



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 15, 2017 – 08:00 am GMT

PDB ID : 3PIO
Title : Crystal structure of the synergistic antibiotic pair lankamycin and lankacidin in complex with the large ribosomal subunit
Authors : Belousoff, M.J.; Shapira, T.; Bashan, A.; Zimmerman, E.; Arakawa, K.; Kinashi, H.; Rozenberg, H.; Yonath, A.
Deposited on : 2010-11-07
Resolution : 3.25 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

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

A user guide is available at

<http://wwpdb.org/validation/2016/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity	:	4.02b-467
Mogul	:	1.7.2 (RC1), CSD as538be (2017)
Xtriage (Phenix)	:	1.9-1692
EDS	:	trunk28620
Percentile statistics	:	20161228.v01 (using entries in the PDB archive December 28th 2016)
Refmac	:	5.8.0135
CCP4	:	6.5.0
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	recalc28949

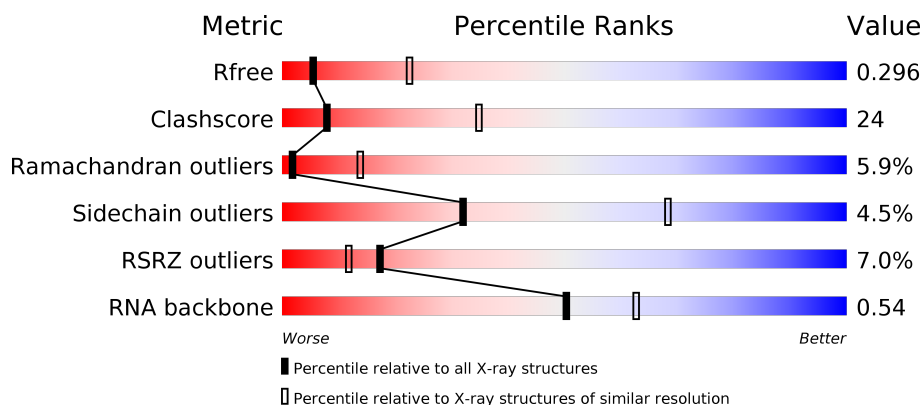
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.25 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))
R_{free}	100719	1247 (3.28-3.20)
Clashscore	112137	1383 (3.28-3.20)
Ramachandran outliers	110173	1358 (3.28-3.20)
Sidechain outliers	110143	1357 (3.28-3.20)
RSRZ outliers	101464	1252 (3.28-3.20)
RNA backbone	2435	1068 (3.68-2.80)

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

Mol	Chain	Length	Quality of chain
1	X	2880	
2	Y	123	
3	A	274	
4	B	211	

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Mol	Chain	Length	Quality of chain
5	C	205	
6	D	180	
7	E	185	
8	F	144	
9	G	174	
10	H	134	
11	I	156	
12	J	141	
13	K	116	
14	L	114	
15	M	166	
16	N	118	
17	O	100	
18	P	134	
19	Q	95	
20	R	115	
21	S	237	
22	T	91	
23	U	81	
24	V	67	
25	W	55	
26	Z	60	
27	1	55	
28	2	47	
29	3	66	

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Mol	Chain	Length	Quality of chain
30	4	37	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	MG	X	2885	-	-	-	X
32	MG	X	2886	-	-	-	X
32	MG	X	2888	-	-	-	X
32	MG	X	2890	-	-	-	X
32	MG	X	2894	-	-	-	X
32	MG	X	2896	-	-	-	X
32	MG	X	2897	-	-	-	X
32	MG	X	2898	-	-	-	X
32	MG	X	2901	-	-	-	X
32	MG	X	2904	-	-	-	X
32	MG	X	2911	-	-	-	X
32	MG	X	2914	-	-	-	X
32	MG	X	2915	-	-	-	X
32	MG	X	2920	-	-	-	X
32	MG	X	2933	-	-	-	X
32	MG	X	2941	-	-	-	X
32	MG	X	2943	-	-	-	X
32	MG	X	2944	-	-	-	X
32	MG	X	2957	-	-	-	X
32	MG	X	2960	-	-	-	X
32	MG	X	2961	-	-	-	X
32	MG	X	2964	-	-	-	X
32	MG	X	2965	-	-	-	X
32	MG	X	2967	-	-	-	X
32	MG	X	2973	-	-	-	X
32	MG	X	2974	-	-	-	X
32	MG	X	2978	-	-	-	X
32	MG	X	2979	-	-	-	X
32	MG	X	2982	-	-	-	X
32	MG	X	2995	-	-	-	X
32	MG	X	3002	-	-	-	X
32	MG	X	3004	-	-	-	X
32	MG	X	3011	-	-	-	X
32	MG	X	3016	-	-	-	X
32	MG	X	3020	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	MG	X	3024	-	-	-	X
33	NA	X	3033	-	-	-	X
33	NA	X	3042	-	-	-	X
33	NA	X	3045	-	-	-	X
33	NA	X	3058	-	-	-	X
33	NA	Y	126	-	-	-	X
34	K	M	167	-	-	-	X
34	K	X	3070	-	-	-	X
34	K	X	3077	-	-	-	X

2 Entry composition

There are 34 unique types of molecules in this entry. The entry contains 84383 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called RIBOSOMAL 23S RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	X	2657	Total	C	N	O	P	0	0	0
			57035	25441	10530	18408	2656			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	Y	120	Total	C	N	O	P	0	0	0
			2561	1143	471	827	120			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A	253	Total	C	N	O	S	0	0	0
			1920	1196	382	340	2			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	C	194	Total	C	N	O	S	0	0	0
			1481	920	284	275	2			

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

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

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

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

- Molecule 8 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	F	63	Total	C	N	O	S	0	0	0
			451	280	82	86	3			

- Molecule 9 is a protein called 50S ribosomal protein L13.

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

- Molecule 10 is a protein called 50S ribosomal protein L14.

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

- Molecule 11 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	I	134	Total	C	N	O	S	0	0	0
			1011	619	206	186				

- Molecule 12 is a protein called 50S ribosomal protein L16.

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

- Molecule 13 is a protein called 50S ribosomal protein L17.

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

- Molecule 14 is a protein called 50S ribosomal protein L18.

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

- Molecule 15 is a protein called 50S ribosomal protein L19.

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

- Molecule 16 is a protein called 50S ribosomal protein L20.

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

- Molecule 17 is a protein called 50S ribosomal protein L21.

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

- Molecule 18 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	P	126	Total	C	N	O	S	0	0	0
			1004	633	197	172	2			

- Molecule 19 is a protein called 50S ribosomal protein L23.

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

- Molecule 20 is a protein called 50S ribosomal protein L24.

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

- Molecule 21 is a protein called 50S ribosomal protein L25.

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

- Molecule 22 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	T	74	Total	C	N	O	S	0	0	0
			556	351	107	97	1			

- Molecule 23 is a protein called 50S ribosomal protein L28.

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

- Molecule 24 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	V	65	Total	C	N	O	S	0	0	0
			525	322	106	95	2			

- Molecule 25 is a protein called 50S ribosomal protein L30.

