16	H	53	GLU
17	I	3	LYS
17	I	7	TYR
17	I	20	SER
17	I	89	SER
18	J	14	ASP
19	K	73	ASP
20	L	19	LEU
22	N	41	ALA
22	N	42	LYS
23	O	89	ASP

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Mol	Chain	Res	Type
24	P	51	ASN
29	U	53	GLN
32	X	17	ARG
34	Z	39	ASP
11	C	30	ALA
11	C	37	SER
12	D	95	SER
12	D	109	VAL
12	D	159	LYS
14	F	83	PRO
18	J	65	THR
19	K	46	ALA
23	O	66	GLY
26	R	40	MET
26	R	53	PHE
31	W	68	PHE
31	W	78	PHE
17	I	97	VAL
18	J	124	VAL
20	L	87	GLY
21	M	26	VAL
26	R	49	ILE
29	U	54	PRO
4	3	6	VAL
13	E	177	PRO
14	F	150	GLY
15	G	167	VAL
33	Y	46	VAL
34	Z	35	VAL
15	G	78	VAL
15	G	153	PRO
17	I	23	VAL
30	V	67	GLY
12	D	63	PRO
12	D	151	THR
13	E	73	ILE
17	I	31	GLY
22	N	101	GLY
26	R	100	GLY
15	G	91	VAL
29	U	47	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	0	47/47 (100%)	39 (83%)	8 (17%)	2	18
2	1	45/45 (100%)	37 (82%)	8 (18%)	2	16
3	2	38/38 (100%)	27 (71%)	11 (29%)	0	3
4	3	51/51 (100%)	42 (82%)	9 (18%)	2	16
5	4	34/34 (100%)	28 (82%)	6 (18%)	2	16
11	C	216/216 (100%)	170 (79%)	46 (21%)	1	9
12	D	164/164 (100%)	133 (81%)	31 (19%)	2	13
13	E	165/165 (100%)	110 (67%)	55 (33%)	0	2
14	F	148/148 (100%)	116 (78%)	32 (22%)	1	9
15	G	137/137 (100%)	106 (77%)	31 (23%)	1	8
16	H	44/44 (100%)	34 (77%)	10 (23%)	1	8
17	I	109/109 (100%)	91 (84%)	18 (16%)	3	19
18	J	116/116 (100%)	92 (79%)	24 (21%)	1	10
19	K	103/103 (100%)	77 (75%)	26 (25%)	1	6
20	L	102/102 (100%)	82 (80%)	20 (20%)	1	12
21	M	109/109 (100%)	81 (74%)	28 (26%)	0	6
22	N	100/100 (100%)	82 (82%)	18 (18%)	2	15
23	O	86/86 (100%)	67 (78%)	19 (22%)	1	9
24	P	99/99 (100%)	66 (67%)	33 (33%)	0	2
25	Q	89/89 (100%)	68 (76%)	21 (24%)	1	7
26	R	84/84 (100%)	66 (79%)	18 (21%)	1	9
27	S	93/93 (100%)	72 (77%)	21 (23%)	1	8
28	T	80/80 (100%)	53 (66%)	27 (34%)	0	2
29	U	83/83 (100%)	66 (80%)	17 (20%)	1	10
30	V	78/78 (100%)	62 (80%)	16 (20%)	1	10
31	W	59/59 (100%)	38 (64%)	21 (36%)	0	1

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
32	X	67/67 (100%)	51 (76%)	16 (24%)	1	7
33	Y	55/55 (100%)	42 (76%)	13 (24%)	1	7
34	Z	48/48 (100%)	35 (73%)	13 (27%)	0	4
All	All	2649/2649 (100%)	2033 (77%)	616 (23%)	3	7

All (616) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	0	2	VAL
1	0	5	ASN
1	0	9	ARG
1	0	17	SER
1	0	25	THR
1	0	26	SER
1	0	28	SER
1	0	39	ARG
2	1	9	LYS
2	1	21	THR
2	1	29	LYS
2	1	33	LEU
2	1	35	LEU
2	1	41	VAL
2	1	42	VAL
2	1	45	HIS
3	2	1	MET
3	2	3	ARG
3	2	9	VAL
3	2	12	ARG
3	2	21	ARG
3	2	22	MET
3	2	26	ASN
3	2	39	ARG
3	2	42	LEU
3	2	43	THR
3	2	44	VAL
4	3	5	THR
4	3	7	ARG
4	3	29	ARG
4	3	30	HIS
4	3	31	ILE
4	3	49	VAL

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Mol	Chain	Res	Type
4	3	51	LYS
4	3	54	LEU
4	3	56	LEU
5	4	4	ARG
5	4	9	LYS
5	4	13	ASN
5	4	14	CYS
5	4	20	ASP
5	4	27	CYS
11	C	2	VAL
11	C	3	VAL
11	C	8	THR
11	C	12	ARG
11	C	17	LYS
11	C	18	VAL
11	C	20	ASN
11	C	35	LYS
11	C	38	LYS
11	C	43	ASN
11	C	49	THR
11	C	69	ASN
11	C	70	LYS
11	C	73	ILE
11	C	76	VAL
11	C	77	VAL
11	C	79	ARG
11	C	85	ASN
11	C	90	ILE
11	C	93	VAL
11	C	103	ILE
11	C	104	LEU
11	C	109	LEU
11	C	114	GLN
11	C	115	ILE
11	C	119	VAL
11	C	120	ASP
11	C	123	ILE
11	C	142	ASN
11	C	152	GLN
11	C	155	ARG
11	C	172	THR
11	C	173	LEU

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Mol	Chain	Res	Type
11	C	175	LEU
11	C	176	ARG
11	C	193	GLU
11	C	202	ARG
11	C	203	VAL
11	C	212	TRP
11	C	216	ARG
11	C	227	VAL
11	C	243	PRO
11	C	250	GLN
11	C	252	LYS
11	C	254	LYS
11	C	257	ARG
12	D	9	VAL
12	D	12	THR
12	D	13	ARG
12	D	16	THR
12	D	25	THR
12	D	43	ASP
12	D	46	ARG
12	D	64	GLU
12	D	70	LYS
12	D	73	VAL
12	D	89	GLU
12	D	90	PHE
12	D	91	THR
12	D	98	VAL
12	D	105	LYS
12	D	106	LYS
12	D	114	LYS
12	D	118	PHE
12	D	124	ARG
12	D	142	VAL
12	D	150	GLN
12	D	151	THR
12	D	159	LYS
12	D	170	VAL
12	D	176	ASP
12	D	183	GLU
12	D	186	LEU
12	D	197	THR
12	D	201	LEU

