



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 28, 2014 – 09:20 AM GMT

PDB ID : 3CF5  
Title : Thiopeptide antibiotic Thiostrepton bound to the large ribosomal subunit of *Deinococcus radiodurans*  
Authors : Harms, J.M.; Wilson, D.N.; Schlutzen, F.; Connell, S.R.; Stachelhaus, T.; Zaborowska, Z.; Spahn, C.M.T.; Fucini, P.  
Deposited on : 2008-03-02  
Resolution : 3.30 Å(reported)

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

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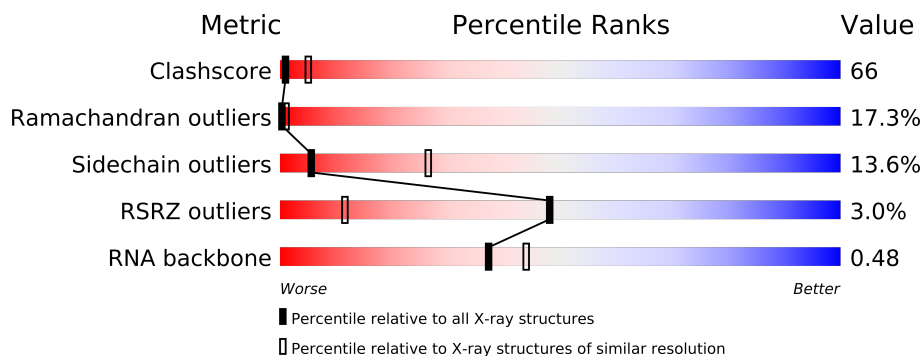
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.15 2013  
Xtriage (Phenix) : dev-1323  
EDS : stable22639  
Percentile statistics : 21963  
Refmac : 5.8.0049  
CCP4 : 6.3.0 (Settle)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : stable22683

# 1 Overall quality at a glance

The reported resolution of this entry is 3.30 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	79885	1696 (3.40-3.20)
Ramachandran outliers	78287	1664 (3.40-3.20)
Sidechain outliers	78261	1662 (3.40-3.20)
RSRZ outliers	66119	1342 (3.40-3.20)
RNA backbone	1838	1042 (3.90-2.70)

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

Mol	Chain	Length	Quality of chain
1	1	55	
2	2	47	
3	3	66	
4	4	37	
5	5	19	
6	A	274	
7	B	211	
8	C	205	
9	D	180	
10	E	185	
11	F	144	
12	G	174	
13	H	134	
14	I	156	

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Mol	Chain	Length	Quality of chain
15	J	142	
16	K	116	
17	L	114	
18	M	166	
19	N	118	
20	O	100	
21	P	134	
22	Q	95	
23	R	115	
24	S	237	
25	T	91	
26	U	81	
27	V	67	
28	W	55	
29	X	2880	
30	Y	60	
31	Z	123	

The following table lists non-polymeric compounds that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Geometry	Electron density
32	MG	M	167	-	X
32	MG	X	2881	-	X
32	MG	X	2882	-	X
32	MG	X	2884	-	X
32	MG	X	2885	-	X
32	MG	X	2886	-	X
32	MG	X	2887	-	X
32	MG	X	2888	-	X
32	MG	X	2889	-	X
32	MG	X	2890	-	X
32	MG	X	2891	-	X
32	MG	X	2893	-	X
32	MG	X	2894	-	X
32	MG	X	2896	-	X
32	MG	X	2897	-	X
32	MG	X	2898	-	X
32	MG	X	2899	-	X
32	MG	X	2900	-	X
32	MG	X	2902	-	X
32	MG	X	2903	-	X

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Mol	Type	Chain	Res	Geometry	Electron density
32	MG	X	2904	-	X
32	MG	X	2905	-	X
32	MG	X	2907	-	X
32	MG	X	2909	-	X
32	MG	X	2910	-	X
32	MG	Z	124	-	X
32	MG	Z	125	-	X
32	MG	Z	126	-	X
32	MG	Z	127	-	X

## 2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 84475 atoms, of which 0 are hydrogen and 0 are deuterium.

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

- Molecule 1 is a protein called 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
1	1	53	Total C 53 53	0	0	53

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
2	2	46	Total C 46 46	0	0	46

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
3	3	63	Total C 63 63	0	0	63

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
4	4	37	Total C N O S 297 179 66 47 5	0	0	0

- Molecule 5 is a protein called THIOSTREPTON.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
5	5	19	Total C N O S 114 72 19 18 5	0	0	1

- Molecule 6 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
6	A	240	Total C N O S 1826 1137 366 321 2	0	0	0

- Molecule 7 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	B	205	Total	C	N	O	S	0	0	0
			1539	965	295	271	8			

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	C	197	Total	C	N	O	S	0	0	0
			1506	935	287	282	2			

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	D	177	Total	C	N	O	S	0	0	0
			1400	892	247	254	7			

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	E	171	Total	C	N	O	S	0	0	0
			1286	812	237	236	1			

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	F	144	Total	C	N	O	S	0	0	0
			1044	663	179	197	5			

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	G	142	Total	C	N	O	S	0	0	0
			1114	704	209	198	3			

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	H	134	Total	C	N	O	S	0	0	0
			997	614	198	180	5			

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	I	141	Total	C	N	O	0	0	0
			1067	655	216	196			

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	J	136	Total	C	N	O	S	0	0	0
			1090	696	202	185	7			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	1	MET	-	INITIATING METHIONINE	UNP Q9RXJ5

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	K	113	Total	C	N	O	S	0	0	0
			878	541	178	157	2			

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	L	104	Total	C	N	O	0	0	0
			779	476	161	142			

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	M	108	Total	C	N	O	0	0	0
			871	543	172	156			

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	N	117	Total	C	N	O	S	0	0	0
			978	608	210	159	1			

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
20	O	94	Total	C	N	O	0	0	0
			741	465	139	137			

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	P	127	Total	C	N	O	S	0	0	0
			1014	639	199	174	2			

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	Q	93	Total	C	N	O	S	0	0	0
			726	458	136	130	2			

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	R	110	Total	C	N	O	S	0	0	0
			825	513	160	151	1			

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	S	175	Total	C	N	O	S	0	0	0
			1345	849	236	254	6			

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	T	84	Total	C	N	O	S	0	0	0
			625	393	122	109	1			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	U	72	Total	C	N	O	0	0	0
			552	341	116	95			

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L29.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	V	66	Total	C	N	O	S	0	0	0
			533	327	107	96	3			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	W	55	Total	C	N	O	S	0	0	0
			424	264	82	76	2			

- Molecule 29 is a RNA chain called RRNA-23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	X	2686	Total	C	N	O	P	0	0	0
			57651	25718	10642	18606	2685			

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	Y	58	Total	C	N	O	S	0	0	0
			457	281	94	77	5			

- Molecule 31 is a RNA chain called RRNA-5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	Z	122	Total	C	N	O	P	0	0	0
			2598	1161	476	840	121			

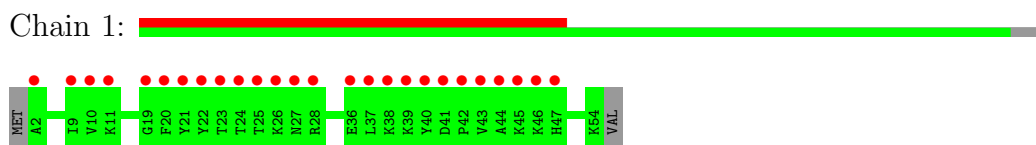
- Molecule 32 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	X	30	Total	Mg	0	0
			30	30		
32	Z	5	Total	Mg	0	0
			5	5		
32	M	1	Total	Mg	0	0
			1	1		

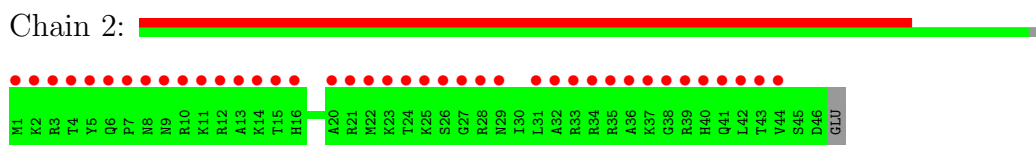
### 3 Residue-property plots

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

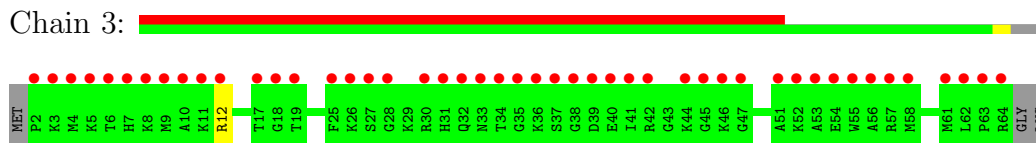
- Molecule 1: 50S RIBOSOMAL PROTEIN L33



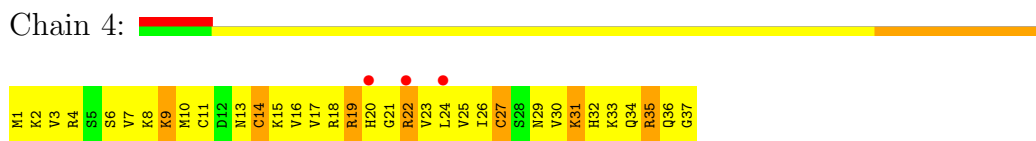
- Molecule 2: 50S RIBOSOMAL PROTEIN L34



- Molecule 3: 50S RIBOSOMAL PROTEIN L35



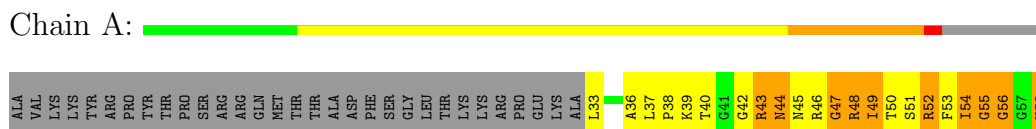
- Molecule 4: 50S RIBOSOMAL PROTEIN L36

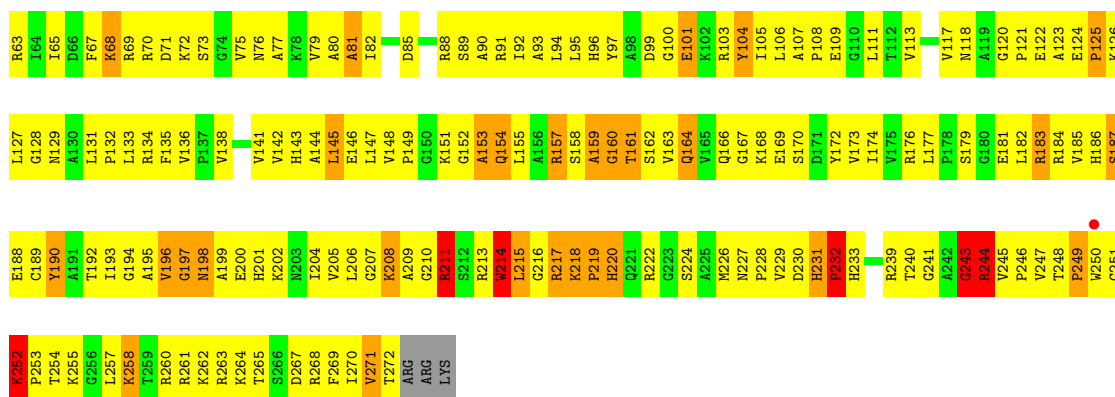


- Molecule 5: THIOSTREPTON



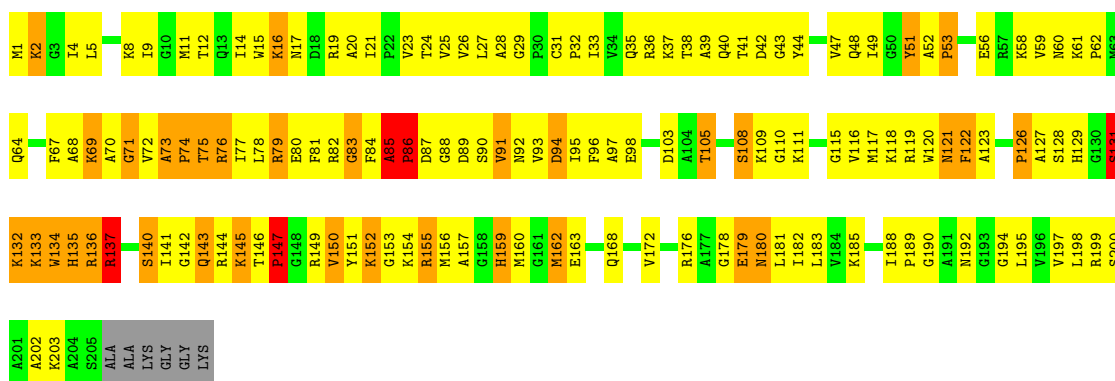
- Molecule 6: 50S RIBOSOMAL PROTEIN L2





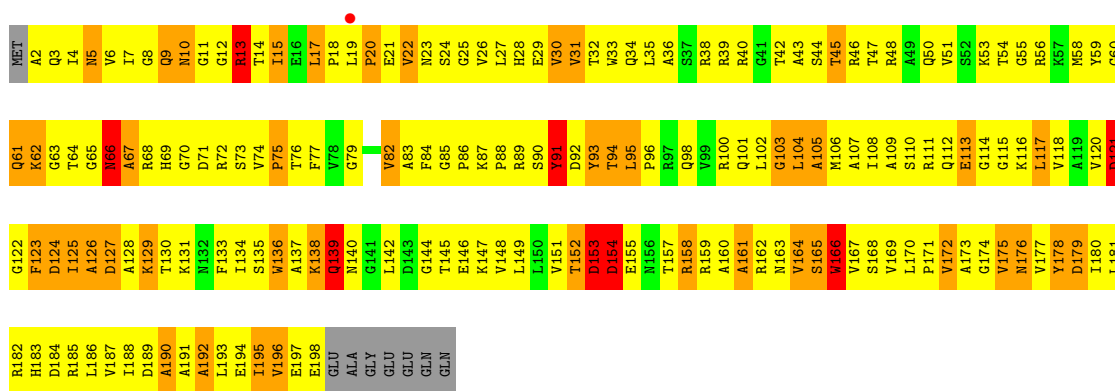
### • Molecule 7: 50S RIBOSOMAL PROTEIN L3

Chain B:



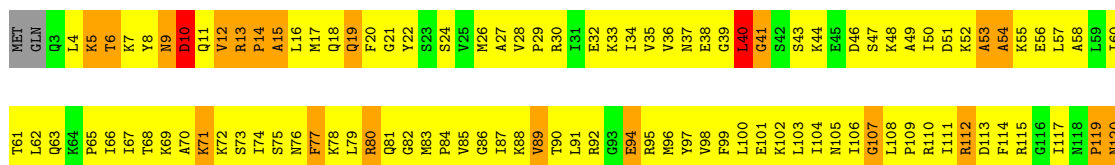
### • Molecule 8: 50S RIBOSOMAL PROTEIN L4

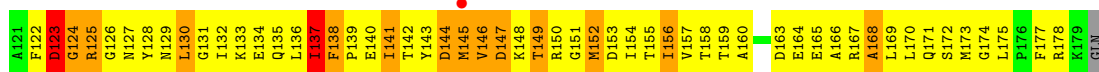
Chain C:



### • Molecule 9: 50S RIBOSOMAL PROTEIN L5

Chain D:





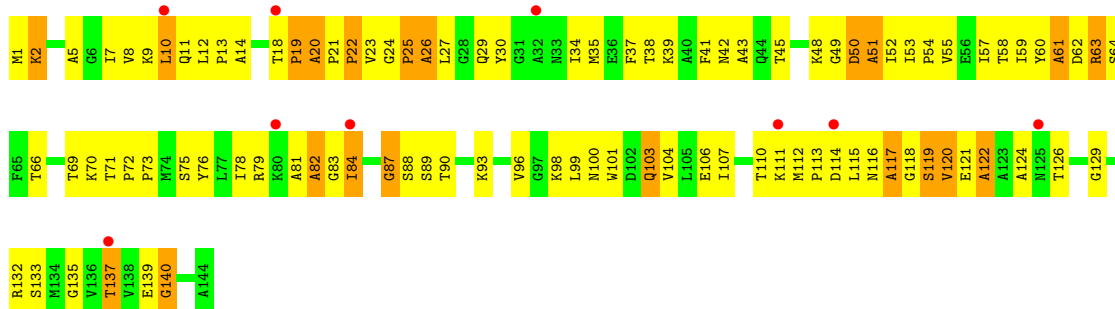
• Molecule 10: 50S RIBOSOMAL PROTEIN L6

Chain E:



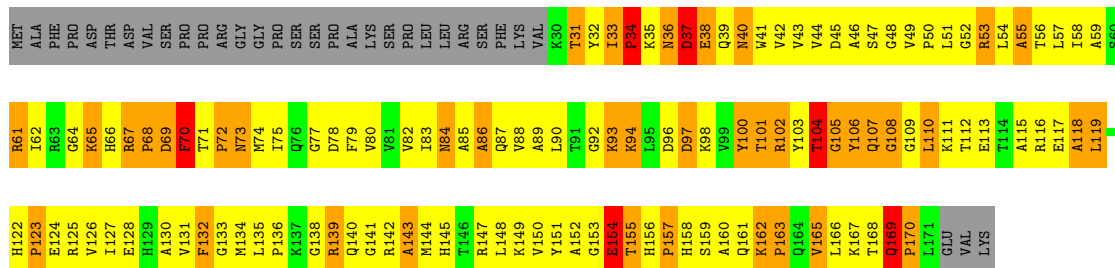
• Molecule 11: 50S RIBOSOMAL PROTEIN L11

Chain F:



• Molecule 12: 50S RIBOSOMAL PROTEIN L13

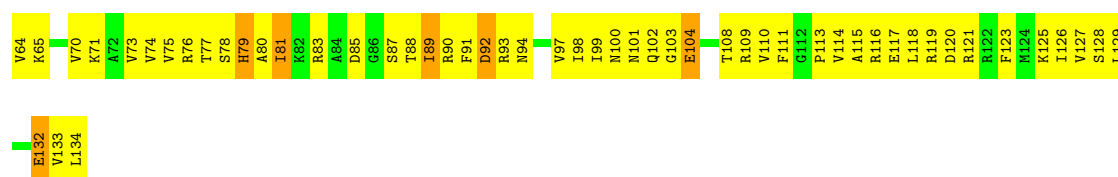
Chain G:



• Molecule 13: 50S RIBOSOMAL PROTEIN L14

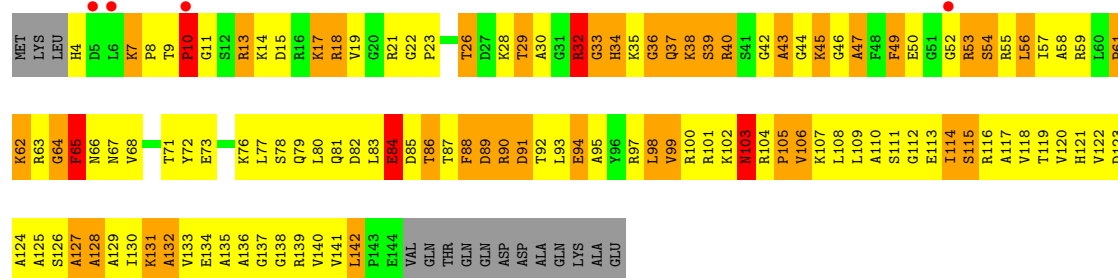
Chain H:





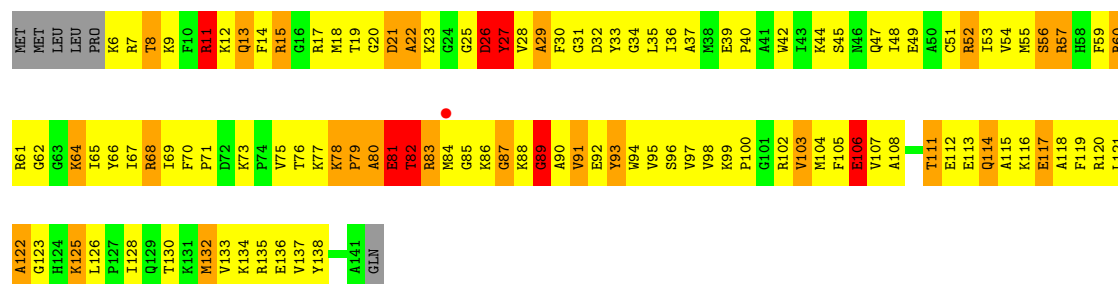
• Molecule 14: 50S RIBOSOMAL PROTEIN L15

Chain I:



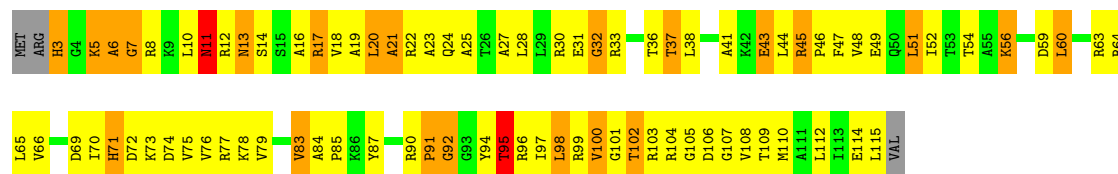
• Molecule 15: 50S RIBOSOMAL PROTEIN L16

Chain J:



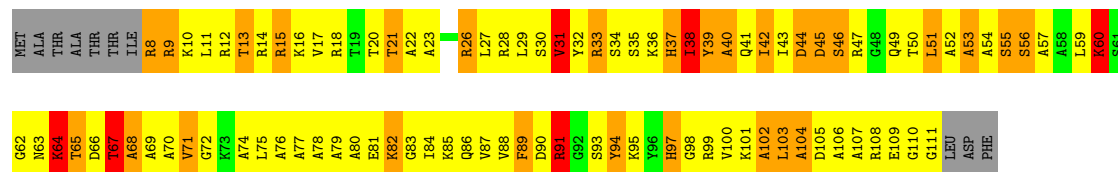
• Molecule 16: 50S RIBOSOMAL PROTEIN L17

Chain K:



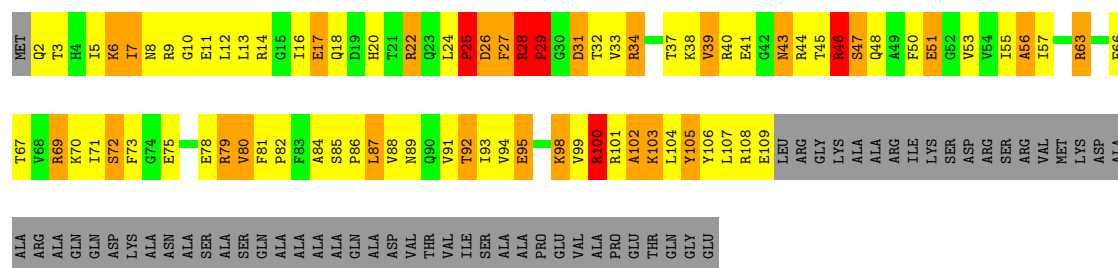
• Molecule 17: 50S RIBOSOMAL PROTEIN L18

Chain L:



• Molecule 18: 50S RIBOSOMAL PROTEIN L19

Chain M:



- Molecule 19: 50S RIBOSOMAL PROTEIN L20

Chain N:



- Molecule 20: 50S RIBOSOMAL PROTEIN L21

Chain O:



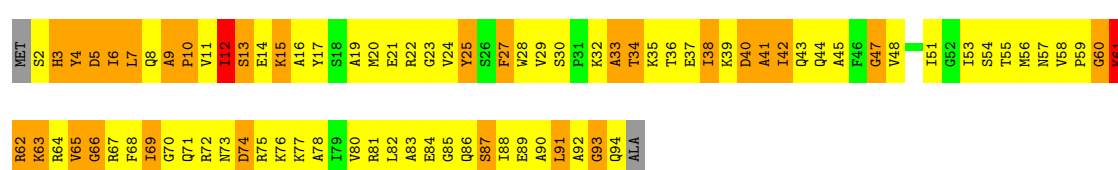
- Molecule 21: 50S RIBOSOMAL PROTEIN L22

Chain P:



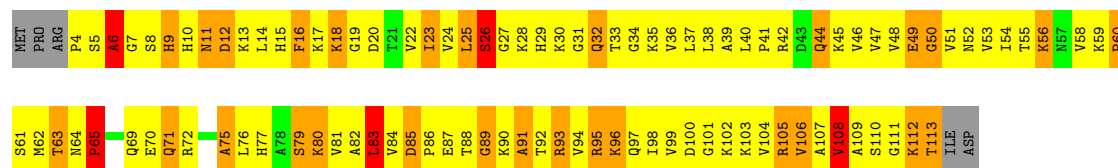
- Molecule 22: 50S RIBOSOMAL PROTEIN L23

Chain Q:



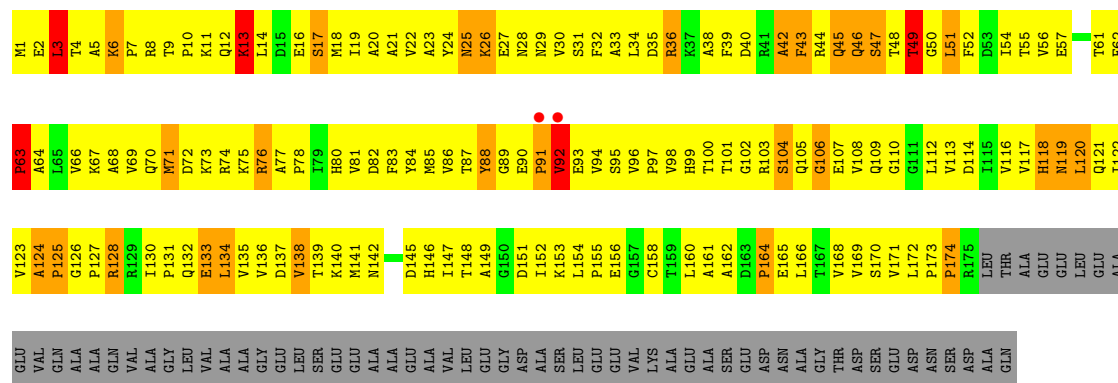
- Molecule 23: 50S RIBOSOMAL PROTEIN L24

Chain R:



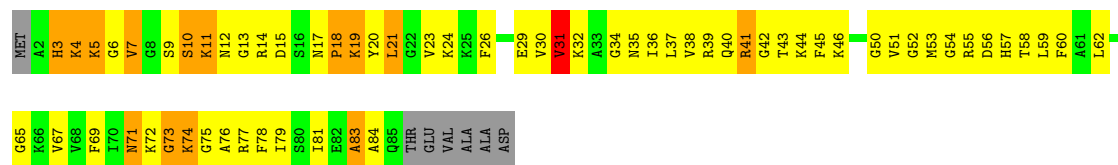
• Molecule 24: 50S RIBOSOMAL PROTEIN L25

Chain S:



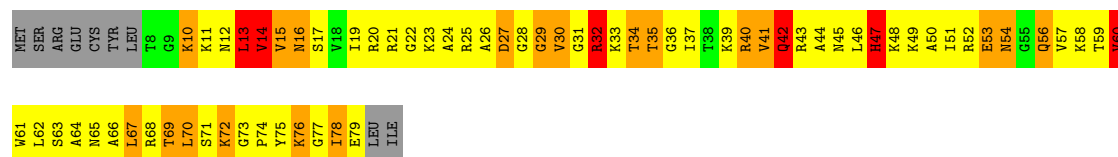
• Molecule 25: 50S RIBOSOMAL PROTEIN L27

Chain T:



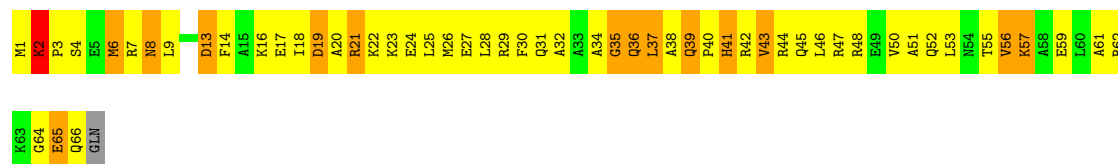
• Molecule 26: 50S RIBOSOMAL PROTEIN L28

Chain U:



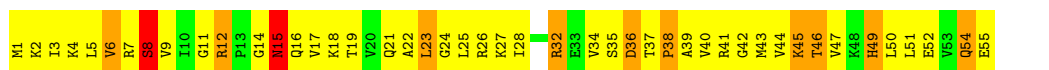
• Molecule 27: 50S RIBOSOMAL PROTEIN L29

Chain V:



• Molecule 28: 50S RIBOSOMAL PROTEIN L30

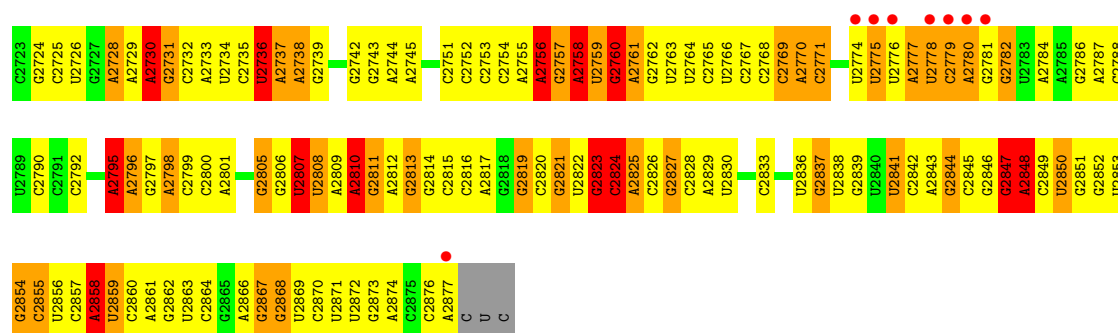
Chain W:





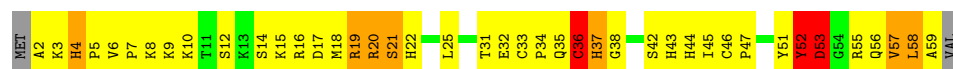


G2661	U2599	U2534	G2474	A2412	A2352	G2286	A2226	G2166	G	G2044	G1983	A1921	A1860	A1799
C2662	A2600	C2535	C2475	A2413	G2363	G2287	C2227	A2167	G	A2045	G1986	U1922	G1861	A1800
U2663	C2601	C2539	A2476	A2414	G2354	A2288	U2228	A2168	A	C2046	G1987	U1923	C1862	A1801
G2664	G2602	C2540	C2477	G2415	A2355	A2289	G2229	A2169	G	C2047	G1988	U1924	U1863	A1802
G2665	G2603	U2541	U2478	U2416	A2356	A2290	G2230	A2170	C	C2048	A1988	C1925	C1864	U1804
U2666	G2604	U2542	U2479	U2417	A2357	U2291	G2231	U2171	C	C2049	C1989	U1926	C1865	U1805
C2667	C2605	U2543	C2480	A2418	G2358	C2292	G2232	U2172	C	G2050	U1990	U1927	G1866	G1806
U2668	G2606	A2544	G2481	C2419	U2359	G2293	G2233	G2173	U	U2051	C1991	U1928	A1867	A1807
C2669	C2607	A2545	A2482	C2420	U2360	U2294	G2234	G2174	G	G2052	C1992	U1929	A1868	G1808
C2670	A2608	U2546	U2483	C2421	G2361	U2295	G2235	A2175	C	A2054	G1993	C1930	A1869	C1809
G2671	G2609	U2547	U2484	G2422	G2362	A2299	U2236	U2176	A	G2055	G1995	U1933	G1871	U1810
U2672	U2610	C2548	U2485	G2423	G2363	A2300	G2237	U2177	A	C2056	A1996	U1934	A1872	A1811
G2673	G2611	G2549	C2486	G2424	C2364	G2301	G2238	U2178	A	U2057	A1997	U1935	U1873	U1812
C2674	C2612	G2550	G2487	G2425	U2365	A2302	G2239	C2179	C	U2058	A1998	A1936	A1874	A1813
U2675	A2613	A2551	G2488	G2426	U2366	G2303	U2240	U2180	C	U2059	U1999	G1937	C1876	G1830
G2676	U2614	U2552	C2489	A2427	C2367	U2241	U2241	A2181	G	U2060	G2000	U1938	C1877	G1831
U2677	U2615	G2553	U2490	U2428	G2368	G2304	G2242	A2182	G	C2061	G2001	U1939	G1878	G1832
C2678	G2616	U2554	G2492	A2429	U2369	C2305	C2243	A2183	C	U2062	G2002	U1940	G1879	G1833
U2681	U2617	G2555	G2493	A2430	G2370	A2306	C2244	C2184	C	A2063	A2002	C1941	U1880	G1834
C2682	A2618	A2556	U2494	C2431	A2371	A2307	U2245	U2185	C	U2064	A2003	C1942	G1881	C1835
G2683	G2620	U2557	G2495	A2432	A2372	A2308	A2246	U2186	C	A2065	U2004	C1943	U1882	G1836
U2684	C2683	C2558	C2496	G2433	C2373	G2309	A2247	A2187	U	G2066	G2005	U1944	A1883	A1837
A2685	U2625	G2559	C2497	G2434	C2374	U2311	A2248	A2188	U	U2067	G2006	C1945	A1884	G1822
G2686	G2626	U2560	U2498	U2435	G2375	A2312	U2249	A2189	U	G2068	G2007	U1946	G1885	G1823
C2687	U2626	G2561	C2499	U2436	U2376	G2313	U2251	A2191	G	U2069	U2008	C1947	G1886	C1824
G2688	G2627	U2562	C2500	A2438	U2377	A2314	A2252	U2192	G	G2070	G2010	A1949	G1887	C1825
C2689	U2628	U2563	U2501	G2439	G2378	A2315	A2253	U2193	G	G2071	U2011	U1950	G1888	U1826
U2690	G2629	U2564	G2502	C2440	U2380	G2316	C2254	A2194	C	A2073	A2012	G1951	G	G1827
C2691	C2630	U2565	U2503	U2441	A2381	U2318	G2255	C2195	C	U2074	A2013	A1952	C	
U2692	G2631	A2566	G2504	C2442	C2382	U2319	G2256	U2196	G	U2075	A2014	A1953	C	
U2693	U2632	G2567	G2505	C2443	C2383	G2320	A2257	U2197	G	A2076	G2015	A1954	C	
G2694	A2633	U2568	C2506	C2444	G2384	C2321	G2258	U2198	U	A2077	A2016	G1955	C	
A2695	G2634	A2569	U2507	C2445	U2385	U2322	G2259	C2199	G	U2080	U2017	G1956	C	
G2696	U2635	G2570	C2446	C2446	G2386	U2323	G2260	G2200	A	U2081	G2018	C1957	U	
C2697	A2636	U2571	A2448	U2448	U2387	G2324	C2261	G2201	A	U2082	C2019	G1958	A	
G2698	G2637	U2572	G2449	G2449	G2388	A2325	C2262	G2202	C	G2083	G2020	U1959	C	
U2699	U2638	U2573	G2450	A2450	G2389	C2326	C2263	G2203	G	U2084	G2021	A1960	U	
G2700	A2639	G2574	A2451	G2451	A2390	U2327	C2264	A2204	C	G2085	C2022	A1961	A	
A2701	G2640	A2575	U2452	U2452	A2391	G2328	A2265	C2205	A	U2086	C2023	G1962	U	
G2702	U2641	G2576	C2453	C2453	G2392	G2329	A2266	C2206	A	U2087	U2024	G1963	A	
C2703	G2642	A2577	U2454	C2454	G2393	G2330	A2267	G2207	C	U2088	A2025	A1964	A	
U2704	G2643	U2578	U2455	U2455	G2394	A2331	G2268	U2208	G	C2089	G2026	U1965	C	
A2705	A2644	A2581	C2456	U2456	G2395	G2332	G2269	G2209	G	U2090	C2027	C1966	G	
U2706	G2645	G2582	C2457	A2457	C2396	A2333	U2270	C2210	U	G2091	C2028	U1967	G	
G2707	U2646	C2583	U2458	U2458	A2397	U2334	G2271	U2211	G	C	G2029	G1968	U	
C2708	G2647	G2584	U2459	C2459	U2398	U2335	A2272	U2212	A	U	U2030	G1969	C	
G2709	U2648	A2585	A2521	G2460	C2399	G2336	G2273	G2213	A	G	A2031	G1970	C	
C2710	A2649	G2586	G2522	G2461	G2400	A2337	C2274	G2214	A	C	G2032	C1971	U1909	
U2711	G2650	U2587	G2523	G2462	U2401	U2342	U2275	C2215	U	U	C2033	G1972	A1910	
G2712	U2651	G2588	G2524	G2463	U2402	U2343	G2276	G2216	C	A	A2034	C1973	A1911	
A2713	G2652	U2589	C2403	G2464	C2403	C2343	A2277	G2217	C	A	G2035	U1974	G1912	
C2714	A2653	U2590	A2404	G2465	A2404	G2344	A2278	G2218	C	G	G2036	G1975	G1913	
G2715	U2654	U2591	U2526	A2466	A2405	A2345	G2279	U2219	A	G	A2037	U1976	U1914	
U2716	G2655	U2592	G2527	A2467	G2406	A2346	A2280	G2220	C	A	C2038	C1977	A1915	
G2717	U2656	U2593	G2528	G2468	G2407	G2347	A2281	G2221	C	U	G2039	U1978	G1916	
A2718	G2657	U2594	C2407	G2469	C2407	C2348	G2282	U2222	C	A	A2040	C1979	C1917	
U2719	C2658	C2595	G2408	U2470	G2408	A2348	U2283	U2223	U	G	A2041	A1980	G1918	
G2720	U2659	U2596	A2409	U2471	A2409	G2349	U2284	U2224	G	G	A2042	A1981	A1919	
C2721	C2660	G2597	U2472	U2472	G2532	U2350	G2285	U2225	U	U	A2043	C1982	C1858	
G2722		U2598	U2533	G2473	A2411	G2351	U2285	G2225	A2165	U			A1920	



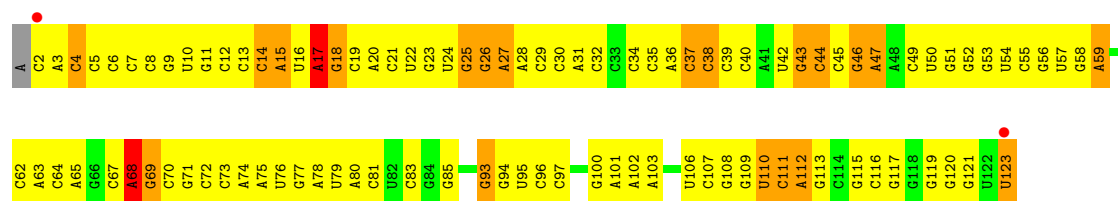
• Molecule 30: 50S RIBOSOMAL PROTEIN L32

Chain Y:



• Molecule 31: RRNA-5S RIBOSOMAL RNA

Chain Z:



## 4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	169.90Å 408.90Å 694.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 3.30 29.76 – 3.31	Depositor EDS
% Data completeness (in resolution range)	94.1 (30.00-3.30) 93.3 (29.76-3.31)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.14 (at 3.31Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, $R_{free}$	0.276 , 0.318 0.242 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	DCC
Wilson B-factor (Å <sup>2</sup> )	67.5	Xtriage
Anisotropy	0.110	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.17 , 19.6	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle  L  \rangle = 0.42$ , $\langle L^2 \rangle = 0.25$	Xtriage
Outliers	1 of 332876 reflections (0.000%)	Xtriage
$F_o, F_c$ correlation	0.87	EDS
Total number of atoms	84475	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.08% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG, DCY, DHA, QUA, BB9, NH2, MH6, DBU, TS9

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z  > 5$	RMSZ	# $ Z  > 5$
4	4	0.46	0/298	0.67	0/390
5	5	1.46	0/31	1.18	0/38
6	A	0.55	0/1862	0.85	2/2510 (0.1%)
7	B	0.77	0/1567	1.04	4/2105 (0.2%)
8	C	0.63	0/1529	0.91	0/2070
9	D	0.48	0/1419	0.71	0/1903
10	E	0.48	0/1308	0.80	1/1771 (0.1%)
11	F	0.50	0/1063	0.71	0/1440
12	G	0.69	0/1138	1.00	3/1539 (0.2%)
13	H	0.79	0/1007	0.96	1/1352 (0.1%)
14	I	0.65	0/1081	0.94	3/1448 (0.2%)
15	J	0.67	0/1113	0.91	2/1486 (0.1%)
16	K	0.87	0/886	1.06	2/1188 (0.2%)
17	L	0.52	0/785	0.86	0/1048
18	M	0.73	0/884	1.20	6/1186 (0.5%)
19	N	0.63	0/994	0.89	0/1323
20	O	0.61	0/750	0.90	0/1000
21	P	0.77	0/1027	0.93	1/1373 (0.1%)
22	Q	0.67	0/737	0.98	4/988 (0.4%)
23	R	0.55	0/835	0.95	2/1121 (0.2%)
24	S	0.50	0/1370	0.75	0/1862
25	T	0.56	0/633	0.83	1/838 (0.1%)
26	U	0.58	0/556	0.95	1/741 (0.1%)
27	V	0.44	0/537	0.67	0/714
28	W	0.56	0/426	0.84	0/568
29	X	0.88	59/64561 (0.1%)	1.05	497/100708 (0.5%)
30	Y	0.70	0/469	1.11	2/629 (0.3%)
31	Z	0.55	0/2904	0.76	0/4525
All	All	0.81	59/91770 (0.1%)	1.01	532/137864 (0.4%)

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
6	A	0	1
19	N	0	2
22	Q	0	1
29	X	2	257
30	Y	0	1
31	Z	0	4
All	All	2	266

All (59) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	X	1856	U	C4'-C3'	-9.30	1.43	1.53
29	X	1856	U	O3'-P	-8.64	1.50	1.61
29	X	1056	U	P-O5'	8.52	1.68	1.59
29	X	1855	G	O3'-P	-8.11	1.51	1.61
29	X	551	A	O3'-P	-8.05	1.51	1.61
29	X	1860	A	O3'-P	-7.56	1.52	1.61
29	X	2189	A	N9-C4	7.30	1.42	1.37
29	X	1750	A	C5-C6	-7.03	1.34	1.41
29	X	1859	A	O3'-P	-6.91	1.52	1.61
29	X	1858	C	C4'-C3'	-6.73	1.45	1.53
29	X	728	G	C2'-C1'	6.65	1.60	1.53
29	X	1688	U	C4-O4	6.60	1.28	1.23
29	X	1858	C	N1-C2	-6.25	1.33	1.40
29	X	2199	C	N1-C2	-6.23	1.33	1.40
29	X	722	C	N1-C2	-6.12	1.34	1.40
29	X	2326	C	N1-C2	-6.10	1.34	1.40
29	X	731	A	C2'-C1'	6.03	1.59	1.53
29	X	2195	C	N1-C2	-6.03	1.34	1.40
29	X	415	A	C3'-O3'	6.01	1.50	1.42
29	X	1688	U	N3-C4	6.00	1.43	1.38
29	X	557	U	C2'-C1'	5.99	1.59	1.53
29	X	2190	A	C4'-C3'	5.95	1.59	1.53
29	X	1052	C	N1-C2	-5.93	1.34	1.40
29	X	1857	G	O3'-P	-5.90	1.54	1.61
29	X	725	C	N1-C2	-5.88	1.34	1.40
29	X	1282	A	C5-C6	-5.85	1.35	1.41
29	X	1853	C	N1-C2	-5.79	1.34	1.40
29	X	556	A	N7-C5	-5.75	1.35	1.39
29	X	1969	G	C5-C6	-5.72	1.36	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	X	1981	A	C5-C6	-5.67	1.35	1.41
29	X	1063	C	N1-C2	-5.66	1.34	1.40
29	X	1862	C	C2'-C1'	-5.54	1.47	1.53
29	X	1846	A	O3'-P	-5.48	1.54	1.61
29	X	728	G	N9-C4	5.48	1.42	1.38
29	X	415	A	C2'-C1'	5.47	1.59	1.53
29	X	1632	A	C5-C6	-5.46	1.36	1.41
29	X	728	G	C3'-O3'	5.42	1.49	1.42
29	X	2320	G	P-O5'	5.40	1.65	1.59
29	X	557	U	C1'-N1	5.39	1.56	1.48
29	X	552	C	N1-C2	-5.38	1.34	1.40
29	X	796	A	C5-C6	-5.37	1.36	1.41
29	X	1055	A	C3'-O3'	5.37	1.49	1.42
29	X	723	C	N1-C2	-5.37	1.34	1.40
29	X	774	A	C5-C6	-5.36	1.36	1.41
29	X	2189	A	C3'-O3'	5.34	1.49	1.42
29	X	1860	A	C4'-C3'	-5.34	1.47	1.52
29	X	699	G	N9-C4	-5.30	1.33	1.38
29	X	1859	A	C3'-C2'	-5.29	1.47	1.52
29	X	2571	G	C5-C6	-5.28	1.37	1.42
29	X	2189	A	C2'-C1'	5.26	1.59	1.53
29	X	1865	C	O3'-P	-5.24	1.54	1.61
29	X	975	C	C2-N3	-5.21	1.31	1.35
29	X	540	G	C2-N3	5.20	1.36	1.32
29	X	1644	G	C5-C6	-5.17	1.37	1.42
29	X	557	U	C3'-O3'	5.14	1.49	1.42
29	X	417	C	C2'-C1'	5.06	1.58	1.53
29	X	833	A	C5-C6	-5.04	1.36	1.41
29	X	1851	A	C3'-O3'	5.04	1.49	1.42
29	X	2189	A	C8-N7	-5.02	1.28	1.31

All (532) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1055	A	N9-C1'-C2'	-29.46	75.70	114.00
29	X	2324	G	N9-C1'-C2'	22.22	142.88	114.00
29	X	557	U	N1-C1'-C2'	19.61	139.50	114.00
29	X	417	C	N1-C1'-C2'	18.73	138.35	114.00
18	M	28	ARG	C-N-CD	-18.52	79.85	120.60
29	X	1856	U	P-O3'-C3'	-15.68	100.89	119.70
29	X	1854	G	P-O3'-C3'	-15.22	101.44	119.70
29	X	1861	G	P-O3'-C3'	-15.03	101.66	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2854	G	N9-C1'-C2'	14.06	132.28	114.00
29	X	558	G	C3'-C2'-C1'	-13.92	90.37	101.50
29	X	1632	A	N9-C1'-C2'	13.61	131.69	114.00
29	X	2327	U	P-O3'-C3'	-13.11	103.97	119.70
29	X	556	A	N9-C1'-C2'	12.66	130.46	114.00
29	X	728	G	P-O3'-C3'	12.40	134.58	119.70
29	X	1857	G	P-O3'-C3'	-12.39	104.83	119.70
29	X	2324	G	O4'-C1'-N9	-12.15	98.48	108.20
29	X	731	A	N9-C1'-C2'	12.13	129.76	114.00
29	X	557	U	C6-N1-C2	-11.69	113.98	121.00
29	X	1052	C	C6-N1-C2	11.50	124.90	120.30
29	X	1859	A	P-O3'-C3'	-11.34	106.09	119.70
29	X	2325	A	N9-C1'-C2'	11.12	128.46	114.00
29	X	554	U	C6-N1-C2	10.92	127.55	121.00
29	X	1055	A	P-O3'-C3'	10.87	132.74	119.70
29	X	556	A	P-O3'-C3'	10.81	132.67	119.70
29	X	1853	C	P-O3'-C3'	-10.76	106.79	119.70
29	X	2326	C	O4'-C4'-C3'	-10.72	93.28	104.00
29	X	1278	A	N9-C1'-C2'	10.70	127.91	114.00
29	X	2594	U	O5'-P-OP2	-10.68	96.09	105.70
29	X	2034	A	N9-C1'-C2'	10.63	127.82	114.00
29	X	1142	G	N9-C1'-C2'	10.54	127.70	114.00
29	X	557	U	C3'-C2'-C1'	10.53	109.92	101.50
29	X	1314	A	N9-C1'-C2'	10.38	127.50	114.00
29	X	417	C	C3'-C2'-C1'	10.33	109.76	101.50
29	X	1056	U	O4'-C1'-N1	10.05	116.24	108.20
29	X	580	A	N9-C1'-C2'	9.98	126.97	114.00
29	X	2319	G	P-O3'-C3'	-9.90	107.81	119.70
29	X	2189	A	P-O3'-C3'	9.83	131.50	119.70
29	X	1853	C	C6-N1-C2	9.81	124.23	120.30
29	X	2320	G	P-O3'-C3'	-9.74	108.02	119.70
29	X	1979	C	N1-C1'-C2'	9.72	126.64	114.00
29	X	2195	C	C6-N1-C2	9.71	124.18	120.30
29	X	728	G	C8-N9-C4	-9.70	102.52	106.40
29	X	2197	U	C3'-C2'-C1'	-9.61	93.81	101.50
29	X	1288	A	N9-C1'-C2'	9.58	126.46	114.00
29	X	1056	U	O4'-C4'-C3'	-9.51	94.49	104.00
29	X	415	A	P-O3'-C3'	9.45	131.04	119.70
29	X	2824	C	N1-C1'-C2'	9.24	126.01	114.00
29	X	417	C	P-O3'-C3'	9.13	130.66	119.70
29	X	218	A	N9-C1'-C2'	9.10	125.83	114.00
29	X	1353	A	N9-C1'-C2'	9.10	125.82	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1264	C	N1-C1'-C2'	9.02	125.72	114.00
29	X	729	A	O4'-C4'-C3'	-8.95	95.05	104.00
29	X	1265	G	N9-C1'-C2'	8.93	125.60	114.00
29	X	2323	U	C3'-C2'-C1'	-8.90	94.38	101.50
29	X	551	A	P-O3'-C3'	8.90	130.38	119.70
29	X	1664	G	N9-C1'-C2'	8.85	125.51	114.00
29	X	1052	C	O4'-C1'-N1	-8.83	101.14	108.20
29	X	1852	G	P-O3'-C3'	-8.72	109.24	119.70
29	X	731	A	N9-C4-C5	8.70	109.28	105.80
29	X	558	G	C8-N9-C4	-8.70	102.92	106.40
29	X	571	U	N1-C1'-C2'	8.59	125.16	114.00
29	X	1862	C	P-O3'-C3'	-8.57	109.42	119.70
29	X	728	G	N9-C1'-C2'	8.50	125.05	114.00
29	X	2313	G	N9-C1'-C2'	8.43	124.95	114.00
29	X	1054	C	C6-N1-C2	-8.40	116.94	120.30
29	X	557	U	C5-C6-N1	8.35	126.87	122.70
29	X	1056	U	N1-C1'-C2'	-8.33	102.83	112.00
29	X	1975	G	C2'-C3'-O3'	8.31	127.79	109.50
29	X	2325	A	P-O3'-C3'	8.31	129.68	119.70
29	X	2189	A	N9-C4-C5	-8.31	102.48	105.80
29	X	2823	G	N9-C1'-C2'	8.31	124.80	114.00
29	X	2593	A	N9-C1'-C2'	8.31	124.80	114.00
29	X	1057	A	N9-C4-C5	8.27	109.11	105.80
29	X	984	A	N9-C1'-C2'	8.24	124.71	114.00
29	X	730	C	P-O3'-C3'	8.12	129.44	119.70
29	X	554	U	N1-C2-N3	-8.11	110.04	114.90
29	X	1266	G	N9-C1'-C2'	8.08	124.50	114.00
29	X	1947	G	N9-C1'-C2'	7.98	124.38	114.00
29	X	415	A	N9-C1'-C2'	7.98	124.38	114.00
29	X	1337	G	N9-C1'-C2'	7.98	124.38	114.00
29	X	1862	C	O4'-C4'-C3'	-7.96	96.04	104.00
29	X	985	G	N9-C1'-C2'	7.86	124.21	114.00
29	X	1167	A	N9-C1'-C2'	7.86	124.21	114.00
29	X	2476	A	N9-C1'-C2'	7.85	124.20	114.00
29	X	2521	A	N9-C1'-C2'	7.82	124.17	114.00
29	X	555	U	C3'-C2'-C1'	-7.78	95.28	101.50
29	X	683	A	N9-C1'-C2'	7.78	124.11	114.00
29	X	1055	A	C3'-C2'-C1'	-7.77	95.28	101.50
18	M	28	ARG	C-N-CA	7.77	154.64	122.00
29	X	2196	U	P-O3'-C3'	7.77	129.02	119.70
29	X	2428	U	N1-C1'-C2'	7.75	124.07	114.00
29	X	555	U	O4'-C4'-C3'	-7.74	96.26	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	312	G	N9-C1'-C2'	7.73	124.04	114.00
29	X	1867	A	O4'-C1'-N9	-7.71	102.03	108.20
29	X	460	U	N1-C1'-C2'	7.67	123.98	114.00
29	X	2190	A	N9-C1'-C2'	-7.66	103.58	112.00
29	X	1927	U	N1-C1'-C2'	7.61	123.90	114.00
29	X	1862	C	C4'-C3'-C2'	7.61	110.21	102.60
29	X	1582	A	N9-C1'-C2'	7.55	123.81	114.00
29	X	554	U	N1-C2-O2	7.54	128.08	122.80
29	X	417	C	O4'-C1'-N1	-7.54	102.17	108.20
29	X	1632	A	C2'-C3'-O3'	7.52	126.04	109.50
29	X	1139	A	N9-C1'-C2'	7.51	123.76	114.00
29	X	2608	A	N9-C1'-C2'	7.48	123.72	114.00
29	X	729	A	C3'-C2'-C1'	-7.47	95.52	101.50
29	X	804	C	N1-C1'-C2'	7.44	123.67	114.00
29	X	2496	C	N1-C1'-C2'	7.44	123.67	114.00
29	X	1975	G	N9-C1'-C2'	7.42	123.64	114.00
29	X	1581	C	N1-C1'-C2'	7.38	123.60	114.00
29	X	2854	G	O4'-C1'-N9	7.37	114.10	108.20
29	X	1855	G	OP1-P-OP2	-7.36	108.55	119.60
29	X	2320	G	OP1-P-OP2	-7.33	108.60	119.60
29	X	1855	G	P-O3'-C3'	-7.31	110.92	119.70
29	X	1854	G	OP1-P-OP2	-7.29	108.67	119.60
29	X	613	A	N9-C1'-C2'	7.28	123.46	114.00
29	X	1633	C	N1-C1'-C2'	7.28	123.46	114.00
29	X	1058	G	OP1-P-OP2	-7.26	108.72	119.60
29	X	490	A	N9-C1'-C2'	7.25	123.42	114.00
29	X	2015	G	N9-C1'-C2'	7.21	123.37	114.00
29	X	1858	C	C6-N1-C2	7.20	123.18	120.30
29	X	118	U	N1-C1'-C2'	7.20	123.36	114.00
29	X	1865	C	P-O3'-C3'	-7.16	111.10	119.70
29	X	727	U	C3'-C2'-C1'	7.15	107.22	101.50
29	X	419	G	OP1-P-OP2	-7.12	108.92	119.60
29	X	1716	G	N9-C1'-C2'	7.11	123.24	114.00
29	X	841	G	N9-C1'-C2'	7.10	123.23	114.00
29	X	555	U	OP1-P-OP2	-7.09	108.97	119.60
29	X	2325	A	C2'-C3'-O3'	7.08	125.07	109.50
29	X	1850	G	C8-N9-C4	-7.07	103.57	106.40
29	X	747	A	C5'-C4'-C3'	7.05	127.28	116.00
29	X	418	C	N1-C1'-C2'	7.04	123.15	114.00
29	X	418	C	C6-N1-C2	7.03	123.11	120.30
29	X	2854	G	C1'-O4'-C4'	-7.02	104.28	109.90
12	G	119	LEU	CA-CB-CG	-7.00	99.21	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2323	U	OP1-P-OP2	-7.00	109.11	119.60
29	X	1864	G	P-O3'-C3'	-6.99	111.31	119.70
29	X	818	G	N9-C1'-C2'	6.99	123.08	114.00
29	X	1339	U	OP2-P-O3'	6.99	120.57	105.20
29	X	1869	A	OP1-P-OP2	-6.99	109.12	119.60
29	X	729	A	OP1-P-OP2	-6.97	109.14	119.60
29	X	2075	U	N1-C1'-C2'	6.97	123.06	114.00
29	X	1856	U	C4'-C3'-C2'	6.96	109.56	102.60
29	X	556	A	C3'-C2'-C1'	6.95	107.06	101.50
29	X	1864	G	OP1-P-OP2	-6.95	109.18	119.60
29	X	1033	G	N9-C1'-C2'	6.93	123.01	114.00
29	X	1807	A	N9-C1'-C2'	6.92	123.00	114.00
29	X	2589	C	N1-C1'-C2'	6.91	122.98	114.00
29	X	1921	A	N9-C1'-C2'	6.89	122.96	114.00
29	X	1285	A	N9-C1'-C2'	6.87	122.93	114.00
29	X	1060	C	OP1-P-OP2	-6.86	109.31	119.60
30	Y	36	CYS	CB-CA-C	6.85	124.09	110.40
29	X	1059	A	OP1-P-OP2	-6.84	109.34	119.60
29	X	2321	C	OP1-P-OP2	-6.83	109.35	119.60
29	X	420	C	OP1-P-OP2	-6.83	109.36	119.60
29	X	716	U	OP1-P-OP2	-6.82	109.37	119.60
29	X	1055	A	C8-N9-C4	-6.82	103.07	105.80
29	X	2326	C	C6-N1-C2	6.81	123.03	120.30
29	X	2848	A	N9-C1'-C2'	6.81	122.86	114.00
29	X	1867	A	P-O3'-C3'	6.81	127.87	119.70
7	B	85	ALA	C-N-CD	-6.80	105.64	120.60
29	X	1864	G	O4'-C1'-N9	-6.80	102.76	108.20
29	X	1849	G	OP1-P-OP2	-6.79	109.41	119.60
29	X	728	G	N7-C8-N9	6.78	116.49	113.10
29	X	2188	A	OP1-P-OP2	-6.77	109.45	119.60
29	X	1583	A	N9-C1'-C2'	6.76	122.79	114.00
29	X	1847	G	OP1-P-OP2	-6.76	109.46	119.60
29	X	417	C	OP1-P-OP2	-6.76	109.47	119.60
29	X	1064	C	OP1-P-OP2	-6.75	109.47	119.60
29	X	1856	U	OP1-P-OP2	-6.75	109.47	119.60
29	X	557	U	N3-C4-O4	6.75	124.12	119.40
29	X	1046	U	OP1-P-OP2	-6.74	109.49	119.60
29	X	719	A	OP1-P-OP2	-6.73	109.50	119.60
29	X	2190	A	C3'-C2'-C1'	-6.73	96.12	101.50
29	X	2370	G	N9-C1'-C2'	6.73	122.75	114.00
29	X	1047	G	OP1-P-OP2	-6.73	109.51	119.60
29	X	558	G	O4'-C1'-N9	6.72	113.58	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1052	C	N1-C2-O2	6.72	122.93	118.90
29	X	1848	U	OP1-P-OP2	-6.71	109.53	119.60
29	X	1860	A	OP1-P-OP2	-6.71	109.53	119.60
29	X	1863	U	OP1-P-OP2	-6.70	109.54	119.60
29	X	2326	C	OP1-P-OP2	-6.70	109.55	119.60
29	X	739	G	OP1-P-OP2	-6.70	109.55	119.60
29	X	554	U	OP1-P-OP2	-6.68	109.57	119.60
29	X	1866	G	OP1-P-OP2	-6.67	109.59	119.60
18	M	3	THR	N-CA-C	-6.67	92.99	111.00
29	X	1333	G	N9-C1'-C2'	6.67	122.67	114.00
29	X	1664	G	O5'-P-OP1	-6.66	99.70	105.70
29	X	1723	U	C2'-C3'-O3'	6.66	124.36	113.70
29	X	736	G	OP1-P-OP2	-6.65	109.62	119.60
29	X	557	U	OP1-P-OP2	-6.65	109.62	119.60
29	X	1050	G	OP1-P-OP2	-6.65	109.63	119.60
29	X	1054	C	OP1-P-OP2	-6.64	109.63	119.60
29	X	2469	G	N9-C1'-C2'	6.64	122.63	114.00
29	X	1852	G	O4'-C4'-C3'	-6.64	97.36	104.00
29	X	2854	G	C4'-C3'-O3'	-6.63	95.47	109.40
29	X	552	C	OP1-P-OP2	-6.63	109.66	119.60
29	X	738	G	OP1-P-OP2	-6.62	109.67	119.60
29	X	1850	G	OP1-P-OP2	-6.62	109.67	119.60
29	X	458	G	N9-C1'-C2'	6.62	122.61	114.00
29	X	2201	G	OP1-P-OP2	-6.61	109.68	119.60
29	X	400	U	N1-C1'-C2'	6.61	122.59	114.00
29	X	2324	G	OP1-P-OP2	-6.61	109.69	119.60
29	X	780	U	C2'-C3'-O3'	6.60	124.26	113.70
29	X	726	G	OP1-P-OP2	-6.60	109.70	119.60
29	X	2323	U	O4'-C1'-N1	6.60	113.48	108.20
29	X	1618	U	N1-C1'-C2'	6.60	122.58	114.00
29	X	460	U	C4'-C3'-O3'	-6.59	95.55	109.40
29	X	2322	U	OP1-P-OP2	-6.59	109.71	119.60
29	X	2326	C	P-O3'-C3'	-6.58	111.80	119.70
29	X	2187	A	OP1-P-OP2	-6.57	109.75	119.60
29	X	416	U	N1-C1'-C2'	6.57	122.54	114.00
29	X	69	G	N9-C1'-C2'	6.56	122.53	114.00
29	X	1056	U	OP1-P-OP2	-6.56	109.76	119.60
29	X	2190	A	OP1-P-OP2	-6.56	109.77	119.60
29	X	734	G	OP1-P-OP2	-6.54	109.79	119.60
29	X	2186	G	OP1-P-OP2	-6.54	109.79	119.60
29	X	1869	A	P-O5'-C5'	-6.53	110.45	120.90
29	X	2016	A	N9-C1'-C2'	6.52	122.48	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	717	G	OP1-P-OP2	-6.51	109.83	119.60
29	X	724	C	C6-N1-C2	6.50	122.90	120.30
29	X	1870	U	P-O3'-C3'	6.50	127.50	119.70
29	X	731	A	C8-N9-C4	-6.49	103.20	105.80
29	X	725	C	OP1-P-OP2	-6.49	109.87	119.60
29	X	731	A	OP1-P-OP2	-6.48	109.88	119.60
29	X	1866	G	P-O3'-C3'	6.48	127.48	119.70
29	X	1065	A	OP1-P-OP2	-6.48	109.88	119.60
29	X	2190	A	O4'-C1'-N9	6.48	113.38	108.20
29	X	415	A	OP1-P-OP2	-6.47	109.89	119.60
29	X	720	A	OP1-P-OP2	-6.47	109.89	119.60
29	X	2197	U	OP1-P-OP2	-6.47	109.90	119.60
29	X	718	A	OP1-P-OP2	-6.47	109.90	119.60
29	X	1853	C	OP1-P-OP2	-6.47	109.90	119.60
29	X	421	G	OP1-P-OP2	-6.46	109.90	119.60
29	X	721	C	OP1-P-OP2	-6.46	109.90	119.60
29	X	1063	C	OP1-P-OP2	-6.46	109.91	119.60
29	X	968	C	N1-C1'-C2'	6.46	122.40	114.00
29	X	804	C	C4'-C3'-O3'	-6.46	95.83	109.40
29	X	562	G	OP1-P-OP2	-6.45	109.92	119.60
21	P	106	LEU	CA-CB-CG	-6.45	100.47	115.30
29	X	2185	U	OP1-P-OP2	-6.44	109.95	119.60
29	X	2200	G	OP1-P-OP2	-6.43	109.96	119.60
29	X	557	U	P-O3'-C3'	6.41	127.39	119.70
29	X	735	G	OP1-P-OP2	-6.41	109.98	119.60
29	X	1410	U	N1-C1'-C2'	6.38	122.30	114.00
29	X	2198	U	N1-C1'-C2'	6.38	122.29	114.00
29	X	1851	A	OP1-P-OP2	-6.37	110.04	119.60
29	X	722	C	OP1-P-OP2	-6.37	110.05	119.60
29	X	1052	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	724	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	730	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	2195	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	1865	C	OP1-P-OP2	-6.36	110.07	119.60
29	X	417	C	O4'-C4'-C3'	6.35	111.18	106.10
29	X	737	C	OP1-P-OP2	-6.34	110.09	119.60
29	X	1051	U	OP1-P-OP2	-6.34	110.09	119.60
29	X	1665	C	O5'-P-OP2	-6.33	100.00	105.70
29	X	741	G	OP1-P-OP2	-6.33	110.11	119.60
29	X	1852	G	OP1-P-OP2	-6.33	110.11	119.60
29	X	2841	U	N1-C1'-C2'	6.32	122.22	114.00
29	X	2760	G	N9-C1'-C2'	6.31	122.21	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2324	G	C1'-O4'-C4'	6.31	114.95	109.90
29	X	2325	A	OP1-P-OP2	-6.31	110.13	119.60
29	X	731	A	C3'-C2'-C1'	6.31	106.55	101.50
29	X	2323	U	C6-N1-C1'	6.31	130.03	121.20
29	X	1859	A	OP1-P-OP2	-6.31	110.14	119.60
29	X	1342	U	N1-C1'-C2'	6.30	122.20	114.00
29	X	2481	G	O5'-P-OP1	-6.30	100.03	105.70
29	X	416	U	OP1-P-OP2	-6.30	110.15	119.60
29	X	1862	C	OP1-P-OP2	-6.30	110.15	119.60
29	X	1868	A	OP1-P-OP2	-6.29	110.16	119.60
29	X	1772	C	N1-C1'-C2'	6.28	122.17	114.00
29	X	1861	G	OP1-P-OP2	-6.28	110.18	119.60
29	X	795	A	C2'-C3'-O3'	-6.28	95.69	109.50
29	X	2191	A	OP1-P-OP2	-6.26	110.20	119.60
29	X	955	G	N9-C1'-C2'	6.26	122.14	114.00
29	X	1459	U	N1-C1'-C2'	6.26	122.14	114.00
29	X	2841	U	C2'-C3'-O3'	6.26	123.71	113.70
29	X	1799	A	N9-C1'-C2'	6.25	122.12	114.00
29	X	1865	C	O4'-C4'-C3'	-6.25	97.75	104.00
29	X	2192	U	OP1-P-OP2	-6.24	110.23	119.60
29	X	1631	C	N1-C1'-C2'	6.24	122.11	114.00
29	X	1867	A	OP1-P-OP2	-6.24	110.24	119.60
29	X	2328	G	OP1-P-OP2	-6.23	110.25	119.60
29	X	1055	A	OP1-P-OP2	-6.22	110.26	119.60
29	X	596	C	N1-C1'-C2'	6.22	122.08	114.00
29	X	1710	U	N1-C1'-C2'	6.21	122.08	114.00
29	X	2580	C	N1-C1'-C2'	6.21	122.08	114.00
29	X	1055	A	C4'-C3'-O3'	6.20	125.40	113.00
29	X	2323	U	C2-N1-C1'	-6.20	110.26	117.70
29	X	732	G	OP1-P-OP2	-6.20	110.31	119.60
29	X	1054	C	C5-C6-N1	6.20	124.10	121.00
29	X	414	A	OP1-P-OP2	-6.18	110.32	119.60
29	X	558	G	OP1-P-OP2	-6.18	110.33	119.60
29	X	796	A	N9-C1'-C2'	-6.16	105.22	112.00
29	X	1771	A	N9-C1'-C2'	6.16	122.01	114.00
29	X	2756	A	C2'-C3'-O3'	6.16	123.55	113.70
29	X	1049	C	OP1-P-OP2	-6.15	110.37	119.60
29	X	82	G	N9-C1'-C2'	6.15	121.99	114.00
29	X	343	A	N9-C1'-C2'	6.14	121.99	114.00
29	X	559	C	OP1-P-OP2	-6.14	110.38	119.60
29	X	1858	C	OP1-P-OP2	-6.14	110.39	119.60
29	X	560	G	OP1-P-OP2	-6.14	110.39	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	740	A	OP1-P-OP2	-6.14	110.39	119.60
29	X	1153	A	O4'-C1'-N9	-6.13	103.30	108.20
29	X	1152	C	N1-C1'-C2'	6.13	121.96	114.00
29	X	2196	U	OP1-P-OP2	-6.12	110.42	119.60
29	X	1871	G	OP1-P-OP2	-6.11	110.43	119.60
29	X	1288	A	O4'-C4'-C3'	-6.11	97.89	104.00
29	X	727	U	OP1-P-OP2	-6.10	110.45	119.60
29	X	805	G	N9-C1'-C2'	6.09	121.92	114.00
29	X	1061	A	OP1-P-OP2	-6.09	110.47	119.60
29	X	582	G	OP2-P-O3'	6.08	118.58	105.20
29	X	801	A	N9-C1'-C2'	6.08	121.91	114.00
29	X	733	G	OP1-P-OP2	-6.07	110.49	119.60
29	X	1870	U	OP1-P-OP2	-6.06	110.50	119.60
12	G	108	GLY	N-CA-C	-6.06	97.95	113.10
29	X	557	U	O4'-C1'-N1	-6.06	103.35	108.20
29	X	2823	G	C2'-C3'-O3'	6.06	123.40	113.70
29	X	13	A	N9-C1'-C2'	6.05	121.86	114.00
29	X	2323	U	P-O3'-C3'	6.05	126.96	119.70
29	X	2322	U	C3'-C2'-C1'	-6.04	96.66	101.50
29	X	2194	A	OP1-P-OP2	-6.03	110.56	119.60
29	X	2327	U	OP1-P-OP2	-6.03	110.56	119.60
29	X	1062	G	OP1-P-OP2	-6.02	110.56	119.60
29	X	1863	U	P-O3'-C3'	-6.02	112.47	119.70
29	X	2668	U	C5'-C4'-C3'	-6.02	106.38	116.00
29	X	556	A	OP1-P-OP2	-6.01	110.59	119.60
29	X	2608	A	C2'-C3'-O3'	6.01	123.31	113.70
29	X	1624	A	N9-C1'-C2'	6.00	121.80	114.00
29	X	1266	G	O4'-C1'-N9	5.98	112.99	108.20
29	X	1860	A	C4'-C3'-C2'	5.97	108.57	102.60
29	X	2418	A	O4'-C1'-N9	5.96	112.97	108.20
29	X	219	G	N9-C1'-C2'	5.96	121.75	114.00
29	X	1278	A	C2'-C3'-O3'	5.96	123.24	113.70
29	X	2193	C	OP1-P-OP2	-5.95	110.68	119.60
29	X	2392	G	N9-C1'-C2'	-5.95	105.46	112.00
29	X	561	U	OP1-P-OP2	-5.93	110.70	119.60
29	X	1866	G	C8-N9-C4	-5.93	104.03	106.40
29	X	2189	A	OP1-P-OP2	-5.92	110.72	119.60
29	X	467	U	N1-C1'-C2'	5.91	121.69	114.00
29	X	777	A	C2'-C3'-O3'	5.91	123.15	113.70
29	X	2198	U	P-O5'-C5'	-5.91	111.45	120.90
29	X	2322	U	C4'-C3'-O3'	5.90	124.81	113.00
29	X	728	G	C2'-C3'-O3'	5.90	123.14	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1866	G	O4'-C1'-N9	-5.89	103.49	108.20
29	X	731	A	P-O3'-C3'	5.89	126.77	119.70
18	M	29	PRO	CA-N-CD	-5.88	103.27	111.50
29	X	1285	A	C2'-C3'-O3'	5.88	123.11	113.70
29	X	553	C	OP1-P-OP2	-5.88	110.79	119.60
29	X	1053	G	OP1-P-OP2	-5.86	110.81	119.60
29	X	1153	A	C2'-C3'-O3'	5.86	123.08	113.70
29	X	539	A	N9-C1'-C2'	5.86	121.61	114.00
29	X	176	A	N9-C1'-C2'	5.85	121.61	114.00
29	X	728	G	OP1-P-OP2	-5.84	110.84	119.60
29	X	824	U	N1-C1'-C2'	5.81	121.55	114.00
29	X	1057	A	N9-C1'-C2'	-5.80	105.62	112.00
29	X	871	U	N1-C1'-C2'	5.79	121.53	114.00
29	X	1561	A	C2'-C3'-O3'	5.79	122.96	113.70
29	X	1851	A	P-O3'-C3'	5.76	126.61	119.70
29	X	177	U	N1-C1'-C2'	5.75	121.48	114.00
29	X	2633	A	N9-C1'-C2'	5.75	121.48	114.00
29	X	1057	A	OP1-P-OP2	-5.75	110.97	119.60
29	X	1865	C	O4'-C1'-N1	5.75	112.80	108.20
25	T	19	LYS	N-CA-C	5.74	126.51	111.00
29	X	226	C	O4'-C1'-N1	5.74	112.79	108.20
29	X	723	C	C5-C6-N1	5.74	123.87	121.00
29	X	2045	A	N9-C1'-C2'	5.74	121.46	114.00
29	X	73	A	N9-C1'-C2'	5.74	121.46	114.00
29	X	555	U	N1-C1'-C2'	-5.73	105.69	112.00
6	A	243	GLY	N-CA-C	5.73	127.43	113.10
29	X	2229	G	N9-C1'-C2'	5.72	121.44	114.00
29	X	730	C	N1-C1'-C2'	5.72	121.44	114.00
29	X	418	C	OP1-P-OP2	-5.71	111.04	119.60
29	X	1963	G	N9-C1'-C2'	5.70	121.41	114.00
29	X	1723	U	N1-C1'-C2'	5.69	121.40	114.00
29	X	2545	A	N9-C1'-C2'	5.69	121.40	114.00
29	X	1056	U	C6-N1-C2	-5.69	117.59	121.00
29	X	557	U	O4'-C1'-C2'	-5.68	100.12	105.80
29	X	723	C	OP1-P-OP2	-5.68	111.08	119.60
29	X	1852	G	C4'-C3'-C2'	5.68	108.28	102.60
29	X	1810	U	N1-C1'-C2'	5.65	121.35	114.00
29	X	2323	U	C1'-O4'-C4'	-5.65	105.38	109.90
29	X	2199	C	OP1-P-OP2	-5.65	111.13	119.60
29	X	2693	U	N1-C1'-C2'	5.64	121.33	114.00
29	X	1853	C	O4'-C4'-C3'	-5.64	98.36	104.00
29	X	1057	A	N3-C4-N9	-5.64	122.89	127.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1854	G	O3'-P-O5'	5.63	114.70	104.00
29	X	557	U	N3-C4-C5	-5.62	111.23	114.60
29	X	2484	G	N9-C1'-C2'	-5.62	105.82	112.00
29	X	2823	G	OP2-P-O3'	5.62	117.56	105.20
29	X	1266	G	C1'-O4'-C4'	-5.61	105.42	109.90
29	X	2188	A	C4'-C3'-C2'	5.59	108.19	102.60
29	X	555	U	P-O3'-C3'	5.58	126.40	119.70
29	X	469	G	OP2-P-O3'	5.58	117.48	105.20
29	X	2315	A	N9-C1'-C2'	5.58	121.25	114.00
29	X	2592	U	C5-C4-O4	-5.58	122.55	125.90
29	X	580	A	C4'-C3'-O3'	-5.58	97.69	109.40
29	X	780	U	N1-C1'-C2'	-5.57	105.87	112.00
29	X	1854	G	C5'-C4'-C3'	5.57	124.92	116.00
29	X	538	A	C2'-C3'-O3'	5.57	122.61	113.70
29	X	1052	C	P-O5'-C5'	-5.57	111.99	120.90
29	X	1058	G	N9-C1'-C2'	5.56	121.23	114.00
29	X	731	A	O4'-C4'-C3'	5.56	110.55	106.10
29	X	459	A	N9-C1'-C2'	5.55	121.22	114.00
29	X	2189	A	C2'-C3'-O3'	5.55	122.58	113.70
29	X	2229	G	C4'-C3'-O3'	-5.54	97.76	109.40
29	X	2482	A	O4'-C1'-N9	5.54	112.63	108.20
29	X	721	C	C6-N1-C2	5.53	122.51	120.30
29	X	728	G	C4-N9-C1'	5.51	133.66	126.50
22	Q	61	LYS	N-CA-C	5.51	125.87	111.00
22	Q	85	GLY	N-CA-C	-5.50	99.34	113.10
29	X	818	G	C4'-C3'-O3'	-5.50	97.85	109.40
29	X	2807	U	C2'-C3'-O3'	5.50	122.50	113.70
29	X	418	C	C3'-C2'-C1'	5.50	105.90	101.50
29	X	447	U	N1-C1'-C2'	5.49	121.13	114.00
29	X	1048	U	OP1-P-OP2	-5.47	111.39	119.60
29	X	59	G	N9-C1'-C2'	5.46	121.10	114.00
29	X	1775	A	N9-C1'-C2'	5.46	121.10	114.00
18	M	103	LYS	N-CA-C	5.45	125.72	111.00
29	X	1858	C	C4'-C3'-C2'	5.45	108.05	102.60
29	X	2551	A	N9-C1'-C2'	5.45	121.09	114.00
29	X	34	U	N1-C1'-C2'	5.45	121.09	114.00
29	X	1407	G	N9-C1'-C2'	5.45	121.08	114.00
29	X	15	G	N9-C1'-C2'	-5.43	106.02	112.00
29	X	551	A	OP1-P-O3'	5.42	117.13	105.20
29	X	2320	G	C5'-C4'-C3'	5.42	124.67	116.00
29	X	2810	A	N9-C1'-C2'	5.42	121.05	114.00
29	X	1854	G	C4'-C3'-O3'	5.42	123.84	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1861	G	P-O5'-C5'	-5.42	112.23	120.90
29	X	2323	U	C5'-C4'-O4'	-5.42	102.60	109.10
29	X	797	A	N9-C1'-C2'	5.41	121.03	114.00
29	X	1373	G	C5-C6-O6	-5.41	125.36	128.60
29	X	1862	C	C1'-O4'-C4'	5.40	114.22	109.90
29	X	1800	A	N9-C1'-C2'	5.40	121.02	114.00
29	X	1666	G	O4'-C4'-C3'	-5.40	98.60	104.00
29	X	2482	A	N9-C1'-C2'	5.40	121.02	114.00
22	Q	66	GLY	N-CA-C	-5.40	99.61	113.10
29	X	557	U	N1-C2-N3	5.39	118.13	114.90
29	X	1857	G	OP1-P-OP2	-5.39	111.52	119.60
29	X	2198	U	OP1-P-OP2	-5.38	111.52	119.60
29	X	1685	A	C5'-C4'-C3'	-5.37	107.40	116.00
29	X	2188	A	N9-C1'-C2'	-5.37	106.09	112.00
29	X	1345	G	O4'-C1'-N9	5.37	112.50	108.20
29	X	2592	U	C2-N1-C1'	5.37	124.15	117.70
29	X	2795	A	N9-C1'-C2'	5.37	120.98	114.00
23	R	71	GLN	N-CA-C	-5.37	96.51	111.00
29	X	1675	C	O5'-P-OP1	-5.35	100.89	105.70
29	X	2254	C	N1-C1'-C2'	5.34	120.95	114.00
7	B	137	ARG	N-CA-C	-5.33	96.61	111.00
29	X	1212	U	C2'-C3'-O3'	5.33	122.23	113.70
29	X	1496	G	C2'-C3'-O3'	5.33	122.23	113.70
29	X	2189	A	C4'-C3'-C2'	-5.32	97.28	102.60
7	B	51	TYR	N-CA-C	5.32	125.36	111.00
29	X	2015	G	C5'-C4'-C3'	-5.30	107.52	116.00
29	X	2769	C	O4'-C1'-N1	5.30	112.44	108.20
29	X	1850	G	O4'-C1'-N9	5.30	112.44	108.20
29	X	1866	G	N7-C8-N9	5.30	115.75	113.10
23	R	6	ALA	N-CA-C	5.28	125.27	111.00
29	X	2588	U	N1-C1'-C2'	5.27	120.85	114.00
29	X	1299	A	C2'-C3'-O3'	5.26	122.12	113.70
29	X	2261	G	O4'-C1'-N9	5.26	112.41	108.20
29	X	2322	U	C6-N1-C2	-5.26	117.84	121.00
29	X	1056	U	C5'-C4'-C3'	5.26	124.41	116.00
29	X	2191	A	O4'-C1'-N9	-5.25	104.00	108.20
29	X	795	A	N9-C1'-C2'	5.25	120.83	114.00
29	X	1871	G	O4'-C4'-C3'	-5.25	98.75	104.00
29	X	728	G	O3'-P-O5'	5.24	113.96	104.00
29	X	557	U	C1'-O4'-C4'	5.24	114.09	109.90
10	E	41	LEU	CA-CB-CG	5.24	127.35	115.30
29	X	723	C	C4-C5-C6	-5.24	114.78	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2193	C	C6-N1-C2	5.24	122.39	120.30
29	X	1849	G	C4'-C3'-C2'	-5.23	97.37	102.60
29	X	1716	G	OP1-P-O3'	5.23	116.70	105.20
29	X	2660	C	N1-C1'-C2'	5.23	120.80	114.00
29	X	2197	U	C6-N1-C2	-5.22	117.87	121.00
29	X	688	A	C5'-C4'-C3'	5.22	124.35	116.00
29	X	1071	U	N1-C1'-C2'	5.21	120.78	114.00
29	X	1847	G	P-O5'-C5'	-5.21	112.57	120.90
29	X	2480	C	N1-C1'-C2'	5.20	120.76	114.00
22	Q	60	GLY	N-CA-C	5.20	126.09	113.10
29	X	683	A	C2'-C3'-O3'	5.19	122.01	113.70
16	K	60	LEU	CA-CB-CG	5.18	127.22	115.30
29	X	742	G	N9-C1'-C2'	5.18	120.74	114.00
15	J	89	GLY	N-CA-C	5.18	126.05	113.10
29	X	1790	G	C2'-C3'-O3'	5.17	121.97	113.70
29	X	558	G	C4'-C3'-O3'	5.16	123.33	113.00
29	X	1715	A	C5'-C4'-O4'	-5.16	102.91	109.10
14	I	36	GLY	N-CA-C	5.16	125.99	113.10
7	B	16	LYS	N-CA-C	-5.14	97.11	111.00
14	I	32	ARG	N-CA-C	-5.14	97.11	111.00
29	X	334	G	N9-C1'-C2'	5.14	120.69	114.00
29	X	1855	G	O3'-P-O5'	5.14	113.77	104.00
29	X	684	C	C5'-C4'-C3'	-5.14	107.77	116.00
29	X	1634	A	N9-C1'-C2'	5.14	120.68	114.00
30	Y	53	ASP	CB-CG-OD2	5.14	122.92	118.30
29	X	2668	U	O4'-C1'-N1	5.13	112.31	108.20
16	K	95	THR	N-CA-C	-5.13	97.15	111.00
29	X	469	G	O4'-C1'-N9	5.13	112.30	108.20
29	X	552	C	C6-N1-C2	5.13	122.35	120.30
29	X	1194	U	C2'-C3'-O3'	5.13	121.90	113.70
29	X	2191	A	N9-C1'-C2'	5.11	120.65	114.00
6	A	211	ARG	N-CA-C	-5.11	97.20	111.00
29	X	2199	C	C2'-C3'-O3'	5.11	121.88	113.70
29	X	2756	A	OP2-P-O3'	5.11	116.44	105.20
29	X	469	G	N9-C1'-C2'	5.10	120.63	114.00
29	X	1249	G	C2'-C3'-O3'	5.09	121.85	113.70
29	X	3	U	C2'-C3'-O3'	5.09	121.84	113.70
29	X	558	G	N7-C8-N9	5.08	115.64	113.10
29	X	558	G	N9-C4-C5	5.08	107.43	105.40
29	X	1701	C	C5'-C4'-C3'	-5.08	107.87	116.00
29	X	1775	A	OP2-P-O3'	5.08	116.37	105.20
29	X	1978	U	OP2-P-O3'	5.08	116.37	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2188	A	P-O3'-C3'	-5.08	113.61	119.70
29	X	2200	G	P-O5'-C5'	-5.07	112.78	120.90
29	X	2470	U	N1-C1'-C2'	5.07	120.60	114.00
29	X	1849	G	N9-C1'-C2'	5.07	120.59	114.00
29	X	1337	G	C4'-C3'-O3'	-5.06	98.77	109.40
12	G	69	ASP	N-CA-C	-5.05	97.38	111.00
29	X	1000	G	N9-C1'-C2'	5.05	120.56	114.00
29	X	2758	A	O4'-C1'-N9	5.05	112.24	108.20
29	X	1054	C	N3-C4-C5	-5.04	119.88	121.90
29	X	994	A	C2'-C3'-O3'	5.04	121.77	113.70
29	X	1685	A	C4'-C3'-C2'	5.04	107.64	102.60
29	X	1081	A	N9-C1'-C2'	5.04	120.55	114.00
18	M	100	ARG	NE-CZ-NH1	-5.03	117.78	120.30
29	X	1937	G	N9-C1'-C2'	5.02	120.53	114.00
13	H	28	GLY	N-CA-C	5.01	125.63	113.10
26	U	67	LEU	CB-CA-C	5.01	119.72	110.20
29	X	1710	U	OP1-P-O3'	5.01	116.23	105.20
14	I	35	LYS	N-CA-C	-5.01	97.47	111.00
29	X	583	C	OP2-P-O3'	5.01	116.22	105.20
15	J	85	GLY	N-CA-C	-5.01	100.58	113.10

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
29	X	1278	A	C1'
29	X	2592	U	C1'

All (266) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	A	104	TYR	Sidechain
19	N	32	TYR	Sidechain
19	N	76	TYR	Sidechain
22	Q	25	TYR	Sidechain
29	X	1000	G	Sidechain
29	X	1023	U	Sidechain
29	X	1030	U	Sidechain
29	X	1037	U	Sidechain
29	X	1044	U	Sidechain
29	X	1054	C	Sidechain
29	X	1056	U	Sidechain
29	X	112	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1124	U	Sidechain
29	X	1136	G	Sidechain
29	X	1141	U	Sidechain
29	X	1142	G	Sidechain
29	X	1143	A	Sidechain
29	X	1152	C	Sidechain
29	X	1153	A	Sidechain
29	X	1156	U	Sidechain
29	X	1165	G	Sidechain
29	X	1167	A	Sidechain
29	X	118	U	Sidechain
29	X	1184	G	Sidechain
29	X	12	U	Sidechain
29	X	1200	G	Sidechain
29	X	1202	U	Sidechain
29	X	1206	G	Sidechain
29	X	1213	U	Sidechain
29	X	1236	G	Sidechain
29	X	124	A	Sidechain
29	X	1240	G	Sidechain
29	X	1250	A	Sidechain
29	X	1251	G	Sidechain
29	X	1253	C	Sidechain
29	X	1261	G	Sidechain
29	X	1265	G	Sidechain
29	X	1269	G	Sidechain
29	X	1281	A	Sidechain
29	X	1282	A	Sidechain
29	X	1284	G	Sidechain
29	X	1287	A	Sidechain
29	X	1290	A	Sidechain
29	X	1294	G	Sidechain
29	X	13	A	Sidechain
29	X	1314	A	Sidechain
29	X	1322	G	Sidechain
29	X	1332	G	Sidechain
29	X	1342	U	Sidechain
29	X	1357	U	Sidechain
29	X	1370	U	Sidechain
29	X	1373	G	Sidechain
29	X	1377	G	Sidechain
29	X	1452	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1467	U	Sidechain
29	X	15	G	Sidechain
29	X	1573	G	Sidechain
29	X	1574	A	Sidechain
29	X	1581	C	Sidechain
29	X	1583	A	Sidechain
29	X	1623	C	Sidechain
29	X	1629	G	Sidechain
29	X	1631	C	Sidechain
29	X	1632	A	Sidechain
29	X	165	G	Sidechain
29	X	1651	U	Sidechain
29	X	1664	G	Sidechain
29	X	1666	G	Sidechain
29	X	1671	A	Sidechain
29	X	1672	A	Sidechain
29	X	1673	C	Sidechain
29	X	1690	U	Sidechain
29	X	1692	C	Sidechain
29	X	1698	C	Sidechain
29	X	1705	U	Sidechain
29	X	1710	U	Sidechain
29	X	1711	C	Sidechain
29	X	1716	G	Sidechain
29	X	172	A	Sidechain
29	X	1749	G	Sidechain
29	X	1752	U	Sidechain
29	X	1763	G	Sidechain
29	X	177	U	Sidechain
29	X	1772	C	Sidechain
29	X	1774	A	Sidechain
29	X	1777	A	Sidechain
29	X	178	C	Sidechain
29	X	1789	U	Sidechain
29	X	1792	C	Sidechain
29	X	1807	A	Sidechain
29	X	1810	U	Sidechain
29	X	1815	G	Sidechain
29	X	1819	U	Sidechain
29	X	1820	G	Sidechain
29	X	1849	G	Sidechain
29	X	1851	A	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1922	U	Sidechain
29	X	1938	U	Sidechain
29	X	1945	C	Sidechain
29	X	1947	G	Sidechain
29	X	1961	A	Sidechain
29	X	1974	U	Sidechain
29	X	1975	G	Sidechain
29	X	1976	U	Sidechain
29	X	1994	U	Sidechain
29	X	1996	A	Sidechain
29	X	1998	A	Sidechain
29	X	2009	U	Sidechain
29	X	2015	G	Sidechain
29	X	2016	A	Sidechain
29	X	2022	C	Sidechain
29	X	2028	C	Sidechain
29	X	2034	A	Sidechain
29	X	2037	A	Sidechain
29	X	2042	A	Sidechain
29	X	2045	A	Sidechain
29	X	214	C	Sidechain
29	X	218	A	Sidechain
29	X	2189	A	Sidechain
29	X	219	G	Sidechain
29	X	2192	U	Sidechain
29	X	2195	C	Sidechain
29	X	2196	U	Sidechain
29	X	2199	C	Sidechain
29	X	2211	U	Sidechain
29	X	2223	U	Sidechain
29	X	224	G	Sidechain
29	X	2243	C	Sidechain
29	X	2258	G	Sidechain
29	X	228	A	Sidechain
29	X	2284	U	Sidechain
29	X	2310	G	Sidechain
29	X	2313	G	Sidechain
29	X	2315	A	Sidechain
29	X	2323	U	Sidechain
29	X	2324	G	Sidechain
29	X	2342	U	Sidechain
29	X	2355	A	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2361	G	Sidechain
29	X	2363	G	Sidechain
29	X	2369	U	Sidechain
29	X	2371	A	Sidechain
29	X	2392	G	Sidechain
29	X	2402	U	Sidechain
29	X	2416	U	Sidechain
29	X	2427	A	Sidechain
29	X	2428	U	Sidechain
29	X	2430	A	Sidechain
29	X	2460	G	Sidechain
29	X	2482	A	Sidechain
29	X	2486	C	Sidechain
29	X	2487	G	Sidechain
29	X	2492	G	Sidechain
29	X	2496	C	Sidechain
29	X	2501	U	Sidechain
29	X	2504	G	Sidechain
29	X	2508	G	Sidechain
29	X	2513	A	Sidechain
29	X	2525	U	Sidechain
29	X	2528	G	Sidechain
29	X	2534	U	Sidechain
29	X	2540	A	Sidechain
29	X	2541	U	Sidechain
29	X	2548	G	Sidechain
29	X	2549	G	Sidechain
29	X	2557	G	Sidechain
29	X	2559	U	Sidechain
29	X	2560	G	Sidechain
29	X	2580	C	Sidechain
29	X	2588	U	Sidechain
29	X	2590	U	Sidechain
29	X	2592	U	Sidechain
29	X	2595	C	Sidechain
29	X	2596	C	Sidechain
29	X	2613	A	Sidechain
29	X	2626	U	Sidechain
29	X	2663	U	Sidechain
29	X	2693	U	Sidechain
29	X	2694	G	Sidechain
29	X	2698	G	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2702	G	Sidechain
29	X	2706	U	Sidechain
29	X	2711	G	Sidechain
29	X	2730	A	Sidechain
29	X	2734	U	Sidechain
29	X	2736	U	Sidechain
29	X	2805	G	Sidechain
29	X	2813	G	Sidechain
29	X	2817	A	Sidechain
29	X	2819	G	Sidechain
29	X	2821	G	Sidechain
29	X	2824	C	Sidechain
29	X	2837	G	Sidechain
29	X	2844	G	Sidechain
29	X	2847	G	Sidechain
29	X	2855	C	Sidechain
29	X	2858	A	Sidechain
29	X	318	G	Sidechain
29	X	320	A	Sidechain
29	X	333	A	Sidechain
29	X	335	A	Sidechain
29	X	342	G	Sidechain
29	X	39	C	Sidechain
29	X	396	U	Sidechain
29	X	400	U	Sidechain
29	X	404	A	Sidechain
29	X	415	A	Sidechain
29	X	424	G	Sidechain
29	X	447	U	Sidechain
29	X	456	C	Sidechain
29	X	467	U	Sidechain
29	X	474	G	Sidechain
29	X	482	A	Sidechain
29	X	490	A	Sidechain
29	X	505	G	Sidechain
29	X	518	A	Sidechain
29	X	520	C	Sidechain
29	X	539	A	Sidechain
29	X	557	U	Sidechain
29	X	570	G	Sidechain
29	X	571	U	Sidechain
29	X	577	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	59	G	Sidechain
29	X	594	G	Sidechain
29	X	617	U	Sidechain
29	X	62	U	Sidechain
29	X	631	G	Sidechain
29	X	671	A	Sidechain
29	X	681	A	Sidechain
29	X	683	A	Sidechain
29	X	685	U	Sidechain
29	X	69	G	Sidechain
29	X	701	U	Sidechain
29	X	713	G	Sidechain
29	X	731	A	Sidechain
29	X	752	G	Sidechain
29	X	756	C	Sidechain
29	X	774	A	Sidechain
29	X	780	U	Sidechain
29	X	794	A	Sidechain
29	X	804	C	Sidechain
29	X	805	G	Sidechain
29	X	814	G	Sidechain
29	X	816	U	Sidechain
29	X	824	U	Sidechain
29	X	831	G	Sidechain
29	X	833	A	Sidechain
29	X	835	U	Sidechain
29	X	836	G	Sidechain
29	X	840	U	Sidechain
29	X	859	U	Sidechain
29	X	873	U	Sidechain
29	X	919	U	Sidechain
29	X	920	G	Sidechain
29	X	943	U	Sidechain
29	X	951	G	Sidechain
29	X	956	A	Sidechain
29	X	969	U	Sidechain
29	X	985	G	Sidechain
29	X	991	A	Sidechain
29	X	993	C	Sidechain
30	Y	52	TYR	Sidechain
31	Z	101	A	Sidechain
31	Z	17	A	Sidechain

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Mol	Chain	Res	Type	Group
31	Z	25	G	Sidechain
31	Z	68	A	Sidechain

## 5.2 Close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	53	0	0	0	0
2	2	46	0	0	0	0
3	3	63	0	0	1	0
4	4	297	0	330	62	0
5	5	114	0	79	5	0
6	A	1826	0	1885	451	0
7	B	1539	0	1600	303	0
8	C	1506	0	1525	371	0
9	D	1400	0	1481	373	0
10	E	1286	0	1336	264	0
11	F	1044	0	1088	176	0
12	G	1114	0	1144	310	0
13	H	997	0	1046	194	0
14	I	1067	0	1103	301	0
15	J	1090	0	1125	273	0
16	K	878	0	930	135	0
17	L	779	0	820	231	0
18	M	871	0	894	208	0
19	N	978	0	1020	239	0
20	O	741	0	756	186	0
21	P	1014	0	1096	181	0
22	Q	726	0	753	150	0
23	R	825	0	881	266	0
24	S	1345	0	1372	303	0
25	T	625	0	655	111	0
26	U	552	0	604	207	0
27	V	533	0	558	109	0
28	W	424	0	470	83	0
29	X	57651	0	29049	4301	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
30	Y	457	0	462	86	0
31	Z	2598	0	1328	185	0
32	M	1	0	0	0	0
32	X	30	0	0	0	0
32	Z	5	0	0	0	0
All	All	84475	0	55390	9214	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 66.