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

- Molecule 26 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	57	Total	C	N	O	S	0	0	0
			452	278	93	76	5			

- Molecule 27 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	1	53	Total	C	N	O	S	0	0	0
			431	274	80	76	1			

- Molecule 28 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	2	46	Total	C	N	O	S	0	0	0
			383	230	91	60	2			

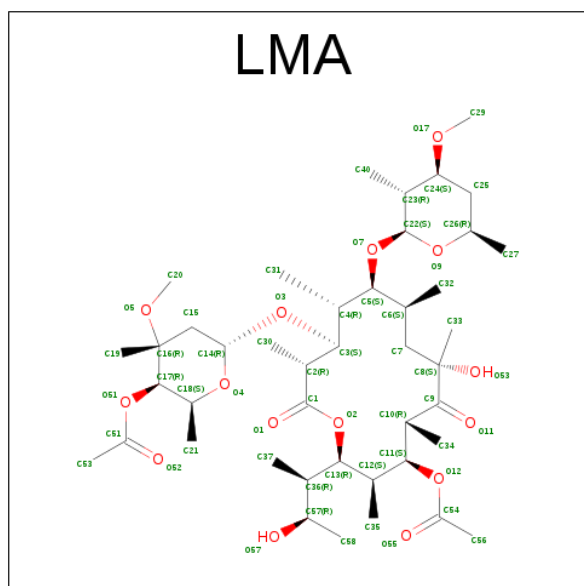
- Molecule 29 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	3	59	Total	C	N	O	S	0	0	0
			462	290	95	73	4			

- Molecule 30 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	4	37	Total	C	N	O	S	0	0	0
			297	179	66	47	5			

- Molecule 31 is LANKAMYCIN (three-letter code: LMA) (formula: $C_{43}H_{74}O_{15}$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
31	X	1	Total	C	O	0	0
			58	43	15		

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	X	151	Total	Mg	0	0
			151	151		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	I	1	Total 1	Mg 1	0	0
32	C	1	Total 1	Mg 1	0	0
32	Y	1	Total 1	Mg 1	0	0

- Molecule 33 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	X	37	Total 37	Na 37	0	0
33	A	1	Total 1	Na 1	0	0
33	Z	1	Total 1	Na 1	0	0
33	Y	2	Total 2	Na 2	0	0
33	K	1	Total 1	Na 1	0	0

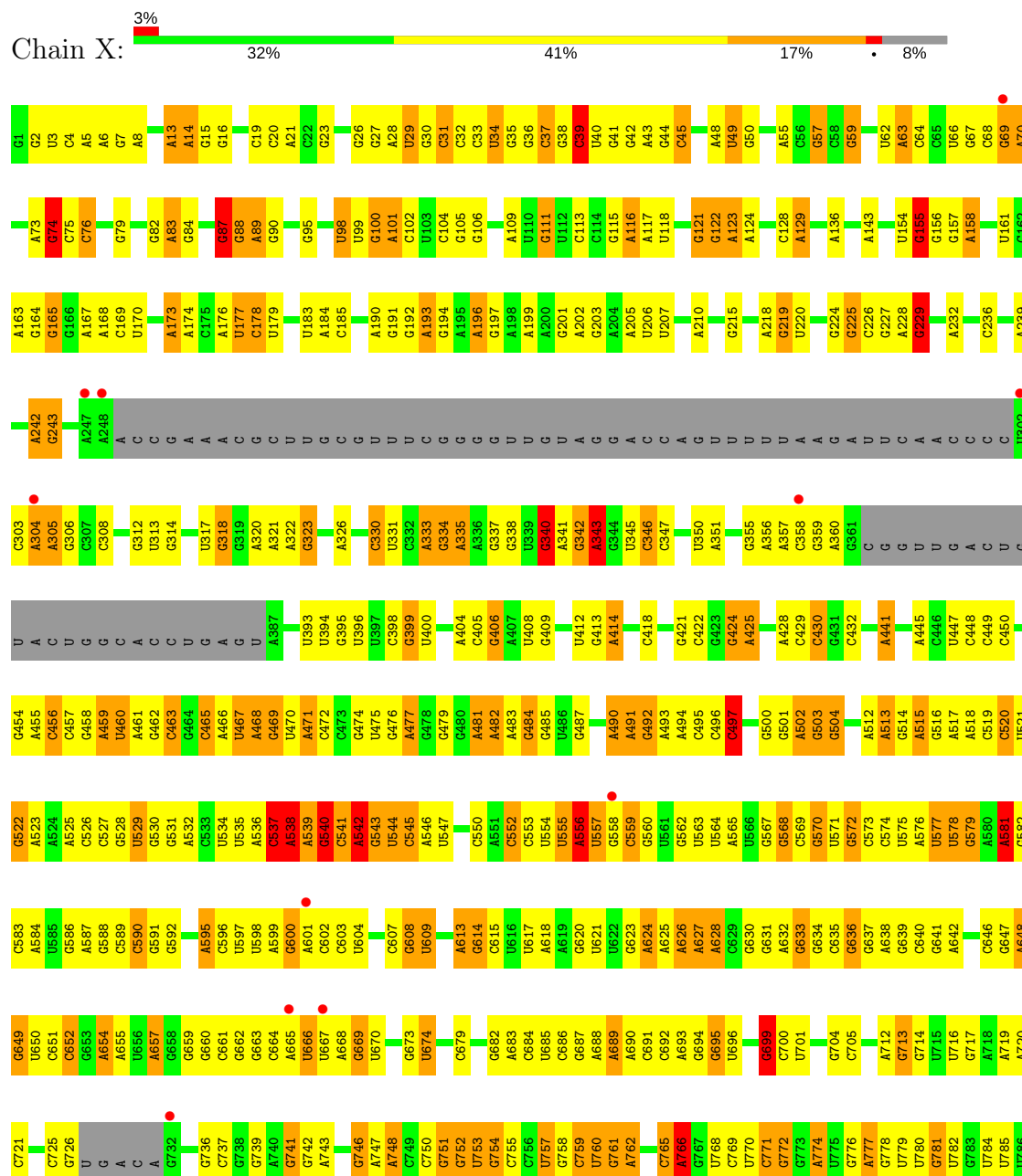
- Molecule 34 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	X	14	Total 14	K 14	0	0
34	M	1	Total 1	K 1	0	0

3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes 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.