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Mol	Chain	Res	Type
12	D	203	VAL
12	D	207	VAL
13	E	12	LEU
13	E	18	THR
13	E	24	ASN
13	E	32	VAL
13	E	41	GLN
13	E	43	THR
13	E	44	ARG
13	E	46	GLN
13	E	51	GLU
13	E	55	SER
13	E	61	ARG
13	E	62	GLN
13	E	63	LYS
13	E	65	THR
13	E	69	ARG
13	E	70	SER
13	E	77	ILE
13	E	78	TRP
13	E	80	SER
13	E	88	ARG
13	E	90	GLN
13	E	91	ASP
13	E	107	SER
13	E	108	ILE
13	E	109	LEU
13	E	110	SER
13	E	113	VAL
13	E	116	ASP
13	E	118	LEU
13	E	119	ILE
13	E	121	VAL
13	E	123	LYS
13	E	124	PHE
13	E	125	SER
13	E	127	GLU
13	E	132	LYS
13	E	136	GLN
13	E	145	ASP
13	E	146	VAL
13	E	147	LEU

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Mol	Chain	Res	Type
13	E	148	ILE
13	E	149	ILE
13	E	153	LEU
13	E	159	LEU
13	E	163	ASN
13	E	167	VAL
13	E	169	VAL
13	E	170	ARG
13	E	171	ASP
13	E	175	ILE
13	E	178	VAL
13	E	186	VAL
13	E	197	GLU
13	E	198	GLU
13	E	200	LEU
14	F	3	LEU
14	F	8	LYS
14	F	9	ASP
14	F	12	VAL
14	F	17	THR
14	F	18	GLU
14	F	24	VAL
14	F	27	VAL
14	F	34	THR
14	F	35	LEU
14	F	36	ASN
14	F	37	MET
14	F	46	LYS
14	F	56	LEU
14	F	65	LEU
14	F	80	GLN
14	F	88	VAL
14	F	90	LEU
14	F	103	ILE
14	F	105	ILE
14	F	107	VAL
14	F	109	ARG
14	F	111	ARG
14	F	114	ARG
14	F	132	ARG
14	F	134	GLN
14	F	136	ILE

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Mol	Chain	Res	Type
14	F	151	LEU
14	F	153	ILE
14	F	154	THR
14	F	162	ASP
14	F	166	ARG
15	G	3	VAL
15	G	7	PRO
15	G	8	VAL
15	G	18	ILE
15	G	34	ARG
15	G	35	THR
15	G	40	VAL
15	G	50	THR
15	G	55	ASP
15	G	59	ASP
15	G	68	ARG
15	G	76	ILE
15	G	78	VAL
15	G	80	GLU
15	G	84	LYS
15	G	86	LEU
15	G	93	TYR
15	G	101	VAL
15	G	103	ASN
15	G	105	SER
15	G	116	LEU
15	G	120	ILE
15	G	123	GLU
15	G	132	LEU
15	G	138	GLN
15	G	140	ILE
15	G	142	GLN
15	G	159	LYS
15	G	165	ASP
15	G	170	THR
15	G	174	LYS
16	H	2	GLN
16	H	6	LEU
16	H	12	LEU
16	H	14	SER
16	H	18	GLN
16	H	28	ASN

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Mol	Chain	Res	Type
16	H	31	VAL
16	H	43	ASN
16	H	50	ARG
16	H	54	LEU
17	I	2	LYS
17	I	10	LEU
17	I	11	GLN
17	I	12	VAL
17	I	23	VAL
17	I	30	GLN
17	I	37	PHE
17	I	39	LYS
17	I	49	GLU
17	I	61	TYR
17	I	71	LYS
17	I	81	LYS
17	I	86	LYS
17	I	95	ASP
17	I	107	GLU
17	I	124	MET
17	I	126	ARG
17	I	135	MET
18	J	1	MET
18	J	2	LYS
18	J	3	THR
18	J	17	VAL
18	J	24	THR
18	J	25	LEU
18	J	30	THR
18	J	36	LEU
18	J	40	HIS
18	J	41	LYS
18	J	44	TYR
18	J	54	ILE
18	J	55	ILE
18	J	57	LEU
18	J	64	VAL
18	J	72	LYS
18	J	78	THR
18	J	85	LYS
18	J	90	GLU
18	J	103	ILE

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Mol	Chain	Res	Type
18	J	111	LYS
18	J	129	GLU
18	J	135	GLN
18	J	140	LEU
19	K	8	LEU
19	K	13	ASN
19	K	18	ARG
19	K	21	CYS
19	K	23	LYS
19	K	30	ARG
19	K	39	ILE
19	K	45	GLU
19	K	47	ILE
19	K	51	LYS
19	K	52	VAL
19	K	54	LYS
19	K	57	VAL
19	K	58	LEU
19	K	63	VAL
19	K	67	LYS
19	K	73	ASP
19	K	77	ILE
19	K	92	GLU
19	K	93	GLN
19	K	95	ILE
19	K	105	ARG
19	K	108	ARG
19	K	111	LYS
19	K	114	LYS
19	K	118	LEU
20	L	3	LEU
20	L	4	ASN
20	L	6	LEU
20	L	19	LEU
20	L	27	LEU
20	L	30	THR
20	L	39	LYS
20	L	48	ARG
20	L	55	MET
20	L	61	LEU
20	L	66	PHE
20	L	74	THR

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Mol	Chain	Res	Type
20	L	85	VAL
20	L	93	ASN
20	L	94	THR
20	L	101	ILE
20	L	110	VAL
20	L	111	ILE
20	L	118	THR
20	L	127	VAL
21	M	2	LEU
21	M	3	GLN
21	M	5	LYS
21	M	8	LYS
21	M	10	ARG
21	M	13	HIS
21	M	14	LYS
21	M	24	THR
21	M	27	SER
21	M	33	LEU
21	M	36	VAL
21	M	51	ARG
21	M	57	VAL
21	M	60	GLN
21	M	70	ASP
21	M	72	PRO
21	M	75	GLU
21	M	80	VAL
21	M	90	GLU
21	M	95	LEU
21	M	96	ILE
21	M	97	GLN
21	M	100	LYS
21	M	110	GLU
21	M	115	GLU
21	M	129	THR
21	M	131	VAL
21	M	134	THR
22	N	10	LEU
22	N	14	SER
22	N	18	GLN
22	N	31	HIS
22	N	33	ILE
22	N	35	LYS

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Mol	Chain	Res	Type
22	N	38	LEU
22	N	51	LEU
22	N	65	LEU
22	N	69	ARG
22	N	71	ARG
22	N	75	ILE
22	N	83	LEU
22	N	86	ARG
22	N	95	THR
22	N	109	PRO
22	N	117	ASP
22	N	118	ARG
23	O	2	ASP
23	O	4	LYS
23	O	9	ARG
23	O	16	ARG
23	O	17	LYS
23	O	18	LEU
23	O	58	ILE
23	O	80	GLU
23	O	81	ARG
23	O	83	LEU
23	O	84	GLU
23	O	89	ASP
23	O	94	ARG
23	O	100	HIS
23	O	103	VAL
23	O	106	LEU
23	O	111	ARG
23	O	115	LEU
23	O	116	GLN
24	P	3	ILE
24	P	6	GLN
24	P	7	LEU
24	P	9	GLN
24	P	14	GLN
24	P	16	VAL
24	P	18	SER
24	P	19	PHE
24	P	20	ARG
24	P	24	THR
24	P	28	LYS