All (9214) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:B:116:VAL:N	7:B:136:ARG:HE	1.23	1.30
29:X:1053:G:H2'	29:X:1054:C:C6	1.70	1.26
29:X:2196:U:H2'	29:X:2197:U:O4'	1.31	1.23
29:X:2736:U:O2'	29:X:2737:A:H5''	1.36	1.21
29:X:2496:C:O2'	29:X:2497:A:H3'	1.40	1.19
6:A:252:LYS:N	6:A:252:LYS:HE3	1.58	1.18
7:B:116:VAL:H	7:B:136:ARG:NE	1.39	1.18
8:C:3:GLN:HG2	8:C:116:LYS:HD2	1.27	1.17
18:M:108:ARG:O	18:M:109:GLU:HG3	1.03	1.17
4:4:19:ARG:HA	29:X:2736:U:H5''	1.25	1.17
17:L:40:ALA:HB2	17:L:103:LEU:HD11	1.25	1.16
18:M:28:ARG:HB2	18:M:29:PRO:HD3	1.27	1.16
29:X:1128:G:H3'	29:X:1129:A:H5''	1.28	1.15
26:U:27:ASP:HA	26:U:32:ARG:NH2	1.58	1.15
28:W:23:LEU:HD21	28:W:43:MET:HB3	1.25	1.14
31:Z:43:G:H5'	31:Z:44:C:H5'	1.28	1.14
8:C:162:ARG:CZ	29:X:333:A:H3'	1.77	1.14
18:M:108:ARG:O	18:M:109:GLU:CG	1.95	1.13
19:N:47:TYR:HE1	20:O:73:LYS:HE2	1.13	1.13
17:L:15:ARG:HD2	17:L:91:ARG:HH11	1.11	1.13
14:I:30:ALA:HB3	14:I:34:HIS:CE1	1.83	1.13
29:X:517:A:H5''	29:X:518:A:H5'	1.26	1.12
29:X:1854:G:H2'	29:X:1855:G:OP2	1.39	1.12
15:J:34:GLY:HA2	15:J:106:GLU:HA	1.27	1.12
28:W:4:LYS:HG3	28:W:52:GLU:HB3	1.18	1.12
24:S:19:ILE:HG12	24:S:36:ARG:HA	1.30	1.11
18:M:33:VAL:HG22	18:M:51:GLU:HB2	1.18	1.11
29:X:1052:C:C3'	29:X:1053:G:H5''	1.79	1.11
17:L:97:HIS:O	17:L:101:LYS:HB2	1.50	1.11
26:U:49:LYS:HB2	26:U:61:TRP:HA	1.33	1.11

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:B:183:LEU:HD21	18:M:16:ILE:HD13	1.32	1.11
7:B:38:THR:HG22	7:B:40:GLN:H	1.07	1.11
14:I:108:LEU:HB2	14:I:122:VAL:HG11	1.27	1.11
4:4:10:MET:HE3	4:4:32:HIS:HA	1.32	1.11
29:X:2323:U:H6	29:X:2323:U:H5''	1.09	1.11
18:M:34:ARG:NH1	18:M:88:VAL:HG21	1.65	1.11
13:H:116:ARG:HD2	18:M:38:LYS:HE2	1.11	1.11
7:B:150:VAL:HG21	7:B:154:LYS:HE2	1.31	1.10
6:A:208:LYS:HE3	29:X:1782:A:H1'	1.33	1.10
24:S:127:PRO:HA	24:S:130:ILE:HD11	1.28	1.10
11:F:51:ALA:HB1	11:F:73:PRO:HD2	1.20	1.10
29:X:558:G:N3	29:X:558:G:H3'	1.67	1.10
10:E:11:VAL:HG12	10:E:15:VAL:HG21	1.28	1.10
29:X:1468:A:H5''	29:X:1472:C:N4	1.66	1.10
9:D:13:ARG:NH1	9:D:14:PRO:HG3	1.67	1.09
26:U:51:ILE:HG23	26:U:59:THR:HA	1.18	1.09
29:X:304:A:H2'	29:X:305:A:H5''	1.32	1.09
6:A:43:ARG:H	6:A:43:ARG:HD2	0.97	1.09
29:X:729:A:H2'	29:X:730:C:O4'	1.50	1.09
6:A:43:ARG:N	6:A:43:ARG:HD2	1.63	1.09
13:H:47:VAL:HG23	13:H:77:THR:HG23	1.17	1.09
26:U:32:ARG:NE	26:U:32:ARG:H	1.50	1.09
12:G:103:TYR:HB3	12:G:107:GLN:HE21	1.12	1.08
11:F:19:PRO:HG2	11:F:21:PRO:HD2	1.12	1.08
29:X:1550:C:H2'	29:X:1553:G:N2	1.67	1.08
29:X:542:A:C2	29:X:2004:U:H2'	1.87	1.08
14:I:18:ARG:HB2	14:I:21:ARG:HD3	1.28	1.08
26:U:48:LYS:HG2	26:U:49:LYS:H	0.95	1.08
18:M:6:LYS:H	18:M:6:LYS:HD2	1.08	1.08
11:F:126:THR:HA	29:X:1091:C:H1'	1.34	1.08
26:U:48:LYS:HE3	29:X:2074:U:H1'	1.31	1.08
23:R:84:VAL:HA	23:R:90:LYS:HD3	1.33	1.08
29:X:2194:A:C3'	29:X:2195:C:H5''	1.84	1.08
29:X:1058:G:H2'	29:X:1121:G:H1	1.10	1.08
6:A:183:ARG:HB3	6:A:183:ARG:HH11	1.05	1.08
15:J:37:ALA:HA	15:J:130:THR:HG22	1.33	1.07
16:K:100:VAL:HG12	16:K:101:GLY:H	0.92	1.07
20:O:40:VAL:HG12	20:O:45:THR:HA	1.33	1.07
8:C:148:VAL:HB	8:C:167:VAL:HG12	1.13	1.07
30:Y:4:HIS:HB3	30:Y:5:PRO:HD3	1.37	1.07
25:T:71:ASN:HD22	25:T:77:ARG:HD3	1.06	1.07
29:X:663:G:H3'	29:X:664:C:H5''	1.36	1.07

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:752:G:H4'	29:X:753:U:OP1	1.53	1.07
29:X:2170:C:H3'	29:X:2171:U:H5''	1.35	1.07
29:X:1056:U:O2	29:X:1056:U:C2'	1.98	1.06
16:K:5:LYS:HE2	29:X:2795:A:H4'	1.27	1.06
9:D:27:ALA:HB2	31:Z:59:A:H1'	1.36	1.06
13:H:23:ARG:HH12	13:H:25:LEU:HD23	1.18	1.06
16:K:3:HIS:ND1	16:K:5:LYS:HD2	1.68	1.06
24:S:104:SER:HA	24:S:139:THR:HA	1.36	1.06
29:X:2194:A:H3'	29:X:2195:C:H5''	1.33	1.06
6:A:77:ALA:HB2	6:A:97:TYR:HD1	1.20	1.05
29:X:1052:C:C2'	29:X:1053:G:H5''	1.86	1.05
13:H:23:ARG:NH1	13:H:25:LEU:HD23	1.71	1.05
29:X:1058:G:H2'	29:X:1121:G:N1	1.72	1.05
29:X:109:A:H2'	29:X:110:U:H5''	1.38	1.05
15:J:64:LYS:HD2	15:J:64:LYS:H	1.15	1.05
12:G:33:ILE:HB	12:G:34:PRO:CD	1.87	1.05
8:C:5:ASN:HA	8:C:118:VAL:HG21	1.33	1.05
8:C:95:LEU:HD23	8:C:96:PRO:HD2	1.36	1.05
29:X:2195:C:O2'	29:X:2196:U:H5'	1.56	1.05
24:S:120:LEU:HD21	24:S:162:ALA:HB2	1.38	1.05
28:W:8:SER:HB2	29:X:999:A:H5''	1.36	1.05
9:D:66:ILE:HD11	31:Z:43:G:H5''	1.35	1.05
29:X:1508:G:H5'	29:X:1509:A:H5''	1.33	1.05
11:F:112:MET:HG3	11:F:113:PRO:HD3	1.09	1.04
29:X:317:U:H2'	29:X:318:G:H5''	1.38	1.04
14:I:94:GLU:HA	14:I:97:ARG:NE	1.70	1.04
9:D:150:ARG:HG2	9:D:151:GLY:H	1.19	1.04
8:C:68:ARG:NH1	29:X:2043:A:H62	1.53	1.04
29:X:2196:U:C2'	29:X:2197:U:O4'	2.04	1.04
29:X:2195:C:H2'	29:X:2196:U:C6	1.93	1.04
17:L:60:LYS:HG2	17:L:62:GLY:H	1.20	1.04
16:K:100:VAL:HG12	16:K:101:GLY:N	1.67	1.04
12:G:67:ARG:HB3	12:G:70:PHE:HA	1.39	1.04
23:R:22:VAL:HG11	23:R:80:LYS:HD2	1.40	1.04
27:V:41:HIS:CD2	27:V:42:ARG:H	1.76	1.04
17:L:15:ARG:HH11	17:L:15:ARG:HA	1.22	1.03
6:A:72:LYS:HE2	6:A:97:TYR:CD2	1.94	1.03
29:X:2563:U:H2'	29:X:2564:U:H5''	1.35	1.03
17:L:54:ALA:HB3	17:L:75:LEU:HB2	1.36	1.03
14:I:94:GLU:HA	14:I:97:ARG:HE	0.88	1.03
29:X:2769:C:H2'	29:X:2770:A:H8	1.24	1.03
8:C:68:ARG:HH12	29:X:2043:A:N6	1.55	1.03

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:871:U:O2'	29:X:2247:A:H2'	1.57	1.03
29:X:1053:G:H2'	29:X:1054:C:H6	1.00	1.03
19:N:66:ASN:HB2	19:N:70:ARG:HH12	1.18	1.03
9:D:122:PHE:HB3	9:D:129:ASN:HD22	1.19	1.03
9:D:81:GLN:HG2	9:D:82:GLY:H	1.24	1.03
29:X:1118:G:H2'	29:X:1119:U:H5''	1.39	1.03
16:K:87:TYR:HE1	16:K:94:TYR:HD2	1.07	1.03
14:I:11:GLY:H	14:I:14:LYS:HB3	1.21	1.02
20:O:22:VAL:HG22	29:X:1173:G:H4'	1.41	1.02
29:X:2516:U:H2'	29:X:2517:C:C6	1.94	1.02
29:X:2482:A:H4'	29:X:2483:U:OP1	1.56	1.02
6:A:252:LYS:H	6:A:252:LYS:HE3	0.88	1.02
19:N:82:GLY:HA3	19:N:113:SER:OG	1.59	1.02
12:G:61:ARG:HE	12:G:65:LYS:HD2	1.22	1.02
14:I:93:LEU:O	14:I:97:ARG:HG3	1.61	1.01
13:H:47:VAL:HA	13:H:74:VAL:HG12	1.42	1.01
25:T:39:ARG:HH21	29:X:2334:C:H1'	1.17	1.01
19:N:47:TYR:CE1	20:O:73:LYS:HE2	1.95	1.01
13:H:116:ARG:CD	18:M:38:LYS:HE2	1.90	1.01
9:D:69:LYS:HE2	9:D:84:PRO:HG3	1.42	1.01
17:L:33:ARG:HH11	17:L:100:VAL:HA	1.17	1.01
9:D:40:LEU:HB3	9:D:150:ARG:HE	1.23	1.01
8:C:2:ALA:HA	8:C:13:ARG:HA	1.40	1.01
9:D:38:GLU:HB3	9:D:87:ILE:HB	1.39	1.00
29:X:2672:U:H2'	29:X:2673:G:H8	1.24	1.00
26:U:41:VAL:HG23	26:U:42:GLN:H	1.22	1.00
29:X:2222:U:H2'	29:X:2223:U:C6	1.95	1.00
28:W:2:LYS:HB3	28:W:54:GLN:CB	1.91	1.00
10:E:44:ARG:HH22	10:E:46:ASP:HB2	1.21	1.00
26:U:27:ASP:HA	26:U:32:ARG:HH21	1.25	1.00
22:Q:29:VAL:HG11	22:Q:38:ILE:HD12	1.43	1.00
29:X:219:G:N2	29:X:231:G:H2'	1.76	1.00
29:X:542:A:H2	29:X:2004:U:H2'	1.19	1.00
24:S:123:VAL:N	24:S:161:ALA:HB2	1.77	1.00
20:O:11:GLN:HE22	20:O:38:LEU:HB3	1.23	0.99
29:X:2286:G:H21	29:X:2290:A:H61	1.07	0.99
23:R:97:GLN:HB2	23:R:101:GLY:HA2	1.44	0.99
7:B:116:VAL:HG22	7:B:136:ARG:CZ	1.91	0.99
7:B:152:LYS:HB2	12:G:106:TYR:HB3	1.42	0.99
11:F:53:ILE:HG12	11:F:72:PRO:HB3	1.44	0.99
8:C:48:ARG:HB2	8:C:51:VAL:HG22	1.44	0.99
29:X:1978:U:H3'	29:X:1979:C:H5''	1.41	0.99

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:113:VAL:HG22	24:S:171:VAL:HG22	1.45	0.99
29:X:1710:U:H5'	29:X:1711:C:H5	1.23	0.99
29:X:2781:G:H2'	29:X:2782:G:H5''	1.43	0.99
29:X:653:G:H2'	29:X:654:A:H5''	1.43	0.99
29:X:1850:G:N2	29:X:1867:A:N7	2.08	0.99
29:X:1052:C:H3'	29:X:1053:G:H5''	1.40	0.98
13:H:116:ARG:HG2	18:M:40:ARG:HH21	1.20	0.98
29:X:1542:G:N2	29:X:1562:G:H1	1.61	0.98
26:U:49:LYS:HB3	26:U:61:TRP:CE3	1.97	0.98
10:E:58:ALA:H	10:E:62:ARG:HG3	1.28	0.98
27:V:50:VAL:HA	27:V:53:LEU:HD12	1.45	0.98
29:X:623:G:H3'	29:X:624:A:H5''	1.45	0.98
29:X:1448:A:H61	29:X:1574:A:H61	1.11	0.98
7:B:117:MET:H	7:B:136:ARG:HD2	1.21	0.98
19:N:24:PHE:HB2	19:N:29:SER:HB3	1.43	0.98
7:B:2:LYS:HA	7:B:84:PHE:CE1	1.98	0.98
29:X:2581:A:H3'	29:X:2582:G:H5''	1.43	0.98
29:X:88:G:H3'	29:X:89:A:H5''	1.41	0.98
13:H:23:ARG:HH11	29:X:2541:U:H4'	1.26	0.98
29:X:1314:A:O2'	29:X:1315:A:H3'	1.64	0.98
26:U:48:LYS:HG2	26:U:49:LYS:N	1.74	0.98
7:B:9:ILE:HD11	7:B:27:LEU:HB2	1.43	0.98
29:X:1850:G:O2'	29:X:1851:A:H8	1.46	0.98
15:J:21:ASP:HA	15:J:99:LYS:HG3	1.46	0.97
29:X:1281:A:H1'	29:X:2592:U:C5	1.98	0.97
29:X:1128:G:C3'	29:X:1129:A:H5''	1.93	0.97
29:X:1542:G:H22	29:X:1562:G:H1	1.02	0.97
19:N:66:ASN:HB2	19:N:70:ARG:NH1	1.78	0.97
29:X:2306:A:H2'	29:X:2307:A:C8	1.99	0.97
29:X:2447:G:O2'	29:X:2448:A:H5'	1.64	0.97
7:B:116:VAL:HG13	7:B:136:ARG:HH21	1.30	0.97
15:J:12:LYS:O	15:J:13:GLN:HB2	1.65	0.97
8:C:66:ASN:HB3	29:X:1268:U:H2'	1.45	0.97
18:M:6:LYS:HD2	18:M:6:LYS:N	1.80	0.97
29:X:1252:C:O2'	29:X:1253:C:H5''	1.64	0.97
23:R:15:HIS:CD2	29:X:347:C:H4'	1.99	0.97
17:L:38:ILE:HD12	17:L:39:TYR:H	1.25	0.97
29:X:717:G:H2'	29:X:739:G:H22	1.24	0.97
23:R:105:ARG:HH22	23:R:112:LYS:HA	1.26	0.97
29:X:1223:G:H4'	29:X:1224:A:H5''	1.46	0.97
9:D:12:VAL:HG12	9:D:16:LEU:HD11	1.46	0.97
7:B:154:LYS:HE3	7:B:156:MET:SD	2.05	0.97

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:81:ASN:O	19:N:84:LYS:HB3	1.64	0.97
23:R:107:ALA:HB1	23:R:111:GLY:HA2	1.45	0.97
6:A:247:VAL:HG23	6:A:248:THR:HG23	1.43	0.97
9:D:122:PHE:HB3	9:D:129:ASN:ND2	1.79	0.96
14:I:90:ARG:HD2	14:I:93:LEU:HD12	1.47	0.96
22:Q:7:LEU:HD21	27:V:30:PHE:HE2	1.28	0.96
13:H:13:ASN:HD21	13:H:109:ARG:HG2	1.30	0.96
29:X:143:A:H2'	29:X:144:U:C6	2.01	0.96
29:X:2196:U:H2'	29:X:2197:U:C1'	1.94	0.96
12:G:100:TYR:HB2	12:G:116:ARG:NH1	1.79	0.96
17:L:55:SER:O	17:L:71:VAL:HB	1.64	0.96
12:G:110:LEU:N	12:G:110:LEU:HD23	1.80	0.96
6:A:211:ARG:HH11	6:A:211:ARG:HG2	1.28	0.96
6:A:246:PRO:HG2	6:A:248:THR:O	1.66	0.96
17:L:20:THR:HG21	17:L:23:ALA:HB3	1.45	0.96
29:X:758:G:H2'	29:X:759:C:H5''	1.44	0.96
14:I:10:PRO:HA	14:I:14:LYS:HB2	1.47	0.96
29:X:1052:C:H3'	29:X:1053:G:C5'	1.95	0.96
9:D:75:SER:H	9:D:79:LEU:HD22	1.29	0.96
8:C:98:GLN:HE22	29:X:611:C:C4'	1.78	0.96
29:X:862:A:H2'	29:X:863:C:H6	1.31	0.96
29:X:1854:G:O2'	29:X:1855:G:H5'	1.66	0.96
29:X:2323:U:C6	29:X:2323:U:H5''	2.00	0.95
18:M:99:VAL:HG21	18:M:104:LEU:HD21	1.45	0.95
26:U:32:ARG:HE	26:U:32:ARG:H	0.97	0.95
29:X:2498:U:H4'	29:X:2499:C:OP1	1.65	0.95
29:X:1057:A:H2'	29:X:1057:A:N3	1.79	0.95
18:M:79:ARG:HH11	18:M:79:ARG:HG3	1.29	0.95
18:M:101:ARG:HH22	29:X:1745:C:P	1.89	0.95
17:L:16:LYS:HE2	17:L:28:ARG:HH12	1.31	0.95
22:Q:75:ARG:HH11	22:Q:75:ARG:HG3	1.30	0.95
29:X:788:G:H5'	29:X:790:A:H1'	1.47	0.95
8:C:162:ARG:HH11	29:X:333:A:H5''	1.31	0.95
8:C:162:ARG:NH1	29:X:333:A:H5''	1.81	0.95
9:D:148:LYS:HG3	9:D:149:THR:H	1.32	0.95
17:L:33:ARG:HG3	17:L:38:ILE:HB	1.44	0.95
21:P:108:PRO:HG2	29:X:1631:C:H1'	1.49	0.95
9:D:143:TYR:HA	9:D:146:VAL:HG22	1.47	0.95
29:X:1113:C:H2'	29:X:1114:A:H8	1.28	0.95
26:U:29:GLY:C	26:U:31:GLY:H	1.49	0.94
29:X:1854:G:C2'	29:X:1855:G:OP2	2.10	0.94
16:K:79:VAL:HA	16:K:83:VAL:HG13	1.48	0.94

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:516:G:HO2'	29:X:517:A:H8	1.07	0.94
7:B:9:ILE:HD13	18:M:12:LEU:HD13	1.48	0.94
14:I:94:GLU:HB3	14:I:97:ARG:HH11	1.32	0.94
8:C:162:ARG:HD2	29:X:333:A:C5'	1.98	0.94
16:K:11:ASN:ND2	16:K:12:ARG:HE	1.63	0.94
29:X:2811:G:H2'	29:X:2812:A:C8	2.03	0.94
27:V:2:LYS:HG3	27:V:3:PRO:HD3	1.46	0.94
6:A:206:LEU:C	6:A:211:ARG:HD3	1.87	0.94
26:U:70:LEU:HB3	26:U:79:GLU:OE2	1.67	0.94
29:X:2661:G:O6	29:X:2708:U:H1'	1.66	0.94
13:H:23:ARG:HH12	13:H:25:LEU:CD2	1.81	0.94
13:H:13:ASN:ND2	13:H:109:ARG:HG2	1.82	0.94
12:G:61:ARG:NE	12:G:65:LYS:HD2	1.82	0.94
18:M:34:ARG:CZ	18:M:88:VAL:HG11	1.96	0.94
29:X:76:C:H6	29:X:76:C:H5'	1.31	0.94
18:M:39:VAL:HG12	18:M:45:THR:HG23	1.49	0.94
14:I:104:ARG:HB3	14:I:105:PRO:HD2	1.48	0.93
19:N:24:PHE:CE1	29:X:543:G:H5'	2.02	0.93
29:X:1052:C:H2'	29:X:1053:G:H5''	1.47	0.93
31:Z:53:G:H21	31:Z:54:U:H5	1.11	0.93
28:W:2:LYS:HB3	28:W:54:GLN:HB3	1.47	0.93
29:X:2404:A:H4'	29:X:2405:A:C5'	1.99	0.93
19:N:101:ARG:O	19:N:103:PRO:HD3	1.68	0.93
29:X:636:G:H8	29:X:636:G:H5'	1.34	0.93
6:A:36:ALA:HB1	6:A:62:TYR:O	1.66	0.93
17:L:15:ARG:CD	17:L:91:ARG:HH11	1.82	0.93
18:M:33:VAL:HG22	18:M:51:GLU:CB	1.99	0.93
19:N:61:TRP:HZ3	19:N:94:VAL:H	1.11	0.93
29:X:1067:G:H21	29:X:1114:A:H62	1.16	0.93
21:P:114:ALA:HB2	29:X:1630:A:N1	1.83	0.93
11:F:112:MET:CG	11:F:113:PRO:HD3	1.97	0.93
29:X:1386:A:H5''	29:X:2191:A:N6	1.84	0.93
18:M:27:PHE:C	18:M:28:ARG:HG2	1.87	0.93
11:F:54:PRO:HG2	11:F:70:LYS:HB2	1.48	0.93
11:F:20:ALA:H	11:F:21:PRO:HD2	1.30	0.93
29:X:2662:C:H2'	29:X:2663:U:H6	1.34	0.93
29:X:1128:G:H3'	29:X:1129:A:C5'	1.98	0.93
9:D:13:ARG:CZ	9:D:14:PRO:HG3	1.99	0.93
25:T:40:GLN:NE2	25:T:43:THR:HA	1.84	0.93
29:X:558:G:C4	29:X:558:G:H3'	1.98	0.93
17:L:10:LYS:HB2	17:L:14:ARG:HH21	1.33	0.93
29:X:224:G:H4'	29:X:399:G:C6	2.04	0.93

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:E:30:LYS:HG2	10:E:79:VAL:O	1.69	0.93
29:X:317:U:C2'	29:X:318:G:H5''	1.99	0.92
30:Y:45:ILE:HG21	30:Y:57:VAL:HG23	1.46	0.92
29:X:1056:U:H2'	29:X:1056:U:O2	1.13	0.92
24:S:113:VAL:HA	24:S:171:VAL:HA	1.51	0.92
29:X:1539:U:H2'	29:X:1540:C:H6	1.34	0.92
4:4:9:LYS:H	4:4:9:LYS:HD2	1.32	0.92
28:W:4:LYS:CG	28:W:52:GLU:HB3	1.97	0.92
13:H:116:ARG:HH21	18:M:40:ARG:HB2	1.33	0.92
29:X:2083:G:H1	29:X:2172:U:H3	1.17	0.92
29:X:109:A:C2'	29:X:110:U:H5''	1.98	0.92
25:T:3:HIS:HD2	25:T:5:LYS:HD3	1.32	0.92
29:X:2736:U:HO2'	29:X:2737:A:H5''	1.15	0.92
29:X:558:G:C5'	29:X:558:G:N3	2.33	0.92
29:X:1473:U:OP2	29:X:1473:U:H6	1.51	0.92
13:H:16:ALA:HB2	13:H:64:VAL:HG11	1.51	0.92
29:X:1670:G:H4'	29:X:1671:A:OP1	1.68	0.92
29:X:2023:C:H2'	29:X:2024:U:H6	1.35	0.92
28:W:40:VAL:HA	28:W:43:MET:HG2	1.51	0.92
24:S:154:LEU:HD11	24:S:160:LEU:HG	1.50	0.92
6:A:44:ASN:HB3	6:A:49:ILE:HA	1.50	0.92
17:L:33:ARG:CZ	17:L:103:LEU:HB2	2.00	0.92
29:X:1118:G:C2'	29:X:1119:U:H5''	1.99	0.92
29:X:1053:G:C2'	29:X:1054:C:H6	1.83	0.91
10:E:18:ASN:HB2	10:E:25:LYS:HB3	1.51	0.91
23:R:15:HIS:HD1	23:R:16:PHE:HD2	1.10	0.91
29:X:2212:U:H2'	29:X:2213:G:C8	2.05	0.91
31:Z:36:A:HO2'	31:Z:37:C:H5	1.14	0.91
29:X:1467:U:H3'	29:X:1467:U:H6	1.32	0.91
19:N:88:ILE:HA	20:O:49:GLU:HG3	1.53	0.91
9:D:150:ARG:CG	9:D:151:GLY:H	1.83	0.91
6:A:270:ILE:HG13	6:A:271:VAL:H	1.32	0.91
8:C:110:SER:HA	8:C:113:GLU:OE1	1.71	0.91
29:X:176:A:H3'	29:X:177:U:H5	1.35	0.91
29:X:1849:G:N3	29:X:1868:A:N6	2.19	0.91
28:W:23:LEU:HD21	28:W:43:MET:CB	1.99	0.91
11:F:79:ARG:HB3	11:F:84:ILE:O	1.71	0.91
23:R:9:HIS:HD1	29:X:337:G:HO2'	1.18	0.91
20:O:57:GLN:H	20:O:97:GLY:CA	1.84	0.91
29:X:2691:C:HO2'	29:X:2692:A:H8	0.93	0.91
29:X:537:C:H1'	29:X:538:A:C6	2.05	0.91
6:A:182:LEU:HD12	6:A:269:PHE:CD2	2.06	0.91

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:D:29:PRO:HG2	9:D:165:GLU:HB3	1.52	0.91
17:L:97:HIS:CD2	17:L:98:GLY:H	1.89	0.91
7:B:75:THR:O	7:B:76:ARG:HB3	1.68	0.91
19:N:88:ILE:HG12	20:O:49:GLU:OE1	1.70	0.91
6:A:211:ARG:HH11	6:A:211:ARG:CG	1.84	0.91
29:X:652:C:H42	29:X:657:A:H61	1.18	0.91
20:O:26:GLN:HG2	20:O:27:GLY:H	1.35	0.91
6:A:72:LYS:HE2	6:A:97:TYR:HD2	1.32	0.90
20:O:28:GLU:O	20:O:30:GLY:N	2.04	0.90
27:V:42:ARG:NH1	27:V:45:GLN:HE22	1.69	0.90
19:N:88:ILE:HG23	20:O:49:GLU:HB2	1.50	0.90
29:X:1919:A:H2	29:X:1926:U:N3	1.67	0.90
21:P:50:VAL:HB	21:P:90:LEU:O	1.70	0.90
29:X:497:C:H6	29:X:497:C:H5'	1.35	0.90
6:A:132:PRO:HA	6:A:190:TYR:HA	1.53	0.90
10:E:89:LEU:HB2	10:E:129:THR:HA	1.53	0.90
9:D:60:ILE:HG22	9:D:140:GLU:HB2	1.51	0.90
29:X:2490:U:H2'	29:X:2491:C:C6	2.06	0.90
17:L:38:ILE:CD1	17:L:40:ALA:H	1.85	0.90
8:C:47:THR:HG23	8:C:85:GLY:H	1.36	0.90
29:X:482:A:H2'	29:X:483:A:O4'	1.71	0.90
6:A:88:ARG:HG2	6:A:90:ALA:HB3	1.53	0.90
29:X:2189:A:H61	29:X:2195:C:H41	1.20	0.90
14:I:94:GLU:CA	14:I:97:ARG:HE	1.80	0.90
14:I:11:GLY:H	14:I:14:LYS:CB	1.84	0.90
17:L:38:ILE:HD11	17:L:40:ALA:H	1.35	0.90
29:X:1095:A:C3'	29:X:1096:A:H5''	2.02	0.90
29:X:1281:A:H1'	29:X:2592:U:C4	2.06	0.90
18:M:28:ARG:CB	18:M:29:PRO:HD3	1.88	0.90
6:A:50:THR:HG21	29:X:1805:G:N3	1.86	0.90
6:A:209:ALA:HB2	29:X:1781:C:O2'	1.71	0.89
16:K:60:LEU:HD11	16:K:64:ARG:HE	1.38	0.89
11:F:71:THR:HG22	11:F:110:THR:HG22	1.52	0.89
21:P:8:PHE:O	21:P:9:ARG:HB2	1.71	0.89
29:X:1086:C:H3'	29:X:1087:C:H5''	1.54	0.89
29:X:538:A:N3	29:X:538:A:H3'	1.87	0.89
29:X:2195:C:C6	29:X:2196:U:C5	2.60	0.89
24:S:133:GLU:OE2	24:S:135:VAL:HG23	1.73	0.89
19:N:3:ARG:HG2	19:N:3:ARG:HH11	1.35	0.89
10:E:109:TYR:HE1	10:E:152:ARG:CZ	1.85	0.89
7:B:120:TRP:CD2	7:B:155:ARG:HD2	2.07	0.89
17:L:33:ARG:NH1	17:L:103:LEU:HB2	1.87	0.89

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:D:40:LEU:HB3	9:D:150:ARG:NE	1.86	0.89
29:X:1859:A:H2'	29:X:1860:A:C8	2.06	0.89
9:D:12:VAL:O	9:D:16:LEU:HG	1.72	0.89
13:H:76:ARG:O	13:H:94:ASN:HA	1.71	0.89
20:O:57:GLN:H	20:O:97:GLY:HA2	1.35	0.89
10:E:126:PRO:HG2	10:E:127:GLU:H	1.37	0.89
29:X:1734:C:C5	29:X:1735:G:H1'	2.08	0.89
26:U:29:GLY:C	26:U:31:GLY:N	2.26	0.89
15:J:15:ARG:HH11	15:J:15:ARG:HG3	1.38	0.89
14:I:122:VAL:HG21	14:I:125:ALA:HB2	1.55	0.89
20:O:36:LYS:HE3	20:O:56:VAL:HG13	1.52	0.89
8:C:112:GLN:O	8:C:116:LYS:HE2	1.72	0.89
26:U:27:ASP:C	26:U:32:ARG:HD3	1.93	0.89
26:U:70:LEU:HD21	26:U:77:GLY:O	1.72	0.89
20:O:22:VAL:CG2	29:X:1173:G:H4'	2.02	0.89
29:X:98:U:H5'	29:X:99:U:H5''	1.55	0.89
29:X:1299:A:H2'	29:X:1301:U:OP2	1.73	0.89
15:J:62:GLY:HA3	15:J:64:LYS:HE3	1.55	0.89
29:X:169:C:H2'	29:X:170:U:H5'	1.54	0.89
23:R:95:ARG:CZ	23:R:106:VAL:HG12	2.03	0.88
29:X:635:C:H2'	29:X:636:G:H5''	1.54	0.88
29:X:2195:C:H2'	29:X:2196:U:H6	1.31	0.88
29:X:2075:U:O2'	29:X:2076:G:H5''	1.71	0.88
13:H:2:ILE:HB	13:H:45:ALA:HB3	1.53	0.88
29:X:729:A:H3'	29:X:729:A:N3	1.86	0.88
20:O:5:ILE:HD11	20:O:8:GLY:O	1.72	0.88
26:U:32:ARG:N	26:U:32:ARG:HE	1.72	0.88
11:F:13:PRO:HA	11:F:52:ILE:HA	1.54	0.88
10:E:44:ARG:NH2	10:E:46:ASP:HB2	1.88	0.88
12:G:61:ARG:HE	12:G:65:LYS:CD	1.84	0.88
20:O:11:GLN:NE2	20:O:38:LEU:HB3	1.88	0.88
22:Q:51:ILE:HD11	22:Q:83:ALA:HA	1.54	0.88
14:I:101:ARG:HD3	29:X:637:G:H1	1.39	0.88
12:G:36:ASN:O	12:G:38:GLU:N	2.06	0.88
29:X:914:C:H2'	29:X:915:C:H6	1.35	0.88
29:X:857:U:H2'	29:X:858:G:O4'	1.73	0.88
30:Y:16:ARG:HD3	30:Y:20:ARG:CZ	2.03	0.88
6:A:125:PRO:HG3	6:A:131:LEU:HD13	1.53	0.88
6:A:77:ALA:HB2	6:A:97:TYR:CD1	2.09	0.88
6:A:246:PRO:HD3	6:A:251:GLY:H	1.38	0.88
26:U:67:LEU:HD23	26:U:67:LEU:O	1.73	0.88
11:F:19:PRO:HG2	11:F:21:PRO:CD	2.02	0.88

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:70:ARG:HH11	19:N:70:ARG:HG3	1.38	0.88
27:V:7:ARG:HD2	27:V:8:ASN:N	1.87	0.88
29:X:2871:U:H2'	29:X:2872:U:C6	2.09	0.88
6:A:70:ARG:HG2	6:A:190:TYR:CE1	2.09	0.88
10:E:139:GLN:HB3	10:E:143:GLN:CD	1.94	0.88
26:U:13:LEU:HD12	26:U:14:VAL:H	1.37	0.87
29:X:116:A:H5'	29:X:117:A:H8	1.36	0.87
6:A:68:LYS:HD3	6:A:68:LYS:H	1.39	0.87
6:A:231:HIS:HD2	6:A:233:HIS:H	1.21	0.87
29:X:862:A:H2'	29:X:863:C:C6	2.08	0.87
24:S:95:SER:HB3	24:S:119:ASN:HD21	1.39	0.87
20:O:36:LYS:HZ2	20:O:54:TYR:HB3	1.36	0.87
29:X:1354:A:H3'	29:X:1410:U:O2	1.73	0.87
15:J:27:TYR:HB3	15:J:137:VAL:HG21	1.55	0.87
25:T:71:ASN:ND2	25:T:77:ARG:HD3	1.89	0.87
29:X:1181:C:H2'	29:X:1182:U:H5''	1.54	0.87
12:G:52:GLY:O	12:G:55:ALA:HB3	1.74	0.87
21:P:14:ARG:HA	21:P:17:GLN:HG2	1.56	0.87
29:X:1223:G:H4'	29:X:1224:A:C5'	2.04	0.87
29:X:314:G:H2'	29:X:315:G:H8	1.36	0.87
29:X:2170:C:H3'	29:X:2171:U:C5'	2.04	0.87
29:X:1313:U:H4'	29:X:1314:A:O5'	1.75	0.87
29:X:1018:C:H3'	29:X:1019:U:C5'	2.04	0.87
7:B:194:GLY:HA2	18:M:2:GLN:HB3	1.55	0.87
29:X:2326:C:C2	29:X:2327:U:C5	2.63	0.87
11:F:12:LEU:HD13	11:F:18:THR:HG21	1.54	0.87
29:X:689:A:C8	29:X:2422:C:H1'	2.09	0.87
10:E:43:VAL:HB	10:E:52:VAL:HA	1.55	0.87
29:X:497:C:C6	29:X:497:C:H5'	2.09	0.87
10:E:37:TYR:CD2	10:E:68:THR:HG23	2.09	0.87
29:X:2058:U:H3'	29:X:2217:G:N2	1.89	0.87
29:X:2796:A:H2'	29:X:2797:G:C8	2.09	0.87
29:X:788:G:H5'	29:X:790:A:C1'	2.04	0.87
29:X:389:G:H2'	29:X:390:U:C6	2.10	0.87
29:X:1275:A:C2	30:Y:10:LYS:HE2	2.10	0.87
30:Y:4:HIS:HB3	30:Y:5:PRO:CD	2.03	0.87
25:T:40:GLN:HE22	25:T:43:THR:HA	1.35	0.87
15:J:78:LYS:HA	15:J:88:LYS:HZ3	1.40	0.87
29:X:516:G:O2'	29:X:517:A:H8	1.58	0.86
7:B:53:PRO:HD2	18:M:6:LYS:HZ2	1.40	0.86
10:E:43:VAL:HG21	10:E:52:VAL:HG22	1.57	0.86
27:V:14:PHE:HD2	27:V:57:LYS:HB2	1.40	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2691:C:H2'	29:X:2692:A:H5''	1.55	0.86
7:B:2:LYS:HA	7:B:84:PHE:HE1	1.36	0.86
29:X:176:A:H3'	29:X:177:U:C5	2.09	0.86
21:P:45:ILE:HD11	21:P:57:LEU:HG	1.57	0.86
22:Q:90:ALA:C	22:Q:92:ALA:H	1.75	0.86
29:X:460:U:O4	29:X:592:G:H1'	1.75	0.86
29:X:1052:C:C3'	29:X:1053:G:C5'	2.53	0.86
22:Q:7:LEU:HD22	22:Q:7:LEU:C	1.96	0.86
29:X:731:A:H2'	29:X:732:G:O4'	1.75	0.86
6:A:183:ARG:HB3	6:A:183:ARG:NH1	1.90	0.86
29:X:1573:G:H3'	29:X:1574:A:H5''	1.56	0.86
14:I:13:ARG:HH11	29:X:1218:C:C4'	1.87	0.86
29:X:2198:U:H2'	29:X:2199:C:O4'	1.75	0.86
18:M:101:ARG:NH2	29:X:1745:C:OP1	2.09	0.86
17:L:63:ASN:HB3	17:L:66:ASP:HB2	1.55	0.86
22:Q:66:GLY:O	22:Q:68:PHE:N	2.07	0.86
29:X:1775:A:H4'	29:X:1776:A:O5'	1.72	0.86
26:U:13:LEU:CD1	26:U:14:VAL:H	1.87	0.86
26:U:53:GLU:O	26:U:78:ILE:HG22	1.74	0.86
29:X:1512:A:H2'	29:X:1514:C:C5	2.09	0.86
29:X:789:G:H4'	29:X:790:A:O5'	1.76	0.86
23:R:93:ARG:HH12	23:R:108:VAL:HA	1.38	0.86
8:C:22:VAL:HA	8:C:106:MET:HG3	1.56	0.86
13:H:110:VAL:HG23	13:H:129:LEU:HB2	1.55	0.86
9:D:13:ARG:HB3	9:D:14:PRO:HD3	1.58	0.86
24:S:36:ARG:HG2	24:S:40:ASP:OD1	1.73	0.86
26:U:51:ILE:HA	26:U:59:THR:O	1.76	0.86
20:O:13:ARG:HG2	20:O:14:VAL:H	1.39	0.86
6:A:258:LYS:NZ	6:A:261:ARG:HE	1.74	0.86
29:X:1468:A:H5''	29:X:1472:C:H41	1.36	0.86
25:T:71:ASN:HD22	25:T:77:ARG:CD	1.89	0.86
25:T:3:HIS:CD2	25:T:5:LYS:HD3	2.10	0.86
29:X:1856:U:C2'	29:X:1857:G:O5'	2.24	0.86
22:Q:25:TYR:OH	22:Q:87:SER:HA	1.74	0.86
23:R:38:LEU:HD12	23:R:47:VAL:HG21	1.58	0.86
19:N:66:ASN:CB	19:N:70:ARG:HH12	1.88	0.86
13:H:10:VAL:HG21	13:H:16:ALA:O	1.76	0.86
12:G:115:ALA:O	12:G:118:ALA:HB3	1.76	0.86
19:N:13:ARG:NE	29:X:1264:C:H5''	1.91	0.85
29:X:824:U:H1'	29:X:1264:C:H1'	1.58	0.85
29:X:476:G:H2'	29:X:477:A:C8	2.10	0.85
17:L:33:ARG:NH2	17:L:103:LEU:HB2	1.90	0.85

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:M:34:ARG:NH1	18:M:81:PHE:HB3	1.91	0.85
23:R:90:LYS:HD2	23:R:108:VAL:HG21	1.55	0.85
8:C:186:LEU:HG	8:C:188:ILE:HG12	1.56	0.85
23:R:18:LYS:HE2	23:R:18:LYS:N	1.91	0.85
9:D:33:LYS:HG3	9:D:157:VAL:HG21	1.57	0.85
10:E:88:GLU:OE2	10:E:90:ARG:HD2	1.76	0.85
19:N:8:ILE:O	19:N:12:ARG:HG3	1.75	0.85
24:S:105:GLN:OE1	24:S:140:LYS:HA	1.76	0.85
30:Y:51:TYR:CE1	30:Y:55:ARG:HB2	2.11	0.85
12:G:98:LYS:HB3	12:G:116:ARG:HB2	1.58	0.85
8:C:28:HIS:CE1	14:I:21:ARG:HH11	1.93	0.85
30:Y:19:ARG:HB3	30:Y:19:ARG:HH11	1.39	0.85
16:K:100:VAL:CG1	16:K:101:GLY:H	1.78	0.85
9:D:171:GLN:HA	9:D:175:LEU:HB3	1.58	0.85
29:X:1119:U:H5'	29:X:1119:U:H6	1.40	0.85
29:X:958:G:H2'	29:X:959:C:H6	1.40	0.85
29:X:1281:A:C1'	29:X:2592:U:H5	1.89	0.85
22:Q:69:ILE:HD13	22:Q:70:GLY:O	1.77	0.85
7:B:37:LYS:HD2	7:B:42:ASP:OD1	1.75	0.85
14:I:11:GLY:N	14:I:14:LYS:HB3	1.90	0.85
29:X:1031:C:H41	29:X:1153:A:N6	1.74	0.85
8:C:162:ARG:HD2	29:X:333:A:H5'	1.59	0.85
9:D:74:ILE:HG23	9:D:80:ARG:HA	1.59	0.85
21:P:66:GLU:HB3	21:P:67:PRO:HD3	1.58	0.85
24:S:51:LEU:H	24:S:51:LEU:HD23	1.39	0.85
8:C:93:TYR:CD1	29:X:673:G:H5'	2.11	0.85
18:M:99:VAL:HG22	18:M:100:ARG:N	1.90	0.85
12:G:36:ASN:C	12:G:38:GLU:H	1.78	0.85
23:R:40:LEU:HB2	23:R:45:LYS:HB2	1.57	0.85
29:X:623:G:C3'	29:X:624:A:H5''	2.07	0.85
29:X:1813:A:H2'	29:X:1814:G:H8	1.41	0.85
24:S:19:ILE:CG1	24:S:36:ARG:HA	2.06	0.85
6:A:231:HIS:CD2	6:A:233:HIS:H	1.94	0.85
29:X:149:A:H2'	29:X:150:A:C8	2.11	0.85
29:X:2023:C:H2'	29:X:2024:U:C6	2.10	0.85
10:E:103:LEU:HD21	10:E:131:ILE:HD13	1.59	0.85
22:Q:68:PHE:O	22:Q:69:ILE:HD12	1.76	0.85
12:G:132:PHE:CZ	12:G:145:HIS:HB2	2.10	0.84
29:X:2706:U:H2'	29:X:2706:U:O2	1.76	0.84
29:X:1710:U:H5'	29:X:1711:C:C5	2.11	0.84
29:X:1185:C:H2'	29:X:1186:G:H3'	1.59	0.84
29:X:833:A:H1'	29:X:954:U:O2'	1.77	0.84

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:B:116:VAL:N	7:B:136:ARG:NE	2.09	0.84
9:D:142:THR:O	9:D:146:VAL:HG13	1.75	0.84
29:X:1018:C:H3'	29:X:1019:U:H5''	1.59	0.84
29:X:2177:U:H2'	29:X:2178:U:C6	2.12	0.84
24:S:3:LEU:HD12	24:S:4:THR:N	1.91	0.84
21:P:46:ARG:HG2	21:P:46:ARG:HH11	1.42	0.84
29:X:2490:U:H2'	29:X:2491:C:H6	1.38	0.84
29:X:2850:U:H6	29:X:2850:U:H5'	1.41	0.84
19:N:31:GLN:NE2	29:X:589:C:H4'	1.92	0.84
26:U:50:ALA:HB3	26:U:52:ARG:HH22	1.42	0.84
29:X:555:U:H3'	29:X:555:U:H6	1.42	0.84
8:C:148:VAL:CB	8:C:167:VAL:HG12	2.03	0.84
29:X:1385:C:H1'	29:X:2192:U:C5	2.12	0.84
29:X:1526:U:H2'	29:X:1527:G:O4'	1.75	0.84
8:C:27:LEU:O	8:C:31:VAL:HG22	1.76	0.84
6:A:244:ARG:HB3	6:A:252:LYS:NZ	1.91	0.84
26:U:51:ILE:CG2	26:U:59:THR:HA	2.05	0.84
29:X:553:C:H5'	29:X:554:U:OP1	1.76	0.84
25:T:60:PHE:CE1	29:X:2344:G:H4'	2.12	0.84
7:B:188:ILE:CG2	7:B:189:PRO:HD2	2.07	0.84
23:R:25:LEU:HD11	23:R:81:VAL:HG23	1.60	0.84
18:M:33:VAL:CG2	18:M:51:GLU:HB2	2.07	0.84
12:G:34:PRO:HA	12:G:69:ASP:CG	1.98	0.84
14:I:53:ARG:O	14:I:53:ARG:HD2	1.76	0.84
26:U:22:GLY:H	26:U:39:LYS:HB2	1.41	0.84
29:X:2240:C:O2'	29:X:2241:U:H5'	1.78	0.84
23:R:38:LEU:HB2	23:R:47:VAL:HB	1.58	0.84
29:X:759:C:H5'	29:X:759:C:H6	1.40	0.84
7:B:116:VAL:HG22	7:B:136:ARG:NE	1.90	0.84
23:R:20:ASP:OD1	23:R:83:LEU:HD23	1.76	0.84
6:A:99:ASP:HB3	29:X:1507:A:O4'	1.78	0.84
23:R:56:LYS:HA	23:R:69:GLN:HA	1.60	0.84
29:X:1194:U:H2'	29:X:1195:U:C6	2.12	0.84
8:C:93:TYR:HD2	8:C:93:TYR:H	1.24	0.84
26:U:31:GLY:HA2	26:U:32:ARG:NH1	1.92	0.84
29:X:2811:G:H2'	29:X:2812:A:H8	1.40	0.84
18:M:37:THR:HG22	18:M:39:VAL:HG13	1.59	0.84
19:N:114:ARG:NH1	19:N:115:ASN:HD21	1.74	0.84
9:D:115:ARG:HB2	9:D:178:ARG:HD2	1.60	0.84
29:X:2040:A:H2'	29:X:2041:A:H8	1.43	0.84
29:X:1231:A:H2'	29:X:1232:U:H6	1.42	0.84
13:H:116:ARG:HD2	18:M:38:LYS:CE	2.04	0.83

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:E:50:LEU:HD23	10:E:51:LEU:H	1.41	0.83
24:S:117:VAL:HG22	24:S:168:VAL:HA	1.59	0.83
16:K:73:LYS:O	16:K:76:VAL:HG12	1.78	0.83
29:X:2712:G:H3'	29:X:2713:A:H5'	1.59	0.83
7:B:117:MET:H	7:B:136:ARG:CD	1.91	0.83
29:X:777:A:H62	29:X:1766:U:H3	1.20	0.83
11:F:10:LEU:HD21	11:F:57:ILE:HG13	1.60	0.83
6:A:183:ARG:CB	6:A:183:ARG:HH11	1.90	0.83
24:S:120:LEU:HD23	24:S:121:GLN:N	1.93	0.83
16:K:10:LEU:CD2	16:K:17:ARG:HB2	2.08	0.83
29:X:173:A:H61	29:X:844:G:H21	1.26	0.83
14:I:81:GLN:HE22	14:I:115:SER:HA	1.42	0.83
29:X:318:G:H8	29:X:318:G:H5'	1.40	0.83
6:A:160:GLY:HA2	6:A:196:VAL:O	1.78	0.83
29:X:1574:A:H2'	29:X:1575:C:H5''	1.60	0.83
13:H:16:ALA:HB3	13:H:98:ILE:HD11	1.60	0.83
14:I:13:ARG:HG2	14:I:13:ARG:HH21	1.42	0.83
23:R:85:ASP:H	23:R:86:PRO:HD3	1.41	0.83
8:C:22:VAL:HG13	8:C:106:MET:HG2	1.58	0.83
18:M:99:VAL:HG22	18:M:100:ARG:H	1.43	0.83
9:D:119:PRO:HG2	9:D:120:ASN:H	1.40	0.83
29:X:751:G:H2'	29:X:752:G:C8	2.14	0.83
29:X:1698:C:O2'	29:X:1753:A:H2'	1.78	0.83
26:U:13:LEU:O	26:U:14:VAL:HG13	1.78	0.83
19:N:61:TRP:HZ3	19:N:94:VAL:N	1.76	0.83
29:X:1513:U:H5''	29:X:1514:C:OP2	1.77	0.83
16:K:87:TYR:HE1	16:K:94:TYR:CD2	1.95	0.83
14:I:18:ARG:CB	14:I:21:ARG:HD3	2.09	0.83
23:R:112:LYS:O	23:R:113:THR:HG23	1.78	0.83
4:4:24:LEU:HG	4:4:35:ARG:HG3	1.60	0.83
6:A:54:ILE:O	6:A:54:ILE:HG23	1.78	0.83
18:M:34:ARG:NH2	18:M:88:VAL:HG11	1.92	0.83
29:X:558:G:C8	29:X:559:C:C5	2.66	0.83
20:O:38:LEU:HD13	20:O:39:PHE:N	1.93	0.83
31:Z:64:C:H2'	31:Z:65:A:H8	1.42	0.83
15:J:44:LYS:HB2	15:J:47:GLN:HG3	1.59	0.83
29:X:2484:G:O2'	29:X:2485:U:H5'	1.76	0.83
21:P:29:LYS:HG2	21:P:123:HIS:CE1	2.12	0.83
19:N:13:ARG:HG3	19:N:13:ARG:HH21	1.43	0.83
23:R:105:ARG:NH2	23:R:112:LYS:HA	1.92	0.83
29:X:760:U:C5	30:Y:3:LYS:HG3	2.14	0.83
9:D:4:LEU:CG	9:D:5:LYS:H	1.90	0.83

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:I:86:THR:OG1	14:I:118:VAL:HG12	1.77	0.83
10:E:43:VAL:HG23	10:E:51:LEU:O	1.77	0.83
29:X:2581:A:H5'	29:X:2582:G:OP2	1.78	0.83
14:I:28:LYS:HZ2	14:I:37:GLN:N	1.76	0.83
29:X:760:U:C4	30:Y:3:LYS:HG3	2.13	0.83
9:D:111:ILE:HB	9:D:114:PHE:HB2	1.59	0.83
10:E:29:PRO:HG2	10:E:79:VAL:O	1.76	0.83
29:X:704:G:H2'	29:X:705:C:H6	1.42	0.83
29:X:2440:C:H2'	29:X:2441:U:H6	1.44	0.83
23:R:93:ARG:HG2	23:R:93:ARG:HH11	1.43	0.82
29:X:2672:U:H2'	29:X:2673:G:C8	2.14	0.82
6:A:244:ARG:HD2	29:X:1885:C:H5'	1.60	0.82
17:L:33:ARG:NH1	17:L:100:VAL:HA	1.93	0.82
17:L:40:ALA:HB1	17:L:75:LEU:HD22	1.61	0.82
16:K:87:TYR:CE1	16:K:94:TYR:HD2	1.96	0.82
6:A:250:TRP:O	6:A:255:LYS:NZ	2.13	0.82
9:D:12:VAL:HG11	9:D:169:LEU:HD12	1.59	0.82
15:J:69:ILE:HG23	15:J:104:MET:HA	1.61	0.82
15:J:22:ALA:HB2	15:J:100:PRO:O	1.79	0.82
13:H:41:ASN:H	13:H:41:ASN:ND2	1.78	0.82
12:G:103:TYR:CZ	12:G:111:LYS:HB2	2.14	0.82
6:A:149:PRO:HG2	29:X:2200:G:O2'	1.79	0.82
29:X:940:G:OP1	29:X:940:G:H4'	1.79	0.82
24:S:67:LYS:HZ3	31:Z:106:U:H4'	1.43	0.82
15:J:17:ARG:NH1	29:X:969:U:H5''	1.93	0.82
23:R:4:PRO:N	29:X:34:U:HO2'	1.78	0.82
29:X:2029:G:H5'	30:Y:19:ARG:HB2	1.62	0.82
4:4:30:VAL:HG12	4:4:33:LYS:HE3	1.61	0.82
18:M:105:TYR:O	18:M:108:ARG:HG3	1.78	0.82
7:B:38:THR:HG22	7:B:40:GLN:N	1.92	0.82
27:V:21:ARG:HH11	27:V:53:LEU:HD11	1.44	0.82
24:S:123:VAL:HG23	24:S:161:ALA:HA	1.62	0.82
8:C:3:GLN:HE22	8:C:4:ILE:HG12	1.44	0.82
24:S:10:PRO:O	24:S:13:LYS:HG3	1.77	0.82
18:M:46:ARG:CG	18:M:47:SER:H	1.92	0.82
29:X:757:U:O2'	29:X:758:G:H5'	1.79	0.82
22:Q:70:GLY:HA2	29:X:63:A:O2'	1.80	0.82
30:Y:35:GLN:O	30:Y:36:CYS:HB3	1.79	0.82
23:R:56:LYS:HE3	29:X:493:A:H4'	1.60	0.82
17:L:20:THR:CG2	17:L:23:ALA:HB3	2.08	0.82
29:X:2634:G:H2'	29:X:2643:G:O6	1.80	0.82
23:R:54:ILE:HD13	23:R:71:GLN:HA	1.60	0.82

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:501:G:H2'	29:X:502:A:H8	1.44	0.82
7:B:198:LEU:N	7:B:198:LEU:HD12	1.95	0.82
8:C:179:ASP:O	8:C:182:ARG:HB3	1.80	0.82
19:N:13:ARG:HE	29:X:1264:C:H5''	1.43	0.82
6:A:85:ASP:OD2	6:A:92:ILE:HD12	1.79	0.82
6:A:95:LEU:HD12	6:A:105:ILE:HD12	1.59	0.82
29:X:2195:C:C4	29:X:2196:U:C4	2.68	0.82
15:J:125:LYS:H	15:J:125:LYS:HD2	1.43	0.82
15:J:64:LYS:HD2	15:J:64:LYS:N	1.95	0.82
26:U:14:VAL:HB	26:U:47:HIS:CE1	2.15	0.82
16:K:3:HIS:CE1	29:X:2796:A:OP2	2.33	0.82
29:X:1711:C:H4'	29:X:1712:G:H5''	1.59	0.82
10:E:105:MET:HE3	10:E:131:ILE:HD11	1.61	0.82
29:X:501:G:H2'	29:X:502:A:C8	2.15	0.82
23:R:90:LYS:HB2	23:R:108:VAL:HG11	1.62	0.82
9:D:4:LEU:HG	9:D:5:LYS:H	1.43	0.82
7:B:176:ARG:HE	18:M:16:ILE:HG12	1.45	0.82
29:X:663:G:C3'	29:X:664:C:H5''	2.10	0.82
13:H:70:VAL:HG21	13:H:98:ILE:CG2	2.10	0.82
29:X:2787:A:H2'	29:X:2788:C:H6	1.43	0.82
29:X:2275:U:H4'	29:X:2276:C:OP1	1.78	0.82
29:X:2405:A:H4'	29:X:2406:C:OP2	1.80	0.82
29:X:2769:C:H2'	29:X:2770:A:C8	2.14	0.81
29:X:2516:U:H2'	29:X:2517:C:H6	1.42	0.81
19:N:93:LYS:HD3	20:O:5:ILE:HG22	1.62	0.81
29:X:2222:U:H2'	29:X:2223:U:H6	1.40	0.81
29:X:1919:A:C2	29:X:1926:U:N3	2.46	0.81
13:H:116:ARG:CG	18:M:40:ARG:HH21	1.93	0.81
29:X:555:U:C6	29:X:555:U:H3'	2.16	0.81
10:E:43:VAL:HB	10:E:52:VAL:HG13	1.63	0.81
29:X:427:C:H1'	29:X:1856:U:H1'	1.60	0.81
29:X:3:U:H2'	29:X:4:C:C6	2.15	0.81
21:P:25:PHE:HD1	21:P:127:ILE:HD11	1.46	0.81
29:X:1429:A:H1'	29:X:1603:A:C6	2.15	0.81
29:X:37:C:H2'	29:X:38:G:H8	1.45	0.81
7:B:31:CYS:HB3	7:B:49:ILE:HG12	1.60	0.81
18:M:5:ILE:HD13	18:M:7:ILE:HB	1.62	0.81
29:X:143:A:H2'	29:X:144:U:H6	1.43	0.81
21:P:102:THR:HG22	21:P:102:THR:O	1.81	0.81
8:C:176:ASN:HD21	8:C:178:TYR:HB3	1.45	0.81
29:X:813:A:H4'	29:X:814:G:O5'	1.78	0.81
29:X:2326:C:H2'	29:X:2327:U:H6	1.44	0.81