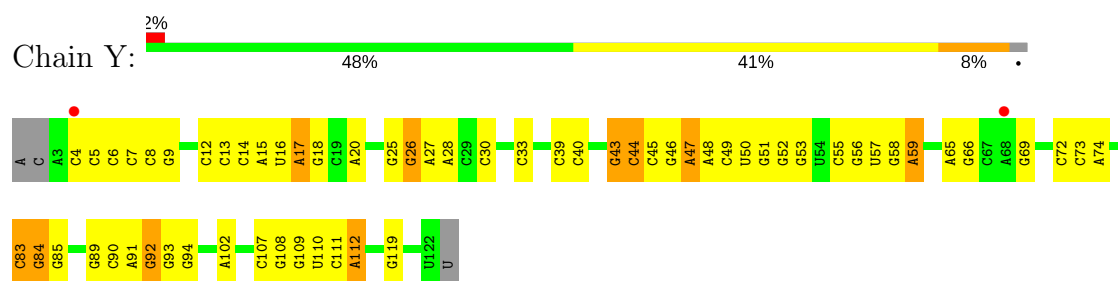
• Molecule 1: RIBOSOMAL 23S RNA



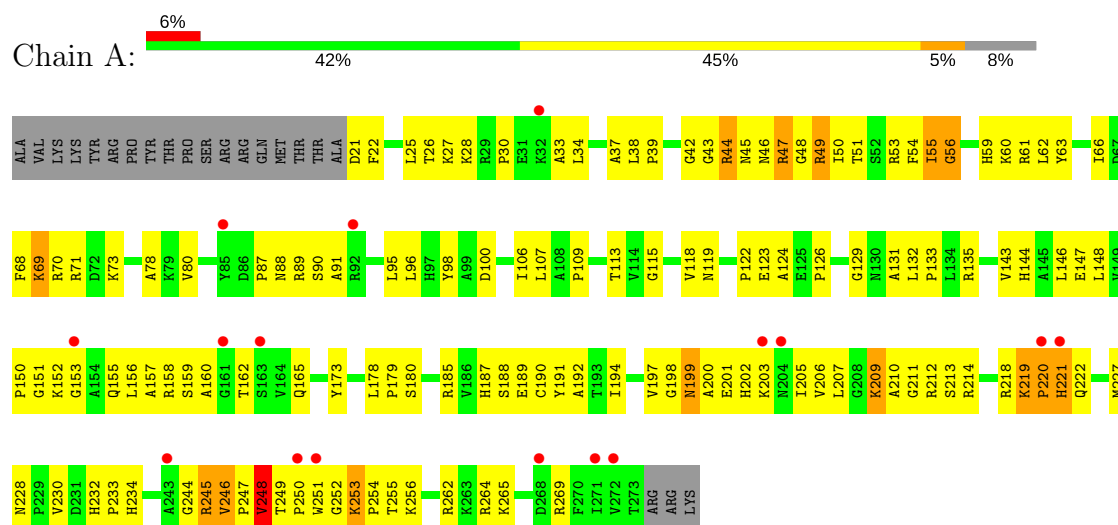


U2850	A2784	U2584	U2516	G2433	A2371	A2290	U2211	U2073	G2007	A1943	C1878
G2851	A2787	G2587	C2517	U2436	A2372	U2291	G2217	U2074	C2008	C1944	G1879
G2852	C2723	G2588	C2518	U2437	C2373	G2292	G2218	U2075	U2009	C1945	U1880
G2853	U2726	G2589	C2519	G2437	C2374	G2293	G2219	C2082	U2010	U1946	U1881
G2854	U2727	C2589	C2520	U2441	G2375	U2298	G2220	G2083	A2011	G1947	A1884
G2855	U2728	C2590	A2521	U2442	U2376	U2299	G2221	G2084	A2012	C1948	C1885
G2856	A2728	C2591	G2522	C2443	G2377	G2300	G2222	G2085	A2013	A1949	G1886
G2857	A2729	U2592	G2523	C2444	G2378	G2301	U2223	G2086	A2014	C1950	G1887
A2858	A2730	U2593	U2524	C2445	G2379	A2301	U2224	U2087	A2015	A1951	G1888
G2793	G2731	U2594	G2527	C2446	U2380	G2302	U2225	U	A2016	A1952	G
A2795	G2732	C2595	G2528	C2447	A2381	G2306	U2226	U	U2017	A1953	G
A2796	A2733	C2596	G2529	G2447	C2382	A2306	C2227	U	G2018	A1954	G
G2797	U2734	G2597	G2530	A2448	C2383	U2306	U2228	U	G2019	G1955	C
A2798	C2735	C2598	U2531	U2452	G2384	G2310	G2229	U	C2023	G1956	C
C2799	U2736	G2599	G2532	C2453	U2385	U2311	C2230	U	U2024	A1960	G
C2800	A2737	U2600	U2533	C2454	G2386	A2312	C2231	G	A2025	U	U
A2801	A2738	A2600	U2534	U2544	U2387	G2313	G2234	U	G2026	G1963	A
G2804	U2739	G2604	A2455	A2455	G2388	A2314	G2235	G	C2027	A1964	A
G2805	C2740	C2605	U2456	U2456	G2389	A2315	U2236	U	G2028	U1965	C
G2806	G2741	U2607	A2457	A2457	A2390	C2321	C2237	A	U2029	U1966	U
G2807	G2742	A2608	U2541	U2458	A2391	G2322	G2238	G	G2030	C1966	A
U2808	A2743	G2609	A2543	U2459	G2392	U2323	C2239	G	U2031	U1967	U
A2809	A2744	U2610	A2544	A2467	G2393	U2324	G2240	C	G2032	G1968	A
A2810	A2745	G2611	A2545	G2468	G2394	C2324	U2241	U	U2033	A1969	A
G2811	U2748	G2612	G2546	G2469	C2395	A2325	C2242	C	C2034	G1970	C
A2812	C2751	A2613	C2547	U2470	C2396	C2326	U2245	G	A2035	C1971	G
G2813	U2752	A2614	G2548	U2471	A2397	U2327	A2246	U	G2036	G1972	G
G2814	G2753	U2615	G2549	C2475	U2398	G2328	A2247	G	A2037	U1973	U
C2815	C2754	G2617	A2551	C2476	A2401	C2329	G2247	G	G2038	G1974	C