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Mol	Chain	Res	Type
24	P	35	SER
24	P	36	LYS
24	P	37	LYS
24	P	38	ARG
24	P	39	LEU
24	P	40	GLN
24	P	52	ARG
24	P	56	SER
24	P	61	ARG
24	P	64	SER
24	P	69	VAL
24	P	75	THR
24	P	80	VAL
24	P	83	ILE
24	P	85	VAL
24	P	87	ARG
24	P	91	VAL
24	P	92	ARG
24	P	95	LYS
24	P	96	LEU
24	P	99	LEU
24	P	109	ILE
25	Q	2	ARG
25	Q	8	ILE
25	Q	10	ARG
25	Q	17	LEU
25	Q	29	ARG
25	Q	40	LYS
25	Q	43	GLN
25	Q	50	ARG
25	Q	58	GLN
25	Q	59	LEU
25	Q	63	ARG
25	Q	65	ASN
25	Q	69	ARG
25	Q	73	ILE
25	Q	87	VAL
25	Q	88	GLU
25	Q	89	ILE
25	Q	94	LEU
25	Q	96	ASP
25	Q	97	ILE

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Mol	Chain	Res	Type
25	Q	106	THR
26	R	1	MET
26	R	10	LYS
26	R	18	GLN
26	R	37	GLU
26	R	39	LEU
26	R	45	GLU
26	R	46	GLU
26	R	47	VAL
26	R	48	LYS
26	R	51	VAL
26	R	54	VAL
26	R	55	ASP
26	R	72	VAL
26	R	74	ILE
26	R	94	THR
26	R	97	LYS
26	R	99	THR
26	R	102	SER
27	S	1	MET
27	S	4	ILE
27	S	7	HIS
27	S	24	ILE
27	S	29	VAL
27	S	30	SER
27	S	33	LEU
27	S	37	THR
27	S	41	LYS
27	S	42	LYS
27	S	45	VAL
27	S	47	VAL
27	S	48	LYS
27	S	66	ILE
27	S	69	LEU
27	S	73	LYS
27	S	74	ILE
27	S	76	VAL
27	S	88	ARG
27	S	96	ILE
27	S	101	SER
28	T	2	ILE
28	T	3	ARG

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Mol	Chain	Res	Type
28	T	4	GLU
28	T	17	SER
28	T	18	GLU
28	T	28	ASN
28	T	29	THR
28	T	30	ILE
28	T	32	LEU
28	T	36	LYS
28	T	37	ASP
28	T	43	ILE
28	T	48	GLN
28	T	50	LEU
28	T	54	GLU
28	T	58	VAL
28	T	61	LEU
28	T	64	LYS
28	T	67	VAL
28	T	68	LYS
28	T	69	ARG
28	T	73	ARG
28	T	74	ILE
28	T	77	ARG
28	T	82	LYS
28	T	89	GLU
28	T	93	LEU
29	U	4	ILE
29	U	5	ARG
29	U	8	ASP
29	U	10	VAL
29	U	14	THR
29	U	18	LYS
29	U	29	SER
29	U	30	SER
29	U	33	VAL
29	U	42	LYS
29	U	43	LYS
29	U	52	ASN
29	U	61	GLU
29	U	67	SER
29	U	71	ILE
29	U	86	PHE
29	U	102	ILE

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Mol	Chain	Res	Type
30	V	1	MET
30	V	3	THR
30	V	5	ASN
30	V	10	LYS
30	V	12	GLN
30	V	20	LEU
30	V	29	ILE
30	V	35	GLU
30	V	41	GLU
30	V	42	LEU
30	V	46	LYS
30	V	51	GLN
30	V	55	GLU
30	V	60	VAL
30	V	65	VAL
30	V	84	PRO
31	W	13	ARG
31	W	14	ASP
31	W	15	SER
31	W	16	GLU
31	W	19	ARG
31	W	22	VAL
31	W	23	LYS
31	W	24	ARG
31	W	25	PHE
31	W	28	GLU
31	W	31	LEU
31	W	38	ARG
31	W	40	ARG
31	W	42	THR
31	W	45	HIS
31	W	49	ASN
31	W	54	ARG
31	W	58	LEU
31	W	67	LYS
31	W	76	ARG
31	W	77	LYS
32	X	10	ARG
32	X	17	ARG
32	X	19	HIS
32	X	24	THR
32	X	26	ARG

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Mol	Chain	Res	Type
32	X	27	ARG
32	X	29	LEU
32	X	34	SER
32	X	39	VAL
32	X	46	VAL
32	X	47	THR
32	X	58	ILE
32	X	65	THR
32	X	70	LEU
32	X	73	ARG
32	X	77	TYR
33	Y	14	LEU
33	Y	16	THR
33	Y	19	LEU
33	Y	21	LEU
33	Y	22	LEU
33	Y	29	ARG
33	Y	39	GLN
33	Y	42	LEU
33	Y	47	ARG
33	Y	55	THR
33	Y	56	LEU
33	Y	57	LEU
33	Y	59	GLU
34	Z	2	LYS
34	Z	3	THR
34	Z	8	GLN
34	Z	9	THR
34	Z	15	ARG
34	Z	23	LEU
34	Z	24	LEU
34	Z	31	ILE
34	Z	37	ARG
34	Z	43	ILE
34	Z	44	ARG
34	Z	54	VAL
34	Z	56	VAL

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (111) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	3	GLN

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Mol	Chain	Res	Type
1	0	4	GLN
1	0	41	HIS
3	2	6	GLN
3	2	13	ASN
3	2	16	HIS
4	3	27	ASN
4	3	30	HIS
5	4	13	ASN
5	4	35	GLN
5	4	37	GLN
11	C	14	HIS
11	C	20	ASN
11	C	59	GLN
11	C	89	ASN
11	C	114	GLN
11	C	141	HIS
11	C	142	ASN
11	C	152	GLN
11	C	199	HIS
11	C	229	HIS
11	C	238	ASN
11	C	242	HIS
11	C	250	GLN
12	D	32	ASN
12	D	42	ASN
12	D	49	GLN
12	D	126	ASN
12	D	130	GLN
12	D	150	GLN
13	E	24	ASN
13	E	29	HIS
13	E	30	GLN
13	E	41	GLN
13	E	46	GLN
13	E	62	GLN
13	E	97	ASN
13	E	136	GLN
14	F	4	HIS
14	F	22	ASN
14	F	26	GLN
14	F	134	GLN
15	G	72	ASN