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:50:ARG:C	19:N:52:ASN:H	1.83	0.81
9:D:74:ILE:HG12	9:D:80:ARG:O	1.80	0.81
29:X:1118:G:H2'	29:X:1119:U:C5'	2.10	0.81
29:X:857:U:H3'	29:X:858:G:C8	2.16	0.81
15:J:78:LYS:HE2	15:J:81:GLU:HA	1.62	0.81
21:P:71:VAL:HG12	21:P:126:ILE:HG23	1.61	0.81
29:X:1051:U:H2'	29:X:1052:C:C6	2.15	0.81
29:X:1787:U:H2'	29:X:1788:C:H6	1.43	0.81
17:L:36:LYS:HE3	17:L:36:LYS:HA	1.61	0.81
29:X:559:C:H2'	29:X:560:G:O4'	1.80	0.81
11:F:27:LEU:HD22	11:F:57:ILE:HD12	1.60	0.81
29:X:759:C:H5'	29:X:759:C:C6	2.16	0.81
16:K:60:LEU:HD11	16:K:64:ARG:NE	1.94	0.81
17:L:101:LYS:HG2	17:L:105:ASP:OD2	1.79	0.81
26:U:20:ARG:HB3	26:U:43:ARG:HH21	1.46	0.81
29:X:1385:C:H1'	29:X:2192:U:C6	2.15	0.81
29:X:1194:U:H5'	29:X:1194:U:H6	1.43	0.81
16:K:91:PRO:O	16:K:92:GLY:O	1.98	0.81
29:X:689:A:H8	29:X:2422:C:H1'	1.44	0.81
26:U:40:ARG:NE	29:X:178:C:OP1	2.14	0.81
29:X:1849:G:H1'	29:X:1868:A:H61	1.46	0.81
29:X:187:U:H2'	29:X:188:G:H8	1.46	0.81
14:I:18:ARG:HB2	14:I:21:ARG:CD	2.09	0.81
6:A:263:ARG:HG3	29:X:1791:C:OP1	1.81	0.81
26:U:27:ASP:CA	26:U:32:ARG:HH21	1.93	0.81
13:H:70:VAL:HG21	13:H:98:ILE:HG23	1.61	0.81
12:G:158:HIS:HA	12:G:161:GLN:CD	2.01	0.81
10:E:136:ILE:H	10:E:136:ILE:HD12	1.46	0.81
6:A:172:TYR:CE1	6:A:186:HIS:HB3	2.16	0.81
6:A:246:PRO:CD	6:A:251:GLY:H	1.93	0.81
9:D:123:ASP:C	9:D:125:ARG:H	1.84	0.81
15:J:44:LYS:HB2	15:J:47:GLN:CD	2.02	0.81
14:I:108:LEU:O	14:I:109:LEU:HD23	1.80	0.81
29:X:2177:U:H2'	29:X:2178:U:H6	1.43	0.81
29:X:404:A:H1'	29:X:424:G:H1'	1.63	0.81
8:C:44:SER:OG	29:X:37:C:H1'	1.79	0.80
6:A:252:LYS:H	6:A:252:LYS:CE	1.84	0.80
13:H:47:VAL:HG23	13:H:77:THR:CG2	2.06	0.80
22:Q:6:ILE:HG22	22:Q:7:LEU:N	1.96	0.80
16:K:13:ASN:ND2	16:K:16:ALA:H	1.79	0.80
29:X:2225:G:H2'	29:X:2226:A:H8	1.46	0.80
10:E:89:LEU:HD13	10:E:95:ARG:HA	1.63	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:B:189:PRO:HA	29:X:2659:C:H5'	1.61	0.80
12:G:154:GLU:N	12:G:154:GLU:OE1	2.14	0.80
14:I:77:LEU:HB2	14:I:111:SER:H	1.45	0.80
13:H:27:SER:HB3	13:H:50:ILE:H	1.45	0.80
10:E:30:LYS:HB2	10:E:79:VAL:HA	1.60	0.80
10:E:98:LEU:HD12	10:E:99:THR:H	1.45	0.80
29:X:914:C:H2'	29:X:915:C:C6	2.16	0.80
10:E:139:GLN:HE21	29:X:2726:U:H1'	1.46	0.80
29:X:2617:G:HO2'	29:X:2618:A:H8	1.28	0.80
16:K:103:ARG:NH2	16:K:106:ASP:OD2	2.14	0.80
17:L:36:LYS:HB3	17:L:64:LYS:HB2	1.62	0.80
29:X:1107:A:H3'	29:X:1108:U:H5''	1.60	0.80
29:X:1231:A:H2'	29:X:1232:U:C6	2.16	0.80
29:X:402:A:C8	29:X:2392:G:H4'	2.16	0.80
24:S:10:PRO:O	24:S:14:LEU:HG	1.81	0.80
24:S:127:PRO:CA	24:S:130:ILE:HD11	2.12	0.80
24:S:120:LEU:HD23	24:S:121:GLN:H	1.46	0.80
19:N:72:HIS:CD2	19:N:110:VAL:HG21	2.17	0.80
24:S:154:LEU:HD21	24:S:160:LEU:HD21	1.64	0.80
24:S:46:GLN:HB3	24:S:50:GLY:HA3	1.62	0.80
8:C:39:ARG:HH21	8:C:91:TYR:HD2	1.27	0.80
12:G:116:ARG:HD2	12:G:119:LEU:HD12	1.64	0.80
9:D:4:LEU:HG	9:D:5:LYS:N	1.96	0.80
7:B:188:ILE:HG23	7:B:189:PRO:HD2	1.62	0.80
29:X:1439:G:H2'	29:X:1440:G:C8	2.17	0.80
19:N:55:ARG:HD3	29:X:1166:A:H5''	1.63	0.80
29:X:1452:U:O2'	29:X:1453:A:H5'	1.81	0.80
29:X:693:A:H2'	29:X:694:G:H8	1.45	0.80
29:X:1811:A:H4'	29:X:1812:U:H5''	1.62	0.80
9:D:122:PHE:HA	29:X:2282:G:H4'	1.64	0.80
26:U:49:LYS:HB2	26:U:61:TRP:CA	2.10	0.80
14:I:86:THR:H	14:I:116:ARG:NH1	1.79	0.80
29:X:2326:C:H2'	29:X:2327:U:C6	2.16	0.80
29:X:2324:G:N3	29:X:2360:C:H2'	1.97	0.80
26:U:22:GLY:N	26:U:39:LYS:HB2	1.96	0.80
29:X:2563:U:C2'	29:X:2564:U:H5''	2.11	0.80
29:X:2311:U:H5'	29:X:2315:A:N6	1.95	0.80
31:Z:53:G:N2	31:Z:54:U:H5	1.80	0.80
29:X:2266:A:N6	29:X:2323:U:N3	2.29	0.80
13:H:132:GLU:HB2	18:M:73:PHE:HE1	1.45	0.80
28:W:40:VAL:HA	28:W:43:MET:CG	2.10	0.80
28:W:47:VAL:HB	28:W:50:LEU:HD12	1.63	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:W:46:THR:HG22	28:W:47:VAL:HG13	1.63	0.80
27:V:14:PHE:CD2	27:V:57:LYS:HB2	2.16	0.80
29:X:2426:G:H3'	29:X:2479:U:OP2	1.82	0.80
29:X:685:U:O2'	29:X:686:C:H5'	1.82	0.80
7:B:136:ARG:HD3	29:X:1673:C:OP1	1.81	0.79
26:U:51:ILE:HG12	26:U:59:THR:HB	1.63	0.79
13:H:35:THR:HG21	29:X:2629:U:H5'	1.64	0.79
17:L:21:THR:HG22	17:L:22:ALA:N	1.97	0.79
17:L:32:TYR:CE2	31:Z:9:G:H5'	2.16	0.79
12:G:103:TYR:CD2	29:X:1142:G:H1'	2.17	0.79
12:G:104:THR:OG1	12:G:110:LEU:HB3	1.82	0.79
29:X:2189:A:H61	29:X:2195:C:N4	1.79	0.79
17:L:89:PHE:CE2	29:X:2356:A:H1'	2.17	0.79
26:U:13:LEU:CG	26:U:14:VAL:H	1.95	0.79
18:M:79:ARG:NH1	18:M:79:ARG:HG3	1.93	0.79
11:F:104:VAL:HA	11:F:107:ILE:HD12	1.64	0.79
13:H:9:ASP:OD1	13:H:93:ARG:NH2	2.16	0.79
8:C:95:LEU:HD23	8:C:96:PRO:CD	2.13	0.79
23:R:15:HIS:HD2	29:X:347:C:H4'	1.46	0.79
29:X:631:G:H4'	29:X:632:A:H5''	1.65	0.79
29:X:1468:A:O5'	29:X:1468:A:H8	1.64	0.79
31:Z:108:G:O2'	31:Z:109:G:H5'	1.83	0.79
12:G:35:LYS:O	12:G:36:ASN:HB3	1.82	0.79
29:X:2781:G:C2'	29:X:2782:G:H5''	2.11	0.79
12:G:155:THR:HG23	12:G:156:HIS:H	1.46	0.79
29:X:1281:A:C1'	29:X:2592:U:C5	2.62	0.79
9:D:8:TYR:HD1	9:D:173:MET:SD	2.05	0.79
26:U:48:LYS:CG	26:U:49:LYS:H	1.86	0.79
29:X:1432:G:H2'	29:X:1594:U:O4	1.81	0.79
9:D:65:PRO:HB3	9:D:89:VAL:HG22	1.63	0.79
23:R:83:LEU:O	23:R:84:VAL:HG23	1.83	0.79
14:I:30:ALA:CB	14:I:34:HIS:CE1	2.66	0.79
15:J:125:LYS:HZ2	15:J:125:LYS:HB3	1.44	0.79
8:C:5:ASN:HA	8:C:118:VAL:CG2	2.12	0.79
26:U:41:VAL:HG23	26:U:42:GLN:N	1.97	0.79
29:X:104:C:H2'	29:X:105:G:H5'	1.62	0.79
23:R:22:VAL:HG13	23:R:81:VAL:O	1.83	0.79
29:X:1882:G:H21	29:X:1885:C:H41	1.29	0.79
29:X:1473:U:OP2	29:X:1473:U:C6	2.36	0.79
16:K:98:LEU:HD22	30:Y:56:GLN:HG2	1.64	0.79
29:X:693:A:H2'	29:X:694:G:C8	2.17	0.79
27:V:42:ARG:O	27:V:46:LEU:HG	1.83	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:141:MET:SD	24:S:147:ILE:HG12	2.21	0.79
9:D:38:GLU:CB	9:D:87:ILE:HB	2.11	0.79
12:G:162:LYS:H	12:G:163:PRO:CD	1.95	0.79
8:C:194:GLU:O	8:C:195:ILE:HG12	1.83	0.79
29:X:1909:U:H5	29:X:1911:A:H62	1.29	0.79
17:L:66:ASP:C	17:L:68:ALA:H	1.86	0.79
20:O:10:LYS:HG3	20:O:11:GLN:HG2	1.64	0.79
29:X:2628:C:H2'	29:X:2629:U:H6	1.48	0.79
29:X:958:G:H2'	29:X:959:C:C6	2.18	0.79
29:X:37:C:H2'	29:X:38:G:C8	2.16	0.79
15:J:125:LYS:HB3	15:J:125:LYS:NZ	1.96	0.79
15:J:44:LYS:HB2	15:J:47:GLN:CG	2.13	0.79
9:D:80:ARG:HD3	9:D:83:MET:HB3	1.62	0.79
29:X:2821:G:H2'	29:X:2822:U:C6	2.17	0.79
21:P:71:VAL:CG1	21:P:126:ILE:HG23	2.13	0.79
12:G:150:VAL:HG12	12:G:151:TYR:N	1.98	0.79
29:X:1625:A:H4'	29:X:1626:A:OP1	1.81	0.79
29:X:2263:C:H1'	29:X:2304:G:N2	1.98	0.79
8:C:23:ASN:HB3	8:C:26:VAL:HG23	1.64	0.79
25:T:41:ARG:NH1	29:X:2366:U:H1'	1.98	0.79
26:U:54:ASN:C	26:U:56:GLN:H	1.86	0.79
29:X:555:U:OP2	29:X:556:A:H2'	1.82	0.79
29:X:1467:U:H3'	29:X:1467:U:C6	2.18	0.79
12:G:61:ARG:HB3	12:G:61:ARG:HH21	1.47	0.79
29:X:857:U:H3'	29:X:858:G:H8	1.46	0.79
7:B:142:GLY:C	7:B:143:GLN:HE21	1.84	0.79
8:C:162:ARG:O	8:C:162:ARG:HG2	1.83	0.78
23:R:112:LYS:N	23:R:112:LYS:HD2	1.97	0.78
29:X:314:G:H2'	29:X:315:G:C8	2.17	0.78
29:X:2189:A:H2	29:X:2196:U:H3	1.31	0.78
29:X:865:A:H2'	29:X:866:U:C6	2.18	0.78
13:H:23:ARG:HB3	13:H:23:ARG:NH2	1.98	0.78
13:H:28:GLY:O	13:H:35:THR:N	2.16	0.78
10:E:124:ALA:HB3	10:E:132:ASP:HB3	1.65	0.78
10:E:68:THR:O	10:E:72:VAL:HG23	1.83	0.78
8:C:162:ARG:HH22	29:X:310:A:H61	1.30	0.78
15:J:44:LYS:HD3	15:J:47:GLN:NE2	1.98	0.78
11:F:122:ALA:HA	29:X:1092:U:H4'	1.65	0.78
8:C:148:VAL:HB	8:C:167:VAL:CG1	2.07	0.78
12:G:67:ARG:HE	12:G:70:PHE:HA	1.48	0.78
6:A:48:ARG:NH2	29:X:787:A:H5''	1.99	0.78
23:R:84:VAL:HG13	23:R:86:PRO:HD2	1.65	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2040:A:H2'	29:X:2041:A:C8	2.17	0.78
19:N:13:ARG:NH1	29:X:825:C:OP1	2.16	0.78
29:X:1051:U:H2'	29:X:1052:C:H6	1.47	0.78
6:A:124:GLU:O	6:A:126:LYS:HG3	1.83	0.78
18:M:100:ARG:HD2	29:X:1744:G:OP1	1.83	0.78
29:X:558:G:C3'	29:X:558:G:N3	2.45	0.78
15:J:21:ASP:HA	15:J:99:LYS:CG	2.14	0.78
29:X:999:A:HO2'	29:X:1166:A:H2	1.31	0.78
11:F:112:MET:HG3	11:F:113:PRO:CD	2.04	0.78
29:X:2259:G:H4'	29:X:2306:A:H5'	1.64	0.78
7:B:134:TRP:H	7:B:134:TRP:HD1	1.27	0.78
12:G:100:TYR:HB2	12:G:116:ARG:HH12	1.48	0.78
12:G:103:TYR:HD2	29:X:1142:G:C1'	1.97	0.78
29:X:1281:A:H1'	29:X:2592:U:O4	1.83	0.78
12:G:33:ILE:HB	12:G:34:PRO:HD2	1.64	0.78
13:H:41:ASN:O	13:H:42:LYS:O	2.01	0.78
14:I:53:ARG:HG3	14:I:53:ARG:HH21	1.49	0.78
29:X:2569:A:H2'	29:X:2570:C:H6	1.49	0.78
29:X:2475:C:C2'	29:X:2476:A:H5'	2.13	0.78
29:X:2440:C:H2'	29:X:2441:U:C6	2.17	0.78
8:C:162:ARG:NH1	29:X:333:A:H3'	1.97	0.78
6:A:69:ARG:HD3	6:A:105:ILE:HD11	1.64	0.78
6:A:231:HIS:ND1	6:A:247:VAL:HA	1.97	0.78
13:H:27:SER:HB3	13:H:50:ILE:N	1.97	0.78
29:X:2170:C:H2'	29:X:2171:U:H4'	1.66	0.78
19:N:76:TYR:CZ	19:N:80:ILE:HG13	2.17	0.78
10:E:71:LEU:O	10:E:74:ASN:HB2	1.82	0.78
23:R:105:ARG:HH22	23:R:112:LYS:CA	1.96	0.78
6:A:132:PRO:O	6:A:136:VAL:HG23	1.84	0.78
26:U:50:ALA:CB	26:U:52:ARG:HH22	1.97	0.78
12:G:67:ARG:HH21	12:G:70:PHE:C	1.86	0.78
14:I:76:LYS:HE3	14:I:111:SER:HB3	1.66	0.78
15:J:55:MET:HG2	15:J:118:ALA:O	1.83	0.78
7:B:131:SER:O	7:B:132:LYS:HG2	1.83	0.78
25:T:51:VAL:HG21	25:T:79:ILE:O	1.82	0.78
8:C:66:ASN:HB3	29:X:1268:U:C2'	2.12	0.78
23:R:84:VAL:HG21	23:R:89:GLY:HA2	1.63	0.78
29:X:687:G:O2'	29:X:688:A:H5'	1.84	0.78
26:U:49:LYS:CB	26:U:61:TRP:HA	2.11	0.78
14:I:66:ASN:HD21	14:I:68:VAL:HG23	1.48	0.78
11:F:41:PHE:O	11:F:45:THR:HG23	1.83	0.78
29:X:1474:A:H4'	29:X:1475:U:O5'	1.83	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:O:12:TYR:O	20:O:13:ARG:HB2	1.84	0.78
29:X:104:C:H2'	29:X:105:G:C5'	2.13	0.78
6:A:163:VAL:HG22	6:A:177:LEU:HA	1.63	0.78
10:E:154:PRO:HA	10:E:160:LYS:O	1.83	0.78
10:E:149:ARG:HH21	10:E:149:ARG:HG2	1.49	0.78
19:N:3:ARG:HD3	29:X:457:C:O3'	1.81	0.78
24:S:13:LYS:HB2	24:S:13:LYS:NZ	1.98	0.78
24:S:127:PRO:O	24:S:128:ARG:HG2	1.82	0.78
31:Z:17:A:H1'	31:Z:112:A:C8	2.19	0.78
12:G:62:ILE:O	12:G:77:GLY:HA3	1.84	0.78
8:C:30:VAL:HG12	8:C:31:VAL:H	1.48	0.78
13:H:41:ASN:ND2	29:X:2653:A:O2'	2.16	0.78
21:P:40:LEU:HD22	30:Y:25:LEU:CD1	2.14	0.78
29:X:704:G:H2'	29:X:705:C:C6	2.19	0.78
12:G:162:LYS:NZ	29:X:5:A:H1'	1.99	0.78
12:G:103:TYR:CB	12:G:107:GLN:HE21	1.96	0.78
26:U:33:LYS:NZ	29:X:2400:G:H21	1.80	0.78
11:F:54:PRO:HG2	11:F:70:LYS:HD2	1.66	0.78
10:E:44:ARG:HG3	10:E:44:ARG:HH21	1.49	0.78
29:X:2796:A:H2'	29:X:2797:G:H8	1.49	0.78
14:I:4:HIS:HA	14:I:7:LYS:NZ	1.98	0.77
29:X:652:C:H42	29:X:657:A:N6	1.83	0.77
29:X:1539:U:H2'	29:X:1540:C:C6	2.18	0.77
29:X:1337:G:H1'	29:X:1632:A:N6	1.98	0.77
29:X:925:U:H4'	29:X:926:C:OP1	1.84	0.77
30:Y:58:LEU:HD12	30:Y:58:LEU:H	1.48	0.77
18:M:103:LYS:O	18:M:104:LEU:HB2	1.82	0.77
31:Z:34:C:H2'	31:Z:35:C:C6	2.19	0.77
26:U:23:LYS:HD2	26:U:35:THR:OG1	1.84	0.77
11:F:23:VAL:HA	11:F:26:ALA:HB3	1.65	0.77
9:D:71:LYS:HB2	29:X:2291:U:OP1	1.84	0.77
22:Q:54:SER:HB2	29:X:1354:A:O2'	1.85	0.77
29:X:2228:U:H5''	29:X:2229:G:OP2	1.83	0.77
8:C:84:PHE:HE1	29:X:596:C:H5'	1.48	0.77
6:A:43:ARG:N	6:A:43:ARG:CD	2.43	0.77
13:H:116:ARG:HG2	18:M:40:ARG:NH2	1.97	0.77
29:X:987:G:H4'	29:X:1167:A:N7	1.98	0.77
29:X:1117:G:H2'	29:X:1118:G:C8	2.19	0.77
29:X:172:A:C5	29:X:175:C:H5	2.01	0.77
29:X:1597:A:H2'	29:X:1598:C:C6	2.20	0.77
12:G:107:GLN:HA	12:G:110:LEU:HG	1.65	0.77
23:R:82:ALA:O	23:R:83:LEU:HD12	1.85	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:M:28:ARG:HB2	18:M:29:PRO:CD	2.11	0.77
16:K:11:ASN:HD21	16:K:12:ARG:HE	1.30	0.77
29:X:1095:A:C2'	29:X:1096:A:H5''	2.14	0.77
24:S:6:LYS:H	24:S:7:PRO:CD	1.97	0.77
23:R:54:ILE:HA	23:R:70:GLU:O	1.84	0.77
29:X:1061:A:O2'	29:X:1062:G:H5'	1.85	0.77
12:G:132:PHE:CE1	12:G:145:HIS:HB2	2.18	0.77
19:N:24:PHE:CD1	29:X:543:G:H5'	2.19	0.77
21:P:37:LYS:HG3	29:X:1279:G:N1	1.99	0.77
23:R:82:ALA:O	23:R:83:LEU:O	2.03	0.77
18:M:104:LEU:HA	18:M:106:TYR:CE2	2.19	0.77
26:U:10:LYS:HG2	26:U:11:LYS:N	2.00	0.77
27:V:21:ARG:NH1	27:V:53:LEU:HD11	1.99	0.77
13:H:27:SER:HB3	13:H:50:ILE:HG13	1.67	0.77
8:C:148:VAL:O	8:C:167:VAL:HA	1.84	0.77
24:S:141:MET:HA	24:S:145:ASP:OD1	1.84	0.77
20:O:20:ILE:HD12	20:O:21:ARG:N	1.99	0.77
29:X:172:A:N1	29:X:178:C:N3	2.33	0.77
23:R:18:LYS:HE3	23:R:19:GLY:N	1.99	0.77
29:X:2:G:H2'	29:X:3:U:C6	2.18	0.77
29:X:215:G:H21	29:X:632:A:H8	1.31	0.77
17:L:16:LYS:HD3	31:Z:11:G:OP1	1.84	0.77
29:X:1095:A:H2'	29:X:1096:A:H5''	1.65	0.77
29:X:2074:U:H3'	29:X:2075:U:H5''	1.65	0.77
29:X:1072:U:H1'	29:X:1081:A:H1'	1.65	0.77
12:G:67:ARG:HB3	12:G:70:PHE:CA	2.14	0.77
10:E:98:LEU:HD12	10:E:99:THR:N	1.98	0.77
29:X:2189:A:N6	29:X:2195:C:N4	2.33	0.77
9:D:92:ARG:HH12	31:Z:46:G:C4'	1.97	0.77
9:D:66:ILE:HD11	31:Z:43:G:C5'	2.14	0.77
31:Z:16:U:H1'	31:Z:109:G:H21	1.50	0.77
19:N:48:ARG:O	19:N:52:ASN:HB2	1.84	0.77
29:X:427:C:H2'	29:X:428:A:C8	2.20	0.77
29:X:2871:U:H2'	29:X:2872:U:H6	1.49	0.77
29:X:445:A:H2'	29:X:446:C:C6	2.20	0.77
29:X:746:G:N7	29:X:774:A:C5	2.53	0.77
29:X:1053:G:C2'	29:X:1054:C:C6	2.61	0.77
28:W:12:ARG:HH11	28:W:12:ARG:HG2	1.48	0.77
29:X:861:G:H2'	29:X:862:A:H5'	1.66	0.77
27:V:41:HIS:CD2	27:V:42:ARG:N	2.52	0.77
11:F:21:PRO:HG2	11:F:22:PRO:HD3	1.67	0.77
20:O:20:ILE:HD12	20:O:21:ARG:H	1.50	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1448:A:N6	29:X:1574:A:H61	1.83	0.77
8:C:48:ARG:H	8:C:48:ARG:HD2	1.48	0.77
8:C:75:PRO:CG	8:C:83:ALA:HB2	2.14	0.77
23:R:93:ARG:HH12	23:R:108:VAL:CA	1.97	0.77
24:S:91:PRO:O	24:S:92:VAL:HG13	1.85	0.77
8:C:147:LYS:HA	8:C:165:SER:O	1.85	0.77
22:Q:7:LEU:O	22:Q:7:LEU:HD13	1.85	0.77
18:M:79:ARG:HH11	18:M:79:ARG:CG	1.96	0.77
24:S:67:LYS:NZ	31:Z:106:U:H4'	1.99	0.77
29:X:208:C:C2'	29:X:209:G:H5'	2.15	0.77
23:R:93:ARG:HH22	23:R:108:VAL:HA	1.49	0.76
29:X:1505:U:H2'	29:X:1506:C:H5''	1.66	0.76
15:J:66:TYR:HB2	15:J:106:GLU:CD	2.05	0.76
8:C:162:ARG:HD2	29:X:333:A:H5''	1.65	0.76
17:L:33:ARG:CG	17:L:38:ILE:HB	2.14	0.76
26:U:28:GLY:O	26:U:30:VAL:N	2.18	0.76
19:N:66:ASN:HD22	19:N:70:ARG:NH1	1.84	0.76
25:T:24:LYS:HD2	29:X:2334:C:H4'	1.67	0.76
14:I:126:SER:O	14:I:129:ALA:HB3	1.85	0.76
7:B:33:ILE:HD13	7:B:36:ARG:HH12	1.50	0.76
29:X:847:C:C2	29:X:848:A:C8	2.73	0.76
19:N:66:ASN:HD22	19:N:70:ARG:HH12	1.33	0.76
10:E:54:ARG:HH11	10:E:57:ASP:HB3	1.48	0.76
22:Q:62:ARG:O	22:Q:63:LYS:HB3	1.85	0.76
7:B:82:ARG:HH22	29:X:2617:G:P	2.09	0.76
8:C:30:VAL:O	8:C:32:THR:N	2.18	0.76
12:G:72:PRO:O	12:G:73:ASN:C	2.24	0.76
29:X:482:A:O2'	29:X:483:A:H5'	1.84	0.76
6:A:134:ARG:N	6:A:187:SER:HB2	2.00	0.76
18:M:100:ARG:NH1	29:X:2824:C:OP1	2.19	0.76
29:X:490:A:O2'	29:X:491:A:H5'	1.85	0.76
29:X:517:A:C5'	29:X:518:A:H5'	2.12	0.76
29:X:1561:A:H2'	29:X:1562:G:O4'	1.85	0.76
19:N:66:ASN:CB	19:N:76:TYR:H	1.99	0.76
29:X:2769:C:C2'	29:X:2770:A:H8	1.97	0.76
24:S:103:ARG:HH21	24:S:108:VAL:HG23	1.48	0.76
29:X:1964:A:H5''	29:X:1965:U:OP2	1.85	0.76
14:I:89:ASP:OD2	14:I:120:VAL:HA	1.85	0.76
11:F:20:ALA:H	11:F:21:PRO:CD	1.99	0.76
24:S:120:LEU:HD21	24:S:162:ALA:CB	2.14	0.76
29:X:1229:C:H2'	29:X:1230:C:H6	1.50	0.76
6:A:67:PHE:HB3	6:A:153:ALA:H	1.49	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:C:22:VAL:HG11	8:C:110:SER:OG	1.85	0.76
9:D:10:ASP:O	9:D:14:PRO:HD2	1.85	0.76
29:X:652:C:N4	29:X:657:A:H61	1.83	0.76
29:X:2265:A:H4'	29:X:2266:A:O5'	1.86	0.76
20:O:71:ILE:HD13	29:X:1003:C:O3'	1.85	0.76
21:P:106:LEU:HD23	21:P:107:ILE:H	1.51	0.76
10:E:87:LEU:HB2	10:E:131:ILE:HB	1.65	0.76
8:C:180:ILE:HG23	8:C:181:LEU:H	1.49	0.76
29:X:627:A:H2'	29:X:628:A:C8	2.21	0.76
6:A:43:ARG:HH11	6:A:43:ARG:N	1.84	0.76
29:X:1834:G:H2'	29:X:1835:C:C6	2.21	0.76
29:X:487:G:H4'	29:X:512:A:N1	2.00	0.76
13:H:132:GLU:HG3	13:H:133:VAL:N	2.01	0.76
27:V:41:HIS:HA	27:V:44:ARG:HE	1.50	0.76
29:X:2286:G:N2	29:X:2290:A:H61	1.82	0.76
29:X:717:G:H2'	29:X:739:G:N2	1.99	0.76
13:H:70:VAL:HG22	13:H:71:LYS:H	1.50	0.76
10:E:95:ARG:CZ	10:E:97:LYS:HE2	2.15	0.76
24:S:3:LEU:HB2	24:S:34:LEU:HB3	1.67	0.76
24:S:23:ALA:HB2	24:S:83:PHE:HB2	1.67	0.76
29:X:1953:A:H5'	29:X:1954:A:OP1	1.84	0.76
14:I:13:ARG:HB3	14:I:13:ARG:CZ	2.14	0.76
6:A:43:ARG:HH11	6:A:43:ARG:CB	1.99	0.76
17:L:68:ALA:O	17:L:71:VAL:HG13	1.86	0.76
26:U:51:ILE:HG23	26:U:59:THR:CA	2.10	0.76
14:I:94:GLU:HB3	14:I:97:ARG:NH1	2.00	0.76
6:A:249:PRO:HG3	29:X:2218:G:O4'	1.84	0.76
14:I:133:VAL:HG21	14:I:140:VAL:CG2	2.16	0.76
15:J:106:GLU:CD	15:J:106:GLU:N	2.38	0.76
29:X:2329:C:H2'	29:X:2330:G:O4'	1.86	0.76
13:H:116:ARG:NH2	18:M:40:ARG:HB2	2.01	0.76
12:G:67:ARG:HE	12:G:70:PHE:CA	1.99	0.76
29:X:1729:C:H2'	29:X:1730:G:C8	2.21	0.76
23:R:18:LYS:HA	23:R:36:VAL:CG1	2.16	0.76
29:X:2660:C:C2	29:X:2704:U:O4	2.39	0.76
9:D:30:ARG:HE	9:D:159:THR:HG21	1.51	0.76
29:X:1468:A:O5'	29:X:1468:A:C8	2.39	0.76
7:B:142:GLY:CA	7:B:143:GLN:HE21	1.98	0.76
6:A:250:TRP:CD1	6:A:255:LYS:HD2	2.21	0.75
29:X:1778:U:H2'	29:X:1779:C:C6	2.20	0.75
29:X:1448:A:H61	29:X:1574:A:N6	1.84	0.75
14:I:13:ARG:HE	29:X:1218:C:H1'	1.51	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:318:G:N2	29:X:320:A:H3'	2.01	0.75
14:I:13:ARG:HE	29:X:1218:C:C1'	2.00	0.75
23:R:10:HIS:O	23:R:11:ASN:HB3	1.85	0.75
8:C:84:PHE:CE1	29:X:596:C:H5'	2.21	0.75
6:A:89:SER:OG	6:A:159:ALA:HB2	1.86	0.75
29:X:1503:G:H2'	29:X:1504:G:C8	2.21	0.75
29:X:2175:A:H2'	29:X:2176:U:H6	1.51	0.75
23:R:38:LEU:HB2	23:R:47:VAL:CG2	2.16	0.75
30:Y:35:GLN:O	30:Y:36:CYS:CB	2.34	0.75
29:X:1426:U:H2'	29:X:1427:G:O4'	1.86	0.75
12:G:140:GLN:HG2	12:G:144:MET:HE2	1.66	0.75
6:A:229:VAL:HG21	29:X:797:A:C5	2.21	0.75
29:X:917:U:H2'	29:X:918:A:H5'	1.68	0.75
29:X:1279:G:O2'	29:X:1995:G:N1	2.20	0.75
17:L:15:ARG:HD2	17:L:91:ARG:NH1	1.95	0.75
17:L:64:LYS:N	17:L:64:LYS:HD3	2.02	0.75
9:D:108:LEU:HA	9:D:111:ILE:CD1	2.17	0.75
14:I:53:ARG:HB3	29:X:228:A:OP1	1.86	0.75
29:X:1374:G:O2'	29:X:1375:C:H5'	1.87	0.75
29:X:1737:G:H2'	29:X:1738:U:H6	1.50	0.75
23:R:93:ARG:NH1	23:R:108:VAL:HA	2.01	0.75
29:X:2548:G:O2'	29:X:2549:G:H5'	1.87	0.75
6:A:245:VAL:HA	6:A:252:LYS:HE2	1.68	0.75
13:H:79:HIS:CD2	13:H:80:ALA:H	2.05	0.75
17:L:76:ALA:HB1	17:L:111:GLY:N	2.01	0.75
29:X:1508:G:H5'	29:X:1509:A:C5'	2.16	0.75
29:X:617:U:O2	29:X:617:U:H3'	1.86	0.75
17:L:91:ARG:HH22	29:X:2356:A:H2	1.35	0.75
15:J:27:TYR:HB3	15:J:137:VAL:CG2	2.17	0.75
29:X:304:A:C2'	29:X:305:A:H5''	2.13	0.75
25:T:74:LYS:O	25:T:76:ALA:N	2.19	0.75
16:K:3:HIS:ND1	16:K:5:LYS:CD	2.49	0.75
29:X:1851:A:H62	29:X:1866:G:H21	1.35	0.75
24:S:3:LEU:HD21	24:S:32:PHE:HB3	1.67	0.75
15:J:17:ARG:HH11	29:X:969:U:H5''	1.48	0.75
6:A:210:GLY:HA2	6:A:213:ARG:HG2	1.69	0.75
23:R:93:ARG:HG2	23:R:94:VAL:H	1.52	0.75
15:J:69:ILE:CG2	15:J:104:MET:HA	2.17	0.75
4:4:9:LYS:H	4:4:9:LYS:CD	1.98	0.75
29:X:1283:C:H5''	29:X:1284:G:H5'	1.68	0.75
29:X:1811:A:H1'	29:X:1813:A:C6	2.22	0.75
17:L:10:LYS:O	17:L:14:ARG:HG3	1.87	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:91:PRO:HD3	24:S:127:PRO:HD3	1.68	0.75
12:G:61:ARG:NH2	12:G:61:ARG:HB3	2.02	0.75
10:E:56:SER:HB2	10:E:61:HIS:CD2	2.21	0.75
8:C:7:ILE:O	8:C:120:VAL:HB	1.86	0.75
6:A:96:HIS:CD2	29:X:1517:C:H4'	2.22	0.75
12:G:117:GLU:C	12:G:119:LEU:H	1.89	0.74
24:S:10:PRO:HG2	24:S:14:LEU:HD11	1.69	0.74
14:I:63:ARG:HH11	29:X:2394:G:H3'	1.51	0.74
19:N:93:LYS:HE2	20:O:10:LYS:HZ3	1.51	0.74
23:R:60:PRO:O	23:R:62:MET:N	2.19	0.74
8:C:68:ARG:HH12	29:X:2043:A:H62	0.79	0.74
29:X:1051:U:H2'	29:X:1052:C:O4'	1.86	0.74
6:A:149:PRO:HD3	6:A:186:HIS:NE2	2.02	0.74
7:B:75:THR:O	7:B:76:ARG:CB	2.35	0.74
29:X:2867:G:H4'	29:X:2868:G:O5'	1.87	0.74
13:H:70:VAL:HG22	13:H:71:LYS:N	2.02	0.74
20:O:29:ALA:O	20:O:31:ASP:N	2.20	0.74
10:E:126:PRO:HD2	10:E:130:ARG:O	1.86	0.74
29:X:2640:G:H2'	29:X:2641:A:C8	2.22	0.74
14:I:76:LYS:HG3	14:I:111:SER:HB2	1.69	0.74
12:G:39:GLN:O	12:G:39:GLN:HG3	1.87	0.74
29:X:1416:A:H2'	29:X:1417:C:H6	1.52	0.74
29:X:1830:C:H41	29:X:1881:U:H3'	1.51	0.74
8:C:31:VAL:HG23	8:C:32:THR:H	1.52	0.74
23:R:111:GLY:C	23:R:112:LYS:HD2	2.07	0.74
23:R:85:ASP:OD1	23:R:86:PRO:HD3	1.87	0.74
29:X:689:A:H1'	29:X:2422:C:O4'	1.87	0.74
18:M:99:VAL:CG2	18:M:100:ARG:H	1.99	0.74
18:M:46:ARG:HG3	18:M:47:SER:H	1.49	0.74
29:X:306:G:N2	29:X:355:G:H1'	2.02	0.74
25:T:44:LYS:HG2	25:T:45:PHE:CD1	2.22	0.74
19:N:66:ASN:ND2	19:N:70:ARG:HH12	1.85	0.74
29:X:1850:G:N2	29:X:1867:A:C8	2.54	0.74
29:X:2641:A:H2'	29:X:2642:G:O4'	1.87	0.74
21:P:27:VAL:HB	21:P:125:THR:HG22	1.68	0.74
31:Z:42:U:H1'	31:Z:47:A:N6	2.02	0.74
15:J:20:GLY:C	15:J:99:LYS:HE2	2.06	0.74
29:X:2706:U:O2'	29:X:2707:G:OP1	2.05	0.74
29:X:1312:G:H5''	29:X:1313:U:OP1	1.87	0.74
9:D:66:ILE:CD1	31:Z:43:G:H5''	2.15	0.74
26:U:15:VAL:HG12	26:U:46:LEU:HD22	1.67	0.74
29:X:651:C:H2'	29:X:652:C:H5''	1.69	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1193:G:C2'	29:X:1194:U:H5''	2.17	0.74
29:X:1913:G:H5''	29:X:1914:U:OP1	1.87	0.74
25:T:26:PHE:HE2	29:X:870:C:H1'	1.52	0.74
29:X:2856:U:O2'	29:X:2857:C:H5'	1.88	0.74
6:A:95:LEU:CD1	6:A:105:ILE:HD12	2.17	0.74
7:B:120:TRP:O	7:B:121:ASN:HB2	1.88	0.74
12:G:55:ALA:HB1	12:G:134:MET:HE1	1.69	0.74
21:P:11:LYS:O	21:P:14:ARG:N	2.19	0.74
22:Q:11:VAL:HG23	22:Q:27:PHE:HA	1.70	0.74
29:X:1525:A:H3'	29:X:1526:U:H6	1.51	0.74
29:X:1416:A:H2'	29:X:1417:C:C6	2.23	0.74
29:X:242:A:H61	29:X:440:U:H2'	1.53	0.74
22:Q:4:TYR:CD2	27:V:23:LYS:HB2	2.22	0.74
14:I:45:LYS:HG2	14:I:46:GLY:H	1.53	0.74
23:R:95:ARG:NH1	23:R:106:VAL:HA	2.01	0.74
29:X:1775:A:H3'	29:X:1775:A:OP1	1.88	0.74
29:X:2266:A:N6	29:X:2323:U:H3	1.83	0.74
29:X:2320:G:H2'	29:X:2321:C:H6	1.52	0.74
29:X:1071:U:H1'	29:X:1073:G:H5'	1.70	0.74
29:X:1466:C:H2'	29:X:1467:U:O4'	1.87	0.74
11:F:122:ALA:CA	29:X:1092:U:H4'	2.18	0.74
12:G:34:PRO:HA	12:G:69:ASP:OD2	1.86	0.74
20:O:44:GLN:O	20:O:46:VAL:HG23	1.87	0.74
29:X:1007:A:C2	29:X:1008:G:C8	2.76	0.74
29:X:2286:G:C6	29:X:2287:G:H1'	2.23	0.74
14:I:28:LYS:CD	14:I:36:GLY:HA3	2.17	0.74
24:S:4:THR:HB	24:S:57:GLU:HB2	1.70	0.74
8:C:139:GLN:HA	8:C:139:GLN:HE21	1.53	0.74
12:G:110:LEU:CD2	12:G:110:LEU:N	2.51	0.74
14:I:13:ARG:HH21	14:I:13:ARG:CG	2.01	0.74
14:I:42:GLY:O	14:I:43:ALA:HB2	1.87	0.74
26:U:70:LEU:HD23	26:U:74:PRO:HA	1.70	0.74
29:X:847:C:H2'	29:X:848:A:H8	1.53	0.74
19:N:66:ASN:HB3	19:N:76:TYR:H	1.53	0.74
22:Q:32:LYS:O	22:Q:33:ALA:HB2	1.87	0.74
21:P:66:GLU:O	21:P:69:ALA:HB3	1.87	0.74
15:J:17:ARG:NH2	29:X:967:G:O6	2.20	0.74
27:V:18:ILE:C	27:V:20:ALA:H	1.91	0.74
8:C:23:ASN:O	8:C:27:LEU:HD12	1.87	0.73
29:X:1482:U:H2'	29:X:1483:G:C8	2.22	0.73
29:X:1058:G:C2'	29:X:1121:G:H1	1.96	0.73
4:4:9:LYS:HD2	4:4:9:LYS:N	2.03	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2639:A:H2'	29:X:2640:G:O4'	1.88	0.73
14:I:28:LYS:NZ	14:I:36:GLY:CA	2.51	0.73
29:X:2677:U:H2'	29:X:2678:C:C6	2.23	0.73
9:D:13:ARG:O	9:D:16:LEU:HB2	1.89	0.73
10:E:50:LEU:HD23	10:E:51:LEU:N	2.02	0.73
15:J:100:PRO:HG2	24:S:74:ARG:HH11	1.53	0.73
29:X:871:U:O2'	29:X:2247:A:C2'	2.36	0.73
29:X:2764:U:H2'	29:X:2765:C:C6	2.22	0.73
24:S:71:MET:CB	24:S:78:PRO:HA	2.19	0.73
29:X:2852:G:O2'	29:X:2853:U:H5'	1.88	0.73
29:X:469:G:O2'	29:X:470:U:OP2	2.06	0.73
6:A:131:LEU:HD21	6:A:193:ILE:HG12	1.70	0.73
6:A:43:ARG:NH1	6:A:43:ARG:HB3	2.04	0.73
18:M:27:PHE:O	18:M:28:ARG:HG2	1.86	0.73
26:U:78:ILE:HD13	26:U:79:GLU:N	2.03	0.73
11:F:88:SER:O	29:X:1075:C:H4'	1.89	0.73
29:X:1475:U:H4'	29:X:1475:U:OP2	1.87	0.73
13:H:14:SER:OG	13:H:98:ILE:HD12	1.87	0.73
29:X:1086:C:C3'	29:X:1087:C:H5''	2.18	0.73
29:X:954:U:H2'	29:X:955:G:H5''	1.70	0.73
12:G:162:LYS:H	12:G:163:PRO:HD2	1.51	0.73
29:X:2252:A:O2'	29:X:2253:A:H5'	1.88	0.73
12:G:105:GLY:O	12:G:106:TYR:C	2.27	0.73
6:A:257:LEU:HD22	29:X:1795:C:OP1	1.88	0.73
29:X:1787:U:H2'	29:X:1788:C:C6	2.23	0.73
26:U:49:LYS:HB3	26:U:61:TRP:HE3	1.52	0.73
14:I:108:LEU:HB3	14:I:125:ALA:CB	2.19	0.73
24:S:147:ILE:HB	24:S:169:VAL:HG22	1.69	0.73
24:S:97:PRO:HA	24:S:119:ASN:HA	1.70	0.73
12:G:33:ILE:HB	12:G:34:PRO:HD3	1.71	0.73
28:W:8:SER:CB	29:X:999:A:H5''	2.15	0.73
29:X:1574:A:O2'	29:X:1575:C:H3'	1.87	0.73
29:X:2404:A:H4'	29:X:2405:A:H5'	1.68	0.73
8:C:3:GLN:HE22	8:C:4:ILE:CG1	2.00	0.73
29:X:939:C:H5''	29:X:940:G:O5'	1.87	0.73
14:I:90:ARG:HA	14:I:121:HIS:ND1	2.03	0.73
9:D:138:PHE:HB2	9:D:141:ILE:HB	1.69	0.73
9:D:35:VAL:HG12	9:D:36:VAL:H	1.54	0.73
22:Q:53:ILE:HG13	22:Q:54:SER:H	1.54	0.73
29:X:98:U:C5'	29:X:99:U:H5''	2.18	0.73
29:X:2451:G:O6	29:X:2455:A:H4'	1.88	0.73
22:Q:22:ARG:NH1	22:Q:24:VAL:HG21	2.03	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1055:A:C4	29:X:1055:A:H3'	2.20	0.73
6:A:211:ARG:HG2	6:A:211:ARG:NH1	2.02	0.73
8:C:117:LEU:HD23	8:C:117:LEU:C	2.09	0.73
28:W:34:VAL:HG22	28:W:40:VAL:HG11	1.71	0.73
10:E:109:TYR:O	10:E:111:HIS:N	2.21	0.73
22:Q:65:VAL:HG12	22:Q:66:GLY:H	1.53	0.73
24:S:51:LEU:N	24:S:51:LEU:HD23	2.04	0.73
12:G:154:GLU:C	12:G:157:PRO:HD2	2.08	0.73
13:H:99:ILE:HD12	13:H:103:GLY:HA2	1.71	0.73
8:C:48:ARG:CB	8:C:51:VAL:HG22	2.18	0.73
19:N:13:ARG:HG3	19:N:13:ARG:NH2	2.02	0.73
6:A:43:ARG:HH11	6:A:43:ARG:HB3	1.53	0.73
17:L:67:THR:O	17:L:70:ALA:HB3	1.89	0.73
14:I:85:ASP:O	14:I:87:THR:N	2.21	0.73
29:X:554:U:H2'	29:X:554:U:O2	1.87	0.73
9:D:143:TYR:HA	9:D:146:VAL:CG2	2.17	0.73
29:X:116:A:H5'	29:X:117:A:C8	2.22	0.73
24:S:44:ARG:HD3	24:S:45:GLN:HE22	1.54	0.73
27:V:37:LEU:HD11	29:X:60:A:H4'	1.70	0.73
8:C:43:ALA:HB1	8:C:86:PRO:O	1.89	0.73
12:G:103:TYR:O	12:G:107:GLN:NE2	2.22	0.73
19:N:11:ARG:HH22	29:X:29:U:C4'	2.01	0.73
9:D:28:VAL:O	9:D:30:ARG:HG3	1.87	0.73
29:X:76:C:H5'	29:X:76:C:C6	2.20	0.73
29:X:610:G:H1	29:X:670:U:H3	1.37	0.73
25:T:32:LYS:N	25:T:35:ASN:HD22	1.87	0.73
14:I:18:ARG:HB2	14:I:21:ARG:HB2	1.71	0.73
29:X:2194:A:C2'	29:X:2195:C:H5''	2.17	0.73
17:L:38:ILE:HD12	17:L:39:TYR:N	2.02	0.73
22:Q:59:PRO:O	22:Q:75:ARG:NH2	2.20	0.73
29:X:2225:G:H2'	29:X:2226:A:C8	2.23	0.73
25:T:37:LEU:O	25:T:38:VAL:HG23	1.87	0.73
27:V:38:ALA:C	27:V:40:PRO:HD3	2.09	0.73
8:C:62:LYS:HD3	8:C:63:GLY:N	2.03	0.73
29:X:1149:G:N3	29:X:1154:A:H2	1.86	0.73
21:P:37:LYS:HG3	29:X:1279:G:N2	2.04	0.73
29:X:465:C:O2'	29:X:467:U:H1'	1.89	0.73
17:L:8:ARG:HH11	17:L:8:ARG:CB	2.02	0.73
26:U:32:ARG:HG2	26:U:34:THR:H	1.54	0.73
15:J:125:LYS:HZ2	15:J:125:LYS:CB	2.02	0.73
22:Q:9:ALA:HB1	22:Q:10:PRO:HD2	1.69	0.73
29:X:1524:C:H5''	29:X:1525:A:H8	1.54	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1644:G:H2'	29:X:1645:U:C6	2.24	0.73
30:Y:33:CYS:SG	30:Y:34:PRO:HD2	2.29	0.73
7:B:116:VAL:HG13	7:B:136:ARG:NH2	2.03	0.72
8:C:162:ARG:NH2	29:X:333:A:H3'	2.02	0.72
12:G:142:ARG:HH12	29:X:538:A:H5''	1.54	0.72
6:A:153:ALA:O	6:A:154:GLN:HG3	1.88	0.72
29:X:2197:U:C4	29:X:2198:U:C4	2.77	0.72
26:U:11:LYS:NZ	26:U:75:TYR:HB2	2.03	0.72
14:I:63:ARG:O	14:I:64:GLY:C	2.27	0.72
31:Z:19:C:H2'	31:Z:20:A:O4'	1.88	0.72
9:D:111:ILE:CB	9:D:114:PHE:HB2	2.17	0.72
29:X:2569:A:H2'	29:X:2570:C:C6	2.23	0.72
12:G:124:GLU:N	12:G:124:GLU:OE1	2.21	0.72
7:B:131:SER:C	7:B:132:LYS:HG2	2.08	0.72
21:P:37:LYS:HE2	21:P:64:ALA:HB2	1.68	0.72
29:X:564:U:H2'	29:X:565:A:C8	2.25	0.72
29:X:617:U:C5	29:X:632:A:C2	2.77	0.72
6:A:208:LYS:CE	29:X:1782:A:H1'	2.17	0.72
29:X:558:G:H5''	29:X:558:G:N3	2.03	0.72
29:X:1058:G:C2'	29:X:1121:G:N1	2.52	0.72
24:S:122:ILE:HG21	24:S:160:LEU:HD23	1.71	0.72
23:R:38:LEU:HB2	23:R:47:VAL:CB	2.18	0.72
14:I:82:ASP:H	14:I:114:ILE:HG21	1.54	0.72
6:A:63:ARG:O	6:A:65:ILE:HG13	1.88	0.72
7:B:137:ARG:NH2	29:X:2034:A:OP1	2.22	0.72
23:R:105:ARG:HH12	23:R:112:LYS:HA	1.53	0.72
29:X:2195:C:C5	29:X:2196:U:C5	2.76	0.72
29:X:1778:U:H2'	29:X:1779:C:H6	1.52	0.72
29:X:793:G:H21	29:X:796:A:H62	1.35	0.72
9:D:4:LEU:HD11	9:D:173:MET:HE1	1.70	0.72
17:L:16:LYS:HE2	17:L:28:ARG:NH1	2.03	0.72
11:F:87:GLY:HA3	29:X:1075:C:H5''	1.69	0.72
29:X:356:A:H2'	29:X:357:A:C8	2.23	0.72
8:C:164:VAL:O	8:C:166:TRP:N	2.23	0.72
29:X:2058:U:H3'	29:X:2217:G:H21	1.53	0.72
14:I:128:ALA:HA	14:I:131:LYS:HB2	1.70	0.72
6:A:261:ARG:HH22	29:X:1790:G:H5''	1.53	0.72
17:L:28:ARG:HA	17:L:88:VAL:O	1.89	0.72
10:E:6:LYS:HB3	10:E:69:ARG:HD2	1.72	0.72
29:X:1314:A:H2	29:X:1642:G:N3	1.87	0.72
13:H:16:ALA:HB2	13:H:64:VAL:CG1	2.17	0.72
12:G:150:VAL:HG12	12:G:151:TYR:H	1.52	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1283:C:H5''	29:X:1284:G:C5'	2.19	0.72
28:W:5:LEU:HB2	28:W:25:LEU:HD13	1.70	0.72
12:G:70:PHE:HB2	19:N:64:ARG:HG2	1.71	0.72
9:D:108:LEU:CD1	9:D:117:ILE:HD11	2.19	0.72
29:X:653:G:C2'	29:X:654:A:H5''	2.20	0.72
14:I:28:LYS:HZ2	14:I:37:GLN:H	1.35	0.72
12:G:58:ILE:HG23	12:G:80:VAL:HG11	1.71	0.72
9:D:5:LYS:O	9:D:8:TYR:HB3	1.89	0.72
18:M:5:ILE:CD1	18:M:7:ILE:HB	2.19	0.72
16:K:3:HIS:HE1	29:X:2796:A:P	2.13	0.72
19:N:50:ARG:O	19:N:52:ASN:N	2.22	0.72
29:X:1979:C:O2'	29:X:1980:A:O4'	2.07	0.72
9:D:33:LYS:HG3	9:D:157:VAL:CG2	2.18	0.72
29:X:1231:A:C4	29:X:1232:U:C5	2.78	0.72
21:P:126:ILE:HD12	21:P:127:ILE:N	2.04	0.72
29:X:1061:A:C2'	29:X:1062:G:H5'	2.19	0.72
29:X:1329:U:O2'	29:X:1330:G:H5'	1.90	0.72
7:B:140:SER:HB2	29:X:2557:G:N7	2.05	0.72
29:X:1255:A:H2'	29:X:1256:C:C6	2.25	0.72
14:I:30:ALA:H	14:I:34:HIS:CG	2.06	0.72
24:S:13:LYS:O	24:S:16:GLU:O	2.07	0.72
24:S:18:MET:HA	24:S:36:ARG:H	1.55	0.72
29:X:1233:A:O2'	29:X:1234:C:OP1	2.07	0.72
20:O:40:VAL:HG12	20:O:45:THR:CA	2.15	0.72
29:X:2662:C:H2'	29:X:2663:U:C6	2.23	0.72
29:X:428:A:H2'	29:X:429:C:C6	2.23	0.72
23:R:18:LYS:HA	23:R:36:VAL:HG11	1.70	0.72
29:X:746:G:N7	29:X:774:A:C6	2.57	0.72
23:R:11:ASN:HD22	23:R:11:ASN:C	1.93	0.72
29:X:317:U:C3'	29:X:318:G:H5''	2.20	0.72
29:X:2197:U:O4	29:X:2198:U:O4	2.08	0.72
6:A:252:LYS:N	6:A:252:LYS:CE	2.48	0.72
15:J:34:GLY:HA2	15:J:106:GLU:CA	2.14	0.72
29:X:2225:G:C2	29:X:2405:A:H1'	2.24	0.72
29:X:150:A:H2'	29:X:151:G:O4'	1.90	0.72
14:I:28:LYS:NZ	14:I:36:GLY:HA3	2.04	0.72
29:X:2441:U:H2'	29:X:2442:C:H6	1.54	0.72
12:G:84:ASN:O	12:G:152:ALA:HA	1.89	0.72
29:X:925:U:O2'	29:X:926:C:H5'	1.89	0.72
29:X:1060:C:H2'	29:X:1061:A:H8	1.54	0.72
7:B:117:MET:N	7:B:136:ARG:HD2	2.00	0.72
23:R:4:PRO:N	29:X:34:U:H1'	2.05	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:84:VAL:HA	23:R:90:LYS:CD	2.18	0.72
21:P:37:LYS:HG3	29:X:1279:G:C2	2.24	0.72
6:A:243:GLY:CA	6:A:244:ARG:NH1	2.53	0.72
6:A:244:ARG:N	6:A:244:ARG:HD3	2.04	0.72
29:X:777:A:O2'	29:X:778:G:OP1	2.08	0.72
9:D:74:ILE:HA	9:D:79:LEU:HB3	1.71	0.72
29:X:1057:A:N3	29:X:1057:A:C2'	2.52	0.72
29:X:1113:C:H2'	29:X:1114:A:C8	2.19	0.72
29:X:1857:G:N2	29:X:1860:A:OP2	2.22	0.72
21:P:27:VAL:CG2	21:P:125:THR:HG22	2.20	0.72
16:K:84:ALA:HB3	16:K:85:PRO:HD3	1.71	0.72
8:C:48:ARG:HB2	8:C:51:VAL:CG2	2.19	0.72
8:C:95:LEU:CD2	8:C:96:PRO:HD2	2.16	0.72
29:X:521:U:H5''	29:X:522:G:OP2	1.89	0.72
6:A:134:ARG:H	6:A:187:SER:HB2	1.53	0.72
17:L:101:LYS:O	17:L:104:ALA:HB3	1.90	0.72
17:L:97:HIS:O	17:L:101:LYS:CB	2.35	0.72
26:U:33:LYS:O	26:U:34:THR:HB	1.89	0.72
21:P:85:MET:HE3	21:P:130:GLU:HG3	1.72	0.72
8:C:45:THR:HG21	8:C:85:GLY:HA3	1.72	0.71
23:R:22:VAL:CG1	23:R:80:LYS:HD2	2.18	0.71
6:A:42:GLY:C	6:A:43:ARG:NH1	2.43	0.71
17:L:37:HIS:CB	31:Z:30:C:OP1	2.38	0.71
27:V:42:ARG:NH1	27:V:45:GLN:NE2	2.38	0.71
16:K:11:ASN:OD1	16:K:17:ARG:CZ	2.37	0.71
29:X:172:A:N7	29:X:175:C:H5	1.88	0.71
21:P:66:GLU:HB3	21:P:67:PRO:CD	2.19	0.71
6:A:182:LEU:HD12	6:A:269:PHE:HD2	1.52	0.71
17:L:97:HIS:CG	17:L:98:GLY:H	2.05	0.71
14:I:101:ARG:HD3	29:X:637:G:N1	2.04	0.71
25:T:56:ASP:OD1	29:X:2343:C:H4'	1.89	0.71
29:X:417:C:N1	29:X:419:G:C8	2.58	0.71
8:C:135:SER:O	8:C:138:LYS:HB2	1.90	0.71
12:G:116:ARG:NE	12:G:126:VAL:HG13	2.06	0.71
4:4:25:VAL:HB	4:4:34:GLN:HB2	1.72	0.71
27:V:1:MET:HG3	27:V:2:LYS:HG3	1.70	0.71
29:X:1122:A:C2	29:X:1123:G:H1'	2.25	0.71
29:X:1850:G:HO2'	29:X:1851:A:H8	0.72	0.71
31:Z:4:C:O2'	31:Z:5:C:H5'	1.91	0.71
23:R:27:GLY:N	29:X:321:A:OP1	2.23	0.71
29:X:1072:U:C1'	29:X:1081:A:H1'	2.21	0.71
10:E:45:GLN:HG3	10:E:49:GLN:O	1.90	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1554:G:H2'	29:X:1555:A:C8	2.26	0.71
29:X:173:A:H5'	29:X:174:A:OP2	1.90	0.71
10:E:105:MET:HE3	10:E:131:ILE:CD1	2.20	0.71
10:E:157:TYR:C	10:E:171:LEU:HD23	2.11	0.71
8:C:128:ALA:O	8:C:130:THR:N	2.24	0.71
7:B:152:LYS:HD2	12:G:106:TYR:H	1.55	0.71
23:R:24:VAL:O	23:R:30:LYS:HA	1.90	0.71
29:X:27:G:H1'	29:X:523:A:H62	1.54	0.71
6:A:246:PRO:HD2	6:A:250:TRP:H	1.55	0.71
29:X:1468:A:H5''	29:X:1472:C:H42	1.52	0.71
19:N:52:ASN:OD1	19:N:55:ARG:NH2	2.23	0.71
22:Q:29:VAL:CG1	22:Q:38:ILE:HD12	2.20	0.71
13:H:10:VAL:HG23	13:H:17:ARG:O	1.91	0.71
10:E:107:ILE:N	10:E:107:ILE:HD13	2.06	0.71
24:S:3:LEU:HD21	24:S:32:PHE:CD2	2.25	0.71
29:X:1193:G:H2'	29:X:1194:U:H5''	1.71	0.71
29:X:1391:A:O2'	29:X:1392:U:C6	2.43	0.71
29:X:1724:C:O2'	29:X:1725:C:H5'	1.90	0.71
9:D:123:ASP:O	9:D:125:ARG:N	2.24	0.71
17:L:28:ARG:HD2	17:L:90:ASP:CG	2.10	0.71
17:L:54:ALA:CB	17:L:75:LEU:HB2	2.19	0.71
17:L:28:ARG:NH1	17:L:90:ASP:OD2	2.24	0.71
26:U:32:ARG:O	29:X:2375:G:H4'	1.90	0.71
27:V:55:THR:O	27:V:59:GLU:HG3	1.90	0.71
29:X:2306:A:H2'	29:X:2307:A:H8	1.56	0.71
29:X:429:C:H2'	29:X:430:C:H6	1.56	0.71
22:Q:20:MET:HA	22:Q:24:VAL:O	1.91	0.71
29:X:48:A:H4'	29:X:49:U:H5'	1.71	0.71
29:X:1682:A:O2'	29:X:1683:G:H5'	1.91	0.71
10:E:84:THR:HA	10:E:134:SER:HA	1.72	0.71
6:A:250:TRP:HD1	6:A:255:LYS:HD2	1.55	0.71
9:D:10:ASP:HA	9:D:14:PRO:HG2	1.71	0.71
24:S:100:THR:HG23	24:S:138:VAL:HG11	1.71	0.71
24:S:105:GLN:O	24:S:142:ASN:HA	1.91	0.71
20:O:5:ILE:HG21	20:O:10:LYS:HE2	1.71	0.71
20:O:64:GLY:HA3	20:O:90:PHE:CZ	2.25	0.71
13:H:109:ARG:HA	13:H:129:LEU:HD13	1.73	0.71
29:X:1095:A:H3'	29:X:1096:A:H5''	1.70	0.71
23:R:107:ALA:CB	23:R:111:GLY:HA2	2.21	0.71
23:R:80:LYS:HE3	23:R:80:LYS:O	1.91	0.71
29:X:594:G:H2'	29:X:1264:C:H42	1.56	0.71
10:E:143:GLN:HG2	29:X:2725:C:O2'	1.91	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:A:43:ARG:HH11	6:A:43:ARG:CA	2.04	0.71
17:L:60:LYS:HG2	17:L:62:GLY:N	2.02	0.71
17:L:87:VAL:HG12	17:L:88:VAL:N	2.05	0.71
14:I:61:PRO:HB3	29:X:2372:A:H5'	1.72	0.71
29:X:2323:U:C5'	29:X:2323:U:H6	1.97	0.71
19:N:44:THR:O	19:N:48:ARG:HG3	1.91	0.71
26:U:41:VAL:O	26:U:42:GLN:HB2	1.90	0.71
29:X:2713:A:O2'	29:X:2714:A:H5'	1.90	0.71
8:C:91:TYR:HE2	29:X:1259:A:H4'	1.54	0.71
29:X:1317:G:O2'	29:X:1318:A:H5'	1.91	0.71
12:G:105:GLY:O	12:G:110:LEU:HD12	1.91	0.71
29:X:547:U:H2'	29:X:548:G:C8	2.26	0.71
9:D:125:ARG:HG3	29:X:2294:U:O2'	1.91	0.71
9:D:166:ALA:O	9:D:170:LEU:HG	1.90	0.71
9:D:4:LEU:CG	9:D:5:LYS:N	2.53	0.71
7:B:25:VAL:HG13	7:B:183:LEU:CD2	2.20	0.71
14:I:107:LYS:HE3	29:X:647:G:O6	1.91	0.71
29:X:2323:U:O2'	29:X:2324:G:H5'	1.90	0.71
20:O:36:LYS:NZ	20:O:54:TYR:HB3	2.05	0.71
9:D:38:GLU:HB3	9:D:87:ILE:CB	2.19	0.71
30:Y:45:ILE:HG21	30:Y:57:VAL:CG2	2.21	0.71
29:X:2555:G:H3'	29:X:2555:G:OP1	1.91	0.71
16:K:30:ARG:HG3	16:K:30:ARG:O	1.91	0.71
6:A:244:ARG:HD2	29:X:1885:C:C5'	2.20	0.71
9:D:92:ARG:HH12	31:Z:46:G:H5'	1.55	0.71
10:E:95:ARG:NH2	10:E:97:LYS:HE2	2.05	0.71
29:X:1730:G:O2'	29:X:1731:C:H5'	1.91	0.71
7:B:33:ILE:HG21	7:B:36:ARG:NH1	2.05	0.71
29:X:1655:C:H4'	29:X:2689:C:O2	1.91	0.71
23:R:25:LEU:CD1	23:R:81:VAL:HG23	2.21	0.70
12:G:103:TYR:CD2	29:X:1142:G:C1'	2.73	0.70
29:X:540:G:O2'	29:X:542:A:C2	2.44	0.70
29:X:2198:U:C2	29:X:2199:C:C6	2.79	0.70
14:I:103:ASN:OD1	14:I:104:ARG:HG3	1.90	0.70
14:I:107:LYS:HG2	14:I:109:LEU:HD21	1.73	0.70
29:X:659:G:H2'	29:X:660:G:H8	1.56	0.70
29:X:666:U:H2'	29:X:667:U:H4'	1.73	0.70
19:N:70:ARG:NH1	19:N:70:ARG:HG3	2.02	0.70
9:D:74:ILE:HG12	9:D:80:ARG:C	2.11	0.70
12:G:104:THR:O	12:G:105:GLY:O	2.08	0.70
12:G:56:THR:N	12:G:134:MET:HE1	2.07	0.70
29:X:460:U:C4	29:X:592:G:H1'	2.26	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:617:U:H5	29:X:632:A:C2	2.09	0.70
29:X:689:A:H2'	29:X:690:A:H5'	1.73	0.70
7:B:134:TRP:CE2	29:X:1675:C:OP1	2.44	0.70
29:X:537:C:O2'	29:X:538:A:C2	2.44	0.70
10:E:139:GLN:C	10:E:143:GLN:HG3	2.11	0.70
9:D:8:TYR:O	9:D:12:VAL:HB	1.91	0.70
31:Z:64:C:H2'	31:Z:65:A:C8	2.24	0.70
21:P:38:VAL:HG22	21:P:64:ALA:HB1	1.73	0.70
23:R:85:ASP:H	23:R:86:PRO:CD	2.05	0.70
29:X:2594:U:O2'	29:X:2595:C:H5'	1.91	0.70
9:D:4:LEU:CD1	9:D:5:LYS:H	2.04	0.70
29:X:636:G:H2'	29:X:637:G:H5'	1.71	0.70
29:X:554:U:C2'	29:X:554:U:O2	2.38	0.70
29:X:1978:U:C3'	29:X:1979:C:H5''	2.18	0.70
29:X:1373:G:O6	29:X:1385:C:C4	2.43	0.70
12:G:154:GLU:N	12:G:157:PRO:HG2	2.05	0.70
24:S:64:ALA:N	24:S:86:VAL:HG23	2.05	0.70
12:G:106:TYR:O	12:G:110:LEU:HG	1.91	0.70
8:C:112:GLN:HB3	8:C:116:LYS:NZ	2.06	0.70
14:I:32:ARG:CZ	20:O:81:ARG:NE	2.54	0.70
29:X:1429:A:O2'	29:X:1430:G:H4'	1.91	0.70
29:X:709:A:O2'	29:X:710:C:H5'	1.92	0.70
7:B:154:LYS:CE	7:B:156:MET:SD	2.80	0.70
29:X:826:U:H2'	29:X:827:C:C6	2.27	0.70
29:X:2189:A:C6	29:X:2195:C:N4	2.60	0.70
18:M:99:VAL:CG2	18:M:100:ARG:N	2.54	0.70
29:X:400:U:O2'	29:X:401:G:H5''	1.92	0.70
29:X:651:C:C2'	29:X:652:C:H5''	2.22	0.70
25:T:44:LYS:HG2	25:T:45:PHE:HD1	1.57	0.70
9:D:38:GLU:N	9:D:87:ILE:O	2.24	0.70
25:T:52:GLY:HA3	25:T:60:PHE:CE2	2.26	0.70
18:M:39:VAL:HG12	18:M:45:THR:CG2	2.22	0.70
21:P:14:ARG:HA	21:P:17:GLN:CG	2.20	0.70
29:X:1656:U:O2'	29:X:1657:A:H5''	1.92	0.70
29:X:2560:G:H4'	29:X:2561:G:C8	2.27	0.70
7:B:150:VAL:CG2	7:B:154:LYS:HE2	2.18	0.70
29:X:1467:U:C3'	29:X:1467:U:H6	2.05	0.70
29:X:2691:C:C2'	29:X:2692:A:H5''	2.21	0.70
29:X:1354:A:H2'	29:X:1410:U:O2'	1.90	0.70
10:E:71:LEU:HA	10:E:74:ASN:HD22	1.56	0.70
24:S:6:LYS:H	24:S:7:PRO:HD3	1.57	0.70
29:X:503:G:H2'	29:X:504:G:O4'	1.92	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:C:122:GLY:HA2	8:C:124:ASP:OD1	1.92	0.70
9:D:58:ALA:O	9:D:62:LEU:HA	1.91	0.70
29:X:1490:U:H2'	29:X:1491:C:H6	1.57	0.70
8:C:115:GLY:O	8:C:185:ARG:HD2	1.91	0.70
12:G:141:GLY:O	12:G:144:MET:HB2	1.92	0.70
29:X:687:G:C2'	29:X:688:A:H5'	2.22	0.70
6:A:68:LYS:HA	6:A:152:GLY:HA2	1.71	0.70
29:X:796:A:H8	29:X:797:A:H4'	1.57	0.70
29:X:490:A:O2'	29:X:491:A:H3'	1.91	0.70
26:U:70:LEU:HD22	26:U:79:GLU:HG2	1.74	0.70
7:B:9:ILE:HD13	18:M:12:LEU:CD1	2.21	0.70
13:H:23:ARG:HH21	13:H:23:ARG:CG	2.04	0.70
29:X:1071:U:H1'	29:X:1073:G:C5'	2.21	0.70
19:N:50:ARG:C	19:N:52:ASN:N	2.44	0.70
15:J:84:MET:HG2	29:X:2229:G:H5'	1.74	0.70
8:C:139:GLN:CA	8:C:139:GLN:HE21	2.05	0.70
29:X:1644:G:H2'	29:X:1645:U:H6	1.56	0.70
29:X:1177:U:H2'	29:X:1178:C:C6	2.27	0.70
29:X:1741:G:O2'	29:X:1742:G:H5'	1.91	0.70
21:P:133:ASN:N	21:P:133:ASN:HD22	1.90	0.70
7:B:146:THR:HB	7:B:147:PRO:HD2	1.73	0.70
6:A:91:ARG:HB2	6:A:107:ALA:HB3	1.72	0.70
6:A:77:ALA:CB	6:A:97:TYR:HD1	2.03	0.70
25:T:73:GLY:O	25:T:74:LYS:HB2	1.91	0.70
20:O:13:ARG:HD3	20:O:16:GLU:OE1	1.92	0.70
20:O:13:ARG:HG2	20:O:14:VAL:N	2.07	0.70
10:E:29:PRO:HD2	10:E:79:VAL:HB	1.73	0.70
29:X:2387:U:H2'	29:X:2388:G:H8	1.56	0.70
29:X:1911:A:H2'	29:X:1912:G:H1'	1.72	0.70
29:X:1255:A:H2'	29:X:1256:C:H6	1.56	0.70
6:A:188:GLU:OE2	29:X:2201:G:H5''	1.90	0.70
31:Z:15:A:C6	31:Z:72:C:H5'	2.26	0.70
24:S:138:VAL:HA	24:S:141:MET:HE2	1.74	0.70
18:M:43:ASN:C	18:M:43:ASN:ND2	2.45	0.70
29:X:683:A:H4'	29:X:684:C:H5'	1.74	0.69
6:A:206:LEU:O	6:A:211:ARG:HD3	1.91	0.69
25:T:40:GLN:HE21	25:T:57:HIS:HB3	1.54	0.69
26:U:33:LYS:CE	29:X:2400:G:H21	2.05	0.69
26:U:69:THR:HG22	26:U:70:LEU:N	2.06	0.69
29:X:1467:U:C3'	29:X:1467:U:C6	2.74	0.69
11:F:10:LEU:HD12	11:F:12:LEU:HG	1.72	0.69
21:P:40:LEU:HD13	21:P:62:ARG:HH12	1.57	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:31:GLN:HE22	29:X:589:C:H4'	1.55	0.69
12:G:138:GLY:O	12:G:141:GLY:N	2.24	0.69
14:I:43:ALA:HB1	29:X:684:C:C5	2.26	0.69
26:U:23:LYS:HB2	26:U:35:THR:HG23	1.74	0.69
29:X:1845:A:N1	29:X:2070:G:H1'	2.06	0.69
19:N:93:LYS:CE	20:O:10:LYS:HZ3	2.05	0.69
9:D:70:ALA:C	9:D:72:LYS:H	1.92	0.69
29:X:1840:A:H2'	29:X:1841:G:O4'	1.91	0.69
7:B:20:ALA:HB2	13:H:85:ASP:O	1.92	0.69
12:G:103:TYR:CD1	12:G:111:LYS:HA	2.26	0.69
6:A:108:PRO:HB3	6:A:143:HIS:HE2	1.57	0.69
6:A:158:SER:O	6:A:196:VAL:HG21	1.92	0.69
6:A:68:LYS:CA	6:A:152:GLY:HA2	2.22	0.69
29:X:2585:C:H2'	29:X:2586:G:H5'	1.74	0.69
7:B:49:ILE:HD11	7:B:90:SER:HB3	1.73	0.69
29:X:70:A:H4'	29:X:71:A:H3'	1.73	0.69
14:I:39:SER:O	14:I:40:ARG:HB2	1.92	0.69
21:P:37:LYS:HG3	29:X:1279:G:H1	1.57	0.69
6:A:200:GLU:HG3	6:A:202:LYS:HB2	1.74	0.69
8:C:112:GLN:CD	8:C:116:LYS:HD3	2.12	0.69
17:L:41:GLN:HG2	17:L:43:ILE:HD11	1.74	0.69
29:X:2211:U:O2'	29:X:2212:U:H5'	1.93	0.69
14:I:107:LYS:HG3	14:I:108:LEU:N	2.06	0.69
29:X:651:C:C3'	29:X:652:C:H5''	2.22	0.69
29:X:931:G:H4'	31:Z:83:C:H4'	1.74	0.69
20:O:35:LEU:HD21	20:O:52:GLY:HA2	1.73	0.69
29:X:2671:C:O2'	29:X:2672:U:H5'	1.92	0.69
13:H:1:MET:HB3	13:H:44:TYR:HB3	1.73	0.69
29:X:2307:A:H2'	29:X:2308:A:C8	2.28	0.69
29:X:717:G:H1'	29:X:740:A:N6	2.08	0.69
8:C:98:GLN:HE22	29:X:611:C:H4'	1.56	0.69
29:X:2628:C:H2'	29:X:2629:U:C6	2.27	0.69
10:E:38:ASN:HB2	10:E:41:LEU:HB2	1.73	0.69
29:X:2441:U:H2'	29:X:2442:C:C6	2.27	0.69
29:X:5:A:H2'	29:X:6:A:H8	1.57	0.69
29:X:417:C:C2	29:X:419:G:C5	2.80	0.69
29:X:1478:U:H2'	29:X:1479:G:H8	1.56	0.69
29:X:520:C:H2'	29:X:520:C:O2	1.92	0.69
19:N:28:ARG:HH21	29:X:542:A:H8	1.39	0.69
29:X:469:G:N2	29:X:480:G:H2'	2.07	0.69
13:H:132:GLU:HB2	18:M:73:PHE:CE1	2.26	0.69
11:F:12:LEU:HD22	11:F:22:PRO:HB3	1.75	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:O:6:GLN:HG2	29:X:1007:A:H1'	1.74	0.69
29:X:757:U:C2'	29:X:758:G:H5'	2.22	0.69
18:M:37:THR:CG2	18:M:39:VAL:HG13	2.22	0.69
10:E:105:MET:CE	10:E:131:ILE:HD11	2.22	0.69
23:R:59:LYS:O	23:R:60:PRO:O	2.10	0.69
7:B:117:MET:HB2	7:B:136:ARG:HD2	1.75	0.69
8:C:83:ALA:O	8:C:84:PHE:HB2	1.92	0.69
29:X:2596:C:O2'	29:X:2597:G:H5'	1.93	0.69
15:J:113:GLU:C	15:J:115:ALA:H	1.92	0.69
29:X:732:G:P	29:X:732:G:H8	2.15	0.69
10:E:96:ALA:HA	10:E:104:GLU:O	1.92	0.69
30:Y:58:LEU:HD12	30:Y:58:LEU:N	2.06	0.69
9:D:11:GLN:O	9:D:15:ALA:HB3	1.93	0.69
29:X:1107:A:C3'	29:X:1108:U:H5''	2.22	0.69
11:F:21:PRO:CG	11:F:22:PRO:HD3	2.23	0.69
24:S:3:LEU:CD2	24:S:32:PHE:HB3	2.21	0.69
12:G:84:ASN:O	12:G:85:ALA:HB3	1.91	0.69
29:X:1437:A:H2'	29:X:1438:G:H8	1.55	0.69
29:X:445:A:H2'	29:X:446:C:H6	1.56	0.69
11:F:5:ALA:HB2	11:F:60:TYR:O	1.92	0.69
8:C:62:LYS:HD3	8:C:62:LYS:C	2.12	0.69
29:X:1672:A:H3'	29:X:1673:C:C6	2.27	0.69
21:P:35:PRO:HG2	21:P:99:ALA:HB2	1.75	0.69
29:X:2194:A:H2'	29:X:2195:C:O4'	1.93	0.69
29:X:2198:U:C4	29:X:2199:C:C5	2.81	0.69
6:A:245:VAL:CA	6:A:252:LYS:HE2	2.22	0.69
25:T:41:ARG:HH12	29:X:2366:U:H1'	1.58	0.69
31:Z:58:G:H4'	31:Z:59:A:H5''	1.74	0.69
28:W:22:ALA:HA	29:X:942:U:O2'	1.93	0.69
26:U:67:LEU:O	26:U:71:SER:HB3	1.93	0.69
13:H:23:ARG:CB	13:H:23:ARG:NH2	2.56	0.69
27:V:42:ARG:HH12	27:V:45:GLN:HE22	1.39	0.69
29:X:731:A:C2'	29:X:732:G:O4'	2.40	0.69
11:F:21:PRO:CD	11:F:22:PRO:HD3	2.23	0.69
29:X:871:U:H2'	29:X:2247:A:N3	2.08	0.69
9:D:75:SER:N	9:D:79:LEU:HD22	2.06	0.69
29:X:2633:A:H61	29:X:2644:A:H3'	1.58	0.69
29:X:104:C:C2'	29:X:105:G:H5''	2.22	0.69
29:X:48:A:H1'	29:X:50:G:N3	2.08	0.69
14:I:56:LEU:O	14:I:58:ALA:O	2.11	0.69
13:H:7:ARG:NH1	13:H:20:MET:HE3	2.07	0.69
29:X:1301:U:H5''	29:X:1302:C:OP2	1.93	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1813:A:H2'	29:X:1814:G:C8	2.26	0.69
29:X:2736:U:H4'	29:X:2737:A:OP1	1.92	0.69
15:J:65:ILE:HG12	15:J:107:VAL:HG12	1.74	0.69
26:U:10:LYS:HZ3	26:U:70:LEU:HG	1.56	0.69
29:X:1072:U:H4'	29:X:1073:G:OP2	1.92	0.69
29:X:1850:G:O2'	29:X:1851:A:O4'	2.11	0.69
13:H:13:ASN:ND2	13:H:109:ARG:CG	2.56	0.69
21:P:29:LYS:HG2	21:P:123:HIS:ND1	2.07	0.69
29:X:188:G:O2'	29:X:189:A:H5'	1.93	0.69
29:X:451:A:H2'	29:X:452:G:C8	2.28	0.69
29:X:2266:A:H62	29:X:2323:U:H3	1.35	0.69
29:X:1681:A:N1	29:X:2706:U:C6	2.61	0.69
29:X:2581:A:H3'	29:X:2582:G:C5'	2.22	0.69
29:X:1737:G:H2'	29:X:1738:U:C6	2.27	0.69
29:X:5:A:O2'	29:X:6:A:H5'	1.92	0.69
24:S:24:TYR:HB3	24:S:29:ASN:HA	1.75	0.69
29:X:765:C:O2'	29:X:766:A:OP2	2.10	0.69
8:C:58:MET:HB2	8:C:70:GLY:O	1.93	0.69
8:C:93:TYR:N	8:C:93:TYR:CD2	2.61	0.68
29:X:2756:A:O2'	29:X:2757:G:OP2	2.10	0.68
6:A:181:GLU:HG2	6:A:182:LEU:N	2.08	0.68
4:4:3:VAL:HA	4:4:35:ARG:O	1.93	0.68
6:A:243:GLY:O	6:A:244:ARG:CZ	2.41	0.68
9:D:126:GLY:O	9:D:160:ALA:HB3	1.93	0.68
26:U:51:ILE:HG12	26:U:59:THR:CB	2.22	0.68
29:X:635:C:C2'	29:X:636:G:H5''	2.22	0.68
9:D:79:LEU:HA	9:D:80:ARG:CZ	2.22	0.68
29:X:2708:U:H2'	29:X:2709:C:C6	2.28	0.68
29:X:173:A:H61	29:X:844:G:N2	1.91	0.68
29:X:2873:G:H2'	29:X:2874:A:C8	2.28	0.68
12:G:162:LYS:HZ1	29:X:5:A:H1'	1.57	0.68
11:F:98:LYS:HB2	11:F:137:THR:OG1	1.93	0.68
29:X:738:G:O5'	29:X:738:G:H8	1.76	0.68
6:A:181:GLU:HG3	6:A:269:PHE:O	1.93	0.68
9:D:123:ASP:OD1	29:X:2294:U:H1'	1.93	0.68
31:Z:25:G:H2'	31:Z:26:G:N7	2.08	0.68
29:X:2169:A:H2'	29:X:2170:C:C6	2.28	0.68
9:D:106:ILE:HG21	9:D:139:PRO:HB3	1.75	0.68
29:X:946:U:H2'	29:X:947:C:H6	1.57	0.68
15:J:102:ARG:HG3	15:J:103:VAL:H	1.58	0.68
31:Z:112:A:H2'	31:Z:113:G:C8	2.29	0.68
29:X:1729:C:H2'	29:X:1730:G:H8	1.55	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:C:8:GLY:O	8:C:9:GLN:HB3	1.93	0.68
20:O:61:VAL:HG23	20:O:94:LYS:H	1.58	0.68
29:X:1275:A:H2	30:Y:10:LYS:HE2	1.57	0.68
29:X:617:U:H5	29:X:632:A:H2	1.40	0.68
4:4:1:MET:HA	4:4:1:MET:HE2	1.74	0.68
17:L:87:VAL:HG12	17:L:88:VAL:H	1.59	0.68
13:H:23:ARG:CB	13:H:23:ARG:HH21	2.07	0.68
24:S:92:VAL:HG23	24:S:93:GLU:H	1.57	0.68
22:Q:54:SER:HB2	29:X:1354:A:HO2'	1.58	0.68
24:S:103:ARG:NH2	24:S:108:VAL:HG23	2.09	0.68
12:G:42:VAL:HG13	12:G:166:LEU:O	1.94	0.68
29:X:1522:C:H2'	29:X:1523:A:C4'	2.23	0.68
12:G:102:ARG:NH2	12:G:112:THR:HG21	2.08	0.68
19:N:11:ARG:HH22	29:X:29:U:H4'	1.56	0.68
29:X:2586:G:N1	29:X:2587:G:C2	2.62	0.68
15:J:116:LYS:NZ	15:J:132:MET:HB3	2.09	0.68
29:X:649:G:N2	29:X:661:C:H1'	2.08	0.68
22:Q:7:LEU:HD21	27:V:30:PHE:CE2	2.19	0.68
24:S:123:VAL:HG23	24:S:161:ALA:CA	2.23	0.68
22:Q:62:ARG:O	22:Q:70:GLY:HA3	1.93	0.68
29:X:1441:A:H1'	29:X:1442:C:C5	2.28	0.68
23:R:93:ARG:NH2	23:R:108:VAL:HA	2.09	0.68
30:Y:19:ARG:O	30:Y:21:SER:N	2.27	0.68
29:X:922:A:H2'	29:X:923:A:C8	2.28	0.68
31:Z:12:C:H2'	31:Z:13:C:O4'	1.93	0.68
8:C:5:ASN:HB2	8:C:10:ASN:HA	1.74	0.68
9:D:83:MET:O	9:D:85:VAL:HG13	1.94	0.68
29:X:2448:A:H2'	29:X:2449:G:O4'	1.92	0.68
29:X:172:A:C5	29:X:175:C:C5	2.80	0.68
15:J:17:ARG:O	15:J:17:ARG:HG3	1.92	0.68
12:G:162:LYS:N	12:G:163:PRO:CD	2.56	0.68
12:G:153:GLY:C	12:G:157:PRO:HG2	2.14	0.68
24:S:71:MET:HB2	24:S:78:PRO:HA	1.75	0.68
29:X:416:U:O2'	29:X:417:C:H5	1.77	0.68
29:X:1478:U:O2'	29:X:1479:G:H5'	1.93	0.68
19:N:24:PHE:HB3	19:N:28:ARG:O	1.92	0.68
29:X:1672:A:H3'	29:X:1673:C:H6	1.58	0.68
29:X:539:A:H5'	29:X:540:G:OP1	1.93	0.68
29:X:2197:U:C4	29:X:2198:U:C5	2.81	0.68
9:D:92:ARG:NH1	31:Z:46:G:H4'	2.08	0.68
18:M:26:ASP:OD1	18:M:27:PHE:N	2.26	0.68
26:U:34:THR:HG23	26:U:35:THR:N	2.08	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:558:G:N3	29:X:558:G:O5'	2.27	0.68
10:E:43:VAL:CG2	10:E:52:VAL:HG22	2.24	0.68
24:S:133:GLU:HG3	24:S:134:LEU:N	2.06	0.68
29:X:1681:A:H61	29:X:1979:C:H42	1.42	0.68
29:X:739:G:O2'	29:X:740:A:P	2.51	0.68
21:P:85:MET:CE	21:P:130:GLU:HG3	2.24	0.68
10:E:105:MET:HB3	10:E:107:ILE:CD1	2.23	0.68
29:X:431:G:H2'	29:X:432:C:C6	2.28	0.68
29:X:2057:U:H5''	29:X:2057:U:H6	1.58	0.68
24:S:3:LEU:HD13	24:S:33:ALA:H	1.57	0.68
29:X:2699:G:O2'	29:X:2700:U:H5'	1.93	0.68
23:R:60:PRO:O	23:R:65:PRO:HG3	1.93	0.68
28:W:38:PRO:N	28:W:41:ARG:HE	1.92	0.68
7:B:147:PRO:HD3	29:X:1141:U:C4	2.29	0.68
19:N:10:ARG:HH11	29:X:592:G:P	2.16	0.68
15:J:102:ARG:HG3	15:J:103:VAL:N	2.07	0.68
14:I:104:ARG:HB3	14:I:105:PRO:CD	2.23	0.68
15:J:40:PRO:HB3	15:J:99:LYS:HZ2	1.58	0.68
21:P:87:GLU:HA	21:P:90:LEU:CD1	2.24	0.68
29:X:2644:A:O2'	29:X:2645:C:H5'	1.93	0.68
29:X:1323:G:H3'	29:X:1324:G:H21	1.57	0.68
29:X:1430:G:H2'	29:X:1431:U:C6	2.29	0.68
24:S:103:ARG:HH21	24:S:108:VAL:CG2	2.05	0.68
6:A:33:LEU:HD12	6:A:63:ARG:HH22	1.59	0.68
26:U:48:LYS:CE	29:X:2074:U:H1'	2.19	0.68
18:M:34:ARG:CZ	18:M:88:VAL:HG21	2.23	0.68
18:M:38:LYS:HB3	18:M:46:ARG:HB3	1.76	0.68
29:X:1459:U:C2	29:X:1475:U:H1'	2.29	0.68
20:O:13:ARG:CG	20:O:14:VAL:H	2.04	0.68
29:X:1514:C:O4'	29:X:1593:C:H4'	1.93	0.68
24:S:122:ILE:HG22	24:S:160:LEU:HA	1.75	0.68
29:X:1252:C:HO2'	29:X:1253:C:H5''	1.58	0.68
14:I:28:LYS:CE	14:I:36:GLY:HA3	2.24	0.68
29:X:2787:A:H2'	29:X:2788:C:C6	2.28	0.68
6:A:79:VAL:O	6:A:113:VAL:HG13	1.94	0.68
23:R:5:SER:O	23:R:6:ALA:HB3	1.94	0.68
7:B:28:ALA:O	7:B:180:ASN:HB3	1.94	0.68
11:F:52:ILE:H	11:F:73:PRO:CD	2.07	0.68
22:Q:92:ALA:O	22:Q:94:GLN:N	2.27	0.68
6:A:48:ARG:HH22	29:X:787:A:H5''	1.58	0.68
7:B:151:TYR:HB3	12:G:106:TYR:CD2	2.29	0.67
29:X:1031:C:H41	29:X:1153:A:H61	1.39	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:L:68:ALA:HB1	17:L:102:ALA:CB	2.24	0.67
29:X:837:U:H2'	29:X:838:A:H8	1.60	0.67
11:F:48:LYS:HD3	11:F:72:PRO:HD3	1.75	0.67
29:X:1851:A:H62	29:X:1866:G:N2	1.91	0.67
14:I:38:LYS:HZ3	29:X:954:U:P	2.15	0.67
29:X:2665:G:C2	29:X:2704:U:O2	2.48	0.67
29:X:417:C:C2	29:X:419:G:N7	2.62	0.67
9:D:104:ILE:HG21	9:D:174:GLY:HA3	1.74	0.67
7:B:134:TRP:NE1	29:X:1675:C:OP1	2.27	0.67
29:X:313:U:H2'	29:X:314:G:H8	1.58	0.67
9:D:92:ARG:HH12	31:Z:46:G:C5'	2.06	0.67
14:I:63:ARG:CZ	29:X:2394:G:OP1	2.42	0.67
29:X:1399:C:H2'	29:X:1400:A:H8	1.59	0.67
29:X:1922:U:H4'	29:X:1923:U:OP2	1.94	0.67
10:E:126:PRO:HG2	10:E:127:GLU:N	2.09	0.67
29:X:2700:U:H6	29:X:2700:U:H5'	1.59	0.67
13:H:97:VAL:O	13:H:99:ILE:HG23	1.93	0.67
6:A:81:ALA:HA	6:A:113:VAL:HG22	1.76	0.67
13:H:102:GLN:HB2	13:H:104:GLU:HG3	1.74	0.67
29:X:2845:C:C4	29:X:2846:G:N7	2.62	0.67
16:K:20:LEU:O	16:K:21:ALA:C	2.31	0.67
8:C:28:HIS:ND1	14:I:21:ARG:NH1	2.42	0.67
6:A:54:ILE:O	6:A:54:ILE:CG2	2.42	0.67
29:X:777:A:N6	29:X:1766:U:H3	1.92	0.67
29:X:1837:G:O2'	29:X:1838:G:H5'	1.94	0.67
29:X:2837:G:O2'	29:X:2838:U:H5'	1.94	0.67
7:B:76:ARG:HG2	7:B:77:ILE:HG13	1.75	0.67
15:J:99:LYS:HE3	15:J:100:PRO:HD2	1.74	0.67
12:G:69:ASP:C	12:G:70:PHE:HD2	1.96	0.67
29:X:421:G:H2'	29:X:422:C:H6	1.57	0.67
14:I:32:ARG:NH2	20:O:81:ARG:NE	2.42	0.67
21:P:62:ARG:HG3	21:P:62:ARG:NH1	2.07	0.67
7:B:116:VAL:H	7:B:136:ARG:CZ	2.07	0.67
12:G:103:TYR:HB3	12:G:107:GLN:NE2	1.98	0.67
19:N:10:ARG:HD2	29:X:592:G:OP2	1.95	0.67
29:X:2594:U:H2'	29:X:2595:C:C6	2.29	0.67
29:X:341:A:HO2'	29:X:342:G:H8	1.36	0.67
29:X:529:U:H2'	29:X:530:G:H8	1.56	0.67
29:X:558:G:C4	29:X:558:G:C3'	2.74	0.67
24:S:137:ASP:OD2	24:S:138:VAL:N	2.26	0.67
24:S:94:VAL:HG12	24:S:95:SER:H	1.58	0.67
20:O:39:PHE:CE2	20:O:51:ALA:HB1	2.30	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:D:81:GLN:HG2	9:D:82:GLY:N	2.05	0.67
11:F:84:ILE:HD12	11:F:96:VAL:HG13	1.76	0.67
10:E:41:LEU:HD21	10:E:68:THR:OG1	1.93	0.67
29:X:2057:U:H5''	29:X:2057:U:C6	2.30	0.67
22:Q:63:LYS:HB3	22:Q:69:ILE:O	1.94	0.67
29:X:1329:U:H2'	29:X:1330:G:H8	1.59	0.67
9:D:46:ASP:HB2	9:D:49:ALA:CB	2.25	0.67
24:S:87:THR:O	24:S:88:TYR:HB2	1.94	0.67
5:5:5:SER:H	5:5:13:BB9:HN1	1.41	0.67
29:X:890:U:H2'	29:X:891:A:H8	1.59	0.67
17:L:27:LEU:O	17:L:88:VAL:N	2.28	0.67
26:U:31:GLY:HA2	26:U:32:ARG:HH11	1.60	0.67
29:X:659:G:H2'	29:X:660:G:C8	2.28	0.67
29:X:1468:A:P	29:X:1468:A:H8	2.18	0.67
29:X:76:C:H6	29:X:76:C:C5'	2.07	0.67
8:C:2:ALA:CA	8:C:13:ARG:HA	2.21	0.67
29:X:421:G:H2'	29:X:422:C:C6	2.29	0.67
7:B:143:GLN:O	29:X:2035:G:H4'	1.93	0.67
31:Z:5:C:H2'	31:Z:6:C:O4'	1.94	0.67
7:B:91:VAL:HB	7:B:93:VAL:HG12	1.77	0.67
7:B:60:ASN:HB3	7:B:62:PRO:HD2	1.77	0.67
6:A:243:GLY:HA2	6:A:244:ARG:NH1	2.10	0.67
26:U:28:GLY:N	26:U:32:ARG:HD3	2.09	0.67
15:J:64:LYS:CB	15:J:108:ALA:O	2.43	0.67
7:B:72:VAL:O	7:B:73:ALA:CB	2.41	0.67
14:I:109:LEU:HB3	29:X:648:A:OP2	1.94	0.67
14:I:86:THR:C	14:I:88:PHE:H	1.95	0.67
11:F:50:ASP:O	11:F:51:ALA:HB2	1.95	0.67
29:X:732:G:C8	29:X:732:G:OP2	2.48	0.67
25:T:71:ASN:HB2	25:T:77:ARG:HD2	1.76	0.67
29:X:2501:U:H5'	29:X:2502:G:OP2	1.95	0.67
23:R:71:GLN:O	23:R:72:ARG:HG3	1.94	0.67
29:X:1973:C:H2'	29:X:1974:U:C6	2.29	0.67
28:W:36:ASP:CG	28:W:41:ARG:HH12	1.98	0.67
17:L:85:LYS:HG2	17:L:86:GLN:HG2	1.74	0.67
29:X:1064:C:O5'	29:X:1064:C:H6	1.77	0.67
29:X:33:C:O2'	29:X:34:U:H5''	1.94	0.67
6:A:44:ASN:N	6:A:44:ASN:ND2	2.41	0.67
8:C:166:TRP:H	8:C:166:TRP:HE3	1.40	0.67
15:J:19:THR:HB	31:Z:93:G:OP1	1.95	0.67
24:S:113:VAL:CG2	24:S:171:VAL:HG22	2.23	0.67
24:S:122:ILE:HA	24:S:161:ALA:H	1.59	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2178:U:O2'	29:X:2179:C:H5'	1.93	0.67
21:P:93:LYS:HD2	21:P:129:ALA:HB2	1.77	0.67
29:X:136:A:H2'	29:X:137:A:O4'	1.94	0.67
12:G:116:ARG:HE	12:G:126:VAL:HG13	1.59	0.67
14:I:45:LYS:NZ	29:X:818:G:OP1	2.27	0.67
29:X:2828:C:H2'	29:X:2829:A:H8	1.59	0.67
9:D:16:LEU:O	9:D:20:PHE:N	2.27	0.67
29:X:2352:A:H2'	29:X:2353:G:C8	2.28	0.67
15:J:20:GLY:O	15:J:99:LYS:HG2	1.95	0.67
10:E:103:LEU:HB2	10:E:123:PHE:CD2	2.29	0.67
29:X:422:C:O2'	29:X:423:G:H5'	1.95	0.67
14:I:28:LYS:HZ3	14:I:36:GLY:CA	2.08	0.67
17:L:32:TYR:CD2	31:Z:9:G:H5'	2.30	0.67
29:X:416:U:O2'	29:X:417:C:C5	2.48	0.67
29:X:1522:C:H2'	29:X:1523:A:C5'	2.24	0.67
13:H:29:ILE:HG21	13:H:123:PHE:CE1	2.29	0.67
29:X:192:G:H4'	29:X:193:A:O5'	1.94	0.67
29:X:841:G:H2'	29:X:842:A:C8	2.30	0.67
19:N:7:GLY:O	19:N:8:ILE:HG12	1.94	0.67
23:R:22:VAL:HG11	23:R:80:LYS:CD	2.20	0.67
29:X:455:A:C2	29:X:1258:G:N3	2.62	0.67
4:4:10:MET:N	4:4:14:CYS:SG	2.65	0.67
29:X:1770:U:C2	29:X:1774:A:N7	2.63	0.67
9:D:16:LEU:O	9:D:20:PHE:HD1	1.77	0.67
17:L:37:HIS:HB3	31:Z:30:C:OP1	1.95	0.67
29:X:2319:G:O2'	29:X:2320:G:H5'	1.95	0.67
27:V:56:VAL:O	27:V:59:GLU:N	2.25	0.67
20:O:48:GLY:O	20:O:50:ASP:N	2.27	0.67
19:N:58:ARG:NH2	29:X:1007:A:H3'	2.09	0.67
22:Q:59:PRO:HA	22:Q:74:ASP:OD1	1.95	0.67
29:X:1937:G:O2'	29:X:1939:U:C5	2.47	0.67
21:P:79:ALA:O	21:P:85:MET:HB2	1.95	0.67
14:I:54:SER:OG	14:I:59:ARG:CZ	2.43	0.67
29:X:2165:A:H2'	29:X:2166:G:H8	1.59	0.67
23:R:25:LEU:HD22	23:R:26:SER:HB3	1.77	0.67
6:A:67:PHE:HB3	6:A:153:ALA:N	2.10	0.67
29:X:2395:C:H2'	29:X:2396:C:H5'	1.77	0.67
19:N:66:ASN:ND2	19:N:70:ARG:NH1	2.43	0.67
29:X:758:G:C2'	29:X:759:C:H5''	2.22	0.67
16:K:10:LEU:HD22	16:K:17:ARG:HB2	1.75	0.67
29:X:1391:A:O2'	29:X:1392:U:P	2.53	0.67
14:I:47:ALA:HA	14:I:49:PHE:CE2	2.30	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:4:26:ILE:HG13	4:4:26:ILE:O	1.93	0.66
8:C:125:ILE:O	8:C:126:ALA:HB3	1.94	0.66
12:G:105:GLY:C	12:G:110:LEU:HD12	2.15	0.66
23:R:93:ARG:HG2	23:R:94:VAL:N	2.09	0.66
29:X:1031:C:H2'	29:X:1031:C:O2	1.94	0.66
8:C:63:GLY:N	29:X:2043:A:OP1	2.26	0.66
29:X:1053:G:H1	29:X:1124:U:H3	1.39	0.66
25:T:43:THR:H	29:X:2310:G:H4'	1.60	0.66
18:M:16:ILE:HG22	18:M:16:ILE:O	1.95	0.66
29:X:1467:U:H3'	29:X:1468:A:H5'	1.76	0.66
29:X:1171:A:H2'	29:X:1172:U:C6	2.31	0.66
22:Q:53:ILE:HG13	22:Q:54:SER:N	2.10	0.66
29:X:1246:G:H2'	29:X:1247:U:H6	1.60	0.66
22:Q:90:ALA:C	22:Q:92:ALA:N	2.49	0.66
25:T:31:VAL:HG11	25:T:37:LEU:HD21	1.77	0.66
29:X:1347:C:O2'	29:X:1348:C:H5'	1.94	0.66
24:S:64:ALA:HA	24:S:86:VAL:H	1.60	0.66
28:W:38:PRO:HA	28:W:41:ARG:HD2	1.77	0.66
9:D:92:ARG:NH1	31:Z:46:G:H5'	2.10	0.66
26:U:27:ASP:CA	26:U:32:ARG:HD3	2.25	0.66
7:B:178:GLY:O	7:B:179:GLU:HG3	1.94	0.66
14:I:101:ARG:CD	29:X:637:G:H1	2.06	0.66
29:X:1071:U:H4'	29:X:1072:U:O5'	1.94	0.66
16:K:28:LEU:HD21	16:K:115:LEU:HG	1.77	0.66
29:X:2691:C:O2'	29:X:2692:A:O5'	2.13	0.66
24:S:123:VAL:HG23	24:S:161:ALA:CB	2.25	0.66
29:X:1442:C:O2'	29:X:1443:G:OP1	2.09	0.66
29:X:1069:G:H2'	29:X:1070:G:H5''	1.77	0.66
29:X:2470:U:H2'	29:X:2470:U:O2	1.93	0.66
29:X:1648:C:H5'	29:X:1648:C:H6	1.60	0.66
12:G:117:GLU:O	12:G:119:LEU:N	2.27	0.66
23:R:11:ASN:O	23:R:13:LYS:N	2.28	0.66
6:A:251:GLY:HA3	6:A:255:LYS:NZ	2.10	0.66
9:D:123:ASP:C	9:D:125:ARG:N	2.45	0.66
29:X:939:C:H5''	29:X:940:G:C5'	2.25	0.66
29:X:666:U:H2'	29:X:667:U:C4'	2.24	0.66
24:S:145:ASP:O	24:S:170:SER:HA	1.95	0.66
28:W:2:LYS:HB3	28:W:54:GLN:HB2	1.76	0.66
29:X:173:A:N6	29:X:844:G:H21	1.93	0.66
29:X:1856:U:H2'	29:X:1857:G:O5'	1.94	0.66
29:X:2387:U:H2'	29:X:2388:G:C8	2.29	0.66
29:X:1332:G:C5	29:X:1333:G:C6	2.83	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:L:26:ARG:NH1	29:X:2357:A:H4'	2.09	0.66
29:X:2482:A:C4'	29:X:2483:U:OP1	2.40	0.66
29:X:2302:G:H1	29:X:2311:U:H5	1.41	0.66
15:J:103:VAL:O	15:J:103:VAL:HG12	1.94	0.66
26:U:10:LYS:HG2	26:U:11:LYS:HG3	1.76	0.66
29:X:1234:C:H2'	29:X:1235:C:H6	1.58	0.66
29:X:2634:G:HO2'	29:X:2643:G:H1	1.44	0.66
22:Q:61:LYS:H	22:Q:72:ARG:HA	1.60	0.66
29:X:1348:C:H2'	29:X:1349:A:H8	1.59	0.66
29:X:417:C:C5	29:X:419:G:C4	2.84	0.66
29:X:417:C:C6	29:X:419:G:N9	2.64	0.66
11:F:111:LYS:O	11:F:115:LEU:HG	1.95	0.66
23:R:102:LYS:HE2	29:X:100:G:O6	1.95	0.66
18:M:31:ASP:OD2	18:M:31:ASP:N	2.25	0.66
23:R:9:HIS:CE1	29:X:338:G:H5'	2.30	0.66
17:L:54:ALA:O	17:L:71:VAL:HG23	1.96	0.66
16:K:25:ALA:HB2	16:K:47:PHE:HE2	1.61	0.66
23:R:96:LYS:HG3	23:R:97:GLN:N	2.10	0.66
6:A:252:LYS:HB2	6:A:253:PRO:CD	2.26	0.66
18:M:102:ALA:O	18:M:103:LYS:HD2	1.95	0.66
7:B:26:VAL:HB	7:B:182:ILE:HG23	1.78	0.66
29:X:1247:U:O2'	29:X:1248:G:H5'	1.96	0.66
11:F:75:SER:O	11:F:79:ARG:HG3	1.96	0.66
29:X:2426:G:O2'	29:X:2427:A:OP2	2.14	0.66
17:L:30:SER:C	17:L:31:VAL:HG12	2.16	0.66
29:X:1151:U:C5'	29:X:1153:A:H5''	2.26	0.66
8:C:3:GLN:NE2	8:C:4:ILE:HG12	2.11	0.66
29:X:1745:C:O2'	29:X:1746:A:H5'	1.94	0.66
9:D:9:ASN:O	9:D:13:ARG:N	2.28	0.66
26:U:45:ASN:HA	29:X:2210:C:OP1	1.94	0.66
7:B:14:ILE:HD11	7:B:183:LEU:CD1	2.26	0.66
10:E:58:ALA:N	10:E:62:ARG:HG3	2.07	0.66
29:X:1437:A:H2'	29:X:1438:G:C8	2.31	0.66
29:X:104:C:O2'	29:X:105:G:H5''	1.95	0.66
29:X:965:G:N3	29:X:2253:A:C2	2.64	0.66
31:Z:4:C:C2'	31:Z:5:C:H5'	2.25	0.66
16:K:6:ALA:HB1	29:X:2848:A:H2	1.61	0.66
6:A:161:THR:O	6:A:195:ALA:HB1	1.95	0.66
8:C:162:ARG:CZ	29:X:333:A:C3'	2.66	0.66
29:X:2594:U:H2'	29:X:2595:C:H6	1.59	0.66
29:X:946:U:H2'	29:X:947:C:C6	2.30	0.66
15:J:37:ALA:HB2	15:J:104:MET:CE	2.25	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:19:ILE:HG22	24:S:20:ALA:H	1.61	0.66
29:X:2407:G:H5'	29:X:2408:G:OP1	1.94	0.66
11:F:25:PRO:HG2	11:F:26:ALA:H	1.61	0.66
19:N:84:LYS:HB2	19:N:92:ARG:NH2	2.11	0.66
24:S:69:VAL:HG22	24:S:81:VAL:HG13	1.78	0.66
12:G:162:LYS:N	12:G:163:PRO:HD2	2.09	0.66
7:B:143:GLN:HE21	7:B:143:GLN:N	1.94	0.66
4:4:31:LYS:H	4:4:31:LYS:CD	2.09	0.66
23:R:84:VAL:HG21	23:R:89:GLY:CA	2.26	0.66
18:M:101:ARG:HH21	18:M:101:ARG:HG2	1.61	0.66
17:L:76:ALA:HB2	17:L:107:ALA:HA	1.78	0.66
29:X:2266:A:O2'	29:X:2267:A:H3'	1.94	0.66
29:X:357:A:N7	29:X:358:C:H1'	2.11	0.66
24:S:142:ASN:H	24:S:145:ASP:CG	1.98	0.66
9:D:108:LEU:HD11	9:D:117:ILE:HD11	1.78	0.66
29:X:914:C:O2'	29:X:915:C:H5'	1.96	0.66
29:X:1517:C:H2'	29:X:1518:C:H6	1.61	0.66
21:P:27:VAL:CB	21:P:125:THR:HG22	2.25	0.66
29:X:197:G:N3	29:X:210:A:H2	1.93	0.66
29:X:2506:C:O2'	29:X:2507:U:H5'	1.96	0.66
8:C:28:HIS:CE1	14:I:21:ARG:NH1	2.63	0.66
23:R:105:ARG:NH1	23:R:112:LYS:HA	2.10	0.66
29:X:1135:C:H2'	29:X:1136:G:H8	1.59	0.66
29:X:591:G:H2'	29:X:592:G:C8	2.31	0.66
28:W:4:LYS:HG2	28:W:52:GLU:O	1.96	0.66
29:X:1554:G:H2'	29:X:1555:A:H8	1.61	0.66
16:K:79:VAL:HA	16:K:83:VAL:CG1	2.25	0.66
25:T:39:ARG:NH2	29:X:2334:C:H1'	2.01	0.66
15:J:79:PRO:CD	15:J:88:LYS:HD2	2.25	0.66
29:X:568:G:H2'	29:X:569:C:O4'	1.96	0.66
12:G:92:GLY:HA3	12:G:93:LYS:HE2	1.77	0.65
6:A:244:ARG:HD2	29:X:1885:C:C4'	2.26	0.65
29:X:796:A:C8	29:X:797:A:H4'	2.30	0.65
17:L:33:ARG:HH12	17:L:103:LEU:HB2	1.60	0.65
22:Q:42:ILE:HG23	22:Q:43:GLN:H	1.59	0.65
29:X:1850:G:C2'	29:X:1851:A:H8	2.07	0.65
21:P:108:PRO:HG2	29:X:1631:C:C1'	2.25	0.65
29:X:1086:C:H3'	29:X:1087:C:C5'	2.25	0.65
29:X:2700:U:C6	29:X:2700:U:H5'	2.30	0.65
29:X:2712:G:H3'	29:X:2713:A:C5'	2.26	0.65
24:S:68:ALA:H	24:S:82:ASP:HB2	1.60	0.65
16:K:44:LEU:O	16:K:44:LEU:HD12	1.95	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:O:93:ILE:O	20:O:93:ILE:HG13	1.96	0.65
29:X:322:A:O2'	29:X:343:A:H4'	1.96	0.65
29:X:350:U:O5'	29:X:350:U:H6	1.78	0.65
9:D:122:PHE:CB	9:D:129:ASN:HD22	2.04	0.65
31:Z:43:G:C5'	31:Z:44:C:H5'	2.18	0.65
11:F:39:LYS:O	11:F:43:ALA:HB2	1.96	0.65
29:X:168:A:O2'	29:X:169:C:H5'	1.96	0.65
29:X:2405:A:H2'	29:X:2405:A:N3	2.11	0.65
14:I:32:ARG:HD2	20:O:81:ARG:HD2	1.77	0.65
29:X:2368:G:H5''	29:X:2369:U:O5'	1.96	0.65
29:X:1830:C:N4	29:X:1881:U:H3'	2.11	0.65
29:X:801:A:O2'	29:X:802:A:P	2.53	0.65
29:X:820:U:H2'	29:X:821:A:H8	1.60	0.65
29:X:1059:A:N6	29:X:1122:A:C2	2.65	0.65
29:X:71:A:C6	29:X:110:U:H4'	2.32	0.65
9:D:150:ARG:CG	9:D:151:GLY:N	2.53	0.65
14:I:53:ARG:NH2	29:X:173:A:OP2	2.29	0.65
29:X:1386:A:H5''	29:X:2191:A:C6	2.31	0.65
28:W:38:PRO:CD	28:W:41:ARG:HE	2.10	0.65
4:4:6:SER:HB2	29:X:2445:C:H5''	1.78	0.65
8:C:30:VAL:HG12	8:C:31:VAL:N	2.11	0.65
19:N:22:LYS:HG3	19:N:23:GLY:H	1.60	0.65
23:R:93:ARG:NH1	23:R:107:ALA:O	2.29	0.65
29:X:1501:C:H2'	29:X:1502:G:O4'	1.96	0.65
29:X:2195:C:C6	29:X:2196:U:H5	2.15	0.65
6:A:206:LEU:CA	6:A:211:ARG:HD3	2.26	0.65
15:J:66:TYR:O	15:J:106:GLU:OE2	2.14	0.65
26:U:15:VAL:O	26:U:16:ASN:O	2.15	0.65
29:X:1482:U:H2'	29:X:1483:G:H8	1.60	0.65
29:X:2796:A:O2'	29:X:2797:G:H5'	1.96	0.65
29:X:70:A:OP1	29:X:110:U:H2'	1.96	0.65
9:D:153:ASP:C	9:D:154:ILE:HD12	2.16	0.65
29:X:1681:A:N1	29:X:2706:U:C5	2.65	0.65
25:T:18:PRO:HD2	29:X:2240:C:OP2	1.97	0.65
22:Q:71:GLN:HG2	22:Q:72:ARG:O	1.97	0.65
27:V:18:ILE:O	27:V:20:ALA:N	2.28	0.65
12:G:148:LEU:HD12	12:G:149:LYS:N	2.11	0.65
29:X:645:G:H2'	29:X:646:C:C6	2.32	0.65
17:L:81:GLU:O	17:L:82:LYS:HG2	1.96	0.65
19:N:24:PHE:CB	19:N:29:SER:HB3	2.22	0.65
29:X:865:A:H2'	29:X:866:U:H6	1.60	0.65
26:U:13:LEU:CG	26:U:14:VAL:N	2.59	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:V:41:HIS:HB3	27:V:44:ARG:HH21	1.61	0.65
15:J:23:LYS:HD3	29:X:876:A:P	2.37	0.65
24:S:84:TYR:HE1	31:Z:107:C:H4'	1.61	0.65
19:N:88:ILE:HA	20:O:49:GLU:CG	2.25	0.65
13:H:110:VAL:HG12	13:H:111:PHE:N	2.12	0.65
29:X:5:A:H2'	29:X:6:A:C8	2.31	0.65
29:X:1914:U:H6	29:X:1914:U:H5'	1.61	0.65
12:G:103:TYR:CZ	12:G:111:LYS:CB	2.79	0.65
29:X:2320:G:H2'	29:X:2321:C:C6	2.32	0.65
29:X:930:A:N6	29:X:2247:A:C8	2.63	0.65
29:X:1446:U:H2'	29:X:1447:U:C6	2.32	0.65
25:T:4:LYS:C	25:T:5:LYS:HD2	2.17	0.65
22:Q:62:ARG:HH12	22:Q:73:ASN:ND2	1.95	0.65
14:I:81:GLN:NE2	14:I:115:SER:HA	2.09	0.65
12:G:157:PRO:O	12:G:161:GLN:NE2	2.28	0.65
29:X:1212:U:H2'	29:X:1213:U:C6	2.32	0.65
29:X:104:C:C2'	29:X:105:G:C5'	2.75	0.65
6:A:213:ARG:O	6:A:215:LEU:N	2.30	0.65
12:G:55:ALA:CB	12:G:134:MET:HE1	2.26	0.65
23:R:15:HIS:ND1	23:R:16:PHE:HD2	1.90	0.65
6:A:218:LYS:C	6:A:218:LYS:HD2	2.17	0.65
26:U:23:LYS:HD2	26:U:35:THR:CG2	2.27	0.65
26:U:33:LYS:NZ	29:X:2400:G:N2	2.45	0.65
18:M:6:LYS:H	18:M:6:LYS:CD	1.97	0.65
18:M:34:ARG:CZ	18:M:88:VAL:CG1	2.73	0.65
11:F:13:PRO:HG3	11:F:52:ILE:HG12	1.77	0.65
16:K:5:LYS:HE2	29:X:2795:A:C4'	2.17	0.65
19:N:66:ASN:HB3	19:N:76:TYR:HB2	1.78	0.65
9:D:134:GLU:HG2	9:D:136:LEU:H	1.61	0.65
11:F:93:LYS:NZ	29:X:1087:C:OP2	2.29	0.65
11:F:101:TRP:O	11:F:104:VAL:HB	1.97	0.65
29:X:433:G:N2	29:X:434:C:H1'	2.11	0.65
29:X:2775:U:H5'	29:X:2776:U:H5''	1.79	0.65
29:X:1486:A:H2'	29:X:1487:C:C6	2.32	0.65
23:R:105:ARG:NH1	23:R:113:THR:N	2.44	0.65
29:X:691:C:H2'	29:X:692:C:H6	1.62	0.65
29:X:1503:G:H2'	29:X:1504:G:H8	1.59	0.65
17:L:66:ASP:C	17:L:68:ALA:N	2.49	0.65
31:Z:39:C:H5'	31:Z:40:C:OP2	1.97	0.65
10:E:44:ARG:HG3	10:E:44:ARG:NH2	2.12	0.65
20:O:18:ASP:OD1	20:O:20:ILE:HG22	1.97	0.65
22:Q:28:TRP:CE3	22:Q:75:ARG:HB3	2.32	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1711:C:C4'	29:X:1712:G:H5''	2.27	0.65
29:X:1314:A:C2'	29:X:1315:A:H3'	2.26	0.65
23:R:35:LYS:HE3	23:R:37:LEU:HD21	1.78	0.65
24:S:62:PHE:HB3	24:S:85:MET:SD	2.36	0.65
19:N:3:ARG:HG2	19:N:3:ARG:NH1	2.06	0.65
29:X:2030:U:O2'	29:X:2031:A:H5'	1.96	0.65
7:B:70:ALA:O	7:B:72:VAL:HG23	1.96	0.65
19:N:88:ILE:HG22	20:O:48:GLY:O	1.96	0.65
29:X:1514:C:H4'	29:X:1593:C:H5'	1.79	0.65
28:W:54:GLN:HG2	28:W:55:GLU:N	2.11	0.65
29:X:219:G:H22	29:X:231:G:H2'	1.59	0.65
29:X:2706:U:O2	29:X:2706:U:C2'	2.45	0.65
29:X:2226:A:H2'	29:X:2227:C:H6	1.60	0.65
29:X:2475:C:H2'	29:X:2476:A:H5'	1.77	0.65
29:X:2484:G:O2'	29:X:2485:U:C5'	2.44	0.65
29:X:415:A:C2'	29:X:416:U:H5'	2.26	0.65
12:G:108:GLY:C	12:G:110:LEU:HD23	2.18	0.65
29:X:1151:U:H5''	29:X:1153:A:H5''	1.79	0.65
29:X:687:G:H2'	29:X:817:A:H61	1.61	0.65
29:X:1050:G:H2'	29:X:1051:U:H5'	1.78	0.65
6:A:108:PRO:HB3	6:A:143:HIS:NE2	2.12	0.65
26:U:29:GLY:O	26:U:31:GLY:N	2.27	0.65
26:U:33:LYS:HZ2	29:X:2400:G:N2	1.94	0.65
14:I:29:THR:HA	14:I:34:HIS:HB2	1.78	0.65
14:I:88:PHE:HB3	14:I:93:LEU:HD12	1.79	0.65
18:M:34:ARG:HH21	18:M:91:VAL:CG2	2.09	0.65
11:F:55:VAL:HG22	11:F:69:THR:HA	1.79	0.65
26:U:41:VAL:HG21	26:U:43:ARG:NH2	2.12	0.65
24:S:122:ILE:CG2	24:S:160:LEU:HD23	2.26	0.65
29:X:174:A:C2	29:X:175:C:O2	2.49	0.65
29:X:1332:G:C6	29:X:1333:G:N1	2.65	0.65
29:X:1975:G:O2'	29:X:1976:U:OP2	2.13	0.65
13:H:102:GLN:HB2	13:H:104:GLU:CG	2.26	0.65
12:G:127:ILE:HG22	12:G:128:GLU:N	2.12	0.64
23:R:15:HIS:ND1	23:R:16:PHE:CD2	2.66	0.64
6:A:258:LYS:HE3	6:A:264:LYS:HD3	1.78	0.64
26:U:13:LEU:HD12	26:U:14:VAL:N	2.12	0.64
29:X:408:U:O2'	29:X:409:G:H8	1.80	0.64
29:X:357:A:H3'	29:X:358:C:C6	2.32	0.64
19:N:107:LYS:O	19:N:110:VAL:HB	1.97	0.64
29:X:169:C:C2'	29:X:170:U:H5'	2.27	0.64
22:Q:81:ARG:HH11	22:Q:81:ARG:HG3	1.63	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:Q:63:LYS:CB	22:Q:69:ILE:O	2.44	0.64
12:G:84:ASN:N	12:G:153:GLY:O	2.29	0.64
11:F:104:VAL:HA	11:F:107:ILE:CD1	2.26	0.64
22:Q:4:TYR:HE1	22:Q:45:ALA:HA	1.60	0.64
21:P:89:ARG:CZ	21:P:132:GLY:HA2	2.27	0.64
6:A:173:VAL:HG21	6:A:187:SER:HB3	1.79	0.64
6:A:257:LEU:HD13	29:X:1794:A:O3'	1.96	0.64
18:M:105:TYR:CE1	18:M:108:ARG:NH2	2.66	0.64
17:L:33:ARG:NH2	17:L:103:LEU:HD12	2.12	0.64
15:J:71:PRO:HA	15:J:96:SER:HB2	1.80	0.64
29:X:1242:A:O2'	29:X:1243:G:H5'	1.96	0.64
29:X:75:C:H2'	29:X:76:C:H5''	1.78	0.64
29:X:1553:G:H2'	29:X:1554:G:C8	2.32	0.64
19:N:60:LEU:HD11	19:N:64:ARG:NE	2.12	0.64
29:X:2663:U:N3	29:X:2664:G:C8	2.66	0.64
7:B:1:MET:HG3	7:B:83:GLY:O	1.97	0.64
29:X:187:U:O2'	29:X:188:G:H5'	1.97	0.64
7:B:168:GLN:O	29:X:2710:C:H4'	1.97	0.64
29:X:2345:A:H2'	29:X:2346:G:O4'	1.97	0.64
29:X:2807:U:H4'	29:X:2808:U:H5''	1.79	0.64
29:X:2838:U:O2'	29:X:2839:G:H5'	1.97	0.64
9:D:135:GLN:HG3	9:D:151:GLY:HA2	1.80	0.64
21:P:79:ALA:HB1	21:P:85:MET:SD	2.37	0.64
29:X:1856:U:O2'	29:X:1857:G:O5'	2.15	0.64
24:S:3:LEU:HD21	24:S:32:PHE:CB	2.27	0.64
21:P:134:LYS:HB2	29:X:2777:A:C5	2.31	0.64
29:X:1536:G:H2'	29:X:1537:U:C6	2.33	0.64
29:X:1629:G:H2'	29:X:1633:C:N4	2.12	0.64
8:C:172:VAL:O	8:C:172:VAL:HG12	1.97	0.64
29:X:701:U:O2	29:X:800:U:H4'	1.97	0.64
7:B:127:ALA:HB2	7:B:135:HIS:CE1	2.32	0.64
6:A:229:VAL:HG21	29:X:797:A:C6	2.33	0.64
18:M:103:LYS:O	18:M:104:LEU:CB	2.44	0.64
15:J:35:LEU:N	15:J:105:PHE:O	2.26	0.64
26:U:78:ILE:HD13	26:U:79:GLU:O	1.96	0.64
27:V:31:GLN:HA	27:V:34:ALA:HB3	1.80	0.64
14:I:32:ARG:NH2	20:O:81:ARG:HE	1.95	0.64
24:S:43:PHE:CE1	24:S:66:VAL:HG11	2.32	0.64
7:B:92:ASN:HA	7:B:95:ILE:HB	1.80	0.64
19:N:27:SER:C	19:N:29:SER:H	2.00	0.64
29:X:1218:C:O2'	29:X:1219:C:H5'	1.96	0.64
29:X:824:U:H1'	29:X:1264:C:C1'	2.27	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:583:C:H4'	29:X:584:A:O5'	1.96	0.64
6:A:186:HIS:HD1	6:A:186:HIS:H	1.45	0.64
6:A:214:TRP:HH2	29:X:777:A:OP2	1.80	0.64
17:L:75:LEU:O	17:L:78:ALA:HB3	1.97	0.64
15:J:30:PHE:CE1	29:X:886:A:H1'	2.33	0.64
29:X:2074:U:H3'	29:X:2075:U:C5'	2.27	0.64
7:B:51:TYR:N	7:B:75:THR:OG1	2.29	0.64
14:I:102:LYS:O	14:I:104:ARG:N	2.29	0.64
11:F:42:ASN:HA	11:F:45:THR:CG2	2.27	0.64
11:F:27:LEU:HA	11:F:30:TYR:CD2	2.32	0.64
9:D:74:ILE:HG23	9:D:79:LEU:O	1.98	0.64
13:H:41:ASN:H	13:H:41:ASN:HD22	1.43	0.64
29:X:1065:A:O2'	29:X:1066:G:H5'	1.97	0.64
15:J:79:PRO:HD3	15:J:88:LYS:NZ	2.13	0.64
14:I:38:LYS:NZ	29:X:954:U:OP2	2.29	0.64
29:X:889:C:H2'	29:X:890:U:O4'	1.97	0.64
23:R:33:THR:OG1	23:R:34:GLY:N	2.29	0.64
8:C:158:ARG:O	8:C:160:ALA:N	2.31	0.64
29:X:2030:U:H2'	29:X:2031:A:C8	2.32	0.64
6:A:55:GLY:O	6:A:56:GLY:O	2.14	0.64
29:X:1128:G:C2'	29:X:1129:A:H5''	2.27	0.64
29:X:392:G:N2	29:X:409:G:C4	2.66	0.64
29:X:2373:C:H2'	29:X:2374:C:C6	2.32	0.64
29:X:839:U:OP1	29:X:2408:G:OP2	2.15	0.64
13:H:23:ARG:NH1	13:H:25:LEU:CD2	2.48	0.64
25:T:72:LYS:HD3	31:Z:14:C:H5''	1.80	0.64
26:U:20:ARG:HB3	26:U:43:ARG:NH2	2.12	0.64
14:I:32:ARG:CZ	20:O:79:GLN:HA	2.28	0.64
29:X:2261:G:H21	29:X:2369:U:H3	1.44	0.64
29:X:995:A:OP2	29:X:996:C:N4	2.22	0.64
29:X:712:A:H2'	29:X:713:G:O4'	1.98	0.64
13:H:26:ASN:HB3	13:H:38:GLY:H	1.61	0.64
8:C:75:PRO:HG3	8:C:83:ALA:HB2	1.79	0.64
10:E:139:GLN:O	10:E:142:GLY:N	2.31	0.64
7:B:14:ILE:HD11	7:B:183:LEU:HD13	1.80	0.64
7:B:72:VAL:O	7:B:73:ALA:HB2	1.98	0.64
29:X:648:A:H5'	29:X:649:G:H4'	1.80	0.64
10:E:16:THR:O	10:E:16:THR:HG22	1.97	0.64
29:X:752:G:C4'	29:X:753:U:OP1	2.40	0.64
20:O:38:LEU:HA	20:O:46:VAL:O	1.98	0.64
9:D:111:ILE:CG2	9:D:114:PHE:HB2	2.28	0.64
24:S:3:LEU:CD1	24:S:33:ALA:H	2.11	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1440:G:H3'	29:X:1441:A:H5''	1.78	0.64
29:X:1069:G:C3'	29:X:1070:G:H5''	2.27	0.64
8:C:176:ASN:O	8:C:180:ILE:HG22	1.98	0.64
29:X:1016:C:H4'	29:X:1023:U:H5''	1.79	0.64
6:A:169:GLU:HG2	6:A:170:SER:H	1.63	0.64
6:A:219:PRO:O	6:A:220:HIS:O	2.16	0.64
6:A:244:ARG:HB3	6:A:252:LYS:HZ1	1.62	0.64
29:X:1882:G:H21	29:X:1885:C:N4	1.95	0.64
29:X:742:G:O2'	29:X:776:G:H4'	1.97	0.64
26:U:27:ASP:HA	26:U:32:ARG:CZ	2.26	0.64
15:J:35:LEU:HB2	15:J:119:PHE:CE1	2.32	0.64
15:J:9:LYS:HG3	29:X:884:C:OP1	1.98	0.64
18:M:82:PRO:HB2	18:M:85:SER:HB2	1.80	0.64
29:X:1471:G:O2'	29:X:1472:C:H5'	1.97	0.64
26:U:22:GLY:HA3	26:U:39:LYS:CD	2.27	0.64
29:X:2226:A:H2'	29:X:2227:C:C6	2.32	0.64
6:A:270:ILE:HG13	6:A:271:VAL:N	2.11	0.64
29:X:2437:G:O2'	29:X:2438:A:N7	2.30	0.64
14:I:76:LYS:CG	14:I:111:SER:HB2	2.28	0.64
29:X:879:A:H2'	29:X:879:A:N3	2.13	0.64
29:X:1215:A:H2'	29:X:1216:G:C8	2.33	0.64
29:X:1281:A:O4'	29:X:2592:U:H5	1.80	0.64
29:X:760:U:O2	29:X:1997:A:H1'	1.98	0.64
29:X:456:C:O2'	29:X:457:C:H5'	1.97	0.64
29:X:2195:C:C5	29:X:2196:U:C4	2.85	0.64
29:X:2736:U:O2'	29:X:2737:A:C5'	2.31	0.64
29:X:2494:C:O2	29:X:2549:G:C2	2.51	0.64
29:X:2825:A:C2	29:X:2826:C:C2	2.86	0.64
29:X:2824:C:H1'	29:X:2843:A:C4	2.33	0.64
17:L:33:ARG:HH22	17:L:103:LEU:HB2	1.63	0.64
15:J:116:LYS:HD3	15:J:132:MET:SD	2.37	0.64
29:X:553:C:C5'	29:X:554:U:OP1	2.45	0.64
29:X:1095:A:H2'	29:X:1096:A:O4'	1.97	0.64
29:X:163:A:H2'	29:X:164:G:H8	1.61	0.64
14:I:130:ILE:O	14:I:132:ALA:N	2.26	0.64
29:X:48:A:C8	29:X:50:G:N2	2.66	0.64
29:X:1563:U:H2'	29:X:1564:U:C6	2.32	0.64
29:X:699:G:H4'	29:X:700:C:OP2	1.98	0.64
8:C:24:SER:HA	8:C:27:LEU:HD13	1.80	0.64
29:X:1997:A:H2'	29:X:1998:A:C8	2.33	0.64
29:X:2030:U:H2'	29:X:2031:A:H8	1.62	0.64
29:X:2196:U:O2'	29:X:2197:U:O4'	2.15	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1782:A:N6	29:X:1820:G:O2'	2.31	0.64
17:L:8:ARG:HB2	17:L:8:ARG:NH1	2.13	0.64
29:X:490:A:O2'	29:X:491:A:C5'	2.46	0.64
7:B:67:PHE:CZ	7:B:75:THR:HG22	2.33	0.64
29:X:763:A:OP1	29:X:1631:C:N4	2.30	0.64
29:X:1188:A:H8	29:X:1188:A:O5'	1.79	0.64
12:G:51:LEU:HD12	12:G:88:VAL:HG21	1.79	0.64
23:R:93:ARG:NH1	23:R:108:VAL:CA	2.61	0.63
30:Y:12:SER:HB2	30:Y:15:LYS:H	1.61	0.63
6:A:252:LYS:HG2	29:X:1816:G:O2'	1.98	0.63
17:L:63:ASN:CB	17:L:66:ASP:HB2	2.28	0.63
24:S:13:LYS:HB2	24:S:13:LYS:HZ2	1.60	0.63
24:S:18:MET:SD	24:S:35:ASP:HA	2.37	0.63
11:F:11:GLN:HG2	11:F:52:ILE:CG2	2.29	0.63
16:K:100:VAL:CG1	16:K:101:GLY:N	2.43	0.63
29:X:1002:C:C4	29:X:1003:C:H5	2.15	0.63
9:D:35:VAL:O	9:D:154:ILE:HG13	1.98	0.63
29:X:455:A:H2	29:X:1258:G:N3	1.95	0.63
29:X:311:A:N7	29:X:345:U:H4'	2.13	0.63
29:X:1773:C:H2'	29:X:2587:G:O2'	1.98	0.63
9:D:13:ARG:NH1	9:D:14:PRO:CG	2.55	0.63
26:U:53:GLU:CD	26:U:57:VAL:HA	2.18	0.63
27:V:41:HIS:HD2	27:V:42:ARG:H	1.43	0.63
9:D:75:SER:O	9:D:79:LEU:HD13	1.99	0.63
29:X:191:G:O2'	29:X:192:G:H5'	1.98	0.63
8:C:162:ARG:CD	29:X:333:A:H5'	2.27	0.63
21:P:37:LYS:CE	21:P:64:ALA:HB2	2.28	0.63
12:G:107:GLN:HG2	29:X:1142:G:O4'	1.99	0.63
29:X:1793:A:H2'	29:X:1794:A:C8	2.33	0.63
29:X:648:A:H4'	29:X:649:G:O4'	1.98	0.63
20:O:35:LEU:CD2	20:O:52:GLY:HA2	2.28	0.63
29:X:717:G:HO2'	29:X:718:A:P	2.21	0.63
21:P:13:GLN:O	21:P:16:GLN:HG3	1.97	0.63
29:X:2473:G:H2'	29:X:2474:G:H8	1.63	0.63
10:E:136:ILE:N	10:E:136:ILE:HD12	2.13	0.63
8:C:39:ARG:NH2	8:C:91:TYR:HD2	1.95	0.63
4:4:1:MET:SD	4:4:35:ARG:HB2	2.39	0.63
6:A:227:ASN:O	6:A:228:PRO:C	2.34	0.63
25:T:42:GLY:HA3	29:X:2310:G:O4'	1.99	0.63
22:Q:35:LYS:HE3	29:X:1615:C:OP2	1.98	0.63
29:X:2633:A:N1	29:X:2644:A:H5''	2.14	0.63
14:I:38:LYS:HG2	29:X:954:U:OP2	1.98	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:48:THR:O	24:S:49:THR:HG23	1.98	0.63
14:I:77:LEU:HD22	14:I:110:ALA:HA	1.81	0.63
27:V:24:GLU:O	27:V:28:LEU:HD23	1.97	0.63
12:G:73:ASN:O	12:G:140:GLN:OE1	2.16	0.63
29:X:2477:C:O2'	29:X:2478:C:H5'	1.98	0.63
29:X:2556:A:H5''	29:X:2557:G:H5'	1.80	0.63
25:T:21:LEU:HD11	25:T:41:ARG:NE	2.13	0.63
26:U:27:ASP:CA	26:U:32:ARG:NH2	2.47	0.63
26:U:45:ASN:HB3	29:X:409:G:O2'	1.99	0.63
29:X:1001:A:H5'	29:X:1168:G:OP1	1.98	0.63
22:Q:75:ARG:NH1	22:Q:75:ARG:HG3	2.04	0.63
29:X:1922:U:O2	29:X:2570:C:O2'	2.16	0.63
27:V:7:ARG:O	27:V:9:LEU:N	2.32	0.63
15:J:78:LYS:HA	15:J:88:LYS:NZ	2.13	0.63
7:B:37:LYS:HD2	7:B:42:ASP:CG	2.18	0.63
29:X:1061:A:H2'	29:X:1062:G:H5'	1.79	0.63
27:V:37:LEU:HD13	29:X:60:A:O2'	1.99	0.63
14:I:58:ALA:O	14:I:59:ARG:HB2	1.99	0.63
8:C:197:GLU:HG2	8:C:198:GLU:HG3	1.80	0.63
19:N:19:LYS:O	19:N:19:LYS:HG3	1.97	0.63
8:C:48:ARG:O	8:C:51:VAL:HG22	1.99	0.63
14:I:14:LYS:O	14:I:14:LYS:HG3	1.98	0.63
29:X:532:A:H2'	29:X:533:C:C6	2.33	0.63
29:X:546:A:H2'	29:X:547:U:H6	1.64	0.63
6:A:181:GLU:HG2	6:A:182:LEU:H	1.62	0.63
29:X:1965:U:OP1	29:X:1965:U:H3'	1.98	0.63
29:X:490:A:HO2'	29:X:491:A:H5'	1.63	0.63
15:J:15:ARG:NH1	15:J:15:ARG:HG3	2.09	0.63
26:U:13:LEU:HG	26:U:14:VAL:N	2.14	0.63
18:M:11:GLU:O	18:M:14:ARG:N	2.31	0.63
14:I:73:GLU:OE1	14:I:73:GLU:N	2.32	0.63
13:H:132:GLU:HG2	13:H:134:LEU:HG	1.79	0.63
13:H:23:ARG:HH12	13:H:25:LEU:CG	2.10	0.63
29:X:1073:G:OP2	29:X:1081:A:H4'	1.98	0.63
13:H:46:HIS:N	13:H:49:ASP:OD2	2.27	0.63
29:X:1122:A:H2	29:X:1123:G:H1'	1.63	0.63
24:S:100:THR:O	24:S:101:THR:HG23	1.98	0.63
20:O:36:LYS:HD3	20:O:39:PHE:CE2	2.34	0.63
12:G:155:THR:HA	12:G:158:HIS:HD2	1.64	0.63
29:X:719:A:H2'	29:X:720:A:O4'	1.98	0.63
29:X:2737:A:H2'	29:X:2737:A:N3	2.13	0.63
15:J:125:LYS:HD2	15:J:125:LYS:N	2.14	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:B:52:ALA:O	7:B:75:THR:O	2.17	0.63
29:X:2383:C:H2'	29:X:2384:G:O4'	1.99	0.63
29:X:1072:U:H1'	29:X:1081:A:C1'	2.28	0.63
9:D:133:LYS:O	9:D:151:GLY:HA2	1.99	0.63
9:D:75:SER:H	9:D:79:LEU:CD2	2.10	0.63
9:D:79:LEU:HD21	29:X:2289:A:H2	1.64	0.63
29:X:1493:A:H2'	29:X:1494:G:O4'	1.99	0.63
29:X:1372:A:C5	29:X:1373:G:N7	2.67	0.63
22:Q:90:ALA:O	22:Q:92:ALA:N	2.29	0.63
29:X:1909:U:C5	29:X:1911:A:N6	2.67	0.63
29:X:198:A:H4'	29:X:199:A:OP2	1.98	0.63
29:X:48:A:H1'	29:X:50:G:C2	2.33	0.63
7:B:20:ALA:C	7:B:21:ILE:HG13	2.19	0.63
29:X:766:A:O2'	29:X:767:G:H5'	1.99	0.63
29:X:13:A:C2	29:X:15:G:O6	2.52	0.63
23:R:28:LYS:O	23:R:29:HIS:HB2	1.97	0.63
29:X:542:A:N6	29:X:2003:A:N3	2.47	0.63
29:X:1764:A:H2'	29:X:1765:C:H5'	1.79	0.63
17:L:35:SER:C	17:L:36:LYS:HD2	2.19	0.63
13:H:23:ARG:C	13:H:23:ARG:NH2	2.51	0.63
24:S:89:GLY:O	24:S:90:GLU:HG2	1.98	0.63
29:X:663:G:H2'	29:X:664:C:C4'	2.29	0.63
24:S:100:THR:HG23	24:S:138:VAL:HG21	1.80	0.63
24:S:95:SER:HB3	24:S:119:ASN:ND2	2.11	0.63
29:X:1175:A:C2	29:X:1176:U:C2	2.87	0.63
26:U:19:ILE:HA	26:U:42:GLN:HA	1.81	0.63
9:D:46:ASP:C	9:D:48:LYS:H	1.99	0.63
9:D:46:ASP:C	9:D:48:LYS:N	2.50	0.63
29:X:801:A:O2'	29:X:802:A:OP2	2.17	0.63
29:X:1141:U:O2'	29:X:1142:G:O5'	2.17	0.63
29:X:469:G:HO2'	29:X:480:G:H1	1.47	0.63
29:X:1791:C:H5'	29:X:1792:C:OP1	1.99	0.63
8:C:112:GLN:HA	8:C:116:LYS:CG	2.29	0.63
17:L:33:ARG:NH2	17:L:103:LEU:CB	2.61	0.63
20:O:19:VAL:HG13	20:O:90:PHE:CD1	2.34	0.63
19:N:93:LYS:HB3	29:X:1007:A:O3'	1.99	0.63
29:X:2286:G:H21	29:X:2290:A:N6	1.87	0.63
29:X:2691:C:O2'	29:X:2692:A:P	2.57	0.63
10:E:56:SER:HB2	10:E:61:HIS:HD2	1.63	0.63
10:E:92:VAL:O	10:E:94:PHE:N	2.31	0.63
21:P:10:ASN:O	21:P:10:ASN:OD1	2.17	0.63
24:S:3:LEU:HD13	24:S:33:ALA:C	2.19	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2850:U:C6	29:X:2850:U:H5'	2.28	0.63
21:P:105:ARG:NH1	21:P:119:LYS:NZ	2.47	0.63
9:D:101:GLU:HA	9:D:104:ILE:HD12	1.79	0.63
23:R:102:LYS:HE2	29:X:100:G:C6	2.34	0.63
20:O:65:ARG:HG3	20:O:65:ARG:HH11	1.64	0.63
20:O:65:ARG:HG3	20:O:89:ASN:OD1	1.99	0.63
29:X:1705:U:O2	29:X:1717:A:H5''	1.99	0.63
17:L:34:SER:HB2	17:L:94:TYR:CE2	2.34	0.63
29:X:38:G:H1	29:X:453:U:H3	1.47	0.62
6:A:93:ALA:HB1	6:A:95:LEU:HD21	1.81	0.62
25:T:43:THR:N	29:X:2310:G:H4'	2.13	0.62
31:Z:36:A:O2'	31:Z:37:C:H5	1.80	0.62
27:V:46:LEU:O	27:V:50:VAL:HG23	1.98	0.62
8:C:148:VAL:N	8:C:166:TRP:O	2.25	0.62
12:G:65:LYS:HE3	12:G:66:HIS:CE1	2.33	0.62
19:N:79:PHE:O	19:N:83:LEU:HD12	1.98	0.62
29:X:1250:A:O2'	29:X:1251:G:O4'	2.15	0.62
29:X:2239:C:H2'	29:X:2240:C:H6	1.63	0.62
8:C:194:GLU:O	8:C:195:ILE:HG23	1.99	0.62
12:G:132:PHE:HB2	12:G:145:HIS:CE1	2.33	0.62
29:X:2195:C:C4	29:X:2196:U:O4	2.51	0.62
9:D:63:GLN:HG3	9:D:95:ARG:HH21	1.64	0.62
29:X:492:G:H1'	29:X:516:G:H21	1.63	0.62
14:I:97:ARG:O	14:I:98:LEU:HB3	1.98	0.62
24:S:98:VAL:HG21	24:S:168:VAL:HG13	1.80	0.62
12:G:65:LYS:HE3	12:G:66:HIS:NE2	2.13	0.62
29:X:2222:U:C2	29:X:2223:U:C5	2.86	0.62
29:X:654:A:N3	29:X:654:A:H2'	2.14	0.62
14:I:38:LYS:NZ	14:I:38:LYS:HB3	2.14	0.62
29:X:1337:G:O2'	29:X:1632:A:C6	2.51	0.62
29:X:417:C:H4'	29:X:418:C:H5'	1.79	0.62
16:K:31:GLU:O	16:K:33:ARG:N	2.32	0.62
18:M:43:ASN:C	18:M:43:ASN:HD22	2.03	0.62
14:I:43:ALA:HB1	29:X:684:C:H5	1.65	0.62
23:R:80:LYS:HE3	23:R:80:LYS:C	2.19	0.62
12:G:66:HIS:O	19:N:67:ALA:HB1	1.99	0.62
9:D:136:LEU:O	9:D:137:ILE:HG23	1.99	0.62
29:X:717:G:C2'	29:X:739:G:N2	2.61	0.62
29:X:2850:U:H6	29:X:2850:U:C5'	2.12	0.62
14:I:76:LYS:O	14:I:79:GLN:HG2	1.99	0.62
29:X:1536:G:H2'	29:X:1537:U:H6	1.65	0.62
29:X:1610:A:H2'	29:X:1611:U:C6	2.33	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:37:LYS:HG3	29:X:1279:G:H22	1.64	0.62
23:R:8:SER:O	23:R:11:ASN:N	2.31	0.62
23:R:23:ILE:HD12	23:R:23:ILE:H	1.62	0.62
23:R:84:VAL:CG2	23:R:89:GLY:HA2	2.29	0.62
6:A:142:VAL:HG12	6:A:193:ILE:HD13	1.80	0.62
15:J:66:TYR:HB2	15:J:106:GLU:OE1	1.99	0.62
18:M:93:ILE:N	18:M:93:ILE:HD12	2.14	0.62
29:X:2212:U:H2'	29:X:2213:G:H8	1.62	0.62
29:X:748:A:H3'	29:X:749:C:C6	2.35	0.62
12:G:64:GLY:C	12:G:67:ARG:HG3	2.20	0.62
22:Q:68:PHE:O	22:Q:69:ILE:C	2.38	0.62
23:R:37:LEU:HD11	23:R:49:GLU:HG2	1.82	0.62
14:I:40:ARG:NH2	29:X:577:U:OP1	2.32	0.62
24:S:3:LEU:HB2	24:S:34:LEU:CA	2.30	0.62
14:I:130:ILE:HA	14:I:140:VAL:HG21	1.82	0.62
29:X:417:C:H1'	29:X:419:G:C8	2.35	0.62
21:P:93:LYS:HD2	21:P:129:ALA:CB	2.29	0.62
30:Y:43:HIS:C	30:Y:44:HIS:HD2	2.02	0.62
8:C:134:ILE:O	8:C:137:ALA:HB3	1.98	0.62
23:R:93:ARG:HH22	23:R:108:VAL:CA	2.13	0.62
29:X:343:A:H1'	29:X:346:C:N4	2.15	0.62
29:X:481:A:C6	29:X:482:A:C6	2.88	0.62
29:X:27:G:H1'	29:X:523:A:N6	2.14	0.62
8:C:176:ASN:HB2	29:X:626:A:O2'	2.00	0.62
29:X:1053:G:C4	29:X:1054:C:C5	2.88	0.62
6:A:219:PRO:HB2	29:X:1781:C:OP1	1.99	0.62
29:X:1963:G:C4	29:X:1965:U:C5	2.88	0.62
17:L:89:PHE:CE1	29:X:2356:A:N3	2.68	0.62
29:X:2310:G:N2	29:X:2364:C:C4	2.68	0.62
23:R:56:LYS:HB3	23:R:69:GLN:HG2	1.82	0.62
29:X:2081:U:H2'	29:X:2082:C:C6	2.33	0.62
24:S:106:GLY:HA2	24:S:109:GLN:OE1	1.98	0.62
19:N:76:TYR:CE2	19:N:80:ILE:HG13	2.34	0.62
7:B:1:MET:HG2	7:B:2:LYS:N	2.14	0.62
10:E:30:LYS:HG2	10:E:79:VAL:C	2.20	0.62
24:S:6:LYS:HB2	24:S:31:SER:HB3	1.82	0.62
29:X:433:G:H21	29:X:434:C:H1'	1.63	0.62
29:X:1040:A:C8	29:X:1041:G:C8	2.88	0.62
23:R:29:HIS:CE1	23:R:51:VAL:HG22	2.35	0.62
29:X:1223:G:C4'	29:X:1224:A:H5''	2.28	0.62
29:X:451:A:H2'	29:X:452:G:H8	1.61	0.62
29:X:580:A:C8	29:X:584:A:N6	2.67	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2194:A:H3'	29:X:2195:C:C5'	2.21	0.62
9:D:122:PHE:HD2	9:D:129:ASN:H	1.46	0.62
29:X:2311:U:O2	29:X:2311:U:H3'	1.99	0.62
29:X:754:G:H2'	29:X:755:C:H6	1.63	0.62
16:K:3:HIS:HE1	29:X:2795:A:O3'	1.81	0.62
29:X:2691:C:H2'	29:X:2692:A:C5'	2.28	0.62
22:Q:35:LYS:HD3	22:Q:53:ILE:HG23	1.80	0.62
29:X:2240:C:C2'	29:X:2241:U:H5'	2.29	0.62
10:E:41:LEU:HD13	10:E:64:LEU:HB3	1.81	0.62
29:X:1193:G:H2'	29:X:1194:U:C5'	2.30	0.62
29:X:403:A:H5''	29:X:404:A:OP1	2.00	0.62
29:X:774:A:C8	29:X:774:A:O5'	2.53	0.62
12:G:42:VAL:HG11	12:G:168:THR:OG1	2.00	0.62
8:C:104:LEU:HD23	8:C:104:LEU:N	2.14	0.62
12:G:103:TYR:OH	12:G:111:LYS:HB2	1.99	0.62
12:G:93:LYS:HB3	12:G:96:ASP:O	2.00	0.62
23:R:90:LYS:HD2	23:R:108:VAL:CG2	2.26	0.62
9:D:138:PHE:HB2	9:D:141:ILE:CB	2.28	0.62
16:K:74:ASP:OD1	16:K:77:ARG:NH2	2.32	0.62
29:X:2663:U:C2	29:X:2664:G:C8	2.87	0.62
29:X:1066:G:H2'	29:X:1067:G:C8	2.35	0.62
29:X:396:U:O4	29:X:398:C:C2	2.52	0.62
29:X:1919:A:H1'	29:X:1923:U:C2	2.35	0.62
29:X:1923:U:H4'	29:X:1924:C:O5'	1.99	0.62
29:X:2471:U:O2'	29:X:2472:U:H5'	2.00	0.62
14:I:32:ARG:HD2	20:O:81:ARG:CD	2.29	0.62
14:I:32:ARG:HH21	20:O:81:ARG:HG3	1.63	0.62
14:I:32:ARG:CZ	20:O:81:ARG:CZ	2.77	0.62
29:X:417:C:C1'	29:X:419:G:C8	2.82	0.62
29:X:1356:G:H1'	29:X:1613:G:C2	2.35	0.62
16:K:49:GLU:O	16:K:52:ILE:HG12	2.00	0.62
31:Z:67:C:O2'	31:Z:68:A:H5'	1.99	0.62
29:X:1991:C:H2'	29:X:1992:G:H8	1.64	0.62
29:X:566:U:H2'	29:X:567:G:H8	1.65	0.62
29:X:1838:G:H2'	29:X:1839:A:O4'	1.99	0.62
13:H:90:ARG:HH22	18:M:78:GLU:CD	2.03	0.62
29:X:748:A:H5'	29:X:749:C:OP2	2.00	0.62
20:O:88:GLN:NE2	29:X:1004:A:N3	2.45	0.62
29:X:2220:A:H2'	29:X:2221:G:C8	2.35	0.62
22:Q:29:VAL:HG23	22:Q:30:SER:O	1.99	0.62
29:X:2876:C:H2'	29:X:2877:A:C4	2.34	0.62
19:N:42:ALA:O	19:N:46:GLU:HG3	1.99	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:972:C:H4'	29:X:973:U:OP2	1.98	0.62
23:R:85:ASP:N	23:R:86:PRO:CD	2.63	0.62
29:X:530:G:O2'	29:X:531:G:H5'	1.99	0.62
19:N:28:ARG:CD	29:X:542:A:H3'	2.29	0.62
18:M:22:ARG:HD3	18:M:24:LEU:HD23	1.81	0.62
7:B:183:LEU:CD2	18:M:16:ILE:HD13	2.21	0.62
14:I:120:VAL:CG1	14:I:122:VAL:HG13	2.30	0.62
18:M:46:ARG:HG3	18:M:47:SER:N	2.14	0.62
9:D:135:GLN:HG3	9:D:151:GLY:CA	2.30	0.62
29:X:2053:G:C2	29:X:2054:A:C4	2.88	0.62
29:X:1919:A:H2	29:X:1926:U:H3	1.28	0.62
10:E:37:TYR:CZ	10:E:72:VAL:HG22	2.34	0.62
29:X:1060:C:H2'	29:X:1061:A:C8	2.34	0.62
14:I:127:ALA:O	14:I:129:ALA:N	2.33	0.62
29:X:416:U:O2'	29:X:419:G:H1'	1.99	0.62
16:K:6:ALA:HB1	29:X:2848:A:C2	2.35	0.62
11:F:62:ASP:C	11:F:63:ARG:HD3	2.20	0.62
7:B:141:ILE:HG21	7:B:154:LYS:HZ3	1.65	0.62
29:X:341:A:H2	29:X:1223:G:H2'	1.65	0.62
8:C:112:GLN:HA	8:C:116:LYS:CD	2.30	0.62
8:C:112:GLN:HA	8:C:116:LYS:HD3	1.82	0.62
17:L:15:ARG:HD2	17:L:91:ARG:CD	2.30	0.62
25:T:41:ARG:HH11	25:T:41:ARG:HG3	1.64	0.62
29:X:2355:A:H2'	29:X:2356:A:O4'	1.99	0.62
29:X:922:A:N1	29:X:2256:G:H1'	2.14	0.62
11:F:54:PRO:CG	11:F:70:LYS:HD2	2.30	0.62
29:X:1466:C:H2'	29:X:1467:U:C1'	2.30	0.62
27:V:13:ASP:O	27:V:17:GLU:HG2	2.00	0.62
19:N:75:ASN:O	19:N:76:TYR:C	2.38	0.62
19:N:74:MET:CE	19:N:79:PHE:HA	2.30	0.62
20:O:9:GLY:O	20:O:10:LYS:HB3	2.00	0.62
20:O:14:VAL:O	20:O:15:SER:CB	2.47	0.62
29:X:2642:G:H2'	29:X:2643:G:C5'	2.30	0.62
15:J:75:VAL:HG12	15:J:76:THR:H	1.65	0.62
21:P:62:ARG:HG3	21:P:62:ARG:HH11	1.65	0.62
24:S:44:ARG:HD3	24:S:45:GLN:NE2	2.15	0.62
7:B:12:THR:OG1	18:M:17:GLU:OE1	2.15	0.62
29:X:194:G:H3'	29:X:195:A:H8	1.65	0.62
7:B:136:ARG:HH11	7:B:136:ARG:CG	2.14	0.61
14:I:18:ARG:CB	14:I:21:ARG:HB2	2.30	0.61
29:X:585:U:H2'	29:X:586:G:C8	2.35	0.61
6:A:208:LYS:HE3	6:A:208:LYS:HA	1.82	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:M:95:GLU:HG3	18:M:95:GLU:O	2.00	0.61
14:I:86:THR:C	14:I:88:PHE:N	2.53	0.61
13:H:116:ARG:HG3	13:H:116:ARG:HH11	1.65	0.61
29:X:732:G:H8	29:X:732:G:OP2	1.81	0.61
11:F:121:GLU:CD	11:F:121:GLU:H	2.04	0.61
29:X:872:G:H2'	29:X:928:G:C6	2.35	0.61
29:X:748:A:H3'	29:X:749:C:H6	1.65	0.61
24:S:168:VAL:HG12	24:S:169:VAL:HG13	1.82	0.61
20:O:36:LYS:HD2	20:O:54:TYR:C	2.20	0.61
9:D:75:SER:CB	9:D:79:LEU:HD22	2.30	0.61
13:H:1:MET:HE2	13:H:44:TYR:CZ	2.35	0.61
29:X:179:U:H2'	29:X:180:C:C6	2.35	0.61
29:X:429:C:H2'	29:X:430:C:C6	2.35	0.61
29:X:2426:G:H4'	29:X:2427:A:O5'	2.00	0.61
14:I:112:GLY:O	14:I:113:GLU:HG3	2.00	0.61
29:X:415:A:C3'	29:X:416:U:H5'	2.30	0.61
13:H:7:ARG:HD3	13:H:18:GLU:CD	2.21	0.61
17:L:57:ALA:HB1	31:Z:119:G:H4'	1.82	0.61
29:X:583:C:H1'	29:X:2038:C:C6	2.35	0.61
31:Z:35:C:H2'	31:Z:36:A:O4'	2.00	0.61
14:I:86:THR:O	14:I:86:THR:HG22	2.00	0.61
29:X:1121:G:H2'	29:X:1122:A:C8	2.35	0.61
29:X:497:C:C5'	29:X:497:C:H6	2.09	0.61
24:S:6:LYS:N	24:S:7:PRO:CD	2.63	0.61
14:I:82:ASP:H	14:I:114:ILE:CG2	2.12	0.61
29:X:65:C:H2'	29:X:66:U:H6	1.65	0.61
7:B:153:GLY:O	7:B:154:LYS:C	2.39	0.61
8:C:129:LYS:C	8:C:131:LYS:H	2.03	0.61
23:R:39:ALA:O	23:R:41:PRO:HD3	2.01	0.61
29:X:590:C:H2'	29:X:591:G:H8	1.64	0.61
4:4:10:MET:HE3	4:4:32:HIS:CA	2.21	0.61
10:E:84:THR:HA	10:E:133:VAL:O	2.01	0.61
10:E:143:GLN:HG2	29:X:2725:C:H1'	1.81	0.61
15:J:64:LYS:CD	15:J:64:LYS:H	1.87	0.61
18:M:24:LEU:O	18:M:25:PRO:O	2.18	0.61
14:I:73:GLU:HG2	14:I:101:ARG:CB	2.31	0.61
29:X:731:A:C3'	29:X:732:G:O4'	2.47	0.61
20:O:18:ASP:C	20:O:18:ASP:OD1	2.39	0.61
9:D:150:ARG:HH11	9:D:150:ARG:HG3	1.65	0.61
20:O:78:VAL:O	20:O:79:GLN:HB2	2.01	0.61
11:F:100:ASN:OD1	11:F:101:TRP:N	2.33	0.61
14:I:54:SER:OG	14:I:59:ARG:NH1	2.34	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2245:A:H4'	29:X:2246:A:OP2	1.98	0.61
12:G:103:TYR:CE1	12:G:111:LYS:HA	2.35	0.61
14:I:10:PRO:CA	14:I:14:LYS:HB2	2.28	0.61
29:X:26:G:N1	29:X:27:G:N2	2.47	0.61
29:X:471:A:H2'	29:X:472:C:O4'	2.00	0.61
21:P:39:ARG:NH2	29:X:527:C:O2'	2.32	0.61
29:X:2585:C:C2'	29:X:2586:G:H5'	2.30	0.61
17:L:9:ARG:O	17:L:10:LYS:C	2.39	0.61
29:X:917:U:C2'	29:X:918:A:H5'	2.30	0.61
14:I:117:ALA:HA	14:I:137:GLY:O	1.98	0.61
29:X:999:A:O2'	29:X:1166:A:H2	1.82	0.61
14:I:53:ARG:CD	14:I:53:ARG:O	2.47	0.61
15:J:77:LYS:HG3	15:J:78:LYS:H	1.64	0.61
17:L:30:SER:O	17:L:31:VAL:HG12	1.99	0.61
8:C:197:GLU:HG2	8:C:198:GLU:N	2.14	0.61
29:X:1383:C:C2	29:X:1384:G:C8	2.87	0.61
23:R:63:THR:HG22	23:R:64:ASN:HD22	1.65	0.61
18:M:105:TYR:CD1	18:M:108:ARG:NH2	2.68	0.61
9:D:63:GLN:NE2	9:D:91:LEU:HD23	2.15	0.61
26:U:11:LYS:NZ	26:U:75:TYR:CD1	2.68	0.61
29:X:731:A:H3'	29:X:732:G:O4'	1.99	0.61
24:S:73:LYS:C	24:S:75:LYS:H	2.03	0.61
24:S:138:VAL:HA	24:S:141:MET:CE	2.29	0.61
29:X:988:G:N3	29:X:1012:A:H2	1.97	0.61
9:D:36:VAL:HG11	9:D:57:LEU:HD22	1.83	0.61
6:A:37:LEU:HD12	29:X:1808:C:H41	1.65	0.61
6:A:39:LYS:HE2	29:X:1808:C:O5'	2.00	0.61
15:J:49:GLU:O	15:J:53:ILE:HG13	1.99	0.61
29:X:774:A:C8	29:X:774:A:H3'	2.35	0.61
29:X:774:A:H8	29:X:774:A:H3'	1.62	0.61
29:X:1974:U:H2'	29:X:1975:G:H5'	1.82	0.61
31:Z:95:U:H2'	31:Z:96:C:C6	2.35	0.61
6:A:69:ARG:CZ	6:A:105:ILE:HD13	2.29	0.61
18:M:108:ARG:C	18:M:109:GLU:HG3	2.06	0.61
29:X:2301:A:H2'	29:X:2302:G:H8	1.66	0.61
29:X:649:G:H22	29:X:661:C:H1'	1.66	0.61
19:N:84:LYS:HB2	19:N:92:ARG:HH22	1.62	0.61
26:U:20:ARG:HB2	26:U:43:ARG:HD2	1.82	0.61
29:X:2543:A:C2	29:X:2626:U:H4'	2.36	0.61
16:K:11:ASN:OD1	16:K:17:ARG:NH2	2.34	0.61
29:X:224:G:H4'	29:X:399:G:C5	2.34	0.61
10:E:17:VAL:HG12	10:E:18:ASN:N	2.15	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:E:89:LEU:HD11	10:E:96:ALA:CB	2.31	0.61
10:E:38:ASN:H	10:E:41:LEU:HD23	1.64	0.61
29:X:208:C:O2'	29:X:209:G:H5'	2.00	0.61
16:K:45:ARG:HB3	16:K:46:PRO:HD3	1.82	0.61
29:X:822:G:C2'	29:X:823:U:H5'	2.31	0.61
6:A:76:ASN:OD1	6:A:118:ASN:HB2	2.01	0.61
29:X:320:A:N3	29:X:340:G:O2'	2.30	0.61
29:X:333:A:H2'	29:X:350:U:O2	2.00	0.61
29:X:38:G:H2'	29:X:39:C:C6	2.35	0.61
29:X:2195:C:C2'	29:X:2196:U:H5'	2.30	0.61
6:A:226:MET:HE2	6:A:230:ASP:HB3	1.83	0.61
6:A:245:VAL:HA	6:A:251:GLY:HA2	1.82	0.61
8:C:3:GLN:CG	8:C:116:LYS:HD2	2.18	0.61
17:L:54:ALA:HB3	17:L:75:LEU:CB	2.22	0.61
24:S:13:LYS:NZ	24:S:18:MET:HB2	2.15	0.61
18:M:13:LEU:HD12	18:M:13:LEU:N	2.15	0.61
15:J:99:LYS:HD2	15:J:100:PRO:HD3	1.82	0.61
25:T:71:ASN:HD21	25:T:74:LYS:HD3	1.64	0.61
29:X:716:U:H2'	29:X:717:G:O4'	2.01	0.61
29:X:2500:C:H2'	29:X:2501:U:C6	2.36	0.61
29:X:1324:G:H1'	29:X:1326:U:O4	2.00	0.61
29:X:1431:U:H4'	29:X:1604:A:H4'	1.82	0.61
12:G:54:LEU:O	12:G:58:ILE:HG13	2.01	0.61
29:X:1909:U:H5	29:X:1911:A:N6	1.96	0.61
8:C:93:TYR:N	8:C:93:TYR:HD2	1.98	0.61
23:R:24:VAL:HB	23:R:29:HIS:O	2.01	0.61
23:R:25:LEU:CD1	23:R:25:LEU:H	2.12	0.61
29:X:1142:G:C8	29:X:2008:C:H4'	2.36	0.61
29:X:1339:U:OP2	29:X:1339:U:C6	2.53	0.61
29:X:2594:U:C2	29:X:2595:C:C5	2.88	0.61
29:X:2312:A:H4'	29:X:2313:G:O5'	2.00	0.61
29:X:408:U:O2'	29:X:409:G:C8	2.53	0.61
29:X:1468:A:C5'	29:X:1472:C:N4	2.55	0.61
29:X:1122:A:O2'	29:X:1123:G:H4'	2.01	0.61
31:Z:14:C:H4'	31:Z:17:A:N6	2.16	0.61
22:Q:38:ILE:O	22:Q:42:ILE:HG22	2.01	0.61
14:I:53:ARG:NE	29:X:227:G:O2'	2.33	0.61
29:X:2389:G:N2	29:X:2390:A:H1'	2.16	0.61
29:X:1982:C:OP1	29:X:2704:U:H5'	2.00	0.61
24:S:69:VAL:HG13	24:S:81:VAL:HG22	1.81	0.61
16:K:20:LEU:O	16:K:23:ALA:N	2.34	0.61
4:4:2:LYS:HG2	4:4:4:ARG:CD	2.31	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:W:11:GLY:HA2	29:X:980:G:O3'	2.00	0.61
8:C:47:THR:CG2	8:C:85:GLY:H	2.13	0.61
23:R:93:ARG:CG	23:R:94:VAL:N	2.63	0.61
4:4:19:ARG:NH1	4:4:24:LEU:HD22	2.15	0.61
29:X:936:A:O2'	29:X:937:C:H5'	2.01	0.61
7:B:78:LEU:O	7:B:79:ARG:NE	2.34	0.61
29:X:638:A:O2'	29:X:639:G:C8	2.51	0.61
29:X:2080:U:H2'	29:X:2081:U:C6	2.35	0.61
19:N:91:ASN:O	19:N:93:LYS:N	2.34	0.61
20:O:12:TYR:O	20:O:13:ARG:CB	2.48	0.61
29:X:987:G:H5'	29:X:1167:A:N6	2.16	0.61
29:X:1171:A:H2'	29:X:1172:U:H6	1.64	0.61
9:D:35:VAL:HG12	9:D:36:VAL:N	2.15	0.61
29:X:2220:A:H2'	29:X:2221:G:H8	1.66	0.61
24:S:123:VAL:O	24:S:124:ALA:O	2.19	0.61
24:S:154:LEU:HD21	24:S:160:LEU:CD2	2.30	0.61
29:X:174:A:N3	29:X:174:A:H2'	2.16	0.61
10:E:105:MET:HB2	10:E:113:VAL:HB	1.83	0.61
14:I:76:LYS:HG3	14:I:111:SER:CB	2.31	0.61
29:X:1624:A:O2'	29:X:1625:A:H5'	2.00	0.61
24:S:1:MET:HG3	24:S:52:PHE:CD2	2.36	0.61
8:C:66:ASN:HA	29:X:1268:U:C6	2.36	0.61
14:I:8:PRO:O	29:X:1218:C:H1'	2.01	0.61
23:R:105:ARG:HH12	23:R:112:LYS:CA	2.12	0.61
23:R:108:VAL:C	23:R:110:SER:H	2.03	0.61
6:A:132:PRO:HD3	6:A:190:TYR:CD2	2.35	0.61
9:D:12:VAL:HG12	9:D:16:LEU:CD1	2.27	0.61
9:D:92:ARG:HH12	31:Z:46:G:H4'	1.64	0.61
29:X:1854:G:HO2'	29:X:1855:G:H5'	1.65	0.61
18:M:32:THR:HG22	18:M:33:VAL:N	2.16	0.61
7:B:183:LEU:HD23	7:B:183:LEU:N	2.16	0.61
11:F:71:THR:CG2	11:F:110:THR:HG22	2.28	0.61
27:V:16:LYS:HG2	27:V:17:GLU:OE2	2.01	0.61
27:V:21:ARG:N	27:V:21:ARG:HD2	2.15	0.61
31:Z:17:A:HO2'	31:Z:112:A:H8	1.47	0.61
24:S:109:GLN:NE2	24:S:142:ASN:OD1	2.33	0.61
9:D:72:LYS:HA	9:D:81:GLN:C	2.21	0.61
9:D:85:VAL:HG23	9:D:86:GLY:H	1.65	0.61
25:T:24:LYS:HZ2	29:X:2335:U:P	2.23	0.61
22:Q:35:LYS:HA	22:Q:38:ILE:HG23	1.83	0.61
18:M:39:VAL:CG1	18:M:45:THR:HG23	2.29	0.61
6:A:38:PRO:HA	6:A:61:LEU:HD22	1.83	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:B:121:ASN:O	7:B:122:PHE:C	2.38	0.60
8:C:34:GLN:HG2	29:X:627:A:OP1	2.01	0.60
23:R:110:SER:OG	23:R:111:GLY:N	2.34	0.60
29:X:580:A:N7	29:X:584:A:C5	2.68	0.60
10:E:137:ASP:OD2	10:E:139:GLN:HB2	2.01	0.60
14:I:120:VAL:HG12	14:I:122:VAL:HG13	1.83	0.60
29:X:2352:A:H2'	29:X:2353:G:H8	1.65	0.60
13:H:113:PRO:HB2	13:H:134:LEU:HD12	1.82	0.60
18:M:44:ARG:HD2	18:M:46:ARG:HH21	1.66	0.60
29:X:754:G:H2'	29:X:755:C:C6	2.36	0.60
19:N:79:PHE:CE2	19:N:83:LEU:HD11	2.36	0.60
20:O:24:SER:O	20:O:26:GLN:N	2.34	0.60
9:D:108:LEU:HD22	9:D:114:PHE:CE1	2.36	0.60
22:Q:40:ASP:O	22:Q:41:ALA:C	2.38	0.60
29:X:2498:U:C4'	29:X:2499:C:OP1	2.44	0.60
29:X:172:A:N7	29:X:175:C:C5	2.69	0.60
29:X:2238:G:H1'	29:X:2406:C:C2	2.36	0.60
14:I:127:ALA:C	14:I:129:ALA:H	2.05	0.60
24:S:64:ALA:HA	24:S:86:VAL:N	2.16	0.60
29:X:1629:G:H2'	29:X:1633:C:H42	1.65	0.60
29:X:1578:U:H2'	29:X:1579:G:H8	1.64	0.60
13:H:75:VAL:HG12	13:H:118:LEU:HD21	1.81	0.60
29:X:2422:C:O2'	29:X:2423:G:H5'	2.00	0.60
29:X:2431:C:H42	29:X:2483:U:H3	1.48	0.60
6:A:172:TYR:HA	6:A:186:HIS:HA	1.82	0.60
29:X:2495:G:O2'	29:X:2496:C:H5'	2.01	0.60
6:A:227:ASN:ND2	29:X:797:A:H5''	2.16	0.60
9:D:122:PHE:CD2	9:D:129:ASN:HB2	2.36	0.60
26:U:13:LEU:HG	26:U:14:VAL:H	1.65	0.60
29:X:837:U:H3	29:X:846:A:H61	1.49	0.60
24:S:130:ILE:HD12	24:S:130:ILE:N	2.16	0.60
13:H:43:ARG:HD3	13:H:44:TYR:CE2	2.35	0.60
29:X:1373:G:N2	29:X:1374:G:H1'	2.17	0.60
7:B:195:LEU:H	18:M:2:GLN:HG2	1.65	0.60
14:I:28:LYS:HZ3	14:I:36:GLY:HA2	1.65	0.60
29:X:187:U:H2'	29:X:188:G:C8	2.34	0.60
12:G:158:HIS:HA	12:G:161:GLN:OE1	2.01	0.60
29:X:2857:C:H2'	29:X:2858:A:O5'	2.02	0.60
29:X:48:A:H4'	29:X:49:U:C5'	2.31	0.60
20:O:66:GLY:O	20:O:87:ARG:NH1	2.33	0.60
14:I:141:VAL:C	14:I:142:LEU:HD23	2.20	0.60
29:X:107:G:N2	29:X:108:G:H1'	2.15	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:68:VAL:HG12	21:P:68:VAL:O	2.01	0.60
7:B:116:VAL:H	7:B:136:ARG:HE	0.64	0.60
14:I:13:ARG:NH2	14:I:13:ARG:CG	2.61	0.60
29:X:1339:U:H5''	29:X:1994:U:H1'	1.83	0.60
29:X:538:A:C2	29:X:2025:A:C6	2.89	0.60
29:X:760:U:C4	29:X:2592:U:O2	2.54	0.60
30:Y:19:ARG:CB	30:Y:19:ARG:HH11	2.13	0.60
29:X:2725:C:H2'	29:X:2726:U:H6	1.65	0.60
9:D:122:PHE:O	9:D:124:GLY:N	2.35	0.60
17:L:38:ILE:CD1	17:L:39:TYR:H	2.06	0.60
17:L:8:ARG:HH11	17:L:8:ARG:HB2	1.65	0.60
7:B:176:ARG:HH21	18:M:16:ILE:HA	1.66	0.60
29:X:2327:U:O4	29:X:2361:G:C2	2.53	0.60
29:X:1467:U:C6	29:X:1467:U:H5''	2.36	0.60
8:C:147:LYS:N	8:C:184:ASP:OD2	2.27	0.60
9:D:103:LEU:HA	9:D:107:GLY:HA3	1.83	0.60
29:X:1690:U:H2'	29:X:1691:G:H5'	1.82	0.60
11:F:60:TYR:O	11:F:61:ALA:HB2	2.00	0.60
9:D:46:ASP:HB2	9:D:49:ALA:HB3	1.81	0.60
24:S:1:MET:HE2	24:S:52:PHE:HB3	1.82	0.60
14:I:100:ARG:O	14:I:100:ARG:HG3	2.02	0.60
7:B:120:TRP:CD1	7:B:155:ARG:HB3	2.36	0.60
19:N:13:ARG:CG	19:N:13:ARG:HH21	2.13	0.60
23:R:8:SER:C	23:R:10:HIS:N	2.54	0.60
6:A:105:ILE:HG22	6:A:106:LEU:O	2.01	0.60
13:H:79:HIS:CG	13:H:80:ALA:H	2.17	0.60
17:L:37:HIS:O	17:L:38:ILE:O	2.19	0.60
15:J:37:ALA:CA	15:J:130:THR:HG22	2.21	0.60
13:H:23:ARG:CZ	13:H:23:ARG:HB3	2.32	0.60
29:X:1090:C:O2'	29:X:1091:C:H5'	2.01	0.60
9:D:151:GLY:O	9:D:152:MET:HB3	2.01	0.60
21:P:106:LEU:HD23	21:P:107:ILE:N	2.16	0.60
29:X:2812:A:H2'	29:X:2813:G:H8	1.66	0.60
29:X:1373:G:H2'	29:X:1374:G:H5'	1.84	0.60
29:X:1181:C:H2'	29:X:1182:U:C5'	2.27	0.60
29:X:162:C:H2'	29:X:163:A:H8	1.66	0.60
29:X:1841:G:H2'	29:X:1842:G:H5'	1.82	0.60
23:R:98:ILE:HB	23:R:100:ASP:H	1.67	0.60
22:Q:76:LYS:HG2	22:Q:76:LYS:O	2.00	0.60
6:A:68:LYS:H	6:A:68:LYS:CD	2.12	0.60
28:W:19:THR:O	28:W:23:LEU:HG	2.01	0.60
7:B:40:GLN:O	7:B:40:GLN:HG2	2.01	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1473:U:O2'	29:X:1474:A:OP2	2.19	0.60
29:X:1734:C:H5''	29:X:1735:G:C8	2.36	0.60
21:P:46:ARG:CG	21:P:46:ARG:HH11	2.10	0.60
12:G:154:GLU:H	12:G:157:PRO:HD2	1.66	0.60
24:S:1:MET:CE	24:S:52:PHE:HB3	2.31	0.60
22:Q:91:LEU:N	22:Q:91:LEU:HD22	2.15	0.60
18:M:57:ILE:HG13	18:M:57:ILE:O	2.00	0.60
8:C:33:TRP:CD1	8:C:95:LEU:HB2	2.37	0.60
12:G:140:GLN:O	12:G:143:ALA:HB3	2.02	0.60
29:X:1134:C:H2'	29:X:1135:C:H6	1.67	0.60
29:X:527:C:O2'	29:X:528:G:H5'	2.01	0.60
29:X:2298:U:H4'	29:X:2299:A:C8	2.37	0.60
13:H:116:ARG:HH21	18:M:40:ARG:CB	2.11	0.60
27:V:2:LYS:HA	27:V:6:MET:HE2	1.83	0.60
29:X:2170:C:H2'	29:X:2171:U:C4'	2.30	0.60
20:O:12:TYR:HB2	20:O:39:PHE:HA	1.83	0.60
9:D:136:LEU:HD11	9:D:149:THR:HG21	1.83	0.60
22:Q:34:THR:O	22:Q:38:ILE:HG22	2.02	0.60
29:X:2501:U:O2'	29:X:2626:U:H5''	2.02	0.60
30:Y:45:ILE:HD13	30:Y:57:VAL:CG2	2.31	0.60
29:X:1919:A:H2	29:X:1926:U:C2	2.20	0.60
29:X:2522:G:H2'	29:X:2523:G:C8	2.37	0.60
29:X:1698:C:C2'	29:X:1753:A:H2'	2.32	0.60
29:X:2553:G:H2'	29:X:2554:C:C6	2.37	0.60
29:X:2252:A:C2	29:X:2253:A:C5	2.90	0.60
29:X:736:G:H2'	29:X:737:C:O4'	2.01	0.60
20:O:65:ARG:NE	20:O:87:ARG:HD2	2.17	0.60
6:A:184:ARG:NH2	6:A:268:ARG:NH1	2.50	0.60
10:E:84:THR:CA	10:E:134:SER:HA	2.30	0.60
29:X:2824:C:H4'	29:X:2825:A:H5'	1.83	0.60
17:L:33:ARG:HH22	17:L:103:LEU:CB	2.14	0.60
31:Z:39:C:H3'	31:Z:40:C:C6	2.37	0.60
29:X:510:G:N2	29:X:512:A:H3'	2.17	0.60
24:S:91:PRO:HD3	24:S:127:PRO:CD	2.31	0.60
13:H:47:VAL:CG2	13:H:77:THR:HG23	2.12	0.60
25:T:71:ASN:HD21	25:T:74:LYS:HA	1.66	0.60
29:X:663:G:H2'	29:X:664:C:H4'	1.83	0.60
24:S:94:VAL:HG12	24:S:95:SER:N	2.16	0.60
29:X:1166:A:C2'	29:X:1167:A:H5''	2.32	0.60
29:X:1508:G:C5'	29:X:1509:A:H5''	2.21	0.60
9:D:75:SER:HB2	29:X:2289:A:C2	2.36	0.60
22:Q:56:MET:SD	29:X:1355:A:OP2	2.60	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:H:17:ARG:N	13:H:57:ASP:O	2.35	0.60
10:E:109:TYR:HE1	10:E:152:ARG:NH1	1.99	0.60
15:J:80:ALA:CB	15:J:81:GLU:OE1	2.49	0.60
29:X:2370:G:O2'	29:X:2403:C:N4	2.35	0.60
12:G:106:TYR:CE2	12:G:108:GLY:CA	2.84	0.60
12:G:55:ALA:C	12:G:134:MET:HE1	2.22	0.60
23:R:25:LEU:HD12	23:R:81:VAL:N	2.17	0.60
29:X:1050:G:H2'	29:X:1051:U:C5'	2.32	0.60
31:Z:58:G:H4'	31:Z:59:A:C5'	2.31	0.60
29:X:871:U:C2'	29:X:2247:A:H2'	2.31	0.60
25:T:17:ASN:ND2	29:X:2241:U:C5	2.70	0.60
29:X:840:U:O2	29:X:2225:G:H4'	2.02	0.60
21:P:114:ALA:HB2	29:X:1630:A:C2	2.36	0.60
21:P:40:LEU:HD22	30:Y:25:LEU:HD11	1.83	0.60
12:G:155:THR:HG23	12:G:156:HIS:ND1	2.17	0.60
29:X:1454:U:H2'	29:X:1455:C:H6	1.65	0.60
29:X:93:A:O2'	29:X:94:C:H5'	2.02	0.60
8:C:173:ALA:HB1	8:C:193:LEU:HD13	1.83	0.60
23:R:15:HIS:O	23:R:16:PHE:HB3	2.01	0.60
21:P:117:ILE:HD13	29:X:1996:A:H4'	1.83	0.60
29:X:2194:A:C3'	29:X:2195:C:C5'	2.71	0.60
17:L:97:HIS:CG	17:L:98:GLY:N	2.70	0.60
29:X:2279:G:H2'	29:X:2280:A:C8	2.37	0.60
29:X:2292:C:O2'	29:X:2293:G:H5'	2.02	0.60
31:Z:37:C:H2'	31:Z:38:C:O4'	2.01	0.60
14:I:62:LYS:HG3	14:I:63:ARG:H	1.67	0.60
14:I:62:LYS:CG	14:I:63:ARG:N	2.64	0.60
11:F:52:ILE:O	11:F:73:PRO:HD3	2.02	0.60
29:X:1551:U:H5'	29:X:1552:C:C6	2.36	0.60
29:X:664:C:H5'	29:X:664:C:H6	1.66	0.60
9:D:108:LEU:HB2	9:D:109:PRO:HD3	1.84	0.60
29:X:1448:A:H2'	29:X:1449:C:H6	1.67	0.60
29:X:913:A:H2'	29:X:914:C:O5'	2.02	0.60
10:E:35:VAL:HB	10:E:37:TYR:CE1	2.36	0.60
29:X:2475:C:O2'	29:X:2476:A:H5'	2.02	0.60
29:X:957:G:O2'	29:X:958:G:H5'	2.01	0.60
16:K:91:PRO:C	16:K:92:GLY:O	2.40	0.60
25:T:26:PHE:CE2	29:X:870:C:H1'	2.36	0.60
24:S:64:ALA:CB	24:S:85:MET:HA	2.32	0.60
18:M:43:ASN:ND2	18:M:43:ASN:O	2.34	0.60
29:X:449:C:H2'	29:X:450:C:H6	1.66	0.60
29:X:2860:C:H2'	29:X:2861:A:O4'	2.02	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:B:146:THR:O	7:B:147:PRO:C	2.40	0.60
12:G:107:GLN:O	29:X:1142:G:OP1	2.20	0.60
6:A:53:PHE:O	6:A:54:ILE:HG22	2.01	0.60
9:D:13:ARG:HB3	9:D:14:PRO:CD	2.31	0.60
7:B:53:PRO:HD2	18:M:6:LYS:NZ	2.14	0.60
7:B:8:LYS:HG2	7:B:192:ASN:HA	1.83	0.60
18:M:11:GLU:O	18:M:12:LEU:C	2.40	0.60
29:X:648:A:H4'	29:X:649:G:O5'	2.01	0.60
18:M:34:ARG:HH21	18:M:91:VAL:HG23	1.65	0.60
27:V:2:LYS:CG	27:V:3:PRO:HD3	2.26	0.60
15:J:21:ASP:HA	15:J:99:LYS:CE	2.32	0.60
29:X:1004:A:C5	29:X:1005:U:C5	2.90	0.60
29:X:2500:C:H2'	29:X:2501:U:H6	1.66	0.60
29:X:176:A:C3'	29:X:177:U:H5	2.09	0.60
22:Q:61:LYS:HB2	22:Q:72:ARG:HD3	1.84	0.60
29:X:2699:G:O2'	29:X:2700:U:C5'	2.49	0.60
29:X:1685:A:H2'	29:X:1691:G:N7	2.16	0.60
15:J:51:CYS:O	15:J:52:ARG:C	2.39	0.60
8:C:54:THR:HG21	8:C:72:ARG:H	1.66	0.60
15:J:61:ARG:HD3	24:S:174:PRO:HB2	1.83	0.60
29:X:2011:U:O2'	29:X:2012:A:H5'	2.02	0.60
10:E:121:VAL:HG12	10:E:122:THR:N	2.17	0.60
7:B:119:ARG:HA	7:B:160:MET:CE	2.31	0.60
7:B:121:ASN:O	7:B:122:PHE:O	2.20	0.59
19:N:24:PHE:O	19:N:29:SER:OG	2.12	0.59
12:G:103:TYR:CE2	29:X:1142:G:H4'	2.37	0.59
6:A:246:PRO:HD3	6:A:251:GLY:N	2.15	0.59
18:M:55:ILE:O	18:M:56:ALA:HB2	2.01	0.59
14:I:98:LEU:O	14:I:99:VAL:HG13	2.02	0.59
12:G:64:GLY:CA	12:G:67:ARG:HG3	2.32	0.59
19:N:86:ALA:C	19:N:88:ILE:N	2.53	0.59
29:X:1921:A:O2'	29:X:1922:U:OP1	2.20	0.59
29:X:148:C:OP1	29:X:148:C:H6	1.85	0.59
29:X:2677:U:H2'	29:X:2678:C:H6	1.65	0.59
29:X:1685:A:C8	29:X:1691:G:C5	2.89	0.59
29:X:1069:G:C2'	29:X:1070:G:H5''	2.32	0.59
12:G:107:GLN:CA	12:G:110:LEU:HG	2.32	0.59
19:N:10:ARG:O	19:N:13:ARG:HB3	2.03	0.59
29:X:1135:C:N4	29:X:1136:G:O6	2.34	0.59
8:C:67:ALA:N	29:X:1268:U:C5	2.60	0.59
29:X:464:G:H2'	29:X:465:C:C6	2.37	0.59
29:X:633:G:O2'	29:X:634:G:H5'	2.01	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:A:244:ARG:N	6:A:244:ARG:CD	2.64	0.59
29:X:400:U:HO2'	29:X:401:G:H5''	1.66	0.59
11:F:18:THR:HB	11:F:22:PRO:HB2	1.84	0.59
29:X:1058:G:H2'	29:X:1121:G:C6	2.36	0.59
25:T:45:PHE:CZ	25:T:77:ARG:NH2	2.70	0.59
22:Q:11:VAL:HG22	22:Q:28:TRP:NE1	2.18	0.59
29:X:715:U:O2'	29:X:716:U:H5'	2.00	0.59
24:S:3:LEU:HB2	24:S:34:LEU:CB	2.32	0.59
29:X:1524:C:H3'	29:X:1525:A:O4'	2.02	0.59
28:W:38:PRO:N	28:W:41:ARG:NE	2.50	0.59
16:K:72:ASP:HB3	16:K:75:VAL:HG23	1.84	0.59
7:B:48:GLN:NE2	29:X:2614:A:O2'	2.35	0.59
7:B:80:GLU:OE2	29:X:2615:U:H4'	2.02	0.59
29:X:784:U:H2'	29:X:785:U:C6	2.37	0.59
8:C:187:VAL:HG12	8:C:189:ASP:HB2	1.84	0.59
29:X:1033:G:O2'	29:X:1034:U:H5'	2.02	0.59
29:X:2496:C:C5	29:X:2521:A:C5	2.90	0.59
18:M:55:ILE:CG1	18:M:67:THR:HG22	2.33	0.59
9:D:4:LEU:HD11	9:D:173:MET:CE	2.32	0.59
17:L:37:HIS:CE1	17:L:39:TYR:CZ	2.91	0.59
29:X:1129:A:H8	29:X:1129:A:H5'	1.68	0.59
27:V:41:HIS:ND1	29:X:95:G:H4'	2.18	0.59
24:S:97:PRO:HB2	24:S:99:HIS:HE1	1.67	0.59
29:X:1323:G:H3'	29:X:1324:G:N2	2.17	0.59
29:X:1953:A:H1'	29:X:1955:G:C8	2.37	0.59
29:X:2451:G:H2'	29:X:2454:C:H42	1.68	0.59
22:Q:91:LEU:CD2	22:Q:91:LEU:N	2.64	0.59
29:X:1994:U:H2'	29:X:1995:G:H5'	1.84	0.59
29:X:1786:C:H2'	29:X:1787:U:O4'	2.01	0.59
17:L:38:ILE:HD11	17:L:40:ALA:N	2.10	0.59
25:T:20:TYR:O	25:T:21:LEU:HG	2.03	0.59
29:X:1854:G:C6	29:X:1864:G:C6	2.90	0.59
15:J:64:LYS:HB2	15:J:108:ALA:O	2.02	0.59
24:S:10:PRO:HB2	24:S:14:LEU:HD21	1.85	0.59
26:U:14:VAL:HB	26:U:47:HIS:NE2	2.18	0.59
26:U:52:ARG:C	26:U:53:GLU:HG2	2.20	0.59
19:N:66:ASN:HB3	19:N:76:TYR:N	2.17	0.59
20:O:14:VAL:O	20:O:15:SER:HB2	2.01	0.59
9:D:70:ALA:O	9:D:72:LYS:N	2.35	0.59
24:S:123:VAL:H	24:S:161:ALA:HB2	1.66	0.59
12:G:79:PHE:CE2	12:G:147:ARG:HG2	2.37	0.59
19:N:17:VAL:HG13	19:N:39:LEU:HD12	1.85	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:B:155:ARG:NH1	7:B:155:ARG:HG3	2.16	0.59
23:R:85:ASP:N	23:R:86:PRO:HD3	2.16	0.59
29:X:2598:C:O2'	29:X:2599:U:H5'	2.03	0.59
29:X:531:G:H2'	29:X:532:A:H8	1.67	0.59
6:A:184:ARG:NH2	6:A:268:ARG:HH11	2.01	0.59
9:D:15:ALA:HA	9:D:18:GLN:HB2	1.83	0.59
15:J:69:ILE:HD13	15:J:104:MET:CG	2.33	0.59
24:S:11:LYS:O	24:S:13:LYS:N	2.31	0.59
29:X:2075:U:HO2'	29:X:2076:G:H5''	1.67	0.59
29:X:2210:C:H2'	29:X:2211:U:H6	1.67	0.59
29:X:837:U:H2'	29:X:838:A:C8	2.37	0.59
29:X:2264:C:H42	29:X:2325:A:H2	1.51	0.59
29:X:1081:A:C6	29:X:1108:U:H4'	2.38	0.59
19:N:79:PHE:CE2	19:N:95:LEU:HD21	2.36	0.59
29:X:1710:U:H4'	29:X:1711:C:OP2	2.03	0.59
29:X:88:G:C3'	29:X:89:A:H5''	2.25	0.59
29:X:98:U:H5''	29:X:99:U:OP1	2.03	0.59
29:X:2046:C:O2	29:X:2430:A:C2	2.55	0.59
29:X:2857:C:C2'	29:X:2858:A:O5'	2.51	0.59
28:W:38:PRO:HD3	28:W:41:ARG:HE	1.67	0.59
29:X:1705:U:O4'	29:X:1718:A:N6	2.35	0.59
14:I:22:GLY:CA	29:X:674:U:H1'	2.32	0.59
8:C:62:LYS:CD	8:C:63:GLY:N	2.66	0.59
12:G:100:TYR:HB2	12:G:116:ARG:HH11	1.64	0.59
14:I:17:LYS:HA	14:I:21:ARG:HE	1.67	0.59
19:N:25:TRP:CE3	19:N:26:GLY:N	2.70	0.59
6:A:52:ARG:NH2	6:A:53:PHE:HZ	2.00	0.59
9:D:13:ARG:HH12	9:D:14:PRO:HG3	1.63	0.59
15:J:14:PHE:O	15:J:15:ARG:HG3	2.03	0.59
7:B:31:CYS:HB3	7:B:49:ILE:CG1	2.32	0.59
7:B:39:ALA:HA	7:B:43:GLY:C	2.23	0.59
29:X:872:G:OP2	29:X:872:G:C8	2.56	0.59
9:D:138:PHE:HB2	9:D:141:ILE:CG1	2.32	0.59
16:K:28:LEU:CD2	16:K:115:LEU:HG	2.31	0.59
22:Q:29:VAL:HG11	22:Q:38:ILE:CD1	2.24	0.59
29:X:717:G:C2'	29:X:739:G:H22	2.04	0.59
10:E:87:LEU:O	10:E:131:ILE:N	2.36	0.59
29:X:2429:A:C2	29:X:2430:A:C4	2.90	0.59
9:D:97:TYR:HD2	9:D:100:LEU:HD23	1.67	0.59
29:X:890:U:H2'	29:X:891:A:C8	2.37	0.59
16:K:25:ALA:HB2	16:K:47:PHE:CE2	2.37	0.59
29:X:181:A:H4'	29:X:182:G:OP1	2.03	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:Q:14:GLU:HG3	22:Q:15:LYS:N	2.16	0.59
12:G:125:ARG:HD3	12:G:128:GLU:OE1	2.01	0.59
29:X:562:G:H2'	29:X:563:U:O4'	2.01	0.59
29:X:236:C:O2'	29:X:632:A:O2'	2.19	0.59
6:A:182:LEU:HB2	6:A:268:ARG:O	2.03	0.59
29:X:2194:A:H2'	29:X:2195:C:H5''	1.84	0.59
8:C:22:VAL:HA	8:C:106:MET:CG	2.31	0.59
29:X:2391:A:H2'	29:X:2392:G:O4'	2.03	0.59
18:M:93:ILE:HG22	18:M:94:VAL:N	2.18	0.59
26:U:17:SER:HB2	26:U:44:ALA:HA	1.85	0.59
29:X:872:G:H2'	29:X:928:G:N1	2.18	0.59
31:Z:15:A:C2	31:Z:71:G:H2'	2.38	0.59
19:N:61:TRP:CZ3	19:N:94:VAL:N	2.58	0.59
9:D:103:LEU:CD1	9:D:108:LEU:HG	2.32	0.59
29:X:1573:G:H3'	29:X:1574:A:C5'	2.31	0.59
14:I:53:ARG:HH21	14:I:53:ARG:CG	2.14	0.59
29:X:2236:U:H2'	29:X:2237:C:C6	2.38	0.59
21:P:78:ASN:O	21:P:80:LEU:N	2.35	0.59
10:E:37:TYR:HE2	10:E:71:LEU:HB2	1.67	0.59
29:X:1578:U:H2'	29:X:1579:G:C8	2.37	0.59
29:X:784:U:H2'	29:X:785:U:H6	1.67	0.59
31:Z:75:A:C2	31:Z:76:U:H1'	2.37	0.59
21:P:33:MET:SD	21:P:64:ALA:HA	2.43	0.59
29:X:542:A:N6	29:X:2003:A:H1'	2.17	0.59
8:C:50:GLN:CD	29:X:814:G:OP1	2.40	0.59
6:A:134:ARG:NE	6:A:135:PHE:CE2	2.70	0.59
6:A:222:ARG:NH1	29:X:1779:C:H5''	2.18	0.59
8:C:112:GLN:CB	8:C:116:LYS:HD3	2.33	0.59
17:L:28:ARG:NH2	31:Z:10:U:O3'	2.30	0.59
29:X:492:G:HO2'	29:X:517:A:N6	2.00	0.59
15:J:69:ILE:HD13	15:J:104:MET:HB3	1.85	0.59
15:J:125:LYS:HZ2	15:J:125:LYS:N	2.00	0.59
15:J:27:TYR:CB	15:J:137:VAL:HG11	2.32	0.59
18:M:34:ARG:HH12	18:M:81:PHE:HB3	1.66	0.59
11:F:20:ALA:N	11:F:21:PRO:HD2	2.09	0.59
29:X:1252:C:C2'	29:X:1253:C:H5''	2.33	0.59
29:X:224:G:OP2	29:X:226:C:N4	2.36	0.59
10:E:128:PRO:O	10:E:129:THR:HG23	2.02	0.59
10:E:87:LEU:N	10:E:131:ILE:O	2.31	0.59
30:Y:55:ARG:NH1	30:Y:59:ALA:HB2	2.17	0.59
29:X:1699:A:H2'	29:X:1700:C:C6	2.37	0.59
12:G:45:ASP:OD1	12:G:47:SER:HB2	2.03	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:23:ALA:HA	24:S:83:PHE:O	2.03	0.59
29:X:1973:C:H2'	29:X:1974:U:H6	1.67	0.59
29:X:1686:A:C2	29:X:1977:C:H1'	2.37	0.59
29:X:1656:U:C2'	29:X:1657:A:H5''	2.33	0.59
13:H:63:ALA:O	13:H:65:LYS:HD2	2.02	0.59
29:X:2685:A:C2	29:X:2686:C:C2	2.91	0.59
29:X:542:A:N1	29:X:2004:U:H2'	2.16	0.59
29:X:631:G:H4'	29:X:632:A:C5'	2.31	0.59
29:X:1053:G:C5	29:X:1054:C:C5	2.90	0.59
29:X:2280:A:H2'	29:X:2281:C:C6	2.38	0.59
29:X:941:U:H2'	29:X:942:U:O4'	2.02	0.59
29:X:487:G:H4'	29:X:512:A:H61	1.68	0.59
15:J:34:GLY:CA	15:J:106:GLU:HA	2.19	0.59
15:J:44:LYS:HD3	15:J:47:GLN:HE22	1.68	0.59
24:S:19:ILE:HD11	24:S:36:ARG:HG3	1.85	0.59
7:B:67:PHE:CE2	7:B:74:PRO:HA	2.37	0.59
11:F:117:ALA:HB1	11:F:122:ALA:HB1	1.84	0.59
31:Z:20:A:H2'	31:Z:21:C:C6	2.37	0.59
31:Z:81:C:H6	31:Z:81:C:O5'	1.86	0.59
29:X:2175:A:H2'	29:X:2176:U:C6	2.34	0.59
20:O:26:GLN:HG2	20:O:27:GLY:N	2.11	0.59
9:D:74:ILE:HA	9:D:79:LEU:CB	2.32	0.59
29:X:2779:C:H2'	29:X:2780:A:O4'	2.03	0.59
10:E:103:LEU:CD2	10:E:131:ILE:HD13	2.30	0.59
15:J:80:ALA:O	15:J:81:GLU:HB3	2.03	0.59
29:X:2764:U:H2'	29:X:2765:C:H6	1.63	0.59
29:X:2624:G:H4'	29:X:2712:G:O2'	2.02	0.59
20:O:68:LYS:HD2	20:O:86:HIS:O	2.03	0.59
7:B:141:ILE:HG21	7:B:150:VAL:HG11	1.85	0.59
8:C:151:VAL:O	8:C:152:THR:HB	2.02	0.59
12:G:96:ASP:O	12:G:98:LYS:N	2.27	0.59
29:X:322:A:O2'	29:X:343:A:C4'	2.51	0.59
29:X:2194:A:H2'	29:X:2195:C:C4'	2.32	0.59
29:X:2492:G:N2	29:X:2493:U:C2	2.70	0.59
9:D:13:ARG:HA	9:D:16:LEU:HD12	1.82	0.59
25:T:42:GLY:O	25:T:57:HIS:CD2	2.56	0.59
26:U:28:GLY:HA3	26:U:32:ARG:HB3	1.85	0.59
15:J:35:LEU:HB2	15:J:119:PHE:CD1	2.38	0.59
15:J:73:LYS:HB3	15:J:95:VAL:O	2.03	0.59
29:X:1238:A:C6	29:X:1239:A:N1	2.71	0.59
9:D:152:MET:HE3	9:D:154:ILE:HD11	1.83	0.59
29:X:2690:A:OP1	29:X:2692:A:P	2.61	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2448:A:N6	29:X:2460:G:H1'	2.18	0.59
29:X:2058:U:H1'	29:X:2576:G:H21	1.67	0.59
24:S:22:VAL:HG21	31:Z:77:G:H1'	1.84	0.59
12:G:84:ASN:HA	12:G:152:ALA:O	2.02	0.59
12:G:85:ALA:O	12:G:88:VAL:N	2.33	0.59
7:B:82:ARG:NH2	29:X:2617:G:P	2.76	0.59
24:S:1:MET:HG3	24:S:52:PHE:HD2	1.66	0.59
7:B:85:ALA:HB3	7:B:86:PRO:CD	2.33	0.59
15:J:6:LYS:HG2	15:J:7:ARG:HG3	1.83	0.59
6:A:73:SER:HB2	6:A:120:GLY:CA	2.33	0.59
23:R:105:ARG:CZ	23:R:112:LYS:HA	2.31	0.58
28:W:15:ASN:ND2	28:W:15:ASN:H	2.01	0.58
14:I:108:LEU:HB3	14:I:125:ALA:HB1	1.84	0.58
13:H:132:GLU:HG3	13:H:133:VAL:H	1.66	0.58
19:N:93:LYS:O	19:N:94:VAL:HB	2.03	0.58
20:O:15:SER:C	20:O:16:GLU:HG3	2.22	0.58
20:O:71:ILE:CD1	29:X:1003:C:O3'	2.50	0.58
29:X:1011:A:O2'	29:X:1012:A:H5'	2.02	0.58
29:X:2286:G:C5	29:X:2287:G:H1'	2.37	0.58
22:Q:10:PRO:HA	22:Q:27:PHE:HB3	1.85	0.58
22:Q:32:LYS:O	22:Q:33:ALA:CB	2.51	0.58
10:E:76:VAL:C	10:E:78:GLY:H	2.05	0.58
30:Y:45:ILE:HD13	30:Y:57:VAL:HG22	1.84	0.58
10:E:39:THR:C	10:E:41:LEU:H	2.07	0.58
6:A:48:ARG:NH1	6:A:48:ARG:HB3	2.18	0.58
9:D:46:ASP:HB2	9:D:49:ALA:H	1.67	0.58
16:K:69:ASP:O	16:K:70:ILE:HD13	2.03	0.58
29:X:1419:G:H2'	29:X:1420:A:C8	2.38	0.58
29:X:318:G:C8	29:X:318:G:H5'	2.30	0.58
6:A:160:GLY:O	29:X:1812:U:C4	2.56	0.58
6:A:52:ARG:HD3	29:X:1816:G:OP1	2.02	0.58
17:L:13:THR:O	17:L:17:VAL:HG12	2.02	0.58
15:J:69:ILE:HD13	15:J:104:MET:HG2	1.84	0.58
15:J:136:GLU:HA	15:J:138:TYR:HE2	1.67	0.58
29:X:636:G:H5'	29:X:636:G:C8	2.25	0.58
27:V:25:LEU:HD21	27:V:47:ARG:HD2	1.85	0.58
27:V:1:MET:HG3	27:V:2:LYS:N	2.17	0.58
27:V:43:VAL:HA	27:V:46:LEU:HD12	1.85	0.58
29:X:1541:G:H2'	29:X:1542:G:C8	2.38	0.58
8:C:147:LYS:HA	8:C:166:TRP:O	2.03	0.58
29:X:874:A:H2	31:Z:80:A:C2	2.21	0.58
16:K:3:HIS:CG	16:K:5:LYS:HD2	2.36	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:74:MET:HE1	19:N:79:PHE:HA	1.83	0.58
19:N:82:GLY:O	19:N:85:ARG:N	2.36	0.58
20:O:46:VAL:HG12	20:O:51:ALA:HB2	1.86	0.58
28:W:8:SER:HB2	29:X:999:A:C5'	2.23	0.58
9:D:60:ILE:HG22	9:D:140:GLU:CB	2.30	0.58
29:X:1253:C:H5'	29:X:1253:C:H6	1.67	0.58
13:H:70:VAL:CG2	13:H:98:ILE:HG23	2.31	0.58
15:J:82:THR:O	15:J:83:ARG:CB	2.52	0.58
22:Q:71:GLN:HG2	22:Q:72:ARG:N	2.17	0.58
29:X:1426:U:C2'	29:X:1427:G:H5'	2.33	0.58
29:X:189:A:O2'	29:X:190:A:H5'	2.03	0.58
12:G:158:HIS:HA	12:G:161:GLN:NE2	2.18	0.58
29:X:1450:G:O2'	29:X:1451:C:H5'	2.03	0.58
29:X:2181:A:O2'	29:X:2182:A:H5'	2.02	0.58
8:C:12:GLY:O	8:C:14:THR:N	2.36	0.58
6:A:71:ASP:CG	6:A:103:ARG:HH12	2.06	0.58
8:C:107:ALA:HB1	8:C:180:ILE:HD13	1.85	0.58
29:X:2002:A:N7	30:Y:9:LYS:HE2	2.17	0.58
6:A:173:VAL:CG2	6:A:187:SER:HB3	2.34	0.58
6:A:92:ILE:CG2	6:A:104:TYR:HD2	2.15	0.58
18:M:101:ARG:O	18:M:103:LYS:N	2.37	0.58
17:L:17:VAL:HG13	17:L:18:ARG:N	2.18	0.58
17:L:99:ARG:HG3	17:L:100:VAL:N	2.17	0.58
15:J:30:PHE:HE1	29:X:886:A:H1'	1.69	0.58
14:I:105:PRO:O	14:I:106:VAL:CG2	2.52	0.58
29:X:838:A:O2'	29:X:839:U:H5'	2.02	0.58
9:D:60:ILE:HD12	9:D:138:PHE:CE2	2.38	0.58
29:X:2335:U:H2'	29:X:2336:G:H8	1.69	0.58
29:X:2190:A:C8	29:X:2190:A:H3'	2.39	0.58
21:P:87:GLU:HG3	21:P:88:ASP:OD2	2.04	0.58
29:X:428:A:H2'	29:X:429:C:H6	1.67	0.58
29:X:1283:C:H5''	29:X:1284:G:O5'	2.02	0.58
29:X:2560:G:H4'	29:X:2561:G:N7	2.18	0.58
16:K:36:THR:OG1	16:K:37:THR:N	2.33	0.58
8:C:74:VAL:O	8:C:77:PHE:N	2.32	0.58
12:G:101:THR:HG23	12:G:103:TYR:CE1	2.38	0.58
29:X:2029:G:H5'	30:Y:19:ARG:CB	2.31	0.58
6:A:149:PRO:HG2	29:X:2200:G:HO2'	1.68	0.58
8:C:109:ALA:O	8:C:112:GLN:N	2.34	0.58
17:L:33:ARG:O	17:L:99:ARG:CZ	2.50	0.58
14:I:29:THR:HG22	14:I:29:THR:O	2.03	0.58
26:U:75:TYR:O	26:U:76:LYS:HB2	2.03	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:I:107:LYS:HG3	14:I:108:LEU:H	1.66	0.58
29:X:640:C:C4'	29:X:660:G:H21	2.16	0.58
29:X:1074:G:H2'	29:X:1075:C:O4'	2.03	0.58
12:G:66:HIS:O	12:G:70:PHE:CD1	2.56	0.58
9:D:102:LYS:O	9:D:106:ILE:N	2.32	0.58
9:D:74:ILE:CG2	9:D:80:ARG:HA	2.31	0.58
29:X:2628:C:C2	29:X:2629:U:C5	2.92	0.58
29:X:1068:A:C8	29:X:1097:A:H2'	2.38	0.58
21:P:9:ARG:O	21:P:10:ASN:HB3	2.03	0.58
29:X:2217:G:H5''	29:X:2218:G:OP1	2.02	0.58
29:X:417:C:O3'	29:X:418:C:H4'	2.02	0.58
24:S:64:ALA:HB2	24:S:85:MET:HA	1.85	0.58
29:X:1522:C:H2'	29:X:1523:A:H4'	1.84	0.58
28:W:32:ARG:HG3	28:W:32:ARG:O	2.02	0.58
22:Q:21:GLU:C	22:Q:23:GLY:H	2.05	0.58
7:B:144:ARG:HD3	29:X:2551:A:C8	2.38	0.58
23:R:27:GLY:O	23:R:30:LYS:HG2	2.03	0.58
29:X:826:U:C2	29:X:827:C:C5	2.90	0.58
18:M:104:LEU:O	18:M:105:TYR:C	2.40	0.58
9:D:92:ARG:HE	31:Z:47:A:H8	1.51	0.58
29:X:861:G:C2'	29:X:862:A:H5'	2.32	0.58
7:B:49:ILE:HG21	7:B:81:PHE:HE2	1.68	0.58
14:I:80:LEU:HD21	14:I:97:ARG:NH2	2.18	0.58
13:H:116:ARG:HG3	13:H:116:ARG:NH1	2.19	0.58
13:H:23:ARG:HH21	13:H:23:ARG:HG2	1.66	0.58
29:X:1108:U:H2'	29:X:1109:A:O4'	2.02	0.58
27:V:42:ARG:NE	27:V:46:LEU:HD21	2.18	0.58
13:H:47:VAL:HG11	13:H:115:ALA:CB	2.34	0.58
11:F:34:ILE:O	11:F:37:PHE:HB3	2.04	0.58
29:X:930:A:O5'	29:X:930:A:H8	1.86	0.58
25:T:36:ILE:HD11	29:X:2343:C:O2	2.04	0.58
29:X:1409:U:H5''	29:X:1410:U:OP2	2.03	0.58
7:B:2:LYS:HA	7:B:84:PHE:CD1	2.38	0.58
29:X:1322:G:O2'	29:X:1323:G:H5'	2.03	0.58
29:X:1524:C:H5''	29:X:1525:A:C8	2.36	0.58
24:S:25:ASN:OD1	24:S:27:GLU:N	2.37	0.58
12:G:42:VAL:HG13	12:G:168:THR:HG23	1.84	0.58
10:E:172:LYS:HD3	29:X:2508:G:OP2	2.03	0.58
7:B:103:ASP:OD2	7:B:202:ALA:N	2.33	0.58
8:C:61:GLN:HA	8:C:61:GLN:NE2	2.18	0.58
29:X:476:G:C6	29:X:477:A:N6	2.72	0.58
17:L:52:ALA:O	17:L:53:ALA:CB	2.52	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2301:A:C4	29:X:2302:G:C8	2.91	0.58
7:B:4:ILE:HG21	7:B:28:ALA:HB1	1.86	0.58
29:X:1105:U:N3	29:X:1107:A:H5''	2.18	0.58
29:X:1002:C:N4	29:X:1003:C:H41	2.02	0.58
29:X:2609:G:H1'	29:X:2868:G:C4	2.38	0.58
29:X:1631:C:O2	29:X:1631:C:H2'	2.02	0.58
29:X:175:C:C6	29:X:175:C:H3'	2.39	0.58
29:X:175:C:H6	29:X:175:C:H3'	1.67	0.58
29:X:204:A:N6	29:X:2386:G:C8	2.72	0.58
29:X:163:A:H2'	29:X:164:G:C8	2.38	0.58
11:F:101:TRP:HA	11:F:104:VAL:CG2	2.33	0.58
13:H:29:ILE:HA	13:H:34:LEU:HD23	1.85	0.58
30:Y:32:GLU:HG3	30:Y:37:HIS:O	2.03	0.58
29:X:810:U:H2'	29:X:811:G:O4'	2.03	0.58
8:C:130:THR:OG1	8:C:160:ALA:HA	2.04	0.58
23:R:44:GLN:O	23:R:77:HIS:HA	2.04	0.58
29:X:542:A:H2	29:X:2004:U:C2'	2.05	0.58
6:A:200:GLU:OE2	6:A:201:HIS:N	2.36	0.58
6:A:244:ARG:CB	6:A:252:LYS:NZ	2.66	0.58
6:A:251:GLY:HA3	6:A:255:LYS:HZ1	1.69	0.58
17:L:29:LEU:HD13	17:L:75:LEU:HD21	1.85	0.58
31:Z:25:G:H2'	31:Z:26:G:C5	2.38	0.58
29:X:1067:G:H21	29:X:1114:A:N6	1.94	0.58
29:X:1112:U:O2'	29:X:1113:C:H5'	2.03	0.58
20:O:79:GLN:HA	20:O:79:GLN:OE1	2.02	0.58
12:G:51:LEU:CD1	12:G:88:VAL:HG21	2.33	0.58
29:X:2550:C:N4	29:X:2553:G:C8	2.72	0.58
29:X:196:A:O2'	29:X:197:G:H5'	2.04	0.58
29:X:2284:U:H2'	29:X:2285:U:H5''	1.85	0.58
8:C:40:ARG:NH2	29:X:39:C:O2	2.36	0.58
29:X:542:A:H5'	29:X:543:G:O4'	2.04	0.58
29:X:2836:U:O2'	29:X:2837:G:H5'	2.03	0.58
9:D:22:TYR:CD2	9:D:27:ALA:O	2.57	0.58
17:L:15:ARG:HD2	17:L:91:ARG:HD3	1.84	0.58
25:T:21:LEU:CD1	25:T:41:ARG:HG2	2.34	0.58
31:Z:31:A:H2'	31:Z:32:C:C6	2.39	0.58
29:X:639:G:O5'	29:X:639:G:H8	1.87	0.58
29:X:649:G:N1	29:X:660:G:N1	2.52	0.58
29:X:2266:A:C2	29:X:2325:A:N7	2.71	0.58
29:X:2358:C:H2'	29:X:2359:U:H6	1.69	0.58
13:H:23:ARG:HH21	13:H:23:ARG:C	2.06	0.58
29:X:357:A:H3'	29:X:358:C:H6	1.67	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:G:67:ARG:O	12:G:70:PHE:CG	2.57	0.58
12:G:66:HIS:CD2	19:N:71:LEU:HD12	2.38	0.58
9:D:52:LYS:HZ1	9:D:149:THR:HA	1.68	0.58
29:X:2448:A:H61	29:X:2460:G:H1'	1.68	0.58
29:X:222:G:O2'	29:X:223:C:H5'	2.04	0.58
6:A:249:PRO:HD3	29:X:2218:G:H5'	1.85	0.58
29:X:1525:A:H3'	29:X:1526:U:C6	2.37	0.58
29:X:1698:C:O2'	29:X:1753:A:C2'	2.51	0.58
27:V:38:ALA:O	27:V:40:PRO:HD3	2.02	0.58
6:A:79:VAL:HG12	6:A:79:VAL:O	2.02	0.58
10:E:172:LYS:HE2	29:X:2508:G:OP2	2.02	0.58
29:X:530:G:H2'	29:X:531:G:H8	1.68	0.58
29:X:540:G:N2	29:X:2005:U:OP1	2.37	0.58
29:X:2725:C:H2'	29:X:2726:U:C6	2.39	0.58
6:A:247:VAL:HG23	6:A:248:THR:N	2.19	0.58
9:D:13:ARG:CB	9:D:14:PRO:HD3	2.32	0.58
13:H:133:VAL:HG12	13:H:133:VAL:O	2.03	0.58
27:V:50:VAL:O	27:V:53:LEU:HB2	2.03	0.58
7:B:42:ASP:OD2	29:X:2764:U:H4'	2.04	0.58
29:X:2819:G:H2'	29:X:2820:C:H6	1.68	0.58
24:S:21:ALA:HB2	24:S:81:VAL:HB	1.86	0.58
13:H:5:GLN:HG3	29:X:1685:A:OP1	2.03	0.58
29:X:977:G:O4'	29:X:2246:A:N6	2.37	0.58
7:B:47:VAL:O	7:B:80:GLU:HA	2.04	0.58
29:X:2511:G:H2'	29:X:2512:A:H8	1.68	0.58
8:C:45:THR:HG22	8:C:47:THR:OG1	2.03	0.58
29:X:689:A:C2'	29:X:690:A:H5'	2.34	0.58
29:X:2039:G:O2'	30:Y:8:LYS:HE2	2.04	0.58
4:4:1:MET:H1	29:X:2505:G:C2'	2.17	0.58
6:A:247:VAL:CG2	6:A:248:THR:N	2.67	0.58
29:X:2829:A:H2'	29:X:2830:U:C6	2.39	0.58
26:U:31:GLY:CA	26:U:32:ARG:HH11	2.17	0.58
29:X:2265:A:H4'	29:X:2266:A:C5'	2.33	0.58
29:X:2081:U:H2'	29:X:2082:C:H6	1.69	0.58
24:S:100:THR:CG2	24:S:138:VAL:HG11	2.34	0.58
20:O:54:TYR:N	20:O:54:TYR:CD1	2.71	0.58
29:X:1868:A:H2'	29:X:1869:A:O4'	2.03	0.58
12:G:82:VAL:HB	12:G:150:VAL:HG13	1.86	0.58
10:E:171:LEU:N	10:E:171:LEU:HD12	2.19	0.58
6:A:46:ARG:HD3	6:A:47:GLY:N	2.19	0.58
8:C:180:ILE:HG23	8:C:181:LEU:N	2.16	0.57
23:R:90:LYS:HB2	23:R:108:VAL:CG1	2.33	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:538:A:H2'	29:X:2025:A:C2	2.39	0.57
18:M:94:VAL:O	18:M:95:GLU:HB3	2.03	0.57
13:H:114:VAL:HG22	13:H:133:VAL:HG22	1.86	0.57
29:X:1071:U:H5'	29:X:1072:U:OP1	2.04	0.57
24:S:75:LYS:C	24:S:77:ALA:H	2.05	0.57
20:O:11:GLN:HA	20:O:38:LEU:O	2.04	0.57
29:X:1174:G:C2	29:X:1175:A:C5	2.92	0.57
9:D:39:GLY:HA2	9:D:86:GLY:HA2	1.86	0.57
29:X:2691:C:C2'	29:X:2692:A:C5'	2.82	0.57
13:H:41:ASN:ND2	13:H:41:ASN:N	2.45	0.57
29:X:205:A:H2'	29:X:206:U:H5'	1.86	0.57
14:I:28:LYS:HD2	14:I:36:GLY:HA3	1.86	0.57
29:X:1425:G:O2'	29:X:1426:U:H5'	2.04	0.57
16:K:43:GLU:OE1	16:K:44:LEU:HA	2.03	0.57
29:X:1294:G:H2'	29:X:1295:U:H6	1.69	0.57
8:C:129:LYS:O	8:C:130:THR:HB	2.03	0.57
6:A:257:LEU:HB3	29:X:1794:A:O3'	2.04	0.57
6:A:267:ASP:O	6:A:268:ARG:HD2	2.04	0.57
17:L:74:ALA:O	17:L:78:ALA:HB2	2.04	0.57
14:I:68:VAL:O	14:I:68:VAL:HG12	2.04	0.57
19:N:88:ILE:HG22	20:O:48:GLY:C	2.25	0.57
9:D:103:LEU:HD11	9:D:108:LEU:HG	1.86	0.57
29:X:833:A:C1'	29:X:954:U:O2'	2.50	0.57
29:X:1598:C:H6	29:X:1598:C:O5'	1.87	0.57
6:A:96:HIS:HE1	6:A:100:GLY:CA	2.17	0.57
7:B:62:PRO:HG3	29:X:2767:C:H1'	1.84	0.57
29:X:994:A:O2'	29:X:995:A:OP1	2.21	0.57
8:C:173:ALA:CB	8:C:193:LEU:HB2	2.35	0.57
8:C:48:ARG:C	8:C:50:GLN:N	2.57	0.57
6:A:99:ASP:OD1	29:X:1506:C:H2'	2.05	0.57
8:C:109:ALA:O	8:C:113:GLU:HG3	2.04	0.57
15:J:113:GLU:HA	15:J:113:GLU:OE2	2.05	0.57
15:J:25:GLY:O	15:J:26:ASP:O	2.23	0.57
15:J:35:LEU:HD11	15:J:130:THR:HB	1.86	0.57
13:H:22:ILE:HD11	29:X:1935:A:N3	2.18	0.57
29:X:558:G:N3	29:X:558:G:C4'	2.65	0.57
10:E:43:VAL:CB	10:E:52:VAL:HA	2.30	0.57
27:V:45:GLN:O	27:V:46:LEU:C	2.42	0.57
9:D:85:VAL:HG23	9:D:86:GLY:N	2.19	0.57
9:D:75:SER:HB2	29:X:2289:A:H2	1.68	0.57
29:X:1979:C:C2'	29:X:1980:A:O4'	2.52	0.57
29:X:1310:C:H2'	29:X:1311:C:H6	1.67	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:174:A:H8	29:X:2051:U:N3	2.02	0.57
29:X:2237:C:H4'	29:X:2238:G:OP2	2.05	0.57
21:P:50:VAL:HG23	21:P:72:LEU:HD11	1.86	0.57
7:B:203:LYS:HG2	29:X:2713:A:C6	2.39	0.57
12:G:150:VAL:CG1	12:G:151:TYR:N	2.68	0.57
20:O:65:ARG:HG2	20:O:87:ARG:HD3	1.86	0.57
16:K:72:ASP:HB3	16:K:75:VAL:CG2	2.33	0.57
6:A:164:GLN:HE22	6:A:166:GLN:NE2	2.01	0.57
23:R:8:SER:O	23:R:10:HIS:N	2.37	0.57
29:X:596:C:C2	29:X:684:C:C1'	2.87	0.57
29:X:2197:U:C4	29:X:2198:U:O4	2.57	0.57
6:A:217:ARG:O	6:A:218:LYS:C	2.42	0.57
6:A:243:GLY:C	6:A:244:ARG:CZ	2.73	0.57
17:L:42:ILE:HD11	17:L:87:VAL:CG1	2.34	0.57
26:U:11:LYS:HZ1	26:U:75:TYR:HB2	1.69	0.57
29:X:2372:A:H2'	29:X:2373:C:H6	1.69	0.57
13:H:23:ARG:HH21	13:H:24:VAL:N	2.02	0.57
18:M:44:ARG:HD2	18:M:46:ARG:NH2	2.19	0.57
18:M:46:ARG:CG	18:M:47:SER:N	2.63	0.57
31:Z:15:A:H2	31:Z:71:G:N3	2.02	0.57
10:E:30:LYS:CB	10:E:79:VAL:HA	2.33	0.57
29:X:1919:A:H1'	29:X:1923:U:N3	2.19	0.57
29:X:2474:G:N2	29:X:2475:C:O2	2.37	0.57
14:I:38:LYS:HZ3	14:I:38:LYS:HB3	1.69	0.57
9:D:115:ARG:HD2	9:D:178:ARG:NH2	2.18	0.57
12:G:84:ASN:O	12:G:86:ALA:N	2.30	0.57
29:X:417:C:C6	29:X:419:G:C8	2.93	0.57
8:C:122:GLY:C	8:C:124:ASP:N	2.56	0.57
29:X:888:G:O2'	29:X:889:C:H5'	2.04	0.57
29:X:1611:U:H2'	29:X:1612:U:O4'	2.03	0.57
29:X:16:G:C2	29:X:17:G:C8	2.92	0.57
29:X:590:C:H2'	29:X:591:G:C8	2.38	0.57
30:Y:19:ARG:HG3	30:Y:20:ARG:N	2.20	0.57
29:X:1775:A:H4'	29:X:1776:A:C5'	2.34	0.57
9:D:122:PHE:HE2	9:D:129:ASN:O	1.88	0.57
17:L:14:ARG:O	17:L:17:VAL:HG12	2.04	0.57
15:J:27:TYR:HB3	15:J:137:VAL:HG11	1.85	0.57
7:B:39:ALA:HA	7:B:44:TYR:N	2.18	0.57
27:V:13:ASP:HA	27:V:16:LYS:HB3	1.86	0.57
13:H:27:SER:CB	13:H:50:ILE:HG13	2.35	0.57
29:X:1545:G:O2'	29:X:1546:C:H5'	2.04	0.57
29:X:1354:A:C2'	29:X:1410:U:O2'	2.53	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:Q:63:LYS:HE3	22:Q:65:VAL:HA	1.86	0.57
29:X:2702:G:C6	29:X:2703:C:N3	2.72	0.57
29:X:1463:A:H2'	29:X:1464:A:C8	2.39	0.57
29:X:2071:G:O2'	29:X:2072:C:H5'	2.04	0.57
13:H:3:MET:O	13:H:6:SER:CB	2.52	0.57
29:X:2009:U:H6	29:X:2009:U:H5''	1.70	0.57
29:X:2483:U:H6	29:X:2483:U:O5'	1.87	0.57
9:D:92:ARG:NH2	31:Z:47:A:OP1	2.37	0.57
29:X:937:C:H2'	29:X:938:G:O4'	2.04	0.57
14:I:30:ALA:H	14:I:34:HIS:CD2	2.22	0.57
26:U:49:LYS:HD3	26:U:61:TRP:CG	2.39	0.57
29:X:2265:A:C2	29:X:2325:A:N7	2.73	0.57
29:X:2081:U:H3	29:X:2174:G:H1	1.52	0.57
14:I:82:ASP:N	14:I:114:ILE:HG21	2.20	0.57
14:I:76:LYS:HE3	14:I:111:SER:CB	2.35	0.57
29:X:1343:C:H2'	29:X:1344:C:H6	1.69	0.57
24:S:103:ARG:HD3	24:S:108:VAL:HG23	1.87	0.57
14:I:22:GLY:HA2	29:X:674:U:H1'	1.84	0.57
7:B:154:LYS:CE	29:X:2598:C:H1'	2.34	0.57
23:R:45:LYS:HA	23:R:76:LEU:O	2.04	0.57
29:X:1153:A:H5'	29:X:1153:A:C8	2.39	0.57
29:X:692:C:O2'	29:X:693:A:H5'	2.05	0.57
28:W:5:LEU:HD12	28:W:50:LEU:O	2.03	0.57
15:J:113:GLU:C	15:J:115:ALA:N	2.56	0.57
15:J:116:LYS:HG2	15:J:132:MET:HE1	1.85	0.57
18:M:5:ILE:HD12	18:M:5:ILE:O	2.04	0.57
10:E:9:ILE:HD12	10:E:51:LEU:N	2.20	0.57
29:X:729:A:N3	29:X:730:C:OP2	2.38	0.57
24:S:75:LYS:C	24:S:77:ALA:N	2.58	0.57
19:N:66:ASN:HD22	19:N:70:ARG:CZ	2.17	0.57
20:O:88:GLN:NE2	29:X:1173:G:N3	2.53	0.57
9:D:79:LEU:HD21	29:X:2289:A:C2	2.40	0.57
22:Q:33:ALA:O	22:Q:34:THR:C	2.43	0.57
15:J:77:LYS:O	15:J:88:LYS:NZ	2.36	0.57
31:Z:63:A:O2'	31:Z:64:C:H5'	2.04	0.57
29:X:2441:U:C2	29:X:2442:C:C5	2.93	0.57
29:X:1886:G:H2'	29:X:1887:G:H8	1.70	0.57
29:X:208:C:H2'	29:X:209:G:H5'	1.86	0.57
14:I:130:ILE:O	14:I:133:VAL:HG23	2.04	0.57
29:X:303:C:H6	29:X:303:C:O5'	1.88	0.57
8:C:42:THR:HB	29:X:454:G:H21	1.69	0.57
29:X:538:A:H4'	29:X:539:A:OP1	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:813:A:C4'	29:X:814:G:O5'	2.53	0.57
6:A:43:ARG:NH1	6:A:43:ARG:N	2.51	0.57
6:A:214:TRP:CD1	29:X:1582:A:O4'	2.57	0.57
26:U:31:GLY:HA2	26:U:32:ARG:CZ	2.35	0.57
18:M:91:VAL:HG12	18:M:92:THR:N	2.18	0.57
19:N:66:ASN:HB2	19:N:76:TYR:H	1.70	0.57
20:O:5:ILE:CG2	20:O:10:LYS:HE2	2.35	0.57
25:T:24:LYS:HE3	29:X:2334:C:O2'	2.05	0.57
29:X:1573:G:C3'	29:X:1574:A:H5''	2.31	0.57
10:E:77:LYS:HA	10:E:80:SER:HB3	1.86	0.57
29:X:1194:U:H2'	29:X:1195:U:H6	1.68	0.57
29:X:547:U:H2'	29:X:548:G:H8	1.68	0.57
8:C:108:ILE:O	8:C:111:ARG:HB2	2.04	0.57
9:D:119:PRO:CG	9:D:120:ASN:H	2.15	0.57
31:Z:53:G:N2	31:Z:54:U:C5	2.67	0.57
26:U:27:ASP:N	26:U:32:ARG:HH21	2.03	0.57
28:W:12:ARG:HH11	28:W:12:ARG:CG	2.17	0.57
28:W:42:GLY:HA3	29:X:864:C:O2'	2.05	0.57
15:J:111:THR:HG23	15:J:114:GLN:HB2	1.86	0.57
11:F:26:ALA:C	11:F:27:LEU:HD12	2.25	0.57
25:T:32:LYS:N	25:T:35:ASN:ND2	2.51	0.57
29:X:13:A:O2'	29:X:15:G:N7	2.36	0.57
24:S:148:THR:HB	24:S:164:PRO:O	2.04	0.57
29:X:124:A:H2'	29:X:125:A:C8	2.40	0.57
28:W:27:LYS:O	28:W:28:ILE:C	2.38	0.57
8:C:56:ARG:HA	8:C:71:ASP:OD2	2.05	0.57
8:C:47:THR:HG23	8:C:84:PHE:N	2.20	0.57
29:X:2434:G:H2'	29:X:2435:C:C6	2.40	0.57
6:A:211:ARG:NH1	29:X:1582:A:OP1	2.37	0.57
9:D:4:LEU:HD12	9:D:5:LYS:H	1.69	0.57
17:L:95:LYS:HD2	29:X:2273:C:H5'	1.86	0.57
15:J:116:LYS:HZ1	15:J:132:MET:HB3	1.70	0.57
29:X:1552:C:H1'	29:X:1553:G:N3	2.20	0.57
15:J:21:ASP:HA	15:J:99:LYS:HE3	1.86	0.57
12:G:61:ARG:NH2	12:G:78:ASP:OD2	2.33	0.57
7:B:188:ILE:HG22	7:B:189:PRO:HD2	1.83	0.57
29:X:324:C:H2'	29:X:325:U:O4'	2.04	0.57
14:I:7:LYS:O	14:I:7:LYS:HG2	2.05	0.56
29:X:1997:A:C2	29:X:1998:A:C2	2.93	0.56
7:B:146:THR:HG23	29:X:2015:G:H21	1.70	0.56
29:X:328:A:H2'	29:X:329:C:H6	1.70	0.56
29:X:580:A:O2'	29:X:582:G:OP2	2.23	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:A:258:LYS:HZ1	6:A:261:ARG:HE	1.51	0.56
6:A:258:LYS:NZ	6:A:261:ARG:HH21	2.03	0.56
29:X:1770:U:O2	29:X:1774:A:C5	2.58	0.56
6:A:214:TRP:CH2	29:X:777:A:OP2	2.58	0.56
8:C:116:LYS:O	8:C:117:LEU:HB2	2.05	0.56
18:M:104:LEU:O	18:M:106:TYR:N	2.38	0.56
29:X:2271:C:H2'	29:X:2272:A:H8	1.70	0.56