G2816	U2755	A2618	C2552	C2477	U2402	G2330	U2251	A	U2039	U1975	C
A2817	A2756	G2688	G2553	U2478	C2403	A2331	U2252	A	A2040	C1976	U1909
G2818	G2757	A2689	C2554	C2479	C2404	G2336	A2253	G	A2041	C1977	A1910
C2819	A2758	G2691	C2555	G2480	A2405	A2337	C2254	C	A2042	U1978	A1911
G2820	U2759	A2692	A2556	G2481	C2406	C2338	U2171	C	G2043	C1979	G1912
G2821	U2760	U2625	G2557	A2482	G2407	A2339	G2255	U	A2044	A1980	G1913
U2822	G2761	G2694	C2558	U2483	G2408	C2340	G2256	G	A2045	A1981	U1914
G2823	A2762	C2695	U2559	G2484	A2409	G2341	G2258	U	C2046	C1982	U
C2824	U2763	A2696	G2560	U2485	U2410	U2342	G2259	C	C2047	G1983	C1917
A2825	G2764	G2697	G2561	C2486	A2413	U2343	G2260	G	C2048	G1918	G1918
C2826	U2765	U2698	U2562	U2487	A2414	A2348	C2261	A	A2049	A1987	A1920
G2827	C2766	G2699	U2563	C2491	G2415	G2349	C2262	A	G2050	A1988	A1921
C2828	U2767	U2700	U2564	G2492	U2416	G2350	C2263	C	U2051	C1989	U1922
U2832	C2768	A2701	C2565	G2493	U2417	G2353	C2264	U	G2052	U1990	U1923
U2836	C2769	G2702	A2566	U2494	A2418	G2354	A2265	G	A2053	C1991	C1924
G2837	A2770	C2703	G2567	G2495	C2419	G2355	A2266	G	A2054	G1992	C1925
U2838	U2771	U2704	A2568	G2496	C2420	A2356	A2267	C	G2055	G1993	U1926
U2839	U2772	A2705	A2569	C2497	G2421	A2356	C2195	U	C2056	U1994	U1927
U2840	G2773	G2706	C2570	U2498	C2422	A2356	A2272	U	U2057	G1995	G1928
G2841	U	U2708	U2571	C2499	G2423	C2360	C2273	U	U2058	A1996	U1929
C2842	U	C2709	G2572	C2499	G2424	G2361	C2274	U	U2059	A1997	U1929
A2843	A	G2710	U2573	U2501	G2425	G2362	G2282	U	A2060	A1998	G1930
G2844	U	G2711	G2574	U2501	G2426	C2363	G2283	G	G2061	A1999	G1931
C2845	U	G2712	U2575	G2505	G2427	C2364	G2284	U	U2062	U2000	G1932
G2846	C	A2713	C2578	C2506	U2428	U2365	U2285	G	A2063	G2001	G1937
G2847	A2780	G2716	A2581	U2507	U2429	A2367	G2286	U	U2064	A2002	U1938
A2848	G2781	G2717	G2582	G2508	A2430	G2368	G2287	C	A2065	A2003	U1939
G2849	U2783	A2718	U2583	A2509	C2431	U2369	A2288	G	U2067	U2004	C1941
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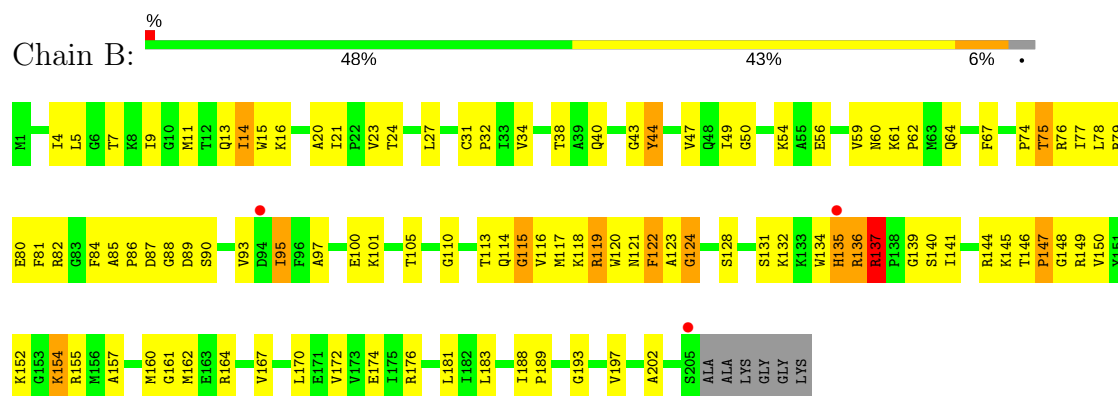
• Molecule 2: 5S ribosomal RNA