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Mol	Chain	Res	Type
15	G	100	ASN
15	G	103	ASN
16	H	18	GLN
16	H	20	ASN
16	H	33	GLN
16	H	43	ASN
17	I	5	GLN
17	I	30	GLN
17	I	110	GLN
18	J	40	HIS
18	J	58	ASN
18	J	76	HIS
18	J	77	HIS
18	J	130	HIS
19	K	3	GLN
19	K	5	GLN
19	K	88	ASN
19	K	89	ASN
20	L	4	ASN
20	L	54	GLN
20	L	93	ASN
20	L	104	GLN
21	M	3	GLN
21	M	88	ASN
22	N	9	GLN
22	N	11	ASN
22	N	18	GLN
22	N	62	ASN
22	N	73	ASN
22	N	107	ASN
23	O	19	GLN
23	O	34	HIS
23	O	98	GLN
23	O	116	GLN
24	P	9	GLN
24	P	11	GLN
24	P	40	GLN
24	P	65	ASN
24	P	74	GLN
25	Q	43	GLN
25	Q	51	GLN
25	Q	55	GLN

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Mol	Chain	Res	Type
25	Q	65	ASN
26	R	18	GLN
26	R	43	ASN
27	S	15	GLN
27	S	40	ASN
27	S	57	ASN
27	S	61	ASN
28	T	48	GLN
28	T	72	GLN
28	T	91	GLN
29	U	52	ASN
29	U	65	GLN
29	U	73	ASN
30	V	5	ASN
30	V	44	HIS
30	V	51	GLN
30	V	80	HIS
30	V	88	HIS
31	W	39	GLN
32	X	5	GLN
32	X	22	ASN
33	Y	15	ASN
33	Y	20	ASN
33	Y	27	ASN
33	Y	41	HIS
33	Y	58	ASN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
10	B	115/118 (97%)	34 (29%)	17 (14%)
6	5	0/2	-	-
8	7	2/3 (66%)	0	0
9	A	2848/2904 (98%)	908 (31%)	423 (14%)
All	All	2965/3027 (97%)	942 (31%)	440 (14%)

All (942) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
9	A	10	A
9	A	13	A

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Mol	Chain	Res	Type
9	A	14	A
9	A	15	G
9	A	23	G
9	A	27	G
9	A	28	A
9	A	31	C
9	A	34	U
9	A	35	G
9	A	36	G
9	A	38	A
9	A	39	G
9	A	42	A
9	A	43	G
9	A	45	G
9	A	46	G
9	A	49	A
9	A	50	U
9	A	52	A
9	A	53	A
9	A	58	G
9	A	61	C
9	A	63	A
9	A	64	A
9	A	70	G
9	A	71	A
9	A	74	A
9	A	75	G
9	A	76	C
9	A	78	U
9	A	82	U
9	A	84	A
9	A	85	G
9	A	86	G
9	A	92	U
9	A	93	G
9	A	101	A
9	A	118	A
9	A	119	A
9	A	120	U
9	A	121	G
9	A	126	A
9	A	127	A

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Mol	Chain	Res	Type
9	A	128	C
9	A	131	A
9	A	134	G
9	A	137	U
9	A	138	U
9	A	139	U
9	A	140	C
9	A	141	G
9	A	142	A
9	A	143	C
9	A	144	A
9	A	145	C
9	A	147	C
9	A	162	U
9	A	163	C
9	A	164	C
9	A	165	A
9	A	166	U
9	A	196	A
9	A	197	A
9	A	198	C
9	A	199	A
9	A	200	U
9	A	204	A
9	A	205	G
9	A	206	U
9	A	207	A
9	A	214	G
9	A	216	A
9	A	221	A
9	A	222	A
9	A	223	A
9	A	224	U
9	A	225	C
9	A	226	A
9	A	227	A
9	A	228	C
9	A	230	G
9	A	231	A
9	A	232	G
9	A	233	A
9	A	239	C

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Mol	Chain	Res	Type
9	A	241	A
9	A	242	G
9	A	243	U
9	A	244	A
9	A	248	G
9	A	249	C
9	A	250	G
9	A	255	A
9	A	265	A
9	A	266	G
9	A	267	C
9	A	268	C
9	A	271	G
9	A	272	A
9	A	273	G
9	A	274	C
9	A	276	U
9	A	279	A
9	A	281	C
9	A	285	G
9	A	291	G
9	A	299	A
9	A	301	G
9	A	302	C
9	A	303	G
9	A	306	U
9	A	310	A
9	A	312	G
9	A	313	G
9	A	322	A
9	A	329	G
9	A	330	A
9	A	331	C
9	A	341	C
9	A	346	A
9	A	347	A
9	A	349	U
9	A	353	C
9	A	359	G
9	A	361	G
9	A	369	U
9	A	370	G

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Mol	Chain	Res	Type
9	A	371	A
9	A	372	G
9	A	373	U
9	A	375	G
9	A	383	C
9	A	386	G
9	A	387	U
9	A	388	G
9	A	389	G
9	A	391	A
9	A	396	G
9	A	399	U
9	A	404	A
9	A	405	U
9	A	406	G
9	A	411	G
9	A	412	A
9	A	413	C
9	A	422	A
9	A	423	A
9	A	424	G
9	A	425	G
9	A	435	C
9	A	439	A
9	A	440	C
9	A	443	A
9	A	446	G
9	A	447	A
9	A	452	G
9	A	454	A
9	A	455	C
9	A	457	A
9	A	459	U
9	A	460	A
9	A	474	G
9	A	475	C
9	A	476	G
9	A	479	A
9	A	480	A
9	A	481	G
9	A	482	A
9	A	489	G

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Mol	Chain	Res	Type
9	A	490	C
9	A	491	G
9	A	492	A
9	A	504	A
9	A	505	A
9	A	507	A
9	A	508	A
9	A	509	C
9	A	510	C
9	A	512	G
9	A	513	A
9	A	514	A
9	A	522	A
9	A	528	A
9	A	529	A
9	A	530	G
9	A	531	C
9	A	532	A
9	A	533	G
9	A	538	A
9	A	544	C
9	A	546	U
9	A	547	A
9	A	548	G
9	A	549	G
9	A	550	C
9	A	555	G
9	A	556	A
9	A	563	A
9	A	571	U
9	A	572	A
9	A	573	U
9	A	574	A
9	A	575	A
9	A	581	C
9	A	582	A
9	A	586	A
9	A	587	C
9	A	588	U
9	A	604	G
9	A	605	G
9	A	613	A

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Mol	Chain	Res	Type
9	A	614	A
9	A	615	U
9	A	621	A
9	A	626	A
9	A	627	A
9	A	628	G
9	A	631	A
9	A	637	A
9	A	638	G
9	A	641	U
9	A	645	C
9	A	646	U
9	A	647	G
9	A	648	G
9	A	651	G
9	A	653	U
9	A	654	A
9	A	655	A
9	A	656	G
9	A	664	G
9	A	685	A
9	A	686	U
9	A	698	C
9	A	705	A
9	A	727	A
9	A	728	G
9	A	729	G
9	A	730	A
9	A	738	G
9	A	740	C
9	A	747	U
9	A	748	G
9	A	755	U
9	A	762	U
9	A	763	G
9	A	764	A
9	A	765	C
9	A	774	G
9	A	775	G
9	A	776	G
9	A	782	A
9	A	784	G