15:J:123:GLY:HA2	15:J:126:LEU:HD12	1.86	0.56
24:S:13:LYS:NZ	24:S:18:MET:O	2.38	0.56
26:U:46:LEU:C	26:U:47:HIS:CG	2.77	0.56
29:X:2210:C:C2	29:X:2211:U:C6	2.92	0.56
14:I:72:TYR:CD2	14:I:107:LYS:HB2	2.40	0.56
15:J:19:THR:CG2	15:J:99:LYS:NZ	2.68	0.56
29:X:2081:U:H2'	29:X:2082:C:O4'	2.04	0.56
29:X:1004:A:C5	29:X:1005:U:H5	2.22	0.56
9:D:40:LEU:HA	9:D:150:ARG:NH2	2.20	0.56
13:H:16:ALA:HA	13:H:58:ALA:HA	1.87	0.56
10:E:18:ASN:HB2	10:E:25:LYS:CB	2.32	0.56
14:I:76:LYS:HB3	14:I:79:GLN:HG2	1.86	0.56
11:F:100:ASN:HB3	11:F:103:GLN:OE1	2.05	0.56
14:I:126:SER:OG	14:I:129:ALA:HB2	2.05	0.56
13:H:7:ARG:NH1	13:H:20:MET:CE	2.68	0.56
16:K:45:ARG:HB3	16:K:46:PRO:CD	2.35	0.56
7:B:108:SER:OG	7:B:163:GLU:N	2.38	0.56
23:R:96:LYS:O	23:R:104:VAL:HA	2.05	0.56
23:R:96:LYS:HG3	23:R:97:GLN:H	1.70	0.56
29:X:341:A:C2	29:X:1223:G:H2'	2.39	0.56
29:X:529:U:C2	29:X:530:G:C8	2.94	0.56
29:X:1276:U:H1'	30:Y:10:LYS:HG3	1.86	0.56
6:A:258:LYS:HZ2	6:A:261:ARG:HE	1.49	0.56
4:4:24:LEU:HD12	4:4:24:LEU:N	2.20	0.56
6:A:252:LYS:CE	6:A:253:PRO:HD2	2.35	0.56
29:X:1770:U:H5	29:X:1775:A:N7	2.03	0.56
9:D:92:ARG:HG3	9:D:92:ARG:HH21	1.70	0.56
17:L:28:ARG:HH22	31:Z:10:U:C3'	2.18	0.56
17:L:37:HIS:O	17:L:37:HIS:ND1	2.38	0.56
19:N:47:TYR:C	19:N:47:TYR:CD2	2.79	0.56
10:E:6:LYS:HB3	10:E:69:ARG:CD	2.35	0.56
29:X:1466:C:C2'	29:X:1467:U:O4'	2.53	0.56
29:X:305:A:H2'	29:X:306:G:H5'	1.86	0.56
29:X:754:G:C6	29:X:755:C:N4	2.73	0.56
9:D:108:LEU:HB3	9:D:114:PHE:CZ	2.39	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:D:52:LYS:NZ	9:D:149:THR:HA	2.20	0.56
29:X:2691:C:OP1	29:X:2694:G:H4'	2.05	0.56
29:X:1734:C:C4	29:X:1735:G:H1'	2.41	0.56
10:E:65:HIS:C	10:E:67:LEU:H	2.08	0.56
15:J:75:VAL:HG21	15:J:93:TYR:HE2	1.69	0.56
29:X:2819:G:H2'	29:X:2820:C:C6	2.40	0.56
29:X:1:G:H2'	29:X:2:G:C8	2.39	0.56
29:X:2792:C:C2	29:X:2805:G:N2	2.73	0.56
29:X:242:A:H61	29:X:440:U:C2'	2.18	0.56
21:P:134:LYS:OXT	21:P:134:LYS:HG2	2.05	0.56
29:X:603:C:O2	29:X:603:C:H2'	2.05	0.56
29:X:2526:U:H2'	29:X:2527:G:H8	1.68	0.56
29:X:614:G:O2'	29:X:615:C:H5'	2.05	0.56
8:C:130:THR:O	8:C:134:ILE:HG13	2.03	0.56
23:R:80:LYS:O	23:R:80:LYS:CE	2.52	0.56
29:X:313:U:O2'	29:X:314:G:H5'	2.06	0.56
29:X:340:G:H8	29:X:340:G:OP2	1.87	0.56
8:C:162:ARG:NH1	29:X:333:A:C8	2.73	0.56
12:G:119:LEU:HD13	12:G:126:VAL:HG22	1.87	0.56
23:R:16:PHE:HZ	23:R:46:VAL:HG22	1.71	0.56
29:X:531:G:H2'	29:X:532:A:C8	2.41	0.56
29:X:2203:G:H4'	29:X:2205:C:C2	2.39	0.56
10:E:143:GLN:CG	29:X:2725:C:O2'	2.53	0.56
29:X:2564:U:H5'	29:X:2565:C:OP1	2.06	0.56
6:A:244:ARG:C	6:A:252:LYS:NZ	2.58	0.56
6:A:44:ASN:N	6:A:44:ASN:HD22	2.00	0.56
9:D:12:VAL:HG22	9:D:172:SER:OG	2.05	0.56
28:W:49:HIS:CE1	28:W:50:LEU:HG	2.39	0.56
9:D:66:ILE:HG13	31:Z:44:C:O4'	2.05	0.56
15:J:117:GLU:O	15:J:121:LEU:HG	2.05	0.56
29:X:2463:G:O2'	29:X:2464:G:H5'	2.04	0.56
29:X:648:A:H5''	29:X:649:G:OP1	2.05	0.56
18:M:13:LEU:CD1	18:M:13:LEU:N	2.69	0.56
29:X:2264:C:N4	29:X:2325:A:H2	2.02	0.56
13:H:2:ILE:HD12	13:H:8:LEU:HD21	1.87	0.56
29:X:1465:G:H2'	29:X:1466:C:C6	2.41	0.56
11:F:19:PRO:HG2	11:F:20:ALA:H	1.70	0.56
11:F:10:LEU:N	11:F:10:LEU:HD23	2.19	0.56
15:J:21:ASP:CA	15:J:99:LYS:HG3	2.30	0.56
29:X:874:A:H2'	29:X:875:G:O4'	2.05	0.56
31:Z:16:U:C1'	31:Z:109:G:H21	2.15	0.56
25:T:44:LYS:HE3	25:T:45:PHE:CE1	2.40	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:93:LYS:O	19:N:93:LYS:HD2	2.05	0.56
19:N:93:LYS:O	19:N:94:VAL:CB	2.52	0.56
19:N:96:ALA:O	19:N:99:ALA:HB3	2.05	0.56
29:X:1002:C:N3	29:X:1003:C:C5	2.73	0.56
29:X:1509:A:H2'	29:X:1510:A:H5'	1.87	0.56
29:X:1514:C:C4'	29:X:1593:C:H5'	2.35	0.56
29:X:2627:G:O2'	29:X:2628:C:H5'	2.05	0.56
11:F:83:GLY:O	11:F:84:ILE:HG13	2.05	0.56
29:X:1926:U:C1'	29:X:1928:G:H5'	2.35	0.56
29:X:431:G:H2'	29:X:432:C:H6	1.70	0.56
15:J:80:ALA:HB1	15:J:81:GLU:OE1	2.05	0.56
22:Q:61:LYS:HD3	22:Q:72:ARG:NH2	2.20	0.56
29:X:2426:G:HO2'	29:X:2427:A:P	2.28	0.56
24:S:30:VAL:HB	24:S:32:PHE:CZ	2.41	0.56
29:X:2:G:H2'	29:X:3:U:H6	1.70	0.56
29:X:2553:G:H2'	29:X:2554:C:H6	1.70	0.56
29:X:242:A:O2'	29:X:243:G:H4'	2.05	0.56
25:T:23:VAL:HG13	25:T:38:VAL:CG2	2.35	0.56
16:K:7:GLY:O	16:K:8:ARG:HG2	2.04	0.56
20:O:42:GLY:O	20:O:43:GLU:HB2	2.04	0.56
16:K:96:ARG:HD2	16:K:114:GLU:OE2	2.05	0.56
22:Q:88:ILE:HD12	22:Q:88:ILE:O	2.05	0.56
8:C:47:THR:HB	8:C:48:ARG:HD2	1.87	0.56
7:B:152:LYS:H	12:G:106:TYR:CB	2.18	0.56
23:R:9:HIS:CG	29:X:338:G:H4'	2.41	0.56
29:X:21:A:C6	29:X:530:G:C6	2.94	0.56
6:A:254:THR:O	29:X:1836:C:H5'	2.06	0.56
15:J:15:ARG:CD	15:J:73:LYS:HG3	2.36	0.56
14:I:73:GLU:OE2	14:I:105:PRO:O	2.23	0.56
29:X:1933:G:C8	29:X:1934:U:C5	2.93	0.56
29:X:553:C:H2'	29:X:557:U:C5	2.41	0.56
25:T:45:PHE:HZ	25:T:77:ARG:NH2	2.04	0.56
21:P:50:VAL:O	21:P:54:GLU:HG3	2.06	0.56
10:E:95:ARG:NH1	10:E:97:LYS:NZ	2.54	0.56
21:P:25:PHE:HA	21:P:127:ILE:HG12	1.88	0.56
10:E:149:ARG:HG2	10:E:149:ARG:NH2	2.17	0.56
29:X:782:U:O2'	29:X:783:G:H5'	2.06	0.56
24:S:125:PRO:HA	24:S:158:CYS:SG	2.45	0.56
7:B:154:LYS:NZ	7:B:156:MET:CE	2.68	0.56
8:C:46:ARG:O	8:C:47:THR:C	2.43	0.56
23:R:25:LEU:O	23:R:25:LEU:HD13	2.05	0.56
10:E:84:THR:CB	10:E:134:SER:HA	2.36	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:D:124:GLY:HA2	9:D:163:ASP:OD2	2.05	0.56
17:L:38:ILE:CD1	17:L:39:TYR:N	2.67	0.56
29:X:2299:A:N3	29:X:2299:A:H2'	2.20	0.56
11:F:133:SER:HB3	29:X:1073:G:H21	1.70	0.56
11:F:27:LEU:CD2	11:F:57:ILE:HD12	2.34	0.56
29:X:1162:A:H2'	29:X:1163:C:H6	1.70	0.56
29:X:1001:A:H1'	29:X:1167:A:C2	2.39	0.56
10:E:64:LEU:HA	10:E:67:LEU:HB2	1.88	0.56
23:R:17:LYS:C	23:R:19:GLY:H	2.09	0.56
29:X:47:G:N3	29:X:48:A:H2	2.03	0.56
29:X:1802:A:O2'	29:X:1803:G:H5'	2.05	0.56
23:R:93:ARG:HH22	23:R:108:VAL:CG1	2.19	0.56
23:R:23:ILE:HD12	23:R:81:VAL:O	2.05	0.56
29:X:824:U:O2	29:X:1263:G:H3'	2.05	0.56
29:X:1053:G:C4	29:X:1054:C:C6	2.93	0.56
6:A:265:THR:C	6:A:267:ASP:H	2.06	0.56
6:A:226:MET:CE	6:A:230:ASP:HB3	2.36	0.56
29:X:796:A:H4'	29:X:2567:G:H4'	1.86	0.56
18:M:55:ILE:HD11	18:M:67:THR:HG22	1.88	0.56
9:D:8:TYR:HA	9:D:173:MET:SD	2.45	0.56
27:V:2:LYS:HA	27:V:6:MET:CE	2.35	0.56
24:S:72:ASP:OD1	24:S:75:LYS:HD2	2.06	0.56
29:X:876:A:H2'	29:X:877:G:C8	2.41	0.56
12:G:61:ARG:NE	12:G:65:LYS:CD	2.57	0.56
29:X:2672:U:O2'	29:X:2673:G:H5'	2.06	0.56
21:P:108:PRO:CG	29:X:1631:C:H1'	2.30	0.56
29:X:1938:U:O3'	29:X:1939:U:H6	1.89	0.56
29:X:1856:U:H3	29:X:1861:G:H1	1.54	0.56
29:X:203:G:C2	29:X:204:A:C2	2.93	0.56
11:F:103:GLN:O	11:F:107:ILE:HG13	2.05	0.56
29:X:1949:A:O2'	29:X:2572:U:H5'	2.06	0.56
4:4:1:MET:CE	4:4:33:LYS:HB3	2.36	0.56
29:X:2493:U:N3	29:X:2494:C:C4	2.74	0.56
29:X:1815:G:O2'	29:X:1816:G:H5'	2.05	0.56
29:X:1835:C:O5'	29:X:1835:C:H6	1.89	0.56
29:X:1965:U:H2'	29:X:1966:C:C6	2.40	0.56
8:C:112:GLN:HA	8:C:116:LYS:HB3	1.87	0.56
9:D:13:ARG:CZ	9:D:14:PRO:CG	2.79	0.56
14:I:116:ARG:HG2	14:I:117:ALA:N	2.20	0.56
29:X:2395:C:O2'	29:X:2396:C:H5''	2.05	0.56
13:H:25:LEU:HD11	13:H:52:VAL:HG23	1.88	0.56
15:J:19:THR:HG23	15:J:20:GLY:N	2.20	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:94:VAL:O	24:S:121:GLN:HG3	2.05	0.56
29:X:109:A:C3'	29:X:110:U:H5''	2.36	0.56
12:G:33:ILE:CD1	12:G:34:PRO:N	2.69	0.56
12:G:35:LYS:N	12:G:69:ASP:OD2	2.39	0.56
10:E:54:ARG:HE	10:E:57:ASP:CB	2.18	0.56
10:E:97:LYS:O	10:E:98:LEU:CB	2.53	0.56
15:J:79:PRO:O	15:J:80:ALA:HB2	2.05	0.56
7:B:136:ARG:NH1	7:B:136:ARG:HG2	2.19	0.56
8:C:40:ARG:HH22	29:X:452:G:N2	2.04	0.56
29:X:1339:U:OP2	29:X:1339:U:H6	1.88	0.56
29:X:1675:C:H2'	29:X:1676:U:C6	2.41	0.56
29:X:537:C:O2'	29:X:538:A:N3	2.39	0.56
6:A:131:LEU:HD23	6:A:131:LEU:H	1.70	0.56
6:A:142:VAL:CG1	6:A:193:ILE:HD13	2.36	0.56
6:A:261:ARG:HH22	29:X:1790:G:C5'	2.19	0.56
17:L:29:LEU:HA	17:L:41:GLN:O	2.06	0.56
24:S:36:ARG:O	24:S:40:ASP:OD2	2.23	0.56
29:X:1107:A:H3'	29:X:1108:U:C5'	2.35	0.56
19:N:66:ASN:HD22	19:N:70:ARG:NH2	2.03	0.56
9:D:69:LYS:HE2	9:D:84:PRO:CG	2.25	0.56
10:E:54:ARG:NE	10:E:57:ASP:OD2	2.38	0.56
10:E:30:LYS:HG3	10:E:78:GLY:O	2.06	0.56
15:J:77:LYS:O	15:J:79:PRO:HD3	2.06	0.56
29:X:2047:C:H2'	29:X:2048:C:C6	2.41	0.56
22:Q:62:ARG:NH1	22:Q:73:ASN:ND2	2.54	0.56
21:P:67:PRO:C	21:P:69:ALA:H	2.09	0.56
11:F:103:GLN:O	11:F:106:GLU:HG2	2.05	0.56
6:A:213:ARG:C	6:A:215:LEU:H	2.10	0.56
8:C:153:ASP:C	8:C:154:ASP:OD1	2.44	0.56
29:X:621:U:H2'	29:X:622:U:C6	2.41	0.56
29:X:1368:G:C4	29:X:1369:G:C8	2.94	0.56
25:T:34:GLY:HA3	29:X:2332:G:H1'	1.88	0.56
8:C:161:ALA:HB3	8:C:169:VAL:CG2	2.36	0.56
23:R:105:ARG:NH1	23:R:113:THR:H	2.04	0.56
23:R:25:LEU:HD22	23:R:26:SER:N	2.21	0.56
8:C:162:ARG:CD	29:X:333:A:C5'	2.80	0.56
29:X:830:C:H2'	29:X:831:G:C8	2.41	0.56
29:X:1275:A:N3	30:Y:10:LYS:HE2	2.21	0.56
30:Y:19:ARG:C	30:Y:21:SER:H	2.09	0.56
6:A:184:ARG:HH21	6:A:268:ARG:HH11	1.53	0.56
10:E:84:THR:HB	10:E:134:SER:HA	1.87	0.56
29:X:401:G:H5'	29:X:402:A:OP2	2.05	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:13:LYS:HA	24:S:16:GLU:HB2	1.87	0.56
24:S:19:ILE:HG12	24:S:36:ARG:CA	2.20	0.56
26:U:10:LYS:NZ	26:U:70:LEU:HG	2.20	0.56
29:X:409:G:O2'	29:X:410:A:H5'	2.05	0.56
29:X:2379:G:C2'	29:X:2380:U:H5'	2.35	0.56
10:E:45:GLN:HA	10:E:50:LEU:HG	1.88	0.56
29:X:75:C:C2'	29:X:76:C:H5''	2.35	0.56
13:H:47:VAL:O	13:H:117:GLU:OE2	2.23	0.56
11:F:129:GLY:HA3	29:X:1090:C:O2	2.05	0.56
29:X:1058:G:C4	29:X:1121:G:C6	2.94	0.56
29:X:874:A:H2	31:Z:80:A:H2	1.53	0.56
12:G:64:GLY:HA3	12:G:67:ARG:CG	2.36	0.56
12:G:64:GLY:HA3	12:G:67:ARG:HG3	1.87	0.56
22:Q:7:LEU:CD2	22:Q:7:LEU:C	2.71	0.56
29:X:1979:C:O2'	29:X:1980:A:P	2.64	0.56
29:X:2190:A:H8	29:X:2191:A:OP2	1.89	0.56
29:X:1623:C:H4'	29:X:1624:A:O5'	2.05	0.56
31:Z:4:C:H3'	31:Z:4:C:C6	2.41	0.56
29:X:765:C:N4	29:X:1772:C:O2	2.39	0.56
6:A:141:VAL:HG22	6:A:164:GLN:HB3	1.87	0.56
29:X:10:A:H2'	29:X:11:G:C8	2.41	0.56
19:N:40:LEU:O	19:N:43:ALA:HB3	2.06	0.56
8:C:136:TRP:C	8:C:140:ASN:HD22	2.10	0.56
12:G:128:GLU:O	12:G:145:HIS:CE1	2.58	0.56
12:G:92:GLY:C	12:G:93:LYS:HE2	2.25	0.56
29:X:829:C:C2	29:X:1206:G:N2	2.74	0.56
10:E:137:ASP:O	10:E:141:VAL:HG23	2.06	0.56
18:M:55:ILE:O	18:M:103:LYS:O	2.23	0.56
25:T:40:GLN:NE2	25:T:42:GLY:O	2.39	0.56
15:J:136:GLU:HA	15:J:138:TYR:CE2	2.41	0.56
29:X:2074:U:OP2	29:X:2075:U:H3'	2.05	0.56
26:U:46:LEU:HB2	29:X:2209:G:H5''	1.88	0.56
14:I:71:THR:O	14:I:104:ARG:HD3	2.05	0.56
24:S:75:LYS:O	24:S:77:ALA:N	2.39	0.56
29:X:931:G:H4'	31:Z:83:C:C4'	2.35	0.56
31:Z:112:A:H2'	31:Z:113:G:H8	1.69	0.56
12:G:67:ARG:O	12:G:70:PHE:CD1	2.59	0.56
29:X:1979:C:O2'	29:X:1980:A:C4'	2.54	0.56
29:X:759:C:C5'	29:X:759:C:H6	2.17	0.56
21:P:108:PRO:HG2	29:X:1631:C:N1	2.20	0.56
29:X:1921:A:HO2'	29:X:1922:U:P	2.27	0.56
21:P:27:VAL:HB	21:P:125:THR:CG2	2.36	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:C:58:MET:SD	8:C:69:HIS:HB2	2.46	0.56
13:H:75:VAL:HA	13:H:118:LEU:HD11	1.87	0.56
7:B:88:GLY:O	7:B:89:ASP:OD1	2.23	0.56
13:H:60:PRO:O	13:H:61:ARG:HB2	2.05	0.56
29:X:1320:A:H2'	29:X:1321:A:O4'	2.06	0.56
29:X:233:A:O2'	29:X:234:C:H5'	2.06	0.56
12:G:55:ALA:HB1	12:G:134:MET:CE	2.34	0.55
29:X:333:A:C2'	29:X:350:U:O2	2.54	0.55
19:N:28:ARG:HD2	29:X:543:G:OP1	2.06	0.55
20:O:82:ARG:HA	29:X:827:C:OP1	2.05	0.55
6:A:227:ASN:HD21	29:X:797:A:H5''	1.71	0.55
9:D:163:ASP:O	9:D:166:ALA:HB3	2.05	0.55
17:L:107:ALA:C	17:L:109:GLU:H	2.10	0.55
14:I:83:LEU:O	14:I:84:GLU:HB2	2.05	0.55
29:X:558:G:O4'	29:X:558:G:P	2.64	0.55
19:N:74:MET:HE2	19:N:78:THR:HG22	1.86	0.55
9:D:135:GLN:O	9:D:141:ILE:HG13	2.05	0.55
14:I:33:GLY:HA2	20:O:79:GLN:HG3	1.88	0.55
9:D:46:ASP:HB3	9:D:48:LYS:HG3	1.87	0.55
19:N:40:LEU:HB3	20:O:74:TYR:CE2	2.41	0.55
29:X:1662:G:H5''	29:X:1663:C:H5'	1.88	0.55
8:C:136:TRP:CD1	8:C:137:ALA:N	2.74	0.55
23:R:93:ARG:CZ	23:R:108:VAL:HA	2.37	0.55
23:R:92:THR:C	23:R:95:ARG:HH22	2.09	0.55
29:X:632:A:C2	29:X:633:G:C4	2.94	0.55
6:A:231:HIS:C	6:A:231:HIS:CD2	2.79	0.55
18:M:104:LEU:HB3	18:M:107:LEU:HD12	1.88	0.55
17:L:102:ALA:O	17:L:103:LEU:C	2.44	0.55
17:L:89:PHE:CZ	29:X:2356:A:N3	2.74	0.55
18:M:6:LYS:CD	18:M:6:LYS:N	2.59	0.55
14:I:108:LEU:CB	14:I:122:VAL:HG11	2.19	0.55
29:X:2323:U:O2'	29:X:2324:G:C5'	2.53	0.55
29:X:1073:G:H2'	29:X:1074:G:C8	2.41	0.55
29:X:560:G:O2'	29:X:1233:A:N3	2.33	0.55
29:X:558:G:H8	29:X:559:C:C5	2.21	0.55
27:V:42:ARG:HE	27:V:46:LEU:HD21	1.71	0.55
5:5:14:MH6:N	11:F:25:PRO:HG3	2.21	0.55
20:O:40:VAL:CG1	20:O:45:THR:HA	2.22	0.55
8:C:166:TRP:HE3	8:C:166:TRP:N	2.01	0.55
29:X:749:C:H2'	29:X:750:C:H6	1.71	0.55
29:X:2082:C:H2'	29:X:2083:G:C5'	2.36	0.55
9:D:80:ARG:HG2	9:D:81:GLN:N	2.21	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:T:56:ASP:OD2	25:T:58:THR:OG1	2.24	0.55
29:X:2812:A:H2'	29:X:2813:G:C8	2.42	0.55
15:J:78:LYS:HG2	15:J:78:LYS:O	2.04	0.55
14:I:81:GLN:HB3	14:I:114:ILE:HG22	1.88	0.55
8:C:90:SER:O	8:C:91:TYR:C	2.44	0.55
29:X:765:C:C4	29:X:1772:C:H1'	2.42	0.55
29:X:1648:C:H5'	29:X:1648:C:C6	2.40	0.55
20:O:86:HIS:CG	20:O:87:ARG:N	2.74	0.55
19:N:36:PHE:O	19:N:39:LEU:HB2	2.06	0.55
6:A:58:HIS:O	6:A:59:LYS:CB	2.55	0.55
29:X:387:A:H2'	29:X:387:A:N3	2.22	0.55
21:P:91:PHE:CD1	21:P:131:LYS:HB2	2.41	0.55
29:X:2065:A:H2'	29:X:2066:G:O4'	2.06	0.55
21:P:44:VAL:HG21	21:P:60:ILE:CD1	2.36	0.55
23:R:95:ARG:HG3	23:R:105:ARG:O	2.05	0.55
29:X:2203:G:H4'	29:X:2205:C:O2	2.07	0.55
6:A:218:LYS:HD2	6:A:219:PRO:O	2.06	0.55
29:X:1770:U:C5	29:X:1775:A:N7	2.74	0.55
17:L:38:ILE:HG12	17:L:71:VAL:HG21	1.87	0.55
7:B:179:GLU:O	7:B:181:LEU:N	2.39	0.55
29:X:2397:A:H2'	29:X:2398:U:O4'	2.06	0.55
29:X:638:A:C6	29:X:648:A:C8	2.94	0.55
13:H:116:ARG:HA	13:H:133:VAL:HG13	1.88	0.55
11:F:53:ILE:HG12	11:F:72:PRO:CB	2.29	0.55
27:V:13:ASP:O	27:V:17:GLU:N	2.38	0.55
24:S:120:LEU:CD2	24:S:121:GLN:N	2.67	0.55
9:D:148:LYS:HG3	9:D:149:THR:N	2.11	0.55
29:X:169:C:H2'	29:X:170:U:C5'	2.32	0.55
21:P:14:ARG:CA	21:P:17:GLN:HG2	2.32	0.55
29:X:2229:G:O2'	29:X:2230:G:OP2	2.25	0.55
29:X:957:G:H2'	29:X:958:G:H8	1.72	0.55
24:S:42:ALA:O	24:S:44:ARG:N	2.40	0.55
29:X:1391:A:N7	29:X:1393:G:C5	2.74	0.55
29:X:976:C:O2'	29:X:977:G:H5'	2.06	0.55
29:X:810:U:C6	29:X:810:U:H3'	2.41	0.55
8:C:149:LEU:HD12	8:C:168:SER:O	2.07	0.55
29:X:127:C:O2'	29:X:128:C:H5'	2.07	0.55
12:G:105:GLY:CA	12:G:110:LEU:HD12	2.37	0.55
23:R:11:ASN:ND2	23:R:11:ASN:C	2.58	0.55
14:I:18:ARG:HD3	29:X:608:G:O2'	2.05	0.55
6:A:126:LYS:O	6:A:193:ILE:HB	2.07	0.55
6:A:131:LEU:HG	6:A:131:LEU:O	2.05	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:A:244:ARG:CB	6:A:252:LYS:HZ1	2.18	0.55
29:X:1966:C:H4'	29:X:2585:C:H4'	1.87	0.55
29:X:1746:A:C2'	29:X:1747:G:O5'	2.55	0.55
17:L:43:ILE:HG23	17:L:49:GLN:O	2.06	0.55
17:L:63:ASN:C	17:L:64:LYS:HD3	2.27	0.55
26:U:64:ALA:C	26:U:66:ALA:H	2.08	0.55
24:S:116:VAL:HG12	24:S:117:VAL:HG13	1.88	0.55
24:S:96:VAL:O	24:S:120:LEU:N	2.28	0.55
29:X:2695:C:O2'	29:X:2696:A:H5'	2.07	0.55
22:Q:9:ALA:HB1	22:Q:10:PRO:CD	2.34	0.55
24:S:123:VAL:N	24:S:161:ALA:CB	2.61	0.55
10:E:89:LEU:HD21	10:E:105:MET:HE1	1.88	0.55
29:X:1182:U:C2'	29:X:1183:C:O5'	2.54	0.55
23:R:18:LYS:HA	23:R:36:VAL:HG12	1.88	0.55
12:G:156:HIS:HB2	12:G:157:PRO:HD3	1.89	0.55
12:G:159:SER:C	12:G:161:GLN:H	2.10	0.55
29:X:1442:C:N4	29:X:1586:A:OP2	2.39	0.55
31:Z:4:C:H2'	31:Z:5:C:H5'	1.89	0.55
29:X:1391:A:O2'	29:X:1392:U:O5'	2.23	0.55
16:K:30:ARG:HG2	16:K:31:GLU:HG2	1.88	0.55
29:X:1522:C:H2'	29:X:1523:A:H5''	1.88	0.55
9:D:112:ARG:O	9:D:113:ASP:HB2	2.06	0.55
29:X:573:C:H2'	29:X:574:C:O4'	2.06	0.55
7:B:127:ALA:CB	7:B:135:HIS:CE1	2.90	0.55
23:R:11:ASN:O	23:R:12:ASP:C	2.44	0.55
29:X:1301:U:H2'	29:X:1340:C:O2	2.07	0.55
21:P:36:ARG:NH2	30:Y:20:ARG:CZ	2.70	0.55
15:J:35:LEU:HB3	15:J:105:PHE:HB2	1.89	0.55
7:B:73:ALA:O	7:B:74:PRO:C	2.45	0.55
29:X:555:U:C6	29:X:555:U:C3'	2.85	0.55
29:X:554:U:H5''	29:X:556:A:C2	2.41	0.55
11:F:57:ILE:HG22	11:F:58:THR:N	2.20	0.55
29:X:1869:A:H2'	29:X:1870:U:O4'	2.06	0.55
10:E:109:TYR:CE1	10:E:152:ARG:CZ	2.77	0.55
22:Q:51:ILE:CD1	22:Q:82:LEU:O	2.55	0.55
29:X:1189:G:H2'	29:X:1190:C:O4'	2.07	0.55
22:Q:2:SER:O	22:Q:3:HIS:CG	2.60	0.55
24:S:54:ILE:HG22	24:S:54:ILE:O	2.06	0.55
14:I:42:GLY:O	14:I:43:ALA:CB	2.53	0.55
23:R:103:LYS:HG3	23:R:104:VAL:H	1.72	0.55
23:R:23:ILE:CD1	23:R:81:VAL:O	2.54	0.55
23:R:9:HIS:CD2	29:X:338:G:H4'	2.42	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:563:U:H2'	29:X:564:U:O4'	2.07	0.55
29:X:2198:U:H2'	29:X:2199:C:C1'	2.36	0.55
29:X:2585:C:H2'	29:X:2586:G:C5'	2.35	0.55
29:X:2270:U:O2'	29:X:2271:C:H5'	2.06	0.55
29:X:2210:C:H2'	29:X:2211:U:C6	2.41	0.55
7:B:53:PRO:CD	18:M:6:LYS:HZ2	2.16	0.55
18:M:34:ARG:NH1	18:M:81:PHE:CB	2.66	0.55
29:X:1242:A:H2'	29:X:1243:G:H8	1.71	0.55
29:X:1681:A:C2	29:X:2706:U:C6	2.95	0.55
29:X:171:G:H2'	29:X:172:A:O4'	2.06	0.55
29:X:1919:A:C6	29:X:1928:G:C4	2.94	0.55
29:X:2217:G:H5'	29:X:2218:G:N7	2.21	0.55
22:Q:72:ARG:O	22:Q:73:ASN:OD1	2.25	0.55
9:D:33:LYS:CG	9:D:157:VAL:HG21	2.34	0.55
29:X:1229:C:O2'	29:X:1230:C:H5'	2.07	0.55
29:X:1427:G:H2'	29:X:1428:G:H1'	1.89	0.55
29:X:1586:A:H2'	29:X:1587:A:H8	1.72	0.55
12:G:150:VAL:CG1	12:G:151:TYR:H	2.20	0.55
10:E:170:ALA:C	10:E:171:LEU:HD12	2.27	0.55
29:X:746:G:C8	29:X:774:A:C6	2.95	0.55
29:X:1918:G:H2'	29:X:1945:C:H42	1.71	0.55
8:C:104:LEU:N	8:C:177:VAL:HG22	2.22	0.55
12:G:92:GLY:CA	12:G:93:LYS:HE2	2.36	0.55
19:N:25:TRP:O	19:N:28:ARG:HB2	2.07	0.55
21:P:34:SER:O	21:P:35:PRO:C	2.45	0.55
23:R:29:HIS:ND1	23:R:51:VAL:HG22	2.21	0.55
23:R:5:SER:O	23:R:6:ALA:CB	2.55	0.55
29:X:1300:A:H5''	29:X:1301:U:OP2	2.06	0.55
6:A:126:LYS:HB2	6:A:129:ASN:HD22	1.72	0.55
29:X:2586:G:C2	29:X:2587:G:N3	2.75	0.55
8:C:108:ILE:HG22	8:C:109:ALA:N	2.22	0.55
18:M:101:ARG:NH2	29:X:1745:C:P	2.71	0.55
9:D:168:ALA:O	9:D:169:LEU:C	2.45	0.55
26:U:60:VAL:HG23	26:U:61:TRP:O	2.06	0.55
29:X:2326:C:C4	29:X:2327:U:O4	2.60	0.55
29:X:1474:A:O2'	29:X:1475:U:H5'	2.07	0.55
29:X:2083:G:H2'	29:X:2084:G:C8	2.42	0.55
24:S:113:VAL:HG13	24:S:171:VAL:CG2	2.36	0.55
20:O:71:ILE:HD11	29:X:1004:A:H5'	1.89	0.55
29:X:1174:G:C2	29:X:1175:A:N7	2.75	0.55
8:C:98:GLN:NE2	29:X:611:C:H4'	2.22	0.55
29:X:788:G:C5'	29:X:790:A:H1'	2.30	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2474:G:C2	29:X:2475:C:C2	2.94	0.55
29:X:2849:C:H2'	29:X:2850:U:C5'	2.37	0.55
19:N:31:GLN:O	19:N:32:TYR:C	2.45	0.55
6:A:96:HIS:HE1	6:A:100:GLY:C	2.10	0.55
29:X:981:C:O2'	29:X:995:A:H4'	2.07	0.55
4:4:2:LYS:HG2	4:4:4:ARG:HD3	1.87	0.55
29:X:1910:A:O5'	29:X:1910:A:H8	1.90	0.55
29:X:1641:C:O2	29:X:1641:C:H2'	2.06	0.55
29:X:706:A:O2'	29:X:707:U:H5'	2.07	0.55
8:C:173:ALA:C	8:C:175:VAL:H	2.10	0.55
12:G:100:TYR:CB	12:G:116:ARG:NH1	2.63	0.55
23:R:93:ARG:O	23:R:95:ARG:CZ	2.54	0.55
14:I:13:ARG:NH1	29:X:1218:C:O4'	2.32	0.55
29:X:1996:A:N6	29:X:2592:U:C4	2.75	0.55
29:X:2187:A:H2'	29:X:2188:A:C8	2.42	0.55
29:X:2492:G:C2	29:X:2493:U:C2	2.95	0.55
28:W:16:GLN:OE1	28:W:49:HIS:CE1	2.60	0.55
14:I:72:TYR:HD2	14:I:107:LYS:HB2	1.72	0.55
14:I:61:PRO:O	14:I:62:LYS:HB2	2.07	0.55
13:H:116:ARG:HE	18:M:40:ARG:HE	1.54	0.55
11:F:54:PRO:HG2	11:F:70:LYS:CB	2.30	0.55
29:X:76:C:O2'	29:X:77:C:H5'	2.07	0.55
12:G:32:TYR:OH	12:G:35:LYS:HE3	2.06	0.55
20:O:57:GLN:H	20:O:97:GLY:HA3	1.66	0.55
20:O:15:SER:OG	20:O:96:LEU:HA	2.06	0.55
9:D:99:PHE:O	9:D:102:LYS:HB2	2.06	0.55
29:X:2057:U:H3'	29:X:2058:U:C6	2.42	0.55
15:J:75:VAL:HG12	15:J:76:THR:N	2.21	0.55
22:Q:69:ILE:CD1	22:Q:70:GLY:N	2.70	0.55
29:X:2873:G:H2'	29:X:2874:A:H8	1.71	0.55
12:G:162:LYS:NZ	29:X:5:A:N3	2.49	0.55
21:P:25:PHE:CD1	21:P:127:ILE:HD11	2.34	0.55
12:G:85:ALA:O	12:G:87:GLN:N	2.39	0.55
29:X:105:G:H8	29:X:105:G:H5'	1.72	0.55
29:X:1102:G:O2'	29:X:1103:C:H5'	2.06	0.55
29:X:2604:G:H2'	29:X:2605:C:C6	2.41	0.55
15:J:97:VAL:HG23	15:J:97:VAL:O	2.06	0.55
7:B:117:MET:CG	7:B:136:ARG:HG3	2.37	0.55
23:R:29:HIS:CE1	23:R:51:VAL:HA	2.42	0.55
23:R:96:LYS:O	23:R:104:VAL:HG12	2.06	0.55
29:X:20:C:H2'	29:X:21:A:H8	1.72	0.55
29:X:481:A:H2'	29:X:481:A:N3	2.22	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2198:U:C6	29:X:2198:U:OP2	2.59	0.55
4:4:23:VAL:C	4:4:24:LEU:HD12	2.27	0.55
29:X:2823:G:O2'	29:X:2824:C:OP2	2.25	0.55
31:Z:27:A:H61	31:Z:55:C:C5'	2.19	0.55
26:U:25:ARG:O	26:U:32:ARG:HG3	2.06	0.55
26:U:69:THR:HG23	26:U:75:TYR:CE1	2.41	0.55
7:B:181:LEU:HD21	18:M:12:LEU:HD22	1.89	0.55
27:V:41:HIS:CB	27:V:44:ARG:HH21	2.20	0.55
20:O:40:VAL:HG23	20:O:40:VAL:O	2.06	0.55
15:J:100:PRO:HB2	24:S:74:ARG:HG2	1.89	0.55
29:X:71:A:N6	29:X:110:U:H4'	2.22	0.55
20:O:12:TYR:CG	20:O:13:ARG:N	2.74	0.55
9:D:65:PRO:HB2	9:D:87:ILE:HG22	1.87	0.55
29:X:2674:C:H2'	29:X:2675:U:H6	1.72	0.55
29:X:1373:G:N2	29:X:1374:G:C1'	2.70	0.55
10:E:146:ALA:O	10:E:149:ARG:N	2.39	0.55
29:X:1953:A:C5'	29:X:1954:A:OP1	2.54	0.55
16:K:99:ARG:HH11	16:K:99:ARG:HG2	1.71	0.55
29:X:965:G:O2'	29:X:2253:A:N1	2.35	0.55
8:C:122:GLY:O	8:C:124:ASP:N	2.39	0.55
22:Q:14:GLU:CG	22:Q:15:LYS:N	2.70	0.55
21:P:32:ARG:NH2	21:P:120:ARG:O	2.37	0.55
7:B:155:ARG:HG3	7:B:155:ARG:HH11	1.70	0.55
8:C:104:LEU:HA	8:C:107:ALA:CB	2.37	0.55
29:X:1153:A:O2'	29:X:1154:A:H3'	2.08	0.55
29:X:2432:A:O2'	29:X:2433:G:H5'	2.07	0.55
6:A:144:ALA:O	6:A:153:ALA:HB1	2.07	0.55
6:A:42:GLY:C	6:A:43:ARG:HH11	2.08	0.55
6:A:207:GLY:O	29:X:1782:A:H4'	2.07	0.55
17:L:11:LEU:HD21	29:X:2273:C:H5''	1.89	0.55
29:X:1128:G:C3'	29:X:1129:A:C5'	2.71	0.55
28:W:9:VAL:HG12	28:W:17:VAL:HG22	1.89	0.55
26:U:51:ILE:O	26:U:52:ARG:HD3	2.07	0.55
29:X:1467:U:C6	29:X:1468:A:H5'	2.42	0.55
25:T:72:LYS:HD3	31:Z:14:C:C5'	2.37	0.55
9:D:108:LEU:HD13	9:D:117:ILE:HD11	1.87	0.55
29:X:1750:A:C8	29:X:2675:U:H1'	2.42	0.55
29:X:1711:C:H4'	29:X:1712:G:OP1	2.06	0.55
29:X:172:A:C2	29:X:178:C:C2	2.95	0.55
29:X:2642:G:H2'	29:X:2643:G:H5'	1.88	0.55
14:I:36:GLY:O	14:I:37:GLN:CB	2.55	0.55
29:X:2665:G:C6	29:X:2666:U:N3	2.75	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2616:U:H2'	29:X:2617:G:O4'	2.06	0.55
14:I:56:LEU:O	14:I:57:ILE:C	2.44	0.55
29:X:1294:G:C5	29:X:1295:U:C5	2.95	0.55
12:G:106:TYR:O	12:G:110:LEU:CG	2.54	0.54
29:X:1038:U:O2'	29:X:1039:A:H5'	2.07	0.54
29:X:1302:C:H2'	29:X:1303:U:C6	2.41	0.54
29:X:457:C:O2'	29:X:458:G:H5'	2.07	0.54
29:X:827:C:O2'	29:X:828:C:H5'	2.07	0.54
6:A:173:VAL:N	6:A:185:VAL:O	2.40	0.54
17:L:52:ALA:O	17:L:53:ALA:HB3	2.07	0.54
31:Z:46:G:C2	31:Z:50:U:O2	2.60	0.54
29:X:939:C:H5''	29:X:940:G:H5''	1.89	0.54
24:S:91:PRO:CD	24:S:92:VAL:H	2.19	0.54
10:E:43:VAL:HB	10:E:52:VAL:CG1	2.35	0.54
25:T:44:LYS:CE	29:X:871:U:OP1	2.55	0.54
29:X:1512:A:H2'	29:X:1514:C:H5	1.71	0.54
29:X:175:C:C3'	29:X:175:C:C6	2.90	0.54
4:4:9:LYS:HZ2	4:4:16:VAL:HG21	1.71	0.54
23:R:18:LYS:CE	23:R:19:GLY:N	2.68	0.54
29:X:956:A:C4	29:X:2427:A:C2	2.95	0.54
7:B:203:LYS:HG2	29:X:2713:A:N1	2.22	0.54
21:P:28:ALA:HB2	21:P:71:VAL:CG2	2.37	0.54
29:X:2617:G:O2'	29:X:2618:A:H8	1.88	0.54
22:Q:12:ILE:H	22:Q:12:ILE:HD13	1.71	0.54
9:D:46:ASP:O	9:D:48:LYS:N	2.39	0.54
29:X:1499:A:H2'	29:X:1500:U:O4'	2.07	0.54
23:R:101:GLY:C	23:R:103:LYS:H	2.10	0.54
4:4:7:VAL:HG13	4:4:34:GLN:HE21	1.73	0.54
29:X:796:A:H5''	29:X:2567:G:O3'	2.07	0.54
29:X:490:A:HO2'	29:X:491:A:H3'	1.72	0.54
24:S:13:LYS:NZ	24:S:18:MET:CB	2.70	0.54
14:I:85:ASP:HA	14:I:116:ARG:NH1	2.21	0.54
11:F:25:PRO:HA	11:F:29:GLN:HG3	1.89	0.54
20:O:36:LYS:HZ2	20:O:54:TYR:CB	2.13	0.54
27:V:31:GLN:O	27:V:35:GLY:N	2.40	0.54
13:H:10:VAL:CG2	13:H:16:ALA:O	2.53	0.54
29:X:1324:G:H2'	29:X:1325:U:C6	2.42	0.54
14:I:37:GLN:O	14:I:38:LYS:C	2.44	0.54
24:S:3:LEU:CB	24:S:34:LEU:HB3	2.36	0.54
12:G:150:VAL:O	12:G:151:TYR:CG	2.60	0.54
25:T:31:VAL:HG13	25:T:67:VAL:CG2	2.37	0.54
29:X:1456:C:H4'	29:X:1645:U:OP1	2.06	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:81:C:C5	29:X:82:G:C6	2.95	0.54
29:X:16:G:O2'	29:X:17:G:H5'	2.07	0.54
4:4:15:LYS:HB2	4:4:26:ILE:HG13	1.89	0.54
8:C:24:SER:HB2	14:I:15:ASP:OD1	2.07	0.54
20:O:72:ARG:HA	20:O:82:ARG:O	2.07	0.54
23:R:9:HIS:ND1	29:X:338:G:H5'	2.22	0.54
8:C:44:SER:HA	29:X:37:C:O2'	2.07	0.54
6:A:126:LYS:HB2	6:A:129:ASN:ND2	2.22	0.54
6:A:160:GLY:H	6:A:196:VAL:HG23	1.72	0.54
6:A:197:GLY:O	6:A:198:ASN:C	2.46	0.54
17:L:42:ILE:HD11	17:L:87:VAL:HG11	1.88	0.54
17:L:68:ALA:HB1	17:L:102:ALA:HB1	1.89	0.54
28:W:22:ALA:C	28:W:24:GLY:H	2.11	0.54
15:J:42:TRP:HB3	15:J:95:VAL:HG11	1.89	0.54
7:B:26:VAL:HB	7:B:182:ILE:CG2	2.37	0.54
7:B:70:ALA:O	7:B:72:VAL:N	2.40	0.54
29:X:2358:C:H2'	29:X:2359:U:C6	2.41	0.54
18:M:34:ARG:NH1	18:M:88:VAL:CG2	2.55	0.54
29:X:1467:U:C4	29:X:1473:U:N3	2.66	0.54
31:Z:108:G:C2'	31:Z:109:G:H5'	2.37	0.54
29:X:2779:C:H2'	29:X:2780:A:C1'	2.37	0.54
29:X:1574:A:C2'	29:X:1575:C:H5''	2.36	0.54
29:X:145:C:C2	29:X:153:A:C2	2.95	0.54
10:E:76:VAL:O	10:E:80:SER:HB2	2.06	0.54
29:X:2058:U:C4	29:X:2217:G:C6	2.95	0.54
21:P:67:PRO:O	21:P:69:ALA:N	2.40	0.54
29:X:1695:U:H2'	29:X:1696:C:O4'	2.07	0.54
29:X:1629:G:C2	29:X:1633:C:C2	2.96	0.54
8:C:154:ASP:HB2	8:C:157:THR:HG23	1.90	0.54
10:E:121:VAL:CG1	10:E:122:THR:N	2.71	0.54
29:X:2542:U:O2	29:X:2544:A:H8	1.90	0.54
29:X:2526:U:C5	29:X:2545:A:C5	2.96	0.54
29:X:1608:U:H2'	29:X:1609:G:H8	1.72	0.54
29:X:2863:U:H2'	29:X:2864:C:O4'	2.07	0.54
17:L:84:ILE:HD12	17:L:84:ILE:N	2.23	0.54
7:B:116:VAL:HG22	7:B:136:ARG:NH2	2.23	0.54
29:X:1145:C:C6	29:X:1147:G:OP2	2.60	0.54
29:X:26:G:C2	29:X:27:G:N2	2.76	0.54
29:X:313:U:H2'	29:X:314:G:C8	2.42	0.54
29:X:471:A:C8	29:X:472:C:C6	2.96	0.54
29:X:1053:G:H2'	29:X:1054:C:O4'	2.08	0.54
6:A:108:PRO:HA	6:A:196:VAL:HA	1.90	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:A:69:ARG:NH1	6:A:105:ILE:HD13	2.22	0.54
29:X:2209:G:C5	29:X:2210:C:H5	2.26	0.54
14:I:101:ARG:NH1	14:I:104:ARG:NH2	2.55	0.54
29:X:640:C:H4'	29:X:660:G:N3	2.23	0.54
13:H:23:ARG:NH2	13:H:24:VAL:N	2.55	0.54
27:V:41:HIS:O	27:V:42:ARG:C	2.46	0.54
20:O:14:VAL:HG12	20:O:14:VAL:O	2.08	0.54
10:E:54:ARG:HE	10:E:57:ASP:HA	1.73	0.54
29:X:2501:U:C5'	29:X:2502:G:OP2	2.55	0.54
10:E:102:ALA:HA	10:E:117:PRO:HD3	1.90	0.54
10:E:92:VAL:O	10:E:94:PHE:HD1	1.91	0.54
29:X:2058:U:C3'	29:X:2217:G:N2	2.67	0.54
24:S:21:ALA:O	24:S:22:VAL:HG13	2.06	0.54
6:A:213:ARG:C	6:A:215:LEU:N	2.61	0.54
13:H:26:ASN:ND2	13:H:26:ASN:O	2.39	0.54
19:N:37:GLN:HE22	29:X:572:G:H21	1.55	0.54
29:X:1026:U:O2'	29:X:1027:C:H5'	2.07	0.54
8:C:20:PRO:HG2	8:C:21:GLU:H	1.71	0.54
23:R:93:ARG:O	23:R:95:ARG:HD2	2.07	0.54
29:X:525:A:H2	29:X:1273:G:N3	2.06	0.54
29:X:588:G:O2'	29:X:2002:A:OP1	2.19	0.54
9:D:17:MET:N	9:D:17:MET:SD	2.80	0.54
15:J:37:ALA:HB2	15:J:104:MET:HE1	1.90	0.54
7:B:72:VAL:HG12	7:B:73:ALA:N	2.23	0.54
14:I:63:ARG:NH1	29:X:2395:C:OP2	2.41	0.54
29:X:2247:A:H8	29:X:2247:A:H5''	1.72	0.54
29:X:930:A:H5''	31:Z:100:G:O2'	2.07	0.54
19:N:88:ILE:CG2	20:O:48:GLY:O	2.55	0.54
12:G:157:PRO:C	12:G:161:GLN:NE2	2.60	0.54
8:C:7:ILE:HG21	8:C:121:ASP:O	2.08	0.54
16:K:30:ARG:O	16:K:30:ARG:CG	2.56	0.54
14:I:119:THR:HG23	14:I:139:ARG:O	2.08	0.54
29:X:1115:C:O5'	29:X:1115:C:H6	1.89	0.54
8:C:43:ALA:HB3	8:C:87:LYS:C	2.27	0.54
19:N:10:ARG:HA	19:N:13:ARG:HD2	1.88	0.54
23:R:103:LYS:HG3	23:R:104:VAL:N	2.23	0.54
23:R:40:LEU:CB	23:R:45:LYS:HB2	2.34	0.54
29:X:2204:A:H4'	29:X:2205:C:O5'	2.08	0.54
10:E:140:LEU:HA	10:E:143:GLN:HB2	1.88	0.54
31:Z:34:C:H2'	31:Z:35:C:H6	1.72	0.54
15:J:34:GLY:O	15:J:133:VAL:HG22	2.08	0.54
26:U:54:ASN:OD1	26:U:54:ASN:C	2.45	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:U:53:GLU:HB2	26:U:56:GLN:O	2.07	0.54
29:X:2070:G:O5'	29:X:2070:G:H8	1.90	0.54
7:B:70:ALA:O	7:B:71:GLY:C	2.46	0.54
29:X:2268:G:C2	29:X:2269:G:C8	2.96	0.54
11:F:52:ILE:C	11:F:73:PRO:HD3	2.27	0.54
15:J:21:ASP:O	15:J:22:ALA:O	2.25	0.54
12:G:61:ARG:HH22	12:G:78:ASP:CG	2.11	0.54
19:N:66:ASN:C	19:N:68:GLY:H	2.10	0.54
13:H:1:MET:HB2	13:H:44:TYR:CD1	2.43	0.54
29:X:1431:U:H4'	29:X:1604:A:C4'	2.37	0.54
6:A:117:VAL:HG22	6:A:128:GLY:HA3	1.89	0.54
10:E:148:VAL:C	10:E:150:LYS:H	2.10	0.54
29:X:2469:G:H8	29:X:2469:G:OP2	1.91	0.54
8:C:158:ARG:HH11	8:C:158:ARG:HB2	1.73	0.54
29:X:2034:A:C5	29:X:2593:A:N7	2.76	0.54
29:X:2494:C:O2'	29:X:2495:G:H5'	2.08	0.54
29:X:1745:C:N3	29:X:1746:A:C5	2.75	0.54
29:X:402:A:H8	29:X:2392:G:H4'	1.72	0.54
18:M:22:ARG:HD3	18:M:24:LEU:CD2	2.38	0.54
14:I:62:LYS:HG3	14:I:63:ARG:N	2.21	0.54
29:X:649:G:O2'	29:X:650:U:H5'	2.07	0.54
10:E:6:LYS:HD2	10:E:66:GLY:HA2	1.90	0.54
10:E:9:ILE:CG2	10:E:50:LEU:HB3	2.37	0.54
29:X:304:A:N7	29:X:356:A:N6	2.53	0.54
11:F:58:THR:HB	11:F:66:THR:OG1	2.08	0.54
29:X:872:G:H1'	29:X:2247:A:H1'	1.90	0.54
29:X:2084:G:H2'	29:X:2085:G:H8	1.72	0.54
19:N:89:ASP:OD1	20:O:47:PHE:HB2	2.08	0.54
25:T:39:ARG:HD3	25:T:58:THR:HG23	1.89	0.54
23:R:18:LYS:HE2	23:R:18:LYS:H	1.69	0.54
29:X:1588:A:H2'	29:X:1589:G:O4'	2.07	0.54
29:X:1336:G:C2'	29:X:1337:G:H5'	2.37	0.54
29:X:2263:C:H1'	29:X:2304:G:C2	2.42	0.54
13:H:97:VAL:HG11	13:H:126:ILE:CD1	2.38	0.54
29:X:139:A:O2'	29:X:140:G:H5'	2.08	0.54
29:X:677:G:O2'	29:X:678:G:H5'	2.07	0.54
17:L:94:TYR:CD2	17:L:94:TYR:N	2.72	0.54
6:A:166:GLN:HE22	6:A:176:ARG:NH2	2.06	0.54
13:H:60:PRO:O	13:H:61:ARG:CB	2.55	0.54
7:B:105:THR:HG21	7:B:199:ARG:HH21	1.73	0.54
6:A:145:LEU:HD12	6:A:146:GLU:N	2.23	0.54
16:K:59:ASP:N	16:K:59:ASP:OD1	2.41	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:13:ARG:O	19:N:16:LYS:HB2	2.08	0.54
23:R:93:ARG:NH1	23:R:108:VAL:O	2.41	0.54
29:X:695:G:O2'	29:X:696:U:H5'	2.08	0.54
29:X:1812:U:O2	29:X:1812:U:H2'	2.08	0.54
6:A:206:LEU:HA	6:A:211:ARG:HD3	1.89	0.54
15:J:56:SER:O	15:J:59:PHE:N	2.35	0.54
14:I:108:LEU:HB3	14:I:125:ALA:HB2	1.88	0.54
14:I:85:ASP:O	14:I:86:THR:C	2.46	0.54
29:X:1074:G:C2'	29:X:1075:C:H5'	2.37	0.54
29:X:1544:A:C2	29:X:1560:A:C5	2.96	0.54
29:X:2174:G:H2'	29:X:2175:A:C8	2.43	0.54
19:N:72:HIS:HD2	19:N:110:VAL:HG21	1.71	0.54
16:K:10:LEU:CD2	16:K:17:ARG:CB	2.85	0.54
29:X:1096:A:H4'	29:X:1097:A:OP1	2.06	0.54
14:I:32:ARG:HD2	20:O:81:ARG:HG3	1.90	0.54
29:X:954:U:C2'	29:X:955:G:H5''	2.38	0.54
12:G:154:GLU:H	12:G:157:PRO:CD	2.21	0.54
14:I:76:LYS:O	14:I:79:GLN:CG	2.56	0.54
7:B:82:ARG:NH2	29:X:2616:U:H5''	2.22	0.54
21:P:27:VAL:HG23	21:P:125:THR:HG22	1.89	0.54
29:X:888:G:H2'	29:X:889:C:O4'	2.08	0.54
20:O:74:TYR:OH	20:O:76:SER:HB3	2.08	0.54
29:X:573:C:O2'	29:X:574:C:H5'	2.08	0.54
24:S:149:ALA:C	24:S:151:ASP:H	2.11	0.54
23:R:92:THR:C	23:R:95:ARG:NH2	2.61	0.54
29:X:594:G:H2'	29:X:1264:C:N4	2.20	0.54
29:X:482:A:C2'	29:X:483:A:H5'	2.37	0.54
29:X:528:G:H2'	29:X:529:U:C6	2.43	0.54
29:X:829:C:H2'	29:X:830:C:H6	1.72	0.54
29:X:1053:G:N2	29:X:1124:U:O2	2.38	0.54
29:X:2202:G:C2	29:X:2203:G:H1'	2.43	0.54
9:D:7:LYS:HA	9:D:10:ASP:HB2	1.89	0.54
17:L:15:ARG:HH11	17:L:15:ARG:CA	2.08	0.54
15:J:69:ILE:HG21	15:J:104:MET:HG2	1.90	0.54
18:M:24:LEU:HB3	18:M:25:PRO:HD2	1.89	0.54
26:U:54:ASN:O	26:U:56:GLN:N	2.38	0.54
29:X:660:G:C2'	29:X:661:C:H5'	2.37	0.54
9:D:52:LYS:HE2	9:D:56:GLU:OE2	2.08	0.54
29:X:1979:C:H6	29:X:1979:C:OP1	1.91	0.54
9:D:143:TYR:CA	9:D:146:VAL:HG22	2.32	0.54
16:K:16:ALA:O	16:K:17:ARG:C	2.45	0.54
26:U:22:GLY:HA3	26:U:39:LYS:HD2	1.89	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1804:U:H2'	29:X:1805:G:H8	1.73	0.54
7:B:37:LYS:CD	7:B:42:ASP:OD1	2.51	0.54
14:I:28:LYS:NZ	14:I:37:GLN:H	2.03	0.54
29:X:1752:U:H5''	29:X:1753:A:OP2	2.07	0.54
12:G:160:ALA:C	12:G:161:GLN:HG3	2.28	0.54
12:G:49:VAL:HG21	12:G:170:PRO:HG2	1.90	0.54
10:E:149:ARG:HG2	10:E:149:ARG:O	2.08	0.54
29:X:418:C:O4'	29:X:418:C:OP2	2.26	0.54
29:X:699:G:C4'	29:X:700:C:OP2	2.55	0.54
12:G:72:PRO:O	12:G:74:MET:N	2.41	0.54
29:X:471:A:C8	29:X:472:C:C5	2.96	0.54
4:4:25:VAL:O	4:4:33:LYS:HA	2.07	0.54
29:X:2824:C:O2'	29:X:2825:A:O5'	2.24	0.54
9:D:5:LYS:HA	9:D:8:TYR:HB3	1.90	0.54
17:L:91:ARG:NH2	29:X:2356:A:H2	2.03	0.54
9:D:26:MET:HB3	31:Z:59:A:C2	2.42	0.54
15:J:35:LEU:HD11	15:J:130:THR:CB	2.38	0.54
7:B:68:ALA:O	7:B:70:ALA:N	2.40	0.54
11:F:53:ILE:CG1	11:F:72:PRO:HB3	2.29	0.54
5:5:15:BB9:HN1	11:F:29:GLN:NE2	2.05	0.54
12:G:69:ASP:C	12:G:70:PHE:CD2	2.81	0.54
16:K:13:ASN:HD22	16:K:14:SER:N	2.05	0.54
26:U:39:LYS:O	26:U:40:ARG:CB	2.56	0.54
27:V:18:ILE:C	27:V:20:ALA:N	2.61	0.54
21:P:133:ASN:N	21:P:133:ASN:ND2	2.54	0.54
6:A:80:ALA:O	6:A:81:ALA:HB2	2.08	0.54
9:D:100:LEU:HG	9:D:104:ILE:HD11	1.89	0.54
29:X:1402:G:H2'	29:X:1403:U:O4'	2.07	0.54
8:C:104:LEU:HA	8:C:107:ALA:HB3	1.91	0.53
19:N:7:GLY:O	19:N:9:VAL:N	2.38	0.53
29:X:1673:C:N3	29:X:1674:C:C5	2.76	0.53
29:X:544:U:H2'	29:X:545:C:C6	2.43	0.53
6:A:160:GLY:HA2	6:A:196:VAL:C	2.26	0.53
6:A:43:ARG:HB3	6:A:54:ILE:HG23	1.90	0.53
6:A:55:GLY:H	6:A:217:ARG:H	1.56	0.53
9:D:92:ARG:NH1	31:Z:46:G:O3'	2.40	0.53
26:U:28:GLY:HA3	26:U:32:ARG:CA	2.38	0.53
29:X:493:A:OP2	29:X:517:A:N6	2.40	0.53
24:S:18:MET:HA	24:S:36:ARG:N	2.23	0.53
29:X:660:G:O2'	29:X:661:C:H5'	2.07	0.53
29:X:2323:U:C5'	29:X:2323:U:C6	2.81	0.53
18:M:66:PHE:CE2	18:M:81:PHE:HB2	2.43	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:E:43:VAL:HB	10:E:52:VAL:CA	2.32	0.53
19:N:93:LYS:O	19:N:94:VAL:HG23	2.08	0.53
29:X:2286:G:N2	29:X:2290:A:N6	2.52	0.53
29:X:739:G:O2'	29:X:740:A:OP2	2.26	0.53
29:X:759:C:C5'	29:X:759:C:C6	2.90	0.53
29:X:176:A:H2'	29:X:177:U:C5	2.43	0.53
29:X:2570:C:H2'	29:X:2571:G:C8	2.43	0.53
15:J:83:ARG:HH22	29:X:971:A:H61	1.54	0.53
15:J:79:PRO:HD2	15:J:88:LYS:HD2	1.88	0.53
29:X:2178:U:H2'	29:X:2179:C:C6	2.43	0.53
7:B:111:LYS:NZ	29:X:2704:U:OP1	2.41	0.53
29:X:2820:C:O2'	29:X:2821:G:H5'	2.08	0.53
29:X:1419:G:H2'	29:X:1420:A:H8	1.72	0.53
29:X:1359:G:O2'	29:X:1360:G:H5'	2.08	0.53
29:X:130:C:H2'	29:X:131:C:C6	2.43	0.53
14:I:45:LYS:CG	14:I:46:GLY:N	2.70	0.53
23:R:25:LEU:HD22	23:R:26:SER:CB	2.37	0.53
23:R:25:LEU:HD12	23:R:25:LEU:H	1.74	0.53
23:R:41:PRO:HG2	23:R:42:ARG:H	1.73	0.53
29:X:690:A:O2'	29:X:691:C:H5'	2.08	0.53
29:X:828:C:H2'	29:X:829:C:H6	1.74	0.53
29:X:1965:U:H2'	29:X:1966:C:H6	1.74	0.53
18:M:102:ALA:C	18:M:103:LYS:HD2	2.28	0.53
26:U:66:ALA:O	26:U:70:LEU:HB2	2.09	0.53
29:X:665:A:N3	29:X:665:A:H3'	2.23	0.53
12:G:66:HIS:O	12:G:70:PHE:CE1	2.61	0.53
29:X:988:G:N3	29:X:1012:A:C2	2.76	0.53
9:D:54:ALA:O	9:D:55:LYS:C	2.46	0.53
29:X:2288:A:H2'	29:X:2289:A:H8	1.72	0.53
25:T:24:LYS:NZ	29:X:2335:U:OP1	2.40	0.53
29:X:219:G:C2'	29:X:220:U:OP2	2.56	0.53
29:X:88:G:H3'	29:X:89:A:C5'	2.28	0.53
22:Q:61:LYS:HD3	22:Q:72:ARG:CZ	2.38	0.53
12:G:154:GLU:O	12:G:157:PRO:HD2	2.08	0.53
8:C:9:GLN:HG2	8:C:120:VAL:HG21	1.89	0.53
29:X:2766:U:O2'	29:X:2767:C:H5'	2.07	0.53
29:X:801:A:C2'	29:X:802:A:OP2	2.57	0.53
7:B:105:THR:HG23	7:B:197:VAL:HB	1.89	0.53
29:X:2184:C:C4	29:X:2185:U:C4	2.97	0.53
8:C:125:ILE:HD12	8:C:133:PHE:HA	1.89	0.53
8:C:169:VAL:O	8:C:170:LEU:HD13	2.08	0.53
23:R:93:ARG:C	23:R:95:ARG:CZ	2.76	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2757:G:OP2	29:X:2761:A:O2'	2.25	0.53
29:X:460:U:O2'	29:X:461:A:OP1	2.22	0.53
6:A:131:LEU:HD11	6:A:136:VAL:HG22	1.90	0.53
9:D:156:ILE:HG23	9:D:158:THR:HG23	1.90	0.53
24:S:19:ILE:CD1	24:S:36:ARG:HA	2.38	0.53
29:X:732:G:H8	29:X:732:G:O5'	1.91	0.53
29:X:872:G:OP2	29:X:872:G:H8	1.91	0.53
19:N:79:PHE:CD2	19:N:80:ILE:HD13	2.43	0.53
29:X:1509:A:C8	29:X:1510:A:C8	2.97	0.53
9:D:70:ALA:C	9:D:72:LYS:N	2.61	0.53
29:X:393:U:O2'	29:X:394:U:H5'	2.08	0.53
29:X:1067:G:N2	29:X:1114:A:H62	1.98	0.53
29:X:2404:A:H1'	29:X:2406:C:C5	2.43	0.53
29:X:116:A:H1'	29:X:155:G:O4'	2.08	0.53
8:C:120:VAL:O	8:C:121:ASP:O	2.27	0.53
29:X:1416:A:C2	29:X:1417:C:C2	2.96	0.53
24:S:64:ALA:CA	24:S:86:VAL:HG23	2.39	0.53
23:R:98:ILE:HG22	23:R:99:VAL:H	1.72	0.53
10:E:33:LEU:HG	10:E:34:THR:H	1.73	0.53
29:X:2546:G:H2'	29:X:2547:C:H6	1.73	0.53
29:X:1515:U:H2'	29:X:1516:A:H8	1.71	0.53
4:4:22:ARG:HG2	4:4:22:ARG:HH11	1.74	0.53
14:I:123:ASP:O	14:I:123:ASP:OD1	2.25	0.53
8:C:125:ILE:O	8:C:126:ALA:CB	2.56	0.53
21:P:110:ALA:HB3	29:X:760:U:O3'	2.09	0.53
23:R:46:VAL:O	23:R:75:ALA:HA	2.08	0.53
29:X:1032:A:H8	29:X:1032:A:H3'	1.73	0.53
29:X:1278:A:H61	29:X:1996:A:H5''	1.74	0.53
19:N:10:ARG:NH1	29:X:592:G:OP2	2.29	0.53
6:A:169:GLU:CG	6:A:170:SER:H	2.19	0.53
10:E:139:GLN:HB3	10:E:143:GLN:OE1	2.07	0.53
29:X:1835:C:H2'	29:X:1836:C:H6	1.72	0.53
29:X:1724:C:N3	29:X:1747:G:C6	2.77	0.53
9:D:22:TYR:CG	9:D:28:VAL:HG22	2.44	0.53
15:J:19:THR:CG2	15:J:20:GLY:N	2.71	0.53
29:X:2080:U:H2'	29:X:2081:U:H6	1.74	0.53
20:O:38:LEU:O	20:O:39:PHE:HB3	2.08	0.53
29:X:1166:A:H2'	29:X:1167:A:H5''	1.91	0.53
29:X:1982:C:H4'	29:X:2703:C:O2	2.08	0.53
21:P:24:GLY:O	21:P:127:ILE:HA	2.08	0.53
12:G:84:ASN:O	12:G:85:ALA:CB	2.57	0.53
11:F:101:TRP:HZ3	11:F:140:GLY:HA3	1.74	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:C:53:LYS:O	8:C:54:THR:OG1	2.19	0.53
7:B:159:HIS:NE2	7:B:162:MET:HB2	2.23	0.53
11:F:2:LYS:HD3	11:F:2:LYS:N	2.23	0.53
8:C:138:LYS:C	8:C:140:ASN:H	2.11	0.53
8:C:43:ALA:HB3	8:C:88:PRO:N	2.23	0.53
14:I:45:LYS:HA	29:X:683:A:H5''	1.89	0.53
7:B:150:VAL:CG2	29:X:2598:C:O4'	2.56	0.53
29:X:462:G:N1	29:X:466:A:OP2	2.40	0.53
29:X:537:C:O2'	29:X:538:A:C4	2.61	0.53
29:X:2200:G:H2'	29:X:2201:G:H8	1.73	0.53
6:A:224:SER:HA	6:A:233:HIS:O	2.08	0.53
26:U:33:LYS:NZ	29:X:2375:G:H1'	2.24	0.53
15:J:128:ILE:C	15:J:128:ILE:HD12	2.29	0.53
15:J:44:LYS:HD3	15:J:47:GLN:CD	2.29	0.53
15:J:15:ARG:HD2	15:J:73:LYS:HG3	1.91	0.53
26:U:10:LYS:HG2	26:U:11:LYS:CG	2.38	0.53
26:U:10:LYS:CD	26:U:11:LYS:HG3	2.38	0.53
14:I:117:ALA:HB2	14:I:137:GLY:HA3	1.91	0.53
29:X:1552:C:O2'	29:X:1553:G:O5'	2.25	0.53
25:T:72:LYS:O	25:T:74:LYS:N	2.41	0.53
24:S:99:HIS:O	24:S:136:VAL:N	2.42	0.53
9:D:75:SER:C	9:D:79:LEU:HD13	2.28	0.53
23:R:17:LYS:HB3	23:R:18:LYS:HE2	1.89	0.53
14:I:32:ARG:NH1	20:O:81:ARG:NH2	2.56	0.53
7:B:149:ARG:HA	29:X:2035:G:N3	2.23	0.53
29:X:1356:G:H1'	29:X:1613:G:N3	2.23	0.53
29:X:1802:A:H2'	29:X:1803:G:O4'	2.08	0.53
6:A:151:LYS:HD3	29:X:2186:G:O3'	2.09	0.53
7:B:134:TRP:O	7:B:135:HIS:C	2.45	0.53
8:C:158:ARG:C	8:C:160:ALA:N	2.62	0.53
7:B:152:LYS:CB	12:G:106:TYR:HB3	2.28	0.53
6:A:154:GLN:O	6:A:155:LEU:HD23	2.07	0.53
8:C:112:GLN:HB3	8:C:116:LYS:HZ2	1.74	0.53
9:D:92:ARG:NE	31:Z:47:A:H8	2.05	0.53
17:L:99:ARG:O	17:L:102:ALA:HB3	2.08	0.53
17:L:15:ARG:HA	17:L:15:ARG:NH1	2.07	0.53
26:U:10:LYS:CG	26:U:11:LYS:HG3	2.39	0.53
26:U:15:VAL:H	26:U:47:HIS:CE1	2.27	0.53
26:U:64:ALA:O	26:U:66:ALA:N	2.42	0.53
14:I:101:ARG:HD3	29:X:637:G:C6	2.43	0.53
29:X:2396:C:H6	29:X:2396:C:H5'	1.74	0.53
13:H:23:ARG:NH1	29:X:2541:U:H4'	2.10	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2800:C:H3'	29:X:2801:A:H8	1.74	0.53
12:G:36:ASN:CG	12:G:37:ASP:N	2.61	0.53
29:X:717:G:O2'	29:X:718:A:P	2.65	0.53
21:P:78:ASN:C	21:P:80:LEU:N	2.60	0.53
29:X:1731:C:H3'	29:X:1732:U:C5'	2.38	0.53
24:S:3:LEU:HD21	24:S:32:PHE:CG	2.44	0.53
29:X:3:U:H2'	29:X:4:C:H6	1.73	0.53
17:L:21:THR:CG2	17:L:22:ALA:N	2.68	0.53
29:X:1685:A:C8	29:X:1691:G:C6	2.96	0.53
29:X:1478:U:H2'	29:X:1479:G:C8	2.41	0.53
29:X:737:C:H2'	29:X:738:G:C8	2.44	0.53
12:G:168:THR:O	12:G:169:GLN:O	2.26	0.53
4:4:22:ARG:HD2	4:4:37:GLY:HA3	1.91	0.53
19:N:3:ARG:HD3	29:X:458:G:P	2.47	0.53
23:R:51:VAL:HG21	23:R:76:LEU:HD11	1.89	0.53
23:R:84:VAL:HG11	23:R:88:THR:N	2.24	0.53
29:X:1148:G:H5''	29:X:1149:G:OP2	2.08	0.53
29:X:617:U:O2	29:X:617:U:C3'	2.56	0.53
6:A:70:ARG:NH2	6:A:189:CYS:HA	2.24	0.53
6:A:69:ARG:NH2	6:A:192:THR:OG1	2.42	0.53
13:H:90:ARG:NH1	18:M:78:GLU:OE1	2.42	0.53
18:M:55:ILE:HD11	18:M:67:THR:CG2	2.38	0.53
13:H:88:THR:HB	18:M:80:VAL:HB	1.91	0.53
9:D:15:ALA:O	9:D:19:GLN:HB2	2.09	0.53
9:D:92:ARG:HG3	9:D:92:ARG:NH2	2.22	0.53
26:U:67:LEU:HD23	26:U:67:LEU:C	2.29	0.53
14:I:84:GLU:O	14:I:116:ARG:NH2	2.38	0.53
14:I:80:LEU:HG	14:I:97:ARG:HH22	1.74	0.53
10:E:13:SER:O	10:E:15:VAL:N	2.42	0.53
29:X:872:G:O2'	29:X:873:U:H6	1.92	0.53
31:Z:15:A:O2'	31:Z:17:A:H5''	2.08	0.53
9:D:135:GLN:OE1	9:D:150:ARG:HB3	2.08	0.53
9:D:79:LEU:HA	9:D:80:ARG:NH2	2.24	0.53
7:B:1:MET:O	7:B:2:LYS:C	2.47	0.53
29:X:2849:C:C2	29:X:2850:U:C5	2.96	0.53
12:G:155:THR:O	12:G:158:HIS:HB2	2.08	0.53
29:X:1690:U:C2'	29:X:1691:G:H5'	2.38	0.53
8:C:153:ASP:OD1	8:C:172:VAL:HA	2.08	0.53
29:X:1610:A:H2'	29:X:1611:U:H6	1.74	0.53
24:S:125:PRO:HG2	24:S:126:GLY:H	1.74	0.53
29:X:2546:G:H2'	29:X:2547:C:C6	2.44	0.53
20:O:32:LYS:N	20:O:58:ALA:O	2.19	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:22:VAL:HG12	23:R:23:ILE:N	2.24	0.53
29:X:538:A:H2'	29:X:2025:A:H2	1.73	0.53
19:N:11:ARG:NH2	29:X:29:U:H4'	2.22	0.53
29:X:312:G:O2'	29:X:313:U:O4'	2.27	0.53
29:X:537:C:H1'	29:X:538:A:N6	2.23	0.53
29:X:580:A:C8	29:X:584:A:C6	2.96	0.53
6:A:49:ILE:HD11	6:A:52:ARG:HA	1.91	0.53
8:C:102:LEU:HD23	8:C:102:LEU:O	2.09	0.53
26:U:11:LYS:HZ1	26:U:75:TYR:HD1	1.51	0.53
29:X:836:G:H2'	29:X:837:U:H6	1.73	0.53
29:X:1474:A:H1'	29:X:1475:U:H5'	1.91	0.53
11:F:9:LYS:C	11:F:10:LEU:HD23	2.29	0.53
29:X:1058:G:C4	29:X:1121:G:O6	2.62	0.53
15:J:23:LYS:HA	24:S:73:LYS:NZ	2.23	0.53
19:N:66:ASN:HB3	19:N:76:TYR:CA	2.39	0.53
20:O:54:TYR:HD1	20:O:54:TYR:H	1.57	0.53
9:D:35:VAL:O	9:D:154:ILE:HA	2.08	0.53
9:D:52:LYS:HG2	9:D:56:GLU:OE2	2.09	0.53
10:E:54:ARG:CZ	10:E:57:ASP:OD2	2.57	0.53
13:H:110:VAL:C	13:H:111:PHE:HD1	2.12	0.53
8:C:98:GLN:NE2	29:X:611:C:O5'	2.42	0.53
29:X:172:A:C2	29:X:178:C:O2	2.62	0.53
29:X:1469:U:O5'	29:X:1470:G:OP2	2.26	0.53
29:X:202:A:H2'	29:X:203:G:O4'	2.09	0.53
27:V:7:ARG:C	27:V:9:LEU:N	2.62	0.53
31:Z:4:C:H2'	31:Z:5:C:C5'	2.38	0.53
29:X:1685:A:N6	29:X:1693:A:H61	2.07	0.53
6:A:59:LYS:O	29:X:1584:G:H5'	2.09	0.53
14:I:141:VAL:O	14:I:142:LEU:HD23	2.09	0.53
22:Q:14:GLU:HG3	22:Q:15:LYS:HD2	1.91	0.53
8:C:14:THR:O	8:C:15:ILE:HB	2.09	0.53
29:X:2234:G:H2'	29:X:2235:G:O4'	2.09	0.53
20:O:33:VAL:O	20:O:33:VAL:HG23	2.09	0.53
12:G:101:THR:HG23	12:G:103:TYR:CD1	2.44	0.53
29:X:2037:A:N7	29:X:2039:G:H1'	2.24	0.53
29:X:454:G:H4'	29:X:455:A:OP1	2.09	0.53
6:A:169:GLU:CG	6:A:170:SER:N	2.71	0.53
29:X:1505:U:H3'	29:X:1505:U:H6	1.74	0.53
13:H:90:ARG:NH2	18:M:78:GLU:OE1	2.41	0.53
29:X:2391:A:C8	29:X:2392:G:C8	2.96	0.53
15:J:116:LYS:O	15:J:117:GLU:HB2	2.09	0.53
7:B:38:THR:HB	7:B:41:THR:HG23	1.90	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1233:A:HO2'	29:X:1234:C:P	2.31	0.53
29:X:731:A:H2'	29:X:732:G:C4'	2.39	0.53
13:H:27:SER:CB	13:H:50:ILE:H	2.20	0.53
29:X:1092:U:H2'	29:X:1093:U:C6	2.44	0.53
19:N:82:GLY:HA3	19:N:113:SER:HG	1.72	0.53
29:X:1006:C:H4'	29:X:1007:A:OP1	2.09	0.53
16:K:83:VAL:HG23	16:K:87:TYR:HE2	1.73	0.53
29:X:2675:U:H2'	29:X:2676:G:C8	2.44	0.53
22:Q:35:LYS:HG2	22:Q:53:ILE:HG12	1.91	0.53
10:E:18:ASN:C	10:E:20:GLN:H	2.12	0.53
10:E:92:VAL:O	10:E:94:PHE:CD1	2.62	0.53
29:X:913:A:C2'	29:X:914:C:O5'	2.57	0.53
15:J:79:PRO:CD	15:J:88:LYS:HZ3	2.22	0.53
9:D:33:LYS:HD2	9:D:90:THR:CG2	2.39	0.53
29:X:984:A:C4	29:X:1202:U:O4	2.62	0.53
14:I:38:LYS:HA	29:X:953:G:O3'	2.09	0.53
29:X:446:C:H2'	29:X:447:U:O4'	2.09	0.53
31:Z:5:C:H2'	31:Z:6:C:H6	1.74	0.53
29:X:1958:G:H2'	29:X:1959:U:C6	2.43	0.53
8:C:45:THR:CG2	8:C:47:THR:OG1	2.57	0.53
12:G:106:TYR:CE2	12:G:108:GLY:HA3	2.44	0.53
12:G:56:THR:HG21	29:X:1016:C:O2'	2.09	0.53
14:I:45:LYS:CG	14:I:46:GLY:H	2.22	0.53
16:K:106:ASP:CG	16:K:108:VAL:HG23	2.30	0.53
29:X:322:A:HO2'	29:X:323:G:P	2.32	0.53
29:X:692:C:H2'	29:X:693:A:H8	1.73	0.53
6:A:142:VAL:HA	6:A:194:GLY:O	2.09	0.53
29:X:2187:A:C6	29:X:2188:A:C6	2.97	0.53
29:X:2200:G:H2'	29:X:2201:G:C8	2.43	0.53
4:4:30:VAL:O	4:4:33:LYS:N	2.32	0.53
6:A:252:LYS:NZ	6:A:253:PRO:HD2	2.24	0.53
29:X:1769:U:O4	29:X:1775:A:H1'	2.09	0.53
17:L:89:PHE:CD2	29:X:2355:A:H2	2.26	0.53
13:H:25:LEU:HD21	13:H:52:VAL:CG2	2.39	0.53
29:X:663:G:C3'	29:X:664:C:C5'	2.86	0.53
24:S:113:VAL:HG13	24:S:171:VAL:HG22	1.90	0.53
22:Q:55:THR:O	22:Q:56:MET:HG2	2.07	0.53
29:X:1288:A:H2'	29:X:1289:A:O4'	2.09	0.53
21:P:87:GLU:HA	21:P:90:LEU:HG	1.90	0.53
29:X:73:A:H5''	29:X:74:G:O4'	2.08	0.53
24:S:81:VAL:HG12	24:S:82:ASP:N	2.23	0.53
10:E:154:PRO:HG3	10:E:162:VAL:O	2.08	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:211:U:O2'	29:X:212:U:H5'	2.09	0.53
29:X:417:C:C4	29:X:419:G:C4	2.97	0.53
29:X:1685:A:C5	29:X:1691:G:C4	2.97	0.53
7:B:19:ARG:HG3	7:B:21:ILE:HD11	1.91	0.53
29:X:1648:C:H6	29:X:1648:C:C5'	2.22	0.53
22:Q:89:GLU:CB	22:Q:91:LEU:HD23	2.38	0.53
29:X:581:A:C2	29:X:2016:A:C2	2.97	0.53
10:E:33:LEU:O	10:E:34:THR:HG23	2.09	0.53
24:S:131:PRO:HG2	24:S:155:PRO:HG3	1.91	0.53
25:T:50:GLY:O	25:T:81:ILE:HD12	2.09	0.53
8:C:29:GLU:OE1	14:I:18:ARG:NH1	2.27	0.52
29:X:1339:U:H5	29:X:1664:G:O2'	1.92	0.52
29:X:332:C:H5''	29:X:333:A:OP2	2.09	0.52
21:P:39:ARG:HH12	29:X:528:G:C5'	2.22	0.52
6:A:132:PRO:HB3	6:A:190:TYR:HD2	1.74	0.52
26:U:32:ARG:H	26:U:32:ARG:CD	2.18	0.52
24:S:13:LYS:HB2	24:S:18:MET:HB2	1.91	0.52
7:B:25:VAL:HG13	7:B:183:LEU:HD22	1.89	0.52
14:I:107:LYS:HA	14:I:124:ALA:O	2.10	0.52
29:X:661:C:C2	29:X:662:G:C8	2.96	0.52
29:X:1473:U:O2'	29:X:1474:A:P	2.67	0.52
29:X:2171:U:H4'	29:X:2171:U:OP1	2.09	0.52
24:S:120:LEU:CD2	24:S:162:ALA:HB2	2.24	0.52
12:G:33:ILE:CB	12:G:34:PRO:CD	2.70	0.52
12:G:66:HIS:HA	19:N:67:ALA:HB1	1.90	0.52
29:X:1399:C:O2'	29:X:1400:A:H5'	2.09	0.52
10:E:76:VAL:C	10:E:78:GLY:N	2.62	0.52
29:X:1094:C:H2'	29:X:1096:A:C5'	2.38	0.52
29:X:1703:C:H2'	29:X:1704:G:O4'	2.09	0.52
29:X:2063:A:H2'	29:X:2064:U:C6	2.44	0.52
25:T:53:MET:HE2	25:T:59:LEU:HD21	1.91	0.52
7:B:118:LYS:CG	7:B:118:LYS:O	2.57	0.52
8:C:129:LYS:C	8:C:131:LYS:N	2.62	0.52
12:G:117:GLU:C	12:G:119:LEU:N	2.57	0.52
29:X:1300:A:C2	29:X:1301:U:C2	2.97	0.52
6:A:181:GLU:O	6:A:182:LEU:HD23	2.09	0.52
29:X:1785:A:H2'	29:X:1786:C:H6	1.73	0.52
29:X:2824:C:O2'	29:X:2825:A:P	2.67	0.52
26:U:23:LYS:HE3	26:U:26:ALA:HA	1.90	0.52
26:U:71:SER:HA	26:U:79:GLU:HG3	1.92	0.52
7:B:53:PRO:CD	18:M:5:ILE:HG22	2.38	0.52
29:X:1474:A:C2	29:X:1476:G:C6	2.97	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:F:25:PRO:HG2	11:F:26:ALA:N	2.24	0.52
29:X:1541:G:H2'	29:X:1542:G:H8	1.72	0.52
19:N:79:PHE:HE2	19:N:95:LEU:HD21	1.73	0.52
9:D:152:MET:CE	9:D:154:ILE:HD11	2.39	0.52
9:D:74:ILE:HG23	9:D:80:ARG:CA	2.33	0.52
16:K:94:TYR:CE1	16:K:115:LEU:O	2.62	0.52
26:U:22:GLY:HA3	26:U:39:LYS:HG3	1.91	0.52
10:E:103:LEU:HD21	10:E:131:ILE:CD1	2.37	0.52
29:X:204:A:O2'	29:X:205:A:C8	2.61	0.52
29:X:404:A:C4	29:X:424:G:C2	2.97	0.52
29:X:2261:G:H5'	29:X:2262:C:O4'	2.09	0.52
14:I:127:ALA:C	14:I:129:ALA:N	2.61	0.52
31:Z:3:A:H2'	31:Z:4:C:H5'	1.91	0.52
13:H:29:ILE:O	13:H:29:ILE:HG23	2.09	0.52
29:X:2507:U:O2'	29:X:2508:G:H3'	2.09	0.52
29:X:1713:G:C6	29:X:1714:A:C4	2.97	0.52
29:X:810:U:H6	29:X:810:U:H3'	1.73	0.52
21:P:91:PHE:CE1	21:P:131:LYS:HA	2.44	0.52
27:V:62:ARG:HH11	27:V:62:ARG:HG2	1.75	0.52
16:K:95:THR:O	16:K:95:THR:HG22	2.08	0.52
8:C:23:ASN:HB3	8:C:26:VAL:CG2	2.36	0.52
23:R:11:ASN:ND2	23:R:11:ASN:O	2.42	0.52
29:X:1141:U:HO2'	29:X:1142:G:P	2.32	0.52
6:A:261:ARG:NH2	29:X:1790:G:O3'	2.42	0.52
6:A:149:PRO:CG	29:X:2200:G:O2'	2.53	0.52
31:Z:54:U:O2'	31:Z:55:C:H5'	2.08	0.52
11:F:12:LEU:HD12	11:F:37:PHE:CE2	2.44	0.52
11:F:23:VAL:O	11:F:26:ALA:N	2.42	0.52
29:X:1558:C:O2'	29:X:1559:G:H5'	2.09	0.52
15:J:18:MET:HG2	15:J:19:THR:H	1.74	0.52
22:Q:42:ILE:HG23	22:Q:43:GLN:N	2.24	0.52
29:X:971:A:C4'	29:X:2436:U:H4'	2.40	0.52
24:S:3:LEU:HD13	24:S:33:ALA:O	2.09	0.52
8:C:104:LEU:N	8:C:104:LEU:CD2	2.72	0.52
8:C:138:LYS:O	8:C:140:ASN:N	2.37	0.52
12:G:106:TYR:CZ	12:G:108:GLY:HA2	2.45	0.52
29:X:1145:C:C6	29:X:1147:G:P	3.03	0.52
17:L:66:ASP:O	17:L:68:ALA:N	2.42	0.52
26:U:49:LYS:HD3	26:U:61:TRP:CD2	2.45	0.52
7:B:179:GLU:O	7:B:180:ASN:C	2.47	0.52
29:X:649:G:H22	29:X:661:C:C1'	2.22	0.52
10:E:9:ILE:HG21	10:E:50:LEU:HB3	1.90	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1555:A:H2'	29:X:1556:A:O4'	2.09	0.52
16:K:3:HIS:NE2	29:X:2797:G:OP2	2.42	0.52
12:G:36:ASN:C	12:G:38:GLU:N	2.52	0.52
20:O:13:ARG:HB2	20:O:13:ARG:NH2	2.23	0.52
9:D:111:ILE:HA	9:D:137:ILE:CG2	2.39	0.52
16:K:76:VAL:HG13	16:K:77:ARG:N	2.24	0.52
29:X:219:G:O2'	29:X:220:U:P	2.67	0.52
29:X:203:G:N2	29:X:204:A:C2	2.77	0.52
29:X:1318:A:C2	29:X:1319:C:C2	2.97	0.52
29:X:17:G:N2	29:X:18:U:C2	2.78	0.52
8:C:175:VAL:HG23	8:C:176:ASN:N	2.24	0.52
23:R:10:HIS:CB	23:R:44:GLN:NE2	2.72	0.52
7:B:136:ARG:O	29:X:1674:C:OP1	2.27	0.52
8:C:128:ALA:HB1	29:X:332:C:H5'	1.91	0.52
29:X:829:C:O2'	29:X:830:C:H5'	2.10	0.52
6:A:108:PRO:HD2	6:A:111:LEU:HD12	1.91	0.52
6:A:143:HIS:ND1	6:A:143:HIS:N	2.57	0.52
6:A:182:LEU:O	6:A:268:ARG:N	2.39	0.52
29:X:1504:G:H2'	29:X:1505:U:C2	2.45	0.52
29:X:1793:A:C6	29:X:1809:G:N2	2.77	0.52
8:C:102:LEU:HD21	8:C:106:MET:CE	2.39	0.52
29:X:2837:G:C6	29:X:2838:U:C4	2.98	0.52
17:L:60:LYS:HG3	17:L:63:ASN:O	2.08	0.52
31:Z:36:A:C2	31:Z:51:G:C6	2.98	0.52
29:X:836:G:H2'	29:X:837:U:C6	2.43	0.52
13:H:116:ARG:CD	18:M:40:ARG:HH21	2.22	0.52
15:J:21:ASP:N	15:J:99:LYS:HE2	2.23	0.52
24:S:84:TYR:CE1	31:Z:107:C:H4'	2.42	0.52
12:G:70:PHE:N	12:G:70:PHE:CD2	2.78	0.52
20:O:20:ILE:CD1	20:O:21:ARG:N	2.72	0.52
20:O:35:LEU:HD22	20:O:36:LYS:O	2.09	0.52
20:O:64:GLY:HA3	20:O:90:PHE:CE1	2.44	0.52
29:X:1002:C:C4	29:X:1003:C:C5	2.97	0.52
16:K:76:VAL:O	16:K:79:VAL:CG1	2.57	0.52
29:X:1313:U:O2'	29:X:1314:A:P	2.67	0.52
29:X:223:C:H2'	29:X:224:G:H5'	1.92	0.52
29:X:2576:G:C5	29:X:2577:A:C6	2.98	0.52
15:J:76:THR:CG2	15:J:88:LYS:O	2.57	0.52
29:X:4:C:O2'	29:X:5:A:H5'	2.09	0.52
29:X:1603:A:OP2	29:X:1603:A:H8	1.93	0.52
6:A:210:GLY:HA2	6:A:213:ARG:CG	2.39	0.52
29:X:2856:U:C2	29:X:2857:C:C5	2.98	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1657:A:H8	29:X:1657:A:H5'	1.74	0.52
14:I:26:THR:OG1	29:X:676:G:OP1	2.28	0.52
29:X:8:A:H2'	29:X:9:U:O4'	2.10	0.52
29:X:122:G:C2'	29:X:123:A:H5''	2.40	0.52
8:C:35:LEU:HD23	8:C:38:ARG:HD2	1.91	0.52
29:X:1398:G:H4'	29:X:1398:G:OP1	2.10	0.52
8:C:136:TRP:CD2	8:C:140:ASN:ND2	2.78	0.52
8:C:176:ASN:CB	29:X:626:A:O2'	2.58	0.52
23:R:4:PRO:CA	29:X:34:U:H1'	2.40	0.52
29:X:1135:C:C4	29:X:1136:G:N7	2.77	0.52
29:X:2204:A:O2'	29:X:2205:C:OP2	2.20	0.52
8:C:186:LEU:HG	8:C:188:ILE:CG1	2.34	0.52
17:L:33:ARG:HH12	17:L:103:LEU:H	1.58	0.52
17:L:89:PHE:CZ	29:X:2356:A:H1'	2.44	0.52
28:W:1:MET:O	28:W:34:VAL:HG12	2.09	0.52
15:J:47:GLN:NE2	29:X:2464:G:OP1	2.40	0.52
29:X:1240:G:O2'	29:X:1241:G:H5'	2.09	0.52
29:X:77:C:C2	29:X:78:C:C5	2.97	0.52
16:K:3:HIS:CE1	29:X:2796:A:P	2.97	0.52
16:K:28:LEU:HD23	16:K:28:LEU:C	2.29	0.52
29:X:2705:A:O2'	29:X:2706:U:C6	2.63	0.52
10:E:57:ASP:O	10:E:58:ALA:HB2	2.09	0.52
29:X:1249:G:O2'	29:X:1250:A:O5'	2.25	0.52
29:X:756:C:C2'	29:X:757:U:H5'	2.40	0.52
29:X:1372:A:C4	29:X:1373:G:C8	2.98	0.52
29:X:1923:U:O2'	29:X:1924:C:OP2	2.28	0.52
29:X:1602:G:H5'	29:X:1603:A:OP2	2.10	0.52
10:E:144:VAL:C	10:E:146:ALA:N	2.61	0.52
29:X:208:C:N4	29:X:209:G:N2	2.57	0.52
22:Q:24:VAL:HG13	22:Q:80:VAL:O	2.09	0.52
27:V:37:LEU:CD1	29:X:60:A:H4'	2.37	0.52
24:S:64:ALA:HA	24:S:85:MET:HA	1.91	0.52
29:X:1569:A:N1	29:X:1571:G:H1'	2.24	0.52
31:Z:123:U:H3'	31:Z:123:U:OP1	2.09	0.52
29:X:682:G:H2'	29:X:682:G:N3	2.23	0.52
12:G:131:VAL:C	12:G:133:GLY:N	2.63	0.52
29:X:1052:C:H3'	29:X:1053:G:H5'	1.89	0.52
6:A:123:ALA:O	6:A:125:PRO:HD3	2.10	0.52
29:X:1505:U:H2'	29:X:1506:C:C5'	2.37	0.52
6:A:205:VAL:O	6:A:206:LEU:HB2	2.09	0.52
29:X:1817:U:H2'	29:X:1818:G:O4'	2.10	0.52
8:C:108:ILE:O	8:C:111:ARG:N	2.43	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:L:56:SER:HG	17:L:71:VAL:HB	1.75	0.52
11:F:52:ILE:H	11:F:73:PRO:HD2	1.75	0.52
29:X:1242:A:C2	29:X:1243:G:C4	2.98	0.52
29:X:356:A:C2'	29:X:357:A:C8	2.92	0.52
29:X:2175:A:O2'	29:X:2176:U:H5'	2.09	0.52
29:X:2674:C:H2'	29:X:2675:U:C6	2.44	0.52
26:U:22:GLY:CA	26:U:39:LYS:HD2	2.39	0.52
13:H:16:ALA:HB3	13:H:98:ILE:CD1	2.36	0.52
29:X:1920:A:C2	29:X:1922:U:H5	2.28	0.52
21:P:18:VAL:HG12	21:P:19:LYS:N	2.23	0.52
15:J:82:THR:O	15:J:83:ARG:HB2	2.10	0.52
29:X:2660:C:C4	29:X:2704:U:C5	2.98	0.52
7:B:198:LEU:CD1	7:B:198:LEU:N	2.68	0.52
10:E:160:LYS:HZ1	29:X:2637:C:P	2.32	0.52
29:X:2805:G:H2'	29:X:2806:G:O4'	2.10	0.52
7:B:115:GLY:HA2	7:B:157:ALA:HB2	1.91	0.52
29:X:1350:G:C4	29:X:1351:G:C8	2.97	0.52
29:X:1179:A:H2'	29:X:1180:A:C8	2.45	0.52
7:B:127:ALA:CB	7:B:135:HIS:HE1	2.23	0.52
23:R:25:LEU:CD1	23:R:25:LEU:N	2.72	0.52
8:C:42:THR:HG22	29:X:38:G:N3	2.25	0.52
29:X:565:A:H2'	29:X:566:U:C6	2.45	0.52
29:X:566:U:H2'	29:X:567:G:C8	2.44	0.52
6:A:211:ARG:NH1	6:A:211:ARG:CG	2.55	0.52
6:A:254:THR:H	29:X:1787:U:H4'	1.75	0.52
9:D:155:THR:HG21	29:X:2293:G:H4'	1.92	0.52
29:X:1128:G:H2'	29:X:1129:A:H5''	1.91	0.52
15:J:95:VAL:HG12	15:J:96:SER:N	2.25	0.52
29:X:636:G:C5'	29:X:636:G:H8	2.14	0.52
29:X:847:C:N3	29:X:848:A:N7	2.58	0.52
29:X:1242:A:H2'	29:X:1243:G:C8	2.44	0.52
29:X:929:A:H2	31:Z:81:C:O2	1.93	0.52
9:D:65:PRO:CB	9:D:89:VAL:HG22	2.36	0.52
16:K:87:TYR:CE1	16:K:94:TYR:CD2	2.82	0.52
29:X:1068:A:H2'	29:X:1068:A:N3	2.24	0.52
14:I:32:ARG:CD	20:O:81:ARG:HD2	2.39	0.52
16:K:24:GLN:O	16:K:25:ALA:C	2.48	0.52
19:N:45:TYR:O	19:N:46:GLU:C	2.48	0.52
29:X:571:U:O2	29:X:581:A:C4	2.63	0.52
7:B:120:TRP:CE3	7:B:155:ARG:HD2	2.45	0.52
8:C:66:ASN:HA	29:X:1268:U:C5	2.45	0.52
29:X:2431:C:O2'	29:X:2432:A:H5'	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:457:C:N4	29:X:458:G:C6	2.78	0.52
29:X:694:G:H2'	29:X:695:G:O4'	2.09	0.52
29:X:2039:G:N2	30:Y:4:HIS:O	2.43	0.52
6:A:134:ARG:HG3	6:A:135:PHE:CD2	2.45	0.52
6:A:186:HIS:C	6:A:188:GLU:H	2.14	0.52
6:A:184:ARG:HH21	6:A:268:ARG:NH1	2.06	0.52
6:A:243:GLY:C	6:A:244:ARG:HD3	2.30	0.52
29:X:777:A:HO2'	29:X:778:G:P	2.31	0.52
18:M:101:ARG:HG2	18:M:101:ARG:NH2	2.23	0.52
9:D:27:ALA:HB2	31:Z:59:A:C1'	2.23	0.52
17:L:89:PHE:O	17:L:89:PHE:HD1	1.93	0.52
17:L:11:LEU:HD21	29:X:2273:C:C5'	2.40	0.52
28:W:9:VAL:O	28:W:12:ARG:HB2	2.10	0.52
15:J:27:TYR:HB3	15:J:137:VAL:CG1	2.40	0.52
15:J:15:ARG:NH1	15:J:15:ARG:CG	2.72	0.52
26:U:10:LYS:HD3	26:U:11:LYS:HG3	1.92	0.52
29:X:1074:G:O2'	29:X:1075:C:H5'	2.10	0.52
13:H:27:SER:OG	13:H:49:ASP:HA	2.09	0.52
29:X:872:G:N2	29:X:928:G:H2'	2.25	0.52
12:G:33:ILE:HD12	12:G:34:PRO:N	2.25	0.52
12:G:70:PHE:CB	19:N:64:ARG:HG2	2.39	0.52
26:U:20:ARG:HD3	26:U:43:ARG:CZ	2.40	0.52
29:X:229:G:H2'	29:X:230:C:H6	1.75	0.52
29:X:1448:A:H2'	29:X:1449:C:C6	2.45	0.52
13:H:70:VAL:CG2	13:H:71:LYS:H	2.22	0.52
29:X:1939:U:H1'	29:X:2531:U:OP1	2.10	0.52
29:X:1753:A:H8	29:X:1753:A:O5'	1.93	0.52
29:X:1425:G:C2'	29:X:1426:U:H5'	2.39	0.52
12:G:148:LEU:HD12	12:G:148:LEU:C	2.31	0.52
7:B:95:ILE:HG22	7:B:96:PHE:N	2.25	0.52
13:H:3:MET:O	13:H:6:SER:HB3	2.10	0.52
6:A:132:PRO:HD3	6:A:190:TYR:CE2	2.45	0.52
6:A:132:PRO:CA	6:A:190:TYR:HA	2.34	0.52
17:L:67:THR:O	17:L:71:VAL:HG12	2.10	0.52
15:J:69:ILE:HD13	15:J:104:MET:CB	2.40	0.52
26:U:59:THR:O	26:U:60:VAL:O	2.28	0.52
29:X:930:A:C8	29:X:931:G:C8	2.98	0.52
29:X:219:G:H2'	29:X:231:G:O6	2.10	0.52
29:X:2662:C:O2'	29:X:2663:U:H5'	2.10	0.52
29:X:654:A:OP1	29:X:654:A:O4'	2.28	0.52
29:X:222:G:H1'	29:X:397:U:O2	2.10	0.52
29:X:2178:U:H2'	29:X:2179:C:H6	1.73	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:B:188:ILE:CG2	7:B:189:PRO:CD	2.84	0.52
21:P:30:TYR:CD1	21:P:123:HIS:HE1	2.28	0.52
24:S:67:LYS:NZ	31:Z:106:U:O3'	2.43	0.52
29:X:1336:G:O2'	29:X:1337:G:H5'	2.10	0.52
7:B:93:VAL:O	7:B:94:ASP:HB2	2.08	0.52
29:X:1918:G:C4	29:X:1945:C:N4	2.77	0.52
29:X:1918:G:H1'	29:X:1947:G:N2	2.25	0.52
29:X:1987:G:C5	29:X:1988:A:C8	2.98	0.52
11:F:78:ILE:O	11:F:81:ALA:N	2.40	0.52
7:B:141:ILE:HG23	7:B:154:LYS:HD3	1.90	0.51
8:C:151:VAL:HG11	8:C:175:VAL:HG12	1.92	0.51
8:C:171:PRO:O	8:C:173:ALA:N	2.42	0.51
12:G:103:TYR:CG	12:G:111:LYS:HA	2.45	0.51
29:X:1216:G:C6	29:X:1217:U:C4	2.98	0.51
6:A:121:PRO:HB2	6:A:135:PHE:CE1	2.45	0.51
6:A:142:VAL:HB	6:A:192:THR:O	2.10	0.51
8:C:186:LEU:CG	8:C:188:ILE:HG12	2.35	0.51
9:D:34:ILE:HD11	9:D:156:ILE:HG12	1.92	0.51
17:L:89:PHE:HZ	29:X:2356:A:HO2'	1.50	0.51
29:X:945:G:C5	29:X:946:U:C5	2.97	0.51
29:X:946:U:C2	29:X:947:C:C5	2.98	0.51
26:U:46:LEU:C	26:U:47:HIS:ND1	2.63	0.51
12:G:68:PRO:O	12:G:70:PHE:CE2	2.63	0.51
19:N:66:ASN:CG	19:N:70:ARG:HH12	2.12	0.51
20:O:13:ARG:HB2	20:O:13:ARG:CZ	2.40	0.51
16:K:79:VAL:CA	16:K:83:VAL:HG13	2.31	0.51
25:T:60:PHE:CZ	29:X:2344:G:H4'	2.45	0.51
29:X:1494:G:N2	29:X:1495:G:H1'	2.25	0.51
29:X:172:A:C2	29:X:227:G:N2	2.60	0.51
29:X:497:C:C6	29:X:497:C:C3'	2.93	0.51
29:X:2228:U:N3	29:X:2232:G:OP2	2.42	0.51
14:I:39:SER:O	14:I:40:ARG:CB	2.58	0.51
19:N:114:ARG:NH1	19:N:115:ASN:ND2	2.54	0.51
29:X:1430:G:H2'	29:X:1431:U:H6	1.71	0.51
12:G:84:ASN:C	12:G:86:ALA:N	2.63	0.51
17:L:21:THR:HG22	17:L:22:ALA:H	1.70	0.51
29:X:1911:A:H2'	29:X:1912:G:C1'	2.39	0.51
29:X:197:G:N3	29:X:210:A:C2	2.76	0.51
29:X:1329:U:C2	29:X:1330:G:C8	2.98	0.51
13:H:100:ASN:OD1	13:H:100:ASN:C	2.49	0.51
27:V:64:GLY:O	27:V:65:GLU:CB	2.57	0.51
29:X:102:C:C4	29:X:103:U:C4	2.98	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:8:SER:C	23:R:10:HIS:H	2.13	0.51
29:X:1154:A:H4'	29:X:1155:G:OP2	2.08	0.51
29:X:584:A:C2	29:X:585:U:C5	2.97	0.51
6:A:244:ARG:HG2	29:X:1884:A:O2'	2.09	0.51
8:C:112:GLN:CA	8:C:116:LYS:HD3	2.40	0.51
17:L:53:ALA:C	17:L:75:LEU:HD13	2.30	0.51
29:X:2309:G:C2'	29:X:2310:G:H5'	2.39	0.51
28:W:49:HIS:CD2	31:Z:85:G:H5'	2.46	0.51
29:X:492:G:H1'	29:X:516:G:N2	2.25	0.51
29:X:2210:C:C2	29:X:2211:U:C5	2.97	0.51
7:B:68:ALA:C	7:B:70:ALA:H	2.12	0.51
29:X:2379:G:O2'	29:X:2380:U:H5'	2.09	0.51
29:X:2264:C:H5'	29:X:2267:A:N6	2.25	0.51
29:X:1236:G:H2'	29:X:1238:A:OP2	2.10	0.51
10:E:9:ILE:O	10:E:11:VAL:HG23	2.09	0.51
29:X:1544:A:C2	29:X:1560:A:C4	2.98	0.51
29:X:664:C:H3'	29:X:665:A:C2	2.45	0.51
29:X:1432:G:H21	29:X:1596:A:H62	1.58	0.51
29:X:171:G:C2	29:X:179:U:H1'	2.45	0.51
22:Q:63:LYS:HG3	22:Q:64:ARG:N	2.25	0.51
24:S:71:MET:N	24:S:71:MET:HE2	2.25	0.51
27:V:37:LEU:C	27:V:37:LEU:HD23	2.30	0.51
29:X:889:C:H2'	29:X:890:U:C6	2.46	0.51
29:X:549:G:H2'	29:X:550:C:H6	1.75	0.51
29:X:762:A:C6	29:X:1634:A:C2	2.98	0.51
12:G:116:ARG:CZ	12:G:126:VAL:HG13	2.39	0.51
14:I:11:GLY:N	14:I:14:LYS:CB	2.61	0.51
14:I:18:ARG:HD2	14:I:21:ARG:HG3	1.92	0.51
23:R:111:GLY:H	23:R:112:LYS:HD2	1.75	0.51
29:X:1016:C:C2	29:X:1154:A:C5	2.99	0.51
28:W:18:LYS:O	28:W:21:GLN:N	2.43	0.51
15:J:119:PHE:O	15:J:123:GLY:N	2.43	0.51
15:J:30:PHE:HB3	15:J:66:TYR:CE2	2.46	0.51
7:B:9:ILE:O	7:B:9:ILE:HG22	2.08	0.51
24:S:127:PRO:O	24:S:128:ARG:CG	2.56	0.51
9:D:60:ILE:HD12	9:D:138:PHE:CD2	2.45	0.51
22:Q:35:LYS:HA	22:Q:38:ILE:CG2	2.39	0.51
29:X:220:U:H2'	29:X:220:U:O2	2.10	0.51
29:X:1246:G:C5	29:X:1247:U:C5	2.99	0.51
16:K:11:ASN:HD21	16:K:12:ARG:NE	2.06	0.51
26:U:22:GLY:HA3	26:U:39:LYS:CG	2.40	0.51
10:E:103:LEU:HB2	10:E:123:PHE:CE2	2.45	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2060:A:H1'	29:X:2414:A:O4'	2.09	0.51
29:X:1194:U:C6	29:X:1194:U:H5'	2.33	0.51
31:Z:62:C:H2'	31:Z:63:A:C8	2.45	0.51
17:L:32:TYR:CZ	31:Z:9:G:H5'	2.45	0.51
29:X:105:G:O2'	29:X:106:G:H5'	2.10	0.51
8:C:195:ILE:HG13	8:C:195:ILE:O	2.11	0.51
25:T:23:VAL:HG13	25:T:38:VAL:HG22	1.91	0.51
29:X:994:A:N7	29:X:995:A:C6	2.79	0.51
29:X:2018:G:H4'	29:X:2019:C:OP2	2.09	0.51
29:X:1970:G:O2'	29:X:1971:C:H5'	2.10	0.51
7:B:152:LYS:H	12:G:106:TYR:HB3	1.74	0.51
8:C:162:ARG:NH1	29:X:310:A:N1	2.59	0.51
12:G:74:MET:SD	29:X:566:U:H4'	2.50	0.51
23:R:93:ARG:NH2	23:R:108:VAL:CA	2.73	0.51
29:X:1302:C:H2'	29:X:1303:U:H6	1.75	0.51
29:X:20:C:H2'	29:X:21:A:C8	2.46	0.51
15:J:36:ILE:HG23	15:J:102:ARG:O	2.10	0.51
14:I:86:THR:H	14:I:116:ARG:HH11	1.58	0.51
14:I:89:ASP:C	14:I:90:ARG:HG3	2.31	0.51
24:S:91:PRO:CD	24:S:127:PRO:HG3	2.39	0.51
11:F:52:ILE:H	11:F:73:PRO:CG	2.24	0.51
29:X:357:A:H2'	29:X:358:C:H5'	1.93	0.51
11:F:10:LEU:HD21	11:F:57:ILE:CG1	2.38	0.51
20:O:47:PHE:O	20:O:48:GLY:O	2.28	0.51
29:X:1750:A:N7	29:X:2675:U:H1'	2.25	0.51
29:X:2236:U:H2'	29:X:2237:C:H6	1.75	0.51
21:P:62:ARG:O	21:P:65:SER:HB2	2.10	0.51
29:X:1525:A:C5	29:X:1526:U:H1'	2.46	0.51
24:S:39:PHE:HA	24:S:42:ALA:HB3	1.93	0.51
15:J:17:ARG:NH1	29:X:967:G:O6	2.43	0.51
29:X:2619:G:C6	29:X:2755:A:C2	2.98	0.51
13:H:73:VAL:O	13:H:73:VAL:HG13	2.11	0.51
16:K:45:ARG:O	16:K:48:VAL:HG12	2.10	0.51
29:X:1705:U:O2	29:X:1717:A:C5'	2.58	0.51
29:X:822:G:H2'	29:X:823:U:H5'	1.92	0.51
29:X:182:G:O2'	29:X:183:U:P	2.69	0.51
29:X:1404:C:H5'	29:X:1405:A:OP2	2.10	0.51
29:X:498:C:C5	29:X:499:G:N7	2.79	0.51
29:X:1139:A:O2'	29:X:1140:A:P	2.68	0.51
8:C:129:LYS:O	8:C:131:LYS:N	2.35	0.51
8:C:136:TRP:O	8:C:137:ALA:C	2.48	0.51
12:G:104:THR:OG1	12:G:110:LEU:CD1	2.59	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:G:141:GLY:O	12:G:142:ARG:C	2.49	0.51
6:A:149:PRO:HA	6:A:189:CYS:SG	2.50	0.51
6:A:226:MET:HE2	29:X:795:A:C2	2.46	0.51
9:D:13:ARG:HG2	9:D:13:ARG:HH21	1.74	0.51
9:D:166:ALA:C	9:D:170:LEU:HG	2.31	0.51
9:D:16:LEU:HD13	9:D:28:VAL:CG1	2.41	0.51
29:X:939:C:C5'	29:X:940:G:O5'	2.57	0.51
15:J:119:PHE:O	15:J:120:ARG:C	2.49	0.51
24:S:19:ILE:CD1	24:S:36:ARG:HG3	2.41	0.51
29:X:2376:G:C2	29:X:2399:C:C2	2.99	0.51
13:H:116:ARG:NE	18:M:40:ARG:HE	2.09	0.51
29:X:1234:C:N3	29:X:1242:A:C6	2.78	0.51
10:E:66:GLY:HA3	29:X:2728:A:O2'	2.10	0.51
25:T:44:LYS:NZ	29:X:871:U:OP1	2.42	0.51
29:X:748:A:C5'	29:X:749:C:OP2	2.58	0.51
19:N:79:PHE:CZ	19:N:83:LEU:HD11	2.46	0.51
29:X:2275:U:C4'	29:X:2276:C:OP1	2.56	0.51
25:T:52:GLY:N	25:T:62:LEU:HD21	2.25	0.51
29:X:2334:C:H6	29:X:2334:C:O5'	1.93	0.51
22:Q:27:PHE:CZ	22:Q:42:ILE:HD13	2.45	0.51
21:P:67:PRO:C	21:P:69:ALA:N	2.62	0.51
29:X:2816:C:C2	29:X:2852:G:N2	2.78	0.51
29:X:765:C:C4	29:X:1772:C:C2	2.98	0.51
29:X:1069:G:H3'	29:X:1070:G:H5''	1.93	0.51
29:X:2345:A:O2'	29:X:2346:G:H5'	2.11	0.51
29:X:1629:G:C6	29:X:1633:C:C6	2.97	0.51
29:X:165:G:H1'	29:X:1378:A:C6	2.45	0.51
29:X:549:G:H2'	29:X:550:C:C6	2.46	0.51
29:X:24:G:H2'	29:X:25:U:H6	1.75	0.51
29:X:24:G:N2	29:X:25:U:H1'	2.25	0.51
14:I:134:GLU:C	14:I:136:ALA:H	2.13	0.51
29:X:361:G:O5'	29:X:361:G:H8	1.93	0.51
29:X:1871:G:H3'	29:X:1871:G:N3	2.25	0.51
8:C:158:ARG:HB3	8:C:169:VAL:HG11	1.92	0.51
14:I:9:THR:O	14:I:13:ARG:HD2	2.11	0.51
29:X:1031:C:O2'	29:X:1032:A:H5''	2.11	0.51
29:X:2607:C:O2'	29:X:2761:A:H2'	2.10	0.51
29:X:1999:U:O2'	30:Y:7:PRO:O	2.25	0.51
9:D:122:PHE:HD2	9:D:129:ASN:N	2.09	0.51
17:L:87:VAL:CG1	17:L:88:VAL:N	2.73	0.51
24:S:10:PRO:O	24:S:13:LYS:CG	2.56	0.51
24:S:92:VAL:HG23	24:S:93:GLU:N	2.25	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:F:21:PRO:N	11:F:22:PRO:HD3	2.25	0.51
31:Z:112:A:H2'	31:Z:113:G:O4'	2.10	0.51
9:D:175:LEU:CD2	9:D:177:PHE:HE1	2.23	0.51
29:X:2417:U:O2'	29:X:2419:C:OP1	2.23	0.51
30:Y:51:TYR:HE1	30:Y:55:ARG:HD3	1.75	0.51
7:B:37:LYS:HB3	7:B:42:ASP:HB2	1.91	0.51
12:G:155:THR:O	12:G:158:HIS:N	2.39	0.51
29:X:1646:G:C6	29:X:1647:U:N3	2.79	0.51
17:L:34:SER:HB2	17:L:94:TYR:HE2	1.75	0.51
29:X:2016:A:N1	29:X:2019:C:C6	2.78	0.51
28:W:27:LYS:C	28:W:28:ILE:O	2.46	0.51
29:X:1102:G:H2'	29:X:1103:C:H6	1.75	0.51
21:P:49:SER:OG	21:P:51:GLN:HB2	2.10	0.51
29:X:1125:G:H2'	29:X:1126:A:H8	1.76	0.51
7:B:144:ARG:O	7:B:146:THR:N	2.44	0.51
8:C:169:VAL:CG1	8:C:170:LEU:N	2.74	0.51
29:X:1031:C:C2'	29:X:1031:C:O2	2.57	0.51
29:X:1820:G:O2'	29:X:1821:A:H5'	2.11	0.51
9:D:11:GLN:O	9:D:15:ALA:CB	2.59	0.51
9:D:16:LEU:O	9:D:20:PHE:CD1	2.63	0.51
17:L:10:LYS:C	17:L:14:ARG:HE	2.14	0.51
31:Z:42:U:N3	31:Z:45:C:H5''	2.25	0.51
28:W:39:ALA:O	28:W:43:MET:HG2	2.10	0.51
15:J:56:SER:O	15:J:57:ARG:C	2.49	0.51
18:M:38:LYS:HD3	18:M:41:GLU:OE2	2.11	0.51
29:X:357:A:C5	29:X:358:C:H1'	2.45	0.51
11:F:21:PRO:N	11:F:22:PRO:CD	2.74	0.51
11:F:27:LEU:HD12	11:F:27:LEU:N	2.26	0.51
24:S:100:THR:HG23	24:S:138:VAL:CG1	2.39	0.51
24:S:105:GLN:OE1	24:S:140:LYS:CA	2.53	0.51
24:S:138:VAL:O	24:S:141:MET:HB2	2.10	0.51
12:G:67:ARG:NH2	12:G:70:PHE:C	2.59	0.51
9:D:138:PHE:HB2	9:D:141:ILE:HG12	1.91	0.51
21:P:106:LEU:HD23	21:P:115:ASN:O	2.10	0.51
29:X:2404:A:H4'	29:X:2405:A:H5''	1.85	0.51
29:X:1186:G:H2'	29:X:1188:A:N6	2.25	0.51
29:X:437:G:O2'	29:X:438:G:H5'	2.10	0.51
29:X:2852:G:C2'	29:X:2853:U:H5'	2.41	0.51
7:B:61:LYS:N	7:B:62:PRO:CD	2.73	0.51
17:L:83:GLY:C	17:L:84:ILE:HD12	2.31	0.51
8:C:30:VAL:O	8:C:31:VAL:C	2.47	0.51
8:C:42:THR:HG21	29:X:454:G:N3	2.24	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:C:48:ARG:O	8:C:51:VAL:CG2	2.59	0.51
14:I:13:ARG:HG2	14:I:14:LYS:N	2.24	0.51
23:R:93:ARG:O	23:R:95:ARG:NE	2.44	0.51
29:X:539:A:N3	29:X:540:G:O6	2.43	0.51
29:X:813:A:C2	29:X:815:A:C8	2.98	0.51
6:A:92:ILE:HG21	6:A:104:TYR:CD2	2.46	0.51
29:X:1838:G:H3'	29:X:1839:A:H8	1.75	0.51
29:X:2826:C:H6	29:X:2826:C:O5'	1.92	0.51
15:J:28:VAL:O	15:J:29:ALA:HB2	2.11	0.51
18:M:93:ILE:N	18:M:93:ILE:CD1	2.74	0.51
26:U:46:LEU:O	26:U:47:HIS:ND1	2.44	0.51
29:X:2266:A:N6	29:X:2323:U:C4	2.77	0.51
10:E:11:VAL:HG21	10:E:50:LEU:HB2	1.91	0.51
10:E:43:VAL:CB	10:E:52:VAL:HG13	2.37	0.51
24:S:105:GLN:O	24:S:141:MET:O	2.29	0.51
24:S:117:VAL:CG2	24:S:168:VAL:HA	2.35	0.51
29:X:1511:A:C6	29:X:1512:A:C6	2.99	0.51
27:V:26:MET:HA	27:V:29:ARG:NH2	2.25	0.51
29:X:1681:A:O5'	29:X:1681:A:H8	1.93	0.51
29:X:223:C:O2'	29:X:398:C:H5'	2.11	0.51
10:E:89:LEU:HD11	10:E:96:ALA:N	2.26	0.51
7:B:188:ILE:HG22	7:B:189:PRO:CD	2.41	0.51
29:X:162:C:O2'	29:X:163:A:H5'	2.11	0.51
22:Q:19:ALA:O	22:Q:22:ARG:HG2	2.11	0.51
29:X:417:C:N3	29:X:419:G:C5	2.79	0.51
7:B:119:ARG:HA	7:B:160:MET:HE3	1.92	0.51
29:X:1949:A:H1'	29:X:2572:U:C5'	2.40	0.51
29:X:1570:C:H5'	29:X:1571:G:OP2	2.11	0.51
17:L:77:ALA:O	17:L:80:ALA:HB3	2.11	0.51
7:B:133:LYS:HG2	7:B:137:ARG:HB3	1.93	0.51
12:G:103:TYR:CE2	29:X:1142:G:H1'	2.45	0.51
12:G:109:GLY:C	12:G:110:LEU:HD23	2.31	0.51
29:X:2597:G:C2	29:X:2598:C:C2	2.99	0.51
29:X:546:A:H2'	29:X:547:U:C6	2.44	0.51
6:A:92:ILE:HG22	6:A:104:TYR:HD2	1.75	0.51
6:A:69:ARG:CD	6:A:105:ILE:HD11	2.35	0.51
29:X:1779:C:H2'	29:X:1780:A:C8	2.46	0.51
13:H:79:HIS:CG	13:H:80:ALA:N	2.79	0.51
9:D:14:PRO:O	9:D:17:MET:N	2.44	0.51
14:I:94:GLU:O	14:I:99:VAL:HG22	2.10	0.51
29:X:2379:G:H2'	29:X:2380:U:H5'	1.91	0.51
10:E:43:VAL:CG2	10:E:44:ARG:N	2.74	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:72:ASP:O	24:S:75:LYS:O	2.29	0.51
29:X:2247:A:H5''	29:X:2247:A:C8	2.46	0.51
29:X:750:C:H2'	29:X:751:G:H5'	1.93	0.51
9:D:111:ILE:HB	9:D:114:PHE:CB	2.34	0.51
9:D:117:ILE:HD12	9:D:175:LEU:HD12	1.93	0.51
25:T:52:GLY:N	25:T:62:LEU:CD2	2.74	0.51
14:I:53:ARG:HH22	29:X:173:A:P	2.33	0.51
10:E:126:PRO:CG	10:E:127:GLU:H	2.10	0.51
10:E:89:LEU:HD12	10:E:129:THR:HA	1.93	0.51
29:X:2645:C:H3'	29:X:2646:C:C6	2.45	0.51
29:X:389:G:H2'	29:X:390:U:C5	2.44	0.51
29:X:2048:C:O2'	29:X:2049:C:H5'	2.11	0.51
23:R:17:LYS:C	23:R:19:GLY:N	2.65	0.51
29:X:575:U:H2'	29:X:576:A:H8	1.76	0.51
31:Z:106:U:H6	31:Z:106:U:O5'	1.94	0.51
29:X:972:C:C4'	29:X:973:U:OP2	2.57	0.51
29:X:2510:A:C6	29:X:2511:G:C5	2.99	0.51
29:X:2216:G:H8	29:X:2216:G:O5'	1.94	0.51
26:U:68:ARG:NH1	29:X:412:U:C5	2.79	0.51
12:G:73:ASN:HD21	29:X:547:U:H1'	1.76	0.51
21:P:38:VAL:HG22	21:P:64:ALA:CB	2.41	0.51
29:X:462:G:O6	29:X:465:C:OP1	2.28	0.51
29:X:1053:G:C2'	29:X:1054:C:O4'	2.59	0.51
29:X:1782:A:N1	29:X:1821:A:H5'	2.26	0.51
9:D:119:PRO:HG2	9:D:120:ASN:N	2.20	0.51
17:L:106:ALA:O	17:L:109:GLU:HG2	2.11	0.51
9:D:88:LYS:NZ	29:X:2293:G:OP1	2.42	0.51
31:Z:29:C:C5	31:Z:30:C:C5	2.99	0.51
31:Z:49:C:H5'	31:Z:50:U:OP2	2.10	0.51
28:W:14:GLY:O	28:W:18:LYS:HG2	2.10	0.51
29:X:490:A:O2'	29:X:492:G:H5''	2.11	0.51
15:J:128:ILE:CD1	15:J:130:THR:HG23	2.42	0.51
15:J:31:GLY:CA	15:J:108:ALA:HB2	2.40	0.51
14:I:63:ARG:CZ	29:X:2394:G:P	2.99	0.51
29:X:2322:U:H4'	29:X:2323:U:OP1	2.11	0.51
13:H:25:LEU:HD11	13:H:52:VAL:CG2	2.40	0.51
11:F:52:ILE:H	11:F:73:PRO:HG2	1.75	0.51
29:X:79:G:H2'	29:X:80:A:O4'	2.11	0.51
25:T:44:LYS:HE3	25:T:45:PHE:HE1	1.75	0.51
12:G:67:ARG:HB3	12:G:70:PHE:CB	2.40	0.51
19:N:93:LYS:HD2	20:O:10:LYS:HZ1	1.76	0.51
26:U:41:VAL:O	26:U:42:GLN:CB	2.59	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1361:G:C6	29:X:1615:C:N4	2.78	0.51
29:X:2778:U:H5'	29:X:2779:C:H1'	1.93	0.51
29:X:1495:G:H5'	29:X:1574:A:C2	2.46	0.51
21:P:80:LEU:HD21	21:P:87:GLU:CB	2.41	0.51
29:X:2635:U:OP2	29:X:2643:G:N1	2.31	0.51
27:V:7:ARG:C	27:V:9:LEU:H	2.13	0.51
29:X:2228:U:C5'	29:X:2229:G:OP2	2.57	0.51
29:X:2429:A:OP1	29:X:2476:A:C8	2.64	0.51
14:I:36:GLY:O	14:I:37:GLN:HB2	2.11	0.51
29:X:774:A:C8	29:X:774:A:C3'	2.94	0.51
29:X:242:A:H2'	29:X:243:G:O4'	2.10	0.51
29:X:1332:G:C2	29:X:1333:G:N2	2.79	0.51
7:B:129:HIS:CE1	29:X:1692:C:N3	2.79	0.51
29:X:194:G:H2'	29:X:195:A:O4'	2.10	0.51
29:X:2284:U:C2'	29:X:2285:U:H5''	2.41	0.51
29:X:1757:C:O2	29:X:1970:G:C2	2.64	0.51
13:H:125:LYS:O	13:H:128:SER:HB2	2.10	0.51
13:H:78:SER:HA	13:H:91:PHE:O	2.11	0.51
12:G:106:TYR:O	12:G:108:GLY:N	2.38	0.50
19:N:11:ARG:O	19:N:15:LYS:HG3	2.11	0.50
19:N:22:LYS:C	19:N:24:PHE:H	2.14	0.50
23:R:95:ARG:NH1	23:R:106:VAL:HG12	2.25	0.50
21:P:36:ARG:NH2	29:X:1279:G:H5''	2.26	0.50
29:X:341:A:O2'	29:X:342:G:H8	1.92	0.50
29:X:469:G:O2'	29:X:470:U:P	2.68	0.50
29:X:591:G:H2'	29:X:592:G:H8	1.74	0.50
21:P:36:ARG:CZ	30:Y:20:ARG:CZ	2.89	0.50
6:A:77:ALA:CB	6:A:97:TYR:CD1	2.87	0.50
18:M:28:ARG:CB	18:M:29:PRO:CD	2.73	0.50
28:W:14:GLY:O	28:W:17:VAL:HB	2.11	0.50
15:J:8:THR:HA	15:J:70:PHE:HZ	1.77	0.50
7:B:52:ALA:HB3	7:B:76:ARG:HD2	1.92	0.50
14:I:80:LEU:CD2	14:I:97:ARG:NH2	2.74	0.50
29:X:1542:G:N2	29:X:1562:G:N1	2.42	0.50
9:D:110:ARG:HH21	9:D:110:ARG:HG2	1.75	0.50
9:D:65:PRO:HB3	9:D:89:VAL:CG2	2.39	0.50
29:X:2288:A:H2'	29:X:2289:A:C8	2.45	0.50
11:F:83:GLY:C	11:F:84:ILE:HG13	2.31	0.50
29:X:1731:C:C3'	29:X:1732:U:C5'	2.89	0.50
14:I:36:GLY:O	14:I:37:GLN:HG3	2.11	0.50
14:I:76:LYS:HB3	14:I:79:GLN:NE2	2.26	0.50
29:X:1652:G:C4	29:X:1653:C:C5	2.99	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1563:U:H2'	29:X:1564:U:H6	1.72	0.50
27:V:62:ARG:O	27:V:66:GLN:HA	2.11	0.50
7:B:136:ARG:HH11	7:B:136:ARG:HG2	1.76	0.50
7:B:120:TRP:CE2	7:B:155:ARG:HD2	2.47	0.50
23:R:95:ARG:CG	23:R:105:ARG:O	2.58	0.50
29:X:1032:A:C8	29:X:1032:A:H3'	2.46	0.50
29:X:1261:G:O2'	29:X:1262:U:P	2.69	0.50
29:X:1996:A:C2'	29:X:1997:A:H5'	2.41	0.50
29:X:2756:A:H4'	29:X:2757:G:H5''	1.93	0.50
29:X:27:G:HO2'	29:X:28:A:H8	1.60	0.50
6:A:111:LEU:HD21	6:A:127:LEU:O	2.11	0.50
6:A:257:LEU:HD13	29:X:1795:C:P	2.51	0.50
9:D:29:PRO:HA	9:D:159:THR:OG1	2.09	0.50
17:L:42:ILE:HG22	17:L:51:LEU:HB2	1.93	0.50
29:X:2382:C:O2	29:X:2382:C:H2'	2.10	0.50
29:X:754:G:C6	29:X:770:U:O2	2.64	0.50
24:S:97:PRO:HB2	24:S:99:HIS:CE1	2.45	0.50
19:N:66:ASN:HD22	19:N:70:ARG:HH22	1.59	0.50
29:X:2707:G:H8	29:X:2707:G:H5'	1.76	0.50
18:M:39:VAL:HA	18:M:45:THR:HA	1.93	0.50
29:X:176:A:C3'	29:X:177:U:C5	2.88	0.50
29:X:1042:G:H2'	29:X:1043:A:C8	2.47	0.50
10:E:97:LYS:O	10:E:98:LEU:HB3	2.11	0.50
15:J:79:PRO:CD	15:J:88:LYS:NZ	2.74	0.50
23:R:52:ASN:HD21	23:R:71:GLN:CG	2.23	0.50
6:A:163:VAL:HG12	6:A:163:VAL:O	2.11	0.50
29:X:1391:A:H1'	29:X:1392:U:C4	2.46	0.50
30:Y:43:HIS:C	30:Y:44:HIS:CD2	2.84	0.50
29:X:2016:A:N6	29:X:2019:C:C2	2.80	0.50
29:X:165:G:H1'	29:X:1378:A:N6	2.26	0.50
29:X:182:G:C2'	29:X:183:U:OP2	2.59	0.50
29:X:1949:A:H1'	29:X:2572:U:H5'	1.92	0.50
27:V:62:ARG:HG2	27:V:62:ARG:NH1	2.27	0.50
29:X:1139:A:O2'	29:X:1140:A:O4'	2.28	0.50
29:X:1762:C:H2'	29:X:1763:G:O4'	2.11	0.50
23:R:24:VAL:HG11	23:R:29:HIS:HB2	1.92	0.50
29:X:1034:U:H2'	29:X:1035:G:H5'	1.92	0.50
29:X:2031:A:H2'	29:X:2032:G:O4'	2.11	0.50
29:X:2038:C:H2'	29:X:2483:U:C4'	2.42	0.50
23:R:13:LYS:NZ	29:X:349:G:OP1	2.29	0.50
8:C:3:GLN:NE2	8:C:4:ILE:CG1	2.71	0.50
29:X:2829:A:C6	29:X:2839:G:C6	2.99	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:L:42:ILE:CG2	17:L:51:LEU:HB2	2.42	0.50
26:U:32:ARG:HG2	26:U:34:THR:N	2.25	0.50
28:W:22:ALA:O	28:W:24:GLY:N	2.44	0.50
29:X:861:G:H1'	29:X:944:A:N3	2.26	0.50
26:U:49:LYS:CD	26:U:61:TRP:HA	2.41	0.50
7:B:53:PRO:HD3	18:M:5:ILE:HG22	1.93	0.50
13:H:8:LEU:HD22	13:H:94:ASN:HB3	1.93	0.50
27:V:14:PHE:HE2	27:V:57:LYS:N	2.09	0.50
9:D:108:LEU:HA	9:D:111:ILE:HD12	1.92	0.50
9:D:74:ILE:HG23	9:D:79:LEU:C	2.31	0.50
29:X:1357:U:C2'	29:X:1358:C:OP1	2.60	0.50
7:B:1:MET:CG	7:B:2:LYS:N	2.73	0.50
29:X:2651:U:O2	29:X:2652:G:C8	2.64	0.50
29:X:172:A:C6	29:X:175:C:C5	3.00	0.50
29:X:171:G:C6	29:X:179:U:C2	2.98	0.50
21:P:53:ALA:HB3	21:P:72:LEU:HD21	1.92	0.50
10:E:103:LEU:HD21	10:E:105:MET:HE3	1.93	0.50
22:Q:66:GLY:C	22:Q:68:PHE:H	2.06	0.50
29:X:1194:U:C5'	29:X:1194:U:H6	2.18	0.50
29:X:1363:C:O2'	29:X:1364:C:H5'	2.11	0.50
29:X:1284:G:OP2	29:X:1285:A:OP1	2.30	0.50
29:X:1517:C:H2'	29:X:1518:C:C6	2.43	0.50
29:X:1332:G:C2	29:X:1333:G:C2	2.98	0.50
8:C:122:GLY:C	8:C:124:ASP:H	2.14	0.50
4:4:29:ASN:OD1	4:4:31:LYS:HD3	2.11	0.50
22:Q:3:HIS:C	22:Q:5:ASP:H	2.12	0.50
29:X:1366:A:C6	29:X:1367:A:C6	2.99	0.50
29:X:2590:U:O2	30:Y:2:ALA:N	2.44	0.50
30:Y:52:TYR:O	30:Y:53:ASP:HB2	2.11	0.50
13:H:119:ARG:HH11	13:H:119:ARG:HG3	1.77	0.50
8:C:47:THR:CG2	8:C:84:PHE:H	2.24	0.50
14:I:4:HIS:HA	14:I:7:LYS:HZ1	1.74	0.50
29:X:342:G:H4'	29:X:343:A:OP1	2.10	0.50
6:A:252:LYS:HE3	6:A:253:PRO:HD2	1.93	0.50
6:A:252:LYS:O	6:A:253:PRO:C	2.50	0.50
29:X:2279:G:H2'	29:X:2280:A:H8	1.74	0.50
29:X:2299:A:C2	29:X:2312:A:C5	2.99	0.50
15:J:64:LYS:HG2	15:J:108:ALA:O	2.11	0.50
7:B:67:PHE:CE1	7:B:75:THR:HG22	2.47	0.50
27:V:1:MET:HG3	27:V:2:LYS:H	1.75	0.50
29:X:75:C:H2'	29:X:76:C:C5'	2.42	0.50
24:S:73:LYS:O	24:S:75:LYS:N	2.44	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:874:A:C2	31:Z:80:A:H2	2.29	0.50
19:N:91:ASN:HA	20:O:10:LYS:HZ2	1.76	0.50
29:X:2055:G:O2'	29:X:2056:C:H5'	2.11	0.50
29:X:176:A:H2'	29:X:2412:A:H61	1.77	0.50
6:A:62:TYR:CE2	29:X:1808:C:C4	3.00	0.50
29:X:2471:U:N3	29:X:2472:U:C4	2.79	0.50
29:X:956:A:H5'	29:X:957:G:OP2	2.11	0.50
24:S:3:LEU:HD13	24:S:33:ALA:N	2.25	0.50
29:X:2701:A:H2'	29:X:2702:G:O4'	2.11	0.50
29:X:2660:C:C2	29:X:2704:U:C4	2.99	0.50
8:C:191:ALA:O	8:C:194:GLU:O	2.29	0.50
29:X:670:U:H2'	29:X:671:A:C8	2.46	0.50
31:Z:4:C:C6	31:Z:4:C:C3'	2.95	0.50
29:X:1629:G:C6	29:X:1633:C:C5	3.00	0.50
29:X:994:A:H2'	29:X:995:A:C8	2.47	0.50
25:T:65:GLY:HA3	25:T:83:ALA:HA	1.92	0.50
29:X:1307:U:H2'	29:X:1308:C:O4'	2.11	0.50
29:X:1411:C:H2'	29:X:1412:C:H6	1.76	0.50
29:X:218:A:N6	29:X:232:A:H5''	2.26	0.50
14:I:4:HIS:HA	14:I:7:LYS:HZ2	1.76	0.50
23:R:96:LYS:CG	23:R:97:GLN:N	2.70	0.50
19:N:13:ARG:CZ	29:X:1264:C:H5''	2.41	0.50
29:X:2551:A:O2'	29:X:2552:C:OP2	2.28	0.50
30:Y:19:ARG:CG	30:Y:20:ARG:N	2.74	0.50
6:A:70:ARG:HG2	6:A:190:TYR:CD1	2.44	0.50
29:X:2299:A:H2'	29:X:2312:A:N6	2.27	0.50
29:X:917:U:H2'	29:X:918:A:C5'	2.40	0.50
14:I:118:VAL:O	14:I:138:GLY:HA3	2.12	0.50
24:S:90:GLU:HA	24:S:90:GLU:OE1	2.12	0.50
27:V:21:ARG:O	27:V:25:LEU:N	2.37	0.50
8:C:147:LYS:HB2	8:C:184:ASP:OD2	2.11	0.50
9:D:52:LYS:O	9:D:56:GLU:HB2	2.11	0.50
26:U:19:ILE:HG22	26:U:41:VAL:O	2.12	0.50
22:Q:75:ARG:NH1	22:Q:75:ARG:CG	2.71	0.50
29:X:1681:A:C6	29:X:2706:U:C5	3.00	0.50
29:X:1926:U:H5''	29:X:1927:U:OP1	2.12	0.50
29:X:1938:U:O2'	29:X:1939:U:OP1	2.24	0.50
10:E:94:PHE:CD2	10:E:107:ILE:HG22	2.47	0.50
20:O:79:GLN:OE1	20:O:79:GLN:CA	2.58	0.50
11:F:101:TRP:HA	11:F:104:VAL:HG21	1.93	0.50
21:P:27:VAL:HG13	29:X:504:G:H4'	1.93	0.50
29:X:1479:G:C2	29:X:1480:G:C4	2.99	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:A:79:VAL:HG12	6:A:113:VAL:HA	1.94	0.50
29:X:2165:A:H2'	29:X:2166:G:C8	2.45	0.50
29:X:581:A:N1	29:X:2012:A:H2	2.10	0.50
6:A:46:ARG:C	6:A:46:ARG:HD3	2.32	0.50
29:X:1102:G:H2'	29:X:1103:C:C6	2.46	0.50
29:X:413:G:H8	29:X:413:G:O5'	1.94	0.50
19:N:12:ARG:O	19:N:13:ARG:C	2.50	0.50
29:X:1219:C:H2'	29:X:1220:G:O4'	2.11	0.50
30:Y:20:ARG:C	30:Y:22:HIS:H	2.15	0.50
6:A:200:GLU:CG	6:A:202:LYS:HB2	2.40	0.50
29:X:2198:U:N3	29:X:2199:C:C5	2.79	0.50
4:4:1:MET:HE2	4:4:33:LYS:HB3	1.94	0.50
17:L:38:ILE:CG1	17:L:39:TYR:N	2.74	0.50
24:S:19:ILE:HG22	24:S:20:ALA:N	2.26	0.50
29:X:641:G:N2	29:X:643:A:H3'	2.26	0.50
11:F:50:ASP:O	11:F:51:ALA:CB	2.60	0.50
29:X:555:U:C5	29:X:1233:A:H3'	2.47	0.50
29:X:1468:A:P	29:X:1468:A:C8	3.02	0.50
29:X:733:G:O2'	29:X:734:G:H5'	2.12	0.50
8:C:166:TRP:CE3	8:C:166:TRP:N	2.79	0.50
12:G:33:ILE:O	12:G:69:ASP:HB3	2.12	0.50
20:O:22:VAL:HA	20:O:91:THR:OG1	2.10	0.50
9:D:130:LEU:HD23	9:D:131:GLY:N	2.27	0.50
9:D:56:GLU:O	9:D:57:LEU:C	2.49	0.50
9:D:40:LEU:HD12	9:D:85:VAL:O	2.11	0.50
27:V:35:GLY:O	27:V:36:GLN:HB2	2.10	0.50
13:H:1:MET:CE	29:X:2706:U:H1'	2.41	0.50
16:K:10:LEU:HD23	16:K:17:ARG:HG2	1.94	0.50
10:E:107:ILE:HD13	10:E:107:ILE:H	1.76	0.50
29:X:186:C:O2'	29:X:187:U:H5'	2.10	0.50
12:G:154:GLU:O	12:G:157:PRO:HB2	2.10	0.50
29:X:417:C:C6	29:X:419:G:C4	2.99	0.50
29:X:1490:U:H3'	29:X:1490:U:P	2.52	0.50
16:K:24:GLN:CB	16:K:44:LEU:HD22	2.42	0.50
29:X:165:G:H2'	29:X:166:G:C5'	2.42	0.50
6:A:166:GLN:HB2	6:A:174:ILE:HB	1.93	0.50
8:C:19:LEU:HA	8:C:20:PRO:O	2.10	0.50
29:X:859:U:H1'	29:X:860:U:N3	2.27	0.50
13:H:92:ASP:OD1	18:M:69:ARG:NH1	2.45	0.50
31:Z:78:A:H2'	31:Z:79:U:O4'	2.11	0.50
23:R:55:THR:HG23	23:R:55:THR:O	2.11	0.50
7:B:133:LYS:O	7:B:134:TRP:C	2.49	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:B:136:ARG:NH1	7:B:136:ARG:CG	2.73	0.50
19:N:13:ARG:NH1	29:X:1264:C:H5'	2.27	0.50
14:I:13:ARG:NH1	29:X:1218:C:C4'	2.67	0.50
29:X:1223:G:C5'	29:X:1224:A:H5''	2.41	0.50
29:X:1995:G:O5'	29:X:1995:G:H8	1.94	0.50
29:X:1794:A:H2	29:X:1814:G:N3	2.10	0.50
6:A:252:LYS:HZ2	6:A:253:PRO:HD2	1.77	0.50
29:X:793:G:H21	29:X:796:A:N6	2.07	0.50
29:X:2314:A:O2'	29:X:2315:A:H8	1.95	0.50
31:Z:42:U:H1'	31:Z:47:A:H61	1.75	0.50
28:W:34:VAL:HG22	28:W:40:VAL:CG1	2.39	0.50
26:U:48:LYS:CG	26:U:49:LYS:N	2.54	0.50
29:X:1845:A:H2'	29:X:1846:A:C8	2.47	0.50
7:B:183:LEU:HD11	18:M:16:ILE:HG23	1.94	0.50
29:X:873:U:O2	29:X:873:U:H2'	2.12	0.50
9:D:111:ILE:HG22	9:D:114:PHE:HB2	1.92	0.50
6:A:50:THR:HG22	6:A:51:SER:N	2.26	0.50
29:X:2642:G:C2'	29:X:2643:G:H5'	2.41	0.50
29:X:1731:C:H2'	29:X:1732:U:H5''	1.94	0.50
29:X:2701:A:H2'	29:X:2702:G:C5'	2.41	0.50
11:F:100:ASN:HA	11:F:139:GLU:OE1	2.12	0.50
29:X:1336:G:H2'	29:X:1337:G:H5'	1.92	0.50
29:X:1624:A:C5	29:X:1627:C:C4	2.98	0.50
6:A:96:HIS:HE1	6:A:100:GLY:HA2	1.77	0.50
29:X:141:G:H2'	29:X:142:U:O4'	2.11	0.50
29:X:996:C:OP2	29:X:996:C:H3'	2.11	0.50
29:X:1419:G:H2'	29:X:1420:A:O4'	2.11	0.50
6:A:101:GLU:CD	6:A:103:ARG:HE	2.14	0.50
27:V:65:GLU:O	27:V:66:GLN:HB2	2.12	0.50
29:X:860:U:C2'	29:X:860:U:O2	2.60	0.50
29:X:1135:C:C2	29:X:1136:G:C8	2.99	0.50
29:X:330:C:C2	29:X:331:U:C6	3.00	0.50
29:X:455:A:H5''	29:X:456:C:OP1	2.12	0.50
29:X:463:C:C2	29:X:465:C:C5	3.00	0.50
29:X:1770:U:O2	29:X:1774:A:C6	2.65	0.50
29:X:1818:G:C5	29:X:1819:U:C5	2.99	0.50
8:C:117:LEU:CD2	8:C:117:LEU:C	2.80	0.50
17:L:27:LEU:HD23	17:L:44:ASP:HA	1.94	0.50
25:T:20:TYR:O	25:T:21:LEU:CB	2.59	0.50
15:J:86:LYS:HB2	29:X:2256:G:P	2.52	0.50
29:X:391:C:O2'	29:X:392:G:H5'	2.11	0.50
14:I:73:GLU:HG2	14:I:101:ARG:HB2	1.93	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:H:23:ARG:NH2	13:H:24:VAL:C	2.65	0.50
27:V:52:GLN:O	27:V:53:LEU:C	2.50	0.50
15:J:100:PRO:CB	24:S:74:ARG:HE	2.25	0.50
24:S:73:LYS:O	24:S:74:ARG:HB2	2.12	0.50
24:S:98:VAL:HG23	24:S:118:HIS:O	2.12	0.50
19:N:66:ASN:CB	19:N:76:TYR:HB2	2.42	0.50
20:O:15:SER:HB3	20:O:95:ILE:O	2.12	0.50
29:X:1361:G:C6	29:X:1362:A:C6	3.00	0.50
29:X:2779:C:H6	29:X:2779:C:H3'	1.77	0.50
10:E:54:ARG:NH1	10:E:57:ASP:HB3	2.22	0.50
10:E:76:VAL:O	10:E:78:GLY:N	2.45	0.50
29:X:1524:C:H2'	29:X:1524:C:O2	2.10	0.50
16:K:98:LEU:CD2	30:Y:56:GLN:HG2	2.38	0.50
21:P:105:ARG:NH1	21:P:119:LYS:HZ1	2.09	0.50
24:S:71:MET:HA	24:S:78:PRO:HA	1.93	0.50
27:V:38:ALA:O	27:V:40:PRO:CD	2.59	0.50
31:Z:5:C:H2'	31:Z:6:C:C6	2.46	0.50
29:X:1685:A:N7	29:X:1691:G:C6	2.79	0.50
30:Y:42:SER:O	30:Y:43:HIS:HB2	2.11	0.50
29:X:1450:G:C2'	29:X:1451:C:H5'	2.41	0.50
29:X:1484:G:H2'	29:X:1485:U:O4'	2.12	0.50
10:E:83:TYR:OH	10:E:138:LYS:HD2	2.10	0.50
29:X:2243:C:H2'	29:X:2244:C:O4'	2.12	0.50
29:X:2738:A:OP2	29:X:2739:G:OP2	2.30	0.50
7:B:150:VAL:CG2	29:X:2598:C:C4'	2.90	0.50
29:X:1035:G:C8	29:X:1036:G:C8	2.99	0.50
29:X:1256:C:H2'	29:X:1257:U:O4'	2.12	0.50
23:R:4:PRO:HA	29:X:34:U:H1'	1.94	0.50
29:X:533:C:H1'	29:X:563:U:O2'	2.11	0.50
19:N:10:ARG:NH1	29:X:592:G:P	2.83	0.50
29:X:695:G:H2'	29:X:696:U:H6	1.75	0.50
30:Y:16:ARG:HD3	30:Y:20:ARG:NH1	2.24	0.50
29:X:1053:G:C5	29:X:1054:C:C4	3.00	0.50
17:L:8:ARG:CB	17:L:8:ARG:NH1	2.71	0.50
28:W:43:MET:HE1	29:X:941:U:O2	2.12	0.50
26:U:14:VAL:O	26:U:15:VAL:CG2	2.60	0.50
29:X:2396:C:H2'	29:X:2397:A:O4'	2.11	0.50
14:I:107:LYS:HE3	29:X:647:G:C6	2.47	0.50
10:E:7:GLN:H	10:E:8:PRO:CD	2.25	0.50
29:X:1475:U:O2	29:X:1475:U:H2'	2.12	0.50
29:X:731:A:H5''	29:X:731:A:N3	2.26	0.50
29:X:1557:G:O2'	29:X:1558:C:H5'	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:751:G:H2'	29:X:752:G:H8	1.68	0.50
29:X:2082:C:H2'	29:X:2083:G:H5'	1.93	0.50
19:N:50:ARG:HA	19:N:53:LYS:HG2	1.94	0.50
9:D:108:LEU:HA	9:D:111:ILE:HG13	1.94	0.50
29:X:2662:C:C2	29:X:2663:U:C5	3.00	0.50
29:X:2782:G:O6	29:X:2867:G:O6	2.30	0.50
7:B:1:MET:CG	7:B:2:LYS:H	2.24	0.50
22:Q:81:ARG:HG3	22:Q:81:ARG:NH1	2.26	0.50
22:Q:25:TYR:CE2	22:Q:82:LEU:HD11	2.47	0.50
10:E:71:LEU:HA	10:E:74:ASN:ND2	2.26	0.50
29:X:1430:G:H2'	29:X:1431:U:O4'	2.11	0.50
29:X:1442:C:C4	29:X:1585:A:H5''	2.46	0.50
29:X:810:U:C3'	29:X:810:U:C6	2.95	0.50
29:X:2214:G:H2'	29:X:2215:C:O4'	2.12	0.50
29:X:1304:U:O2'	29:X:1305:C:H5'	2.12	0.50
7:B:117:MET:HB2	7:B:136:ARG:CD	2.42	0.49
14:I:13:ARG:NH2	14:I:13:ARG:CB	2.75	0.49
14:I:45:LYS:HG2	14:I:46:GLY:N	2.22	0.49
19:N:13:ARG:NH1	29:X:1264:C:C5'	2.75	0.49
29:X:531:G:C2	29:X:532:A:C5	3.00	0.49
29:X:1051:U:C2'	29:X:1052:C:O4'	2.59	0.49
6:A:182:LEU:HB2	6:A:268:ARG:HB2	1.93	0.49
6:A:197:GLY:O	6:A:199:ALA:O	2.30	0.49
29:X:1776:A:C8	29:X:1778:U:C5	3.00	0.49
29:X:1780:A:H2'	29:X:1781:C:O4'	2.12	0.49
18:M:104:LEU:HB3	18:M:107:LEU:CD1	2.42	0.49
9:D:12:VAL:C	9:D:16:LEU:HG	2.33	0.49
17:L:37:HIS:HD2	31:Z:29:C:O3'	1.94	0.49
17:L:41:GLN:HG2	17:L:43:ILE:CD1	2.42	0.49
17:L:89:PHE:CD1	17:L:91:ARG:NH2	2.80	0.49
9:D:63:GLN:HG3	9:D:95:ARG:NH2	2.27	0.49
15:J:113:GLU:O	15:J:115:ALA:N	2.45	0.49
29:X:2209:G:C5	29:X:2210:C:C5	3.00	0.49
29:X:1467:U:H3'	29:X:1468:A:C5'	2.42	0.49
11:F:23:VAL:HA	11:F:26:ALA:CB	2.40	0.49
12:G:35:LYS:O	12:G:36:ASN:CB	2.55	0.49
20:O:49:GLU:C	20:O:51:ALA:H	2.15	0.49
29:X:805:G:N7	29:X:2419:C:H1'	2.27	0.49
21:P:45:ILE:CD1	21:P:57:LEU:HG	2.35	0.49
29:X:1804:U:H2'	29:X:1805:G:C8	2.47	0.49
27:V:4:SER:HA	27:V:7:ARG:HG3	1.94	0.49
29:X:1182:U:H2'	29:X:1183:C:O5'	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:G:115:ALA:O	12:G:118:ALA:CB	2.56	0.49
12:G:44:VAL:HG12	12:G:45:ASP:N	2.27	0.49
29:X:2550:C:C4	29:X:2553:G:C8	3.00	0.49
25:T:31:VAL:C	25:T:35:ASN:HD22	2.15	0.49
24:S:64:ALA:CA	24:S:85:MET:HA	2.42	0.49
29:X:1842:G:H2'	29:X:1843:U:H6	1.77	0.49
29:X:1179:A:C2	29:X:1196:G:C2	3.00	0.49
13:H:119:ARG:HG3	13:H:119:ARG:NH1	2.27	0.49
29:X:919:U:O2'	29:X:920:G:H5'	2.12	0.49
29:X:1994:U:C2'	29:X:1995:G:H5'	2.41	0.49
7:B:141:ILE:CD1	29:X:2034:A:H4'	2.42	0.49
29:X:350:U:C6	29:X:350:U:O5'	2.61	0.49
29:X:777:A:O2'	29:X:778:G:P	2.70	0.49
9:D:10:ASP:C	9:D:14:PRO:HD2	2.32	0.49
29:X:2293:G:H2'	29:X:2294:U:C6	2.48	0.49
29:X:884:C:H2'	29:X:885:A:H8	1.77	0.49
7:B:183:LEU:HD21	18:M:16:ILE:CD1	2.24	0.49
10:E:12:PRO:O	10:E:15:VAL:HG13	2.13	0.49
29:X:78:C:O2'	29:X:79:G:H5'	2.11	0.49
13:H:46:HIS:O	13:H:47:VAL:C	2.50	0.49
11:F:7:ILE:HG22	11:F:8:VAL:N	2.27	0.49
15:J:100:PRO:CB	24:S:74:ARG:HG2	2.43	0.49
24:S:117:VAL:HG22	24:S:168:VAL:CA	2.36	0.49
19:N:66:ASN:HB3	19:N:76:TYR:CB	2.42	0.49
29:X:1385:C:H2'	29:X:1386:A:O4'	2.11	0.49
10:E:105:MET:HB3	10:E:107:ILE:HD11	1.94	0.49
29:X:154:U:H5'	29:X:155:G:OP2	2.11	0.49
29:X:2057:U:H6	29:X:2057:U:C5'	2.24	0.49
29:X:212:U:C2	29:X:443:A:C2	3.00	0.49
29:X:1348:C:H2'	29:X:1349:A:C8	2.44	0.49
29:X:1695:U:O2'	29:X:1696:C:H5'	2.12	0.49
29:X:1974:U:O2'	29:X:1975:G:H5''	2.12	0.49
29:X:1771:A:O2'	29:X:1772:C:OP1	2.29	0.49
29:X:768:U:H2'	29:X:769:C:O4'	2.11	0.49
29:X:141:G:O2'	29:X:142:U:H5'	2.12	0.49
29:X:571:U:O2'	29:X:581:A:O4'	2.20	0.49
29:X:2742:G:O2'	29:X:2743:G:H5'	2.11	0.49
29:X:2753:C:O2'	29:X:2754:C:H5'	2.12	0.49
7:B:127:ALA:HB2	7:B:135:HIS:HE1	1.76	0.49
23:R:24:VAL:O	23:R:31:GLY:N	2.45	0.49
29:X:333:A:O4'	29:X:351:A:H1'	2.11	0.49
29:X:36:G:HO2'	29:X:462:G:C2'	2.25	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:564:U:H2'	29:X:565:A:H8	1.76	0.49
29:X:2197:U:N3	29:X:2198:U:C5	2.81	0.49
9:D:125:ARG:HB2	9:D:127:ASN:HD22	1.78	0.49
9:D:6:THR:HG22	9:D:7:LYS:N	2.26	0.49
29:X:863:C:H2'	29:X:864:C:C6	2.47	0.49
7:B:75:THR:HG23	7:B:76:ARG:H	1.76	0.49
14:I:105:PRO:O	14:I:106:VAL:HG23	2.11	0.49
29:X:847:C:H2'	29:X:848:A:C8	2.40	0.49
29:X:1459:U:H4'	29:X:1460:G:OP1	2.10	0.49
29:X:2797:G:H2'	29:X:2798:A:H5''	1.94	0.49
19:N:66:ASN:CB	19:N:70:ARG:NH1	2.59	0.49
19:N:99:ALA:HB2	19:N:106:PHE:CE1	2.47	0.49
20:O:36:LYS:HD2	20:O:55:THR:N	2.27	0.49
24:S:123:VAL:H	24:S:161:ALA:N	2.09	0.49
21:P:76:LYS:C	21:P:78:ASN:H	2.16	0.49
10:E:95:ARG:HG3	10:E:106:ASN:HB3	1.94	0.49
15:J:81:GLU:HG2	15:J:82:THR:N	2.28	0.49
29:X:2522:G:H2'	29:X:2523:G:H8	1.75	0.49
29:X:1441:A:H4'	29:X:1442:C:O5'	2.12	0.49
7:B:159:HIS:CE1	7:B:162:MET:HB2	2.47	0.49
29:X:240:U:H2'	29:X:241:C:O4'	2.12	0.49
15:J:60:ARG:HH11	15:J:60:ARG:HG2	1.77	0.49
8:C:104:LEU:HD23	8:C:105:ALA:H	1.77	0.49
29:X:1278:A:O2'	29:X:1279:G:P	2.70	0.49
29:X:542:A:C2	29:X:2004:U:C2'	2.77	0.49
4:4:27:CYS:HG	4:4:32:HIS:CG	2.30	0.49
9:D:6:THR:O	9:D:10:ASP:HB2	2.12	0.49
31:Z:26:G:N3	31:Z:29:C:N4	2.60	0.49
26:U:27:ASP:H	26:U:32:ARG:HH21	1.60	0.49
15:J:30:PHE:CD1	15:J:66:TYR:CE2	3.00	0.49
24:S:17:SER:O	24:S:18:MET:HG2	2.13	0.49
13:H:76:ARG:NH2	18:M:75:GLU:OE2	2.46	0.49
29:X:553:C:C4	29:X:557:U:C2	3.01	0.49
11:F:35:MET:C	11:F:37:PHE:H	2.15	0.49
29:X:1560:A:N1	29:X:1561:A:C2	2.80	0.49
29:X:872:G:H2'	29:X:928:G:O6	2.11	0.49
29:X:1287:A:H2	29:X:1661:C:O2	1.95	0.49
29:X:789:G:O6	29:X:2055:G:OP1	2.31	0.49
21:P:112:GLY:O	21:P:113:SER:O	2.31	0.49
29:X:1372:A:N7	29:X:1373:G:N7	2.61	0.49
29:X:1386:A:N6	29:X:1387:G:C2	2.80	0.49
10:E:17:VAL:CG1	10:E:18:ASN:N	2.74	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:J:76:THR:HG21	15:J:88:LYS:O	2.13	0.49
29:X:2522:G:H21	29:X:2625:U:H5''	1.76	0.49
29:X:47:G:N3	29:X:48:A:C2	2.80	0.49
23:R:98:ILE:C	23:R:100:ASP:N	2.64	0.49
29:X:65:C:O2'	29:X:66:U:H5'	2.11	0.49
29:X:1578:U:C2	29:X:1579:G:C8	3.00	0.49
29:X:2526:U:H2'	29:X:2527:G:C8	2.45	0.49
29:X:2851:G:H5''	29:X:2851:G:H8	1.77	0.49
29:X:2532:G:C2	29:X:2562:G:H1'	2.47	0.49
8:C:158:ARG:C	8:C:160:ALA:H	2.16	0.49
8:C:104:LEU:HD12	8:C:175:VAL:HG21	1.93	0.49
8:C:43:ALA:HB1	8:C:86:PRO:C	2.31	0.49
8:C:48:ARG:HD2	8:C:48:ARG:N	2.24	0.49
23:R:48:VAL:HG12	23:R:50:GLY:H	1.76	0.49
29:X:1673:C:H2'	29:X:1674:C:H6	1.77	0.49
29:X:580:A:N7	29:X:584:A:C6	2.81	0.49
29:X:815:A:H2'	29:X:816:U:H6	1.77	0.49
6:A:131:LEU:HD21	6:A:193:ILE:CG1	2.41	0.49
29:X:2201:G:H2'	29:X:2202:G:H8	1.77	0.49
17:L:102:ALA:O	17:L:104:ALA:N	2.46	0.49
26:U:32:ARG:NE	26:U:32:ARG:N	2.35	0.49
26:U:15:VAL:HG12	26:U:46:LEU:CD2	2.40	0.49
7:B:38:THR:HG22	7:B:39:ALA:N	2.28	0.49
11:F:54:PRO:HD2	11:F:71:THR:O	2.11	0.49
29:X:1468:A:C5'	29:X:1472:C:H42	2.23	0.49
27:V:43:VAL:O	27:V:46:LEU:HB2	2.12	0.49
29:X:1594:U:H2'	29:X:1595:A:H8	1.77	0.49
9:D:71:LYS:HE2	29:X:2277:A:OP1	2.13	0.49
29:X:1246:G:O2'	29:X:1247:U:H5'	2.13	0.49
16:K:60:LEU:CD1	16:K:64:ARG:NE	2.72	0.49
29:X:119:G:H2'	29:X:120:G:H8	1.76	0.49
29:X:118:U:O2'	29:X:119:G:OP2	2.23	0.49
29:X:2522:G:H2'	29:X:2523:G:O4'	2.12	0.49
29:X:1427:G:H21	29:X:1604:A:H62	1.60	0.49
12:G:84:ASN:CA	12:G:153:GLY:O	2.61	0.49
29:X:1842:G:O2'	29:X:1843:U:H5'	2.12	0.49
29:X:1569:A:C6	29:X:1571:G:C4	3.00	0.49
29:X:1352:G:H2'	29:X:1353:A:C8	2.48	0.49
30:Y:52:TYR:O	30:Y:53:ASP:CB	2.60	0.49
29:X:353:G:H2'	29:X:354:C:H6	1.78	0.49
29:X:55:A:H2'	29:X:56:C:C6	2.48	0.49
6:A:60:ARG:NH2	29:X:1583:A:OP1	2.46	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:W:45:LYS:HA	28:W:45:LYS:HE3	1.94	0.49
8:C:24:SER:O	8:C:25:GLY:C	2.51	0.49
23:R:25:LEU:C	23:R:25:LEU:HD22	2.33	0.49
29:X:455:A:H1'	29:X:1215:A:O4'	2.13	0.49
29:X:2026:C:H1'	29:X:2759:U:O4	2.13	0.49
29:X:632:A:C2	29:X:633:G:C5	3.01	0.49
29:X:692:C:O2	29:X:693:A:C8	2.65	0.49
29:X:1053:G:O2'	29:X:1054:C:O4'	2.19	0.49
6:A:169:GLU:HB3	6:A:172:TYR:O	2.12	0.49
29:X:1782:A:C6	29:X:1821:A:H5'	2.47	0.49
9:D:122:PHE:CE2	9:D:129:ASN:O	2.65	0.49
9:D:34:ILE:HA	9:D:155:THR:O	2.13	0.49
17:L:15:ARG:HH21	29:X:2272:A:P	2.35	0.49
26:U:33:LYS:HZ2	29:X:2375:G:H1'	1.78	0.49
29:X:937:C:C4	29:X:938:G:N7	2.81	0.49
26:U:75:TYR:O	26:U:76:LYS:CB	2.60	0.49
11:F:54:PRO:CG	11:F:70:LYS:HB2	2.30	0.49
29:X:1476:G:C6	29:X:1477:C:C4	3.01	0.49
15:J:40:PRO:HG3	15:J:99:LYS:HZ1	1.77	0.49
29:X:929:A:C2	31:Z:81:C:O2	2.66	0.49
29:X:663:G:H3'	29:X:664:C:C5'	2.25	0.49
20:O:11:GLN:OE1	20:O:38:LEU:HD12	2.13	0.49
9:D:81:GLN:CG	9:D:82:GLY:H	2.06	0.49
22:Q:53:ILE:CG1	22:Q:54:SER:H	2.23	0.49
29:X:2239:C:C2	29:X:2240:C:C5	3.00	0.49
29:X:1373:G:H2'	29:X:1374:G:C5'	2.43	0.49
29:X:1324:G:H4'	29:X:1325:U:OP1	2.12	0.49
7:B:203:LYS:HE3	29:X:2713:A:N1	2.28	0.49
29:X:1699:A:C2	29:X:1700:C:C2	3.01	0.49
29:X:403:A:OP2	29:X:403:A:H3'	2.13	0.49
29:X:438:G:O2'	29:X:439:C:H5'	2.13	0.49
29:X:1684:G:O2'	29:X:1974:U:O4	2.30	0.49
29:X:1695:U:O2	29:X:1974:U:O4'	2.30	0.49
24:S:62:PHE:HB3	24:S:85:MET:CE	2.43	0.49
7:B:19:ARG:NH1	7:B:185:LYS:NZ	2.61	0.49
29:X:192:G:C4'	29:X:193:A:H4'	2.42	0.49
22:Q:15:LYS:HD3	29:X:1406:A:H62	1.77	0.49
29:X:1687:C:P	29:X:1688:U:H5	2.36	0.49
12:G:135:LEU:O	12:G:136:PRO:C	2.51	0.49
7:B:172:VAL:HG12	7:B:172:VAL:O	2.10	0.49
7:B:141:ILE:HG23	7:B:154:LYS:CD	2.43	0.49
19:N:7:GLY:O	19:N:8:ILE:CG1	2.59	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1673:C:C2	29:X:1674:C:C5	3.01	0.49
29:X:683:A:H4'	29:X:684:C:C5'	2.39	0.49
6:A:147:LEU:O	6:A:148:VAL:HG23	2.12	0.49
29:X:2189:A:H2	29:X:2196:U:N3	2.06	0.49
6:A:250:TRP:O	6:A:255:LYS:CD	2.60	0.49
29:X:1965:U:C2	29:X:1966:C:C5	3.01	0.49
9:D:29:PRO:O	9:D:169:LEU:HD13	2.13	0.49
9:D:5:LYS:C	9:D:8:TYR:HB3	2.32	0.49
17:L:8:ARG:O	17:L:9:ARG:C	2.49	0.49
15:J:28:VAL:HG21	15:J:135:ARG:HA	1.94	0.49
15:J:71:PRO:CA	15:J:96:SER:HB2	2.43	0.49
26:U:53:GLU:OE1	26:U:58:LYS:N	2.37	0.49
26:U:49:LYS:CB	26:U:61:TRP:CE3	2.84	0.49
15:J:18:MET:HG2	15:J:19:THR:N	2.27	0.49
24:S:106:GLY:N	24:S:109:GLN:HG3	2.28	0.49
10:E:101:LYS:HB2	10:E:117:PRO:HG3	1.95	0.49
29:X:1095:A:H2'	29:X:1096:A:C5'	2.41	0.49
29:X:1858:C:H2'	29:X:1859:A:O4'	2.13	0.49
30:Y:25:LEU:N	30:Y:25:LEU:HD12	2.27	0.49
24:S:3:LEU:HB2	24:S:34:LEU:HA	1.94	0.49
19:N:31:GLN:CD	29:X:589:C:H4'	2.33	0.49
12:G:154:GLU:N	12:G:157:PRO:HD2	2.26	0.49
12:G:155:THR:HG23	12:G:156:HIS:N	2.21	0.49
14:I:76:LYS:C	14:I:79:GLN:HG2	2.31	0.49
29:X:2261:G:H5'	29:X:2262:C:C4'	2.42	0.49
29:X:242:A:N6	29:X:440:U:H2'	2.24	0.49
29:X:1177:U:C2	29:X:1198:C:O2	2.66	0.49
13:H:7:ARG:HH12	13:H:20:MET:CE	2.25	0.49
29:X:165:G:H2'	29:X:166:G:H5'	1.94	0.49
29:X:182:G:H1'	29:X:183:U:H5	1.77	0.49
31:Z:75:A:N3	31:Z:75:A:H2'	2.28	0.49
29:X:11:G:O5'	29:X:11:G:H8	1.96	0.49
8:C:46:ARG:HA	8:C:51:VAL:HG21	1.93	0.49
12:G:90:LEU:HD23	12:G:93:LYS:O	2.13	0.49
29:X:545:C:O2'	29:X:546:A:H5'	2.13	0.49
6:A:82:ILE:CG2	6:A:91:ARG:HB3	2.42	0.49
29:X:2195:C:N1	29:X:2196:U:C5	2.81	0.49
9:D:10:ASP:HA	9:D:14:PRO:CG	2.42	0.49
17:L:76:ALA:HB1	17:L:110:GLY:C	2.33	0.49
29:X:2395:C:C2'	29:X:2396:C:H5'	2.42	0.49
29:X:1482:U:OP2	29:X:1562:G:O2'	2.30	0.49
27:V:30:PHE:O	27:V:31:GLN:C	2.50	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:K:10:LEU:O	16:K:11:ASN:OD1	2.31	0.49
10:E:18:ASN:O	10:E:20:GLN:N	2.46	0.49
11:F:83:GLY:O	11:F:84:ILE:CG1	2.61	0.49
29:X:1920:A:C5	29:X:1922:U:C5	3.01	0.49
29:X:1927:U:O2'	29:X:1928:G:OP1	2.29	0.49
12:G:46:ALA:HB3	12:G:85:ALA:H	1.77	0.49
14:I:77:LEU:HB3	14:I:112:GLY:N	2.28	0.49
14:I:54:SER:HA	14:I:58:ALA:HB3	1.95	0.49
30:Y:31:THR:HG22	30:Y:32:GLU:N	2.27	0.49
24:S:112:LEU:O	24:S:172:LEU:HB2	2.12	0.49
29:X:2284:U:C3'	29:X:2285:U:H5''	2.42	0.49
29:X:1025:A:O2'	29:X:1026:U:H5'	2.13	0.49
29:X:921:A:C6	29:X:924:C:C2	3.01	0.49
10:E:27:LYS:HG2	10:E:32:GLU:HB2	1.95	0.49
8:C:145:THR:O	8:C:146:GLU:OE2	2.30	0.49
29:X:1679:U:H2'	29:X:1680:U:O4'	2.12	0.49
8:C:60:GLY:O	8:C:61:GLN:C	2.52	0.49
19:N:27:SER:C	19:N:29:SER:N	2.66	0.49
23:R:97:GLN:CB	23:R:101:GLY:HA2	2.28	0.49
29:X:1142:G:H8	29:X:2008:C:H4'	1.76	0.49
29:X:328:A:H2'	29:X:329:C:C6	2.47	0.49
29:X:2827:G:C6	29:X:2828:C:N3	2.81	0.49
9:D:119:PRO:O	9:D:167:ARG:NH2	2.46	0.49
17:L:39:TYR:O	17:L:40:ALA:C	2.51	0.49
29:X:2271:C:N4	29:X:2272:A:H62	2.09	0.49
19:N:47:TYR:O	19:N:51:ARG:HG2	2.13	0.49
15:J:119:PHE:CD1	15:J:132:MET:HG3	2.48	0.49
26:U:17:SER:OG	26:U:45:ASN:N	2.46	0.49
7:B:75:THR:HG21	7:B:78:LEU:HD21	1.94	0.49
29:X:1241:G:O2'	29:X:1242:A:H5'	2.13	0.49
13:H:81:ILE:HD12	13:H:117:GLU:OE1	2.13	0.49
31:Z:69:G:O2'	31:Z:70:C:H5'	2.13	0.49
20:O:71:ILE:CD1	29:X:1003:C:O2'	2.61	0.49
29:X:1022:A:C6	29:X:1162:A:C6	3.00	0.49
10:E:54:ARG:HD2	10:E:56:SER:O	2.13	0.49
29:X:1249:G:HO2'	29:X:1250:A:P	2.34	0.49
29:X:2236:U:C4	29:X:2237:C:N4	2.81	0.49
21:P:8:PHE:O	21:P:9:ARG:CB	2.52	0.49
10:E:41:LEU:CD1	10:E:64:LEU:HB3	2.43	0.49
29:X:2044:G:O2'	29:X:2046:C:H5	1.96	0.49
7:B:42:ASP:OD2	29:X:2764:U:C4'	2.61	0.49
21:P:71:VAL:HG11	21:P:126:ILE:HG23	1.91	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:G:44:VAL:CG1	12:G:45:ASP:N	2.75	0.49
7:B:33:ILE:HG21	7:B:36:ARG:HH12	1.77	0.49
23:R:59:LYS:CD	23:R:62:MET:HG3	2.42	0.49
16:K:99:ARG:NH1	16:K:99:ARG:HG2	2.28	0.49
29:X:2844:G:O2'	29:X:2845:C:H5'	2.13	0.49
22:Q:15:LYS:HG2	29:X:1404:C:O2	2.13	0.49
29:X:1606:C:O2'	29:X:1607:A:H5'	2.13	0.49
8:C:24:SER:O	8:C:28:HIS:N	2.41	0.49
8:C:40:ARG:NH1	29:X:453:U:O2'	2.46	0.49
12:G:103:TYR:CE1	12:G:111:LYS:CA	2.96	0.49
6:A:131:LEU:HD23	6:A:131:LEU:N	2.28	0.49
6:A:153:ALA:O	6:A:154:GLN:CG	2.59	0.49
6:A:68:LYS:HG2	6:A:69:ARG:H	1.78	0.49
29:X:2826:C:H2'	29:X:2827:G:C5'	2.43	0.49
9:D:7:LYS:O	9:D:11:GLN:HB2	2.12	0.49
9:D:122:PHE:O	9:D:123:ASP:C	2.51	0.49
9:D:9:ASN:O	9:D:14:PRO:HD2	2.13	0.49
31:Z:35:C:H2'	31:Z:36:A:C8	2.47	0.49
19:N:47:TYR:C	19:N:47:TYR:HD2	2.16	0.49
29:X:922:A:C2	29:X:923:A:C2	3.01	0.49
14:I:67:ASN:HB2	29:X:643:A:H4'	1.95	0.49
29:X:1235:C:H2'	29:X:1236:G:C8	2.48	0.49
27:V:41:HIS:CG	27:V:42:ARG:N	2.81	0.49
19:N:117:ARG:HG2	19:N:118:GLN:HG3	1.95	0.49
20:O:26:GLN:HA	20:O:63:HIS:NE2	2.27	0.49
9:D:102:LYS:NZ	9:D:140:GLU:OE2	2.42	0.49
16:K:76:VAL:O	16:K:79:VAL:HG13	2.13	0.49
22:Q:35:LYS:O	22:Q:38:ILE:HG23	2.12	0.49
8:C:98:GLN:NE2	29:X:611:C:C4'	2.61	0.49
29:X:2629:U:O2'	29:X:2630:C:H5'	2.13	0.49
29:X:2417:U:O2'	29:X:2418:A:H5''	2.13	0.49
29:X:177:U:H3'	29:X:178:C:H6	1.78	0.49
4:4:9:LYS:NZ	4:4:16:VAL:HG21	2.27	0.49
16:K:60:LEU:HD13	29:X:1469:U:H2'	1.95	0.49
29:X:2440:C:C2	29:X:2441:U:C5	3.01	0.49
21:P:105:ARG:NH1	29:X:1337:G:OP2	2.46	0.49
29:X:2304:G:OP2	29:X:2304:G:H8	1.95	0.49
8:C:7:ILE:HB	8:C:120:VAL:H	1.78	0.49
22:Q:17:TYR:O	22:Q:20:MET:HB3	2.13	0.49
11:F:116:ASN:OD1	29:X:1069:G:H1'	2.13	0.49
8:C:154:ASP:HB2	8:C:157:THR:CG2	2.43	0.49
29:X:572:G:C4	29:X:2001:G:C2	3.00	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1411:C:C2	29:X:1412:C:C5	3.01	0.49
29:X:1371:G:H8	29:X:1371:G:O5'	1.95	0.49
8:C:46:ARG:HB3	8:C:51:VAL:HG23	1.94	0.48
8:C:48:ARG:CZ	8:C:87:LYS:HE2	2.43	0.48
12:G:107:GLN:HG2	29:X:1142:G:C8	2.48	0.48
12:G:116:ARG:NH2	12:G:126:VAL:HG13	2.28	0.48
19:N:24:PHE:CB	19:N:28:ARG:O	2.61	0.48
23:R:27:GLY:HA2	29:X:320:A:O3'	2.13	0.48
29:X:317:U:C3'	29:X:318:G:C5'	2.91	0.48
29:X:338:G:O6	29:X:343:A:C8	2.65	0.48
29:X:683:A:O2'	29:X:684:C:P	2.71	0.48
4:4:19:ARG:HH11	4:4:24:LEU:HD22	1.76	0.48
29:X:1770:U:C2	29:X:1774:A:C5	3.01	0.48
28:W:22:ALA:C	28:W:24:GLY:N	2.65	0.48
18:M:24:LEU:C	18:M:25:PRO:O	2.51	0.48
14:I:97:ARG:O	14:I:98:LEU:CB	2.61	0.48
29:X:2382:C:N4	29:X:2394:G:C6	2.80	0.48
29:X:1935:A:H2	29:X:2539:C:O2	1.95	0.48
11:F:57:ILE:CG2	11:F:58:THR:N	2.76	0.48
29:X:1089:C:H5''	29:X:1090:C:OP1	2.12	0.48
29:X:930:A:H61	29:X:2247:A:H8	1.56	0.48
31:Z:73:C:H2'	31:Z:74:A:O4'	2.13	0.48
29:X:753:U:C2	29:X:754:G:N7	2.81	0.48
29:X:1514:C:O4'	29:X:1593:C:C4'	2.61	0.48
29:X:1312:G:C5'	29:X:1313:U:OP1	2.60	0.48
21:P:109:ARG:HH11	21:P:115:ASN:ND2	2.10	0.48
29:X:2240:C:HO2'	29:X:2241:U:H5'	1.75	0.48
11:F:90:THR:OG1	11:F:93:LYS:HB2	2.13	0.48
29:X:1734:C:H3'	29:X:1735:G:O4'	2.13	0.48
29:X:1734:C:C6	29:X:1735:G:H1'	2.48	0.48
29:X:1735:G:C6	29:X:1736:C:C4	3.02	0.48
29:X:116:A:C5'	29:X:117:A:H8	2.18	0.48
29:X:2057:U:H3'	29:X:2058:U:H6	1.77	0.48
24:S:4:THR:CB	24:S:57:GLU:HB2	2.39	0.48
29:X:242:A:C2'	29:X:243:G:H4'	2.43	0.48
29:X:136:A:H8	29:X:136:A:O5'	1.95	0.48
24:S:152:ILE:HG22	24:S:153:LYS:O	2.13	0.48
29:X:2578:G:N2	29:X:2579:A:H1'	2.28	0.48
29:X:952:A:O2'	29:X:1204:G:H4'	2.13	0.48
8:C:48:ARG:C	8:C:50:GLN:H	2.15	0.48
8:C:48:ARG:CA	8:C:51:VAL:HG22	2.44	0.48
12:G:103:TYR:CE2	12:G:111:LYS:CB	2.96	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:28:LYS:O	23:R:29:HIS:CB	2.60	0.48
23:R:96:LYS:HG3	23:R:97:GLN:O	2.12	0.48
29:X:477:A:C2	29:X:809:C:O4'	2.66	0.48
29:X:1504:G:H21	29:X:1506:C:H41	1.61	0.48
29:X:1774:A:H5'	29:X:2587:G:H4'	1.95	0.48
17:L:10:LYS:CB	17:L:14:ARG:HH21	2.15	0.48
29:X:490:A:H1'	29:X:491:A:C8	2.47	0.48
15:J:37:ALA:HB2	15:J:104:MET:HE2	1.94	0.48
15:J:70:PHE:O	15:J:96:SER:OG	2.29	0.48
26:U:15:VAL:HA	26:U:45:ASN:O	2.13	0.48
29:X:1873:A:H2	29:X:2213:G:N3	2.10	0.48
29:X:2067:U:H2'	29:X:2068:C:C6	2.47	0.48
7:B:4:ILE:HG23	7:B:5:LEU:N	2.28	0.48
13:H:133:VAL:O	18:M:38:LYS:NZ	2.41	0.48
11:F:89:SER:HA	29:X:1075:C:O2'	2.13	0.48
29:X:1236:G:N2	29:X:1239:A:OP2	2.40	0.48
29:X:2681:A:O2'	29:X:2682:C:H5'	2.13	0.48
27:V:56:VAL:HA	27:V:59:GLU:OE1	2.13	0.48
29:X:872:G:H2'	29:X:928:G:H1	1.78	0.48
19:N:84:LYS:CA	19:N:92:ARG:NH2	2.76	0.48
29:X:1002:C:O2	29:X:1175:A:C2	2.66	0.48
9:D:138:PHE:CZ	9:D:152:MET:SD	3.06	0.48
16:K:16:ALA:O	16:K:18:VAL:N	2.45	0.48
10:E:108:GLY:O	29:X:2645:C:N4	2.42	0.48
10:E:109:TYR:CE1	10:E:152:ARG:NH1	2.80	0.48
29:X:428:A:C5	29:X:429:C:C4	3.01	0.48
22:Q:51:ILE:HD12	22:Q:81:ARG:HG2	1.94	0.48
29:X:958:G:C4	29:X:959:C:C5	3.01	0.48
21:P:40:LEU:CD1	21:P:62:ARG:HH12	2.26	0.48
7:B:109:LYS:HZ3	29:X:2703:C:P	2.36	0.48
12:G:162:LYS:HZ2	29:X:5:A:H1'	1.74	0.48
12:G:47:SER:O	12:G:49:VAL:HG23	2.13	0.48
29:X:395:G:C4	29:X:406:G:N2	2.81	0.48
29:X:1587:A:C2	29:X:1588:A:C4	3.01	0.48
29:X:1685:A:H4'	29:X:1686:A:O5'	2.12	0.48
29:X:1536:G:C2	29:X:1537:U:C2	3.00	0.48
8:C:19:LEU:HA	8:C:20:PRO:C	2.33	0.48
29:X:43:A:H8	29:X:43:A:O5'	1.96	0.48
7:B:120:TRP:O	7:B:121:ASN:CB	2.58	0.48
8:C:176:ASN:ND2	8:C:178:TYR:HB3	2.22	0.48
23:R:101:GLY:C	23:R:103:LYS:N	2.66	0.48
23:R:6:ALA:O	23:R:8:SER:N	2.46	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1145:C:C5	29:X:1147:G:P	3.06	0.48
29:X:2007:G:C2	29:X:2023:C:C2	3.01	0.48
6:A:143:HIS:CE1	6:A:192:THR:HG22	2.48	0.48
17:L:46:SER:OG	17:L:47:ARG:N	2.46	0.48
17:L:8:ARG:HH11	17:L:8:ARG:HB3	1.77	0.48
15:J:28:VAL:HG22	15:J:134:LYS:O	2.13	0.48
15:J:27:TYR:CB	15:J:137:VAL:CG1	2.91	0.48
7:B:67:PHE:CD2	7:B:74:PRO:HA	2.48	0.48
29:X:640:C:C4	29:X:641:G:N7	2.82	0.48
11:F:27:LEU:HA	11:F:30:TYR:CE2	2.48	0.48
24:S:141:MET:SD	24:S:147:ILE:CG1	2.99	0.48
29:X:1002:C:C2	29:X:1003:C:C5	3.01	0.48
29:X:1174:G:H2'	29:X:1175:A:H8	1.76	0.48
9:D:106:ILE:O	9:D:107:GLY:C	2.51	0.48
29:X:2673:G:C6	29:X:2696:A:C6	3.01	0.48
29:X:1711:C:H4'	29:X:1712:G:C5'	2.36	0.48
29:X:222:G:H2'	29:X:223:C:H6	1.77	0.48
29:X:2404:A:H1'	29:X:2406:C:C4	2.48	0.48
29:X:2190:A:C8	29:X:2190:A:C3'	2.87	0.48
29:X:1920:A:C6	29:X:1922:U:H5	2.31	0.48
10:E:37:TYR:CE2	10:E:68:THR:HG23	2.47	0.48
29:X:971:A:H4'	29:X:2436:U:H4'	1.96	0.48
16:K:99:ARG:NH2	29:X:2792:C:OP1	2.39	0.48
29:X:1331:G:N2	29:X:1332:G:H1'	2.29	0.48
29:X:2559:U:C2'	29:X:2560:G:H5'	2.44	0.48
14:I:49:PHE:O	14:I:50:GLU:HG2	2.14	0.48
30:Y:44:HIS:CD2	30:Y:44:HIS:N	2.79	0.48
31:Z:96:C:H2'	31:Z:97:C:C6	2.48	0.48
21:P:44:VAL:HG21	21:P:60:ILE:HD11	1.95	0.48
10:E:83:TYR:O	10:E:135:GLY:N	2.46	0.48
29:X:1269:G:N3	29:X:1269:G:H2'	2.27	0.48
29:X:1153:A:C4	29:X:1155:G:N7	2.82	0.48
29:X:340:G:C8	29:X:340:G:OP2	2.65	0.48
29:X:311:A:C5	29:X:345:U:H4'	2.48	0.48
12:G:142:ARG:NH1	29:X:538:A:H5''	2.25	0.48
30:Y:16:ARG:O	30:Y:20:ARG:HG3	2.14	0.48
6:A:93:ALA:HB3	6:A:105:ILE:O	2.13	0.48
29:X:1835:C:H2'	29:X:1836:C:C6	2.47	0.48
18:M:100:ARG:HD3	29:X:1744:G:H5''	1.96	0.48
19:N:47:TYR:CD1	20:O:73:LYS:HG2	2.49	0.48
7:B:27:LEU:HD23	7:B:27:LEU:O	2.14	0.48
24:S:91:PRO:HD3	24:S:127:PRO:CG	2.43	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:117:VAL:HG23	24:S:117:VAL:O	2.12	0.48
9:D:60:ILE:HG13	9:D:61:THR:HG23	1.96	0.48
29:X:1631:C:C2'	29:X:1631:C:O2	2.62	0.48
29:X:170:U:O2'	29:X:171:G:H5'	2.13	0.48
29:X:1920:A:C6	29:X:1922:U:C5	3.02	0.48
10:E:94:PHE:CG	10:E:107:ILE:HG22	2.48	0.48
29:X:427:C:O2	29:X:1856:U:H4'	2.13	0.48
29:X:1730:G:C2'	29:X:1731:C:H5'	2.43	0.48
22:Q:68:PHE:O	22:Q:69:ILE:O	2.31	0.48
21:P:65:SER:O	21:P:66:GLU:C	2.51	0.48
14:I:38:LYS:CG	29:X:954:U:OP2	2.61	0.48
29:X:1428:G:H2'	29:X:1428:G:N3	2.29	0.48
7:B:131:SER:O	7:B:132:LYS:CG	2.59	0.48
29:X:1368:G:H2'	29:X:1369:G:O4'	2.12	0.48
7:B:159:HIS:CE1	7:B:162:MET:CB	2.97	0.48
6:A:138:VAL:HG22	6:A:167:GLY:HA2	1.95	0.48
8:C:107:ALA:CB	8:C:180:ILE:HD13	2.44	0.48
8:C:173:ALA:HB1	8:C:193:LEU:HB2	1.95	0.48
8:C:43:ALA:CB	8:C:87:LYS:C	2.81	0.48
8:C:33:TRP:CG	8:C:95:LEU:HD12	2.49	0.48
29:X:1994:U:H2'	29:X:1995:G:C5'	2.43	0.48
29:X:2756:A:HO2'	29:X:2757:G:P	2.36	0.48
29:X:596:C:C2	29:X:684:C:H1'	2.47	0.48
6:A:68:LYS:HG2	6:A:69:ARG:N	2.28	0.48
17:L:18:ARG:HH12	29:X:2272:A:P	2.36	0.48
26:U:23:LYS:HB2	26:U:36:GLY:O	2.12	0.48
28:W:40:VAL:CG1	28:W:40:VAL:O	2.60	0.48
7:B:182:ILE:O	7:B:182:ILE:HG23	2.13	0.48
29:X:2266:A:C2	29:X:2268:G:H1'	2.49	0.48
29:X:873:U:O4	29:X:929:A:N7	2.46	0.48
29:X:2170:C:C2'	29:X:2171:U:H4'	2.41	0.48
12:G:70:PHE:CG	19:N:64:ARG:HG2	2.48	0.48
9:D:60:ILE:HA	9:D:140:GLU:HG3	1.95	0.48
29:X:2769:C:O2	29:X:2866:A:H2	1.97	0.48
16:K:16:ALA:O	16:K:19:ALA:N	2.45	0.48
29:X:1929:U:H2'	29:X:1930:C:C6	2.48	0.48
29:X:2634:G:C2'	29:X:2643:G:O6	2.58	0.48
24:S:3:LEU:HD12	24:S:3:LEU:C	2.33	0.48
29:X:1228:G:C6	29:X:1229:C:C4	3.02	0.48
29:X:1229:C:H2'	29:X:1230:C:C6	2.40	0.48
12:G:57:LEU:HD22	12:G:170:PRO:HA	1.95	0.48
25:T:31:VAL:HG11	25:T:37:LEU:CD2	2.43	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:K:24:GLN:HB3	16:K:44:LEU:HD22	1.95	0.48
29:X:600:G:C6	29:X:602:C:C4	3.02	0.48
24:S:125:PRO:HG2	24:S:126:GLY:N	2.29	0.48
29:X:1687:C:H3'	29:X:1688:U:C6	2.47	0.48
7:B:141:ILE:HG21	7:B:150:VAL:CG1	2.43	0.48
23:R:82:ALA:C	23:R:83:LEU:HD12	2.34	0.48
6:A:209:ALA:CB	29:X:1781:C:H4'	2.43	0.48
29:X:1836:C:H2'	29:X:1837:G:H8	1.77	0.48
8:C:112:GLN:HA	8:C:116:LYS:CB	2.44	0.48
17:L:18:ARG:HH21	29:X:2271:C:P	2.36	0.48
17:L:42:ILE:HG22	17:L:42:ILE:O	2.13	0.48
26:U:24:ALA:O	26:U:25:ARG:HB2	2.13	0.48
15:J:36:ILE:HG12	15:J:103:VAL:HG23	1.95	0.48
29:X:2084:G:O2'	29:X:2085:G:H5'	2.13	0.48
29:X:2799:C:H2'	29:X:2800:C:O4'	2.14	0.48
19:N:108:ALA:O	19:N:112:ALA:N	2.39	0.48
19:N:79:PHE:CE2	19:N:80:ILE:HD13	2.48	0.48
20:O:13:ARG:CG	20:O:14:VAL:N	2.72	0.48
20:O:23:GLU:HB2	20:O:91:THR:HG21	1.95	0.48
9:D:132:ILE:HG22	9:D:133:LYS:N	2.28	0.48
29:X:2784:A:C6	29:X:2866:A:C8	3.02	0.48
29:X:2651:U:C2'	29:X:2652:G:O5'	2.61	0.48
16:K:13:ASN:HD21	16:K:16:ALA:H	1.60	0.48
29:X:1094:C:H2'	29:X:1096:A:H5'	1.95	0.48
29:X:1856:U:O3'	29:X:2388:G:N2	2.46	0.48
14:I:38:LYS:CE	29:X:954:U:OP2	2.61	0.48
29:X:1657:A:H2'	29:X:1658:A:O4'	2.14	0.48
29:X:82:G:N2	29:X:100:G:H2'	2.28	0.48
29:X:2511:G:C6	29:X:2512:A:C5	3.02	0.48
29:X:17:G:C2	29:X:18:U:C2	3.01	0.48
29:X:435:A:C2	29:X:436:A:C2	3.01	0.48
8:C:33:TRP:HB2	8:C:93:TYR:OH	2.13	0.48
12:G:108:GLY:O	12:G:110:LEU:CD2	2.61	0.48
12:G:125:ARG:HA	12:G:128:GLU:HB3	1.96	0.48
23:R:48:VAL:O	23:R:50:GLY:N	2.45	0.48
29:X:1273:G:H2'	29:X:1274:C:O4'	2.14	0.48
29:X:465:C:HO2'	29:X:467:U:H1'	1.77	0.48
29:X:624:A:N3	29:X:624:A:H5'	2.29	0.48
6:A:258:LYS:NZ	6:A:261:ARG:NE	2.53	0.48
6:A:68:LYS:N	6:A:152:GLY:HA2	2.27	0.48
29:X:2301:A:C6	29:X:2312:A:N6	2.77	0.48
15:J:30:PHE:HD1	15:J:66:TYR:CE2	2.32	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:H:24:VAL:HA	13:H:51:ILE:HG22	1.96	0.48
29:X:558:G:H8	29:X:559:C:C4	2.31	0.48
15:J:22:ALA:CB	15:J:100:PRO:O	2.55	0.48
29:X:875:G:C2'	29:X:876:A:H5'	2.44	0.48
29:X:1168:G:C2	29:X:1169:C:C2	3.02	0.48
9:D:151:GLY:O	9:D:152:MET:CB	2.62	0.48
26:U:19:ILE:O	29:X:393:U:H4'	2.13	0.48
29:X:2779:C:H2'	29:X:2780:A:C8	2.49	0.48
13:H:109:ARG:HG3	13:H:111:PHE:HE1	1.78	0.48
29:X:396:U:N3	29:X:398:C:C4	2.82	0.48
29:X:1538:A:H2'	29:X:1539:U:O4'	2.13	0.48
29:X:497:C:C6	29:X:497:C:H3'	2.48	0.48
7:B:109:LYS:NZ	29:X:2703:C:P	2.86	0.48
29:X:1830:C:N4	29:X:1881:U:C3'	2.77	0.48
29:X:1827:G:H1'	29:X:1914:U:C2	2.49	0.48
24:S:71:MET:CA	24:S:78:PRO:HA	2.42	0.48
29:X:2345:A:H2'	29:X:2346:G:C8	2.49	0.48
18:M:17:GLU:OE2	18:M:63:ARG:NH2	2.47	0.48
7:B:85:ALA:CB	7:B:86:PRO:CD	2.88	0.48
29:X:353:G:O2'	29:X:354:C:H5'	2.13	0.48
23:R:48:VAL:C	23:R:50:GLY:H	2.17	0.48
23:R:93:ARG:NH1	23:R:93:ARG:HG2	2.21	0.48
29:X:2040:A:O2'	29:X:2041:A:H5'	2.14	0.48
29:X:697:G:C2	29:X:807:A:C2	3.02	0.48
29:X:825:C:H2'	29:X:826:U:H6	1.78	0.48
30:Y:3:LYS:O	30:Y:4:HIS:C	2.52	0.48
6:A:91:ARG:HG2	6:A:198:ASN:OD1	2.14	0.48
29:X:1504:G:H2'	29:X:1505:U:O2	2.14	0.48
17:L:54:ALA:HB2	17:L:75:LEU:HA	1.96	0.48
31:Z:30:C:H42	31:Z:58:G:H1	1.62	0.48
26:U:11:LYS:HZ2	26:U:69:THR:HG21	1.79	0.48
29:X:1121:G:C2'	29:X:1122:A:C8	2.97	0.48
29:X:1002:C:N3	29:X:1003:C:H5	2.09	0.48
29:X:2692:A:H5'	29:X:2693:U:OP2	2.14	0.48
6:A:270:ILE:O	6:A:271:VAL:C	2.51	0.48
6:A:271:VAL:O	6:A:272:THR:OG1	2.29	0.48
6:A:239:ARG:HD3	29:X:2570:C:OP1	2.14	0.48
10:E:109:TYR:C	10:E:111:HIS:N	2.64	0.48
29:X:1736:C:H2'	29:X:1737:G:C8	2.48	0.48
29:X:576:A:C2	29:X:577:U:H1'	2.49	0.48
21:P:71:VAL:CG1	21:P:126:ILE:CG2	2.87	0.48
29:X:395:G:C2	29:X:406:G:C2	3.01	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1626:A:H5''	29:X:1627:C:OP2	2.12	0.48
29:X:1332:G:C5	29:X:1333:G:N1	2.82	0.48
29:X:765:C:C5	29:X:1772:C:C2	3.02	0.48
29:X:1547:U:H2'	29:X:1548:U:C6	2.48	0.48
16:K:102:THR:HA	16:K:109:THR:HA	1.96	0.48
14:I:18:ARG:HB2	14:I:21:ARG:CB	2.41	0.48
29:X:309:G:N2	29:X:352:G:O6	2.47	0.48
29:X:632:A:H3'	29:X:633:G:H8	1.78	0.48
29:X:694:G:C2	29:X:695:G:C4	3.02	0.48
6:A:246:PRO:O	6:A:247:VAL:C	2.51	0.48
17:L:11:LEU:HD21	29:X:2273:C:O5'	2.13	0.48
26:U:24:ALA:C	26:U:26:ALA:H	2.14	0.48
28:W:21:GLN:O	28:W:24:GLY:N	2.37	0.48
29:X:865:A:H61	29:X:937:C:H42	1.60	0.48
29:X:487:G:H4'	29:X:512:A:C6	2.48	0.48
15:J:125:LYS:HZ2	15:J:125:LYS:CA	2.27	0.48
15:J:116:LYS:HZ3	15:J:132:MET:HB3	1.79	0.48
7:B:27:LEU:O	7:B:29:GLY:N	2.47	0.48
14:I:108:LEU:H	14:I:125:ALA:HA	1.78	0.48
14:I:116:ARG:CG	14:I:117:ALA:N	2.77	0.48
14:I:85:ASP:HA	14:I:116:ARG:HH12	1.78	0.48
29:X:649:G:N2	29:X:660:G:N2	2.62	0.48
10:E:6:LYS:O	10:E:7:GLN:HG3	2.14	0.48
29:X:2335:U:H2'	29:X:2336:G:C8	2.49	0.48
29:X:1399:C:C2	29:X:1400:A:C8	3.02	0.48
4:4:9:LYS:NZ	29:X:1043:A:H5''	2.29	0.48
29:X:833:A:N3	29:X:954:U:O2'	2.43	0.48
21:P:46:ARG:CG	21:P:46:ARG:NH1	2.72	0.48
29:X:1440:G:H3'	29:X:1441:A:C5'	2.40	0.48
29:X:1343:C:H2'	29:X:1344:C:C6	2.49	0.48
29:X:1329:U:H2'	29:X:1330:G:C8	2.44	0.48
7:B:61:LYS:HB3	7:B:62:PRO:HD3	1.96	0.48
29:X:140:G:H2'	29:X:141:G:C8	2.49	0.48
29:X:581:A:N1	29:X:2012:A:C2	2.82	0.48
29:X:982:C:OP2	29:X:985:G:N7	2.46	0.48
29:X:2511:G:H2'	29:X:2512:A:C8	2.48	0.48
21:P:82:ASN:OD1	29:X:506:G:H1'	2.13	0.48
4:4:17:VAL:HG12	4:4:18:ARG:N	2.28	0.48
8:C:67:ALA:H	29:X:1268:U:H5	1.53	0.48
14:I:11:GLY:C	14:I:13:ARG:N	2.66	0.48
21:P:117:ILE:CD1	29:X:1996:A:H4'	2.43	0.48
17:L:54:ALA:N	17:L:75:LEU:HD13	2.29	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:947:C:H2'	29:X:948:C:C6	2.49	0.48
29:X:947:C:C2	29:X:948:C:C5	3.01	0.48
15:J:106:GLU:N	15:J:106:GLU:OE1	2.47	0.48
26:U:78:ILE:CD1	26:U:79:GLU:O	2.61	0.48
26:U:46:LEU:HB2	29:X:2209:G:C5'	2.44	0.48
14:I:86:THR:N	14:I:116:ARG:NH1	2.57	0.48
24:S:91:PRO:HD3	24:S:127:PRO:HG3	1.95	0.48
10:E:9:ILE:HB	10:E:50:LEU:O	2.13	0.48
27:V:6:MET:CE	27:V:52:GLN:HB3	2.43	0.48
20:O:19:VAL:CG1	20:O:90:PHE:CG	2.97	0.48
29:X:1513:U:C5'	29:X:1514:C:OP2	2.56	0.48
9:D:111:ILE:HA	9:D:137:ILE:HG21	1.95	0.48
29:X:2705:A:O2'	29:X:2706:U:C5	2.66	0.48
29:X:1313:U:H1'	29:X:1642:G:N2	2.28	0.48
29:X:2306:A:C5	29:X:2367:A:N1	2.82	0.48
29:X:2651:U:H2'	29:X:2652:G:O5'	2.14	0.48
25:T:17:ASN:ND2	29:X:2241:U:H5	2.10	0.48
29:X:227:G:H2'	29:X:228:A:C8	2.49	0.48
29:X:155:G:O2'	29:X:156:G:H5'	2.14	0.48
29:X:971:A:H4'	29:X:2436:U:H5'	1.95	0.48
24:S:3:LEU:HD11	24:S:5:ALA:O	2.14	0.48
7:B:203:LYS:CG	29:X:2713:A:N1	2.77	0.48
28:W:36:ASP:O	28:W:36:ASP:OD1	2.32	0.48
29:X:982:C:H2'	29:X:983:G:O5'	2.14	0.48
8:C:24:SER:HA	8:C:27:LEU:CD1	2.43	0.47
8:C:47:THR:HG23	8:C:85:GLY:N	2.18	0.47
8:C:62:LYS:HE3	29:X:2042:A:O3'	2.14	0.47
23:R:93:ARG:HH12	23:R:107:ALA:C	2.16	0.47
29:X:1301:U:O2'	29:X:1664:G:N2	2.38	0.47
29:X:1339:U:H5	29:X:1664:G:HO2'	1.59	0.47
29:X:566:U:O2'	29:X:567:G:H5'	2.15	0.47
29:X:1050:G:C2'	29:X:1051:U:C5'	2.92	0.47
6:A:93:ALA:HB1	6:A:95:LEU:CD2	2.44	0.47
29:X:2824:C:H2'	29:X:2824:C:O2	2.14	0.47
29:X:1855:G:C2	29:X:1863:U:O2	2.67	0.47
29:X:2321:C:O2'	29:X:2353:G:OP1	2.31	0.47
18:M:91:VAL:CG1	18:M:92:THR:N	2.76	0.47
13:H:21:CYS:SG	13:H:22:ILE:N	2.87	0.47
29:X:1238:A:C2	29:X:1239:A:C2	3.02	0.47
29:X:1550:C:C2'	29:X:1553:G:N2	2.58	0.47
11:F:121:GLU:HA	11:F:124:ALA:HB3	1.96	0.47
19:N:88:ILE:HG23	20:O:49:GLU:CB	2.34	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:O:90:PHE:CD1	20:O:90:PHE:C	2.88	0.47
29:X:2289:A:H3'	29:X:2290:A:H8	1.78	0.47
22:Q:7:LEU:HD22	22:Q:8:GLN:N	2.28	0.47
29:X:1286:U:H4'	29:X:1288:A:OP2	2.13	0.47
25:T:3:HIS:C	25:T:4:LYS:HG2	2.35	0.47
15:J:92:GLU:OE1	15:J:92:GLU:HA	2.13	0.47
14:I:32:ARG:HD2	20:O:81:ARG:CG	2.44	0.47
29:X:1212:U:H2'	29:X:1213:U:H6	1.77	0.47
10:E:155:ASP:C	10:E:157:TYR:H	2.18	0.47
24:S:103:ARG:NH2	24:S:108:VAL:CG2	2.73	0.47
11:F:78:ILE:C	11:F:81:ALA:H	2.17	0.47
29:X:30:G:H2'	29:X:31:C:C6	2.49	0.47
7:B:136:ARG:O	7:B:137:ARG:HB2	2.14	0.47
12:G:106:TYR:CZ	12:G:108:GLY:CA	2.97	0.47
23:R:77:HIS:C	23:R:79:SER:H	2.16	0.47
23:R:84:VAL:CG1	23:R:88:THR:O	2.61	0.47
29:X:828:C:C2	29:X:1207:G:C2	3.02	0.47
29:X:1256:C:H2'	29:X:1257:U:C6	2.49	0.47
29:X:815:A:H2'	29:X:816:U:C6	2.49	0.47
6:A:206:LEU:O	6:A:207:GLY:C	2.51	0.47
17:L:104:ALA:O	17:L:105:ASP:C	2.52	0.47
28:W:18:LYS:HB2	29:X:863:C:H4'	1.96	0.47
15:J:37:ALA:CB	15:J:98:VAL:HG11	2.43	0.47
26:U:63:SER:O	26:U:64:ALA:C	2.52	0.47
13:H:116:ARG:HA	13:H:133:VAL:CG1	2.45	0.47
29:X:1091:C:O2'	29:X:1092:U:H5'	2.14	0.47
29:X:929:A:N6	29:X:930:A:C2	2.82	0.47
12:G:66:HIS:CG	19:N:71:LEU:HD12	2.49	0.47
19:N:86:ALA:O	19:N:88:ILE:N	2.47	0.47
19:N:93:LYS:HD2	20:O:10:LYS:NZ	2.29	0.47
20:O:13:ARG:O	20:O:14:VAL:CG2	2.62	0.47
9:D:80:ARG:N	9:D:80:ARG:HD2	2.29	0.47
9:D:67:ILE:O	9:D:69:LYS:N	2.47	0.47
29:X:1253:C:H5'	29:X:1253:C:C6	2.47	0.47
16:K:13:ASN:HD22	16:K:16:ALA:H	1.60	0.47
29:X:1920:A:C4	29:X:1922:U:C5	3.02	0.47
21:P:53:ALA:CB	21:P:72:LEU:HD21	2.44	0.47
21:P:11:LYS:O	21:P:12:LYS:C	2.53	0.47
29:X:2058:U:H1'	29:X:2576:G:N2	2.29	0.47
29:X:2046:C:O2	29:X:2429:A:N1	2.47	0.47
12:G:162:LYS:HZ3	29:X:2873:G:H21	1.62	0.47
21:P:102:THR:CG2	21:P:102:THR:O	2.52	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1391:A:N3	29:X:1392:U:C2	2.83	0.47
12:G:168:THR:O	12:G:169:GLN:C	2.52	0.47
16:K:44:LEU:O	16:K:45:ARG:C	2.53	0.47
29:X:2710:C:O2'	29:X:2711:G:H5'	2.14	0.47
29:X:2613:A:H2'	29:X:2614:A:H8	1.79	0.47
19:N:34:ASN:O	19:N:35:ALA:C	2.52	0.47
8:C:62:LYS:CG	8:C:63:GLY:N	2.77	0.47
16:K:105:GLY:HA2	29:X:1301:U:O4	2.14	0.47
29:X:1142:G:O2'	29:X:1143:A:P	2.72	0.47
29:X:343:A:OP2	29:X:343:A:C4	2.67	0.47
29:X:826:U:O2	29:X:827:C:C6	2.68	0.47
29:X:2494:C:N3	29:X:2549:G:C6	2.82	0.47
29:X:1818:G:C6	29:X:1819:U:C4	3.02	0.47
29:X:1744:G:O6	29:X:1747:G:C6	2.66	0.47
29:X:1724:C:C4	29:X:1747:G:C6	3.02	0.47
17:L:37:HIS:CG	17:L:37:HIS:O	2.67	0.47
29:X:2393:G:C6	29:X:2394:G:N7	2.82	0.47
29:X:613:A:C4	29:X:668:A:C2	3.02	0.47
13:H:113:PRO:CB	13:H:134:LEU:HD12	2.43	0.47
18:M:72:SER:O	18:M:73:PHE:C	2.51	0.47
29:X:1933:G:H2'	29:X:1934:U:H6	1.79	0.47
10:E:10:ALA:O	10:E:12:PRO:CD	2.62	0.47
29:X:358:C:H6	29:X:358:C:O5'	1.98	0.47
29:X:873:U:O4	29:X:929:A:C8	2.66	0.47
31:Z:16:U:HO2'	31:Z:110:U:C2'	2.27	0.47
24:S:146:HIS:O	24:S:147:ILE:HD13	2.14	0.47
19:N:109:LEU:O	19:N:112:ALA:HB3	2.14	0.47
19:N:76:TYR:O	19:N:77:SER:C	2.53	0.47
12:G:31:THR:OG1	29:X:1006:C:N3	2.45	0.47
28:W:54:GLN:CG	28:W:55:GLU:N	2.72	0.47
24:S:123:VAL:HG23	24:S:161:ALA:HB2	1.96	0.47
8:C:98:GLN:HE22	29:X:611:C:C5'	2.25	0.47
20:O:78:VAL:O	20:O:78:VAL:HG22	2.14	0.47
16:K:98:LEU:O	16:K:112:LEU:N	2.36	0.47
8:C:194:GLU:O	8:C:195:ILE:CG1	2.58	0.47
29:X:485:G:C4	29:X:520:C:C5	3.01	0.47
12:G:42:VAL:CG1	12:G:168:THR:HG23	2.43	0.47
29:X:614:G:C2'	29:X:615:C:H5'	2.45	0.47
29:X:2604:G:H2'	29:X:2605:C:O4'	2.15	0.47
19:N:37:GLN:HE22	29:X:572:G:N2	2.12	0.47
26:U:68:ARG:NH1	29:X:412:U:H5	2.12	0.47
7:B:136:ARG:HG2	7:B:137:ARG:H	1.79	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:C:44:SER:CB	29:X:37:C:H1'	2.44	0.47
14:I:43:ALA:CB	29:X:684:C:H41	2.27	0.47
19:N:21:ALA:CB	19:N:24:PHE:CD2	2.97	0.47
29:X:1301:U:C5'	29:X:1302:C:OP2	2.63	0.47
29:X:1339:U:H5''	29:X:1994:U:C1'	2.44	0.47
29:X:540:G:C2	29:X:2005:U:OP1	2.67	0.47
29:X:2029:G:O5'	30:Y:19:ARG:HA	2.13	0.47
29:X:2760:G:C2'	29:X:2761:A:OP1	2.61	0.47
29:X:322:A:O2'	29:X:343:A:H5'	2.14	0.47
8:C:162:ARG:CZ	29:X:333:A:H5''	2.44	0.47
29:X:826:U:N3	29:X:827:C:C4	2.82	0.47
29:X:2587:G:H8	29:X:2587:G:O5'	1.98	0.47
9:D:156:ILE:HG22	9:D:156:ILE:O	2.13	0.47
9:D:22:TYR:HD2	9:D:27:ALA:O	1.97	0.47
29:X:2311:U:C5'	29:X:2315:A:N6	2.72	0.47
17:L:89:PHE:CD2	29:X:2355:A:C2	3.03	0.47
28:W:49:HIS:CD2	31:Z:85:G:C5'	2.98	0.47
29:X:487:G:H4'	29:X:512:A:N6	2.28	0.47
15:J:11:ARG:NH2	15:J:15:ARG:HH22	2.12	0.47
7:B:59:VAL:HG12	7:B:64:GLN:HG3	1.95	0.47
14:I:65:PHE:HB3	29:X:642:A:O2'	2.14	0.47
29:X:2327:U:C4	29:X:2361:G:N2	2.82	0.47
13:H:76:ARG:NH1	13:H:113:PRO:O	2.43	0.47
31:Z:110:U:H2'	31:Z:110:U:O2	2.13	0.47
29:X:666:U:H3'	29:X:667:U:H5''	1.95	0.47
19:N:76:TYR:CE1	19:N:80:ILE:HG13	2.49	0.47
20:O:34:GLU:O	20:O:35:LEU:O	2.33	0.47
22:Q:53:ILE:CG1	22:Q:54:SER:N	2.77	0.47
29:X:1494:G:O2'	29:X:1574:A:H2	1.97	0.47
21:P:17:GLN:HG3	21:P:18:VAL:HG23	1.96	0.47
29:X:2386:G:H2'	29:X:2387:U:C6	2.49	0.47
15:J:79:PRO:HD3	15:J:88:LYS:HZ2	1.80	0.47
29:X:2426:G:C4	29:X:2480:C:C4	3.02	0.47
29:X:6:A:C4	29:X:7:G:C8	3.01	0.47
29:X:1601:U:H4'	29:X:1602:G:OP2	2.14	0.47
29:X:1909:U:H5'	29:X:1911:A:OP2	2.14	0.47
29:X:1061:A:H2'	29:X:1062:G:C5'	2.44	0.47
24:S:64:ALA:HB2	24:S:85:MET:CE	2.45	0.47
16:K:41:ALA:O	16:K:44:LEU:N	2.47	0.47
29:X:2685:A:C2	29:X:2686:C:N1	2.82	0.47
18:M:69:ARG:HG3	18:M:70:LYS:N	2.30	0.47
29:X:2528:G:O2'	29:X:2529:G:H5'	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2249:U:H2'	29:X:2250:G:O4'	2.13	0.47
29:X:597:U:H2'	29:X:598:U:C6	2.49	0.47
12:G:142:ARG:O	12:G:144:MET:N	2.48	0.47
29:X:1135:C:H2'	29:X:1136:G:C8	2.46	0.47
29:X:623:G:H3'	29:X:624:A:C5'	2.29	0.47
25:T:40:GLN:O	25:T:41:ARG:HD3	2.14	0.47
26:U:28:GLY:O	26:U:31:GLY:N	2.47	0.47
24:S:13:LYS:HZ2	24:S:18:MET:HB2	1.80	0.47
7:B:68:ALA:C	7:B:70:ALA:N	2.68	0.47
7:B:181:LEU:CD1	18:M:16:ILE:HD11	2.45	0.47
10:E:43:VAL:HG22	10:E:44:ARG:N	2.30	0.47
29:X:1544:A:N7	29:X:1545:G:C4	2.83	0.47
11:F:129:GLY:O	11:F:132:ARG:HB3	2.13	0.47
19:N:81:ASN:HD21	19:N:85:ARG:NE	2.12	0.47
9:D:135:GLN:O	9:D:138:PHE:CD1	2.67	0.47
26:U:20:ARG:CB	26:U:43:ARG:HD2	2.43	0.47
14:I:53:ARG:NH2	14:I:53:ARG:CG	2.78	0.47
29:X:2625:U:OP2	29:X:2625:U:H6	1.97	0.47
29:X:105:G:H5'	29:X:105:G:C8	2.48	0.47
29:X:1337:G:H4'	29:X:1632:A:N7	2.29	0.47
10:E:158:HIS:N	10:E:171:LEU:HD23	2.28	0.47
29:X:766:A:H8	29:X:766:A:O5'	1.97	0.47
21:P:93:LYS:HB2	21:P:129:ALA:HB3	1.96	0.47
16:K:44:LEU:HD11	16:K:48:VAL:HB	1.95	0.47
17:L:79:ALA:O	17:L:82:LYS:HB2	2.14	0.47
29:X:2859:U:OP2	30:Y:43:HIS:CE1	2.68	0.47
29:X:982:C:OP2	29:X:985:G:C8	2.67	0.47
11:F:1:MET:HB3	11:F:2:LYS:HD3	1.95	0.47
29:X:1412:C:HO2'	29:X:1413:U:P	2.37	0.47
18:M:50:PHE:CZ	18:M:70:LYS:HB3	2.48	0.47
7:B:15:TRP:CE2	18:M:86:PRO:HD3	2.50	0.47
7:B:117:MET:O	7:B:121:ASN:HA	2.15	0.47
12:G:131:VAL:C	12:G:133:GLY:H	2.18	0.47
29:X:1207:G:O2'	29:X:1208:A:H5'	2.14	0.47
29:X:2594:U:O2	29:X:2595:C:C6	2.67	0.47
29:X:540:G:N3	29:X:2004:U:O2'	2.48	0.47
29:X:632:A:H3'	29:X:633:G:C8	2.50	0.47
30:Y:8:LYS:O	30:Y:9:LYS:HD3	2.14	0.47
6:A:131:LEU:CD1	6:A:136:VAL:HG22	2.45	0.47
4:4:19:ARG:HE	29:X:2735:C:H3'	1.79	0.47
17:L:42:ILE:C	17:L:43:ILE:HD12	2.35	0.47
29:X:426:C:H4'	29:X:1863:U:O2'	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:J:35:LEU:CD1	15:J:130:THR:HB	2.43	0.47
7:B:5:LEU:CD1	7:B:81:PHE:CZ	2.97	0.47
29:X:2321:C:O2'	29:X:2353:G:H5''	2.15	0.47
13:H:83:ARG:HH11	18:M:40:ARG:CD	2.28	0.47
10:E:9:ILE:HD12	10:E:51:LEU:CA	2.45	0.47
10:E:9:ILE:HB	10:E:50:LEU:C	2.34	0.47
27:V:22:LYS:HA	27:V:25:LEU:HB3	1.97	0.47
11:F:12:LEU:HD22	11:F:22:PRO:CB	2.44	0.47
11:F:25:PRO:CG	11:F:26:ALA:H	2.27	0.47
31:Z:71:G:C5	31:Z:72:C:C5	3.03	0.47
29:X:2084:G:H2'	29:X:2085:G:C8	2.49	0.47
19:N:66:ASN:HA	19:N:69:ALA:CB	2.45	0.47
19:N:84:LYS:CB	19:N:92:ARG:HH22	2.26	0.47
20:O:53:LYS:HB2	20:O:54:TYR:CD1	2.50	0.47
16:K:76:VAL:HA	16:K:79:VAL:HG12	1.97	0.47
16:K:83:VAL:HG23	16:K:87:TYR:CE2	2.50	0.47
10:E:127:GLU:O	10:E:129:THR:N	2.44	0.47
15:J:89:GLY:O	15:J:91:VAL:N	2.48	0.47
29:X:63:A:N3	29:X:63:A:H2'	2.29	0.47
21:P:66:GLU:O	21:P:69:ALA:CB	2.60	0.47
7:B:189:PRO:HA	29:X:2659:C:C5'	2.40	0.47
29:X:2659:C:N4	29:X:2660:C:H41	2.12	0.47
29:X:2659:C:H2'	29:X:2660:C:C6	2.50	0.47
10:E:155:ASP:OD1	10:E:160:LYS:N	2.47	0.47
30:Y:58:LEU:CD1	30:Y:58:LEU:H	2.22	0.47
29:X:1656:U:H2'	29:X:1657:A:H5''	1.97	0.47
20:O:65:ARG:CG	20:O:65:ARG:HH11	2.27	0.47
29:X:165:G:C2'	29:X:166:G:H5'	2.43	0.47
29:X:601:A:H2'	29:X:602:C:OP1	2.14	0.47
29:X:1359:G:H8	29:X:1359:G:H5'	1.79	0.47
7:B:118:LYS:HG3	7:B:118:LYS:O	2.14	0.47
29:X:682:G:C2'	29:X:682:G:N3	2.77	0.47
29:X:1350:G:H2'	29:X:1351:G:H8	1.79	0.47
28:W:45:LYS:HE3	28:W:45:LYS:CA	2.44	0.47
29:X:780:U:H4'	29:X:781:G:OP1	2.14	0.47
7:B:120:TRP:CG	7:B:155:ARG:HB3	2.50	0.47
23:R:95:ARG:NH2	23:R:106:VAL:HG12	2.30	0.47
19:N:13:ARG:CZ	29:X:1264:C:C5'	2.93	0.47
29:X:347:C:O2'	29:X:348:U:H5'	2.13	0.47
29:X:529:U:C2	29:X:530:G:N7	2.83	0.47
29:X:689:A:C2	29:X:815:A:N6	2.83	0.47
8:C:173:ALA:HB1	8:C:193:LEU:CD1	2.44	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:C:47:THR:HA	8:C:82:VAL:HB	1.95	0.47
12:G:104:THR:OG1	12:G:110:LEU:HD13	2.15	0.47
23:R:112:LYS:O	23:R:113:THR:CG2	2.57	0.47
29:X:2021:G:O2'	29:X:2022:C:H5'	2.15	0.47
29:X:538:A:C4	29:X:2025:A:C2	3.02	0.47
29:X:540:G:O2'	29:X:542:A:H2	1.95	0.47
29:X:1053:G:C6	29:X:1054:C:C4	3.03	0.47
6:A:143:HIS:O	6:A:144:ALA:HB3	2.15	0.47
29:X:2189:A:C2	29:X:2196:U:N3	2.79	0.47
4:4:30:VAL:C	4:4:32:HIS:N	2.65	0.47
29:X:797:A:OP2	29:X:2568:A:OP1	2.32	0.47
29:X:1746:A:H2'	29:X:1747:G:O5'	2.15	0.47
9:D:12:VAL:CG1	9:D:16:LEU:HD11	2.32	0.47
17:L:89:PHE:O	17:L:91:ARG:NH2	2.47	0.47
31:Z:47:A:H2'	31:Z:47:A:N3	2.28	0.47
28:W:40:VAL:HA	28:W:43:MET:HG3	1.93	0.47
15:J:71:PRO:HA	15:J:96:SER:CB	2.43	0.47
29:X:1872:A:N1	29:X:2213:G:H1'	2.29	0.47
7:B:14:ILE:CD1	7:B:183:LEU:CD1	2.91	0.47
29:X:2395:C:C2'	29:X:2396:C:C5'	2.93	0.47
29:X:658:G:H2'	29:X:659:G:H8	1.79	0.47
24:S:90:GLU:HA	24:S:127:PRO:HD3	1.96	0.47
11:F:38:THR:O	11:F:42:ASN:HB2	2.14	0.47
10:E:12:PRO:O	10:E:15:VAL:HG22	2.15	0.47
29:X:1550:C:H2'	29:X:1553:G:H21	1.71	0.47
15:J:99:LYS:HD2	15:J:100:PRO:CD	2.44	0.47
9:D:71:LYS:C	9:D:73:SER:H	2.17	0.47
29:X:1575:C:H4'	29:X:1576:G:OP2	2.14	0.47
25:T:17:ASN:OD1	29:X:2240:C:C6	2.68	0.47
21:P:45:ILE:HD12	21:P:57:LEU:HD21	1.96	0.47
10:E:89:LEU:HB2	10:E:129:THR:CA	2.33	0.47
21:P:10:ASN:O	21:P:11:LYS:C	2.53	0.47
29:X:2058:U:N3	29:X:2414:A:C2	2.83	0.47
29:X:2436:U:H2'	29:X:2437:G:O4'	2.15	0.47
22:Q:66:GLY:C	22:Q:68:PHE:N	2.68	0.47
22:Q:63:LYS:HB2	22:Q:69:ILE:O	2.13	0.47
22:Q:72:ARG:NH2	29:X:1324:G:O3'	2.44	0.47
29:X:63:A:C2	29:X:64:C:C6	3.03	0.47
9:D:33:LYS:HD2	9:D:90:THR:HG23	1.96	0.47
30:Y:51:TYR:CZ	30:Y:55:ARG:HB2	2.49	0.47
20:O:78:VAL:HG22	29:X:1202:U:H5'	1.97	0.47
24:S:43:PHE:HD1	24:S:66:VAL:HG21	1.79	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:I:78:SER:CA	14:I:112:GLY:HA3	2.45	0.47
29:X:1364:C:HO2'	29:X:1587:A:H1'	1.79	0.47
29:X:746:G:O6	29:X:774:A:C8	2.67	0.47
29:X:1332:G:N2	29:X:1347:C:C2	2.83	0.47
29:X:416:U:H4'	29:X:419:G:O2'	2.14	0.47
31:Z:4:C:HO2'	31:Z:5:C:H5'	1.80	0.47
29:X:1841:G:C2'	29:X:1842:G:H5'	2.44	0.47
29:X:1771:A:HO2'	29:X:1772:C:P	2.37	0.47
29:X:736:G:C2	29:X:737:C:H1'	2.50	0.47
16:K:65:LEU:HD11	29:X:2845:C:H5''	1.96	0.47
24:S:87:THR:O	24:S:88:TYR:CB	2.62	0.47
20:O:87:ARG:HG3	20:O:87:ARG:O	2.14	0.47
29:X:982:C:O2'	29:X:983:G:H5'	2.14	0.47
8:C:15:ILE:HG22	8:C:17:LEU:HD13	1.95	0.47
29:X:2071:G:H2'	29:X:2072:C:H6	1.80	0.47
29:X:1304:U:H2'	29:X:1305:C:C6	2.50	0.47
21:P:81:HIS:CD2	21:P:82:ASN:N	2.83	0.47
29:X:1395:A:H2'	29:X:1396:C:C6	2.50	0.47
29:X:1038:U:H2'	29:X:1039:A:H8	1.79	0.47
29:X:2015:G:O6	29:X:2551:A:C4	2.67	0.47
29:X:830:C:H2'	29:X:831:G:H8	1.80	0.47
6:A:44:ASN:CB	6:A:49:ILE:HA	2.34	0.47
29:X:2823:G:O2'	29:X:2824:C:P	2.73	0.47
9:D:13:ARG:CB	9:D:14:PRO:CD	2.92	0.47
9:D:22:TYR:CD2	9:D:28:VAL:HG22	2.49	0.47
17:L:9:ARG:O	17:L:12:ARG:N	2.44	0.47
17:L:50:THR:N	31:Z:116:C:O2'	2.44	0.47
28:W:49:HIS:ND1	28:W:50:LEU:HG	2.29	0.47
29:X:938:G:HO2'	29:X:939:C:P	2.38	0.47
15:J:42:TRP:CB	15:J:95:VAL:HG11	2.45	0.47
13:H:22:ILE:HG22	13:H:52:VAL:C	2.35	0.47
29:X:1552:C:H1'	29:X:1553:G:C4	2.50	0.47
24:S:98:VAL:HG11	24:S:168:VAL:CG1	2.44	0.47
12:G:33:ILE:O	12:G:69:ASP:CG	2.53	0.47
19:N:82:GLY:HA2	19:N:85:ARG:HB2	1.96	0.47
29:X:1162:A:H2'	29:X:1163:C:C6	2.49	0.47
9:D:175:LEU:HG	9:D:177:PHE:HE1	1.80	0.47
29:X:2286:G:N7	29:X:2287:G:C8	2.83	0.47
22:Q:42:ILE:O	22:Q:43:GLN:C	2.52	0.47
29:X:2779:C:C2'	29:X:2780:A:O4'	2.63	0.47
10:E:110:SER:OG	29:X:2646:C:N3	2.47	0.47
29:X:428:A:H2'	29:X:429:C:O4'	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:35:LYS:HE3	23:R:37:LEU:CD2	2.44	0.47
24:S:48:THR:HG22	24:S:66:VAL:HB	1.96	0.47
21:P:105:ARG:HH12	21:P:119:LYS:HZ1	1.63	0.47
29:X:2262:C:C5	29:X:2368:G:C4	3.03	0.47
29:X:774:A:H8	29:X:774:A:O5'	1.97	0.47
29:X:708:G:OP1	29:X:1393:G:O2'	2.32	0.47
7:B:128:SER:OG	29:X:1692:C:N3	2.47	0.47
29:X:1629:G:C2'	29:X:1633:C:H42	2.28	0.47
8:C:172:VAL:C	8:C:174:GLY:N	2.68	0.47
16:K:72:ASP:CB	16:K:75:VAL:HG23	2.45	0.47
29:X:860:U:H2'	29:X:860:U:O2	2.15	0.47
29:X:2488:G:H2'	29:X:2489:C:H6	1.80	0.47
12:G:104:THR:HB	29:X:2620:G:H5''	1.97	0.47
14:I:13:ARG:HB3	14:I:13:ARG:NH2	2.29	0.47
6:A:160:GLY:CA	6:A:197:GLY:HA2	2.44	0.47
29:X:2196:U:H2'	29:X:2197:U:C6	2.50	0.47
6:A:227:ASN:H	6:A:230:ASP:HB2	1.78	0.47
6:A:214:TRP:HD1	29:X:1582:A:O4'	1.97	0.47
29:X:1725:C:O2'	29:X:1726:C:H5'	2.15	0.47
17:L:107:ALA:O	17:L:109:GLU:N	2.47	0.47
25:T:42:GLY:C	25:T:57:HIS:CD2	2.89	0.47
26:U:48:LYS:NZ	29:X:2208:U:O2	2.47	0.47
7:B:14:ILE:HD12	7:B:23:VAL:HG21	1.97	0.47
7:B:192:ASN:HD22	18:M:9:ARG:NH1	2.12	0.47
14:I:92:THR:C	14:I:94:GLU:N	2.68	0.47
24:S:128:ARG:N	24:S:130:ILE:HD11	2.29	0.47
27:V:21:ARG:CD	27:V:21:ARG:N	2.78	0.47
15:J:100:PRO:HG2	24:S:74:ARG:NH1	2.27	0.47
31:Z:20:A:C2	31:Z:69:G:C6	3.03	0.47
31:Z:80:A:H2'	31:Z:81:C:O4'	2.15	0.47
29:X:2082:C:H2'	29:X:2083:G:H5''	1.97	0.47
29:X:2220:A:O2'	29:X:2221:G:H5'	2.15	0.47
29:X:2708:U:H2'	29:X:2709:C:H6	1.79	0.47
10:E:57:ASP:HB3	10:E:62:ARG:HE	1.79	0.47
29:X:1448:A:H2'	29:X:1449:C:O4'	2.14	0.47
29:X:790:A:C2	29:X:791:G:C8	3.03	0.47
29:X:2411:A:H2'	29:X:2412:A:O4'	2.15	0.47