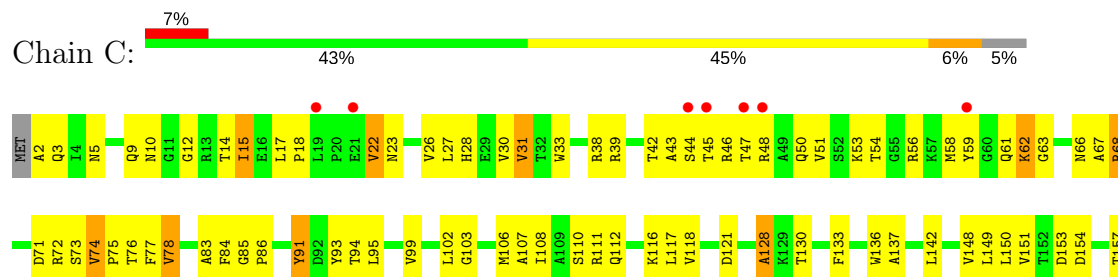
• Molecule 3: 50S ribosomal protein L2

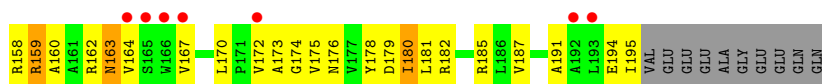


• Molecule 4: 50S ribosomal protein L3

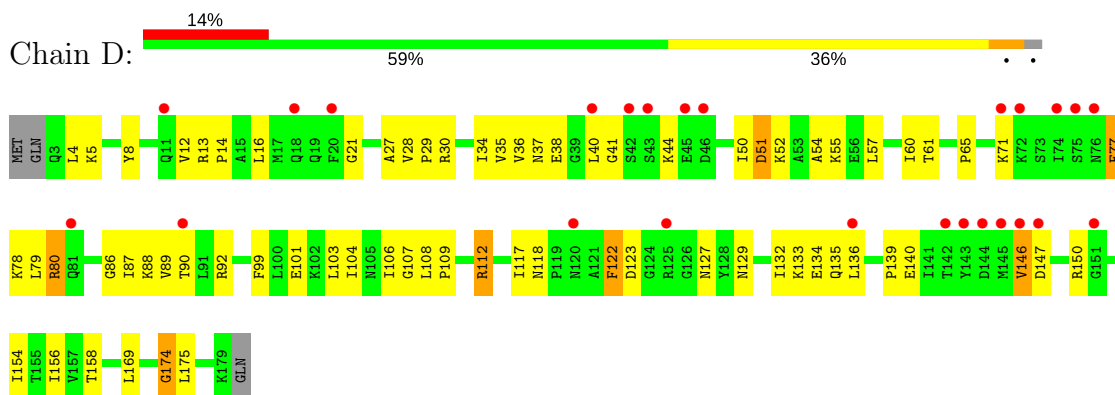


• Molecule 5: 50S ribosomal protein L4

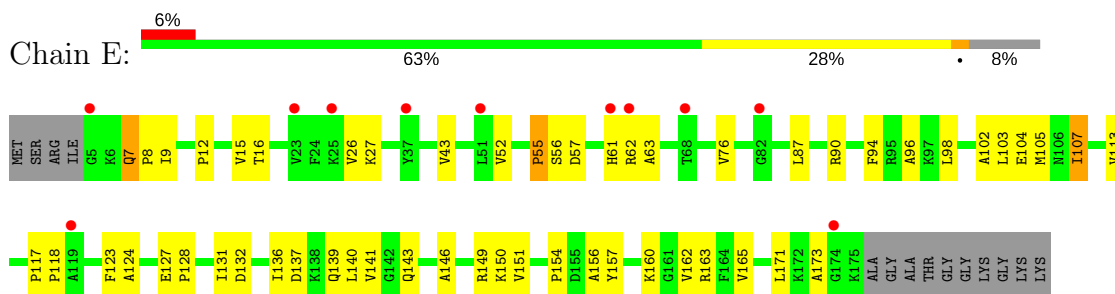




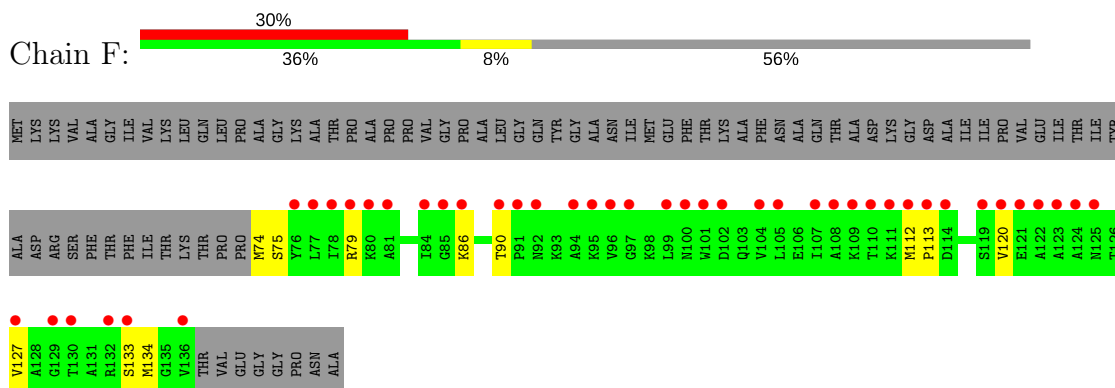
• Molecule 6: 50S ribosomal protein L5



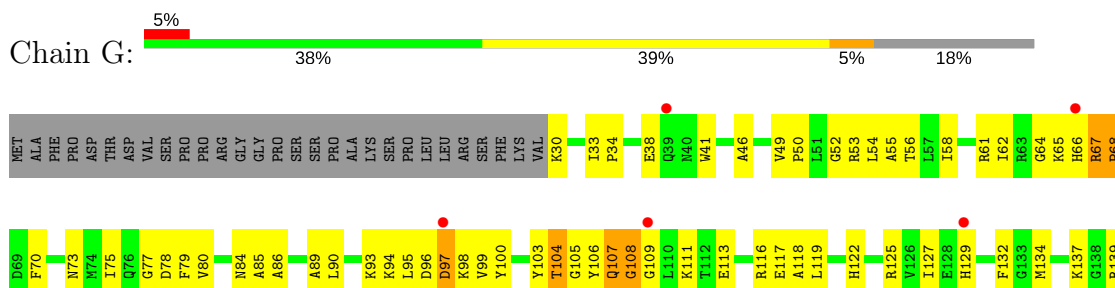
• Molecule 7: 50S ribosomal protein L6



• Molecule 8: 50S ribosomal protein L11

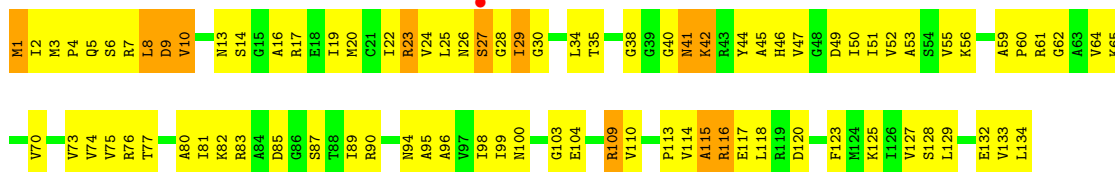
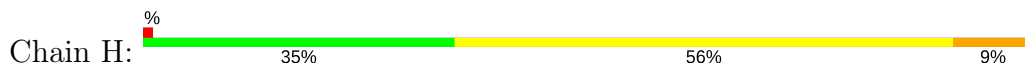


• Molecule 9: 50S ribosomal protein L13

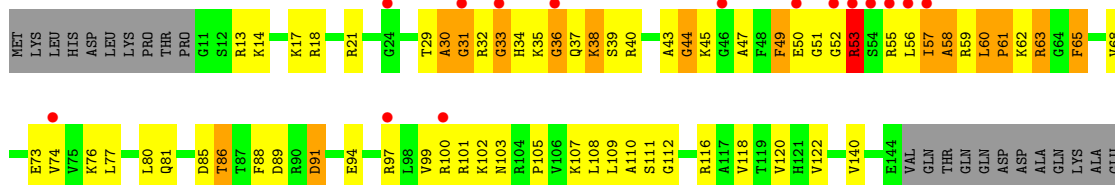




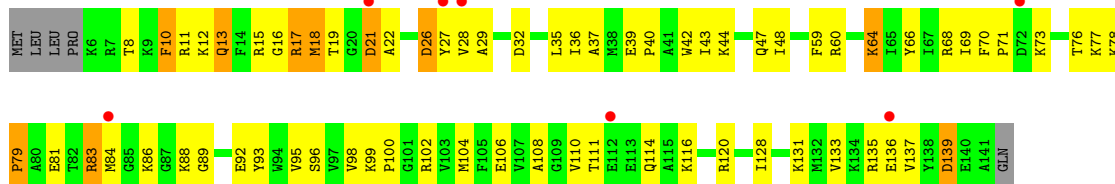
• Molecule 10: 50S ribosomal protein L14



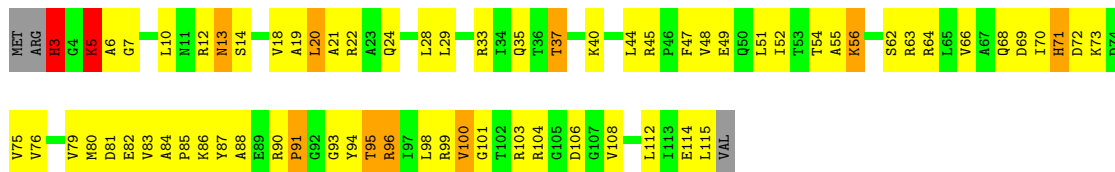
• Molecule 11: 50S ribosomal protein L15



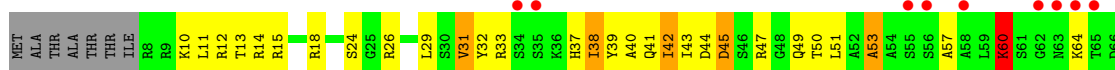
• Molecule 12: 50S ribosomal protein L16