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Mol	Chain	Res	Type
9	A	785	G
9	A	788	A
9	A	789	A
9	A	791	C
9	A	792	A
9	A	801	G
9	A	803	U
9	A	805	G
9	A	806	C
9	A	812	C
9	A	819	A
9	A	822	G
9	A	827	U
9	A	828	U
9	A	829	A
9	A	830	G
9	A	836	G
9	A	845	A
9	A	846	U
9	A	847	U
9	A	848	C
9	A	852	U
9	A	858	G
9	A	859	G
9	A	860	U
9	A	861	A
9	A	865	C
9	A	866	A
9	A	867	C
9	A	876	C
9	A	877	A
9	A	878	A
9	A	879	G
9	A	885	C
9	A	896	A
9	A	897	C
9	A	910	A
9	A	914	G
9	A	915	C
9	A	916	G
9	A	932	U
9	A	933	A

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Mol	Chain	Res	Type
9	A	934	U
9	A	941	A
9	A	945	A
9	A	946	C
9	A	955	U
9	A	956	G
9	A	958	U
9	A	959	A
9	A	961	C
9	A	962	G
9	A	974	G
9	A	977	G
9	A	983	A
9	A	985	C
9	A	989	G
9	A	990	A
9	A	991	C
9	A	995	C
9	A	996	A
9	A	997	G
9	A	1009	A
9	A	1011	G
9	A	1012	U
9	A	1013	C
9	A	1020	A
9	A	1021	A
9	A	1022	G
9	A	1023	U
9	A	1024	G
9	A	1025	G
9	A	1026	G
9	A	1027	A
9	A	1033	U
9	A	1034	G
9	A	1040	A
9	A	1044	C
9	A	1045	C
9	A	1046	A
9	A	1047	G
9	A	1057	A
9	A	1060	U
9	A	1061	U

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Mol	Chain	Res	Type
9	A	1062	G
9	A	1063	G
9	A	1064	C
9	A	1065	U
9	A	1066	U
9	A	1070	A
9	A	1071	G
9	A	1073	A
9	A	1074	G
9	A	1075	C
9	A	1078	U
9	A	1080	A
9	A	1081	U
9	A	1083	U
9	A	1084	A
9	A	1088	A
9	A	1098	A
9	A	1111	A
9	A	1112	G
9	A	1115	G
9	A	1120	G
9	A	1128	G
9	A	1129	A
9	A	1130	U
9	A	1132	U
9	A	1133	A
9	A	1135	C
9	A	1136	G
9	A	1139	G
9	A	1142	A
9	A	1144	A
9	A	1145	C
9	A	1151	A
9	A	1154	G
9	A	1156	A
9	A	1157	G
9	A	1158	C
9	A	1162	G
9	A	1172	C
9	A	1175	A
9	A	1176	U
9	A	1180	U

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Mol	Chain	Res	Type
9	A	1181	U
9	A	1185	G
9	A	1186	G
9	A	1189	A
9	A	1190	G
9	A	1204	A
9	A	1205	A
9	A	1206	G
9	A	1210	G
9	A	1213	A
9	A	1238	G
9	A	1247	A
9	A	1248	G
9	A	1249	U
9	A	1250	G
9	A	1251	C
9	A	1253	A
9	A	1254	A
9	A	1255	U
9	A	1256	G
9	A	1262	A
9	A	1266	G
9	A	1271	G
9	A	1272	A
9	A	1273	U
9	A	1276	A
9	A	1284	A
9	A	1287	A
9	A	1288	G
9	A	1289	C
9	A	1290	C
9	A	1297	C
9	A	1300	G
9	A	1301	A
9	A	1303	G
9	A	1319	C
9	A	1320	C
9	A	1321	A
9	A	1324	G
9	A	1325	U
9	A	1327	A
9	A	1328	A

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Mol	Chain	Res	Type
9	A	1329	U
9	A	1330	C
9	A	1336	A
9	A	1340	U
9	A	1341	G
9	A	1343	G
9	A	1344	U
9	A	1345	C
9	A	1349	C
9	A	1350	C
9	A	1352	U
9	A	1356	G
9	A	1360	G
9	A	1365	A
9	A	1368	G
9	A	1377	G
9	A	1378	A
9	A	1379	U
9	A	1380	G
9	A	1383	A
9	A	1386	C
9	A	1395	A
9	A	1397	U
9	A	1398	C
9	A	1399	C
9	A	1403	A
9	A	1407	G
9	A	1415	U
9	A	1416	G
9	A	1417	C
9	A	1418	G
9	A	1419	A
9	A	1420	A
9	A	1421	G
9	A	1422	G
9	A	1425	G
9	A	1427	A
9	A	1428	C
9	A	1429	G
9	A	1434	A
9	A	1435	G
9	A	1436	G

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Mol	Chain	Res	Type
9	A	1440	U
9	A	1452	G
9	A	1453	A
9	A	1455	G
9	A	1459	G
9	A	1460	U
9	A	1461	C
9	A	1462	C
9	A	1463	C
9	A	1475	G
9	A	1476	U
9	A	1477	A
9	A	1482	G
9	A	1490	A
9	A	1491	G
9	A	1492	G
9	A	1494	A
9	A	1495	A
9	A	1497	U
9	A	1498	C
9	A	1499	C
9	A	1504	A
9	A	1507	C
9	A	1509	A
9	A	1510	G
9	A	1511	G
9	A	1512	C
9	A	1515	A
9	A	1522	A
9	A	1523	U
9	A	1527	G
9	A	1528	A
9	A	1533	C
9	A	1534	U
9	A	1535	A
9	A	1536	C
9	A	1537	G
9	A	1538	G
9	A	1540	G
9	A	1554	U
9	A	1555	G
9	A	1558	C

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Mol	Chain	Res	Type
9	A	1559	U
9	A	1564	C
9	A	1566	A
9	A	1569	A
9	A	1574	C
9	A	1578	U
9	A	1581	G
9	A	1583	A
9	A	1584	U
9	A	1585	C
9	A	1588	G
9	A	1603	A
9	A	1606	C
9	A	1607	C
9	A	1608	A
9	A	1609	A
9	A	1610	A
9	A	1613	G
9	A	1615	C
9	A	1616	A
9	A	1627	G
9	A	1628	G
9	A	1634	A
9	A	1635	A
9	A	1639	C
9	A	1647	U
9	A	1648	U
9	A	1649	G
9	A	1651	G
9	A	1652	A
9	A	1654	A
9	A	1674	G
9	A	1675	C
9	A	1695	G
9	A	1696	G
9	A	1698	A
9	A	1699	G
9	A	1700	A
9	A	1701	A
9	A	1707	G
9	A	1708	C
9	A	1713	A