29:X:428:A:N1	29:X:2388:G:C6	2.83	0.47
23:R:36:VAL:O	23:R:37:LEU:HD23	2.15	0.47
29:X:162:C:H2'	29:X:163:A:C8	2.49	0.47
12:G:124:GLU:CD	12:G:124:GLU:H	2.11	0.47
24:S:71:MET:HE3	24:S:71:MET:O	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:520:C:O2	29:X:520:C:C2'	2.59	0.47
9:D:44:LYS:HB3	9:D:46:ASP:OD2	2.15	0.47
20:O:65:ARG:CZ	20:O:87:ARG:HD2	2.44	0.47
4:4:2:LYS:HE3	29:X:2457:A:OP2	2.15	0.47
24:S:148:THR:CB	24:S:164:PRO:O	2.62	0.47
29:X:2242:C:N4	29:X:2243:C:N4	2.62	0.47
8:C:169:VAL:HG12	8:C:170:LEU:N	2.29	0.47
12:G:108:GLY:C	12:G:110:LEU:CD2	2.83	0.47
23:R:16:PHE:CD2	23:R:80:LYS:NZ	2.83	0.47
23:R:46:VAL:HG12	23:R:48:VAL:HG23	1.96	0.47
29:X:26:G:C6	29:X:27:G:N2	2.83	0.47
17:L:38:ILE:HD12	17:L:40:ALA:H	1.74	0.47
17:L:91:ARG:NH2	29:X:2356:A:C2	2.82	0.47
15:J:36:ILE:HD12	15:J:133:VAL:HG11	1.96	0.47
11:F:23:VAL:HG11	11:F:34:ILE:HG12	1.96	0.47
20:O:90:PHE:HD1	20:O:91:THR:N	2.13	0.47
22:Q:7:LEU:HD22	22:Q:7:LEU:O	2.13	0.47
13:H:1:MET:CB	13:H:44:TYR:HB3	2.41	0.47
29:X:1249:G:O2'	29:X:1250:A:P	2.73	0.47
29:X:2498:U:H2'	29:X:2520:A:H61	1.79	0.47
29:X:1920:A:H62	29:X:1923:U:H5	1.62	0.47
29:X:2654:A:C2	29:X:2655:C:C2	3.03	0.47
29:X:403:A:H4'	29:X:404:A:O5'	2.14	0.47
8:C:195:ILE:O	8:C:196:VAL:HB	2.14	0.47
29:X:1685:A:N7	29:X:1691:G:C5	2.83	0.47
29:X:1693:A:C2	29:X:1976:U:H5'	2.50	0.47
24:S:63:PRO:C	24:S:86:VAL:HG23	2.34	0.47
7:B:16:LYS:HB2	7:B:21:ILE:CD1	2.45	0.47
14:I:22:GLY:HA3	29:X:674:U:H1'	1.97	0.47
21:P:60:ILE:HA	21:P:61:PRO:HD3	1.61	0.47
10:E:150:LYS:NZ	29:X:2724:G:H1'	2.29	0.47
29:X:2348:A:H2'	29:X:2349:G:C8	2.50	0.47
29:X:1879:G:O2'	29:X:1880:G:H5'	2.14	0.47
29:X:991:A:C5	29:X:992:A:C6	3.03	0.47
7:B:154:LYS:HZ1	7:B:156:MET:HE1	1.80	0.46
8:C:65:GLY:O	8:C:66:ASN:O	2.33	0.46
12:G:103:TYR:HD2	29:X:1142:G:O4'	1.98	0.46
29:X:1134:C:H2'	29:X:1135:C:C6	2.48	0.46
29:X:1296:G:H22	29:X:1299:A:H5''	1.79	0.46
29:X:541:C:O2'	29:X:542:A:OP2	2.31	0.46
4:4:8:LYS:N	4:4:34:GLN:HE22	2.13	0.46
29:X:2496:C:O2'	29:X:2497:A:O5'	2.31	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:A:227:ASN:O	6:A:230:ASP:N	2.49	0.46
8:C:108:ILE:O	8:C:109:ALA:C	2.50	0.46
9:D:12:VAL:HG11	9:D:169:LEU:CD1	2.36	0.46
9:D:14:PRO:O	9:D:16:LEU:N	2.48	0.46
17:L:87:VAL:CG1	17:L:88:VAL:H	2.25	0.46
31:Z:39:C:N4	31:Z:51:G:O4'	2.48	0.46
26:U:23:LYS:HE3	26:U:26:ALA:CB	2.45	0.46
15:J:116:LYS:HE2	15:J:132:MET:HE2	1.98	0.46
15:J:64:LYS:CG	15:J:108:ALA:O	2.63	0.46
29:X:886:A:C2	29:X:917:U:O2	2.68	0.46
24:S:13:LYS:HE2	24:S:20:ALA:HB2	1.97	0.46
26:U:13:LEU:C	26:U:14:VAL:HG22	2.36	0.46
7:B:183:LEU:HD11	18:M:16:ILE:CG2	2.46	0.46
14:I:90:ARG:HD2	14:I:93:LEU:CD1	2.32	0.46
29:X:2379:G:H2'	29:X:2380:U:C5'	2.45	0.46
13:H:22:ILE:HG22	13:H:52:VAL:O	2.15	0.46
29:X:1933:G:C8	29:X:1934:U:H5	2.31	0.46
10:E:66:GLY:O	29:X:2728:A:H4'	2.15	0.46
29:X:2729:A:N1	29:X:2730:A:N6	2.64	0.46
29:X:1474:A:C1'	29:X:1475:U:H5'	2.44	0.46
29:X:2681:A:N7	29:X:2682:C:C5	2.83	0.46
27:V:39:GLN:HB3	27:V:42:ARG:CB	2.45	0.46
31:Z:72:C:O2'	31:Z:73:C:H5'	2.15	0.46
19:N:81:ASN:HD21	19:N:85:ARG:HE	1.63	0.46
19:N:82:GLY:C	19:N:84:LYS:N	2.68	0.46
20:O:23:GLU:O	20:O:24:SER:HB3	2.15	0.46
20:O:55:THR:OG1	20:O:98:ILE:HD12	2.15	0.46
28:W:8:SER:HB2	29:X:999:A:P	2.55	0.46
29:X:1594:U:H2'	29:X:1595:A:C8	2.49	0.46
29:X:1681:A:N6	29:X:1979:C:H42	2.10	0.46
29:X:2780:A:H2'	29:X:2781:G:H8	1.80	0.46
29:X:89:A:O4'	29:X:89:A:OP1	2.33	0.46
6:A:62:TYR:CE2	29:X:1808:C:C5	3.03	0.46
29:X:1919:A:C2	29:X:1928:G:C8	3.03	0.46
29:X:971:A:H4'	29:X:2436:U:C5'	2.45	0.46
29:X:1883:A:C2	29:X:1953:A:C2	3.03	0.46
28:W:37:THR:C	28:W:41:ARG:HG3	2.34	0.46
17:L:81:GLU:O	17:L:82:LYS:CG	2.64	0.46
29:X:1200:G:N7	29:X:1201:G:N7	2.62	0.46
10:E:150:LYS:HZ2	29:X:2724:G:H1'	1.81	0.46
29:X:2468:G:H2'	29:X:2469:G:O4'	2.14	0.46
10:E:83:TYR:CE2	10:E:138:LYS:HG3	2.50	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:921:A:N1	29:X:924:C:H1'	2.30	0.46
29:X:1206:G:O2'	29:X:1207:G:H5'	2.14	0.46
29:X:1224:A:HO2'	29:X:1225:G:P	2.39	0.46
29:X:1281:A:OP1	29:X:1989:C:OP1	2.33	0.46
29:X:343:A:H1'	29:X:346:C:H42	1.79	0.46
29:X:215:G:N2	29:X:632:A:H8	2.06	0.46
6:A:231:HIS:CG	6:A:232:PRO:HD2	2.50	0.46
29:X:792:U:O2'	29:X:793:G:H5'	2.15	0.46
6:A:218:LYS:NZ	29:X:794:A:H5'	2.31	0.46
29:X:1722:G:C6	29:X:1723:U:N3	2.83	0.46
9:D:128:TYR:H	9:D:156:ILE:HG22	1.81	0.46
29:X:1129:A:OP1	29:X:1129:A:H4'	2.14	0.46
15:J:106:GLU:OE1	15:J:106:GLU:O	2.34	0.46
26:U:58:LYS:O	26:U:59:THR:HG23	2.16	0.46
29:X:2075:U:O2	29:X:2075:U:H2'	2.14	0.46
7:B:9:ILE:CD1	18:M:12:LEU:HD13	2.32	0.46
29:X:2379:G:N2	29:X:2380:U:H1'	2.30	0.46
18:M:34:ARG:NE	18:M:88:VAL:CG1	2.78	0.46
24:S:92:VAL:CG2	24:S:93:GLU:H	2.20	0.46
29:X:1108:U:C2	29:X:1109:A:H1'	2.50	0.46
29:X:559:C:C2	29:X:560:G:H1'	2.50	0.46
20:O:56:VAL:HA	20:O:97:GLY:HA3	1.98	0.46
9:D:36:VAL:O	9:D:89:VAL:HG23	2.15	0.46
9:D:53:ALA:O	9:D:57:LEU:N	2.45	0.46
29:X:1313:U:H1'	29:X:1642:G:C2	2.50	0.46
29:X:2448:A:H5'	29:X:2448:A:H8	1.80	0.46
29:X:2652:G:N3	29:X:2653:A:C8	2.83	0.46
25:T:3:HIS:CG	25:T:4:LYS:H	2.32	0.46
21:P:56:LEU:O	21:P:57:LEU:C	2.53	0.46
10:E:107:ILE:N	10:E:107:ILE:CD1	2.74	0.46
29:X:2388:G:C4	29:X:2389:G:C8	3.03	0.46
10:E:24:PHE:CD1	10:E:37:TYR:HD1	2.32	0.46
30:Y:51:TYR:CE1	30:Y:55:ARG:CB	2.94	0.46
12:G:155:THR:HG23	12:G:156:HIS:CE1	2.50	0.46
29:X:1887:G:N3	29:X:1911:A:H2	2.13	0.46
29:X:1629:G:N1	29:X:1633:C:C6	2.83	0.46
15:J:61:ARG:HD3	24:S:174:PRO:CB	2.44	0.46
29:X:2185:U:H2'	29:X:2186:G:C8	2.50	0.46
29:X:112:U:C2	29:X:113:C:C5	3.04	0.46
29:X:2017:U:OP1	29:X:2017:U:H6	1.97	0.46
8:C:136:TRP:O	8:C:140:ASN:ND2	2.42	0.46
12:G:131:VAL:O	12:G:133:GLY:N	2.48	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:I:7:LYS:O	29:X:1219:C:H5'	2.15	0.46
23:R:14:LEU:CD1	23:R:39:ALA:HB1	2.45	0.46
29:X:596:C:N1	29:X:684:C:H1'	2.30	0.46
6:A:92:ILE:CG2	6:A:104:TYR:CD2	2.98	0.46
6:A:246:PRO:HD2	6:A:251:GLY:H	1.76	0.46
26:U:33:LYS:HE3	29:X:2400:G:H21	1.80	0.46
26:U:35:THR:HB	29:X:401:G:OP1	2.15	0.46
29:X:613:A:C2	29:X:636:G:N3	2.83	0.46
29:X:2264:C:N4	29:X:2325:A:C2	2.82	0.46
18:M:34:ARG:CZ	18:M:88:VAL:CG2	2.93	0.46
18:M:34:ARG:NE	18:M:88:VAL:HG11	2.30	0.46
27:V:14:PHE:HZ	27:V:56:VAL:HG11	1.80	0.46
8:C:144:GLY:CA	8:C:166:TRP:NE1	2.78	0.46
25:T:44:LYS:HG2	25:T:45:PHE:CE1	2.50	0.46
29:X:1355:A:O2'	29:X:1357:U:OP2	2.15	0.46
29:X:1924:C:C4	29:X:1925:C:C4	3.03	0.46
21:P:52:ASP:O	21:P:53:ALA:C	2.53	0.46
29:X:2046:C:C5	29:X:2047:C:N4	2.83	0.46
30:Y:25:LEU:HD12	30:Y:25:LEU:H	1.80	0.46
29:X:1193:G:C6	29:X:1194:U:C4	3.02	0.46
25:T:51:VAL:CG2	25:T:79:ILE:O	2.58	0.46
29:X:138:G:H2'	29:X:139:A:H8	1.80	0.46
23:R:100:ASP:C	23:R:102:LYS:N	2.66	0.46
6:A:61:LEU:CD1	29:X:1584:G:H5''	2.45	0.46
29:X:1401:G:O2'	29:X:1402:G:H5'	2.15	0.46
20:O:25:LEU:HG	20:O:32:LYS:NZ	2.30	0.46
30:Y:17:ASP:O	30:Y:18:MET:C	2.53	0.46
12:G:142:ARG:O	12:G:143:ALA:C	2.53	0.46
23:R:106:VAL:O	23:R:107:ALA:HB2	2.15	0.46
23:R:90:LYS:C	23:R:91:ALA:O	2.49	0.46
7:B:145:LYS:HB2	29:X:2551:A:N7	2.30	0.46
29:X:633:G:H2'	29:X:634:G:H8	1.80	0.46
6:A:124:GLU:O	6:A:126:LYS:N	2.49	0.46
8:C:112:GLN:HE22	8:C:188:ILE:HD11	1.79	0.46
9:D:14:PRO:C	9:D:16:LEU:N	2.68	0.46
9:D:22:TYR:CE2	9:D:28:VAL:HA	2.50	0.46
17:L:28:ARG:O	17:L:42:ILE:HD13	2.16	0.46
17:L:99:ARG:HD3	31:Z:51:G:OP2	2.15	0.46
18:M:26:ASP:O	18:M:27:PHE:CG	2.68	0.46
15:J:28:VAL:HG23	15:J:137:VAL:CG2	2.45	0.46
18:M:94:VAL:HG12	18:M:95:GLU:HG2	1.98	0.46
29:X:837:U:H3	29:X:846:A:N6	2.13	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1934:U:C2	29:X:1936:A:OP2	2.68	0.46
29:X:1467:U:H2'	29:X:1468:A:OP1	2.15	0.46
27:V:6:MET:HE1	27:V:52:GLN:HB3	1.96	0.46
11:F:23:VAL:O	11:F:25:PRO:N	2.49	0.46
8:C:144:GLY:HA2	8:C:166:TRP:CD1	2.51	0.46
31:Z:18:G:O2'	31:Z:19:C:H5'	2.16	0.46
24:S:142:ASN:O	24:S:171:VAL:HG11	2.15	0.46
20:O:71:ILE:HD11	29:X:1003:C:O2'	2.15	0.46
9:D:108:LEU:HA	9:D:111:ILE:CG1	2.45	0.46
9:D:75:SER:HB2	9:D:79:LEU:HD22	1.97	0.46
29:X:393:U:H2'	29:X:394:U:H6	1.80	0.46
29:X:230:C:H2'	29:X:231:G:H5'	1.97	0.46
29:X:740:A:OP1	29:X:1445:A:O2'	2.31	0.46
29:X:144:U:O2'	29:X:145:C:H5'	2.16	0.46
29:X:497:C:C6	29:X:497:C:C5'	2.89	0.46
10:E:131:ILE:HG22	10:E:132:ASP:N	2.29	0.46
29:X:1096:A:H2'	29:X:1097:A:O4'	2.16	0.46
6:A:50:THR:HG21	29:X:1805:G:C2	2.49	0.46
10:E:110:SER:HB2	29:X:2646:C:O2	2.16	0.46
29:X:2762:G:C2	29:X:2763:U:C6	3.02	0.46
29:X:2763:U:O2'	29:X:2764:U:H5'	2.15	0.46
24:S:22:VAL:HG11	31:Z:77:G:C1'	2.45	0.46
21:P:25:PHE:C	21:P:25:PHE:CD2	2.89	0.46
29:X:1336:G:C2	29:X:1346:C:H1'	2.50	0.46
11:F:5:ALA:HB1	11:F:59:ILE:O	2.14	0.46
29:X:889:C:O5'	29:X:889:C:H6	1.99	0.46
29:X:644:A:H2'	29:X:645:G:O4'	2.15	0.46
29:X:972:C:C5'	29:X:973:U:OP2	2.63	0.46
22:Q:21:GLU:C	22:Q:23:GLY:N	2.69	0.46
24:S:148:THR:HA	24:S:166:LEU:O	2.14	0.46
29:X:2526:U:C6	29:X:2545:A:C6	3.03	0.46
29:X:1569:A:C5	29:X:1571:G:C5	3.04	0.46
29:X:2028:C:O2'	30:Y:18:MET:O	2.32	0.46
13:H:30:GLY:O	13:H:33:GLY:O	2.33	0.46
29:X:771:C:O2'	29:X:772:G:H5'	2.15	0.46
12:G:98:LYS:CB	12:G:116:ARG:HB2	2.37	0.46
19:N:13:ARG:NE	29:X:1264:C:C5'	2.74	0.46
29:X:1044:U:H4'	29:X:1045:G:OP1	2.15	0.46
29:X:1274:C:H2'	29:X:1275:A:O5'	2.16	0.46
16:K:103:ARG:HD2	29:X:1300:A:OP2	2.16	0.46
29:X:1996:A:N6	29:X:2592:U:C5	2.83	0.46
30:Y:12:SER:C	30:Y:14:SER:N	2.64	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:760:U:C6	30:Y:3:LYS:HG3	2.50	0.46
6:A:55:GLY:N	6:A:217:ARG:HB2	2.31	0.46
9:D:159:THR:O	9:D:160:ALA:C	2.54	0.46
17:L:69:ALA:HA	17:L:106:ALA:HB2	1.98	0.46
29:X:2280:A:H2'	29:X:2281:C:H6	1.80	0.46
26:U:47:HIS:HB2	26:U:48:LYS:H	1.54	0.46
29:X:641:G:H4'	29:X:651:C:O2'	2.15	0.46
29:X:2324:G:N7	29:X:2351:G:C2	2.83	0.46
11:F:49:GLY:O	11:F:50:ASP:CB	2.63	0.46
13:H:47:VAL:HG11	13:H:115:ALA:HB1	1.96	0.46
29:X:1557:G:H2'	29:X:1558:C:H6	1.79	0.46
15:J:22:ALA:N	15:J:99:LYS:HG3	2.31	0.46
29:X:931:G:C4	29:X:932:G:C8	3.04	0.46
29:X:754:G:C4	29:X:755:C:C5	3.03	0.46
29:X:2170:C:C3'	29:X:2171:U:C5'	2.87	0.46
20:O:35:LEU:HD21	20:O:52:GLY:CA	2.41	0.46
29:X:1010:U:O2'	29:X:1011:A:H5'	2.16	0.46
29:X:1175:A:H2'	29:X:1176:U:O4'	2.16	0.46
29:X:1514:C:H4'	29:X:1592:U:O2'	2.16	0.46
29:X:1357:U:O2'	29:X:1358:C:OP1	2.33	0.46
29:X:172:A:N1	29:X:178:C:C2	2.84	0.46
29:X:224:G:C4'	29:X:399:G:C6	2.87	0.46
29:X:1018:C:C3'	29:X:1019:U:C5'	2.87	0.46
10:E:37:TYR:HE2	10:E:71:LEU:CB	2.27	0.46
29:X:2821:G:H2'	29:X:2822:U:H6	1.73	0.46
29:X:501:G:H2'	29:X:502:A:O4'	2.15	0.46
29:X:2618:A:N7	29:X:2755:A:H2	2.13	0.46
29:X:1587:A:C2	29:X:1588:A:C5	3.04	0.46
29:X:1391:A:C8	29:X:1393:G:N7	2.83	0.46
29:X:2508:G:O5'	29:X:2509:A:H5''	2.15	0.46
29:X:801:A:HO2'	29:X:802:A:P	2.35	0.46
29:X:1918:G:C2'	29:X:1945:C:H42	2.28	0.46
29:X:353:G:H2'	29:X:354:C:O4'	2.15	0.46
29:X:55:A:C2	29:X:56:C:C2	3.02	0.46
29:X:934:G:H2'	29:X:935:C:O4'	2.16	0.46
29:X:1941:C:O2'	29:X:1942:G:H5'	2.16	0.46
29:X:868:U:H2'	29:X:869:C:C6	2.50	0.46
19:N:28:ARG:HG2	19:N:38:THR:OG1	2.15	0.46
19:N:3:ARG:HB2	29:X:457:C:H5''	1.97	0.46
29:X:1215:A:H2'	29:X:1216:G:H8	1.78	0.46
29:X:2433:G:C4	29:X:2434:G:C8	3.03	0.46
29:X:529:U:O2'	29:X:530:G:H5'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1807:A:H1'	29:X:1809:G:C8	2.51	0.46
29:X:2194:A:H2'	29:X:2195:C:C5'	2.44	0.46
6:A:262:LYS:HE3	29:X:2206:C:H1'	1.98	0.46
6:A:208:LYS:CE	6:A:208:LYS:HA	2.46	0.46
29:X:1744:G:N2	29:X:1746:A:H3'	2.31	0.46
28:W:18:LYS:O	28:W:22:ALA:N	2.43	0.46
29:X:516:G:O2'	29:X:517:A:P	2.74	0.46
15:J:121:LEU:O	15:J:125:LYS:HE2	2.16	0.46
15:J:28:VAL:N	15:J:137:VAL:HG11	2.30	0.46
15:J:8:THR:CA	15:J:70:PHE:HZ	2.29	0.46
11:F:54:PRO:HG2	11:F:70:LYS:CD	2.40	0.46
27:V:2:LYS:H	27:V:3:PRO:CD	2.28	0.46
11:F:122:ALA:HA	29:X:1092:U:C4'	2.42	0.46
15:J:19:THR:CG2	15:J:99:LYS:HZ3	2.29	0.46
29:X:875:G:H2'	29:X:876:A:H5'	1.97	0.46
29:X:2083:G:C8	29:X:2083:G:H3'	2.50	0.46
20:O:35:LEU:HD22	20:O:36:LYS:N	2.31	0.46
29:X:1119:U:C5'	29:X:1119:U:H6	2.21	0.46
25:T:24:LYS:CD	29:X:2334:C:H4'	2.42	0.46
29:X:1313:U:HO2'	29:X:1314:A:P	2.39	0.46
21:P:76:LYS:O	21:P:78:ASN:N	2.49	0.46
10:E:89:LEU:CD1	10:E:96:ALA:N	2.78	0.46
10:E:22:GLY:O	10:E:24:PHE:CE1	2.68	0.46
10:E:65:HIS:C	10:E:67:LEU:N	2.67	0.46
15:J:17:ARG:HB2	29:X:969:U:C4	2.51	0.46
29:X:969:U:O2'	29:X:970:A:P	2.74	0.46
10:E:162:VAL:HG12	10:E:163:ARG:N	2.29	0.46
29:X:2792:C:C2	29:X:2805:G:C2	3.04	0.46
25:T:37:LEU:HD12	25:T:37:LEU:N	2.31	0.46
29:X:1741:G:C2'	29:X:1742:G:H5'	2.46	0.46
21:P:93:LYS:HB2	21:P:129:ALA:CB	2.46	0.46
29:X:192:G:H4'	29:X:193:A:H4'	1.97	0.46
29:X:1463:A:H2'	29:X:1464:A:H8	1.79	0.46
29:X:1986:G:C6	29:X:1987:G:C5	3.03	0.46
29:X:494:A:C8	29:X:495:C:C5	3.04	0.46
29:X:1952:A:H1'	29:X:1956:G:O4'	2.15	0.46
6:A:94:LEU:HG	6:A:94:LEU:O	2.16	0.46
8:C:31:VAL:O	8:C:34:GLN:HB2	2.16	0.46
23:R:16:PHE:CZ	23:R:46:VAL:HG22	2.49	0.46
29:X:796:A:H3'	29:X:796:A:C8	2.51	0.46
8:C:109:ALA:O	8:C:110:SER:C	2.52	0.46
29:X:2838:U:C2'	29:X:2839:G:H5'	2.46	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:L:75:LEU:HA	17:L:78:ALA:HB3	1.97	0.46
15:J:125:LYS:CD	15:J:125:LYS:N	2.79	0.46
15:J:33:TYR:CE2	15:J:112:GLU:HA	2.51	0.46
29:X:649:G:C5	29:X:650:U:C5	3.04	0.46
13:H:116:ARG:HH11	18:M:38:LYS:HZ3	1.62	0.46
13:H:8:LEU:HD22	13:H:94:ASN:CB	2.45	0.46
10:E:15:VAL:O	10:E:16:THR:OG1	2.23	0.46
29:X:78:C:O2	29:X:357:A:H2	1.99	0.46
13:H:27:SER:HA	13:H:50:ILE:HD12	1.97	0.46
25:T:45:PHE:CZ	25:T:77:ARG:CZ	2.98	0.46
31:Z:93:G:H2'	31:Z:94:G:O4'	2.16	0.46
12:G:32:TYR:OH	12:G:35:LYS:CE	2.64	0.46
12:G:69:ASP:O	19:N:64:ARG:NE	2.48	0.46
9:D:130:LEU:HD22	9:D:132:ILE:CD1	2.46	0.46
29:X:1117:G:H2'	29:X:1118:G:H8	1.72	0.46
29:X:1289:A:C2	29:X:1290:A:C5	3.04	0.46
29:X:805:G:N7	29:X:2419:C:C1'	2.79	0.46
10:E:37:TYR:HB3	10:E:41:LEU:HD23	1.97	0.46
24:S:2:GLU:O	24:S:3:LEU:C	2.53	0.46
12:G:154:GLU:N	12:G:157:PRO:CD	2.79	0.46
29:X:417:C:H4'	29:X:418:C:C5'	2.45	0.46
29:X:1479:G:H2'	29:X:1480:G:C8	2.50	0.46
10:E:172:LYS:CE	29:X:2508:G:OP2	2.63	0.46
29:X:1486:A:H2'	29:X:1487:C:H6	1.78	0.46
29:X:972:C:H5'	29:X:973:U:OP2	2.16	0.46
21:P:68:VAL:CG1	21:P:68:VAL:O	2.63	0.46
22:Q:89:GLU:HB2	22:Q:91:LEU:HD23	1.98	0.46
29:X:1947:G:O2'	29:X:1950:C:OP2	2.27	0.46
29:X:412:U:H2'	29:X:413:G:O4'	2.15	0.46
29:X:1292:A:H2'	29:X:1293:A:O4'	2.16	0.46
29:X:319:G:H1'	29:X:511:A:O4'	2.16	0.46
8:C:158:ARG:HB3	8:C:169:VAL:CG1	2.46	0.46
12:G:108:GLY:O	12:G:110:LEU:HD23	2.16	0.46
23:R:15:HIS:O	23:R:82:ALA:HB1	2.16	0.46
29:X:1302:C:O2'	29:X:1303:U:H5'	2.15	0.46
29:X:2034:A:C4	29:X:2593:A:N6	2.83	0.46
6:A:126:LYS:C	6:A:193:ILE:HG21	2.36	0.46
6:A:169:GLU:OE1	6:A:184:ARG:NH1	2.48	0.46
6:A:257:LEU:HD12	29:X:1794:A:O2'	2.15	0.46
6:A:70:ARG:C	6:A:72:LYS:H	2.18	0.46
6:A:72:LYS:HE3	6:A:99:ASP:OD2	2.16	0.46
29:X:1502:G:O2'	29:X:1503:G:H5'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2195:C:C5	29:X:2196:U:O4	2.68	0.46
17:L:44:ASP:OD1	17:L:44:ASP:C	2.53	0.46
31:Z:42:U:H1'	31:Z:47:A:H62	1.78	0.46
29:X:402:A:N7	29:X:2392:G:O2'	2.42	0.46
23:R:56:LYS:HG2	23:R:56:LYS:H	1.46	0.46
15:J:59:PHE:CD1	15:J:65:ILE:HD11	2.50	0.46
14:I:101:ARG:HH11	14:I:104:ARG:NH2	2.14	0.46
29:X:664:C:C5'	29:X:664:C:H6	2.29	0.46
19:N:75:ASN:O	19:N:75:ASN:ND2	2.48	0.46
19:N:65:ILE:HG21	19:N:80:ILE:HD11	1.96	0.46
29:X:1510:A:H2'	29:X:1511:A:C8	2.51	0.46
9:D:175:LEU:HG	9:D:177:PHE:CE1	2.51	0.46
8:C:2:ALA:HA	8:C:13:ARG:CA	2.29	0.46
29:X:1750:A:H4'	29:X:2695:C:O4'	2.16	0.46
29:X:2222:U:H2'	29:X:2223:U:C5	2.45	0.46
22:Q:27:PHE:HZ	22:Q:42:ILE:HD13	1.81	0.46
27:V:4:SER:HB3	27:V:7:ARG:HE	1.81	0.46
30:Y:25:LEU:CD1	30:Y:25:LEU:H	2.28	0.46
21:P:105:ARG:NH1	21:P:119:LYS:HZ2	2.13	0.46
7:B:142:GLY:CA	7:B:143:GLN:NE2	2.74	0.46
13:H:85:ASP:OD2	13:H:87:SER:HB3	2.16	0.46
29:X:66:U:H1'	29:X:87:G:N2	2.31	0.46
29:X:2687:G:O2'	29:X:2688:G:H5'	2.15	0.46
9:D:77:PHE:CD1	9:D:77:PHE:N	2.84	0.46
23:R:29:HIS:CG	23:R:51:VAL:HG22	2.51	0.46
29:X:1036:G:C4	29:X:1145:C:H1'	2.51	0.46
29:X:1208:A:H2'	29:X:1209:G:O4'	2.16	0.46
29:X:1209:G:C2	29:X:1210:C:C5	3.04	0.46
29:X:340:G:H4'	29:X:341:A:OP1	2.14	0.46
29:X:459:A:H4'	29:X:461:A:N7	2.30	0.46
6:A:133:LEU:O	6:A:136:VAL:N	2.44	0.46
6:A:72:LYS:NZ	6:A:99:ASP:OD2	2.49	0.46
6:A:55:GLY:C	6:A:56:GLY:O	2.54	0.46
18:M:108:ARG:O	18:M:109:GLU:CB	2.62	0.46
17:L:18:ARG:NH2	29:X:2271:C:O5'	2.49	0.46
17:L:64:LYS:HG2	17:L:65:THR:HG23	1.97	0.46
29:X:2309:G:N2	29:X:2365:U:C2	2.84	0.46
29:X:947:C:H2'	29:X:948:C:H6	1.81	0.46
15:J:44:LYS:CB	15:J:47:GLN:HG3	2.39	0.46
29:X:2799:C:C4	29:X:2800:C:N3	2.83	0.46
22:Q:7:LEU:HD11	27:V:26:MET:HG3	1.98	0.46
29:X:756:C:H2'	29:X:757:U:H5'	1.97	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1920:A:C2	29:X:1922:U:C5	3.04	0.46
29:X:2849:C:C2'	29:X:2850:U:H5''	2.46	0.46
12:G:86:ALA:HA	12:G:123:PRO:HB3	1.96	0.46
12:G:122:HIS:C	12:G:124:GLU:OE1	2.54	0.46
6:A:215:LEU:HD12	6:A:215:LEU:N	2.31	0.46
29:X:1391:A:N7	29:X:1393:G:C6	2.83	0.46
29:X:2561:G:H5'	29:X:2561:G:H8	1.80	0.46
7:B:19:ARG:O	7:B:19:ARG:HG3	2.15	0.46
29:X:678:G:O2'	29:X:679:C:H5'	2.16	0.46
29:X:13:A:N3	29:X:15:G:O6	2.49	0.46
29:X:194:G:H3'	29:X:195:A:C8	2.49	0.46
19:N:59:ARG:O	19:N:63:GLN:HG3	2.16	0.46
29:X:2718:A:C2	29:X:2719:U:H1'	2.51	0.46
7:B:151:TYR:HB3	12:G:106:TYR:CE2	2.51	0.46
23:R:105:ARG:NH2	23:R:112:LYS:CA	2.67	0.46
29:X:2043:A:C2	29:X:2481:G:C5	3.04	0.46
6:A:186:HIS:O	6:A:188:GLU:N	2.45	0.46
6:A:75:VAL:HG11	6:A:97:TYR:HB3	1.98	0.46
29:X:1819:U:O2'	29:X:1820:G:H5'	2.16	0.46
29:X:2585:C:O2'	29:X:2586:G:H5'	2.16	0.46
9:D:123:ASP:HB3	9:D:127:ASN:HB2	1.97	0.46
18:M:33:VAL:HG23	18:M:94:VAL:HG21	1.97	0.46
29:X:2068:C:H2'	29:X:2069:U:O4'	2.16	0.46
18:M:5:ILE:C	18:M:5:ILE:HD12	2.35	0.46
14:I:102:LYS:C	14:I:104:ARG:H	2.17	0.46
29:X:2359:U:N3	29:X:2360:C:C5	2.85	0.46
13:H:133:VAL:HG12	18:M:38:LYS:NZ	2.31	0.46
29:X:1074:G:C2	29:X:1075:C:H1'	2.50	0.46
24:S:137:ASP:O	24:S:138:VAL:HG13	2.16	0.46
12:G:66:HIS:C	19:N:67:ALA:HB1	2.37	0.46
19:N:93:LYS:O	19:N:94:VAL:CG2	2.64	0.46
29:X:1373:G:N2	29:X:2193:C:H1'	2.30	0.46
29:X:1920:A:N1	29:X:1922:U:H5	2.13	0.46
29:X:2870:C:H2'	29:X:2871:U:H6	1.81	0.46
29:X:2849:C:O2'	29:X:2850:U:H5''	2.16	0.46
24:S:47:SER:OG	24:S:48:THR:N	2.49	0.46
29:X:185:C:H2'	29:X:186:C:H6	1.81	0.46
11:F:103:GLN:CD	11:F:103:GLN:H	2.19	0.46
12:G:79:PHE:CZ	12:G:147:ARG:NE	2.84	0.46
29:X:1455:C:O2'	29:X:1456:C:H5'	2.16	0.46
8:C:187:VAL:O	8:C:187:VAL:HG12	2.15	0.46
23:R:83:LEU:O	23:R:84:VAL:CG2	2.59	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:88:THR:O	23:R:89:GLY:C	2.54	0.45
23:R:93:ARG:NH1	23:R:108:VAL:C	2.70	0.45
14:I:17:LYS:NZ	29:X:1258:G:OP2	2.46	0.45
29:X:327:C:H2'	29:X:328:A:H5'	1.98	0.45
8:C:44:SER:HG	29:X:37:C:H1'	1.81	0.45
29:X:537:C:O2	29:X:537:C:H2'	2.17	0.45
6:A:268:ARG:HB3	6:A:269:PHE:CD2	2.51	0.45
6:A:157:ARG:HD2	29:X:1810:U:C6	2.51	0.45
4:4:7:VAL:HG22	4:4:34:GLN:HB3	1.97	0.45
9:D:10:ASP:CA	9:D:14:PRO:HD2	2.46	0.45
31:Z:27:A:N6	31:Z:56:G:OP2	2.50	0.45
9:D:92:ARG:NH1	31:Z:46:G:C4'	2.67	0.45
7:B:14:ILE:CD1	7:B:183:LEU:HD12	2.46	0.45
14:I:116:ARG:HG2	14:I:117:ALA:H	1.80	0.45
29:X:649:G:N2	29:X:661:C:C2	2.84	0.45
11:F:42:ASN:HA	11:F:45:THR:HG23	1.98	0.45
27:V:39:GLN:HB3	27:V:42:ARG:HB2	1.98	0.45
29:X:1122:A:C2'	29:X:1123:G:O5'	2.64	0.45
8:C:164:VAL:HB	8:C:165:SER:H	1.41	0.45
15:J:19:THR:CG2	31:Z:93:G:H5'	2.45	0.45
24:S:133:GLU:O	24:S:134:LEU:HB2	2.16	0.45
29:X:109:A:C2	29:X:110:U:C2	3.04	0.45
19:N:61:TRP:CZ3	19:N:93:LYS:HA	2.51	0.45
20:O:49:GLU:C	20:O:51:ALA:N	2.68	0.45
29:X:1513:U:OP2	29:X:1514:C:H5	1.99	0.45
9:D:136:LEU:C	9:D:137:ILE:HG12	2.37	0.45
29:X:2289:A:H3'	29:X:2290:A:C8	2.51	0.45
29:X:88:G:O5'	29:X:89:A:H5''	2.15	0.45
29:X:2055:G:C6	29:X:2056:C:C4	3.04	0.45
25:T:3:HIS:HD2	25:T:5:LYS:CD	2.15	0.45
10:E:18:ASN:CB	10:E:25:LYS:HB3	2.33	0.45
10:E:109:TYR:O	10:E:110:SER:C	2.55	0.45
29:X:2642:G:O2'	29:X:2643:G:H5'	2.16	0.45
29:X:427:C:H2'	29:X:428:A:H8	1.79	0.45
10:E:38:ASN:HB2	10:E:41:LEU:CB	2.42	0.45
15:J:75:VAL:HG21	15:J:93:TYR:CE2	2.51	0.45
24:S:56:VAL:O	24:S:57:GLU:C	2.54	0.45
29:X:2698:G:H2'	29:X:2699:G:C8	2.51	0.45
29:X:2625:U:C6	29:X:2625:U:OP2	2.69	0.45
15:J:17:ARG:HH11	29:X:969:U:C5'	2.21	0.45
23:R:52:ASN:HD21	23:R:71:GLN:NE2	2.14	0.45
29:X:196:A:H2	29:X:211:U:O2	1.99	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:438:G:H2'	29:X:439:C:C6	2.50	0.45
29:X:1024:G:O2'	29:X:1025:A:H5'	2.16	0.45
29:X:122:G:O2'	29:X:123:A:H5''	2.16	0.45
12:G:106:TYR:O	12:G:110:LEU:CD1	2.64	0.45
12:G:94:LYS:O	12:G:117:GLU:N	2.49	0.45
23:R:90:LYS:HG3	23:R:91:ALA:O	2.16	0.45
29:X:2038:C:H2'	29:X:2483:U:H4'	1.98	0.45
29:X:695:G:H2'	29:X:696:U:C6	2.51	0.45
6:A:134:ARG:HH21	6:A:135:PHE:HZ	1.63	0.45
29:X:2199:C:C2	29:X:2200:G:C8	3.04	0.45
29:X:796:A:C3'	29:X:796:A:C8	3.00	0.45
29:X:1724:C:C2'	29:X:1725:C:H5'	2.46	0.45
29:X:862:A:H2'	29:X:863:C:O4'	2.16	0.45
15:J:111:THR:HG23	15:J:114:GLN:CG	2.46	0.45
15:J:136:GLU:OE1	15:J:136:GLU:HA	2.16	0.45
15:J:28:VAL:H	15:J:137:VAL:HG21	1.80	0.45
26:U:15:VAL:O	26:U:16:ASN:C	2.54	0.45
14:I:64:GLY:O	14:I:65:PHE:CB	2.63	0.45
29:X:638:A:H4'	29:X:639:G:H5'	1.98	0.45
11:F:13:PRO:CG	11:F:52:ILE:HG12	2.44	0.45
29:X:1234:C:O2	29:X:1242:A:C2	2.70	0.45
10:E:7:GLN:HB3	10:E:51:LEU:HD13	1.98	0.45
27:V:17:GLU:O	27:V:21:ARG:HD3	2.16	0.45
29:X:732:G:C2	29:X:733:G:C4	3.04	0.45
29:X:2797:G:O2'	29:X:2798:A:O5'	2.34	0.45
20:O:19:VAL:HG13	20:O:90:PHE:CG	2.51	0.45
29:X:1173:G:C4	29:X:1174:G:C8	3.04	0.45
29:X:1288:A:C2	29:X:1289:A:H1'	2.51	0.45
29:X:2404:A:O2'	29:X:2405:A:OP2	2.32	0.45
29:X:1376:C:C2	29:X:1377:G:C8	3.05	0.45
21:P:12:LYS:O	21:P:16:GLN:HG2	2.16	0.45
29:X:1858:C:C2'	29:X:1859:A:O5'	2.64	0.45
15:J:77:LYS:HG3	15:J:78:LYS:N	2.30	0.45
15:J:81:GLU:HG2	15:J:82:THR:H	1.80	0.45
29:X:2849:C:H2'	29:X:2850:U:H5'	1.97	0.45
12:G:154:GLU:N	12:G:157:PRO:CG	2.75	0.45
29:X:404:A:C6	29:X:405:C:C4	3.05	0.45
12:G:59:ALA:O	12:G:62:ILE:HB	2.16	0.45
29:X:745:C:H2'	29:X:746:G:O4'	2.16	0.45
12:G:42:VAL:HG22	12:G:166:LEU:HB2	1.99	0.45
29:X:192:G:O2'	29:X:193:A:OP2	2.32	0.45
22:Q:91:LEU:CD2	22:Q:91:LEU:H	2.29	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1802:A:C2'	29:X:1803:G:H5'	2.47	0.45
19:N:37:GLN:NE2	29:X:572:G:H21	2.14	0.45
29:X:741:G:C4	29:X:743:A:C8	3.04	0.45
29:X:1847:G:O5'	29:X:1847:G:H8	1.99	0.45
8:C:173:ALA:HB1	8:C:193:LEU:CB	2.47	0.45
8:C:45:THR:O	8:C:87:LYS:NZ	2.47	0.45
23:R:93:ARG:O	23:R:95:ARG:CD	2.64	0.45
29:X:20:C:N4	29:X:21:A:H62	2.14	0.45
29:X:2043:A:C2	29:X:2481:G:C6	3.04	0.45
29:X:815:A:C5	29:X:816:U:C4	3.04	0.45
6:A:121:PRO:HA	6:A:132:PRO:HD2	1.98	0.45
6:A:131:LEU:CD2	6:A:193:ILE:HG12	2.44	0.45
6:A:72:LYS:HG3	6:A:97:TYR:HE2	1.82	0.45
6:A:231:HIS:CE1	6:A:247:VAL:HA	2.52	0.45
29:X:2293:G:H2'	29:X:2294:U:H6	1.82	0.45
29:X:2315:A:C2	29:X:2364:C:H1'	2.51	0.45
29:X:1129:A:H2'	29:X:1130:U:O4'	2.16	0.45
29:X:2209:G:C4	29:X:2210:C:C5	3.04	0.45
29:X:558:G:H2'	29:X:559:C:O4'	2.15	0.45
11:F:122:ALA:CB	29:X:1092:U:H4'	2.46	0.45
8:C:144:GLY:CA	8:C:166:TRP:CE2	2.99	0.45
25:T:71:ASN:ND2	25:T:74:LYS:HA	2.28	0.45
19:N:66:ASN:C	19:N:68:GLY:N	2.65	0.45
9:D:67:ILE:HG21	9:D:84:PRO:HB3	1.98	0.45
29:X:1681:A:C8	29:X:1681:A:O5'	2.70	0.45
29:X:1710:U:C5'	29:X:1711:C:C5	2.93	0.45
21:P:45:ILE:HD11	21:P:57:LEU:CG	2.39	0.45
29:X:2048:C:O2	29:X:2428:U:N3	2.44	0.45
15:J:17:ARG:CZ	29:X:967:G:O6	2.64	0.45
29:X:404:A:C5	29:X:405:C:C4	3.03	0.45
29:X:1651:U:H4'	29:X:1652:G:OP2	2.10	0.45
29:X:1332:G:C2	29:X:1347:C:C2	3.05	0.45
14:I:54:SER:O	14:I:59:ARG:HD3	2.16	0.45
8:C:154:ASP:O	8:C:157:THR:OG1	2.34	0.45
8:C:74:VAL:O	8:C:76:THR:N	2.49	0.45
7:B:136:ARG:NH1	7:B:137:ARG:N	2.65	0.45
23:R:10:HIS:CD2	23:R:44:GLN:HE21	2.35	0.45
29:X:1033:G:N2	29:X:1035:G:N2	2.64	0.45
29:X:2043:A:H1'	29:X:2481:G:O4'	2.16	0.45
29:X:329:C:O2'	29:X:330:C:H5'	2.17	0.45
29:X:343:A:O2'	29:X:346:C:N4	2.48	0.45
29:X:531:G:O2'	29:X:532:A:H5'	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:618:A:N9	29:X:632:A:N6	2.65	0.45
29:X:1811:A:O2'	29:X:1812:U:P	2.75	0.45
29:X:2197:U:N3	29:X:2198:U:C4	2.84	0.45
29:X:2721:A:H2'	29:X:2722:C:O4'	2.16	0.45
9:D:8:TYR:O	9:D:12:VAL:CB	2.61	0.45
17:L:37:HIS:HB2	31:Z:30:C:OP1	2.13	0.45
15:J:35:LEU:HD11	15:J:130:THR:OG1	2.16	0.45
15:J:64:LYS:O	15:J:107:VAL:HA	2.16	0.45
7:B:38:THR:CG2	7:B:39:ALA:N	2.79	0.45
14:I:72:TYR:CE1	14:I:105:PRO:HG3	2.51	0.45
29:X:2323:U:C6	29:X:2323:U:H3'	2.51	0.45
11:F:50:ASP:HB3	11:F:76:TYR:CE2	2.51	0.45
20:O:38:LEU:O	20:O:39:PHE:CB	2.64	0.45
29:X:1173:G:C6	29:X:1174:G:N7	2.84	0.45
29:X:1174:G:N2	29:X:1175:A:C4	2.84	0.45
16:K:94:TYR:CZ	16:K:115:LEU:O	2.70	0.45
22:Q:77:LYS:HG3	22:Q:78:ALA:N	2.30	0.45
29:X:219:G:O2'	29:X:220:U:OP2	2.33	0.45
29:X:654:A:N3	29:X:654:A:C2'	2.80	0.45
29:X:805:G:C8	29:X:2419:C:H1'	2.51	0.45
29:X:1373:G:N2	29:X:1374:G:O4'	2.50	0.45
29:X:2576:G:C6	29:X:2577:A:C6	3.05	0.45
22:Q:64:ARG:O	22:Q:65:VAL:HG22	2.17	0.45
19:N:33:ARG:HH11	19:N:33:ARG:HG3	1.81	0.45
16:K:84:ALA:N	16:K:85:PRO:CD	2.80	0.45
29:X:1491:C:C2	29:X:1492:A:C8	3.04	0.45
11:F:62:ASP:HB3	11:F:63:ARG:CZ	2.46	0.45
8:C:54:THR:HB	8:C:73:SER:HB3	1.98	0.45
29:X:181:A:H1'	29:X:183:U:C5	2.52	0.45
18:M:8:ASN:HA	29:X:2851:G:OP1	2.16	0.45
8:C:101:GLN:C	8:C:103:GLY:N	2.70	0.45
29:X:1796:A:C2	29:X:1797:C:C5	3.04	0.45
8:C:50:GLN:HB2	29:X:814:G:OP1	2.17	0.45
6:A:91:ARG:HE	6:A:198:ASN:HA	1.81	0.45
6:A:200:GLU:OE1	29:X:1812:U:C2	2.69	0.45
4:4:11:CYS:HG	4:4:32:HIS:CE1	2.35	0.45
6:A:42:GLY:H	6:A:43:ARG:NH1	2.15	0.45
6:A:52:ARG:NH2	6:A:53:PHE:CZ	2.83	0.45
8:C:102:LEU:HD21	8:C:106:MET:HE1	1.97	0.45
29:X:2827:G:C2	29:X:2828:C:C2	3.05	0.45
17:L:47:ARG:O	17:L:49:GLN:N	2.45	0.45
31:Z:54:U:H2'	31:Z:55:C:O4'	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:U:28:GLY:HA3	26:U:32:ARG:CB	2.45	0.45
28:W:46:THR:OG1	29:X:864:C:H5''	2.16	0.45
29:X:862:A:C4	29:X:863:C:C5	3.04	0.45
29:X:2351:G:C2	29:X:2352:A:N7	2.84	0.45
10:E:9:ILE:HG22	10:E:11:VAL:CG2	2.46	0.45
11:F:119:SER:O	11:F:121:GLU:N	2.50	0.45
29:X:872:G:O2'	29:X:873:U:C6	2.68	0.45
19:N:81:ASN:ND2	19:N:85:ARG:HE	2.14	0.45
9:D:108:LEU:HD22	9:D:114:PHE:HE1	1.80	0.45
26:U:41:VAL:CG2	26:U:42:GLN:N	2.66	0.45
22:Q:58:VAL:O	22:Q:75:ARG:N	2.41	0.45
29:X:1851:A:N6	29:X:1866:G:H21	2.09	0.45
29:X:1385:C:C1'	29:X:2192:U:C6	2.94	0.45
25:T:3:HIS:CD2	25:T:4:LYS:H	2.34	0.45
10:E:126:PRO:HG3	10:E:130:ARG:HD3	1.99	0.45
29:X:1086:C:C2'	29:X:1087:C:H5''	2.46	0.45
29:X:1086:C:H2'	29:X:1087:C:H5''	1.99	0.45
29:X:2386:G:H2'	29:X:2387:U:H6	1.82	0.45
29:X:2058:U:C2	29:X:2414:A:C2	3.05	0.45
29:X:2438:A:C6	29:X:2473:G:C2	3.05	0.45
29:X:1324:G:O2'	29:X:1325:U:O5'	2.32	0.45
29:X:832:A:H2'	29:X:833:A:O5'	2.17	0.45
7:B:143:GLN:HB3	29:X:2553:G:O2'	2.17	0.45
10:E:160:LYS:NZ	29:X:2636:A:O3'	2.50	0.45
29:X:965:G:C2'	29:X:2253:A:N1	2.79	0.45
11:F:111:LYS:HE3	11:F:111:LYS:HB3	1.87	0.45
29:X:2511:G:C4	29:X:2512:A:C8	3.05	0.45
29:X:620:G:O2'	29:X:621:U:H5'	2.17	0.45
29:X:24:G:H2'	29:X:25:U:C6	2.51	0.45
29:X:2602:G:H2'	29:X:2603:G:H8	1.82	0.45
19:N:24:PHE:CD1	29:X:543:G:C5'	2.97	0.45
23:R:25:LEU:N	23:R:25:LEU:HD13	2.32	0.45
29:X:689:A:H8	29:X:2052:G:H21	1.58	0.45
6:A:257:LEU:O	6:A:258:LYS:C	2.55	0.45
6:A:226:MET:HB3	6:A:230:ASP:HB2	1.98	0.45
29:X:1773:C:C2'	29:X:2587:G:O2'	2.65	0.45
18:M:100:ARG:O	18:M:101:ARG:HB3	2.15	0.45
9:D:14:PRO:O	9:D:15:ALA:C	2.55	0.45
29:X:2282:G:C6	29:X:2293:G:C6	3.05	0.45
31:Z:35:C:H2'	31:Z:36:A:H8	1.80	0.45
31:Z:50:U:H2'	31:Z:51:G:H8	1.81	0.45
31:Z:54:U:H2'	31:Z:55:C:C6	2.51	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:492:G:O2'	29:X:517:A:N6	2.50	0.45
18:M:9:ARG:O	18:M:13:LEU:HD13	2.16	0.45
14:I:120:VAL:HG11	14:I:122:VAL:HG13	1.99	0.45
29:X:651:C:H42	29:X:658:G:H1	1.63	0.45
13:H:47:VAL:HG12	13:H:117:GLU:CD	2.36	0.45
31:Z:93:G:N2	31:Z:94:G:H1'	2.31	0.45
29:X:664:C:O2'	29:X:665:A:OP1	2.31	0.45
29:X:2797:G:H8	29:X:2797:G:O5'	2.00	0.45
20:O:6:GLN:O	20:O:7:THR:CB	2.64	0.45
29:X:2290:A:C8	29:X:2290:A:O5'	2.70	0.45
29:X:2779:C:C6	29:X:2779:C:H3'	2.51	0.45
10:E:113:VAL:HG11	10:E:151:VAL:HG13	1.98	0.45
22:Q:25:TYR:CD2	22:Q:25:TYR:N	2.84	0.45
10:E:38:ASN:H	10:E:41:LEU:CD2	2.29	0.45
15:J:78:LYS:HG3	15:J:80:ALA:H	1.81	0.45
29:X:2437:G:O2'	29:X:2439:U:C4	2.70	0.45
22:Q:68:PHE:C	22:Q:69:ILE:HD12	2.35	0.45
17:L:32:TYR:CE1	31:Z:9:G:H5''	2.51	0.45
8:C:8:GLY:O	8:C:9:GLN:CB	2.62	0.45
22:Q:12:ILE:O	22:Q:16:ALA:HB3	2.17	0.45
29:X:1393:G:C2	29:X:1394:G:C8	3.05	0.45
7:B:19:ARG:NH1	7:B:185:LYS:HZ1	2.14	0.45
29:X:677:G:H4'	29:X:951:G:H5''	1.99	0.45
7:B:35:GLN:HB3	7:B:48:GLN:HB3	1.99	0.45
29:X:1608:U:H2'	29:X:1609:G:C8	2.51	0.45
12:G:43:VAL:HG23	12:G:165:VAL:HA	1.98	0.45
7:B:136:ARG:HH12	7:B:137:ARG:HA	1.82	0.45
12:G:107:GLN:C	12:G:109:GLY:N	2.69	0.45
29:X:2036:G:O2'	29:X:2037:A:H5'	2.17	0.45
29:X:235:C:C5	29:X:236:C:C5	3.05	0.45
29:X:235:C:C5	29:X:236:C:C4	3.04	0.45
29:X:2433:G:O2'	29:X:2434:G:H5'	2.17	0.45
29:X:314:G:C6	29:X:326:A:C2	3.05	0.45
29:X:482:A:HO2'	29:X:483:A:H5'	1.78	0.45
29:X:1963:G:HO2'	29:X:1965:U:P	2.39	0.45
31:Z:38:C:OP2	31:Z:38:C:H6	1.98	0.45
26:U:28:GLY:HA3	26:U:32:ARG:N	2.32	0.45
15:J:29:ALA:O	15:J:30:PHE:HB2	2.17	0.45
15:J:70:PHE:HA	15:J:71:PRO:HD3	1.61	0.45
7:B:5:LEU:CD1	7:B:81:PHE:HZ	2.29	0.45
29:X:2380:U:C4	29:X:2381:A:C2	3.05	0.45
29:X:2324:G:C2	29:X:2360:C:H2'	2.52	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:F:53:ILE:CG2	11:F:54:PRO:HD2	2.47	0.45
29:X:732:G:O5'	29:X:732:G:C8	2.70	0.45
19:N:49:ASP:O	19:N:53:LYS:HG2	2.16	0.45
9:D:138:PHE:N	9:D:138:PHE:HD1	2.15	0.45
9:D:138:PHE:N	9:D:138:PHE:CD1	2.83	0.45
9:D:36:VAL:CG1	9:D:57:LEU:HD22	2.45	0.45
29:X:2770:A:O2'	29:X:2771:C:P	2.75	0.45
16:K:115:LEU:HA	16:K:115:LEU:HD23	1.63	0.45
22:Q:27:PHE:CD1	22:Q:27:PHE:N	2.85	0.45
29:X:2652:G:C2	29:X:2653:A:C8	3.05	0.45
26:U:22:GLY:N	26:U:39:LYS:HD2	2.32	0.45
29:X:1777:A:H1'	29:X:1921:A:N6	2.32	0.45
29:X:203:G:N2	29:X:204:A:H2	2.15	0.45
22:Q:51:ILE:HD12	22:Q:82:LEU:O	2.17	0.45
23:R:59:LYS:HD3	23:R:62:MET:HG3	1.97	0.45
29:X:198:A:C8	29:X:243:G:C5	3.04	0.45
29:X:415:A:H2'	29:X:416:U:O4'	2.17	0.45
29:X:415:A:O2'	29:X:416:U:H5'	2.16	0.45
8:C:122:GLY:CA	8:C:124:ASP:OD1	2.61	0.45
29:X:2876:C:H2'	29:X:2877:A:C8	2.50	0.45
6:A:164:GLN:OE1	6:A:176:ARG:HB3	2.17	0.45
29:X:2738:A:C2'	29:X:2739:G:H5'	2.46	0.45
26:U:72:LYS:HB2	26:U:73:GLY:H	1.57	0.45
23:R:93:ARG:CG	23:R:93:ARG:HH11	2.16	0.45
29:X:1147:G:C4	29:X:1148:G:C8	3.05	0.45
29:X:2756:A:O2'	29:X:2761:A:O2'	2.32	0.45
29:X:311:A:N3	29:X:330:C:H1'	2.32	0.45
29:X:33:C:N4	29:X:458:G:O2'	2.50	0.45
29:X:529:U:H2'	29:X:530:G:C8	2.45	0.45
29:X:623:G:C6	29:X:627:A:N6	2.85	0.45
6:A:143:HIS:HD2	6:A:196:VAL:HG12	1.82	0.45
6:A:144:ALA:O	6:A:153:ALA:CB	2.65	0.45
29:X:1773:C:O4'	29:X:2588:U:C2	2.70	0.45
15:J:15:ARG:HD3	15:J:73:LYS:NZ	2.31	0.45
29:X:837:U:C2	29:X:838:A:C8	3.05	0.45
29:X:2264:C:H4'	29:X:2267:A:C5	2.51	0.45
29:X:1072:U:O4'	29:X:1081:A:H1'	2.17	0.45
13:H:47:VAL:H	13:H:77:THR:HG21	1.82	0.45
9:D:133:LYS:O	9:D:134:GLU:C	2.54	0.45
9:D:39:GLY:HA2	9:D:86:GLY:CA	2.46	0.45
9:D:70:ALA:O	9:D:82:GLY:HA2	2.17	0.45
24:S:123:VAL:CA	24:S:161:ALA:HB2	2.45	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:H:110:VAL:HG12	13:H:111:PHE:H	1.82	0.45
29:X:1376:C:H2'	29:X:1377:G:O4'	2.17	0.45
13:H:17:ARG:HE	13:H:59:ALA:HB2	1.82	0.45
20:O:30:GLY:O	20:O:31:ASP:C	2.55	0.45
29:X:496:C:C2'	29:X:497:C:H5''	2.47	0.45
29:X:2646:C:H2'	29:X:2647:G:O4'	2.17	0.45
29:X:1730:G:C6	29:X:1737:G:N1	2.85	0.45
12:G:162:LYS:NZ	29:X:2873:G:H21	2.15	0.45
12:G:45:ASP:O	12:G:54:LEU:HD11	2.16	0.45
29:X:1586:A:C5	29:X:1587:A:N7	2.85	0.45
29:X:13:A:C2	29:X:15:G:C6	3.04	0.45
16:K:72:ASP:CG	16:K:75:VAL:HG23	2.37	0.45
29:X:165:G:O2'	29:X:166:G:H5'	2.16	0.45
12:G:98:LYS:HG3	12:G:116:ARG:HD3	1.99	0.45
7:B:147:PRO:HG3	29:X:1141:U:C2	2.51	0.45
29:X:2030:U:O2'	29:X:2031:A:C5'	2.65	0.45
29:X:330:C:C4	29:X:331:U:C4	3.05	0.45
30:Y:6:VAL:HG13	30:Y:7:PRO:HD2	1.98	0.45
10:E:139:GLN:O	10:E:140:LEU:C	2.55	0.45
18:M:100:ARG:HB3	18:M:100:ARG:HE	1.65	0.45
9:D:34:ILE:HD13	9:D:156:ILE:HA	1.99	0.45
25:T:20:TYR:O	25:T:21:LEU:HB2	2.17	0.45
28:W:40:VAL:HG12	28:W:40:VAL:O	2.17	0.45
15:J:103:VAL:O	15:J:103:VAL:CG1	2.63	0.45
15:J:12:LYS:HD3	29:X:923:A:C6	2.52	0.45
15:J:12:LYS:O	15:J:13:GLN:CB	2.48	0.45
29:X:1107:A:C2'	29:X:1108:U:H5''	2.47	0.45
27:V:25:LEU:HD21	27:V:47:ARG:CD	2.47	0.45
11:F:26:ALA:O	11:F:30:TYR:HE2	2.00	0.45
29:X:1556:A:H2'	29:X:1557:G:H8	1.82	0.45
29:X:1558:C:C2'	29:X:1559:G:O5'	2.65	0.45
8:C:165:SER:O	8:C:166:TRP:O	2.34	0.45
15:J:19:THR:HG21	15:J:99:LYS:HZ2	1.81	0.45
29:X:876:A:C2	29:X:877:G:C4	3.05	0.45
31:Z:15:A:N1	31:Z:72:C:H5'	2.31	0.45
29:X:2629:U:H2'	29:X:2630:C:H6	1.82	0.45
21:P:11:LYS:O	21:P:13:GLN:N	2.50	0.45
29:X:2229:G:O4'	29:X:2229:G:N3	2.46	0.45
23:R:17:LYS:HB3	23:R:18:LYS:CE	2.47	0.45
29:X:2849:C:H2'	29:X:2850:U:H5''	1.98	0.45
19:N:14:HIS:CD2	19:N:32:TYR:CE1	3.05	0.45
31:Z:62:C:H2'	31:Z:63:A:H8	1.81	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:H:4:PRO:O	13:H:5:GLN:HB2	2.17	0.45
29:X:677:G:H5'	29:X:951:G:H4'	1.98	0.45
29:X:2847:G:C4	29:X:2848:A:N7	2.85	0.45
29:X:764:A:C6	29:X:802:A:C6	3.05	0.45
29:X:1714:A:OP2	29:X:1715:A:H3'	2.16	0.45
6:A:61:LEU:HG	29:X:1584:G:H5''	1.99	0.45
22:Q:15:LYS:CG	29:X:1404:C:O2	2.64	0.45
29:X:24:G:C4	29:X:25:U:C6	3.05	0.45
29:X:849:G:C5	29:X:850:C:C4	3.04	0.45
9:D:94:GLU:O	9:D:98:VAL:HG23	2.17	0.45
31:Z:2:C:HO5'	31:Z:2:C:H6	1.64	0.45
29:X:1520:G:H2'	29:X:1521:U:O4'	2.17	0.45
12:G:93:LYS:HE3	29:X:1151:U:O4	2.17	0.45
23:R:23:ILE:HD12	23:R:23:ILE:O	2.17	0.45
7:B:154:LYS:HE3	29:X:2598:C:O2'	2.17	0.45
29:X:522:G:HO2'	29:X:523:A:P	2.40	0.45
8:C:94:THR:HG21	29:X:618:A:OP1	2.17	0.45
8:C:93:TYR:CE1	29:X:673:G:H5'	2.51	0.45
29:X:808:C:O2'	29:X:809:C:H5'	2.17	0.45
29:X:1793:A:O5'	29:X:1793:A:H8	1.99	0.45
6:A:42:GLY:H	6:A:43:ARG:CZ	2.30	0.45
29:X:1778:U:C4	29:X:1779:C:N4	2.85	0.45
17:L:76:ALA:HB1	17:L:111:GLY:CA	2.47	0.45
28:W:15:ASN:O	28:W:18:LYS:N	2.49	0.45
28:W:9:VAL:CG1	28:W:17:VAL:HG22	2.47	0.45
24:S:8:ARG:O	24:S:10:PRO:HD3	2.17	0.45
18:M:32:THR:HG22	18:M:33:VAL:H	1.82	0.45
26:U:12:ASN:O	26:U:13:LEU:O	2.35	0.45
11:F:41:PHE:CE1	11:F:55:VAL:HG21	2.52	0.45
29:X:1073:G:H2'	29:X:1074:G:H8	1.81	0.45
29:X:731:A:C2'	29:X:732:G:C4'	2.95	0.45
19:N:79:PHE:CE2	19:N:83:LEU:CD1	2.99	0.45
20:O:26:GLN:O	20:O:27:GLY:C	2.55	0.45
29:X:1008:G:C2	29:X:1170:U:C2	3.06	0.45
9:D:36:VAL:HG13	9:D:152:MET:HE3	1.99	0.45
22:Q:28:TRP:CZ3	22:Q:75:ARG:HB3	2.51	0.45
29:X:1399:C:O2'	29:X:1400:A:C5'	2.65	0.45
29:X:1226:A:C2	29:X:1250:A:H1'	2.51	0.45
29:X:1939:U:C4	29:X:1940:C:C4	3.05	0.45
29:X:2870:C:H2'	29:X:2871:U:C6	2.52	0.45
29:X:2179:C:H2'	29:X:2180:U:O4'	2.17	0.45
12:G:85:ALA:C	12:G:87:GLN:N	2.70	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:Q:16:ALA:O	22:Q:19:ALA:HB3	2.16	0.45
29:X:2487:G:C2	29:X:2561:G:C6	3.05	0.45
11:F:60:TYR:O	11:F:61:ALA:CB	2.65	0.45
29:X:677:G:C4'	29:X:951:G:H5''	2.46	0.45
29:X:194:G:O6	29:X:444:U:O2	2.35	0.45
24:S:173:PRO:HB2	24:S:174:PRO:HD2	1.98	0.45
13:H:3:MET:O	13:H:6:SER:HB2	2.16	0.45
6:A:60:ARG:CZ	29:X:1583:A:OP1	2.64	0.45
29:X:2088:U:H2'	29:X:2089:C:C6	2.52	0.45
22:Q:84:GLU:HA	22:Q:84:GLU:OE2	2.17	0.45
21:P:35:PRO:O	21:P:39:ARG:HD2	2.17	0.44
23:R:10:HIS:O	23:R:11:ASN:CB	2.59	0.44
23:R:85:ASP:C	23:R:87:GLU:H	2.21	0.44
29:X:1153:A:O2'	29:X:1154:A:C3'	2.65	0.44
29:X:2026:C:N3	29:X:2757:G:C2	2.85	0.44
29:X:474:G:N2	29:X:477:A:C8	2.85	0.44
6:A:82:ILE:HG21	6:A:91:ARG:HB3	1.98	0.44
9:D:123:ASP:CB	9:D:127:ASN:HB2	2.48	0.44
17:L:15:ARG:CD	17:L:91:ARG:NH1	2.65	0.44
17:L:64:LYS:HZ3	31:Z:53:G:P	2.40	0.44
17:L:97:HIS:CD2	17:L:98:GLY:N	2.72	0.44
15:J:59:PHE:HE2	15:J:114:GLN:O	2.00	0.44
11:F:53:ILE:HA	11:F:72:PRO:HA	1.99	0.44
10:E:9:ILE:HG22	10:E:11:VAL:HG22	1.99	0.44
24:S:100:THR:HG23	24:S:138:VAL:CG2	2.46	0.44
19:N:93:LYS:HE3	20:O:5:ILE:HB	1.99	0.44
26:U:21:ARG:NH1	29:X:394:U:OP2	2.50	0.44
29:X:2661:G:N2	29:X:2662:C:H1'	2.32	0.44
29:X:2707:G:H2'	29:X:2708:U:H6	1.82	0.44
29:X:1289:A:C2	29:X:1290:A:C8	3.05	0.44
29:X:757:U:H2'	29:X:758:G:C5'	2.47	0.44
21:P:78:ASN:O	21:P:79:ALA:C	2.54	0.44
22:Q:25:TYR:CD2	22:Q:82:LEU:HD11	2.52	0.44
14:I:28:LYS:HZ2	14:I:36:GLY:CA	2.30	0.44
19:N:31:GLN:NE2	29:X:589:C:C4'	2.73	0.44
24:S:43:PHE:CE1	24:S:47:SER:HA	2.52	0.44
29:X:1600:U:H5'	29:X:1601:U:OP1	2.16	0.44
29:X:82:G:C2	29:X:100:G:H2'	2.52	0.44
29:X:1715:A:OP1	29:X:1715:A:H8	1.99	0.44
29:X:1716:G:O3'	29:X:1717:A:H4'	2.17	0.44
29:X:1991:C:O2'	29:X:1992:G:H5'	2.17	0.44
7:B:85:ALA:N	7:B:86:PRO:HD2	2.30	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:K:66:VAL:CG1	16:K:70:ILE:HG13	2.48	0.44
29:X:1607:A:HO2'	29:X:1608:U:P	2.41	0.44
29:X:91:A:H2'	29:X:92:U:C6	2.52	0.44
8:C:28:HIS:O	8:C:29:GLU:C	2.56	0.44
8:C:83:ALA:O	8:C:84:PHE:CB	2.64	0.44
21:P:39:ARG:O	21:P:43:ASP:N	2.46	0.44
29:X:2759:U:H4'	29:X:2760:G:H5''	1.99	0.44
6:A:143:HIS:HE1	6:A:193:ILE:O	2.00	0.44
6:A:200:GLU:OE1	29:X:1812:U:N3	2.50	0.44
6:A:216:GLY:O	6:A:217:ARG:O	2.34	0.44
6:A:250:TRP:O	6:A:255:LYS:HD2	2.17	0.44
6:A:49:ILE:HG22	29:X:792:U:P	2.57	0.44
6:A:208:LYS:HD2	29:X:1764:A:N6	2.31	0.44
29:X:1775:A:H3'	29:X:1775:A:P	2.55	0.44
29:X:1820:G:O2'	29:X:1821:A:C5'	2.65	0.44
8:C:112:GLN:HB3	8:C:116:LYS:HD3	1.98	0.44
17:L:33:ARG:HH22	17:L:103:LEU:CA	2.31	0.44
31:Z:30:C:H2'	31:Z:31:A:C8	2.52	0.44
29:X:939:C:C4'	29:X:940:G:O5'	2.65	0.44
26:U:63:SER:O	26:U:66:ALA:N	2.43	0.44
18:M:38:LYS:O	18:M:40:ARG:N	2.50	0.44
27:V:1:MET:HG3	27:V:3:PRO:CD	2.48	0.44
29:X:729:A:C2	29:X:730:C:OP2	2.70	0.44
8:C:144:GLY:HA2	8:C:166:TRP:NE1	2.32	0.44
15:J:99:LYS:CE	15:J:100:PRO:HD2	2.45	0.44
24:S:132:GLN:O	24:S:133:GLU:HB3	2.17	0.44
24:S:141:MET:HB3	24:S:145:ASP:HB2	2.00	0.44
12:G:66:HIS:CA	19:N:67:ALA:HB1	2.46	0.44
19:N:91:ASN:HA	20:O:10:LYS:NZ	2.33	0.44
29:X:1003:C:O2	29:X:1003:C:H2'	2.16	0.44
29:X:1175:A:O2'	29:X:1176:U:H5'	2.17	0.44
9:D:108:LEU:O	9:D:111:ILE:HG13	2.16	0.44
16:K:32:GLY:HA2	16:K:115:LEU:HD12	1.99	0.44
25:T:56:ASP:CG	25:T:58:THR:OG1	2.56	0.44
22:Q:55:THR:O	22:Q:56:MET:CG	2.65	0.44
6:A:39:LYS:HA	6:A:39:LYS:HD2	1.73	0.44
6:A:37:LEU:CD1	29:X:1808:C:H41	2.29	0.44
29:X:2634:G:O2'	29:X:2643:G:C6	2.71	0.44
22:Q:51:ILE:CD1	22:Q:83:ALA:HA	2.37	0.44
29:X:2057:U:H1'	29:X:2577:A:N3	2.32	0.44
29:X:984:A:C4	29:X:1202:U:C4	3.05	0.44
29:X:1698:C:H4'	29:X:1699:A:OP2	2.13	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:T:32:LYS:HB2	25:T:35:ASN:ND2	2.32	0.44
29:X:1645:U:H2'	29:X:1646:G:O4'	2.17	0.44
13:H:7:ARG:HA	13:H:20:MET:HA	1.99	0.44
28:W:36:ASP:CG	28:W:41:ARG:NH1	2.68	0.44
7:B:60:ASN:CB	7:B:62:PRO:HD2	2.46	0.44
29:X:1462:C:O2'	29:X:1463:A:H5'	2.18	0.44
19:N:40:LEU:HD13	20:O:74:TYR:CE1	2.53	0.44
29:X:1411:C:O2'	29:X:1412:C:H5'	2.17	0.44
10:E:83:TYR:CE1	10:E:138:LYS:HB2	2.52	0.44
21:P:81:HIS:O	21:P:83:ASP:N	2.50	0.44
31:Z:120:G:C6	31:Z:121:G:N7	2.85	0.44
12:G:107:GLN:HA	12:G:110:LEU:CG	2.43	0.44
14:I:18:ARG:HB2	14:I:21:ARG:CG	2.47	0.44
23:R:14:LEU:HD13	23:R:39:ALA:HB1	1.98	0.44
23:R:23:ILE:H	23:R:23:ILE:CD1	2.22	0.44
23:R:22:VAL:HG22	23:R:83:LEU:H	1.81	0.44
23:R:93:ARG:C	23:R:95:ARG:NH1	2.70	0.44
29:X:1135:C:C2	29:X:1136:G:N7	2.86	0.44
29:X:1996:A:H2'	29:X:1997:A:H5'	1.97	0.44
29:X:467:U:H3'	29:X:467:U:O2	2.17	0.44
29:X:692:C:H2'	29:X:693:A:C8	2.52	0.44
6:A:158:SER:O	6:A:196:VAL:CG2	2.63	0.44
6:A:179:SER:CB	29:X:1790:G:O6	2.65	0.44
6:A:88:ARG:HG2	6:A:90:ALA:CB	2.37	0.44
6:A:82:ILE:HA	6:A:92:ILE:O	2.17	0.44
6:A:205:VAL:HG23	6:A:207:GLY:H	1.81	0.44
6:A:218:LYS:HZ2	29:X:794:A:H5'	1.81	0.44
8:C:112:GLN:NE2	8:C:116:LYS:HB2	2.33	0.44
28:W:25:LEU:HA	28:W:25:LEU:HD23	1.60	0.44
29:X:2073:A:C6	29:X:2074:U:C4	3.06	0.44
7:B:176:ARG:NE	18:M:16:ILE:HG12	2.24	0.44
13:H:22:ILE:HD11	29:X:1935:A:C4	2.52	0.44
31:Z:16:U:O2'	31:Z:110:U:O2'	2.35	0.44
12:G:32:TYR:CD1	12:G:33:ILE:N	2.85	0.44
19:N:74:MET:SD	19:N:110:VAL:HG13	2.57	0.44
20:O:36:LYS:NZ	20:O:55:THR:O	2.48	0.44
19:N:58:ARG:CZ	29:X:1008:G:OP2	2.65	0.44
13:H:1:MET:HE1	29:X:2706:U:H1'	2.00	0.44
8:C:98:GLN:NE2	29:X:611:C:O4'	2.48	0.44
29:X:2055:G:N1	29:X:2417:U:C2	2.85	0.44
29:X:2814:G:C4	29:X:2815:C:C6	3.05	0.44
29:X:1375:C:N3	29:X:1376:C:C6	2.85	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1920:A:N6	29:X:1923:U:H5	2.16	0.44
29:X:1804:U:O2'	29:X:1805:G:H5'	2.16	0.44
29:X:1182:U:H5'	29:X:1182:U:H6	1.81	0.44
10:E:22:GLY:O	10:E:24:PHE:CD1	2.70	0.44
9:D:115:ARG:CB	9:D:178:ARG:HD2	2.39	0.44
29:X:1424:U:H2'	29:X:1425:G:H8	1.82	0.44
12:G:155:THR:O	12:G:156:HIS:C	2.56	0.44
23:R:58:VAL:C	23:R:60:PRO:HD3	2.38	0.44
29:X:1332:G:C2	29:X:1347:C:N3	2.86	0.44
29:X:1629:G:H3'	29:X:1633:C:N4	2.33	0.44
11:F:63:ARG:N	11:F:63:ARG:HD3	2.32	0.44
29:X:1569:A:C5	29:X:1571:G:C4	3.05	0.44
29:X:1013:G:H5''	29:X:1013:G:H8	1.83	0.44
12:G:140:GLN:O	12:G:141:GLY:C	2.54	0.44
14:I:8:PRO:C	29:X:1218:C:O2'	2.55	0.44
23:R:108:VAL:HB	23:R:109:ALA:H	1.44	0.44
23:R:25:LEU:C	23:R:25:LEU:HD13	2.38	0.44
29:X:1136:G:H3'	29:X:1137:A:H8	1.82	0.44
29:X:2036:G:C2'	29:X:2037:A:H5'	2.47	0.44
29:X:1038:U:O2	29:X:2466:G:O3'	2.35	0.44
29:X:309:G:C2	29:X:350:U:C4	3.05	0.44
21:P:39:ARG:HH12	29:X:528:G:H5''	1.83	0.44
29:X:580:A:C5	29:X:584:A:N7	2.86	0.44
29:X:632:A:H2'	29:X:633:G:C5'	2.47	0.44
6:A:255:LYS:O	29:X:1788:C:H4'	2.16	0.44
29:X:1816:G:C6	29:X:1817:U:C4	3.05	0.44
29:X:1963:G:N3	29:X:1965:U:C5	2.86	0.44
29:X:2824:C:H1'	29:X:2843:A:C5	2.51	0.44
9:D:120:ASN:O	9:D:122:PHE:CE1	2.71	0.44
29:X:2311:U:C3'	29:X:2311:U:O2	2.65	0.44
31:Z:25:G:H2'	31:Z:26:G:C8	2.52	0.44
29:X:936:A:H2'	29:X:937:C:C6	2.52	0.44
29:X:944:A:O2'	29:X:945:G:H5'	2.17	0.44
15:J:112:GLU:O	15:J:115:ALA:HB3	2.17	0.44
26:U:64:ALA:C	26:U:66:ALA:N	2.70	0.44
24:S:105:GLN:O	24:S:109:GLN:CD	2.56	0.44
9:D:133:LYS:O	9:D:151:GLY:CA	2.64	0.44
9:D:40:LEU:HA	9:D:150:ARG:HH21	1.82	0.44
29:X:1248:G:C6	29:X:1249:G:N1	2.86	0.44
29:X:757:U:C2'	29:X:758:G:C5'	2.92	0.44
29:X:1372:A:C5	29:X:1373:G:C8	3.05	0.44
21:P:87:GLU:HA	21:P:90:LEU:CG	2.47	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2576:G:C6	29:X:2577:A:N6	2.86	0.44
29:X:59:G:N3	29:X:73:A:C2	2.85	0.44
29:X:208:C:N4	29:X:209:G:H21	2.15	0.44
31:Z:3:A:C8	31:Z:3:A:O5'	2.71	0.44
28:W:37:THR:HA	28:W:41:ARG:NH2	2.32	0.44
13:H:121:ARG:HB3	13:H:123:PHE:CD1	2.52	0.44
7:B:80:GLU:OE2	29:X:2615:U:C4'	2.64	0.44
31:Z:75:A:C6	31:Z:76:U:C2	3.05	0.44
29:X:2526:U:O2'	29:X:2527:G:H5'	2.17	0.44
29:X:1947:G:N1	29:X:1950:C:C4	2.85	0.44
31:Z:22:U:H2'	31:Z:23:G:C8	2.53	0.44
16:K:56:LYS:HG2	16:K:56:LYS:O	2.16	0.44
24:S:70:GLN:HA	24:S:70:GLN:NE2	2.33	0.44
8:C:161:ALA:HB3	8:C:169:VAL:HG21	1.99	0.44
29:X:1215:A:C2	29:X:1258:G:C4	3.05	0.44
29:X:1281:A:H2'	29:X:1282:A:H8	1.82	0.44
29:X:2759:U:H5''	29:X:2760:G:H3'	1.98	0.44
6:A:149:PRO:CA	6:A:189:CYS:SG	3.06	0.44
4:4:1:MET:HA	4:4:1:MET:CE	2.45	0.44
29:X:2493:U:N3	29:X:2494:C:N4	2.65	0.44
29:X:938:G:O2'	29:X:939:C:O5'	2.26	0.44
28:W:3:ILE:HD11	28:W:44:VAL:CG2	2.47	0.44
26:U:11:LYS:NZ	26:U:75:TYR:CB	2.76	0.44
26:U:53:GLU:OE1	26:U:57:VAL:HG13	2.18	0.44
26:U:78:ILE:HD13	26:U:78:ILE:C	2.38	0.44
29:X:2212:U:C2'	29:X:2213:G:H8	2.29	0.44
7:B:59:VAL:HG21	7:B:74:PRO:HB3	1.99	0.44
14:I:116:ARG:CG	14:I:117:ALA:H	2.30	0.44
24:S:127:PRO:O	24:S:128:ARG:CB	2.65	0.44
11:F:69:THR:HG22	11:F:70:LYS:N	2.32	0.44
10:E:10:ALA:O	10:E:12:PRO:HD3	2.18	0.44
27:V:14:PHE:HE2	27:V:57:LYS:H	1.65	0.44
31:Z:16:U:O2'	31:Z:110:U:H1'	2.18	0.44
20:O:13:ARG:O	20:O:14:VAL:HG23	2.17	0.44
29:X:1005:U:O2	29:X:1007:A:N7	2.51	0.44
29:X:2307:A:H2'	29:X:2308:A:H8	1.80	0.44
16:K:10:LEU:HD23	16:K:17:ARG:HB2	1.95	0.44
29:X:2239:C:N3	29:X:2240:C:C5	2.86	0.44
29:X:1375:C:N3	29:X:1376:C:C5	2.85	0.44
29:X:1922:U:O2'	29:X:2571:G:C1'	2.66	0.44
21:P:18:VAL:CG1	21:P:19:LYS:N	2.80	0.44
6:A:249:PRO:CG	29:X:2218:G:H5'	2.47	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:17:LYS:O	23:R:19:GLY:N	2.51	0.44
29:X:2618:A:H1'	29:X:2758:A:C2	2.52	0.44
29:X:965:G:H2'	29:X:966:A:O4'	2.18	0.44
25:T:29:GLU:O	25:T:31:VAL:N	2.50	0.44
24:S:64:ALA:HB2	24:S:85:MET:HE2	1.98	0.44
29:X:1842:G:H2'	29:X:1843:U:O4'	2.17	0.44
29:X:2767:C:O2'	29:X:2768:C:H5'	2.17	0.44
24:S:1:MET:N	24:S:52:PHE:HE2	2.15	0.44
29:X:1351:G:C2	29:X:1352:G:C4	3.06	0.44
4:4:15:LYS:HB2	4:4:26:ILE:CG1	2.47	0.44
12:G:75:ILE:HD13	12:G:144:MET:HG2	1.99	0.44
14:I:7:LYS:HD3	14:I:7:LYS:N	2.32	0.44
23:R:41:PRO:O	23:R:44:GLN:OE1	2.35	0.44
29:X:2033:C:C4	29:X:2034:A:C6	3.06	0.44
29:X:2423:G:C2	29:X:2424:G:H1'	2.53	0.44
29:X:2031:A:C6	29:X:2600:A:N1	2.85	0.44
6:A:257:LEU:HA	6:A:257:LEU:HD23	1.64	0.44
4:4:8:LYS:H	4:4:34:GLN:HE22	1.66	0.44
6:A:219:PRO:O	6:A:220:HIS:C	2.55	0.44
6:A:247:VAL:CG2	6:A:248:THR:H	2.31	0.44
29:X:777:A:C3'	29:X:778:G:H5'	2.47	0.44
29:X:2828:C:O2'	29:X:2829:A:H5'	2.17	0.44
17:L:39:TYR:O	17:L:41:GLN:N	2.51	0.44
31:Z:116:C:H2'	31:Z:117:G:O4'	2.18	0.44
29:X:2329:C:H2'	29:X:2330:G:C8	2.53	0.44
29:X:2327:U:O4	29:X:2361:G:N2	2.51	0.44
13:H:22:ILE:HG21	13:H:52:VAL:HG12	1.99	0.44
29:X:76:C:H2'	29:X:77:C:H6	1.83	0.44
11:F:25:PRO:O	11:F:26:ALA:C	2.54	0.44
29:X:1552:C:O2	29:X:1553:G:C2	2.71	0.44
15:J:99:LYS:CD	15:J:100:PRO:CD	2.95	0.44
29:X:2085:G:H2'	29:X:2086:U:C6	2.53	0.44
29:X:1174:G:N2	29:X:1175:A:C5	2.86	0.44
29:X:2690:A:OP1	29:X:2692:A:OP1	2.36	0.44
26:U:20:ARG:HD3	26:U:43:ARG:NH2	2.32	0.44
29:X:1399:C:H2'	29:X:1400:A:C8	2.45	0.44
21:P:112:GLY:O	21:P:113:SER:C	2.54	0.44
6:A:50:THR:CG2	29:X:1805:G:H21	2.31	0.44
29:X:204:A:N7	29:X:2386:G:C4'	2.81	0.44
6:A:249:PRO:CD	29:X:2218:G:H5'	2.48	0.44
29:X:2232:G:H2'	29:X:2233:C:C6	2.53	0.44
9:D:33:LYS:HE3	9:D:157:VAL:HG21	1.98	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:63:SER:C	21:P:65:SER:N	2.69	0.44
29:X:2666:U:C5	29:X:2667:C:C4	3.06	0.44
29:X:1230:C:N3	29:X:1231:A:N7	2.66	0.44
29:X:2714:A:H2'	29:X:2715:C:O4'	2.18	0.44
16:K:90:ARG:HA	16:K:91:PRO:HD3	1.62	0.44
29:X:184:A:C8	29:X:185:C:C5	3.05	0.44
12:G:123:PRO:N	12:G:124:GLU:OE1	2.50	0.44
11:F:100:ASN:O	11:F:103:GLN:NE2	2.51	0.44
29:X:1621:C:O4'	29:X:1626:A:C6	2.70	0.44
24:S:71:MET:H	24:S:71:MET:HE2	1.83	0.44
29:X:671:A:H2'	29:X:672:C:C6	2.53	0.44
29:X:416:U:H4'	29:X:419:G:C1'	2.47	0.44
24:S:24:TYR:O	24:S:85:MET:HB2	2.17	0.44
29:X:1840:A:C8	29:X:1841:G:C8	3.06	0.44
28:W:38:PRO:HA	28:W:41:ARG:CD	2.47	0.44
29:X:644:A:H2'	29:X:645:G:C4'	2.47	0.44
21:P:41:VAL:O	21:P:44:VAL:HG22	2.18	0.44
29:X:2063:A:H2'	29:X:2064:U:H6	1.82	0.44
25:T:65:GLY:CA	25:T:83:ALA:HA	2.47	0.44
29:X:1832:G:C6	29:X:1833:U:C4	3.06	0.44
29:X:121:G:O3'	29:X:1389:C:H4'	2.17	0.44
25:T:6:GLY:O	25:T:7:VAL:C	2.56	0.44
6:A:204:ILE:HG22	6:A:204:ILE:O	2.17	0.44
7:B:117:MET:SD	7:B:136:ARG:HG3	2.58	0.44
12:G:119:LEU:HD23	12:G:119:LEU:HA	1.64	0.44
23:R:95:ARG:O	23:R:96:LYS:HB3	2.17	0.44
29:X:1031:C:P	29:X:1045:G:H21	2.40	0.44
29:X:2022:C:C4	29:X:2023:C:C5	3.05	0.44
29:X:320:A:O2'	29:X:340:G:H2'	2.18	0.44
29:X:338:G:N7	29:X:343:A:N7	2.66	0.44
29:X:532:A:H2'	29:X:533:C:H6	1.82	0.44
6:A:147:LEU:HD23	6:A:147:LEU:HA	1.83	0.44
6:A:159:ALA:O	29:X:1812:U:C2	2.70	0.44
6:A:160:GLY:HA2	6:A:197:GLY:HA2	2.00	0.44
6:A:243:GLY:C	6:A:244:ARG:NE	2.71	0.44
29:X:2586:G:C2	29:X:2587:G:C4	3.05	0.44
17:L:107:ALA:C	17:L:109:GLU:N	2.71	0.44
29:X:2301:A:C5	29:X:2312:A:N6	2.85	0.44
18:M:93:ILE:CG2	18:M:94:VAL:N	2.81	0.44
26:U:11:LYS:O	26:U:12:ASN:HB2	2.17	0.44
11:F:42:ASN:HA	11:F:45:THR:HG21	1.99	0.44
24:S:73:LYS:C	24:S:75:LYS:N	2.70	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:60:LEU:HD11	19:N:64:ARG:CZ	2.48	0.44
19:N:108:ALA:O	19:N:109:LEU:C	2.56	0.44
22:Q:8:GLN:O	22:Q:9:ALA:HB2	2.17	0.44
10:E:54:ARG:HE	10:E:57:ASP:CA	2.29	0.44
29:X:2499:C:O2'	29:X:2500:C:H5'	2.17	0.44
29:X:1385:C:H1'	29:X:2192:U:C4	2.52	0.44
21:P:85:MET:HE2	21:P:130:GLU:HG3	2.00	0.44
29:X:1094:C:C2'	29:X:1096:A:H5'	2.46	0.44
29:X:427:C:H1'	29:X:1856:U:C1'	2.41	0.44
29:X:915:C:O2'	29:X:916:U:H5'	2.18	0.44
29:X:1183:C:H2'	29:X:1184:G:C8	2.53	0.44
29:X:2229:G:HO2'	29:X:2230:G:P	2.41	0.44
29:X:2232:G:H2'	29:X:2233:C:H6	1.83	0.44
24:S:6:LYS:HB2	24:S:31:SER:CB	2.45	0.44
29:X:2698:G:O2'	29:X:2822:U:OP1	2.35	0.44
24:S:67:LYS:HB3	24:S:82:ASP:CB	2.48	0.44
29:X:1:G:H2'	29:X:2:G:O4'	2.17	0.44
7:B:143:GLN:NE2	7:B:143:GLN:N	2.61	0.44
29:X:1652:G:C6	29:X:1653:C:C4	3.05	0.44
29:X:676:G:C6	29:X:677:G:C5	3.06	0.44
29:X:972:C:H5'	29:X:973:U:P	2.58	0.44
29:X:973:U:C4	29:X:974:U:C5	3.06	0.44
29:X:2861:A:O2'	30:Y:31:THR:HG23	2.18	0.44
29:X:1949:A:C2	29:X:2572:U:O4'	2.70	0.44
29:X:1515:U:O2'	29:X:1516:A:H5'	2.18	0.44
21:P:48:LYS:O	21:P:49:SER:C	2.56	0.44
29:X:353:G:H2'	29:X:354:C:C6	2.53	0.44
12:G:43:VAL:O	12:G:167:LYS:HG3	2.18	0.44
7:B:136:ARG:HH11	7:B:136:ARG:CB	2.31	0.44
7:B:141:ILE:CG2	7:B:150:VAL:CG1	2.95	0.44
8:C:158:ARG:HD2	8:C:169:VAL:CG1	2.48	0.44
8:C:179:ASP:C	8:C:182:ARG:HB3	2.37	0.44
21:P:37:LYS:NZ	21:P:64:ALA:N	2.66	0.44
21:P:39:ARG:HH22	29:X:528:G:H5'	1.83	0.44
29:X:469:G:H22	29:X:480:G:H2'	1.82	0.44
29:X:26:G:H1'	29:X:524:A:H61	1.82	0.44
14:I:45:LYS:NZ	29:X:817:A:OP1	2.47	0.44
29:X:1502:G:N1	29:X:1503:G:C5	2.86	0.44
13:H:79:HIS:O	13:H:90:ARG:HB3	2.17	0.44
17:L:37:HIS:C	17:L:38:ILE:O	2.55	0.44
17:L:89:PHE:CD1	17:L:89:PHE:N	2.83	0.44
29:X:2298:U:O2'	29:X:2299:A:C4	2.68	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:J:44:LYS:O	15:J:45:SER:C	2.55	0.44
7:B:179:GLU:C	7:B:181:LEU:N	2.70	0.44
7:B:75:THR:CG2	7:B:78:LEU:HD21	2.48	0.44
11:F:13:PRO:HG3	11:F:52:ILE:CG1	2.46	0.44
11:F:41:PHE:C	11:F:43:ALA:H	2.21	0.44
29:X:2174:G:H2'	29:X:2175:A:H8	1.83	0.44
24:S:98:VAL:HG11	24:S:168:VAL:HG12	1.98	0.44
9:D:80:ARG:CG	9:D:81:GLN:N	2.80	0.44
29:X:1926:U:N1	29:X:1928:G:H5'	2.33	0.44
21:P:8:PHE:O	21:P:17:GLN:NE2	2.46	0.44
29:X:423:G:C6	29:X:431:G:C6	3.06	0.44
15:J:89:GLY:C	15:J:91:VAL:N	2.72	0.44
30:Y:55:ARG:CZ	30:Y:59:ALA:HB2	2.47	0.44
29:X:959:C:H2'	29:X:960:U:C6	2.52	0.44
29:X:2697:G:O2'	29:X:2698:G:H5'	2.18	0.44
29:X:161:U:C4	29:X:190:A:N6	2.86	0.44
29:X:1974:U:H2'	29:X:1975:G:C5'	2.47	0.44
14:I:55:ARG:O	14:I:56:LEU:HB2	2.17	0.44
29:X:679:C:H2'	29:X:680:U:C6	2.52	0.44
17:L:81:GLU:C	17:L:82:LYS:HG2	2.38	0.44
29:X:1369:G:N2	29:X:1370:U:H1'	2.33	0.44
22:Q:3:HIS:O	22:Q:5:ASP:N	2.51	0.44
21:P:118:LYS:HD2	21:P:120:ARG:NH2	2.33	0.44
29:X:1269:G:C2	29:X:1270:C:C6	3.04	0.44
29:X:84:G:N3	29:X:101:A:C2	2.86	0.44
29:X:1414:G:H2'	29:X:1415:C:O4'	2.18	0.44
8:C:31:VAL:O	8:C:32:THR:C	2.57	0.44
8:C:45:THR:O	8:C:45:THR:HG22	2.18	0.44
12:G:104:THR:OG1	12:G:105:GLY:N	2.49	0.44
14:I:11:GLY:O	14:I:13:ARG:N	2.50	0.44
14:I:18:ARG:CG	14:I:21:ARG:HD3	2.47	0.44
29:X:2271:C:H2'	29:X:2272:A:C8	2.52	0.44
28:W:5:LEU:HD13	28:W:51:LEU:HD23	2.00	0.44
29:X:862:A:C4	29:X:863:C:C6	3.06	0.44
24:S:35:ASP:OD1	24:S:38:ALA:N	2.36	0.44
26:U:52:ARG:NH1	26:U:67:LEU:HD11	2.33	0.44
29:X:2321:C:H2'	29:X:2321:C:O2	2.18	0.44
20:O:97:GLY:O	20:O:98:ILE:O	2.35	0.44
29:X:714:G:C6	29:X:715:U:C5	3.06	0.44
13:H:53:ALA:N	13:H:70:VAL:O	2.46	0.44
29:X:1928:G:C2	29:X:1929:U:C2	3.06	0.44
29:X:857:U:C3'	29:X:858:G:H8	2.24	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2262:C:C2	29:X:2368:G:C2	3.06	0.44
15:J:53:ILE:O	15:J:54:VAL:C	2.54	0.44
29:X:209:G:N2	29:X:433:G:OP1	2.51	0.44
24:S:112:LEU:O	24:S:172:LEU:N	2.48	0.44
24:S:172:LEU:HD22	24:S:173:PRO:HD2	1.99	0.44
24:S:172:LEU:HA	24:S:172:LEU:HD23	1.81	0.44
29:X:985:G:C4	29:X:1200:G:N2	2.85	0.44
6:A:164:GLN:NE2	6:A:176:ARG:NH1	2.66	0.44
20:O:32:LYS:HA	20:O:32:LYS:HD3	1.89	0.44
29:X:927:C:O2	31:Z:103:A:H4'	2.17	0.44
8:C:179:ASP:HA	8:C:182:ARG:HB3	1.99	0.43
8:C:61:GLN:HA	8:C:61:GLN:HE21	1.80	0.43
12:G:107:GLN:O	12:G:109:GLY:N	2.47	0.43
8:C:28:HIS:CG	14:I:21:ARG:NH1	2.86	0.43
21:P:39:ARG:HH12	29:X:528:G:H5'	1.81	0.43
29:X:1998:A:H1'	30:Y:3:LYS:HG2	1.99	0.43
29:X:349:G:H3'	29:X:350:U:C5	2.52	0.43
29:X:688:A:C2	29:X:689:A:N7	2.86	0.43
29:X:2491:C:N3	29:X:2492:G:C8	2.86	0.43
8:C:3:GLN:HE22	8:C:4:ILE:HG13	1.81	0.43
9:D:8:TYR:CD1	9:D:173:MET:SD	2.97	0.43
9:D:88:LYS:HE3	29:X:2293:G:OP1	2.18	0.43
25:T:46:LYS:HB2	25:T:78:PHE:CE2	2.52	0.43
31:Z:35:C:O2'	31:Z:36:A:H5'	2.18	0.43
15:J:26:ASP:O	15:J:27:TYR:HD1	2.01	0.43
29:X:2212:U:C2'	29:X:2213:G:C8	2.90	0.43
13:H:23:ARG:HH22	13:H:24:VAL:C	2.20	0.43
11:F:49:GLY:O	11:F:50:ASP:HB2	2.18	0.43
11:F:26:ALA:HB1	11:F:27:LEU:HD12	2.00	0.43
11:F:7:ILE:HG23	11:F:57:ILE:O	2.18	0.43
29:X:1549:C:H2'	29:X:1550:C:C6	2.52	0.43
29:X:1092:U:H2'	29:X:1093:U:H6	1.82	0.43
29:X:930:A:N7	29:X:931:G:C8	2.85	0.43
7:B:110:GLY:O	16:K:3:HIS:CD2	2.71	0.43
12:G:33:ILE:HD12	12:G:33:ILE:C	2.38	0.43
29:X:2277:A:H2'	29:X:2278:A:O4'	2.17	0.43
29:X:2663:U:C4	29:X:2664:G:N7	2.86	0.43
29:X:2663:U:N3	29:X:2664:G:N7	2.65	0.43
29:X:757:U:H2'	29:X:758:G:H5'	1.98	0.43
29:X:1114:A:N3	29:X:1114:A:H2'	2.33	0.43
29:X:1539:U:C2	29:X:1540:C:C5	3.06	0.43
29:X:2048:C:H1'	29:X:2428:U:N3	2.33	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2438:A:C6	29:X:2439:U:C2	3.06	0.43
18:M:10:GLY:HA3	29:X:2850:U:O2'	2.18	0.43
29:X:2787:A:C4	29:X:2788:C:C5	3.06	0.43
29:X:197:G:N2	29:X:242:A:H62	2.15	0.43
29:X:1055:A:C4	29:X:1055:A:C3'	2.83	0.43
29:X:1973:C:H2'	29:X:1974:U:O4'	2.16	0.43
22:Q:89:GLU:HB3	22:Q:91:LEU:HD23	2.00	0.43
29:X:601:A:C2'	29:X:602:C:OP1	2.65	0.43
27:V:64:GLY:O	27:V:65:GLU:HB2	2.17	0.43
30:Y:46:CYS:HA	30:Y:47:PRO:HD2	1.80	0.43
23:R:84:VAL:HG11	23:R:88:THR:C	2.38	0.43
29:X:1051:U:C6	29:X:1051:U:H3'	2.52	0.43
6:A:135:PHE:CD2	6:A:135:PHE:N	2.85	0.43
6:A:182:LEU:O	6:A:268:ARG:HB2	2.18	0.43
29:X:1786:C:C2	29:X:1787:U:C6	3.05	0.43
18:M:78:GLU:OE2	18:M:108:ARG:CZ	2.65	0.43
9:D:13:ARG:NH2	9:D:14:PRO:HG3	2.32	0.43
28:W:40:VAL:HG23	29:X:940:G:O2'	2.17	0.43
28:W:5:LEU:HD12	28:W:6:VAL:N	2.33	0.43
15:J:86:LYS:CD	29:X:2256:G:OP2	2.66	0.43
14:I:66:ASN:ND2	14:I:68:VAL:HG23	2.26	0.43
29:X:2372:A:H2'	29:X:2373:C:C6	2.51	0.43
29:X:1237:G:H2'	29:X:1238:A:C8	2.53	0.43
31:Z:17:A:OP2	31:Z:110:U:O2	2.36	0.43
16:K:3:HIS:CE1	29:X:2795:A:O3'	2.68	0.43
29:X:1004:A:O2'	29:X:1005:U:H5'	2.18	0.43
9:D:75:SER:HB2	9:D:79:LEU:HD13	1.99	0.43
16:K:76:VAL:CG1	16:K:77:ARG:N	2.82	0.43
26:U:41:VAL:HG21	26:U:43:ARG:HH22	1.82	0.43
22:Q:28:TRP:CE3	22:Q:77:LYS:N	2.86	0.43
29:X:2663:U:H2'	29:X:2664:G:O4'	2.17	0.43
29:X:1445:A:H2'	29:X:1446:U:C6	2.53	0.43
29:X:2642:G:H2'	29:X:2643:G:O5'	2.18	0.43
29:X:148:C:OP1	29:X:148:C:C6	2.68	0.43
29:X:1186:G:H21	29:X:1187:A:H62	1.66	0.43
19:N:14:HIS:CD2	19:N:32:TYR:CD1	3.06	0.43
7:B:189:PRO:HB3	29:X:2658:A:O2'	2.17	0.43
29:X:2667:C:H5	29:X:2699:G:C5	2.36	0.43
14:I:82:ASP:HA	14:I:114:ILE:HG21	2.00	0.43
29:X:1436:G:C4	29:X:1437:A:C8	3.07	0.43
12:G:150:VAL:O	12:G:151:TYR:CD1	2.71	0.43
10:E:163:ARG:HD3	10:E:167:GLU:HB3	2.01	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:G:39:GLN:HB2	12:G:79:PHE:CE1	2.52	0.43
24:S:25:ASN:O	24:S:26:LYS:HB3	2.18	0.43
29:X:1479:G:H2'	29:X:1480:G:H8	1.83	0.43
29:X:1916:G:H2'	29:X:1917:C:O4'	2.17	0.43
29:X:1030:U:H5'	29:X:1132:C:H1'	1.99	0.43
29:X:1388:C:H6	29:X:1388:C:O5'	2.01	0.43
29:X:1707:A:H3'	29:X:1708:C:H6	1.83	0.43
8:C:86:PRO:HD3	29:X:1261:G:O5'	2.18	0.43
12:G:90:LEU:HD23	12:G:94:LYS:HA	1.99	0.43
14:I:9:THR:OG1	29:X:1218:C:H4'	2.18	0.43
29:X:1039:A:C5	29:X:1136:G:N2	2.85	0.43
29:X:1144:U:H2'	29:X:1147:G:OP1	2.18	0.43
29:X:2198:U:C2'	29:X:2199:C:O4'	2.58	0.43
17:L:38:ILE:HG13	17:L:39:TYR:N	2.32	0.43
17:L:72:GLY:HA3	17:L:106:ALA:HB3	2.00	0.43
15:J:33:TYR:O	15:J:106:GLU:CA	2.66	0.43
15:J:11:ARG:HB3	15:J:12:LYS:H	1.47	0.43
29:X:2383:C:C6	29:X:2393:G:N2	2.86	0.43
14:I:101:ARG:HD3	29:X:637:G:O6	2.18	0.43
29:X:2319:G:C2'	29:X:2320:G:H5'	2.48	0.43
29:X:1549:C:H2'	29:X:1550:C:O4'	2.18	0.43
29:X:1082:G:H1'	29:X:1100:G:C4	2.53	0.43
8:C:6:VAL:HG23	8:C:118:VAL:HG23	1.99	0.43
29:X:1174:G:N3	29:X:1175:A:C8	2.86	0.43
9:D:138:PHE:CE2	9:D:152:MET:SD	3.11	0.43
9:D:80:ARG:CD	9:D:80:ARG:N	2.81	0.43
27:V:26:MET:O	27:V:27:GLU:C	2.56	0.43
29:X:2778:U:H4'	29:X:2779:C:O2	2.18	0.43
29:X:1375:C:C4	29:X:1376:C:C5	3.06	0.43
29:X:2849:C:C2'	29:X:2850:U:C5'	2.96	0.43
29:X:2820:C:O2	29:X:2821:G:C8	2.71	0.43
29:X:2523:G:O2'	29:X:2524:G:H5'	2.19	0.43
21:P:95:ALA:HB1	21:P:126:ILE:HB	2.00	0.43
29:X:161:U:H2'	29:X:162:C:C6	2.52	0.43
12:G:53:ARG:O	12:G:54:LEU:C	2.56	0.43
29:X:1830:C:H41	29:X:1881:U:C3'	2.25	0.43
16:K:30:ARG:C	16:K:31:GLU:HG2	2.38	0.43
20:O:65:ARG:HG2	20:O:87:ARG:CD	2.47	0.43
29:X:2861:A:H2'	29:X:2862:G:H8	1.84	0.43
30:Y:31:THR:CG2	30:Y:32:GLU:N	2.81	0.43
8:C:189:ASP:O	8:C:190:ALA:C	2.57	0.43
29:X:182:G:O2'	29:X:183:U:OP2	2.37	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:W:27:LYS:O	28:W:28:ILE:O	2.35	0.43
10:E:33:LEU:O	10:E:34:THR:CG2	2.65	0.43
29:X:1126:A:C2	29:X:1127:C:C2	3.06	0.43
28:W:45:LYS:N	28:W:45:LYS:HE3	2.33	0.43
8:C:145:THR:O	8:C:145:THR:HG22	2.19	0.43
29:X:991:A:C6	29:X:992:A:N1	2.85	0.43
29:X:2167:A:H2'	29:X:2168:A:C8	2.53	0.43
29:X:514:G:N3	29:X:514:G:H2'	2.33	0.43
8:C:125:ILE:CD1	8:C:133:PHE:HA	2.48	0.43
8:C:75:PRO:HG2	8:C:83:ALA:HB2	1.93	0.43
12:G:110:LEU:H	12:G:110:LEU:HD23	1.77	0.43
14:I:17:LYS:HE2	29:X:1258:G:P	2.57	0.43
23:R:86:PRO:O	23:R:87:GLU:HB2	2.18	0.43
29:X:1255:A:C4	29:X:1256:C:C5	3.06	0.43
29:X:23:G:C6	29:X:528:G:C6	3.07	0.43
29:X:471:A:C2	29:X:481:A:C4	3.06	0.43
29:X:830:C:O2'	29:X:831:G:H5'	2.19	0.43
29:X:1275:A:N3	30:Y:10:LYS:CE	2.81	0.43
29:X:2594:U:C6	30:Y:7:PRO:HA	2.53	0.43
29:X:1051:U:C6	29:X:1051:U:C3'	3.02	0.43
10:E:133:VAL:HG12	10:E:141:VAL:HG13	2.00	0.43
29:X:1785:A:H2'	29:X:1786:C:C6	2.52	0.43
8:C:112:GLN:NE2	8:C:116:LYS:CB	2.82	0.43
17:L:37:HIS:O	17:L:38:ILE:C	2.56	0.43
31:Z:42:U:H2'	31:Z:45:C:H5	1.82	0.43
15:J:69:ILE:HG13	15:J:69:ILE:O	2.18	0.43
15:J:86:LYS:HD2	29:X:2256:G:OP2	2.18	0.43
7:B:178:GLY:O	7:B:179:GLU:CG	2.63	0.43
7:B:59:VAL:HG21	7:B:74:PRO:CB	2.48	0.43
29:X:2351:G:C2	29:X:2352:A:C8	3.07	0.43
13:H:24:VAL:HG22	13:H:45:ALA:HB2	2.00	0.43
13:H:116:ARG:NH1	18:M:38:LYS:HZ3	2.16	0.43
11:F:19:PRO:HD2	11:F:22:PRO:HG2	2.00	0.43
31:Z:15:A:C2'	31:Z:16:U:H5''	2.49	0.43
22:Q:41:ALA:O	22:Q:42:ILE:C	2.56	0.43
29:X:1681:A:C2	29:X:2706:U:N1	2.86	0.43
7:B:1:MET:O	7:B:2:LYS:O	2.35	0.43
29:X:840:U:H2'	29:X:2051:U:O2	2.18	0.43
10:E:96:ALA:HB2	10:E:105:MET:HE1	1.99	0.43
29:X:1097:A:N3	29:X:1097:A:H3'	2.33	0.43
29:X:2386:G:O2'	29:X:2387:U:H5'	2.19	0.43
29:X:421:G:O2'	29:X:422:C:H5'	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:D:33:LYS:O	9:D:157:VAL:HG23	2.19	0.43
7:B:37:LYS:HB3	7:B:42:ASP:OD1	2.19	0.43
24:S:6:LYS:HB2	24:S:31:SER:C	2.39	0.43
29:X:164:G:C2	29:X:187:U:O2	2.71	0.43
8:C:139:GLN:NE2	8:C:139:GLN:CA	2.74	0.43
29:X:965:G:H1'	29:X:2253:A:N1	2.32	0.43
9:D:97:TYR:HA	9:D:100:LEU:HB3	1.99	0.43
9:D:41:GLY:O	9:D:43:SER:N	2.50	0.43
29:X:82:G:OP2	29:X:82:G:C8	2.72	0.43
29:X:2876:C:H2'	29:X:2877:A:N9	2.34	0.43
29:X:822:G:O2'	29:X:823:U:H5'	2.18	0.43
29:X:2018:G:O2'	29:X:2019:C:OP1	2.35	0.43
29:X:166:G:H2'	29:X:182:G:N2	2.34	0.43
7:B:85:ALA:H	7:B:86:PRO:HD2	1.83	0.43
20:O:74:TYR:OH	20:O:76:SER:CB	2.65	0.43
29:X:1025:A:C2	29:X:1160:C:C2	3.06	0.43
29:X:131:C:O2'	29:X:132:U:H5'	2.17	0.43
29:X:1371:G:C8	29:X:1371:G:H3'	2.53	0.43
29:X:1529:C:H2'	29:X:1530:U:O4'	2.17	0.43
8:C:160:ALA:O	8:C:161:ALA:HB2	2.18	0.43
19:N:25:TRP:CE3	19:N:26:GLY:HA3	2.53	0.43
23:R:25:LEU:O	23:R:79:SER:O	2.35	0.43
29:X:2022:C:C5	29:X:2023:C:C5	3.06	0.43
29:X:2024:U:O2'	29:X:2025:A:H5'	2.18	0.43
29:X:2039:G:C2	29:X:2040:A:C8	3.07	0.43
29:X:2551:A:HO2'	29:X:2552:C:P	2.40	0.43
29:X:588:G:C2	29:X:1275:A:C5	3.06	0.43
29:X:1053:G:H4'	29:X:1054:C:OP1	2.18	0.43
6:A:93:ALA:N	6:A:105:ILE:O	2.41	0.43
6:A:159:ALA:HB1	29:X:1812:U:O2	2.18	0.43
6:A:243:GLY:C	6:A:244:ARG:CD	2.87	0.43
17:L:89:PHE:HE2	29:X:2356:A:HO2'	1.59	0.43
26:U:24:ALA:C	26:U:26:ALA:N	2.69	0.43
29:X:2371:A:C8	29:X:2372:A:C8	3.06	0.43
18:M:82:PRO:O	18:M:84:ALA:N	2.51	0.43
29:X:1933:G:H2'	29:X:1934:U:C6	2.52	0.43
29:X:1459:U:N3	29:X:1475:U:H1'	2.33	0.43
29:X:2086:U:H6	29:X:2086:U:O5'	2.00	0.43
19:N:86:ALA:O	19:N:87:ASN:C	2.56	0.43
29:X:2222:U:O2	29:X:2223:U:C6	2.71	0.43
22:Q:36:THR:O	22:Q:37:GLU:C	2.57	0.43
22:Q:43:GLN:O	22:Q:47:GLY:N	2.51	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2061:C:O4'	29:X:2413:A:O4'	2.36	0.43
29:X:2642:G:C6	29:X:2643:G:C4	3.06	0.43
7:B:109:LYS:NZ	29:X:2703:C:OP2	2.50	0.43
14:I:82:ASP:CA	14:I:114:ILE:HG21	2.48	0.43
29:X:704:G:C2	29:X:705:C:C2	3.07	0.43
29:X:1437:A:O2'	29:X:1438:G:H5'	2.19	0.43
29:X:2252:A:C2	29:X:2253:A:C4	3.07	0.43
29:X:1692:C:H2'	29:X:1693:A:O4'	2.18	0.43
29:X:2345:A:H2'	29:X:2346:G:H8	1.83	0.43
10:E:59:GLN:O	10:E:60:LYS:C	2.57	0.43
29:X:334:G:O2'	29:X:335:A:P	2.77	0.43
18:M:98:LYS:HD2	18:M:98:LYS:HA	1.93	0.43
14:I:18:ARG:HD2	14:I:21:ARG:CG	2.49	0.43
21:P:33:MET:SD	21:P:37:LYS:NZ	2.91	0.43
23:R:84:VAL:HG13	23:R:88:THR:O	2.18	0.43
29:X:310:A:H2	29:X:331:U:O4'	2.01	0.43
29:X:1778:U:C2'	29:X:1779:C:C6	2.98	0.43
29:X:2586:G:N1	29:X:2587:G:N3	2.66	0.43
9:D:122:PHE:HD2	9:D:129:ASN:HB2	1.81	0.43
17:L:17:VAL:CG1	17:L:18:ARG:N	2.80	0.43
17:L:28:ARG:HD2	17:L:90:ASP:OD1	2.17	0.43
17:L:90:ASP:CG	17:L:90:ASP:O	2.57	0.43
15:J:33:TYR:O	15:J:106:GLU:HA	2.19	0.43
29:X:1872:A:H1'	29:X:2070:G:O4'	2.19	0.43
14:I:72:TYR:HB3	14:I:107:LYS:CB	2.48	0.43
11:F:121:GLU:O	11:F:122:ALA:C	2.56	0.43
15:J:100:PRO:HB2	24:S:74:ARG:HE	1.84	0.43
31:Z:15:A:C2	31:Z:71:G:N3	2.85	0.43
12:G:61:ARG:HH11	12:G:65:LYS:HD3	1.83	0.43
8:C:5:ASN:N	8:C:5:ASN:HD22	2.17	0.43
11:F:112:MET:C	11:F:114:ASP:H	2.21	0.43
9:D:75:SER:HB2	9:D:79:LEU:CD2	2.49	0.43
29:X:230:C:C2'	29:X:231:G:H5'	2.49	0.43
21:P:112:GLY:O	29:X:1630:A:N6	2.51	0.43
29:X:1928:G:N2	29:X:1929:U:C2	2.86	0.43
21:P:80:LEU:HD21	21:P:90:LEU:HD11	2.00	0.43
10:E:113:VAL:HG11	10:E:151:VAL:CG1	2.49	0.43
29:X:204:A:H1'	29:X:205:A:N7	2.33	0.43
23:R:36:VAL:HG12	23:R:37:LEU:N	2.34	0.43
14:I:32:ARG:HH21	20:O:81:ARG:CG	2.28	0.43
14:I:32:ARG:NH2	20:O:79:GLN:HA	2.33	0.43
21:P:95:ALA:CB	21:P:126:ILE:HB	2.48	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1587:A:N1	29:X:1588:A:C6	2.86	0.43
29:X:197:G:H22	29:X:242:A:H62	1.65	0.43
23:R:98:ILE:C	23:R:100:ASP:H	2.14	0.43
16:K:25:ALA:CB	16:K:47:PHE:HE2	2.29	0.43
8:C:197:GLU:HG2	8:C:198:GLU:CG	2.48	0.43
29:X:2790:C:O2'	30:Y:43:HIS:CD2	2.72	0.43
29:X:1040:A:N7	29:X:1041:G:C8	2.86	0.43
29:X:2876:C:H2'	29:X:2877:A:C5	2.53	0.43
29:X:982:C:P	29:X:985:G:C8	3.12	0.43
29:X:1189:G:H8	29:X:1189:G:O5'	2.02	0.43
29:X:1605:A:O2'	29:X:1606:C:H5'	2.18	0.43
29:X:319:G:C1'	29:X:511:A:O4'	2.66	0.43
29:X:912:A:O5'	29:X:912:A:H8	2.02	0.43
13:H:12:ASP:OD1	13:H:12:ASP:O	2.37	0.43
8:C:170:LEU:HD12	8:C:170:LEU:HA	1.80	0.43
8:C:28:HIS:C	8:C:30:VAL:N	2.69	0.43
19:N:12:ARG:O	19:N:15:LYS:N	2.51	0.43
23:R:15:HIS:O	23:R:16:PHE:CB	2.66	0.43
29:X:2431:C:C4	29:X:2432:A:C6	3.07	0.43
29:X:27:G:N2	29:X:522:G:O2'	2.52	0.43
8:C:34:GLN:CG	29:X:627:A:OP1	2.67	0.43
6:A:258:LYS:HZ2	6:A:261:ARG:NE	2.13	0.43
8:C:108:ILE:O	8:C:112:GLN:N	2.51	0.43
8:C:111:ARG:NH2	8:C:111:ARG:HG2	2.34	0.43
18:M:104:LEU:O	18:M:107:LEU:HG	2.19	0.43
25:T:42:GLY:HA3	29:X:2310:G:C4'	2.48	0.43
9:D:125:ARG:CG	29:X:2294:U:O2'	2.64	0.43
15:J:29:ALA:C	15:J:30:PHE:CD2	2.92	0.43
13:H:115:ALA:C	13:H:117:GLU:N	2.71	0.43
29:X:1099:A:H4'	29:X:1100:G:H8	1.84	0.43
29:X:1122:A:H2'	29:X:1123:G:O5'	2.19	0.43
31:Z:20:A:C2	31:Z:69:G:O6	2.72	0.43
24:S:100:THR:CG2	24:S:101:THR:N	2.81	0.43
12:G:67:ARG:O	12:G:70:PHE:CD2	2.72	0.43
19:N:106:PHE:O	19:N:107:LYS:C	2.56	0.43
19:N:78:THR:HG23	19:N:117:ARG:CZ	2.49	0.43
19:N:66:ASN:HA	19:N:69:ALA:HB3	2.01	0.43
20:O:22:VAL:HG21	29:X:1173:G:O3'	2.19	0.43
9:D:105:ASN:O	9:D:109:PRO:HG2	2.19	0.43
29:X:2516:U:C2	29:X:2517:C:C5	3.06	0.43
29:X:1399:C:OP2	29:X:1409:U:N3	2.45	0.43
29:X:1287:A:H2'	29:X:1288:A:H5''	1.99	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:H:110:VAL:CG1	13:H:111:PHE:N	2.80	0.43
29:X:2630:C:H2'	29:X:2631:C:H6	1.83	0.43
29:X:168:A:H2'	29:X:169:C:C6	2.54	0.43
29:X:2404:A:P	29:X:2406:C:H5'	2.59	0.43
21:P:79:ALA:CB	21:P:85:MET:SD	3.06	0.43
29:X:2524:G:O2'	29:X:2525:U:H5'	2.18	0.43
29:X:2441:U:C2	29:X:2442:C:C6	3.06	0.43
29:X:967:G:H3'	29:X:968:C:H5''	2.00	0.43
12:G:84:ASN:HA	12:G:153:GLY:O	2.18	0.43
29:X:1330:G:C4	29:X:1331:G:C8	3.07	0.43
29:X:710:C:O2'	29:X:711:C:H5'	2.19	0.43
6:A:81:ALA:HA	6:A:113:VAL:CG2	2.47	0.43
29:X:1611:U:O2'	29:X:1612:U:H5'	2.19	0.43
6:A:59:LYS:O	29:X:1584:G:H4'	2.18	0.43
29:X:2503:G:N2	29:X:2504:G:H1'	2.34	0.43
29:X:1047:G:C2	29:X:1131:G:C4	3.06	0.43
8:C:127:ASP:HB2	8:C:129:LYS:HG2	1.99	0.43
12:G:131:VAL:O	12:G:134:MET:N	2.51	0.43
29:X:1223:G:H5'	29:X:1225:G:O4'	2.18	0.43
29:X:36:G:C5	29:X:37:C:C5	3.06	0.43
29:X:586:G:O3'	29:X:1268:U:H4'	2.17	0.43
29:X:1276:U:C1'	30:Y:10:LYS:HG3	2.48	0.43
6:A:143:HIS:CD2	6:A:196:VAL:HG12	2.54	0.43
4:4:25:VAL:HB	4:4:34:GLN:H	1.84	0.43
4:4:25:VAL:HG21	4:4:34:GLN:NE2	2.33	0.43
4:4:7:VAL:HG13	4:4:34:GLN:NE2	2.34	0.43
18:M:55:ILE:CD1	18:M:67:THR:HG22	2.47	0.43
29:X:2825:A:H2'	29:X:2826:C:C6	2.54	0.43
17:L:43:ILE:HD12	17:L:43:ILE:N	2.33	0.43
26:U:28:GLY:N	26:U:32:ARG:CD	2.81	0.43
29:X:492:G:HO2'	29:X:493:A:P	2.39	0.43
15:J:31:GLY:HA2	15:J:108:ALA:HB2	2.01	0.43
7:B:179:GLU:HB3	7:B:181:LEU:HG	1.99	0.43
14:I:92:THR:C	14:I:94:GLU:H	2.22	0.43
29:X:2350:G:C6	29:X:2351:G:N7	2.86	0.43
18:M:34:ARG:NH1	18:M:81:PHE:CG	2.86	0.43
12:G:61:ARG:HH22	12:G:78:ASP:CB	2.32	0.43
29:X:1172:U:H2'	29:X:1173:G:H8	1.84	0.43
9:D:150:ARG:HG3	9:D:150:ARG:NH1	2.33	0.43
29:X:2335:U:O2'	29:X:2336:G:H5'	2.19	0.43
29:X:2652:G:C4	29:X:2653:A:C8	3.07	0.43
16:K:18:VAL:HG12	16:K:19:ALA:N	2.34	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:E:108:GLY:C	10:E:109:TYR:HD1	2.22	0.43
27:V:4:SER:O	27:V:8:ASN:OD1	2.36	0.43
29:X:832:A:C4	29:X:833:A:C8	3.07	0.43
23:R:52:ASN:O	23:R:53:VAL:HG23	2.19	0.43
29:X:1337:G:N2	29:X:1344:C:C2	2.86	0.43
29:X:2806:G:H4'	29:X:2858:A:C6	2.54	0.43
27:V:37:LEU:HD11	29:X:60:A:C4'	2.46	0.43
29:X:1454:U:H2'	29:X:1455:C:C6	2.50	0.43
29:X:1331:G:N3	29:X:1331:G:H2'	2.33	0.43
11:F:61:ALA:O	11:F:64:SER:HB2	2.19	0.43
14:I:52:GLY:HA3	14:I:55:ARG:CZ	2.48	0.43
9:D:43:SER:C	9:D:44:LYS:HG3	2.38	0.43
14:I:47:ALA:C	14:I:49:PHE:N	2.71	0.43
18:M:63:ARG:HG3	18:M:63:ARG:H	1.53	0.43
29:X:1383:C:C4	29:X:1384:G:N7	2.86	0.43
6:A:58:HIS:O	6:A:59:LYS:HB2	2.18	0.43
30:Y:32:GLU:OE1	30:Y:37:HIS:O	2.37	0.43
29:X:2235:G:N2	29:X:2254:C:C4	2.87	0.43
29:X:2215:C:N4	29:X:2216:G:C2	2.86	0.43
29:X:1687:C:H6	29:X:1687:C:O5'	2.02	0.43
29:X:2250:G:O5'	29:X:2250:G:H8	2.02	0.43
7:B:117:MET:HB2	7:B:136:ARG:HG3	2.01	0.43
7:B:137:ARG:HG2	7:B:137:ARG:NH2	2.34	0.43
7:B:152:LYS:HB2	12:G:106:TYR:CB	2.31	0.43
19:N:24:PHE:O	19:N:29:SER:CB	2.67	0.43
29:X:1136:G:N1	29:X:1137:A:N6	2.66	0.43
29:X:1274:C:C2'	29:X:1275:A:O5'	2.67	0.43
29:X:466:A:O2'	29:X:467:U:OP2	2.30	0.43
29:X:522:G:O2'	29:X:523:A:P	2.77	0.43
29:X:238:G:O4'	29:X:619:A:H2	2.01	0.43
29:X:815:A:C5	29:X:816:U:C5	3.07	0.43
6:A:124:GLU:O	6:A:129:ASN:ND2	2.52	0.43
29:X:1789:U:C4	29:X:1811:A:C2	3.07	0.43
29:X:778:G:H2'	29:X:779:U:H6	1.83	0.43
18:M:80:VAL:HG12	18:M:80:VAL:O	2.19	0.43
14:I:66:ASN:ND2	14:I:67:ASN:N	2.67	0.43
29:X:2327:U:O2'	29:X:2328:G:H5'	2.19	0.43
18:M:81:PHE:HA	18:M:82:PRO:HD3	1.68	0.43
13:H:83:ARG:HH11	18:M:40:ARG:HD3	1.84	0.43
24:S:91:PRO:CG	24:S:92:VAL:H	2.32	0.43
11:F:54:PRO:CD	11:F:71:THR:O	2.67	0.43
29:X:2173:G:O2'	29:X:2174:G:H5'	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:101:THR:CG2	24:S:135:VAL:HG13	2.48	0.43
24:S:94:VAL:O	24:S:121:GLN:HA	2.19	0.43
19:N:107:LYS:O	19:N:108:ALA:C	2.56	0.43
29:X:2778:U:H5'	29:X:2779:C:C1'	2.49	0.43
29:X:177:U:H2'	29:X:178:C:O4'	2.18	0.43
25:T:17:ASN:OD1	29:X:2240:C:O5'	2.37	0.43
6:A:62:TYR:HE1	29:X:1808:C:H3'	1.83	0.43
29:X:2386:G:C4	29:X:2387:U:C5	3.07	0.43
29:X:2871:U:C2	29:X:2872:U:C5	3.07	0.43
29:X:1324:G:O2'	29:X:1325:U:P	2.76	0.43
29:X:62:U:H4'	29:X:63:A:OP1	2.19	0.43
29:X:2703:C:H2'	29:X:2704:U:C5'	2.48	0.43
21:P:126:ILE:HD12	21:P:126:ILE:C	2.39	0.43
29:X:1599:G:N2	29:X:1600:U:H1'	2.33	0.43
29:X:1586:A:H2'	29:X:1587:A:C8	2.51	0.43
29:X:820:U:C2	29:X:821:A:C8	3.07	0.43
30:Y:37:HIS:C	30:Y:38:GLY:O	2.55	0.43
15:J:48:ILE:O	15:J:51:CYS:N	2.47	0.43
29:X:603:C:O2	29:X:603:C:C2'	2.64	0.43
29:X:1948:C:C6	29:X:1949:A:C8	3.07	0.43
17:L:84:ILE:N	17:L:84:ILE:CD1	2.81	0.43
29:X:2235:G:N2	29:X:2254:C:N4	2.67	0.43
29:X:549:G:O2'	29:X:550:C:H5'	2.19	0.43
8:C:158:ARG:HH11	8:C:158:ARG:CG	2.32	0.43
8:C:162:ARG:NH1	29:X:333:A:C3'	2.77	0.43
23:R:93:ARG:CZ	23:R:108:VAL:C	2.87	0.43
23:R:95:ARG:N	23:R:95:ARG:HD2	2.34	0.43
29:X:1135:C:N3	29:X:1136:G:N7	2.67	0.43
29:X:1153:A:N3	29:X:1155:G:C8	2.87	0.43
29:X:2022:C:H2'	29:X:2023:C:O5'	2.19	0.43
29:X:312:G:C5	29:X:313:U:C4	3.07	0.43
29:X:314:G:C6	29:X:326:A:N1	2.87	0.43
6:A:193:ILE:HA	6:A:193:ILE:HD13	1.92	0.43
29:X:1811:A:H1'	29:X:1813:A:C5	2.53	0.43
29:X:1882:G:N2	29:X:1885:C:N4	2.66	0.43
9:D:5:LYS:HA	9:D:8:TYR:CB	2.49	0.43
25:T:20:TYR:HB3	25:T:21:LEU:H	1.64	0.43
9:D:88:LYS:CE	29:X:2293:G:OP1	2.67	0.43
10:E:9:ILE:HD12	10:E:51:LEU:HA	2.00	0.43
11:F:23:VAL:CA	11:F:26:ALA:HB3	2.43	0.43
29:X:930:A:C3'	29:X:930:A:C8	3.02	0.43
24:S:96:VAL:N	24:S:119:ASN:OD1	2.52	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:77:SER:HB2	29:X:1022:A:OP1	2.19	0.43
29:X:1004:A:C2'	29:X:1005:U:H5'	2.49	0.43
9:D:37:ASN:HA	9:D:87:ILE:O	2.19	0.43
9:D:78:LYS:C	9:D:79:LEU:HD12	2.39	0.43
29:X:2276:C:O2'	29:X:2277:A:H5'	2.18	0.43
29:X:2695:C:H2'	29:X:2696:A:H8	1.83	0.43
29:X:393:U:H2'	29:X:394:U:C6	2.54	0.43
22:Q:35:LYS:CA	22:Q:38:ILE:HG23	2.49	0.43
22:Q:7:LEU:CD2	27:V:30:PHE:HE2	2.15	0.43
21:P:109:ARG:HA	21:P:109:ARG:HD2	1.73	0.43
10:E:117:PRO:HB3	10:E:123:PHE:CD1	2.54	0.43
29:X:430:C:C2	29:X:431:G:C8	3.07	0.43
29:X:2044:G:O2'	29:X:2046:C:C5	2.71	0.43
29:X:577:U:H2'	29:X:579:G:OP2	2.19	0.43
29:X:2714:A:H2'	29:X:2715:C:H6	1.84	0.43
29:X:1318:A:H2'	29:X:1319:C:O5'	2.18	0.43
29:X:1478:U:C2	29:X:1479:G:C8	3.07	0.43
29:X:765:C:N4	29:X:1772:C:C2	2.87	0.43
13:H:73:VAL:HG21	13:H:123:PHE:CE2	2.54	0.43
14:I:50:GLU:OE1	29:X:678:G:H4'	2.19	0.43
29:X:2528:G:C2	29:X:2529:G:N7	2.87	0.43
29:X:30:G:H2'	29:X:31:C:H6	1.84	0.43
29:X:83:A:O3'	29:X:84:G:O4'	2.37	0.43
7:B:155:ARG:HH11	7:B:155:ARG:CG	2.31	0.42
8:C:178:TYR:O	8:C:179:ASP:C	2.56	0.42
23:R:22:VAL:CG1	23:R:23:ILE:N	2.82	0.42
29:X:2759:U:H1'	29:X:2761:A:C6	2.54	0.42
19:N:28:ARG:HD2	29:X:542:A:H3'	2.01	0.42
29:X:623:G:C2'	29:X:624:A:H5''	2.49	0.42
29:X:815:A:C4	29:X:816:U:C6	3.06	0.42
9:D:123:ASP:HB2	9:D:127:ASN:O	2.19	0.42
9:D:19:GLN:HB3	9:D:20:PHE:CD1	2.54	0.42
17:L:27:LEU:O	17:L:88:VAL:HG23	2.19	0.42
17:L:89:PHE:O	17:L:89:PHE:CD1	2.72	0.42
31:Z:42:U:H3	31:Z:45:C:H5''	1.84	0.42
15:J:34:GLY:C	15:J:119:PHE:HE1	2.23	0.42
18:M:93:ILE:CD1	18:M:93:ILE:H	2.32	0.42
26:U:69:THR:HG23	26:U:75:TYR:HE1	1.82	0.42
29:X:1935:A:C6	29:X:1936:A:N1	2.87	0.42
11:F:71:THR:HG22	11:F:110:THR:CG2	2.37	0.42
11:F:23:VAL:HB	11:F:34:ILE:HD13	2.00	0.42
19:N:66:ASN:N	19:N:66:ASN:OD1	2.52	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1007:A:N6	29:X:1171:A:C6	2.87	0.42
25:T:52:GLY:H	25:T:62:LEU:HD22	1.84	0.42
22:Q:36:THR:O	22:Q:39:LYS:N	2.50	0.42
29:X:1287:A:C2	29:X:1315:A:H2	2.36	0.42
29:X:1446:U:H2'	29:X:1447:U:H6	1.80	0.42
29:X:788:G:H4'	29:X:789:G:O5'	2.18	0.42
29:X:2813:G:H2'	29:X:2814:G:O4'	2.19	0.42
29:X:171:G:O2'	29:X:172:A:H5'	2.18	0.42
29:X:172:A:C6	29:X:175:C:H5	2.32	0.42
29:X:915:C:H2'	29:X:916:U:H6	1.84	0.42
29:X:1182:U:H2'	29:X:1183:C:O4'	2.19	0.42
15:J:79:PRO:HG2	15:J:88:LYS:HD2	2.01	0.42
24:S:43:PHE:O	24:S:44:ARG:C	2.57	0.42
12:G:83:ILE:HB	12:G:154:GLU:HA	2.00	0.42
14:I:76:LYS:HB3	14:I:79:GLN:HE21	1.82	0.42
15:J:54:VAL:HG12	15:J:55:MET:N	2.33	0.42
29:X:1597:A:C2	29:X:1598:C:N3	2.87	0.42
29:X:212:U:O2'	29:X:213:C:H5'	2.18	0.42
25:T:23:VAL:HA	25:T:38:VAL:HG22	2.01	0.42
11:F:111:LYS:HB2	11:F:115:LEU:HD11	2.01	0.42
29:X:982:C:C2'	29:X:983:G:O5'	2.67	0.42
31:Z:75:A:C2	31:Z:76:U:C1'	3.01	0.42
29:X:2511:G:C5	29:X:2512:A:N7	2.87	0.42
29:X:1987:G:C6	29:X:1988:A:C4	3.07	0.42
29:X:1971:C:O2'	29:X:1972:G:H5'	2.19	0.42
29:X:997:C:O2'	29:X:998:C:H5'	2.19	0.42
29:X:1824:C:H6	29:X:1824:C:O5'	2.02	0.42
7:B:154:LYS:HZ2	7:B:156:MET:HE3	1.83	0.42
8:C:32:THR:HG22	8:C:33:TRP:N	2.33	0.42
8:C:82:VAL:O	8:C:83:ALA:C	2.57	0.42
12:G:74:MET:HA	12:G:140:GLN:OE1	2.19	0.42
21:P:110:ALA:HB2	29:X:761:G:O5'	2.18	0.42
23:R:8:SER:O	23:R:9:HIS:C	2.57	0.42
29:X:1031:C:O2'	29:X:1032:A:P	2.77	0.42
29:X:1210:C:C2	29:X:1211:G:C8	3.08	0.42
29:X:2423:G:C2'	29:X:2424:G:O5'	2.67	0.42
29:X:309:G:H5''	29:X:310:A:OP1	2.19	0.42
29:X:522:G:O2'	29:X:523:A:OP2	2.31	0.42
29:X:544:U:C4	29:X:545:C:N4	2.87	0.42
6:A:92:ILE:CG2	6:A:104:TYR:HB3	2.48	0.42
6:A:107:ALA:HA	6:A:108:PRO:HD2	1.90	0.42
29:X:2493:U:C2	29:X:2494:C:C5	3.06	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:A:209:ALA:HB2	29:X:1781:C:H4'	2.00	0.42
6:A:214:TRP:HH2	29:X:777:A:P	2.42	0.42
8:C:112:GLN:HB3	8:C:116:LYS:HZ3	1.82	0.42
9:D:119:PRO:CG	9:D:120:ASN:N	2.80	0.42
29:X:2292:C:C2'	29:X:2293:G:H5'	2.49	0.42
31:Z:26:G:H5''	31:Z:27:A:OP1	2.19	0.42
15:J:111:THR:O	15:J:112:GLU:C	2.57	0.42
15:J:95:VAL:CG1	15:J:96:SER:N	2.82	0.42
26:U:14:VAL:C	26:U:15:VAL:HG22	2.39	0.42
7:B:26:VAL:HG12	7:B:27:LEU:N	2.33	0.42
18:M:11:GLU:O	18:M:13:LEU:N	2.51	0.42
7:B:181:LEU:HD13	18:M:16:ILE:CD1	2.49	0.42
29:X:657:A:O2'	29:X:2330:G:H4'	2.19	0.42
29:X:1467:U:N3	29:X:1473:U:N3	2.60	0.42
29:X:754:G:C6	29:X:755:C:C4	3.07	0.42
12:G:33:ILE:O	12:G:69:ASP:OD1	2.36	0.42
19:N:84:LYS:CB	19:N:92:ARG:NH2	2.81	0.42
19:N:84:LYS:HA	19:N:92:ARG:NH2	2.34	0.42
29:X:1172:U:O2'	29:X:1173:G:H5'	2.19	0.42
9:D:108:LEU:O	9:D:109:PRO:C	2.56	0.42
9:D:117:ILE:HD12	9:D:175:LEU:CD1	2.48	0.42
29:X:1979:C:O2'	29:X:1980:A:O5'	2.36	0.42
29:X:1250:A:O2'	29:X:1251:G:C4'	2.67	0.42
29:X:174:A:N1	29:X:175:C:O2	2.52	0.42
29:X:2240:C:N3	29:X:2241:U:C5	2.87	0.42
29:X:577:U:O4	29:X:984:A:OP2	2.37	0.42
29:X:2484:G:C6	29:X:2555:G:C5	3.06	0.42
29:X:2786:G:C6	29:X:2787:A:C5	3.08	0.42
29:X:2617:G:C5	29:X:2755:A:C6	3.07	0.42
29:X:1337:G:C5	29:X:1341:G:O6	2.72	0.42
29:X:212:U:O2	29:X:443:A:C2	2.72	0.42
29:X:1391:A:O2'	29:X:1392:U:OP1	2.36	0.42
24:S:114:ASP:HB2	24:S:172:LEU:HD12	2.01	0.42
29:X:1159:U:O2'	29:X:1160:C:H5'	2.20	0.42
13:H:12:ASP:OD1	13:H:12:ASP:C	2.58	0.42
4:4:18:ARG:HG3	29:X:1045:G:H5'	2.00	0.42
7:B:141:ILE:CG2	7:B:154:LYS:NZ	2.82	0.42
23:R:95:ARG:HG3	23:R:95:ARG:NH1	2.33	0.42
29:X:1296:G:H2'	29:X:1298:G:OP2	2.19	0.42
7:B:156:MET:CE	29:X:2033:C:H1'	2.50	0.42
12:G:139:ARG:HB2	29:X:567:G:OP1	2.19	0.42
29:X:760:U:C1'	30:Y:3:LYS:HE3	2.49	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:807:A:C4	29:X:808:C:C5	3.07	0.42
29:X:1505:U:H3'	29:X:1505:U:C6	2.53	0.42
4:4:19:ARG:HH11	4:4:19:ARG:HG3	1.84	0.42
10:E:139:GLN:O	10:E:143:GLN:HG3	2.18	0.42
29:X:796:A:O3'	29:X:2567:G:H5''	2.19	0.42
31:Z:52:G:N2	31:Z:53:G:H1'	2.33	0.42
29:X:862:A:C2'	29:X:863:C:H6	2.17	0.42
26:U:49:LYS:HB2	26:U:62:LEU:N	2.35	0.42
29:X:2074:U:C4	29:X:2075:U:C4	3.08	0.42
7:B:8:LYS:HD3	7:B:190:GLY:O	2.19	0.42
13:H:83:ARG:HE	18:M:40:ARG:NH1	2.17	0.42
11:F:25:PRO:HB2	11:F:29:GLN:OE1	2.20	0.42
11:F:27:LEU:HD22	11:F:57:ILE:CD1	2.41	0.42
8:C:147:LYS:O	8:C:183:HIS:HB3	2.19	0.42
15:J:19:THR:HB	31:Z:93:G:H5'	2.00	0.42
12:G:67:ARG:CB	12:G:70:PHE:HA	2.30	0.42
19:N:94:VAL:O	19:N:95:LEU:C	2.57	0.42
20:O:13:ARG:C	20:O:14:VAL:HG23	2.38	0.42
29:X:1118:G:C2'	29:X:1119:U:C5'	2.80	0.42
29:X:718:A:C8	29:X:740:A:C4	3.07	0.42
29:X:1924:C:C4	29:X:1925:C:N4	2.87	0.42
29:X:428:A:C2	29:X:429:C:C2	3.07	0.42
29:X:1737:G:C4	29:X:1738:U:C5	3.07	0.42
27:V:4:SER:HB3	27:V:7:ARG:NE	2.35	0.42
15:J:76:THR:HG22	15:J:89:GLY:C	2.40	0.42
22:Q:92:ALA:O	22:Q:93:GLY:C	2.57	0.42
29:X:188:G:C2	29:X:189:A:C4	3.08	0.42
29:X:1214:C:O2	29:X:1259:A:C2	2.72	0.42
11:F:100:ASN:H	11:F:103:GLN:HE22	1.65	0.42
11:F:139:GLU:HG2	11:F:140:GLY:N	2.34	0.42
24:S:71:MET:O	24:S:71:MET:CE	2.68	0.42
29:X:417:C:N3	29:X:419:G:C6	2.87	0.42
24:S:26:LYS:HE3	24:S:26:LYS:HB2	1.75	0.42
9:D:58:ALA:O	9:D:62:LEU:CA	2.64	0.42
29:X:1490:U:H2'	29:X:1491:C:C6	2.45	0.42
6:A:79:VAL:CG1	6:A:113:VAL:HA	2.49	0.42
29:X:994:A:HO2'	29:X:995:A:P	2.38	0.42
19:N:17:VAL:O	19:N:18:LEU:C	2.55	0.42
29:X:2613:A:O2'	29:X:2614:A:H5'	2.19	0.42
29:X:127:C:H2'	29:X:128:C:C6	2.55	0.42
29:X:1025:A:H2'	29:X:1026:U:C6	2.54	0.42
29:X:2738:A:H2'	29:X:2739:G:O4'	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1191:G:C6	29:X:1192:A:C6	3.07	0.42
29:X:1048:U:H6	29:X:1048:U:O5'	2.02	0.42
29:X:829:C:C2	29:X:1206:G:C2	3.07	0.42
29:X:26:G:H1'	29:X:524:A:N6	2.34	0.42
29:X:630:G:H3'	29:X:631:G:H21	1.84	0.42
29:X:695:G:N2	29:X:809:C:C2	2.87	0.42
29:X:1050:G:C2'	29:X:1051:U:H5''	2.50	0.42
6:A:70:ARG:HH21	6:A:189:CYS:HA	1.85	0.42
29:X:2196:U:H2'	29:X:2197:U:N1	2.34	0.42
29:X:2496:C:C6	29:X:2521:A:N7	2.87	0.42
17:L:42:ILE:HD11	17:L:87:VAL:HG13	2.02	0.42
15:J:86:LYS:HE3	25:T:12:ASN:HA	2.00	0.42
18:M:32:THR:CG2	18:M:33:VAL:N	2.82	0.42
26:U:10:LYS:HE2	26:U:11:LYS:HE2	2.02	0.42
29:X:659:G:C6	29:X:660:G:C6	3.07	0.42
29:X:640:C:H4'	29:X:660:G:H21	1.82	0.42
29:X:1467:U:C2'	29:X:1468:A:OP1	2.67	0.42
29:X:729:A:H2'	29:X:730:C:C4'	2.46	0.42
11:F:27:LEU:C	11:F:30:TYR:HD2	2.23	0.42
31:Z:18:G:C2'	31:Z:19:C:H5'	2.50	0.42
29:X:987:G:C2	29:X:988:G:C8	3.07	0.42
9:D:52:LYS:NZ	9:D:149:THR:CA	2.82	0.42
9:D:52:LYS:CE	9:D:56:GLU:OE2	2.67	0.42
9:D:74:ILE:HG12	9:D:80:ARG:CA	2.49	0.42
29:X:1355:A:OP2	29:X:1618:U:O4	2.38	0.42
29:X:1869:A:O2'	29:X:1870:U:H5'	2.19	0.42
21:P:79:ALA:O	21:P:85:MET:CB	2.64	0.42
10:E:72:VAL:C	10:E:74:ASN:N	2.72	0.42
22:Q:92:ALA:C	22:Q:94:GLN:N	2.72	0.42
22:Q:72:ARG:HH22	29:X:1324:G:C3'	2.31	0.42
29:X:1586:A:N6	29:X:1587:A:N6	2.67	0.42
29:X:1391:A:H1'	29:X:1392:U:C5	2.54	0.42
19:N:39:LEU:HA	19:N:42:ALA:CB	2.49	0.42
6:A:59:LYS:O	29:X:1584:G:C4'	2.68	0.42
29:X:1687:C:H2'	29:X:1688:U:O4'	2.20	0.42
29:X:2257:A:H2'	29:X:2258:G:H5'	2.01	0.42
8:C:34:GLN:OE1	8:C:176:ASN:OD1	2.37	0.42
12:G:101:THR:CG2	12:G:102:ARG:N	2.81	0.42
21:P:35:PRO:HA	21:P:122:SER:OG	2.19	0.42
14:I:13:ARG:NE	29:X:1218:C:H1'	2.29	0.42
29:X:1256:C:H2'	29:X:1257:U:H6	1.84	0.42
29:X:2003:A:O2'	29:X:2004:U:H3'	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2594:U:O2	29:X:2595:C:C5	2.73	0.42
29:X:322:A:O2'	29:X:343:A:C5'	2.67	0.42
29:X:341:A:O2'	29:X:342:G:OP1	2.38	0.42
29:X:463:C:O2	29:X:465:C:N4	2.53	0.42
29:X:807:A:H2'	29:X:808:C:C6	2.55	0.42
29:X:830:C:H2'	29:X:831:G:O4'	2.19	0.42
6:A:172:TYR:CZ	6:A:186:HIS:HB3	2.52	0.42
6:A:200:GLU:O	6:A:202:LYS:N	2.52	0.42
18:M:67:THR:OG1	18:M:80:VAL:HG22	2.20	0.42
29:X:1723:U:O2'	29:X:1724:C:P	2.78	0.42
9:D:34:ILE:CD1	9:D:156:ILE:HG12	2.49	0.42
29:X:2301:A:H2'	29:X:2302:G:C8	2.50	0.42
18:M:25:PRO:HB3	18:M:93:ILE:CD1	2.48	0.42
29:X:837:U:H1'	29:X:2337:A:N7	2.35	0.42
13:H:116:ARG:NH1	18:M:38:LYS:CE	2.83	0.42
24:S:128:ARG:H	24:S:130:ILE:HD11	1.85	0.42
11:F:54:PRO:CB	11:F:70:LYS:HD2	2.50	0.42
29:X:729:A:C4	29:X:729:A:H3'	2.54	0.42
11:F:122:ALA:HA	29:X:1092:U:C5'	2.49	0.42
8:C:147:LYS:O	8:C:184:ASP:N	2.53	0.42
15:J:19:THR:HG21	15:J:99:LYS:NZ	2.33	0.42
12:G:40:ASN:HB3	12:G:78:ASP:OD1	2.19	0.42
19:N:52:ASN:C	19:N:54:LYS:N	2.70	0.42
20:O:26:GLN:CG	20:O:27:GLY:N	2.76	0.42
20:O:21:ARG:HH22	29:X:1005:U:C1'	2.32	0.42
29:X:1101:U:O2	29:X:1113:C:H1'	2.19	0.42
29:X:1376:C:C4	29:X:1377:G:N7	2.86	0.42
29:X:2641:A:O5'	29:X:2641:A:H8	2.03	0.42
29:X:1858:C:H2'	29:X:1859:A:C8	2.54	0.42
23:R:38:LEU:HB2	23:R:47:VAL:HG23	2.00	0.42
9:D:32:GLU:HB3	9:D:157:VAL:HG12	2.01	0.42
29:X:1428:G:H2'	29:X:1429:A:OP2	2.19	0.42
29:X:1363:C:C2'	29:X:1364:C:H5'	2.48	0.42
29:X:2559:U:C5	29:X:2560:G:C5	3.07	0.42
7:B:20:ALA:O	7:B:21:ILE:HG13	2.19	0.42
28:W:37:THR:O	28:W:41:ARG:HG3	2.19	0.42
4:4:4:ARG:HH12	29:X:2456:U:H3	1.68	0.42
6:A:166:GLN:NE2	6:A:176:ARG:NH2	2.67	0.42
29:X:1606:C:H2'	29:X:1607:A:H8	1.85	0.42
29:X:1707:A:C8	29:X:1708:C:C6	3.08	0.42
15:J:67:ILE:HG22	15:J:67:ILE:O	2.18	0.42
23:R:105:ARG:NH1	23:R:112:LYS:CA	2.79	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:23:ILE:HD12	23:R:23:ILE:N	2.27	0.42
29:X:1032:A:C8	29:X:1032:A:C3'	3.03	0.42
29:X:1032:A:O2'	29:X:1134:C:H5''	2.19	0.42
29:X:566:U:C2	29:X:567:G:C8	3.07	0.42
29:X:629:C:H2'	29:X:630:G:O4'	2.19	0.42
6:A:106:LEU:HA	6:A:106:LEU:HD23	1.71	0.42
6:A:149:PRO:N	6:A:189:CYS:SG	2.92	0.42
29:X:1791:C:C5'	29:X:1792:C:OP1	2.66	0.42
6:A:244:ARG:HB3	6:A:252:LYS:HZ3	1.81	0.42
6:A:243:GLY:N	6:A:244:ARG:HH11	2.17	0.42
29:X:1778:U:C2'	29:X:1779:C:H6	2.24	0.42
18:M:104:LEU:HD23	18:M:104:LEU:HA	1.74	0.42
9:D:15:ALA:O	9:D:18:GLN:C	2.58	0.42
17:L:95:LYS:HD3	31:Z:49:C:O2'	2.20	0.42
9:D:129:ASN:ND2	29:X:2282:G:H1'	2.33	0.42
15:J:31:GLY:HA2	15:J:108:ALA:CB	2.49	0.42
18:M:22:ARG:CD	18:M:24:LEU:CD2	2.96	0.42
14:I:89:ASP:O	14:I:91:ASP:N	2.53	0.42
10:E:7:GLN:O	10:E:9:ILE:HG13	2.18	0.42
27:V:25:LEU:CD2	27:V:47:ARG:HG2	2.50	0.42
27:V:6:MET:O	27:V:14:PHE:HE1	2.02	0.42
19:N:89:ASP:OD1	20:O:47:PHE:CB	2.68	0.42
16:K:73:LYS:HA	16:K:76:VAL:HG12	2.00	0.42
22:Q:39:LYS:O	22:Q:42:ILE:CG2	2.67	0.42
29:X:1287:A:N3	29:X:1310:C:H1'	2.35	0.42
29:X:2627:G:C6	29:X:2652:G:C5	3.07	0.42
29:X:177:U:H3'	29:X:178:C:C6	2.54	0.42
29:X:1670:G:C4'	29:X:1671:A:OP1	2.55	0.42
20:O:28:GLU:C	20:O:30:GLY:N	2.71	0.42
29:X:1094:C:O5'	29:X:1094:C:H6	2.02	0.42
22:Q:69:ILE:HB	22:Q:70:GLY:H	1.42	0.42
29:X:1231:A:C5	29:X:1232:U:C4	3.08	0.42
12:G:157:PRO:C	12:G:159:SER:H	2.23	0.42
12:G:51:LEU:HD13	12:G:88:VAL:HG11	2.02	0.42
29:X:210:A:H2'	29:X:211:U:H5'	2.02	0.42
29:X:2810:A:C2	29:X:2853:U:C4	3.07	0.42
29:X:2470:U:O2	29:X:2470:U:C2'	2.63	0.42
16:K:54:THR:HG22	16:K:66:VAL:HG23	2.02	0.42
29:X:599:A:H2'	29:X:600:G:C8	2.55	0.42
29:X:602:C:H2'	29:X:603:C:H6	1.85	0.42
29:X:387:A:C2	29:X:388:G:C8	3.08	0.42
19:N:37:GLN:NE2	29:X:572:G:N3	2.68	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1571:G:N2	29:X:1572:C:C2	2.88	0.42
29:X:2656:G:O2'	29:X:2657:G:H5'	2.19	0.42
21:P:100:GLY:C	21:P:101:PRO:O	2.57	0.42
25:T:14:ARG:O	25:T:15:ASP:HB2	2.19	0.42
29:X:1968:G:O2'	29:X:1969:G:H5'	2.19	0.42
4:4:13:ASN:O	4:4:15:LYS:HG3	2.20	0.42
4:4:15:LYS:O	4:4:17:VAL:HG23	2.19	0.42
8:C:56:ARG:NH1	29:X:814:G:OP2	2.53	0.42
16:K:103:ARG:O	16:K:107:GLY:HA2	2.19	0.42
23:R:25:LEU:HD12	23:R:81:VAL:H	1.82	0.42
29:X:1674:C:O2'	29:X:1675:C:H5'	2.20	0.42
29:X:531:G:N2	29:X:532:A:C4	2.87	0.42
4:4:30:VAL:C	4:4:32:HIS:H	2.23	0.42
29:X:1701:C:C2	29:X:1722:G:N2	2.87	0.42
17:L:29:LEU:HD12	17:L:41:GLN:O	2.19	0.42
17:L:36:LYS:N	17:L:36:LYS:HD2	2.34	0.42
25:T:20:TYR:O	25:T:21:LEU:CG	2.68	0.42
29:X:2309:G:H2'	29:X:2310:G:O4'	2.19	0.42
26:U:11:LYS:NZ	26:U:75:TYR:CG	2.87	0.42
26:U:17:SER:CB	26:U:44:ALA:HA	2.49	0.42
26:U:53:GLU:CB	26:U:56:GLN:O	2.68	0.42
29:X:2399:C:O5'	29:X:2399:C:H6	2.02	0.42
29:X:2324:G:H4'	29:X:2326:C:H5''	2.01	0.42
11:F:11:GLN:HB2	29:X:1072:U:O4	2.19	0.42
10:E:9:ILE:HB	10:E:50:LEU:HB3	2.01	0.42
29:X:1122:A:C2'	29:X:1123:G:H4'	2.50	0.42
29:X:931:G:C5	29:X:932:G:C8	3.08	0.42
29:X:749:C:C2	29:X:750:C:C5	3.08	0.42
12:G:32:TYR:OH	12:G:35:LYS:NZ	2.47	0.42
22:Q:56:MET:SD	29:X:1618:U:O4	2.77	0.42
29:X:2707:G:H2'	29:X:2708:U:C6	2.55	0.42
29:X:1386:A:H5''	29:X:2191:A:H62	1.78	0.42
10:E:115:ILE:HD11	10:E:151:VAL:HG21	2.00	0.42
10:E:126:PRO:CG	10:E:127:GLU:N	2.70	0.42
29:X:953:G:O5'	29:X:953:G:H8	2.03	0.42
24:S:30:VAL:HG12	24:S:31:SER:O	2.20	0.42
29:X:1525:A:H2'	29:X:1526:U:H5'	2.02	0.42
29:X:2703:C:H2'	29:X:2704:U:O5'	2.19	0.42
6:A:96:HIS:CE1	6:A:100:GLY:HA2	2.54	0.42
23:R:60:PRO:C	23:R:62:MET:N	2.73	0.42
27:V:37:LEU:C	27:V:37:LEU:CD2	2.88	0.42
29:X:416:U:H5''	29:X:419:G:H4'	2.01	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1973:C:H6	29:X:1973:C:O5'	2.02	0.42
16:K:27:ALA:O	16:K:30:ARG:N	2.50	0.42
24:S:24:TYR:HB2	24:S:25:ASN:H	1.68	0.42
29:X:1759:A:C6	29:X:1968:G:C6	3.07	0.42
29:X:1496:G:C2'	29:X:1497:C:O5'	2.67	0.42
19:N:12:ARG:HB2	19:N:13:ARG:H	1.67	0.42
23:R:93:ARG:CG	23:R:94:VAL:HG23	2.50	0.42
4:4:36:GLN:NE2	29:X:1135:C:H1'	2.34	0.42
29:X:1299:A:C4	29:X:1342:U:C4	3.07	0.42
29:X:2007:G:O2'	29:X:2008:C:H5'	2.20	0.42
29:X:2005:U:H2'	29:X:2595:C:O2'	2.20	0.42
7:B:154:LYS:HE2	29:X:2598:C:H1'	2.01	0.42
29:X:580:A:C6	29:X:584:A:C8	3.07	0.42
29:X:587:A:H2'	29:X:588:G:H5''	2.01	0.42
21:P:36:ARG:CZ	30:Y:20:ARG:NH1	2.83	0.42
6:A:263:ARG:O	6:A:264:LYS:C	2.58	0.42
29:X:1807:A:OP2	29:X:1814:G:H5''	2.20	0.42
29:X:1790:G:C4	29:X:1811:A:N6	2.88	0.42
8:C:112:GLN:NE2	8:C:188:ILE:HD11	2.34	0.42
29:X:2299:A:C2'	29:X:2312:A:N6	2.83	0.42
29:X:2210:C:O2	29:X:2211:U:C6	2.73	0.42
14:I:117:ALA:CB	14:I:137:GLY:HA3	2.49	0.42
29:X:651:C:N4	29:X:658:G:H1	2.18	0.42
29:X:559:C:O2	29:X:560:G:H1'	2.19	0.42
15:J:99:LYS:HA	15:J:99:LYS:HD2	1.81	0.42
31:Z:15:A:N1	31:Z:71:G:H2'	2.34	0.42
24:S:141:MET:HB3	24:S:171:VAL:HG23	2.01	0.42
20:O:22:VAL:CG2	29:X:1173:G:C4'	2.87	0.42
29:X:1512:A:N3	29:X:1593:C:O2'	2.51	0.42
29:X:2290:A:N1	29:X:2291:U:C4	2.88	0.42
16:K:76:VAL:HA	16:K:79:VAL:CG1	2.50	0.42
29:X:2519:C:H2'	29:X:2520:A:H5'	2.02	0.42
10:E:25:LYS:O	10:E:26:VAL:HG23	2.19	0.42
19:N:32:TYR:O	19:N:33:ARG:C	2.58	0.42
29:X:2624:G:H5''	29:X:2625:U:OP2	2.19	0.42
29:X:6:A:C5	29:X:7:G:N7	2.88	0.42
8:C:39:ARG:HG2	8:C:39:ARG:HH11	1.85	0.42
29:X:1318:A:C2'	29:X:1319:C:O5'	2.67	0.42
20:O:61:VAL:N	20:O:92:ALA:O	2.50	0.42
29:X:137:A:H2'	29:X:138:G:H5'	2.01	0.42
29:X:677:G:C2	29:X:678:G:C8	3.08	0.42
29:X:1629:G:C2'	29:X:1633:C:N4	2.81	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1715:A:H4'	29:X:1716:G:O5'	2.20	0.42
22:Q:57:ASN:OD1	22:Q:76:LYS:HD2	2.20	0.42
29:X:2860:C:C2'	29:X:2861:A:H5'	2.50	0.42
24:S:172:LEU:CD2	24:S:173:PRO:HD2	2.50	0.42
29:X:2027:C:C2	29:X:2604:G:C2	3.07	0.42
29:X:43:A:N1	29:X:44:G:C6	2.88	0.42
29:X:1727:C:H4'	29:X:2833:C:N3	2.34	0.42
29:X:1030:U:H5''	29:X:1132:C:O2	2.19	0.42
29:X:1876:C:C5	29:X:1877:C:C5	3.08	0.42
7:B:134:TRP:CD1	7:B:134:TRP:N	2.72	0.42
8:C:137:ALA:HB1	8:C:142:LEU:HB2	2.02	0.42
8:C:161:ALA:CB	8:C:169:VAL:CG2	2.98	0.42
12:G:105:GLY:O	12:G:110:LEU:CD1	2.64	0.42
23:R:15:HIS:CE1	23:R:16:PHE:CE2	3.08	0.42
23:R:48:VAL:C	23:R:50:GLY:N	2.73	0.42
29:X:1153:A:O2'	29:X:1154:A:O5'	2.38	0.42
14:I:8:PRO:C	29:X:1218:C:HO2'	2.23	0.42
29:X:21:A:N1	29:X:530:G:C6	2.88	0.42
29:X:346:C:O2	29:X:347:C:C6	2.73	0.42
29:X:33:C:O2	29:X:466:A:C2	2.73	0.42
10:E:140:LEU:HD23	10:E:140:LEU:HA	1.84	0.42
6:A:250:TRP:O	6:A:255:LYS:CE	2.68	0.42
8:C:117:LEU:HD23	8:C:117:LEU:O	2.20	0.42
29:X:2312:A:O2'	29:X:2313:G:P	2.78	0.42
26:U:33:LYS:HD3	29:X:2375:G:H1'	2.01	0.42
29:X:923:A:H2	29:X:2256:G:N3	2.17	0.42
24:S:13:LYS:CB	24:S:13:LYS:HZ2	2.31	0.42
26:U:46:LEU:HA	26:U:47:HIS:CE1	2.54	0.42
29:X:1873:A:H4'	29:X:2069:U:H4'	2.02	0.42
13:H:47:VAL:CG1	13:H:117:GLU:HB3	2.50	0.42
24:S:139:THR:O	24:S:140:LYS:C	2.57	0.42
19:N:75:ASN:ND2	19:N:77:SER:HB3	2.34	0.42
9:D:53:ALA:O	9:D:56:GLU:HB2	2.20	0.42
29:X:788:G:H5'	29:X:790:A:O4'	2.20	0.42
29:X:2814:G:C5	29:X:2815:C:C4	3.07	0.42
29:X:2869:U:H2'	29:X:2870:C:O4'	2.20	0.42
29:X:2057:U:H5'	29:X:2058:U:OP2	2.19	0.42
29:X:403:A:H4'	29:X:404:A:C5'	2.50	0.42
16:K:97:ILE:HA	16:K:112:LEU:O	2.20	0.42
29:X:1888:C:H2'	29:X:1913:G:N7	2.35	0.42
4:4:31:LYS:H	4:4:31:LYS:HD2	1.81	0.42
29:X:1992:G:O2'	29:X:1993:G:H5'	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:783:G:C6	29:X:784:U:N3	2.87	0.42
29:X:1125:G:O2'	29:X:1126:A:H5'	2.20	0.42
29:X:2534:U:C5	29:X:2535:C:C2	3.07	0.42
7:B:154:LYS:HE3	29:X:2598:C:H1'	2.02	0.42
8:C:173:ALA:C	8:C:175:VAL:N	2.72	0.42
29:X:1147:G:O2'	29:X:2022:C:H5''	2.20	0.42
29:X:328:A:O2'	29:X:329:C:H5'	2.20	0.42
6:A:265:THR:C	6:A:267:ASP:N	2.71	0.42
6:A:209:ALA:HA	29:X:1782:A:H5'	2.02	0.42
29:X:2829:A:H2'	29:X:2830:U:H6	1.83	0.42
9:D:156:ILE:CG2	9:D:158:THR:HG23	2.49	0.42
9:D:92:ARG:HH12	31:Z:46:G:C3'	2.32	0.42
17:L:33:ARG:CZ	17:L:103:LEU:HD12	2.49	0.42
17:L:44:ASP:O	17:L:44:ASP:OD1	2.38	0.42
25:T:41:ARG:NH1	25:T:41:ARG:HG3	2.33	0.42
26:U:27:ASP:CA	26:U:32:ARG:CD	2.95	0.42
26:U:46:LEU:HD23	26:U:46:LEU:N	2.35	0.42
15:J:39:GLU:HA	15:J:40:PRO:HD3	1.74	0.42
9:D:106:ILE:HG23	9:D:110:ARG:HD2	2.01	0.42
9:D:135:GLN:HG3	9:D:151:GLY:N	2.35	0.42
16:K:78:LYS:HG2	16:K:83:VAL:HG12	2.02	0.42
22:Q:39:LYS:O	22:Q:42:ILE:HG23	2.20	0.42
29:X:1445:A:H2'	29:X:1446:U:H6	1.84	0.42
29:X:2054:A:H2'	29:X:2055:G:H8	1.85	0.42
21:P:45:ILE:HD13	21:P:53:ALA:HB1	2.02	0.42
9:D:32:GLU:N	9:D:157:VAL:O	2.49	0.42
9:D:33:LYS:H	9:D:157:VAL:HB	1.85	0.42
29:X:984:A:C8	29:X:1202:U:N3	2.88	0.42
29:X:148:C:H3'	29:X:149:A:H8	1.84	0.42
24:S:4:THR:HB	24:S:57:GLU:CB	2.44	0.42
15:J:17:ARG:NH1	29:X:969:U:C5'	2.75	0.42
29:X:404:A:C5	29:X:405:C:C5	3.07	0.42
29:X:1441:A:O2'	29:X:1442:C:OP2	2.34	0.42
13:H:9:ASP:OD1	13:H:93:ARG:CZ	2.68	0.42
29:X:2792:C:N3	29:X:2805:G:C2	2.88	0.42
29:X:60:A:C6	29:X:61:U:C4	3.07	0.42
29:X:1682:A:C2'	29:X:1683:G:H5'	2.50	0.42
7:B:95:ILE:HA	7:B:95:ILE:HD13	1.65	0.42
29:X:879:A:OP1	29:X:879:A:C8	2.73	0.42
16:K:51:LEU:HD12	16:K:66:VAL:HG22	2.01	0.42
29:X:2542:U:O2	29:X:2544:A:C8	2.70	0.42
29:X:2546:G:O2'	29:X:2547:C:H5'	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:M:70:LYS:HG2	18:M:71:ILE:N	2.34	0.42
29:X:200:A:C6	29:X:435:A:C5	3.08	0.42
18:M:18:GLN:C	18:M:20:HIS:H	2.23	0.42
25:T:11:LYS:H	25:T:11:LYS:HG3	1.77	0.42
8:C:158:ARG:HH11	8:C:158:ARG:CB	2.32	0.41
8:C:50:GLN:CG	8:C:50:GLN:O	2.68	0.41
6:A:264:LYS:HD2	6:A:264:LYS:HA	1.83	0.41
29:X:1778:U:C6	29:X:1779:C:H5	2.38	0.41
9:D:16:LEU:HD22	9:D:20:PHE:CE1	2.55	0.41
17:L:98:GLY:O	17:L:99:ARG:C	2.58	0.41
26:U:23:LYS:HE3	26:U:26:ALA:CA	2.49	0.41
15:J:36:ILE:HA	15:J:102:ARG:O	2.20	0.41
15:J:12:LYS:HD3	29:X:923:A:C5	2.55	0.41
3:3:12:ARG:CA	14:I:62:LYS:HB3	2.50	0.41
14:I:105:PRO:C	14:I:106:VAL:HG23	2.40	0.41
29:X:2381:A:C2'	29:X:2382:C:OP2	2.68	0.41
29:X:612:G:H2'	29:X:668:A:H61	1.85	0.41
29:X:847:C:C2	29:X:848:A:N7	2.88	0.41
27:V:47:ARG:O	27:V:50:VAL:N	2.52	0.41
15:J:23:LYS:HA	24:S:73:LYS:HZ3	1.83	0.41
19:N:117:ARG:HG3	19:N:117:ARG:NH2	2.34	0.41
29:X:1002:C:H2'	29:X:1003:C:H6	1.84	0.41
29:X:2343:C:H2'	29:X:2344:G:H5'	2.02	0.41
29:X:2219:U:O2'	29:X:2220:A:H5'	2.19	0.41
29:X:2707:G:C8	29:X:2707:G:H5'	2.55	0.41
29:X:1247:U:C2'	29:X:1248:G:H5'	2.50	0.41
29:X:1248:G:O5'	29:X:1248:G:H8	2.03	0.41
10:E:109:TYR:HE1	10:E:152:ARG:NE	2.16	0.41
29:X:2217:G:H2'	29:X:2217:G:N3	2.34	0.41
15:J:75:VAL:CG2	15:J:93:TYR:HE2	2.32	0.41
29:X:2440:C:C4	29:X:2441:U:O4	2.72	0.41
29:X:1426:U:O2'	29:X:1427:G:H5'	2.20	0.41
8:C:122:GLY:O	8:C:123:PHE:C	2.58	0.41
20:O:86:HIS:CD2	20:O:87:ARG:N	2.88	0.41
29:X:1200:G:H2'	29:X:1201:G:H8	1.85	0.41
7:B:85:ALA:HB3	7:B:86:PRO:HD2	2.02	0.41
6:A:101:GLU:OE2	6:A:103:ARG:NE	2.53	0.41
21:P:42:VAL:HG12	21:P:42:VAL:O	2.19	0.41
8:C:32:THR:O	8:C:33:TRP:C	2.59	0.41
12:G:132:PHE:CB	12:G:145:HIS:CE1	3.03	0.41
29:X:2029:G:N2	29:X:2030:U:C2	2.88	0.41
29:X:312:G:C4	29:X:313:U:C5	3.08	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:471:A:C2	29:X:481:A:C5	3.08	0.41
29:X:586:G:C6	29:X:587:A:N6	2.87	0.41
29:X:618:A:O2'	29:X:619:A:H5'	2.20	0.41
6:A:160:GLY:N	6:A:196:VAL:CG2	2.84	0.41
8:C:102:LEU:CD2	8:C:106:MET:CE	2.98	0.41
9:D:13:ARG:HG2	9:D:13:ARG:NH2	2.35	0.41
29:X:400:U:H4'	29:X:401:G:O4'	2.19	0.41
28:W:46:THR:HG22	28:W:47:VAL:N	2.35	0.41
29:X:518:A:C4'	29:X:518:A:OP2	2.67	0.41
15:J:119:PHE:HD1	15:J:132:MET:HG3	1.84	0.41
18:M:72:SER:HG	18:M:73:PHE:HD1	1.68	0.41
27:V:50:VAL:CA	27:V:53:LEU:HD12	2.33	0.41
29:X:356:A:H2'	29:X:357:A:N7	2.35	0.41
24:S:72:ASP:N	24:S:77:ALA:O	2.49	0.41
29:X:665:A:C2	29:X:666:U:C6	3.08	0.41
29:X:751:G:O2'	29:X:752:G:OP1	2.35	0.41
12:G:66:HIS:HB3	19:N:67:ALA:O	2.20	0.41
9:D:70:ALA:HB3	9:D:83:MET:H	1.84	0.41
29:X:1495:G:H5'	29:X:1574:A:H2	1.85	0.41
10:E:106:ASN:N	10:E:107:ILE:HD13	2.35	0.41
10:E:131:ILE:CG2	10:E:132:ASP:N	2.82	0.41
29:X:1730:G:C4	29:X:1737:G:N2	2.88	0.41
29:X:117:A:H4'	29:X:118:U:O5'	2.20	0.41
29:X:59:G:H1'	29:X:73:A:C2	2.55	0.41
20:O:78:VAL:CG2	29:X:1202:U:H5'	2.50	0.41
21:P:62:ARG:CG	21:P:62:ARG:HH11	2.29	0.41
21:P:71:VAL:HG11	21:P:126:ILE:CG2	2.50	0.41
29:X:1426:U:H2'	29:X:1427:G:C5'	2.50	0.41
12:G:57:LEU:CD2	12:G:170:PRO:HA	2.51	0.41
29:X:404:A:C6	29:X:405:C:N3	2.87	0.41
29:X:2261:G:H5'	29:X:2262:C:O5'	2.20	0.41
29:X:439:C:O2'	29:X:440:U:H5'	2.19	0.41
29:X:1693:A:N6	29:X:1694:A:C6	2.88	0.41
29:X:767:G:O2'	29:X:768:U:H5'	2.20	0.41
31:Z:68:A:C2	31:Z:111:C:C2	3.09	0.41
29:X:973:U:O2'	29:X:974:U:H5'	2.19	0.41
6:A:59:LYS:CG	29:X:1584:G:H4'	2.50	0.41
19:N:40:LEU:HA	19:N:40:LEU:HD23	1.80	0.41
21:P:82:ASN:ND2	29:X:505:G:N3	2.68	0.41
31:Z:23:G:C6	31:Z:24:U:C4	3.08	0.41
24:S:55:THR:HG22	24:S:55:THR:O	2.19	0.41
8:C:130:THR:HA	8:C:160:ALA:HB1	2.01	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1217:U:H2'	29:X:1218:C:H6	1.85	0.41
29:X:2041:A:O5'	29:X:2041:A:H8	2.03	0.41
29:X:308:C:H2'	29:X:309:G:O4'	2.20	0.41
29:X:351:A:C6	29:X:352:G:C4	3.08	0.41
29:X:628:A:H2'	29:X:629:C:O4'	2.20	0.41
29:X:815:A:C4	29:X:816:U:C5	3.08	0.41
6:A:133:LEU:HB2	6:A:187:SER:HA	2.03	0.41
6:A:258:LYS:HZ2	6:A:261:ARG:HH21	1.67	0.41
6:A:209:ALA:HB2	29:X:1781:C:C2'	2.49	0.41
17:L:10:LYS:HB2	17:L:14:ARG:NH2	2.15	0.41
25:T:43:THR:HG22	25:T:46:LYS:HG2	2.02	0.41
14:I:83:LEU:HA	14:I:83:LEU:HD23	1.80	0.41
11:F:51:ALA:CB	11:F:72:PRO:HB2	2.51	0.41
27:V:1:MET:O	27:V:6:MET:HE1	2.20	0.41
31:Z:16:U:HO2'	31:Z:17:A:P	2.42	0.41
19:N:78:THR:O	19:N:81:ASN:N	2.53	0.41
26:U:41:VAL:CG2	26:U:43:ARG:NH2	2.81	0.41
29:X:219:G:H2'	29:X:231:G:C6	2.55	0.41
29:X:2781:G:C3'	29:X:2782:G:H5''	2.49	0.41
13:H:28:GLY:O	13:H:35:THR:OG1	2.38	0.41
13:H:41:ASN:O	13:H:42:LYS:C	2.58	0.41
29:X:2626:U:O2'	29:X:2627:G:H5'	2.20	0.41
10:E:102:ALA:HB1	10:E:115:ILE:O	2.21	0.41
10:E:89:LEU:HD11	10:E:96:ALA:HB2	2.02	0.41
21:P:9:ARG:HB3	21:P:13:GLN:HB2	2.02	0.41
23:R:18:LYS:C	23:R:36:VAL:HB	2.40	0.41
29:X:1526:U:H2'	29:X:1527:G:C8	2.55	0.41
29:X:1697:U:H2'	29:X:1698:C:O4'	2.20	0.41
24:S:43:PHE:CD1	24:S:66:VAL:HG21	2.55	0.41
11:F:98:LYS:HE2	11:F:139:GLU:HB2	2.01	0.41
14:I:126:SER:O	14:I:130:ILE:HG13	2.20	0.41
24:S:71:MET:CE	24:S:71:MET:H	2.33	0.41
13:H:100:ASN:C	13:H:102:GLN:H	2.23	0.41
9:D:46:ASP:O	9:D:50:ILE:HG13	2.20	0.41
29:X:2611:A:C2	29:X:2767:C:C2	3.08	0.41
29:X:2670:C:C6	29:X:2847:G:C6	3.08	0.41
29:X:1991:C:H2'	29:X:1992:G:C8	2.51	0.41
11:F:63:ARG:N	11:F:63:ARG:CD	2.83	0.41
29:X:18:U:H6	29:X:18:U:O5'	2.04	0.41
6:A:151:LYS:HD2	6:A:151:LYS:HA	1.87	0.41
29:X:123:A:O4'	29:X:123:A:OP1	2.38	0.41
29:X:102:C:C5	29:X:103:U:C4	3.08	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2528:G:C2	29:X:2529:G:C8	3.08	0.41
29:X:803:C:H4'	29:X:804:C:OP1	2.15	0.41
29:X:53:G:C6	29:X:115:G:N2	2.89	0.41
10:E:164:PHE:O	10:E:165:VAL:C	2.58	0.41
9:D:24:SER:OG	31:Z:57:U:O3'	2.37	0.41
29:X:2731:G:N3	29:X:2731:G:O4'	2.53	0.41
8:C:47:THR:HA	8:C:82:VAL:O	2.21	0.41
23:R:84:VAL:HG22	23:R:90:LYS:N	2.35	0.41
23:R:93:ARG:HH22	23:R:108:VAL:HG12	1.85	0.41
29:X:2006:G:H5'	29:X:2596:C:H4'	2.02	0.41
29:X:21:A:H2'	29:X:22:C:C6	2.54	0.41
29:X:459:A:C2	29:X:466:A:C8	3.09	0.41
6:A:126:LYS:O	6:A:129:ASN:HB2	2.21	0.41
6:A:148:VAL:C	6:A:189:CYS:SG	2.99	0.41
4:4:25:VAL:CB	4:4:34:GLN:HB2	2.48	0.41
6:A:244:ARG:HE	6:A:244:ARG:HB2	1.69	0.41
29:X:1781:C:H2'	29:X:1782:A:C5	2.55	0.41
18:M:104:LEU:HD23	18:M:106:TYR:HE2	1.84	0.41
25:T:40:GLN:NE2	25:T:57:HIS:HB3	2.29	0.41
29:X:2301:A:O2'	29:X:2302:G:H5'	2.21	0.41
29:X:1129:A:C6	29:X:1130:U:N3	2.89	0.41
26:U:17:SER:HB2	26:U:44:ALA:CA	2.50	0.41
7:B:77:ILE:O	7:B:78:LEU:HD23	2.19	0.41
14:I:107:LYS:HB2	14:I:107:LYS:HE2	1.87	0.41
13:H:83:ARG:HD2	13:H:89:ILE:HD11	2.01	0.41
29:X:1933:G:N7	29:X:1934:U:C5	2.88	0.41
11:F:13:PRO:HG3	11:F:52:ILE:CD1	2.50	0.41
10:E:69:ARG:O	10:E:70:THR:C	2.57	0.41
29:X:2082:C:C2'	29:X:2083:G:H5''	2.50	0.41
29:X:2799:C:N3	29:X:2800:C:C2	2.89	0.41
24:S:116:VAL:HG12	24:S:117:VAL:CG1	2.50	0.41
19:N:75:ASN:ND2	19:N:78:THR:H	2.18	0.41
20:O:39:PHE:CE1	20:O:46:VAL:HB	2.56	0.41
9:D:71:LYS:C	9:D:73:SER:N	2.74	0.41
29:X:2779:C:C6	29:X:2779:C:C3'	3.03	0.41
29:X:1042:G:H2'	29:X:1043:A:H8	1.85	0.41
25:T:3:HIS:CG	25:T:4:LYS:N	2.89	0.41
29:X:1939:U:H2'	29:X:1939:U:O2	2.19	0.41
29:X:1438:G:H2'	29:X:1439:G:C8	2.56	0.41
6:A:210:GLY:O	6:A:213:ARG:HB2	2.20	0.41
29:X:1658:A:N6	29:X:1659:G:C2	2.88	0.41
29:X:820:U:H2'	29:X:821:A:C8	2.49	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:G:50:PRO:HD3	29:X:1152:C:H42	1.85	0.41
8:C:177:VAL:O	8:C:180:ILE:HG23	2.20	0.41
8:C:61:GLN:CD	29:X:688:A:H4'	2.40	0.41
29:X:2434:G:N1	29:X:2477:C:N4	2.69	0.41
29:X:312:G:C6	29:X:328:A:C6	3.08	0.41
29:X:584:A:OP1	29:X:584:A:H8	2.04	0.41
29:X:618:A:C2	29:X:619:A:C4	3.08	0.41
29:X:630:G:H3'	29:X:631:G:N2	2.36	0.41
29:X:812:G:C6	29:X:813:A:C6	3.08	0.41
29:X:1997:A:O2'	30:Y:3:LYS:HE2	2.20	0.41
29:X:2564:U:H4'	29:X:2565:C:OP1	2.21	0.41
29:X:2566:A:N6	29:X:2587:G:H1'	2.35	0.41
17:L:10:LYS:HB3	17:L:14:ARG:HE	1.85	0.41
17:L:14:ARG:HH12	29:X:2274:C:H5	1.69	0.41
29:X:1845:A:N3	29:X:2212:U:O2'	2.45	0.41
29:X:2070:G:C6	29:X:2212:U:N3	2.89	0.41
29:X:640:C:N4	29:X:641:G:O6	2.54	0.41
13:H:116:ARG:CZ	18:M:38:LYS:HD3	2.50	0.41
11:F:11:GLN:HG2	11:F:11:GLN:O	2.21	0.41
11:F:38:THR:C	11:F:42:ASN:HD22	2.23	0.41
10:E:9:ILE:CD1	10:E:51:LEU:HA	2.50	0.41
27:V:42:ARG:CZ	27:V:46:LEU:HD21	2.51	0.41
11:F:12:LEU:HD12	11:F:37:PHE:CZ	2.56	0.41
20:O:13:ARG:CZ	20:O:13:ARG:CB	2.98	0.41
9:D:35:VAL:CG1	9:D:36:VAL:H	2.29	0.41
29:X:1978:U:H3'	29:X:1979:C:C5'	2.30	0.41
29:X:2650:G:C5	29:X:2651:U:C5	3.08	0.41
9:D:146:VAL:HB	9:D:147:ASP:H	1.62	0.41
16:K:60:LEU:O	16:K:63:ARG:HB3	2.20	0.41
29:X:1732:U:H4'	29:X:1733:U:OP2	2.20	0.41
10:E:41:LEU:HD22	10:E:64:LEU:HD22	2.02	0.41
15:J:79:PRO:CG	15:J:88:LYS:HD2	2.49	0.41
29:X:2047:C:H1'	29:X:2429:A:C5	2.56	0.41
29:X:59:G:C5	29:X:62:U:C4	3.09	0.41
14:I:28:LYS:NZ	14:I:37:GLN:N	2.58	0.41
24:S:5:ALA:HB1	24:S:7:PRO:HD3	2.03	0.41
29:X:1424:U:H2'	29:X:1425:G:C8	2.56	0.41
12:G:45:ASP:OD1	12:G:47:SER:N	2.47	0.41
7:B:82:ARG:NH2	29:X:2617:G:OP2	2.53	0.41
29:X:1625:A:C2	29:X:1632:A:C4	3.09	0.41
29:X:210:A:C2'	29:X:211:U:H5'	2.49	0.41
16:K:31:GLU:C	16:K:33:ARG:H	2.22	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1742:G:C2	29:X:1743:C:C4	3.09	0.41
29:X:994:A:O2'	29:X:995:A:P	2.79	0.41
29:X:2684:A:C4	29:X:2685:A:C8	3.08	0.41
6:A:117:VAL:HG13	6:A:128:GLY:O	2.21	0.41
29:X:24:G:C5	29:X:25:U:C5	3.09	0.41
29:X:920:G:C2'	29:X:921:A:O5'	2.69	0.41
29:X:1915:A:H61	29:X:1951:G:H1'	1.85	0.41
23:R:94:VAL:C	23:R:95:ARG:HH11	2.24	0.41
29:X:1149:G:N3	29:X:1154:A:C2	2.77	0.41
29:X:1153:A:C4	29:X:1155:G:C5	3.09	0.41
29:X:1281:A:C2	29:X:1996:A:C4	3.09	0.41
29:X:339:U:O4	29:X:343:A:C8	2.73	0.41
29:X:341:A:O2'	29:X:342:G:P	2.78	0.41
29:X:468:A:H1'	29:X:470:U:C6	2.55	0.41
29:X:524:A:O2'	29:X:525:A:H5'	2.21	0.41
29:X:2201:G:C2	29:X:2202:G:C8	3.09	0.41
10:E:84:THR:HB	10:E:134:SER:CB	2.50	0.41
8:C:22:VAL:HG21	8:C:110:SER:OG	2.20	0.41
29:X:942:U:O2	29:X:942:U:H2'	2.19	0.41
15:J:136:GLU:CA	15:J:138:TYR:CE2	3.04	0.41
15:J:27:TYR:OH	24:S:76:ARG:HG2	2.20	0.41
15:J:66:TYR:CE2	29:X:886:A:H4'	2.55	0.41
24:S:11:LYS:C	24:S:13:LYS:H	2.17	0.41
29:X:2378:G:H2'	29:X:2379:G:O4'	2.19	0.41
29:X:2728:A:H2'	29:X:2729:A:H8	1.86	0.41
29:X:1473:U:C2'	29:X:1474:A:OP2	2.68	0.41
27:V:39:GLN:O	27:V:42:ARG:HB3	2.20	0.41
27:V:50:VAL:HA	27:V:53:LEU:CD1	2.34	0.41
29:X:95:G:O2'	29:X:96:C:H5'	2.20	0.41
29:X:930:A:H3'	29:X:930:A:C8	2.55	0.41
29:X:2171:U:C4	29:X:2172:U:C4	3.09	0.41
29:X:2798:A:C5	29:X:2799:C:C5	3.08	0.41
19:N:93:LYS:HG2	29:X:1007:A:O2'	2.20	0.41
9:D:53:ALA:O	9:D:54:ALA:C	2.58	0.41
9:D:71:LYS:O	9:D:72:LYS:HB2	2.20	0.41
29:X:2673:G:H2'	29:X:2674:C:H6	1.86	0.41
10:E:95:ARG:O	10:E:106:ASN:HB3	2.20	0.41
10:E:64:LEU:CA	10:E:67:LEU:HB2	2.49	0.41
15:J:80:ALA:C	15:J:81:GLU:OE1	2.59	0.41
23:R:17:LYS:HB3	23:R:18:LYS:NZ	2.36	0.41
29:X:1982:C:O2	29:X:2666:U:O2'	2.30	0.41
21:P:29:LYS:O	21:P:30:TYR:HB2	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2441:U:N3	29:X:2442:C:C5	2.89	0.41
29:X:184:A:H2'	29:X:185:C:O4'	2.21	0.41
8:C:191:ALA:O	8:C:192:ALA:C	2.57	0.41
6:A:48:ARG:CZ	6:A:48:ARG:HB3	2.50	0.41
10:E:158:HIS:NE2	29:X:2638:G:OP1	2.41	0.41
29:X:447:U:O2'	29:X:448:C:C5	2.72	0.41
29:X:242:A:H2'	29:X:243:G:C1'	2.50	0.41
22:Q:12:ILE:O	22:Q:13:SER:OG	2.37	0.41
7:B:16:LYS:O	7:B:17:ASN:HB2	2.20	0.41
24:S:125:PRO:CG	24:S:126:GLY:N	2.83	0.41
21:P:49:SER:C	21:P:51:GLN:N	2.73	0.41
29:X:1164:C:O2'	29:X:1165:G:H5'	2.20	0.41
29:X:2513:A:C6	29:X:2514:G:C8	3.09	0.41
12:G:96:ASP:OD1	12:G:97:ASP:HB2	2.21	0.41
23:R:84:VAL:CA	23:R:90:LYS:HD3	2.24	0.41
29:X:1211:G:N2	29:X:1263:G:C5	2.89	0.41
29:X:318:G:H21	29:X:341:A:H62	1.69	0.41
29:X:541:C:O2'	29:X:542:A:P	2.79	0.41
6:A:186:HIS:N	6:A:186:HIS:ND1	2.69	0.41
6:A:218:LYS:CD	6:A:218:LYS:O	2.69	0.41
6:A:227:ASN:HD21	29:X:797:A:C5'	2.34	0.41
13:H:90:ARG:NH2	18:M:78:GLU:CD	2.71	0.41
17:L:104:ALA:O	17:L:107:ALA:N	2.54	0.41
17:L:33:ARG:NH1	17:L:99:ARG:O	2.54	0.41
17:L:99:ARG:HG2	31:Z:51:G:OP1	2.21	0.41
26:U:23:LYS:HD2	26:U:35:THR:CB	2.50	0.41
15:J:125:LYS:HB2	29:X:2463:G:H1'	2.03	0.41
26:U:50:ALA:HB3	26:U:52:ARG:NH2	2.24	0.41
26:U:53:GLU:HB3	26:U:58:LYS:N	2.36	0.41
7:B:31:CYS:HA	7:B:32:PRO:HD3	1.75	0.41
29:X:2373:C:H2'	29:X:2374:C:H6	1.84	0.41
29:X:657:A:N3	29:X:2329:C:O2'	2.47	0.41
29:X:2328:G:H8	29:X:2328:G:OP2	2.03	0.41
29:X:1081:A:C5	29:X:1108:U:H4'	2.56	0.41
27:V:48:ARG:NE	29:X:75:C:OP1	2.53	0.41
11:F:25:PRO:CG	11:F:26:ALA:N	2.83	0.41
8:C:163:ASN:O	8:C:164:VAL:O	2.38	0.41
20:O:9:GLY:O	20:O:10:LYS:CB	2.67	0.41
29:X:1170:U:O2'	29:X:1171:A:H5'	2.21	0.41
29:X:1509:A:C2'	29:X:1510:A:H5'	2.49	0.41
16:K:76:VAL:O	16:K:79:VAL:HG12	2.19	0.41
7:B:11:MET:HG2	7:B:24:THR:OG1	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1494:G:H2'	29:X:1495:G:O4'	2.21	0.41
29:X:1313:U:O2'	29:X:1314:A:OP2	2.36	0.41
10:E:18:ASN:C	10:E:20:GLN:N	2.73	0.41
20:O:29:ALA:O	20:O:30:GLY:C	2.57	0.41
10:E:106:ASN:H	10:E:107:ILE:HD13	1.85	0.41
29:X:204:A:N7	29:X:2386:G:H5'	2.36	0.41
10:E:24:PHE:CD1	10:E:24:PHE:N	2.88	0.41
24:S:45:GLN:HB2	24:S:46:GLN:H	1.71	0.41
24:S:46:GLN:O	24:S:47:SER:C	2.59	0.41
7:B:131:SER:C	7:B:132:LYS:CG	2.80	0.41
29:X:887:G:O2'	29:X:888:G:H5'	2.20	0.41
16:K:38:LEU:O	16:K:41:ALA:HB3	2.20	0.41
6:A:61:LEU:HD23	6:A:61:LEU:HA	1.81	0.41
10:E:148:VAL:O	10:E:150:LYS:N	2.53	0.41
20:O:25:LEU:HG	20:O:32:LYS:HZ3	1.85	0.41
14:I:134:GLU:C	14:I:136:ALA:N	2.74	0.41
29:X:1547:U:H2'	29:X:1548:U:H6	1.85	0.41
29:X:1707:A:C8	29:X:1708:C:C5	3.09	0.41
9:D:144:ASP:O	9:D:145:MET:HG2	2.20	0.41
18:M:87:LEU:HD13	18:M:87:LEU:O	2.20	0.41
8:C:33:TRP:CH2	8:C:100:ARG:HD2	2.55	0.41
29:X:340:G:OP1	29:X:340:G:H3'	2.20	0.41
29:X:760:U:C4	30:Y:3:LYS:CG	2.95	0.41
29:X:1053:G:O6	29:X:1124:U:O4	2.39	0.41
6:A:108:PRO:HG2	6:A:111:LEU:HG	2.02	0.41
6:A:67:PHE:CE1	6:A:157:ARG:NH2	2.89	0.41
29:X:1794:A:H2'	29:X:1795:C:H5'	2.02	0.41
29:X:1811:A:HO2'	29:X:1812:U:P	2.44	0.41
29:X:2505:G:H5'	29:X:2722:C:O2'	2.20	0.41
29:X:2587:G:C8	29:X:2587:G:H3'	2.56	0.41
9:D:167:ARG:O	9:D:168:ALA:C	2.58	0.41
29:X:2299:A:O2'	29:X:2312:A:N6	2.54	0.41
29:X:2309:G:O2'	29:X:2310:G:H5'	2.21	0.41
29:X:861:G:N2	29:X:943:U:H1'	2.36	0.41
29:X:516:G:O2'	29:X:517:A:C8	2.50	0.41
15:J:69:ILE:HG21	15:J:104:MET:HA	1.98	0.41
15:J:119:PHE:HA	15:J:122:ALA:HB3	2.02	0.41
15:J:104:MET:CE	15:J:130:THR:HG21	2.50	0.41
15:J:70:PHE:CG	29:X:884:C:H4'	2.56	0.41
24:S:36:ARG:C	24:S:40:ASP:OD2	2.59	0.41
14:I:88:PHE:O	14:I:93:LEU:HB2	2.21	0.41
29:X:656:U:C2'	29:X:657:A:OP2	2.69	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:O:35:LEU:CD2	20:O:36:LYS:N	2.84	0.41
29:X:1006:C:HO2'	29:X:1007:A:C5'	2.34	0.41
29:X:1166:A:C3'	29:X:1167:A:H5''	2.50	0.41
28:W:7:ARG:HD3	29:X:999:A:OP1	2.21	0.41
9:D:61:THR:HG22	9:D:99:PHE:CE2	2.56	0.41
9:D:79:LEU:HA	9:D:80:ARG:NH1	2.34	0.41
29:X:1355:A:H1'	29:X:1410:U:H4'	2.02	0.41
29:X:2519:C:C2'	29:X:2520:A:H5'	2.50	0.41
10:E:77:LYS:HA	10:E:80:SER:CB	2.51	0.41
29:X:2472:U:H2'	29:X:2473:G:O4'	2.20	0.41
29:X:2229:G:H2'	29:X:2475:C:OP1	2.21	0.41
29:X:2701:A:O2'	29:X:2702:G:H5'	2.21	0.41
29:X:1981:A:O3'	29:X:2704:U:H4'	2.20	0.41
29:X:2510:A:N6	29:X:2511:G:C6	2.88	0.41
29:X:620:G:C4	29:X:621:U:C5	3.09	0.41
29:X:1569:A:C4	29:X:1571:G:C8	3.09	0.41
29:X:1687:C:OP2	29:X:1688:U:O4	2.39	0.41
29:X:1879:G:H2'	29:X:1880:G:O4'	2.21	0.41
29:X:1759:A:N1	29:X:1968:G:C6	2.89	0.41
29:X:2733:A:O5'	29:X:2733:A:H8	2.04	0.41
16:K:71:HIS:ND1	16:K:71:HIS:N	2.68	0.41
8:C:23:ASN:C	8:C:27:LEU:HD12	2.41	0.41
19:N:25:TRP:CE3	19:N:26:GLY:CA	3.03	0.41
29:X:1142:G:O2'	29:X:1143:A:O5'	2.39	0.41
29:X:1211:G:C2	29:X:1263:G:C5	3.09	0.41
29:X:1281:A:H2'	29:X:1282:A:O4'	2.20	0.41
29:X:2433:G:C5	29:X:2434:G:N7	2.89	0.41
29:X:760:U:H1'	30:Y:3:LYS:HE3	2.01	0.41
8:C:137:ALA:HA	8:C:142:LEU:HD12	2.03	0.41
8:C:60:GLY:O	8:C:62:LYS:N	2.54	0.41
8:C:67:ALA:O	8:C:68:ARG:HB3	2.21	0.41
12:G:125:ARG:O	12:G:126:VAL:C	2.59	0.41
14:I:9:THR:OG1	14:I:13:ARG:CZ	2.69	0.41
19:N:4:ALA:HB3	29:X:1262:U:H5''	2.02	0.41
29:X:1299:A:C6	29:X:1302:C:C4	3.09	0.41
29:X:1672:A:H3'	29:X:1673:C:C5	2.55	0.41
29:X:33:C:O2'	29:X:34:U:O4'	2.39	0.41
6:A:124:GLU:CB	6:A:126:LYS:HD2	2.51	0.41
29:X:1505:U:C6	29:X:1505:U:C3'	3.04	0.41
29:X:1811:A:C4	29:X:1813:A:N1	2.89	0.41
6:A:262:LYS:O	6:A:263:ARG:C	2.58	0.41
6:A:88:ARG:O	6:A:89:SER:HB3	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:4:24:LEU:HG	4:4:35:ARG:CG	2.41	0.41
4:4:11:CYS:SG	4:4:32:HIS:CE1	3.14	0.41
4:4:25:VAL:HG12	4:4:25:VAL:O	2.21	0.41
6:A:218:LYS:C	6:A:218:LYS:CD	2.84	0.41
29:X:2281:C:C2	29:X:2282:G:C8	3.09	0.41
9:D:120:ASN:O	9:D:122:PHE:CD1	2.74	0.41
17:L:101:LYS:O	17:L:102:ALA:O	2.38	0.41
17:L:64:LYS:HA	17:L:67:THR:OG1	2.20	0.41
9:D:91:LEU:HB3	9:D:96:MET:HA	2.03	0.41
29:X:492:G:C2'	29:X:493:A:OP2	2.68	0.41
15:J:68:ARG:HE	15:J:103:VAL:HG11	1.86	0.41
24:S:13:LYS:HZ2	24:S:18:MET:CB	2.33	0.41
18:M:22:ARG:CD	18:M:24:LEU:HD21	2.50	0.41
29:X:2209:G:C6	29:X:2210:C:N4	2.89	0.41
14:I:92:THR:O	14:I:95:ALA:N	2.53	0.41
29:X:2394:G:C6	29:X:2395:C:C4	3.08	0.41
29:X:2371:A:C2	29:X:2408:G:C2	3.09	0.41
29:X:643:A:N3	29:X:2382:C:H1'	2.36	0.41
29:X:658:G:H4'	29:X:2330:G:H5''	2.03	0.41
14:I:90:ARG:O	14:I:91:ASP:HB3	2.21	0.41
29:X:2264:C:C4'	29:X:2267:A:C6	3.03	0.41
24:S:89:GLY:C	24:S:127:PRO:HD2	2.41	0.41
24:S:91:PRO:CG	24:S:92:VAL:N	2.84	0.41
27:V:42:ARG:HD2	27:V:42:ARG:HA	1.91	0.41
27:V:47:ARG:O	27:V:48:ARG:C	2.57	0.41
27:V:51:ALA:HB3	29:X:75:C:H4'	2.03	0.41
29:X:730:C:H4'	29:X:731:A:OP1	2.21	0.41
11:F:20:ALA:N	11:F:21:PRO:CD	2.68	0.41
31:Z:70:C:H2'	31:Z:71:G:O4'	2.21	0.41
29:X:872:G:C1'	29:X:2247:A:H1'	2.50	0.41
29:X:2800:C:C5	29:X:2801:A:C8	3.09	0.41
12:G:61:ARG:HH22	12:G:78:ASP:HB2	1.84	0.41
19:N:86:ALA:C	19:N:88:ILE:H	2.22	0.41
20:O:26:GLN:CG	20:O:27:GLY:H	2.09	0.41
9:D:138:PHE:CB	9:D:141:ILE:HG12	2.51	0.41
16:K:94:TYR:CD1	16:K:115:LEU:O	2.74	0.41
29:X:2676:G:C2	29:X:2690:A:C2	3.09	0.41
29:X:1355:A:C2'	29:X:1357:U:OP2	2.69	0.41
29:X:1494:G:HO2'	29:X:1574:A:H2	1.69	0.41
29:X:1309:G:C2'	29:X:1310:C:O5'	2.68	0.41
29:X:2307:A:C2	29:X:2308:A:C5	3.09	0.41
29:X:759:C:C4'	29:X:759:C:C6	3.04	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2649:A:C2	29:X:2650:G:C4	3.09	0.41
29:X:2543:A:C2	29:X:2626:U:C4'	3.03	0.41
21:P:107:ILE:HA	21:P:108:PRO:HD3	1.94	0.41
26:U:39:LYS:HB3	26:U:40:ARG:H	1.59	0.41
29:X:176:A:N6	29:X:2413:A:C5	2.89	0.41
29:X:179:U:H2'	29:X:180:C:O4'	2.21	0.41
29:X:2238:G:C6	29:X:2239:C:C4	3.09	0.41
10:E:28:GLY:HA3	10:E:79:VAL:HB	2.02	0.41
25:T:5:LYS:HD2	25:T:5:LYS:N	2.36	0.41
10:E:20:GLN:O	10:E:21:ASP:HB2	2.20	0.41
29:X:497:C:C4'	29:X:497:C:C6	3.03	0.41
29:X:1737:G:O2'	29:X:1738:U:H5'	2.20	0.41
29:X:2046:C:N3	29:X:2429:A:N6	2.61	0.41
29:X:971:A:H4'	29:X:2436:U:C4'	2.50	0.41
29:X:1526:U:H3'	29:X:1527:G:C8	2.56	0.41
24:S:22:VAL:HG22	24:S:80:HIS:CE1	2.56	0.41
29:X:1429:A:C2'	29:X:1430:G:H4'	2.51	0.41
12:G:153:GLY:CA	12:G:157:PRO:HG2	2.51	0.41
29:X:1438:G:C2	29:X:1591:U:C2	3.09	0.41
29:X:685:U:O2'	29:X:686:C:C5'	2.63	0.41
29:X:1623:C:O2'	29:X:1624:A:OP2	2.34	0.41
29:X:2262:C:H2'	29:X:2263:C:O4'	2.20	0.41
10:E:155:ASP:OD2	10:E:158:HIS:HB2	2.20	0.41
29:X:925:U:C4'	29:X:926:C:OP1	2.63	0.41
29:X:1830:C:N4	29:X:1881:U:H2'	2.36	0.41
29:X:1347:C:H2'	29:X:1348:C:O5'	2.20	0.41
29:X:1695:U:C2'	29:X:1696:C:H5'	2.51	0.41
29:X:1683:G:O2'	29:X:1684:G:H5'	2.21	0.41
20:O:61:VAL:HG23	20:O:94:LYS:N	2.30	0.41
16:K:22:ARG:O	16:K:25:ALA:HB3	2.21	0.41
10:E:172:LYS:CD	29:X:2508:G:OP2	2.69	0.41
29:X:644:A:C8	29:X:645:G:H1'	2.55	0.41
21:P:134:LYS:HD3	29:X:2776:U:O2	2.21	0.41
29:X:1641:C:O2	29:X:1641:C:C2'	2.64	0.41
29:X:2864:C:H2'	29:X:2864:C:O2	2.21	0.41
10:E:148:VAL:C	10:E:150:LYS:N	2.74	0.41
4:4:20:HIS:O	4:4:22:ARG:N	2.53	0.41
29:X:1350:G:H2'	29:X:1351:G:O4'	2.21	0.41
28:W:45:LYS:CE	28:W:45:LYS:HA	2.51	0.41
29:X:2578:G:C2	29:X:2579:A:C8	3.08	0.41
29:X:1414:G:C5	29:X:1415:C:C4	3.09	0.41
29:X:551:A:H2'	29:X:552:C:O4'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:5:6:BB9:O	29:X:1106:A:H1'	2.20	0.41
10:E:175:LYS:HD3	10:E:175:LYS:HA	1.89	0.41
5:5:10:TS9:CD1	29:X:1078:A:H1'	2.51	0.41
29:X:1014:G:C6	29:X:1015:U:C4	3.09	0.41
29:X:1244:U:C2	29:X:1245:G:C8	3.09	0.41
8:C:47:THR:HG23	8:C:84:PHE:H	1.82	0.41
14:I:17:LYS:HE2	29:X:1258:G:OP2	2.21	0.41
23:R:25:LEU:CD1	23:R:81:VAL:N	2.83	0.41
23:R:84:VAL:CG2	23:R:89:GLY:CA	2.94	0.41
29:X:1023:U:O2	29:X:1154:A:H8	2.04	0.41
12:G:130:ALA:CB	29:X:1149:G:OP1	2.69	0.41
29:X:1211:G:C2	29:X:1263:G:C6	3.09	0.41
29:X:2004:U:H4'	29:X:2005:U:OP2	2.15	0.41
29:X:464:G:C6	29:X:465:C:N4	2.89	0.41
29:X:466:A:H4'	29:X:467:U:O5'	2.20	0.41
30:Y:15:LYS:O	30:Y:16:ARG:C	2.57	0.41
30:Y:19:ARG:C	30:Y:21:SER:N	2.70	0.41
6:A:160:GLY:N	6:A:196:VAL:HG23	2.34	0.41
29:X:2187:A:N6	29:X:2188:A:N6	2.69	0.41
6:A:172:TYR:HH	29:X:2202:G:P	2.44	0.41
10:E:143:GLN:HG2	29:X:2725:C:C2'	2.51	0.41
18:M:104:LEU:HA	18:M:106:TYR:HE2	1.82	0.41
17:L:54:ALA:CB	17:L:75:LEU:CA	2.99	0.41
26:U:54:ASN:C	26:U:56:GLN:N	2.58	0.41
7:B:52:ALA:HA	18:M:5:ILE:CG2	2.50	0.41
14:I:71:THR:HG21	14:I:104:ARG:CZ	2.51	0.41
29:X:847:C:H2'	29:X:848:A:O4'	2.21	0.41
13:H:23:ARG:HH22	13:H:25:LEU:N	2.18	0.41
27:V:56:VAL:O	27:V:57:LYS:C	2.59	0.41
19:N:91:ASN:O	19:N:92:ARG:HB2	2.21	0.41
29:X:1514:C:C1'	29:X:1593:C:H4'	2.51	0.41
9:D:175:LEU:CG	9:D:177:PHE:HE1	2.34	0.41
29:X:2691:C:H1'	29:X:2692:A:C8	2.55	0.41
27:V:31:GLN:CA	27:V:34:ALA:HB3	2.49	0.41
29:X:172:A:H2'	29:X:175:C:H42	1.86	0.41
14:I:53:ARG:NE	29:X:227:G:HO2'	2.18	0.41
25:T:3:HIS:HB2	25:T:5:LYS:HE2	2.03	0.41
29:X:1923:U:O2'	29:X:1924:C:P	2.79	0.41
27:V:4:SER:O	27:V:7:ARG:HG3	2.21	0.41
29:X:2869:U:O2'	29:X:2870:C:H5'	2.21	0.41
29:X:2698:G:H2'	29:X:2699:G:H8	1.86	0.41
7:B:109:LYS:NZ	29:X:2703:C:OP1	2.50	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:102:THR:HG22	21:P:104:LYS:HD3	2.01	0.41
12:G:155:THR:CG2	12:G:156:HIS:H	2.24	0.41
29:X:208:C:H2'	29:X:209:G:C5'	2.50	0.41
29:X:417:C:C4	29:X:419:G:C5	3.09	0.41
31:Z:5:C:C2'	31:Z:6:C:O4'	2.68	0.41
8:C:17:LEU:HA	8:C:18:PRO:HD3	1.79	0.41
8:C:77:PHE:O	8:C:79:GLY:N	2.54	0.41
29:X:2332:G:H2'	29:X:2333:A:O4'	2.21	0.41
29:X:1423:A:C2	29:X:1609:G:C2	3.09	0.41
10:E:27:LYS:HA	10:E:32:GLU:HA	2.01	0.41
29:X:1876:C:H2'	29:X:1877:C:H5'	2.02	0.41
29:X:1098:G:H8	29:X:1098:G:P	2.44	0.41
7:B:117:MET:CB	7:B:136:ARG:HG3	2.51	0.40
12:G:141:GLY:O	12:G:144:MET:N	2.55	0.40
21:P:37:LYS:HZ3	21:P:64:ALA:CA	2.34	0.40
23:R:28:LYS:HG2	23:R:29:HIS:CD2	2.55	0.40
23:R:29:HIS:O	23:R:32:GLN:HB2	2.21	0.40
29:X:1145:C:C6	29:X:1147:G:OP1	2.74	0.40
29:X:2557:G:H2'	29:X:2558:C:C6	2.56	0.40
29:X:311:A:C5	29:X:345:U:C4'	3.04	0.40
29:X:825:C:H1'	29:X:1263:G:N2	2.36	0.40
6:A:209:ALA:O	29:X:742:G:N7	2.54	0.40
6:A:214:TRP:CH2	29:X:777:A:P	3.14	0.40
6:A:217:ARG:NH1	29:X:793:G:OP1	2.53	0.40
6:A:245:VAL:N	6:A:252:LYS:HE2	2.36	0.40
29:X:1581:C:O2'	29:X:1582:A:O5'	2.27	0.40
17:L:12:ARG:O	17:L:16:LYS:HB2	2.21	0.40
31:Z:26:G:O3'	31:Z:27:A:O4'	2.40	0.40
9:D:92:ARG:NH1	31:Z:46:G:C5'	2.76	0.40
29:X:939:C:H4'	29:X:940:G:O5'	2.20	0.40
29:X:487:G:N2	29:X:490:A:O4'	2.54	0.40
15:J:135:ARG:HB3	15:J:136:GLU:H	1.72	0.40
15:J:86:LYS:O	15:J:87:GLY:O	2.39	0.40
28:W:3:ILE:CG2	28:W:4:LYS:N	2.84	0.40
29:X:391:C:C2'	29:X:392:G:H5'	2.51	0.40
7:B:27:LEU:HD22	7:B:51:TYR:OH	2.21	0.40
13:H:116:ARG:CZ	18:M:38:LYS:CD	2.98	0.40
29:X:1460:G:C6	29:X:1461:C:C4	3.09	0.40
8:C:144:GLY:HA3	8:C:166:TRP:NE1	2.36	0.40
29:X:664:C:O3'	29:X:665:A:H3'	2.21	0.40
29:X:70:A:C4'	29:X:71:A:H3'	2.46	0.40
20:O:20:ILE:O	20:O:21:ARG:O	2.38	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:1007:A:O2'	29:X:1008:G:H5'	2.22	0.40
29:X:1511:A:H2	29:X:1594:U:H1'	1.85	0.40
22:Q:43:GLN:HA	22:Q:48:VAL:O	2.21	0.40
29:X:1710:U:O2'	29:X:1711:C:P	2.79	0.40
29:X:1850:G:H2'	29:X:1851:A:H8	1.85	0.40
29:X:759:C:C3'	29:X:759:C:C6	3.04	0.40
29:X:172:A:H2'	29:X:175:C:N4	2.35	0.40
29:X:224:G:N2	29:X:227:G:H3'	2.36	0.40
6:A:62:TYR:CE1	29:X:1808:C:H3'	2.56	0.40
29:X:2645:C:H3'	29:X:2646:C:H6	1.84	0.40
29:X:1730:G:N2	29:X:1731:C:H1'	2.37	0.40
29:X:1018:C:C4	29:X:1019:U:H5	2.40	0.40
24:S:39:PHE:CE1	24:S:81:VAL:HG11	2.56	0.40
21:P:28:ALA:HB2	21:P:71:VAL:HG22	2.02	0.40
12:G:154:GLU:O	12:G:157:PRO:CD	2.69	0.40
6:A:73:SER:HB2	6:A:120:GLY:HA3	2.03	0.40
6:A:71:ASP:OD2	6:A:103:ARG:NH1	2.54	0.40
7:B:97:ALA:O	7:B:98:GLU:C	2.57	0.40
29:X:1678:G:C4	29:X:1983:G:N2	2.90	0.40
19:N:5:LYS:HB3	19:N:7:GLY:H	1.86	0.40
8:C:75:PRO:O	29:X:594:G:H4'	2.21	0.40
29:X:760:U:H6	29:X:760:U:O5'	2.04	0.40
6:A:134:ARG:NH2	6:A:135:PHE:CZ	2.85	0.40
6:A:144:ALA:O	6:A:153:ALA:HA	2.21	0.40
29:X:1506:C:H2'	29:X:1507:A:H5'	2.03	0.40
29:X:1807:A:P	29:X:1814:G:H4'	2.61	0.40
29:X:2195:C:C2'	29:X:2196:U:C6	2.84	0.40
6:A:52:ARG:HH11	6:A:247:VAL:HG11	1.87	0.40
6:A:43:ARG:NH1	6:A:43:ARG:CB	2.69	0.40
6:A:52:ARG:HH21	6:A:53:PHE:HZ	1.69	0.40
29:X:1764:A:C2'	29:X:1765:C:H5'	2.49	0.40
9:D:122:PHE:HA	29:X:2282:G:C4'	2.43	0.40
17:L:69:ALA:CB	17:L:106:ALA:HB2	2.51	0.40
29:X:2280:A:C6	29:X:2281:C:N4	2.90	0.40
26:U:62:LEU:HD23	26:U:67:LEU:HG	2.03	0.40
29:X:2209:G:C4	29:X:2210:C:H5	2.40	0.40
7:B:53:PRO:HG2	18:M:6:LYS:NZ	2.35	0.40
18:M:11:GLU:C	18:M:13:LEU:N	2.70	0.40
13:H:83:ARG:HH11	18:M:40:ARG:NE	2.19	0.40
11:F:54:PRO:HB2	11:F:70:LYS:HD2	2.04	0.40
29:X:1477:C:H1'	29:X:2681:A:N3	2.36	0.40
8:C:164:VAL:C	8:C:166:TRP:N	2.74	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:D:106:ILE:CG2	9:D:110:ARG:HD2	2.50	0.40
13:H:108:THR:O	13:H:109:ARG:HB3	2.22	0.40
26:U:40:ARG:HH21	26:U:40:ARG:HG2	1.87	0.40
10:E:89:LEU:HD13	10:E:95:ARG:CA	2.42	0.40
21:P:19:LYS:O	21:P:20:LEU:CB	2.67	0.40
15:J:91:VAL:O	15:J:92:GLU:C	2.58	0.40
29:X:2047:C:C4	29:X:2048:C:N4	2.90	0.40
29:X:2231:G:C6	29:X:2232:G:N7	2.89	0.40
22:Q:69:ILE:HD13	22:Q:70:GLY:N	2.36	0.40
20:O:78:VAL:HG22	29:X:1202:U:C5'	2.51	0.40
29:X:956:A:C5	29:X:2427:A:N1	2.90	0.40
29:X:577:U:O5'	29:X:956:A:N6	2.54	0.40
24:S:51:LEU:CD2	24:S:51:LEU:N	2.74	0.40
12:G:88:VAL:HG22	12:G:89:ALA:H	1.85	0.40
12:G:88:VAL:HG13	12:G:89:ALA:N	2.36	0.40
14:I:56:LEU:C	14:I:58:ALA:O	2.59	0.40
9:D:41:GLY:HA2	9:D:44:LYS:O	2.21	0.40
29:X:2071:G:C5	29:X:2072:C:C5	3.09	0.40
29:X:126:C:C2	29:X:127:C:C5	3.09	0.40
10:E:33:LEU:CG	10:E:34:THR:H	2.34	0.40
29:X:2529:G:C6	29:X:2530:C:C4	3.10	0.40
29:X:2028:C:C2	29:X:2603:G:C2	3.09	0.40
29:X:2718:A:H2'	29:X:2719:U:O5'	2.21	0.40
29:X:1739:G:H2'	29:X:1740:G:C8	2.56	0.40
29:X:1379:A:H2'	29:X:1380:C:C6	2.56	0.40
25:T:9:SER:O	25:T:10:SER:O	2.40	0.40
7:B:56:GLU:C	7:B:58:LYS:H	2.23	0.40
29:X:2377:U:O5'	29:X:2377:U:H6	2.04	0.40
8:C:130:THR:O	8:C:133:PHE:N	2.54	0.40
8:C:33:TRP:O	8:C:36:ALA:HB3	2.21	0.40
23:R:15:HIS:CE1	23:R:16:PHE:HE2	2.40	0.40
12:G:107:GLN:O	29:X:1142:G:P	2.79	0.40
29:X:540:G:O6	29:X:2006:G:OP1	2.40	0.40
29:X:2036:G:N1	29:X:2037:A:C4	2.89	0.40
29:X:2039:G:C5	29:X:2556:A:C4	3.10	0.40
29:X:689:A:N1	29:X:815:A:N1	2.69	0.40
29:X:2594:U:C4	30:Y:6:VAL:O	2.74	0.40
6:A:97:TYR:O	6:A:99:ASP:N	2.55	0.40
6:A:209:ALA:CB	29:X:1781:C:O2'	2.58	0.40
8:C:111:ARG:HA	8:C:111:ARG:HD3	1.86	0.40
17:L:100:VAL:HG13	17:L:101:LYS:N	2.37	0.40
17:L:17:VAL:HB	29:X:2313:G:N2	2.37	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:L:72:GLY:O	17:L:107:ALA:HB2	2.21	0.40
25:T:57:HIS:ND1	25:T:57:HIS:N	2.68	0.40
29:X:2309:G:H2'	29:X:2310:G:H5'	2.01	0.40
29:X:885:A:C5	29:X:918:A:C2	3.09	0.40
14:I:65:PHE:CB	29:X:642:A:O2'	2.69	0.40
14:I:61:PRO:CB	29:X:2372:A:H5''	2.47	0.40
29:X:648:A:H4'	29:X:649:G:C4'	2.52	0.40
29:X:2323:U:C6	29:X:2323:U:C3'	3.04	0.40
29:X:1235:C:H2'	29:X:1236:G:H8	1.85	0.40
11:F:12:LEU:CD1	11:F:37:PHE:HE2	2.34	0.40
29:X:1089:C:O2	29:X:1099:A:H5'	2.21	0.40
15:J:40:PRO:HG3	15:J:99:LYS:NZ	2.36	0.40
25:T:72:LYS:HD3	31:Z:14:C:O5'	2.22	0.40
24:S:99:HIS:HB2	24:S:135:VAL:HA	2.03	0.40
19:N:86:ALA:O	19:N:89:ASP:N	2.54	0.40
19:N:54:LYS:NZ	29:X:1007:A:N7	2.67	0.40
9:D:148:LYS:O	9:D:149:THR:OG1	2.21	0.40
9:D:154:ILE:HD12	9:D:154:ILE:N	2.36	0.40
29:X:2221:G:C2'	29:X:2222:U:O5'	2.69	0.40
29:X:654:A:N3	29:X:655:A:H5'	2.36	0.40
29:X:1251:G:O2'	29:X:1252:C:H5'	2.21	0.40
29:X:739:G:O2'	29:X:740:A:O5'	2.40	0.40
18:M:39:VAL:HA	18:M:45:THR:HG23	2.03	0.40
10:E:38:ASN:ND2	10:E:64:LEU:HD11	2.37	0.40
7:B:37:LYS:CG	7:B:42:ASP:OD1	2.70	0.40
21:P:30:TYR:H	21:P:123:HIS:CE1	2.38	0.40
14:I:78:SER:N	14:I:112:GLY:HA3	2.36	0.40
29:X:1213:U:H2'	29:X:1214:C:O4'	2.22	0.40
29:X:1625:A:H1'	29:X:1632:A:O2'	2.21	0.40
23:R:59:LYS:HA	23:R:62:MET:HG3	2.03	0.40
22:Q:17:TYR:C	22:Q:19:ALA:H	2.24	0.40
29:X:1659:G:H2'	29:X:1660:G:O4'	2.20	0.40
13:H:7:ARG:HH12	13:H:20:MET:HE1	1.86	0.40
16:K:20:LEU:HA	16:K:20:LEU:HD12	1.87	0.40
29:X:674:U:H2'	29:X:675:C:O4'	2.22	0.40
29:X:2605:C:H2'	29:X:2606:G:O4'	2.21	0.40
21:P:118:LYS:HD2	21:P:120:ARG:HH21	1.86	0.40
29:X:1987:G:C4	29:X:1988:A:C8	3.08	0.40
11:F:81:ALA:O	11:F:82:ALA:HB2	2.21	0.40
29:X:55:A:H2'	29:X:56:C:H6	1.86	0.40
29:X:1687:C:OP2	29:X:2529:G:OP1	2.40	0.40
29:X:30:G:O2'	29:X:31:C:H5'	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:488:A:C6	29:X:489:A:C6	3.09	0.40
25:T:55:ARG:HD2	29:X:2363:G:OP1	2.22	0.40
7:B:116:VAL:CG2	7:B:136:ARG:NE	2.74	0.40
8:C:151:VAL:HA	8:C:170:LEU:O	2.22	0.40
8:C:66:ASN:HA	29:X:1268:U:C2	2.56	0.40
21:P:36:ARG:HA	21:P:39:ARG:HD3	2.03	0.40
23:R:105:ARG:HH12	23:R:113:THR:N	2.16	0.40
29:X:1023:U:H3'	29:X:1023:U:H6	1.87	0.40
29:X:2424:G:C6	29:X:2425:G:C5	3.09	0.40
29:X:29:U:H6	29:X:29:U:O5'	2.05	0.40
29:X:312:G:C4	29:X:313:U:C4	3.10	0.40
29:X:36:G:HO2'	29:X:462:G:H2'	1.86	0.40
29:X:2202:G:N2	29:X:2203:G:H1'	2.36	0.40
8:C:116:LYS:O	8:C:117:LEU:CB	2.70	0.40
18:M:105:TYR:O	18:M:107:LEU:N	2.55	0.40
29:X:2827:G:C2	29:X:2828:C:O2	2.74	0.40
17:L:46:SER:OG	17:L:47:ARG:HG3	2.22	0.40
17:L:41:GLN:HG3	17:L:50:THR:HG21	2.03	0.40
17:L:40:ALA:CB	17:L:75:LEU:HD22	2.42	0.40
29:X:936:A:H2'	29:X:937:C:O4'	2.21	0.40
9:D:63:GLN:HG2	31:Z:44:C:O2'	2.21	0.40
29:X:518:A:H4'	29:X:518:A:OP2	2.21	0.40
15:J:122:ALA:HA	15:J:125:LYS:HD3	2.03	0.40
29:X:2326:C:H2'	29:X:2327:U:C5	2.56	0.40
29:X:559:C:H2'	29:X:560:G:C4'	2.52	0.40
29:X:1460:G:N3	29:X:1460:G:H2'	2.36	0.40
29:X:1551:U:OP2	29:X:1553:G:N2	2.48	0.40
29:X:1544:A:N3	29:X:1560:A:C6	2.90	0.40
11:F:120:VAL:O	11:F:121:GLU:C	2.59	0.40
29:X:1082:G:O2'	29:X:1100:G:H3'	2.21	0.40
29:X:872:G:H22	29:X:929:A:P	2.43	0.40
29:X:749:C:N3	29:X:750:C:C5	2.89	0.40
16:K:3:HIS:HB3	16:K:5:LYS:HG3	2.04	0.40
24:S:99:HIS:O	24:S:136:VAL:HB	2.22	0.40
20:O:34:GLU:HB2	20:O:56:VAL:HG23	2.03	0.40
29:X:1514:C:O4'	29:X:1593:C:C5'	2.69	0.40
9:D:79:LEU:CA	9:D:80:ARG:CZ	2.97	0.40
9:D:80:ARG:HG2	9:D:81:GLN:H	1.85	0.40
7:B:11:MET:SD	29:X:2661:G:C8	3.15	0.40
29:X:1226:A:C8	29:X:1250:A:C2	3.09	0.40
13:H:41:ASN:N	13:H:41:ASN:HD22	2.06	0.40
29:X:2811:G:C6	29:X:2812:A:N6	2.90	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2060:A:C5	29:X:2414:A:C5	3.10	0.40
14:I:38:LYS:HB3	29:X:954:U:P	2.62	0.40
12:G:46:ALA:CB	12:G:54:LEU:HD21	2.51	0.40
11:F:101:TRP:O	11:F:104:VAL:CB	2.67	0.40
25:T:69:PHE:CE2	25:T:79:ILE:HG12	2.56	0.40
16:K:99:ARG:HH21	29:X:2792:C:P	2.44	0.40
29:X:46:C:O2'	29:X:47:G:H5'	2.21	0.40
24:S:61:THR:O	24:S:62:PHE:HD2	2.04	0.40
29:X:82:G:N1	29:X:100:G:H2'	2.37	0.40
19:N:18:LEU:HA	19:N:18:LEU:HD13	1.88	0.40
29:X:2860:C:H2'	29:X:2861:A:C5'	2.51	0.40
29:X:2018:G:HO2'	29:X:2019:C:P	2.45	0.40
29:X:17:G:C2	29:X:18:U:N3	2.89	0.40
29:X:2542:U:H1'	29:X:2545:A:C6	2.56	0.40
29:X:2751:C:H2'	29:X:2752:C:C6	2.57	0.40
7:B:141:ILE:HG21	7:B:154:LYS:NZ	2.34	0.40
8:C:47:THR:HG23	8:C:82:VAL:O	2.21	0.40
16:K:103:ARG:NH1	16:K:110:MET:CE	2.85	0.40
23:R:103:LYS:CG	23:R:104:VAL:N	2.85	0.40
16:K:105:GLY:CA	29:X:1301:U:O4	2.69	0.40
29:X:2594:U:H5'	29:X:2594:U:C6	2.56	0.40
29:X:2599:U:C2'	29:X:2600:A:O5'	2.69	0.40
12:G:125:ARG:NH1	29:X:2760:G:N1	2.69	0.40
29:X:464:G:C2	29:X:469:G:C5	3.10	0.40
19:N:28:ARG:NE	29:X:542:A:H3'	2.35	0.40
29:X:631:G:N3	29:X:631:G:O4'	2.54	0.40
29:X:683:A:O2'	29:X:684:C:O5'	2.37	0.40
29:X:1050:G:C2'	29:X:1051:U:H5'	2.49	0.40
6:A:179:SER:HB3	29:X:1790:G:O6	2.21	0.40
29:X:1812:U:O2	29:X:1812:U:C2'	2.70	0.40
29:X:2202:G:H2'	29:X:2203:G:O4'	2.21	0.40
29:X:1778:U:C2	29:X:1779:C:C5	3.10	0.40
29:X:2564:U:C4'	29:X:2565:C:OP1	2.70	0.40
17:L:15:ARG:NH2	17:L:18:ARG:NH1	2.70	0.40
28:W:12:ARG:CG	28:W:12:ARG:NH1	2.79	0.40
15:J:11:ARG:HG3	15:J:11:ARG:NH1	2.37	0.40
15:J:27:TYR:O	15:J:28:VAL:C	2.59	0.40
7:B:5:LEU:HD22	7:B:49:ILE:HG23	2.03	0.40
14:I:92:THR:O	14:I:94:GLU:N	2.54	0.40
29:X:640:C:H4'	29:X:660:G:N2	2.37	0.40
29:X:2728:A:H2'	29:X:2729:A:C8	2.56	0.40
11:F:122:ALA:HB1	29:X:1092:U:H4'	2.03	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:2085:G:N1	29:X:2171:U:O2	2.55	0.40
19:N:82:GLY:O	19:N:83:LEU:C	2.59	0.40
22:Q:11:VAL:HG23	22:Q:27:PHE:CA	2.47	0.40
29:X:2705:A:O2'	29:X:2706:U:P	2.80	0.40
29:X:1850:G:C2'	29:X:1851:A:C8	2.95	0.40
29:X:2240:C:H2'	29:X:2241:U:H5'	2.02	0.40
29:X:1927:U:O2	29:X:1938:U:H5''	2.22	0.40
10:E:95:ARG:CZ	10:E:97:LYS:CE	2.93	0.40
22:Q:61:LYS:HB2	22:Q:72:ARG:CD	2.51	0.40
29:X:73:A:H4'	29:X:74:G:O5'	2.21	0.40
24:S:80:HIS:CG	24:S:81:VAL:N	2.89	0.40
14:I:76:LYS:HB3	14:I:79:GLN:CG	2.49	0.40
29:X:1436:G:C5	29:X:1437:A:N7	2.89	0.40
29:X:1438:G:C5	29:X:1439:G:C5	3.10	0.40
29:X:1336:G:O6	29:X:1337:G:C6	2.74	0.40
10:E:156:ALA:C	10:E:157:TYR:CD1	2.95	0.40
14:I:133:VAL:HG21	14:I:140:VAL:HG22	2.01	0.40
29:X:2457:A:H2'	29:X:2458:U:O4'	2.21	0.40
24:S:1:MET:HE1	24:S:52:PHE:HB3	2.03	0.40
29:X:2016:A:C5	29:X:2019:C:C4	3.09	0.40
7:B:115:GLY:O	7:B:119:ARG:HB3	2.22	0.40
29:X:834:A:H5''	29:X:835:U:C6	2.56	0.40
29:X:2526:U:C2	29:X:2527:G:C8	3.09	0.40
24:S:125:PRO:CG	24:S:126:GLY:H	2.32	0.40
19:N:43:ALA:HB3	20:O:74:TYR:HB3	2.03	0.40
29:X:103:U:H6	29:X:103:U:O5'	2.04	0.40
29:X:1534:A:O2'	29:X:1535:C:H5'	2.21	0.40
31:Z:7:C:H2'	31:Z:8:C:C6	2.56	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
4	4	35/37 (95%)	20 (57%)	10 (29%)	5 (14%)	<b>0</b> <b>2</b>