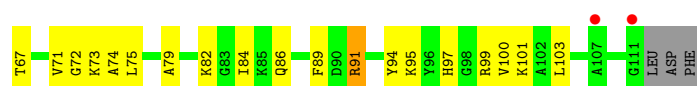


• Molecule 13: 50S ribosomal protein L17

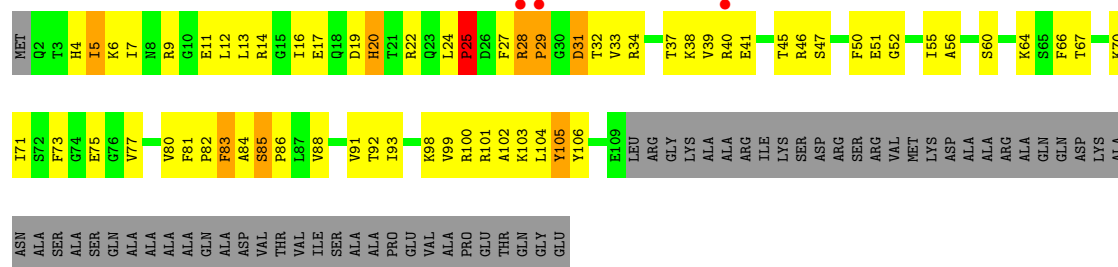
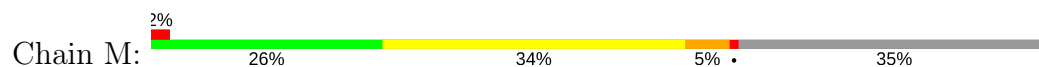


• Molecule 14: 50S ribosomal protein L18

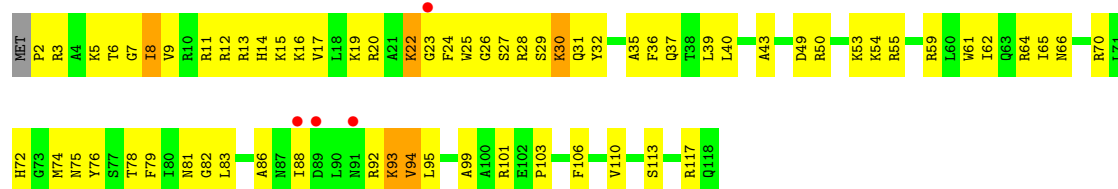




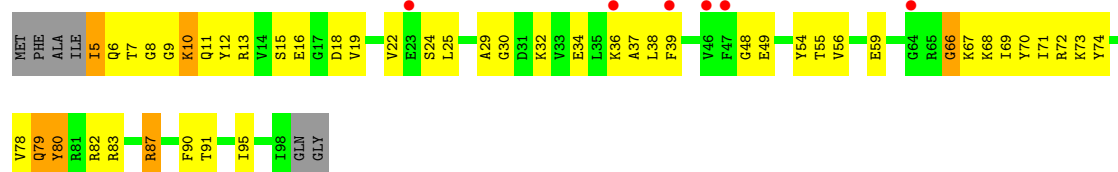
• Molecule 15: 50S ribosomal protein L19



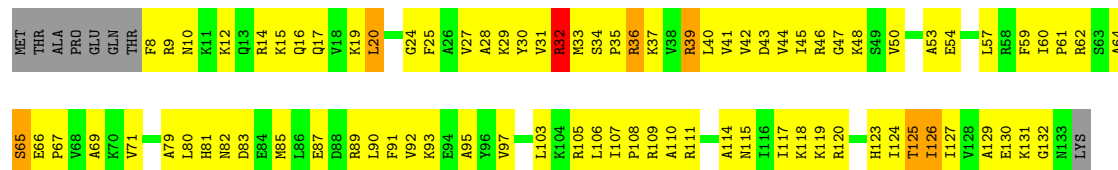
• Molecule 16: 50S ribosomal protein L20



• Molecule 17: 50S ribosomal protein L21

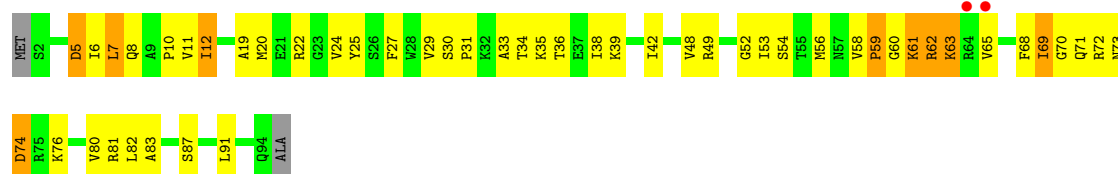


• Molecule 18: 50S ribosomal protein L22

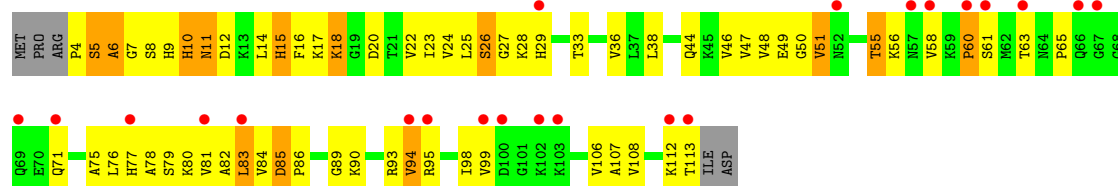


• Molecule 19: 50S ribosomal protein L23

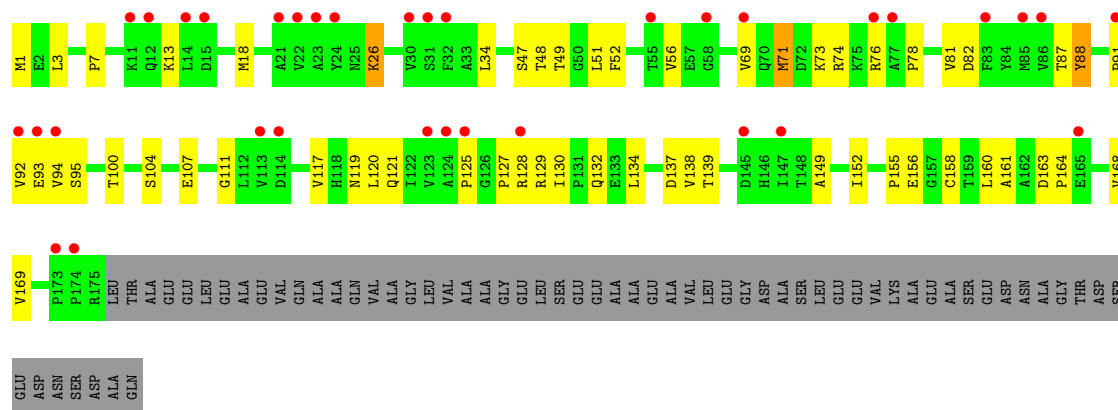




- Molecule 20: 50S ribosomal protein L24



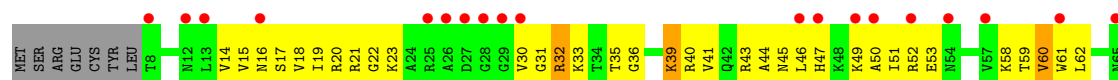
- Molecule 21: 50S ribosomal protein L25