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Mol	Chain	Res	Type
9	A	1714	U
9	A	1715	G
9	A	1716	U
9	A	1717	A
9	A	1720	U
9	A	1729	U
9	A	1730	C
9	A	1732	C
9	A	1733	G
9	A	1734	G
9	A	1735	A
9	A	1736	U
9	A	1737	G
9	A	1738	G
9	A	1739	A
9	A	1740	G
9	A	1744	A
9	A	1754	A
9	A	1755	A
9	A	1758	U
9	A	1759	A
9	A	1760	C
9	A	1764	C
9	A	1769	U
9	A	1773	A
9	A	1776	G
9	A	1782	U
9	A	1783	A
9	A	1785	A
9	A	1786	A
9	A	1787	A
9	A	1788	C
9	A	1791	A
9	A	1798	U
9	A	1799	G
9	A	1800	C
9	A	1801	A
9	A	1802	A
9	A	1807	G
9	A	1808	A
9	A	1815	A
9	A	1816	C

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Mol	Chain	Res	Type
9	A	1817	G
9	A	1819	A
9	A	1821	A
9	A	1829	A
9	A	1838	C
9	A	1839	G
9	A	1848	A
9	A	1849	G
9	A	1857	G
9	A	1858	A
9	A	1859	U
9	A	1866	A
9	A	1867	G
9	A	1871	A
9	A	1872	A
9	A	1873	G
9	A	1885	A
9	A	1886	U
9	A	1900	A
9	A	1906	G
9	A	1907	G
9	A	1913	A
9	A	1914	C
9	A	1918	A
9	A	1919	A
9	A	1920	C
9	A	1926	U
9	A	1927	A
9	A	1929	G
9	A	1930	G
9	A	1931	U
9	A	1932	A
9	A	1935	G
9	A	1936	A
9	A	1937	A
9	A	1938	A
9	A	1941	C
9	A	1943	U
9	A	1944	U
9	A	1945	G
9	A	1946	U
9	A	1955	U

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Mol	Chain	Res	Type
9	A	1960	A
9	A	1962	C
9	A	1963	U
9	A	1964	G
9	A	1966	A
9	A	1967	C
9	A	1968	G
9	A	1970	A
9	A	1971	U
9	A	1972	G
9	A	1975	G
9	A	1979	U
9	A	1980	G
9	A	1981	A
9	A	1986	C
9	A	1991	U
9	A	1993	U
9	A	1996	C
9	A	1997	C
9	A	2011	U
9	A	2022	U
9	A	2023	C
9	A	2030	A
9	A	2031	A
9	A	2032	G
9	A	2033	A
9	A	2036	C
9	A	2043	C
9	A	2049	G
9	A	2051	A
9	A	2052	A
9	A	2055	C
9	A	2056	G
9	A	2060	A
9	A	2061	G
9	A	2064	C
9	A	2068	U
9	A	2069	G
9	A	2072	C
9	A	2086	U
9	A	2092	U
9	A	2093	G

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Mol	Chain	Res	Type
9	A	2104	C
9	A	2106	U
9	A	2107	G
9	A	2109	U
9	A	2110	G
9	A	2134	A
9	A	2135	A
9	A	2136	G
9	A	2137	U
9	A	2138	G
9	A	2140	G
9	A	2143	C
9	A	2144	G
9	A	2145	C
9	A	2147	A
9	A	2148	G
9	A	2149	U
9	A	2150	C
9	A	2155	U
9	A	2156	G
9	A	2180	U
9	A	2181	U
9	A	2183	A
9	A	2184	A
9	A	2190	G
9	A	2197	U
9	A	2198	A
9	A	2199	A
9	A	2200	C
9	A	2203	U
9	A	2204	G
9	A	2210	U
9	A	2211	A
9	A	2212	A
9	A	2214	C
9	A	2215	C
9	A	2225	A
9	A	2226	C
9	A	2230	G
9	A	2238	G
9	A	2239	G
9	A	2243	U

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Mol	Chain	Res	Type
9	A	2248	C
9	A	2250	G
9	A	2258	C
9	A	2259	U
9	A	2262	U
9	A	2267	A
9	A	2268	A
9	A	2269	G
9	A	2273	A
9	A	2275	C
9	A	2276	G
9	A	2278	A
9	A	2283	C
9	A	2284	A
9	A	2286	G
9	A	2287	A
9	A	2296	U
9	A	2297	A
9	A	2305	U
9	A	2307	G
9	A	2308	G
9	A	2309	A
9	A	2310	C
9	A	2312	U
9	A	2320	U
9	A	2321	U
9	A	2322	A
9	A	2325	G
9	A	2326	C
9	A	2327	A
9	A	2330	G
9	A	2333	A
9	A	2334	U
9	A	2335	A
9	A	2336	A
9	A	2337	G
9	A	2338	C
9	A	2344	U
9	A	2345	G
9	A	2347	C
9	A	2353	G
9	A	2358	A

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Mol	Chain	Res	Type
9	A	2361	G
9	A	2383	G
9	A	2385	C
9	A	2389	G
9	A	2392	A
9	A	2402	U
9	A	2403	C
9	A	2406	A
9	A	2407	A
9	A	2408	U
9	A	2418	A
9	A	2423	U
9	A	2424	C
9	A	2425	A
9	A	2426	A
9	A	2427	C
9	A	2428	G
9	A	2429	G
9	A	2430	A
9	A	2431	U
9	A	2432	A
9	A	2435	A
9	A	2439	A
9	A	2440	C
9	A	2441	U
9	A	2447	G
9	A	2448	A
9	A	2459	A
9	A	2460	U
9	A	2468	A
9	A	2469	A
9	A	2476	A
9	A	2477	U
9	A	2482	A
9	A	2490	G
9	A	2491	U
9	A	2497	A
9	A	2501	C
9	A	2502	G
9	A	2503	A
9	A	2504	U
9	A	2505	G

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Mol	Chain	Res	Type
9	A	2508	G
9	A	2515	C
9	A	2518	A
9	A	2520	C
9	A	2525	G
9	A	2529	G
9	A	2542	A
9	A	2547	A
9	A	2550	G
9	A	2554	U
9	A	2566	A
9	A	2567	G
9	A	2572	A
9	A	2573	C
9	A	2574	G
9	A	2576	G
9	A	2580	U
9	A	2582	G
9	A	2602	A
9	A	2609	U
9	A	2610	C
9	A	2611	C
9	A	2613	U
9	A	2615	U
9	A	2616	C
9	A	2621	G
9	A	2622	U
9	A	2623	G
9	A	2629	U
9	A	2630	G
9	A	2632	A
9	A	2638	G
9	A	2639	A
9	A	2646	C
9	A	2652	C
9	A	2654	A
9	A	2655	G
9	A	2656	U
9	A	2657	A
9	A	2660	A
9	A	2662	A
9	A	2663	G