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	5	5/19 (26%)	4 (80%)	1 (20%)	0	100	100
6	A	238/274 (87%)	154 (65%)	50 (21%)	34 (14%)	0	2
7	B	203/211 (96%)	148 (73%)	32 (16%)	23 (11%)	1	5
8	C	195/205 (95%)	97 (50%)	54 (28%)	44 (23%)	0	0
9	D	175/180 (97%)	95 (54%)	48 (27%)	32 (18%)	0	1
10	E	169/185 (91%)	100 (59%)	38 (22%)	31 (18%)	0	1
11	F	142/144 (99%)	94 (66%)	29 (20%)	19 (13%)	0	3
12	G	140/174 (80%)	76 (54%)	34 (24%)	30 (21%)	0	1
13	H	132/134 (98%)	105 (80%)	18 (14%)	9 (7%)	2	18
14	I	139/156 (89%)	59 (42%)	45 (32%)	35 (25%)	0	0
15	J	134/142 (94%)	82 (61%)	31 (23%)	21 (16%)	0	1
16	K	111/116 (96%)	74 (67%)	25 (22%)	12 (11%)	1	6
17	L	102/114 (90%)	59 (58%)	19 (19%)	24 (24%)	0	0
18	M	106/166 (64%)	70 (66%)	23 (22%)	13 (12%)	1	4
19	N	115/118 (98%)	57 (50%)	40 (35%)	18 (16%)	0	1
20	O	92/100 (92%)	57 (62%)	10 (11%)	25 (27%)	0	0
21	P	125/134 (93%)	89 (71%)	21 (17%)	15 (12%)	1	4
22	Q	91/95 (96%)	39 (43%)	28 (31%)	24 (26%)	0	0
23	R	108/115 (94%)	62 (57%)	27 (25%)	19 (18%)	0	1
24	S	173/237 (73%)	93 (54%)	46 (27%)	34 (20%)	0	1
25	T	82/91 (90%)	47 (57%)	19 (23%)	16 (20%)	0	1
26	U	70/81 (86%)	35 (50%)	16 (23%)	19 (27%)	0	0
27	V	64/67 (96%)	35 (55%)	16 (25%)	13 (20%)	0	1
28	W	53/55 (96%)	38 (72%)	9 (17%)	6 (11%)	1	5
30	Y	56/60 (93%)	40 (71%)	9 (16%)	7 (12%)	1	4
All	All	3055/3410 (90%)	1829 (60%)	698 (23%)	528 (17%)	0	1