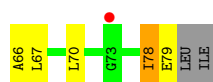


- Molecule 22: 50S ribosomal protein L27



- Molecule 23: 50S ribosomal protein L28





- Molecule 24: 50S ribosomal protein L29



- Molecule 25: 50S ribosomal protein L30



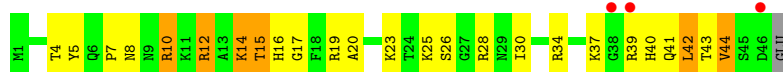
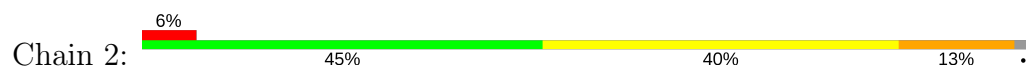
- Molecule 26: 50S ribosomal protein L32



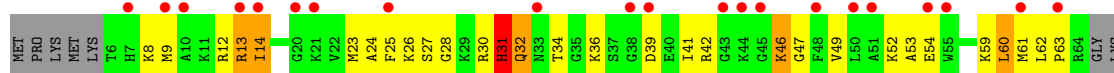
- Molecule 27: 50S ribosomal protein L33



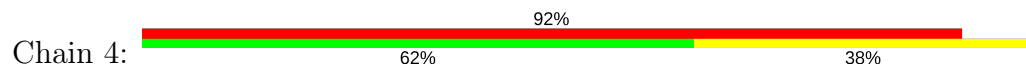
- Molecule 28: 50S ribosomal protein L34



- Molecule 29: 50S ribosomal protein L35



- Molecule 30: 50S ribosomal protein L36



M1	R2	V3	R4	S5	S6	V7	R8	R9	M10	C11	D12	M13	C14	K15	V16	V17	R18	R19	H20	G21	R22	V23	L24	V25	I26	C27	S28	N29	V30	K31	H32	K33	Q34	R35	Q36	G37
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4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	170.59Å 410.20Å 695.08Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 3.25 34.75 – 3.25	Depositor EDS
% Data completeness (in resolution range)	93.3 (20.00-3.25) 93.3 (34.75-3.25)	Depositor EDS
R_{merge}	0.18	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.09 (at 3.25Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE: 1.6.4_486)	Depositor
R, R_{free}	0.252 , 0.294 0.257 , 0.296	Depositor DCC
R_{free} test set	3589 reflections (1.01%)	DCC
Wilson B-factor (Å ²)	73.8	Xtriage
Anisotropy	0.636	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.20 , 65.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	84383	wwPDB-VP
Average B, all atoms (Å ²)	112.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.54% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: NA, K, MG, LMA

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	X	0.69	12/63867 (0.0%)	1.28	804/99618 (0.8%)
2	Y	0.46	0/2863	0.86	5/4461 (0.1%)
3	A	0.49	1/1958 (0.1%)	0.65	2/2638 (0.1%)
4	B	0.55	0/1567	0.79	0/2105
5	C	0.52	0/1504	0.67	0/2036
6	D	0.31	0/1419	0.45	0/1903
7	E	0.33	0/1308	0.48	0/1771
8	F	0.22	0/455	0.37	0/611
9	G	0.57	0/1138	0.70	0/1539
10	H	0.63	0/1007	0.84	0/1352
11	I	0.54	0/1022	0.64	0/1366
12	J	0.48	0/1113	0.63	0/1486
13	K	0.81	1/886 (0.1%)	1.06	6/1188 (0.5%)
14	L	0.40	0/785	0.56	0/1048
15	M	0.67	0/884	0.88	1/1186 (0.1%)
16	N	0.55	0/994	0.71	0/1323
17	O	0.44	0/750	0.62	0/1000
18	P	0.58	0/1017	0.79	1/1362 (0.1%)
19	Q	0.47	0/737	0.63	0/988
20	R	0.45	0/835	0.59	0/1121
21	S	0.33	0/1370	0.48	0/1862
22	T	0.43	0/563	0.56	0/747
23	U	0.40	0/556	0.58	0/741
24	V	0.31	0/529	0.47	0/704
25	W	0.39	0/426	0.65	0/568
26	Z	0.56	0/464	0.79	0/622
27	1	0.48	0/438	0.56	0/583
28	2	0.56	0/387	0.71	0/509
29	3	0.59	0/468	0.65	0/614
30	4	0.22	0/298	0.37	0/390
All	All	0.63	14/91608 (0.0%)	1.15	819/137442 (0.6%)

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	1977	C	P-O5'	-7.09	1.52	1.59
1	X	774	A	N7-C5	7.06	1.43	1.39
1	X	1333	G	O3'-P	-6.43	1.53	1.61
1	X	1202	U	O3'-P	-6.42	1.53	1.61
1	X	774	A	N9-C8	6.38	1.42	1.37
1	X	1975	G	C6-N1	-6.25	1.35	1.39
1	X	1688	U	C2-N3	6.11	1.42	1.37
1	X	774	A	N3-C4	6.01	1.38	1.34
1	X	2857	C	N1-C6	-6.01	1.33	1.37
1	X	577	U	C4-O4	5.82	1.28	1.23
13	K	3	HIS	CA-C	5.60	1.67	1.52
1	X	2398	U	C2-N3	-5.53	1.33	1.37
3	A	248	VAL	CB-CG2	-5.21	1.42	1.52
1	X	1467	U	N1-C2	5.12	1.43	1.38