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Mol	Chain	Res	Type
9	A	2669	G
9	A	2672	U
9	A	2673	G
9	A	2674	G
9	A	2680	U
9	A	2681	C
9	A	2682	A
9	A	2689	U
9	A	2690	U
9	A	2712	C
9	A	2713	U
9	A	2714	G
9	A	2716	C
9	A	2724	U
9	A	2726	A
9	A	2727	A
9	A	2729	G
9	A	2730	C
9	A	2731	G
9	A	2732	G
9	A	2733	A
9	A	2743	U
9	A	2748	A
9	A	2750	A
9	A	2751	G
9	A	2756	U
9	A	2757	A
9	A	2758	A
9	A	2765	A
9	A	2771	C
9	A	2777	G
9	A	2778	A
9	A	2779	U
9	A	2781	A
9	A	2791	G
9	A	2798	U
9	A	2799	A
9	A	2800	A
9	A	2801	G
9	A	2806	C
9	A	2808	G
9	A	2809	A

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Mol	Chain	Res	Type
9	A	2820	A
9	A	2821	A
9	A	2825	G
9	A	2832	U
9	A	2833	U
9	A	2835	A
9	A	2836	U
9	A	2848	G
9	A	2849	U
9	A	2861	U
9	A	2862	G
9	A	2866	U
9	A	2867	G
9	A	2873	A
9	A	2874	C
9	A	2879	A
9	A	2880	C
9	A	2883	A
9	A	2884	U
9	A	2886	A
9	A	2890	G
9	A	2893	A
9	A	2894	G
9	A	2895	G
10	B	9	G
10	B	12	C
10	B	13	G
10	B	15	A
10	B	16	G
10	B	24	G
10	B	25	U
10	B	26	C
10	B	35	C
10	B	37	C
10	B	40	U
10	B	41	G
10	B	42	C
10	B	43	C
10	B	44	G
10	B	45	A
10	B	46	A
10	B	52	A

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Mol	Chain	Res	Type
10	B	53	A
10	B	56	G
10	B	57	A
10	B	58	A
10	B	66	A
10	B	67	G
10	B	74	U
10	B	84	G
10	B	87	U
10	B	88	C
10	B	89	U
10	B	90	C
10	B	91	C
10	B	93	C
10	B	99	A
10	B	109	A

All (440) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
9	A	13	A
9	A	14	A
9	A	27	G
9	A	33	C
9	A	34	U
9	A	35	G
9	A	36	G
9	A	49	A
9	A	52	A
9	A	60	G
9	A	62	U
9	A	63	A
9	A	70	G
9	A	73	A
9	A	74	A
9	A	75	G
9	A	84	A
9	A	85	G
9	A	91	A
9	A	92	U
9	A	100	U
9	A	119	A

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Mol	Chain	Res	Type
9	A	125	A
9	A	126	A
9	A	137	U
9	A	143	C
9	A	144	A
9	A	162	U
9	A	164	C
9	A	165	A
9	A	177	G
9	A	196	A
9	A	199	A
9	A	204	A
9	A	206	U
9	A	215	G
9	A	221	A
9	A	223	A
9	A	227	A
9	A	229	C
9	A	232	G
9	A	238	C
9	A	239	C
9	A	241	A
9	A	243	U
9	A	249	C
9	A	265	A
9	A	266	G
9	A	271	G
9	A	273	G
9	A	301	G
9	A	302	C
9	A	310	A
9	A	312	G
9	A	321	U
9	A	324	A
9	A	345	A
9	A	346	A
9	A	369	U
9	A	373	U
9	A	386	G
9	A	388	G
9	A	390	U
9	A	403	U

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Mol	Chain	Res	Type
9	A	404	A
9	A	411	G
9	A	412	A
9	A	413	C
9	A	421	C
9	A	422	A
9	A	434	U
9	A	435	C
9	A	442	G
9	A	443	A
9	A	446	G
9	A	454	A
9	A	459	U
9	A	474	G
9	A	475	C
9	A	479	A
9	A	480	A
9	A	481	G
9	A	482	A
9	A	489	G
9	A	491	G
9	A	503	A
9	A	506	G
9	A	507	A
9	A	509	C
9	A	512	G
9	A	513	A
9	A	527	C
9	A	529	A
9	A	531	C
9	A	555	G
9	A	571	U
9	A	572	A
9	A	573	U
9	A	587	C
9	A	603	A
9	A	604	G
9	A	613	A
9	A	620	G
9	A	627	A
9	A	637	A
9	A	645	C

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Mol	Chain	Res	Type
9	A	654	A
9	A	655	A
9	A	669	G
9	A	685	A
9	A	704	G
9	A	726	G
9	A	727	A
9	A	729	G
9	A	746	U
9	A	747	U
9	A	753	A
9	A	762	U
9	A	763	G
9	A	764	A
9	A	765	C
9	A	774	G
9	A	788	A
9	A	790	U
9	A	800	A
9	A	805	G
9	A	829	A
9	A	846	U
9	A	847	U
9	A	858	G
9	A	860	U
9	A	865	C
9	A	866	A
9	A	914	G
9	A	915	C
9	A	931	U
9	A	933	A
9	A	934	U
9	A	945	A
9	A	946	C
9	A	957	C
9	A	958	U
9	A	961	C
9	A	973	A
9	A	984	A
9	A	988	A
9	A	990	A
9	A	995	C

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Mol	Chain	Res	Type
9	A	996	A
9	A	1008	A
9	A	1009	A
9	A	1011	G
9	A	1013	C
9	A	1020	A
9	A	1021	A
9	A	1022	G
9	A	1023	U
9	A	1025	G
9	A	1026	G
9	A	1033	U
9	A	1045	C
9	A	1046	A
9	A	1048	A
9	A	1060	U
9	A	1062	G
9	A	1063	G
9	A	1074	G
9	A	1112	G
9	A	1116	G
9	A	1128	G
9	A	1135	C
9	A	1141	U
9	A	1150	C
9	A	1151	A
9	A	1157	G
9	A	1204	A
9	A	1206	G
9	A	1210	G
9	A	1213	A
9	A	1236	G
9	A	1247	A
9	A	1249	U
9	A	1250	G
9	A	1254	A
9	A	1255	U
9	A	1267	U
9	A	1275	A
9	A	1276	A
9	A	1286	A
9	A	1287	A

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Mol	Chain	Res	Type
9	A	1288	G
9	A	1289	C
9	A	1300	G
9	A	1303	G
9	A	1311	G
9	A	1320	C
9	A	1321	A
9	A	1324	G
9	A	1327	A
9	A	1329	U
9	A	1330	C
9	A	1340	U
9	A	1343	G
9	A	1359	A
9	A	1360	G
9	A	1378	A
9	A	1379	U
9	A	1386	C
9	A	1396	U
9	A	1398	C
9	A	1403	A
9	A	1407	G
9	A	1416	G
9	A	1417	C
9	A	1419	A
9	A	1421	G
9	A	1427	A
9	A	1429	G
9	A	1434	A
9	A	1435	G
9	A	1451	C
9	A	1455	G
9	A	1458	U
9	A	1459	G
9	A	1461	C
9	A	1475	G
9	A	1476	U
9	A	1490	A
9	A	1491	G
9	A	1493	C
9	A	1494	A
9	A	1497	U