All (528) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	A	59	LYS
6	A	145	LEU
6	A	168	LYS

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Mol	Chain	Res	Type
6	A	217	ARG
6	A	220	HIS
7	B	71	GLY
7	B	73	ALA
7	B	85	ALA
7	B	86	PRO
7	B	122	PHE
7	B	132	LYS
7	B	137	ARG
7	B	147	PRO
7	B	179	GLU
8	C	9	GLN
8	C	10	ASN
8	C	13	ARG
8	C	30	VAL
8	C	31	VAL
8	C	66	ASN
8	C	67	ALA
8	C	75	PRO
8	C	121	ASP
8	C	138	LYS
8	C	161	ALA
8	C	164	VAL
8	C	165	SER
8	C	166	TRP
8	C	172	VAL
8	C	175	VAL
8	C	192	ALA
8	C	195	ILE
9	D	10	ASP
9	D	120	ASN
9	D	123	ASP
9	D	137	ILE
9	D	149	THR
10	E	13	SER
10	E	14	GLY
10	E	15	VAL
10	E	16	THR
10	E	55	PRO
10	E	58	ALA
10	E	93	GLY
10	E	98	LEU

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Mol	Chain	Res	Type
10	E	110	SER
10	E	126	PRO
10	E	129	THR
10	E	143	GLN
10	E	165	VAL
11	F	14	ALA
11	F	20	ALA
11	F	26	ALA
11	F	50	ASP
11	F	82	ALA
11	F	117	ALA
11	F	120	VAL
12	G	33	ILE
12	G	34	PRO
12	G	36	ASN
12	G	37	ASP
12	G	65	LYS
12	G	67	ARG
12	G	72	PRO
12	G	73	ASN
12	G	97	ASP
12	G	104	THR
12	G	107	GLN
12	G	118	ALA
12	G	163	PRO
12	G	170	PRO
13	H	27	SER
13	H	42	LYS
14	I	17	LYS
14	I	38	LYS
14	I	39	SER
14	I	54	SER
14	I	65	PHE
14	I	86	THR
14	I	91	ASP
14	I	103	ASN
14	I	114	ILE
14	I	127	ALA
14	I	131	LYS
15	J	11	ARG
15	J	22	ALA
15	J	26	ASP

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Mol	Chain	Res	Type
15	J	29	ALA
15	J	80	ALA
15	J	82	THR
15	J	87	GLY
15	J	117	GLU
16	K	6	ALA
16	K	11	ASN
16	K	92	GLY
17	L	26	ARG
17	L	31	VAL
17	L	38	ILE
17	L	40	ALA
17	L	45	ASP
17	L	55	SER
17	L	56	SER
17	L	60	LYS
17	L	68	ALA
17	L	94	TYR
17	L	102	ALA
17	L	104	ALA
18	M	25	PRO
18	M	28	ARG
18	M	29	PRO
18	M	39	VAL
18	M	46	ARG
18	M	53	VAL
18	M	102	ALA
19	N	5	LYS
19	N	8	ILE
19	N	76	TYR
19	N	94	VAL
20	O	7	THR
20	O	9	GLY
20	O	10	LYS
20	O	13	ARG
20	O	21	ARG
20	O	25	LEU
20	O	26	GLN
20	O	29	ALA
20	O	30	GLY
20	O	35	LEU
20	O	36	LYS

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Mol	Chain	Res	Type
20	O	48	GLY
20	O	49	GLU
20	O	97	GLY
21	P	9	ARG
21	P	11	LYS
21	P	32	ARG
21	P	81	HIS
22	Q	33	ALA
22	Q	40	ASP
22	Q	41	ALA
22	Q	63	LYS
22	Q	67	ARG
22	Q	69	ILE
22	Q	74	ASP
22	Q	87	SER
23	R	7	GLY
23	R	12	ASP
23	R	26	SER
23	R	60	PRO
23	R	65	PRO
23	R	75	ALA
23	R	83	LEU
23	R	96	LYS
24	S	6	LYS
24	S	12	GLN
24	S	26	LYS
24	S	36	ARG
24	S	49	THR
24	S	88	TYR
24	S	92	VAL
24	S	118	HIS
24	S	124	ALA
24	S	125	PRO
25	T	3	HIS
25	T	4	LYS
25	T	7	VAL
25	T	10	SER
25	T	19	LYS
25	T	21	LEU
25	T	31	VAL
25	T	75	GLY
26	U	13	LEU

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Mol	Chain	Res	Type
26	U	14	VAL
26	U	16	ASN
26	U	29	GLY
26	U	30	VAL
26	U	34	THR
26	U	41	VAL
26	U	56	GLN
26	U	60	VAL
27	V	2	LYS
27	V	8	ASN
27	V	19	ASP
27	V	36	GLN
28	W	54	GLN
30	Y	4	HIS
30	Y	20	ARG
30	Y	36	CYS
30	Y	52	TYR
30	Y	53	ASP
4	4	14	CYS
4	4	21	GLY
6	A	45	ASN
6	A	47	GLY
6	A	52	ARG
6	A	56	GLY
6	A	109	GLU
6	A	125	PRO
6	A	159	ALA
6	A	160	GLY
6	A	187	SER
6	A	214	TRP
6	A	232	PRO
6	A	240	THR
6	A	243	GLY
6	A	244	ARG
6	A	252	LYS
7	B	2	LYS
7	B	69	LYS
7	B	74	PRO
7	B	76	ARG
7	B	123	ALA
7	B	145	LYS
7	B	152	LYS

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Mol	Chain	Res	Type
7	B	180	ASN
8	C	11	GLY
8	C	15	ILE
8	C	22	VAL
8	C	103	GLY
8	C	117	LEU
8	C	129	LYS
8	C	139	GLN
8	C	152	THR
8	C	153	ASP
8	C	159	ARG
8	C	178	TYR
8	C	196	VAL
9	D	9	ASN
9	D	71	LYS
9	D	77	PHE
9	D	94	GLU
9	D	107	GLY
9	D	119	PRO
9	D	124	GLY
9	D	145	MET
10	E	19	ALA
10	E	106	ASN
10	E	112	PRO
10	E	119	ALA
10	E	139	GLN
11	F	24	GLY
11	F	51	ALA
11	F	61	ALA
11	F	118	GLY
12	G	55	ALA
12	G	86	ALA
12	G	105	GLY
12	G	139	ARG
13	H	37	GLY
13	H	79	HIS
13	H	101	ASN
14	I	29	THR
14	I	43	ALA
14	I	44	GLY
14	I	47	ALA
14	I	56	LEU

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Mol	Chain	Res	Type
14	I	98	LEU
14	I	99	VAL
14	I	105	PRO
14	I	106	VAL
14	I	115	SER
14	I	128	ALA
14	I	135	ALA
15	J	13	GLN
15	J	27	TYR
15	J	81	GLU
15	J	83	ARG
16	K	7	GLY
16	K	32	GLY
16	K	95	THR
17	L	33	ARG
17	L	53	ALA
17	L	82	LYS
17	L	91	ARG
17	L	108	ARG
18	M	27	PHE
18	M	47	SER
18	M	95	GLU
19	N	51	ARG
19	N	110	VAL
20	O	8	GLY
20	O	14	VAL
20	O	15	SER
20	O	66	GLY
21	P	10	ASN
21	P	12	LYS
21	P	77	ALA
21	P	82	ASN
21	P	89	ARG
21	P	113	SER
22	Q	4	TYR
22	Q	12	ILE
22	Q	42	ILE
22	Q	60	GLY
22	Q	61	LYS
22	Q	65	VAL
22	Q	86	GLN
22	Q	93	GLY

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Mol	Chain	Res	Type
23	R	6	ALA
23	R	9	HIS
23	R	50	GLY
23	R	61	SER
23	R	63	THR
23	R	89	GLY
24	S	17	SER
24	S	43	PHE
24	S	45	GLN
24	S	46	GLN
24	S	128	ARG
24	S	134	LEU
24	S	156	GLU
25	T	11	LYS
25	T	30	VAL
25	T	73	GLY
25	T	74	LYS
25	T	83	ALA
26	U	10	LYS
26	U	27	ASP
26	U	42	GLN
26	U	65	ASN
26	U	76	LYS
27	V	65	GLU
30	Y	37	HIS
4	4	9	LYS
4	4	35	ARG
6	A	81	ALA
6	A	154	GLN
6	A	197	GLY
6	A	241	GLY
6	A	258	LYS
7	B	121	ASN
7	B	135	HIS
8	C	179	ASP
9	D	5	LYS
9	D	53	ALA
9	D	68	THR
9	D	152	MET
9	D	168	ALA
10	E	7	GLN
10	E	76	VAL

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Mol	Chain	Res	Type
10	E	77	LYS
10	E	149	ARG
10	E	156	ALA
10	E	173	ALA
12	G	169	GLN
13	H	32	LYS
14	I	10	PRO
14	I	18	ARG
14	I	37	GLN
14	I	40	ARG
14	I	49	PHE
14	I	62	LYS
14	I	132	ALA
15	J	106	GLU
16	K	20	LEU
16	K	56	LYS
16	K	91	PRO
18	M	17	GLU
18	M	105	TYR
19	N	3	ARG
19	N	13	ARG
19	N	75	ASN
19	N	77	SER
19	N	78	THR
20	O	39	PHE
20	O	87	ARG
21	P	79	ALA
21	P	101	PRO
22	Q	3	HIS
22	Q	13	SER
22	Q	91	LEU
23	R	49	GLU
24	S	13	LYS
24	S	25	ASN
24	S	63	PRO
24	S	110	GLY
24	S	133	GLU
24	S	165	GLU
25	T	54	GLY
26	U	32	ARG
26	U	47	HIS
26	U	72	LYS

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Mol	Chain	Res	Type
27	V	57	LYS
28	W	8	SER
28	W	15	ASN
28	W	23	LEU
28	W	49	HIS
6	A	54	ILE
6	A	55	GLY
6	A	58	HIS
6	A	219	PRO
7	B	131	SER
8	C	20	PRO
8	C	89	ARG
8	C	105	ALA
8	C	114	GLY
8	C	126	ALA
8	C	127	ASP
8	C	190	ALA
9	D	41	GLY
9	D	146	VAL
9	D	164	GLU
11	F	19	PRO
11	F	22	PRO
11	F	84	ILE
11	F	122	ALA
11	F	135	GLY
12	G	68	PRO
12	G	70	PHE
12	G	143	ALA
12	G	154	GLU
12	G	155	THR
13	H	61	ARG
14	I	33	GLY
14	I	64	GLY
15	J	52	ARG
15	J	56	SER
15	J	114	GLN
15	J	122	ALA
16	K	45	ARG
17	L	21	THR
17	L	67	THR
19	N	12	ARG
19	N	28	ARG

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Mol	Chain	Res	Type
19	N	46	GLU
19	N	73	GLY
19	N	88	ILE
19	N	108	ALA
20	O	12	TYR
20	O	24	SER
20	O	44	GLN
20	O	96	LEU
21	P	87	GLU
22	Q	44	GLN
23	R	16	PHE
23	R	91	ALA
23	R	108	VAL
24	S	42	ALA
24	S	47	SER
24	S	91	PRO
24	S	106	GLY
24	S	107	GLU
24	S	138	VAL
25	T	13	GLY
26	U	15	VAL
27	V	39	GLN
27	V	43	VAL
27	V	61	ALA
4	4	19	ARG
6	A	153	ALA
6	A	198	ASN
6	A	249	PRO
7	B	108	SER
8	C	61	GLN
8	C	91	TYR
8	C	123	PHE
8	C	125	ILE
8	C	154	ASP
9	D	13	ARG
9	D	19	GLN
9	D	40	LEU
9	D	47	SER
9	D	141	ILE
10	E	25	LYS
10	E	140	LEU
10	E	152	ARG

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Mol	Chain	Res	Type
12	G	40	ASN
12	G	48	GLY
12	G	53	ARG
12	G	162	LYS
13	H	33	GLY
13	H	47	VAL
14	I	84	GLU
14	I	90	ARG
15	J	15	ARG
15	J	57	ARG
15	J	89	GLY
15	J	90	ALA
16	K	21	ALA
17	L	97	HIS
17	L	103	LEU
18	M	56	ALA
22	Q	34	THR
24	S	3	LEU
24	S	76	ARG
25	T	84	ALA
26	U	40	ARG
27	V	32	ALA
27	V	37	LEU
27	V	56	VAL
30	Y	21	SER
6	A	190	TYR
6	A	271	VAL
9	D	15	ALA
9	D	54	ALA
9	D	76	ASN
10	E	11	VAL
12	G	84	ASN
12	G	165	VAL
14	I	19	VAL
17	L	9	ARG
17	L	46	SER
17	L	64	LYS
28	W	38	PRO
7	B	126	PRO
8	C	55	GLY
11	F	25	PRO
16	K	100	VAL

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Mol	Chain	Res	Type
9	D	12	VAL
10	E	128	PRO
11	F	87	GLY
22	Q	6	ILE
22	Q	47	GLY
24	S	174	PRO
7	B	83	GLY
9	D	21	GLY
11	F	140	GLY
19	N	65	ILE
20	O	60	VAL
21	P	68	VAL
22	Q	9	ALA
23	R	85	ASP
24	S	102	GLY
24	S	164	PRO
9	D	14	PRO
10	E	43	VAL
10	E	144	VAL
27	V	35	GLY
21	P	92	VAL

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	4	35/35 (100%)	32 (91%)	3 (9%)	15	54
5	5	3/4 (75%)	3 (100%)	0	100	100
6	A	185/215 (86%)	161 (87%)	24 (13%)	6	29
7	B	155/157 (99%)	132 (85%)	23 (15%)	4	21
8	C	157/163 (96%)	131 (83%)	26 (17%)	3	16
9	D	153/156 (98%)	138 (90%)	15 (10%)	12	45
10	E	136/144 (94%)	128 (94%)	8 (6%)	28	73
11	F	107/107 (100%)	100 (94%)	7 (6%)	24	69
12	G	118/146 (81%)	96 (81%)	22 (19%)	2	11

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
13	H	103/103 (100%)	88 (85%)	15 (15%)	5	23
14	I	108/121 (89%)	91 (84%)	17 (16%)	4	19
15	J	110/116 (95%)	89 (81%)	21 (19%)	2	10
16	K	90/93 (97%)	76 (84%)	14 (16%)	4	19
17	L	74/82 (90%)	54 (73%)	20 (27%)	1	2
18	M	94/134 (70%)	72 (77%)	22 (23%)	1	4
19	N	96/97 (99%)	83 (86%)	13 (14%)	6	27
20	O	75/79 (95%)	70 (93%)	5 (7%)	23	67
21	P	109/115 (95%)	100 (92%)	9 (8%)	16	56
22	Q	75/76 (99%)	67 (89%)	8 (11%)	10	39
23	R	91/96 (95%)	72 (79%)	19 (21%)	1	8
24	S	149/192 (78%)	137 (92%)	12 (8%)	17	58
25	T	62/67 (92%)	57 (92%)	5 (8%)	17	58
26	U	57/66 (86%)	44 (77%)	13 (23%)	1	5
27	V	54/55 (98%)	48 (89%)	6 (11%)	9	37
28	W	48/48 (100%)	38 (79%)	10 (21%)	2	8
30	Y	51/53 (96%)	48 (94%)	3 (6%)	28	73
All	All	2495/2720 (92%)	2155 (86%)	340 (14%)	5	26

All (340) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	4	22	ARG
4	4	27	CYS
4	4	31	LYS
6	A	40	THR
6	A	43	ARG
6	A	44	ASN
6	A	48	ARG
6	A	49	ILE
6	A	68	LYS
6	A	101	GLU
6	A	122	GLU
6	A	157	ARG
6	A	161	THR
6	A	162	SER

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Mol	Chain	Res	Type
6	A	164	GLN
6	A	183	ARG
6	A	196	VAL
6	A	208	LYS
6	A	211	ARG
6	A	214	TRP
6	A	215	LEU
6	A	218	LYS
6	A	231	HIS
6	A	232	PRO
6	A	244	ARG
6	A	252	LYS
6	A	260	ARG
7	B	53	PRO
7	B	69	LYS
7	B	75	THR
7	B	79	ARG
7	B	86	PRO
7	B	87	ASP
7	B	91	VAL
7	B	94	ASP
7	B	105	THR
7	B	126	PRO
7	B	131	SER
7	B	133	LYS
7	B	134	TRP
7	B	136	ARG
7	B	137	ARG
7	B	140	SER
7	B	143	GLN
7	B	147	PRO
7	B	150	VAL
7	B	155	ARG
7	B	159	HIS
7	B	162	MET
7	B	200	SER
8	C	5	ASN
8	C	13	ARG
8	C	17	LEU
8	C	45	THR
8	C	59	TYR
8	C	62	LYS

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Mol	Chain	Res	Type
8	C	64	THR
8	C	66	ASN
8	C	82	VAL
8	C	91	TYR
8	C	92	ASP
8	C	93	TYR
8	C	94	THR
8	C	95	LEU
8	C	104	LEU
8	C	113	GLU
8	C	121	ASP
8	C	124	ASP
8	C	136	TRP
8	C	139	GLN
8	C	153	ASP
8	C	154	ASP
8	C	155	GLU
8	C	158	ARG
8	C	166	TRP
8	C	176	ASN
9	D	6	THR
9	D	10	ASP
9	D	40	LEU
9	D	51	ASP
9	D	80	ARG
9	D	89	VAL
9	D	112	ARG
9	D	123	ASP
9	D	125	ARG
9	D	130	LEU
9	D	137	ILE
9	D	138	PHE
9	D	144	ASP
9	D	147	ASP
9	D	156	ILE
10	E	35	VAL
10	E	67	LEU
10	E	72	VAL
10	E	80	SER
10	E	107	ILE
10	E	129	THR
10	E	136	ILE

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Mol	Chain	Res	Type
10	E	163	ARG
11	F	2	LYS
11	F	10	LEU
11	F	63	ARG
11	F	99	LEU
11	F	103	GLN
11	F	119	SER
11	F	137	THR
12	G	31	THR
12	G	34	PRO
12	G	37	ASP
12	G	38	GLU
12	G	41	TRP
12	G	61	ARG
12	G	70	PHE
12	G	71	THR
12	G	93	LYS
12	G	94	LYS
12	G	100	TYR
12	G	101	THR
12	G	102	ARG
12	G	104	THR
12	G	106	TYR
12	G	110	LEU
12	G	113	GLU
12	G	123	PRO
12	G	132	PHE
12	G	154	GLU
12	G	157	PRO
12	G	169	GLN
13	H	1	MET
13	H	22	ILE
13	H	23	ARG
13	H	25	LEU
13	H	26	ASN
13	H	27	SER
13	H	41	ASN
13	H	57	ASP
13	H	81	ILE
13	H	89	ILE
13	H	92	ASP
13	H	104	GLU

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Mol	Chain	Res	Type
13	H	120	ASP
13	H	127	VAL
13	H	132	GLU
14	I	7	LYS
14	I	10	PRO
14	I	13	ARG
14	I	23	PRO
14	I	26	THR
14	I	32	ARG
14	I	34	HIS
14	I	45	LYS
14	I	53	ARG
14	I	61	PRO
14	I	65	PHE
14	I	84	GLU
14	I	88	PHE
14	I	89	ASP
14	I	94	GLU
14	I	103	ASN
14	I	142	LEU
15	J	8	THR
15	J	11	ARG
15	J	21	ASP
15	J	26	ASP
15	J	27	TYR
15	J	32	ASP
15	J	60	ARG
15	J	64	LYS
15	J	68	ARG
15	J	78	LYS
15	J	79	PRO
15	J	81	GLU
15	J	82	THR
15	J	91	VAL
15	J	93	TYR
15	J	94	TRP
15	J	103	VAL
15	J	106	GLU
15	J	111	THR
15	J	125	LYS
15	J	132	MET
16	K	3	HIS

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Mol	Chain	Res	Type
16	K	5	LYS
16	K	11	ASN
16	K	13	ASN
16	K	17	ARG
16	K	37	THR
16	K	43	GLU
16	K	51	LEU
16	K	71	HIS
16	K	83	VAL
16	K	95	THR
16	K	98	LEU
16	K	102	THR
16	K	104	ARG
17	L	8	ARG
17	L	13	THR
17	L	15	ARG
17	L	31	VAL
17	L	37	HIS
17	L	38	ILE
17	L	39	TYR
17	L	42	ILE
17	L	44	ASP
17	L	45	ASP
17	L	51	LEU
17	L	59	LEU
17	L	60	LYS
17	L	64	LYS
17	L	65	THR
17	L	67	THR
17	L	71	VAL
17	L	89	PHE
17	L	91	ARG
17	L	93	SER
18	M	6	LYS
18	M	7	ILE
18	M	22	ARG
18	M	25	PRO
18	M	26	ASP
18	M	28	ARG
18	M	31	ASP
18	M	34	ARG
18	M	43	ASN

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Mol	Chain	Res	Type
18	M	46	ARG
18	M	48	GLN
18	M	51	GLU
18	M	63	ARG
18	M	69	ARG
18	M	72	SER
18	M	79	ARG
18	M	80	VAL
18	M	87	LEU
18	M	89	ASN
18	M	92	THR
18	M	98	LYS
18	M	100	ARG
19	N	3	ARG
19	N	9	VAL
19	N	13	ARG
19	N	18	LEU
19	N	22	LYS
19	N	33	ARG
19	N	47	TYR
19	N	60	LEU
19	N	71	LEU
19	N	85	ARG
19	N	90	LEU
19	N	93	LYS
19	N	111	ASP
20	O	18	ASP
20	O	20	ILE
20	O	28	GLU
20	O	47	PHE
20	O	54	TYR
21	P	16	GLN
21	P	32	ARG
21	P	46	ARG
21	P	65	SER
21	P	67	PRO
21	P	86	LEU
21	P	87	GLU
21	P	126	ILE
21	P	133	ASN
22	Q	5	ASP
22	Q	7	LEU

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Mol	Chain	Res	Type
22	Q	10	PRO
22	Q	12	ILE
22	Q	15	LYS
22	Q	27	PHE
22	Q	38	ILE
22	Q	62	ARG
23	R	11	ASN
23	R	18	LYS
23	R	23	ILE
23	R	25	LEU
23	R	26	SER
23	R	32	GLN
23	R	44	GLN
23	R	56	LYS
23	R	65	PRO
23	R	79	SER
23	R	80	LYS
23	R	83	LEU
23	R	93	ARG
23	R	95	ARG
23	R	105	ARG
23	R	106	VAL
23	R	108	VAL
23	R	112	LYS
23	R	113	THR
24	S	3	LEU
24	S	9	THR
24	S	13	LYS
24	S	28	ASN
24	S	49	THR
24	S	51	LEU
24	S	63	PRO
24	S	71	MET
24	S	92	VAL
24	S	104	SER
24	S	119	ASN
24	S	120	LEU
25	T	5	LYS
25	T	18	PRO
25	T	31	VAL
25	T	41	ARG
25	T	71	ASN

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Mol	Chain	Res	Type
26	U	13	LEU
26	U	14	VAL
26	U	32	ARG
26	U	35	THR
26	U	37	ILE
26	U	42	GLN
26	U	47	HIS
26	U	53	GLU
26	U	54	ASN
26	U	60	VAL
26	U	69	THR
26	U	70	LEU
26	U	78	ILE
27	V	2	LYS
27	V	6	MET
27	V	13	ASP
27	V	19	ASP
27	V	21	ARG
27	V	41	HIS
28	W	6	VAL
28	W	8	SER
28	W	12	ARG
28	W	15	ASN
28	W	26	ARG
28	W	32	ARG
28	W	35	SER
28	W	36	ASP
28	W	45	LYS
28	W	46	THR
30	Y	19	ARG
30	Y	57	VAL
30	Y	58	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
4	4	34	GLN
4	4	36	GLN
6	A	44	ASN
6	A	96	HIS
6	A	129	ASN
6	A	166	GLN

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Mol	Chain	Res	Type
6	A	231	HIS
7	B	135	HIS
7	B	143	GLN
7	B	192	ASN
8	C	3	GLN
8	C	5	ASN
8	C	50	GLN
8	C	61	GLN
8	C	98	GLN
8	C	112	GLN
8	C	132	ASN
8	C	139	GLN
8	C	140	ASN
9	D	120	ASN
9	D	129	ASN
10	E	18	ASN
10	E	45	GLN
10	E	61	HIS
10	E	111	HIS
10	E	139	GLN
11	F	29	GLN
11	F	42	ASN
11	F	92	ASN
12	G	73	ASN
12	G	107	GLN
12	G	122	HIS
12	G	140	GLN
12	G	158	HIS
13	H	5	GLN
13	H	41	ASN
13	H	79	HIS
14	I	34	HIS
14	I	37	GLN
14	I	66	ASN
14	I	79	GLN
14	I	81	GLN
15	J	13	GLN
16	K	13	ASN
17	L	37	HIS
17	L	49	GLN
17	L	97	HIS
18	M	48	GLN

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Mol	Chain	Res	Type
19	N	31	GLN
19	N	72	HIS
19	N	75	ASN
19	N	115	ASN
20	O	11	GLN
20	O	57	GLN
21	P	73	ASN
21	P	78	ASN
21	P	81	HIS
21	P	133	ASN
22	Q	73	ASN
23	R	10	HIS
23	R	11	ASN
23	R	29	HIS
23	R	64	ASN
23	R	71	GLN
24	S	45	GLN
24	S	70	GLN
24	S	146	HIS
25	T	3	HIS
25	T	17	ASN
25	T	35	ASN
25	T	71	ASN
27	V	41	HIS
27	V	45	GLN
28	W	15	ASN
28	W	49	HIS
30	Y	29	ASN
30	Y	43	HIS
30	Y	44	HIS

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	X	2680/2880 (93%)	688 (25%)	313 (11%)
31	Z	121/123 (98%)	24 (19%)	1 (0%)
All	All	2801/3003 (93%)	712 (25%)	314 (11%)

All (712) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
29	X	2	G
29	X	4	C
29	X	13	A
29	X	14	A
29	X	27	G
29	X	34	U
29	X	35	G
29	X	39	C
29	X	45	C
29	X	49	U
29	X	59	G
29	X	63	A
29	X	70	A
29	X	71	A
29	X	72	A
29	X	74	G
29	X	76	C
29	X	82	G
29	X	83	A
29	X	84	G
29	X	87	G
29	X	89	A
29	X	90	G
29	X	91	A
29	X	98	U
29	X	99	U
29	X	100	G
29	X	105	G
29	X	110	U
29	X	116	A
29	X	117	A
29	X	118	U
29	X	119	G
29	X	123	A
29	X	124	A
29	X	126	C
29	X	127	C
29	X	135	U
29	X	143	A
29	X	147	G
29	X	149	A
29	X	158	A
29	X	173	A

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Mol	Chain	Res	Type
29	X	181	A
29	X	182	G
29	X	183	U
29	X	193	A
29	X	199	A
29	X	200	A
29	X	205	A
29	X	206	U
29	X	207	U
29	X	210	A
29	X	218	A
29	X	219	G
29	X	220	U
29	X	225	G
29	X	226	C
29	X	227	G
29	X	242	A
29	X	243	G
29	X	245	C
29	X	304	A
29	X	305	A
29	X	318	G
29	X	323	G
29	X	333	A
29	X	334	G
29	X	335	A
29	X	340	G
29	X	341	A
29	X	342	G
29	X	343	A
29	X	399	G
29	X	400	U
29	X	401	G
29	X	403	A
29	X	404	A
29	X	414	A
29	X	416	U
29	X	417	C
29	X	418	C
29	X	419	G
29	X	424	G
29	X	425	A

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Mol	Chain	Res	Type
29	X	441	A
29	X	447	U
29	X	448	C
29	X	453	U
29	X	455	A
29	X	456	C
29	X	458	G
29	X	459	A
29	X	460	U
29	X	461	A
29	X	463	C
29	X	466	A
29	X	467	U
29	X	468	A
29	X	470	U
29	X	491	A
29	X	492	G
29	X	497	C
29	X	498	C
29	X	514	G
29	X	515	A
29	X	517	A
29	X	519	C
29	X	523	A
29	X	534	U
29	X	537	C
29	X	538	A
29	X	539	A
29	X	540	G
29	X	541	C
29	X	542	A
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	558	G
29	X	559	C
29	X	571	U
29	X	572	G
29	X	580	A
29	X	581	A
29	X	582	G

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Mol	Chain	Res	Type
29	X	583	C
29	X	584	A
29	X	587	A
29	X	595	A
29	X	601	A
29	X	613	A
29	X	614	G
29	X	617	U
29	X	624	A
29	X	625	A
29	X	626	A
29	X	627	A
29	X	628	A
29	X	631	G
29	X	632	A
29	X	633	G
29	X	636	G
29	X	639	G
29	X	649	G
29	X	652	C
29	X	654	A
29	X	655	A
29	X	657	A
29	X	664	C
29	X	665	A
29	X	666	U
29	X	667	U
29	X	668	A
29	X	684	C
29	X	699	G
29	X	700	C
29	X	718	A
29	X	728	G
29	X	729	A
29	X	730	C
29	X	731	A
29	X	732	G
29	X	740	A
29	X	741	G
29	X	742	G
29	X	743	A
29	X	752	G

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Mol	Chain	Res	Type
29	X	753	U
29	X	759	C
29	X	760	U
29	X	766	A
29	X	775	U
29	X	776	G
29	X	778	G
29	X	781	G
29	X	789	G
29	X	790	A
29	X	795	A
29	X	797	A
29	X	798	G
29	X	802	A
29	X	803	C
29	X	804	C
29	X	805	G
29	X	806	A
29	X	807	A
29	X	813	A
29	X	814	G
29	X	815	A
29	X	818	G
29	X	819	C
29	X	825	C
29	X	832	A
29	X	833	A
29	X	840	U
29	X	841	G
29	X	843	G
29	X	844	G
29	X	859	U
29	X	862	A
29	X	872	G
29	X	873	U
29	X	878	C
29	X	879	A
29	X	914	C
29	X	919	U
29	X	922	A
29	X	926	C
29	X	927	C

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Mol	Chain	Res	Type
29	X	939	C
29	X	940	G
29	X	944	A
29	X	952	A
29	X	955	G
29	X	956	A
29	X	957	G
29	X	968	C
29	X	969	U
29	X	970	A
29	X	972	C
29	X	973	U
29	X	984	A
29	X	985	G
29	X	994	A
29	X	995	A
29	X	996	C
29	X	1000	G
29	X	1006	C
29	X	1007	A
29	X	1016	C
29	X	1019	U
29	X	1023	U
29	X	1024	G
29	X	1032	A
29	X	1033	G
29	X	1034	U
29	X	1036	G
29	X	1037	U
29	X	1044	U
29	X	1045	G
29	X	1051	U
29	X	1053	G
29	X	1054	C
29	X	1055	A
29	X	1056	U
29	X	1057	A
29	X	1058	G
29	X	1059	A
29	X	1060	C
29	X	1069	G
29	X	1070	G

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Mol	Chain	Res	Type
29	X	1071	U
29	X	1072	U
29	X	1073	G
29	X	1078	A
29	X	1079	G
29	X	1081	A
29	X	1082	G
29	X	1087	C
29	X	1090	C
29	X	1096	A
29	X	1097	A
29	X	1098	G
29	X	1099	A
29	X	1107	A
29	X	1108	U
29	X	1119	U
29	X	1123	G
29	X	1128	G
29	X	1129	A
29	X	1133	G
29	X	1137	A
29	X	1139	A
29	X	1140	A
29	X	1142	G
29	X	1145	C
29	X	1146	G
29	X	1149	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1155	G
29	X	1167	A
29	X	1168	G
29	X	1182	U
29	X	1183	C
29	X	1185	C
29	X	1187	A
29	X	1189	G
29	X	1192	A
29	X	1194	U
29	X	1195	U
29	X	1213	U

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Mol	Chain	Res	Type
29	X	1220	G
29	X	1224	A
29	X	1225	G
29	X	1234	C
29	X	1250	A
29	X	1251	G
29	X	1253	C
29	X	1261	G
29	X	1262	U
29	X	1264	C
29	X	1265	G
29	X	1266	G
29	X	1269	G
29	X	1278	A
29	X	1279	G
29	X	1282	A
29	X	1284	G
29	X	1285	A
29	X	1286	U
29	X	1288	A
29	X	1289	A
29	X	1300	A
29	X	1302	C
29	X	1313	U
29	X	1314	A
29	X	1315	A
29	X	1316	G
29	X	1319	C
29	X	1325	U
29	X	1326	U
29	X	1333	G
29	X	1334	A
29	X	1338	G
29	X	1339	U
29	X	1342	U
29	X	1343	C
29	X	1345	G
29	X	1346	C
29	X	1353	A
29	X	1354	A
29	X	1355	A
29	X	1356	G

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Mol	Chain	Res	Type
29	X	1358	C
29	X	1359	G
29	X	1378	A
29	X	1381	G
29	X	1391	A
29	X	1392	U
29	X	1398	G
29	X	1404	C
29	X	1409	U
29	X	1410	U
29	X	1411	C
29	X	1413	U
29	X	1428	G
29	X	1429	A
29	X	1432	G
29	X	1433	A
29	X	1434	U
29	X	1440	G
29	X	1441	A
29	X	1442	C
29	X	1443	G
29	X	1460	G
29	X	1465	G
29	X	1467	U
29	X	1468	A
29	X	1469	U
29	X	1470	G
29	X	1473	U
29	X	1474	A
29	X	1475	U
29	X	1482	U
29	X	1489	C
29	X	1490	U
29	X	1497	C
29	X	1498	G
29	X	1513	U
29	X	1514	C
29	X	1522	C
29	X	1523	A
29	X	1524	C
29	X	1525	A
29	X	1528	C

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Mol	Chain	Res	Type
29	X	1531	C
29	X	1551	U
29	X	1553	G
29	X	1554	G
29	X	1562	G
29	X	1570	C
29	X	1571	G
29	X	1574	A
29	X	1575	C
29	X	1576	G
29	X	1582	A
29	X	1583	A
29	X	1585	A
29	X	1594	U
29	X	1601	U
29	X	1602	G
29	X	1603	A
29	X	1608	U
29	X	1614	C
29	X	1624	A
29	X	1625	A
29	X	1626	A
29	X	1627	C
29	X	1632	A
29	X	1633	C
29	X	1634	A
29	X	1635	G
29	X	1648	C
29	X	1651	U
29	X	1652	G
29	X	1657	A
29	X	1664	G
29	X	1665	C
29	X	1668	G
29	X	1671	A
29	X	1686	A
29	X	1691	G
29	X	1692	C
29	X	1699	A
29	X	1710	U
29	X	1711	C
29	X	1712	G

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Mol	Chain	Res	Type
29	X	1713	G
29	X	1715	A
29	X	1716	G
29	X	1717	A
29	X	1718	A
29	X	1724	C
29	X	1732	U
29	X	1733	U
29	X	1734	C
29	X	1747	G
29	X	1749	G
29	X	1750	A
29	X	1754	G
29	X	1755	G
29	X	1764	A
29	X	1771	A
29	X	1772	C
29	X	1773	C
29	X	1776	A
29	X	1778	U
29	X	1782	A
29	X	1790	G
29	X	1791	C
29	X	1792	C
29	X	1793	A
29	X	1800	A
29	X	1801	C
29	X	1802	A
29	X	1807	A
29	X	1808	C
29	X	1812	U
29	X	1813	A
29	X	1821	A
29	X	1822	C
29	X	1825	C
29	X	1831	G
29	X	1842	G
29	X	1851	A
29	X	1852	G
29	X	1854	G
29	X	1855	G
29	X	1856	U

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Mol	Chain	Res	Type
29	X	1857	G
29	X	1859	A
29	X	1861	G
29	X	1865	C
29	X	1867	A
29	X	1868	A
29	X	1869	A
29	X	1871	G
29	X	1883	A
29	X	1910	A
29	X	1912	G
29	X	1914	U
29	X	1919	A
29	X	1920	A
29	X	1922	U
29	X	1923	U
29	X	1924	C
29	X	1926	U
29	X	1927	U
29	X	1928	G
29	X	1938	U
29	X	1939	U
29	X	1946	U
29	X	1947	G
29	X	1948	C
29	X	1949	A
29	X	1950	C
29	X	1953	A
29	X	1954	A
29	X	1955	G
29	X	1964	A
29	X	1965	U
29	X	1976	U
29	X	1979	C
29	X	1980	A
29	X	2004	U
29	X	2005	U
29	X	2006	G
29	X	2014	A
29	X	2015	G
29	X	2016	A
29	X	2019	C

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Mol	Chain	Res	Type
29	X	2026	C
29	X	2034	A
29	X	2035	G
29	X	2038	C
29	X	2039	G
29	X	2044	G
29	X	2045	A
29	X	2046	C
29	X	2052	G
29	X	2075	U
29	X	2076	G
29	X	2083	G
29	X	2089	C
29	X	2171	U
29	X	2190	A
29	X	2191	A
29	X	2192	U
29	X	2195	C
29	X	2196	U
29	X	2197	U
29	X	2198	U
29	X	2199	C
29	X	2200	G
29	X	2205	C
29	X	2217	G
29	X	2218	G
29	X	2229	G
29	X	2230	G
29	X	2238	G
29	X	2245	A
29	X	2246	A
29	X	2247	A
29	X	2252	A
29	X	2257	A
29	X	2261	G
29	X	2262	C
29	X	2265	A
29	X	2266	A
29	X	2267	A
29	X	2268	G
29	X	2276	C
29	X	2284	U

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Mol	Chain	Res	Type
29	X	2285	U
29	X	2286	G
29	X	2287	G
29	X	2288	A
29	X	2298	U
29	X	2300	G
29	X	2305	C
29	X	2306	A
29	X	2313	G
29	X	2314	A
29	X	2315	A
29	X	2318	U
29	X	2320	G
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2326	C
29	X	2328	G
29	X	2351	G
29	X	2358	C
29	X	2362	G
29	X	2364	C
29	X	2368	G
29	X	2369	U
29	X	2381	A
29	X	2386	G
29	X	2396	C
29	X	2402	U
29	X	2403	C
29	X	2405	A
29	X	2406	C
29	X	2408	G
29	X	2409	A
29	X	2410	U
29	X	2418	A
29	X	2419	C
29	X	2420	C
29	X	2427	A
29	X	2428	U
29	X	2438	A
29	X	2448	A

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Mol	Chain	Res	Type
29	X	2452	U
29	X	2455	A
29	X	2469	G
29	X	2470	U
29	X	2476	A
29	X	2477	C
29	X	2480	C
29	X	2481	G
29	X	2482	A
29	X	2483	U
29	X	2484	G
29	X	2485	U
29	X	2486	C
29	X	2497	A
29	X	2498	U
29	X	2499	C
29	X	2508	G
29	X	2521	A
29	X	2522	G
29	X	2545	A
29	X	2546	G
29	X	2552	C
29	X	2556	A
29	X	2560	G
29	X	2561	G
29	X	2564	U
29	X	2565	C
29	X	2580	C
29	X	2581	A
29	X	2582	G
29	X	2588	U
29	X	2591	C
29	X	2592	U
29	X	2593	A
29	X	2594	U
29	X	2608	A
29	X	2609	G
29	X	2625	U
29	X	2633	A
29	X	2634	G
29	X	2650	G
29	X	2661	G

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Mol	Chain	Res	Type
29	X	2666	U
29	X	2668	U
29	X	2669	C
29	X	2670	C
29	X	2691	C
29	X	2692	A
29	X	2693	U
29	X	2694	G
29	X	2700	U
29	X	2706	U
29	X	2707	G
29	X	2708	U
29	X	2712	G
29	X	2713	A
29	X	2728	A
29	X	2730	A
29	X	2731	G
29	X	2732	C
29	X	2736	U
29	X	2737	A
29	X	2738	A
29	X	2744	A
29	X	2745	A
29	X	2757	G
29	X	2758	A
29	X	2759	U
29	X	2760	G
29	X	2761	A
29	X	2770	A
29	X	2771	C
29	X	2774	U
29	X	2775	U
29	X	2777	A
29	X	2778	U
29	X	2779	C
29	X	2780	A
29	X	2782	G
29	X	2795	A
29	X	2796	A
29	X	2798	A
29	X	2808	U
29	X	2809	A

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Mol	Chain	Res	Type
29	X	2810	A
29	X	2811	G
29	X	2824	C
29	X	2825	A
29	X	2827	G
29	X	2841	U
29	X	2842	C
29	X	2847	G
29	X	2850	U
29	X	2854	G
29	X	2855	C
29	X	2858	A
29	X	2859	U
29	X	2867	G
29	X	2868	G
31	Z	4	C
31	Z	14	C
31	Z	15	A
31	Z	17	A
31	Z	18	G
31	Z	26	G
31	Z	27	A
31	Z	28	A
31	Z	37	C
31	Z	38	C
31	Z	43	G
31	Z	44	C
31	Z	46	G
31	Z	47	A
31	Z	59	A
31	Z	68	A
31	Z	69	G
31	Z	93	G
31	Z	102	A
31	Z	110	U
31	Z	111	C
31	Z	112	A
31	Z	115	G
31	Z	123	U

All (314) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
29	X	3	U
29	X	13	A
29	X	33	C
29	X	38	G
29	X	48	A
29	X	62	U
29	X	69	G
29	X	71	A
29	X	73	A
29	X	82	G
29	X	117	A
29	X	118	U
29	X	154	U
29	X	173	A
29	X	176	A
29	X	181	A
29	X	182	G
29	X	192	G
29	X	198	A
29	X	199	A
29	X	218	A
29	X	219	G
29	X	226	C
29	X	312	G
29	X	322	A
29	X	332	C
29	X	333	A
29	X	334	G
29	X	340	G
29	X	341	A
29	X	342	G
29	X	399	G
29	X	400	U
29	X	403	A
29	X	417	C
29	X	424	G
29	X	454	G
29	X	458	G
29	X	459	A
29	X	460	U
29	X	466	A
29	X	467	U
29	X	468	A

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Mol	Chain	Res	Type
29	X	469	G
29	X	490	A
29	X	513	A
29	X	516	G
29	X	522	G
29	X	538	A
29	X	539	A
29	X	541	C
29	X	542	A
29	X	553	C
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	571	U
29	X	580	A
29	X	582	G
29	X	583	C
29	X	596	C
29	X	613	A
29	X	631	G
29	X	638	A
29	X	648	A
29	X	664	C
29	X	682	G
29	X	683	A
29	X	698	A
29	X	699	G
29	X	717	G
29	X	729	A
29	X	730	C
29	X	739	G
29	X	741	G
29	X	751	G
29	X	752	G
29	X	765	C
29	X	775	U
29	X	777	A
29	X	780	U
29	X	788	G
29	X	789	G
29	X	795	A

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Mol	Chain	Res	Type
29	X	797	A
29	X	801	A
29	X	802	A
29	X	803	C
29	X	804	C
29	X	805	G
29	X	806	A
29	X	813	A
29	X	814	G
29	X	818	G
29	X	824	U
29	X	842	A
29	X	843	G
29	X	872	G
29	X	878	C
29	X	925	U
29	X	938	G
29	X	939	C
29	X	955	G
29	X	956	A
29	X	968	C
29	X	969	U
29	X	972	C
29	X	984	A
29	X	985	G
29	X	994	A
29	X	1000	G
29	X	1006	C
29	X	1023	U
29	X	1031	C
29	X	1033	G
29	X	1036	G
29	X	1044	U
29	X	1053	G
29	X	1054	C
29	X	1055	A
29	X	1071	U
29	X	1072	U
29	X	1096	A
29	X	1122	A
29	X	1137	A
29	X	1139	A

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Mol	Chain	Res	Type
29	X	1141	U
29	X	1142	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1182	U
29	X	1186	G
29	X	1188	A
29	X	1194	U
29	X	1212	U
29	X	1223	G
29	X	1224	A
29	X	1233	A
29	X	1249	G
29	X	1260	A
29	X	1261	G
29	X	1263	G
29	X	1265	G
29	X	1266	G
29	X	1278	A
29	X	1285	A
29	X	1299	A
29	X	1301	U
29	X	1313	U
29	X	1314	A
29	X	1315	A
29	X	1324	G
29	X	1325	U
29	X	1333	G
29	X	1337	G
29	X	1338	G
29	X	1342	U
29	X	1345	G
29	X	1353	A
29	X	1354	A
29	X	1355	A
29	X	1357	U
29	X	1391	A
29	X	1409	U
29	X	1410	U
29	X	1412	C
29	X	1439	G

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Mol	Chain	Res	Type
29	X	1441	A
29	X	1442	C
29	X	1459	U
29	X	1473	U
29	X	1474	A
29	X	1496	G
29	X	1552	C
29	X	1561	A
29	X	1575	C
29	X	1581	C
29	X	1582	A
29	X	1583	A
29	X	1601	U
29	X	1607	A
29	X	1618	U
29	X	1623	C
29	X	1624	A
29	X	1625	A
29	X	1626	A
29	X	1632	A
29	X	1633	C
29	X	1634	A
29	X	1651	U
29	X	1664	G
29	X	1670	G
29	X	1685	A
29	X	1691	G
29	X	1698	C
29	X	1710	U
29	X	1711	C
29	X	1712	G
29	X	1715	A
29	X	1716	G
29	X	1723	U
29	X	1732	U
29	X	1749	G
29	X	1771	A
29	X	1772	C
29	X	1775	A
29	X	1777	A
29	X	1790	G
29	X	1791	C

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Mol	Chain	Res	Type
29	X	1799	A
29	X	1807	A
29	X	1811	A
29	X	1820	G
29	X	1867	A
29	X	1913	G
29	X	1920	A
29	X	1921	A
29	X	1922	U
29	X	1923	U
29	X	1926	U
29	X	1927	U
29	X	1937	G
29	X	1938	U
29	X	1947	G
29	X	1953	A
29	X	1963	G
29	X	1975	G
29	X	1979	C
29	X	2004	U
29	X	2005	U
29	X	2014	A
29	X	2015	G
29	X	2016	A
29	X	2018	G
29	X	2034	A
29	X	2044	G
29	X	2045	A
29	X	2050	G
29	X	2075	U
29	X	2088	U
29	X	2196	U
29	X	2197	U
29	X	2204	A
29	X	2217	G
29	X	2228	U
29	X	2229	G
29	X	2237	C
29	X	2245	A
29	X	2254	C
29	X	2261	G
29	X	2265	A

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Mol	Chain	Res	Type
29	X	2267	A
29	X	2275	U
29	X	2312	A
29	X	2313	G
29	X	2315	A
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2370	G
29	X	2396	C
29	X	2402	U
29	X	2404	A
29	X	2405	A
29	X	2418	A
29	X	2426	G
29	X	2427	A
29	X	2428	U
29	X	2469	G
29	X	2476	A
29	X	2482	A
29	X	2485	U
29	X	2496	C
29	X	2497	A
29	X	2498	U
29	X	2521	A
29	X	2551	A
29	X	2560	G
29	X	2564	U
29	X	2580	C
29	X	2589	C
29	X	2592	U
29	X	2593	A
29	X	2594	U
29	X	2608	A
29	X	2624	G
29	X	2633	A
29	X	2660	C
29	X	2668	U
29	X	2669	C
29	X	2691	C
29	X	2693	U

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Mol	Chain	Res	Type
29	X	2700	U
29	X	2705	A
29	X	2706	U
29	X	2712	G
29	X	2736	U
29	X	2756	A
29	X	2758	A
29	X	2759	U
29	X	2760	G
29	X	2770	A
29	X	2807	U
29	X	2810	A
29	X	2823	G
29	X	2824	C
29	X	2841	U
29	X	2848	A
29	X	2854	G
29	X	2867	G
31	Z	26	G

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z  > 2$	Counts	RMSZ	# $ Z  > 2$
5	TS9	5	10	5	8,8,10	0.79	0	10,12,15	0.96	0
5	BB9	5	11	5	3,5,6	3.15	2 (66%)	1,5,7	2.99	1 (100%)
5	BB9	5	13	5	2,4,6	2.32	2 (100%)	1,4,7	3.58	1 (100%)
5	MH6	5	14	5	2,3,6	0.43	0	0,3,7	0.00	-
5	BB9	5	15	5	3,5,6	6.58	2 (66%)	1,5,7	4.81	1 (100%)
5	DHA	5	16	5	3,4,5	5.84	2 (66%)	1,4,6	0.56	0
5	DHA	5	17	5	3,4,5	2.44	1 (33%)	1,4,6	2.35	1 (100%)
5	DHA	5	3	5	3,4,5	2.70	2 (66%)	1,4,6	0.27	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
5	BB9	5	6	5	3,5,6	3.77	2 (66%)	1,5,7	4.88	1 (100%)
5	DBU	5	8	5	3,4,6	3.54	1 (33%)	2,4,7	0.81	0
5	DCY	5	9	5	5,5,6	6.01	1 (20%)	3,5,7	2.02	1 (33%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	TS9	5	10	5	-	0/7/12/16	0/0/0/0
5	BB9	5	11	5	-	0/0/4/6	0/0/0/0
5	BB9	5	13	5	-	0/0/2/6	0/0/0/0
5	MH6	5	14	5	-	0/0/0/6	0/0/0/0
5	BB9	5	15	5	-	0/0/4/6	0/0/0/0
5	DHA	5	16	5	-	0/0/2/4	0/0/0/0
5	DHA	5	17	5	-	0/0/2/4	0/0/0/0
5	DHA	5	3	5	-	0/0/2/4	0/0/0/0
5	BB9	5	6	5	-	0/0/4/6	0/0/0/0
5	DBU	5	8	5	-	0/0/2/6	0/0/0/0
5	DCY	5	9	5	-	0/2/4/6	0/0/0/0

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	9	DCY	O-C	13.29	1.20	1.11
5	5	15	BB9	CB-CA	10.74	1.51	1.34
5	5	16	DHA	CA-N	9.86	1.55	1.35
5	5	8	DBU	CA-N	6.04	1.47	1.34
5	5	6	BB9	CB-CA	5.39	1.43	1.34
5	5	11	BB9	CB-CA	4.75	1.42	1.34
5	5	6	BB9	O-C	3.68	1.28	1.17
5	5	17	DHA	CA-N	3.68	1.43	1.35
5	5	15	BB9	O-C	-3.57	1.07	1.17
5	5	3	DHA	CA-N	3.32	1.42	1.35
5	5	3	DHA	O-C	2.75	1.25	1.17
5	5	11	BB9	O-C	2.49	1.25	1.17
5	5	13	BB9	CB-CA	2.38	1.35	1.33
5	5	13	BB9	CA-N	2.27	1.39	1.34
5	5	16	DHA	CB-CA	-2.01	1.32	1.37

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	5	6	BB9	CB-CA-N	-4.88	112.61	123.34
5	5	15	BB9	CB-CA-N	-4.81	112.77	123.34
5	5	13	BB9	CB-CA-N	-3.58	113.96	122.77
5	5	9	DCY	CA-CB-SG	-3.45	104.20	115.14
5	5	11	BB9	CB-CA-N	-2.99	116.77	123.34
5	5	17	DHA	CB-CA-N	-2.35	121.10	126.32

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 5.5 Carbohydrates

There are no carbohydrates in this entry.

## 5.6 Ligand geometry

Of 36 ligands modelled in this entry, 36 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 5.7 Other polymers

There are no such residues in this entry.

## 5.8 Polymer linkage issues

There are no chain breaks in this entry.

## 6 Fit of model and data ⓘ

### 6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	1	53/55 (96%)	1.98	26 (49%) 1 0	48, 56, 77, 82	0
2	2	46/47 (97%)	3.27	40 (86%) 0 0	9, 29, 38, 40	0
3	3	63/66 (95%)	2.97	47 (74%) 0 0	23, 41, 51, 57	0
4	4	37/37 (100%)	0.70	3 (8%) 12 3	60, 69, 77, 81	0
5	5	19/19 (100%)	0.66	1 (5%) 25 6	77, 85, 88, 89	2 (10%)
6	A	240/274 (87%)	-0.11	1 (0%) 90 57	25, 63, 77, 84	0
7	B	205/211 (97%)	-0.47	0 100 100	3, 22, 49, 63	0
8	C	197/205 (96%)	-0.22	1 (0%) 88 51	8, 51, 73, 83	0
9	D	177/180 (98%)	-0.04	1 (0%) 86 46	60, 75, 85, 91	0
10	E	171/185 (92%)	-0.26	0 100 100	44, 66, 79, 88	0
11	F	144/144 (100%)	0.75	9 (6%) 19 5	74, 89, 98, 102	0
12	G	142/174 (81%)	-0.22	0 100 100	22, 43, 67, 72	0
13	H	134/134 (100%)	-0.50	0 100 100	3, 16, 37, 45	0
14	I	141/156 (90%)	0.11	4 (2%) 50 12	22, 62, 77, 85	0
15	J	136/142 (95%)	-0.25	1 (0%) 84 42	27, 51, 73, 80	0
16	K	113/116 (97%)	-0.56	0 100 100	3, 9, 24, 34	0
17	L	104/114 (91%)	-0.08	0 100 100	43, 62, 72, 75	0
18	M	108/166 (65%)	-0.49	0 100 100	4, 19, 43, 64	0
19	N	117/118 (99%)	-0.38	0 100 100	4, 40, 62, 73	0
20	O	94/100 (94%)	-0.30	0 100 100	18, 53, 71, 81	0
21	P	127/134 (94%)	-0.48	0 100 100	4, 18, 53, 76	0
22	Q	93/95 (97%)	-0.26	0 100 100	32, 50, 69, 80	0
23	R	110/115 (95%)	-0.14	0 100 100	36, 54, 80, 87	0
24	S	175/237 (73%)	0.06	2 (1%) 77 30	61, 71, 82, 87	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å <sup>2</sup> )	Q<0.9
25	T	84/91 (92%)	-0.06	0	100	100	35, 51, 80, 90	0
26	U	72/81 (88%)	0.02	0	100	100	45, 61, 72, 78	0
27	V	66/67 (98%)	-0.36	0	100	100	49, 61, 81, 88	0
28	W	55/55 (100%)	-0.33	0	100	100	23, 41, 61, 78	0
29	X	2686/2880 (93%)	-0.45	48 (1%)	65	20	4, 41, 116, 151	0
30	Y	58/60 (96%)	-0.38	0	100	100	4, 17, 44, 52	0
31	Z	122/123 (99%)	-0.19	2 (1%)	68	22	30, 75, 102, 129	0
All	All	6089/6581 (92%)	-0.22	186 (3%)	48	11	3, 49, 95, 151	2 (0%)

All (186) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
31	Z	123	U	6.7
29	X	731	A	6.4
3	3	39	ASP	6.2
2	2	1	MET	6.1
2	2	37	LYS	6.0
3	3	42	ARG	6.0
3	3	31	HIS	5.9
3	3	30	ARG	5.8
1	1	2	ALA	5.5
3	3	32	GLN	5.5
2	2	2	LYS	5.5
3	3	41	ILE	5.3
2	2	36	ALA	5.3
3	3	7	HIS	5.3
2	2	4	THR	4.9
2	2	35	ARG	4.9
29	X	1085	G	4.8
2	2	25	LYS	4.7
3	3	36	LYS	4.5
3	3	8	LYS	4.5
3	3	11	LYS	4.4
2	2	7	PRO	4.4
3	3	44	LYS	4.4
3	3	35	GLY	4.3
3	3	63	PRO	4.3
2	2	22	MET	4.2
3	3	34	THR	4.2
3	3	33	ASN	4.0

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Mol	Chain	Res	Type	RSRZ
2	2	3	ARG	4.0
1	1	25	THR	4.0
3	3	4	MET	4.0
29	X	2780	A	3.9
29	X	2088	U	3.9
2	2	24	THR	3.9
1	1	43	VAL	3.9
2	2	26	SER	3.9
1	1	42	PRO	3.9
2	2	28	ARG	3.8
3	3	40	GLU	3.8
29	X	2779	C	3.7
1	1	47	HIS	3.7
3	3	28	GLY	3.7
2	2	29	ASN	3.7
2	2	23	LYS	3.7
3	3	37	SER	3.6
3	3	46	LYS	3.6
29	X	558	G	3.6
29	X	1552	C	3.6
2	2	40	HIS	3.6
2	2	9	ASN	3.6
1	1	26	LYS	3.6
3	3	10	ALA	3.6
2	2	33	ARG	3.5
29	X	1057	A	3.5
1	1	40	TYR	3.5
29	X	514	G	3.5
29	X	891	A	3.5
29	X	1095	A	3.5
29	X	1187	A	3.5
2	2	10	ARG	3.5
29	X	1086	C	3.4
1	1	44	ALA	3.4
2	2	16	HIS	3.4
3	3	58	MET	3.4
2	2	8	ASN	3.3
29	X	730	C	3.3
3	3	9	MET	3.3
29	X	1067	G	3.2
1	1	41	ASP	3.2
29	X	1077	U	3.2

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Mol	Chain	Res	Type	RSRZ
3	3	2	PRO	3.1
2	2	5	TYR	3.1
24	S	91	PRO	3.1
1	1	9	ILE	3.1
2	2	6	GLN	3.1
2	2	32	ALA	3.1
3	3	5	LYS	3.1
2	2	11	LYS	3.0
2	2	42	LEU	3.0
2	2	20	ALA	3.0
2	2	12	ARG	3.0
3	3	27	SER	3.0
29	X	2409	A	3.0
29	X	248	A	3.0
3	3	6	THR	3.0
1	1	23	THR	3.0
14	I	6	LEU	2.9
29	X	1037	U	2.9
2	2	15	THR	2.9
3	3	54	GLU	2.8
1	1	38	LYS	2.8
1	1	24	THR	2.8
3	3	64	ARG	2.8
29	X	2778	U	2.8
3	3	38	GLY	2.7
29	X	2170	C	2.7
29	X	2173	G	2.7
29	X	1553	G	2.7
29	X	2776	U	2.7
8	C	19	LEU	2.7
29	X	1090	C	2.7
3	3	12	ARG	2.6
3	3	26	LYS	2.6
3	3	51	ALA	2.6
3	3	61	MET	2.6
1	1	46	LYS	2.6
4	4	22	ARG	2.6
3	3	18	GLY	2.6
1	1	27	ASN	2.6
29	X	1524	C	2.6
1	1	45	LYS	2.5
29	X	1523	A	2.5

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Mol	Chain	Res	Type	RSRZ
3	3	62	LEU	2.5
5	5	3	DHA	2.5
9	D	145	MET	2.5
29	X	727	U	2.5
2	2	31	LEU	2.5
29	X	1058	G	2.5
1	1	28	ARG	2.5
6	A	250	TRP	2.5
29	X	1055	A	2.5
29	X	2290	A	2.5
3	3	45	GLY	2.4
2	2	13	ALA	2.4
11	F	114	ASP	2.4
11	F	80	LYS	2.4
1	1	20	PHE	2.4
29	X	1551	U	2.4
11	F	137	THR	2.4
1	1	39	LYS	2.4
29	X	2775	U	2.4
3	3	47	GLY	2.4
3	3	53	ALA	2.3
29	X	1069	G	2.3
3	3	55	TRP	2.3
1	1	36	GLU	2.3
11	F	18	THR	2.3
2	2	41	GLN	2.3
2	2	21	ARG	2.3
2	2	34	ARG	2.3
2	2	43	THR	2.3
1	1	22	TYR	2.3
2	2	14	LYS	2.3
11	F	84	ILE	2.3
1	1	10	VAL	2.3
31	Z	2	C	2.3
1	1	11	LYS	2.3
29	X	665	A	2.3
2	2	38	GLY	2.3
29	X	2087	U	2.2
29	X	2774	U	2.2
11	F	32	ALA	2.2
11	F	125	ASN	2.2
4	4	24	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
1	1	21	TYR	2.2
3	3	17	THR	2.2
14	I	5	ASP	2.2
29	X	1080	A	2.2
3	3	3	LYS	2.1
3	3	19	THR	2.1
29	X	2877	A	2.1
11	F	10	LEU	2.1
1	1	19	GLY	2.1
29	X	1068	A	2.1
2	2	44	VAL	2.1
14	I	10	PRO	2.1
15	J	84	MET	2.1
29	X	1084	A	2.1
29	X	1114	A	2.1
4	4	20	HIS	2.1
3	3	57	ARG	2.1
14	I	52	GLY	2.1
2	2	39	ARG	2.1
3	3	52	LYS	2.1
29	X	2781	G	2.1
29	X	416	U	2.1
29	X	1909	U	2.1
3	3	25	PHE	2.0
2	2	27	GLY	2.0
24	S	92	VAL	2.0
11	F	111	LYS	2.0
29	X	1188	A	2.0
3	3	56	ALA	2.0
29	X	1071	U	2.0
29	X	2090	U	2.0
1	1	37	LEU	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q < 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
5	BB9	5	15	6/7	0.43	7.61	88,88,88,88	0
5	DHA	5	16	5/6	0.45	2.08	83,83,85,86	0
5	DHA	5	3	5/6	0.51	1.92	82,83,84,85	0
5	MH6	5	14	4/7	0.30	1.18	86,86,87,87	0
5	TS9	5	10	9/11	0.35	0.37	87,88,89,89	0
5	DHA	5	17	5/6	0.33	-0.47	76,77,78,80	2
5	BB9	5	11	6/7	0.22	-0.72	85,87,87,88	0
5	BB9	5	13	5/7	0.21	-0.85	85,86,86,87	0
5	BB9	5	6	6/7	0.19	-1.60	82,84,85,86	0
5	DCY	5	9	6/7	0.18	-3.75	87,87,87,87	0
5	DBU	5	8	5/7	0.15	-4.02	85,86,87,87	0

### 6.3 Carbohydrates

There are no carbohydrates in this entry.

### 6.4 Ligands

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
32	MG	X	2885	1/1	0.40	73.23	56,56,56,56	0
32	MG	X	2907	1/1	0.69	50.99	17,17,17,17	0
32	MG	X	2897	1/1	0.46	46.65	3,3,3,3	0
32	MG	X	2902	1/1	0.31	41.60	24,24,24,24	0
32	MG	Z	126	1/1	0.39	40.27	25,25,25,25	0
32	MG	X	2890	1/1	0.34	35.05	49,49,49,49	0
32	MG	X	2899	1/1	0.52	30.97	3,3,3,3	0
32	MG	X	2894	1/1	0.38	27.99	15,15,15,15	0
32	MG	X	2889	1/1	0.73	22.91	3,3,3,3	0
32	MG	X	2898	1/1	0.54	22.38	19,19,19,19	0
32	MG	X	2891	1/1	0.39	20.48	12,12,12,12	0
32	MG	X	2900	1/1	0.24	19.95	3,3,3,3	0
32	MG	Z	125	1/1	0.28	19.25	9,9,9,9	0
32	MG	X	2882	1/1	0.35	19.05	12,12,12,12	0
32	MG	X	2886	1/1	0.29	17.11	41,41,41,41	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
32	MG	X	2884	1/1	0.78	14.36	55,55,55,55	0
32	MG	M	167	1/1	0.53	14.15	3,3,3,3	0
32	MG	X	2910	1/1	0.35	11.54	19,19,19,19	0
32	MG	X	2896	1/1	0.26	10.85	3,3,3,3	0
32	MG	X	2888	1/1	0.30	9.75	3,3,3,3	0
32	MG	X	2905	1/1	0.48	9.64	13,13,13,13	0
32	MG	X	2909	1/1	0.24	7.55	3,3,3,3	0
32	MG	Z	124	1/1	0.31	7.54	26,26,26,26	0
32	MG	X	2904	1/1	0.31	6.92	6,6,6,6	0
32	MG	X	2903	1/1	0.33	5.98	3,3,3,3	0
32	MG	X	2887	1/1	0.18	5.67	3,3,3,3	0
32	MG	X	2893	1/1	0.14	4.33	13,13,13,13	0
32	MG	X	2881	1/1	0.23	2.83	59,59,59,59	0
32	MG	Z	127	1/1	0.19	2.65	12,12,12,12	0
32	MG	X	2895	1/1	0.24	1.16	3,3,3,3	0
32	MG	X	2906	1/1	0.15	0.91	58,58,58,58	0
32	MG	X	2883	1/1	0.12	-0.52	49,49,49,49	0
32	MG	Z	128	1/1	0.09	-1.56	41,41,41,41	0
32	MG	X	2908	1/1	0.11	-2.82	3,3,3,3	0
32	MG	X	2901	1/1	0.09	-3.48	60,60,60,60	0
32	MG	X	2892	1/1	0.15	-	22,22,22,22	0

## 6.5 Other polymers ⓘ

There are no such residues in this entry.