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Mol	Chain	Res	Type
9	A	1498	C
9	A	1508	A
9	A	1510	G
9	A	1522	A
9	A	1535	A
9	A	1537	G
9	A	1554	U
9	A	1555	G
9	A	1558	C
9	A	1565	C
9	A	1602	U
9	A	1603	A
9	A	1606	C
9	A	1615	C
9	A	1626	A
9	A	1627	G
9	A	1634	A
9	A	1644	C
9	A	1647	U
9	A	1653	G
9	A	1654	A
9	A	1674	G
9	A	1675	C
9	A	1693	U
9	A	1695	G
9	A	1698	A
9	A	1700	A
9	A	1706	C
9	A	1707	G
9	A	1713	A
9	A	1714	U
9	A	1716	U
9	A	1717	A
9	A	1732	C
9	A	1734	G
9	A	1735	A
9	A	1738	G
9	A	1739	A
9	A	1757	A
9	A	1759	A
9	A	1782	U
9	A	1784	A

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Mol	Chain	Res	Type
9	A	1786	A
9	A	1787	A
9	A	1799	G
9	A	1808	A
9	A	1815	A
9	A	1816	C
9	A	1818	U
9	A	1838	C
9	A	1847	A
9	A	1848	A
9	A	1857	G
9	A	1858	A
9	A	1865	U
9	A	1866	A
9	A	1870	C
9	A	1871	A
9	A	1872	A
9	A	1884	G
9	A	1885	A
9	A	1900	A
9	A	1918	A
9	A	1919	A
9	A	1920	C
9	A	1929	G
9	A	1931	U
9	A	1936	A
9	A	1941	C
9	A	1942	C
9	A	1943	U
9	A	1945	G
9	A	1954	G
9	A	1962	C
9	A	1963	U
9	A	1965	C
9	A	1966	A
9	A	1967	C
9	A	1970	A
9	A	1971	U
9	A	1980	G
9	A	1993	U
9	A	1996	C
9	A	1997	C

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Mol	Chain	Res	Type
9	A	2023	C
9	A	2030	A
9	A	2035	G
9	A	2036	C
9	A	2051	A
9	A	2060	A
9	A	2068	U
9	A	2092	U
9	A	2093	G
9	A	2137	U
9	A	2146	C
9	A	2197	U
9	A	2199	A
9	A	2200	C
9	A	2210	U
9	A	2214	C
9	A	2225	A
9	A	2238	G
9	A	2249	U
9	A	2250	G
9	A	2258	C
9	A	2267	A
9	A	2275	C
9	A	2282	G
9	A	2283	C
9	A	2286	G
9	A	2296	U
9	A	2297	A
9	A	2307	G
9	A	2309	A
9	A	2311	A
9	A	2319	G
9	A	2321	U
9	A	2324	U
9	A	2325	G
9	A	2326	C
9	A	2327	A
9	A	2333	A
9	A	2335	A
9	A	2337	G
9	A	2344	U
9	A	2382	G

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Mol	Chain	Res	Type
9	A	2383	G
9	A	2391	G
9	A	2392	A
9	A	2405	G
9	A	2407	A
9	A	2423	U
9	A	2425	A
9	A	2427	C
9	A	2430	A
9	A	2431	U
9	A	2439	A
9	A	2440	C
9	A	2458	G
9	A	2459	A
9	A	2468	A
9	A	2490	G
9	A	2503	A
9	A	2517	C
9	A	2520	C
9	A	2541	A
9	A	2543	G
9	A	2566	A
9	A	2572	A
9	A	2573	C
9	A	2581	G
9	A	2609	U
9	A	2611	C
9	A	2615	U
9	A	2629	U
9	A	2638	G
9	A	2645	G
9	A	2654	A
9	A	2656	U
9	A	2662	A
9	A	2672	U
9	A	2673	G
9	A	2681	C
9	A	2689	U
9	A	2712	C
9	A	2725	A
9	A	2727	A
9	A	2728	U

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Mol	Chain	Res	Type
9	A	2729	G
9	A	2732	G
9	A	2750	A
9	A	2752	C
9	A	2756	U
9	A	2757	A
9	A	2777	G
9	A	2778	A
9	A	2781	A
9	A	2790	U
9	A	2791	G
9	A	2797	U
9	A	2800	A
9	A	2808	G
9	A	2820	A
9	A	2832	U
9	A	2835	A
9	A	2848	G
9	A	2866	U
9	A	2873	A
9	A	2879	A
9	A	2893	A
9	A	2894	G
10	B	12	C
10	B	14	U
10	B	16	G
10	B	24	G
10	B	25	U
10	B	40	U
10	B	42	C
10	B	44	G
10	B	45	A
10	B	52	A
10	B	56	G
10	B	57	A
10	B	66	A
10	B	87	U
10	B	90	C
10	B	108	A
10	B	109	A

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
6	MA6	5	76	9,35,6	18,26,27	0.70	0	15,38,41	1.35	1 (6%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	MA6	5	76	9,35,6	-	0/7/29/30	0/3/3/3

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
6	5	76	MA6	C2-N1-C6	3.09	118.94	111.64

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	5	76	MA6	2	0

## 5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

## 5.6 Ligand geometry

Of 2 ligands modelled in this entry, 1 is unknown - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
36	ERY	A	9000	-	53,53,53	0.78	1 (1%)	82,82,82	1.64	15 (18%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
36	ERY	A	9000	-	-	0/72/107/107	0/3/3/3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	A	9000	ERY	C6-C5	2.19	1.59	1.55

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	A	9000	ERY	C25-C24-C23	-4.98	102.75	110.05
36	A	9000	ERY	O7-C5-C6	-4.65	100.45	106.45
36	A	9000	ERY	C3-C2-C1	-3.56	102.96	109.85
36	A	9000	ERY	O2-C1-O1	-3.40	117.30	123.88
36	A	9000	ERY	C15-C16-C17	-2.98	104.01	107.82
36	A	9000	ERY	C27-C26-C25	-2.95	108.47	113.44
36	A	9000	ERY	C32-C6-C7	-2.87	106.21	110.99
36	A	9000	ERY	O3-C14-C15	-2.75	104.34	108.94
36	A	9000	ERY	O6-C17-C18	-2.74	104.80	109.24
36	A	9000	ERY	O3-C3-C4	-2.47	105.17	108.22
36	A	9000	ERY	O3-C3-C2	-2.25	106.83	111.10
36	A	9000	ERY	C16-C17-C18	-2.12	107.80	111.03
36	A	9000	ERY	O2-C13-C12	-2.07	103.61	107.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	A	9000	ERY	C32-C6-C5	2.13	114.14	110.29
36	A	9000	ERY	C19-C16-C17	2.30	116.17	111.17

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
36	A	9000	ERY	4	0

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.