All (819) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1975	G	N1-C6-O6	-19.89	107.97	119.90
1	X	774	A	C5-N7-C8	-17.57	95.12	103.90
1	X	774	A	C4-C5-C6	-17.47	108.26	117.00
1	X	1670	G	C8-N9-C4	15.74	112.69	106.40
1	X	774	A	C4-C5-N7	14.89	118.15	110.70
1	X	1679	U	C5-C6-N1	-14.87	115.27	122.70
1	X	1683	G	N1-C6-O6	-14.47	111.22	119.90
1	X	1467	U	N3-C2-O2	-14.36	112.15	122.20
1	X	2480	C	N3-C2-O2	13.37	131.26	121.90
1	X	1305	C	C6-N1-C2	12.91	125.46	120.30
1	X	1683	G	C5-C6-O6	12.88	136.33	128.60
1	X	774	A	N1-C2-N3	-12.52	123.04	129.30
1	X	1670	G	N7-C8-N9	-12.50	106.85	113.10
1	X	2548	G	N1-C6-O6	-12.12	112.63	119.90
1	X	2480	C	N1-C2-O2	-11.88	111.77	118.90
1	X	774	A	N7-C8-N9	11.32	119.46	113.80
1	X	1266	G	C5-N7-C8	11.31	109.95	104.30
1	X	968	C	N1-C2-O2	11.09	125.56	118.90
1	X	989	G	C8-N9-C4	11.06	110.82	106.40
1	X	1663	C	N1-C2-O2	10.96	125.48	118.90
1	X	1975	G	C5-C6-N1	10.95	116.97	111.50
1	X	2703	C	C6-N1-C2	10.84	124.64	120.30
1	X	2634	G	C8-N9-C4	10.81	110.72	106.40
1	X	1975	G	C5-C6-O6	10.74	135.04	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1266	G	C4-C5-N7	-10.72	106.51	110.80
1	X	1982	C	C5-C6-N1	-10.67	115.67	121.00
1	X	2666	U	C5-C6-N1	-10.63	117.39	122.70
1	X	1674	C	C5-C6-N1	-10.58	115.71	121.00
1	X	1288	A	C5-C6-N1	-10.57	112.42	117.70
1	X	1467	U	N1-C2-O2	10.44	130.11	122.80
1	X	1288	A	C2-N3-C4	-10.44	105.38	110.60
1	X	527	C	N1-C2-O2	10.41	125.14	118.90
1	X	2805	G	N1-C6-O6	-10.28	113.73	119.90
1	X	1674	C	C6-N1-C2	10.24	124.40	120.30
1	X	1291	G	C8-N9-C4	10.18	110.47	106.40
1	X	559	C	C5-C6-N1	10.15	126.07	121.00
1	X	2590	U	C4-C5-C6	10.12	125.77	119.70
1	X	522	G	N1-C6-O6	10.07	125.94	119.90
1	X	2590	U	N1-C2-N3	9.93	120.86	114.90
1	X	577	U	N3-C4-C5	-9.82	108.71	114.60
1	X	2398	U	N3-C4-C5	9.73	120.44	114.60
1	X	774	A	C5-C6-N1	9.68	122.54	117.70
1	X	2590	U	N1-C2-O2	-9.54	116.12	122.80
1	X	1679	U	C2-N3-C4	-9.46	121.33	127.00
1	X	1266	G	N7-C8-N9	-9.40	108.40	113.10
1	X	1212	U	C5-C6-N1	-9.39	118.00	122.70
1	X	2618	A	N1-C2-N3	9.38	133.99	129.30
1	X	1981	A	N7-C8-N9	-9.28	109.16	113.80
1	X	1676	U	C5-C6-N1	-9.23	118.08	122.70
1	X	503	G	C8-N9-C4	9.13	110.05	106.40
1	X	1981	A	C5-N7-C8	9.13	108.46	103.90
1	X	2815	C	C6-N1-C2	9.12	123.95	120.30
1	X	789	G	N1-C6-O6	9.11	125.37	119.90
1	X	1309	G	C8-N9-C4	9.09	110.04	106.40
1	X	1211	G	C8-N9-C4	9.07	110.03	106.40
1	X	2815	C	C5-C6-N1	-9.07	116.46	121.00
1	X	796	A	N1-C6-N6	9.06	124.03	118.60
1	X	538	A	C2-N3-C4	8.99	115.09	110.60
1	X	2846	G	C8-N9-C4	8.97	109.99	106.40
1	X	1770	U	C5-C6-N1	-8.96	118.22	122.70
1	X	2665	G	N7-C8-N9	-8.95	108.63	113.10
1	X	2665	G	C8-N9-C4	8.89	109.96	106.40
1	X	2807	U	C5-C6-N1	-8.88	118.26	122.70
1	X	2553	G	C8-N9-C4	-8.88	102.85	106.40
1	X	774	A	N9-C4-C5	-8.85	102.26	105.80
1	X	2038	C	N1-C2-O2	8.83	124.20	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2548	G	C5-C6-O6	8.76	133.85	128.60
1	X	2705	A	C8-N9-C4	8.76	109.30	105.80
1	X	1702	C	C6-N1-C2	8.73	123.79	120.30
1	X	1660	G	N1-C6-O6	-8.71	114.68	119.90
1	X	559	C	C2-N3-C4	8.65	124.23	119.90
1	X	1743	C	C5-C6-N1	-8.65	116.68	121.00
1	X	1982	C	C4-C5-C6	8.63	121.72	117.40
1	X	1937	G	C8-N9-C4	8.62	109.85	106.40
3	A	248	VAL	CG1-CB-CG2	-8.59	97.16	110.90
1	X	989	G	N7-C8-N9	-8.57	108.82	113.10
1	X	2712	G	N1-C6-O6	-8.56	114.77	119.90
1	X	1279	G	N7-C8-N9	-8.53	108.83	113.10
1	X	1968	G	C8-N9-C4	8.48	109.79	106.40
1	X	2496	C	N3-C4-C5	8.46	125.28	121.90
1	X	1678	G	N1-C6-O6	-8.45	114.83	119.90
1	X	2597	G	C5-C6-O6	8.38	133.63	128.60
1	X	1662	G	N1-C6-O6	-8.37	114.88	119.90
1	X	1670	G	C5-N7-C8	8.30	108.45	104.30
1	X	2689	C	C6-N1-C2	8.23	123.59	120.30
1	X	1688	U	N3-C4-O4	8.14	125.10	119.40
1	X	1993	G	C2-N3-C4	-8.12	107.84	111.90
1	X	2792	C	C5-C6-N1	-8.08	116.96	121.00
1	X	1966	C	C5-C6-N1	-8.07	116.96	121.00
1	X	2033	C	N3-C2-O2	-8.07	116.25	121.90
1	X	1981	A	C8-N9-C4	8.05	109.02	105.80
1	X	1278	A	C8-N9-C4	-8.04	102.59	105.80
1	X	961	G	C5-C6-O6	8.03	133.42	128.60
1	X	1305	C	C5-C6-N1	-8.03	116.99	121.00
1	X	1653	C	C6-N1-C2	8.03	123.51	120.30
1	X	787	A	C2-N3-C4	-8.02	106.59	110.60
1	X	2713	A	C8-N9-C4	8.01	109.00	105.80
1	X	1978	U	N1-C2-O2	-8.01	117.19	122.80
1	X	1279	G	C5-N7-C8	7.99	108.30	104.30
1	X	538	A	C5-C6-N1	7.94	121.67	117.70
1	X	2809	A	C5-C6-N6	-7.94	117.35	123.70
1	X	1700	C	C6-N1-C2	7.92	123.47	120.30
1	X	1291	G	N7-C8-N9	-7.92	109.14	113.10
1	X	2478	C	C6-N1-C2	-7.92	117.13	120.30
1	X	741	G	N7-C8-N9	-7.91	109.15	113.10
1	X	1702	C	C5-C6-N1	-7.86	117.07	121.00
1	X	559	C	C6-N1-C2	-7.83	117.17	120.30
1	X	1680	U	C5-C6-N1	-7.83	118.78	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	689	A	C5-N7-C8	-7.83	99.99	103.90
1	X	2681	A	N1-C6-N6	7.82	123.29	118.60
1	X	741	G	C8-N9-C4	7.80	109.52	106.40
1	X	1984	A	N1-C6-N6	-7.79	113.93	118.60
1	X	2665	G	C5-N7-C8	7.78	108.19	104.30
1	X	1679	U	C6-N1-C2	7.76	125.66	121.00
1	X	1991	C	C5-C6-N1	-7.76	117.12	121.00
1	X	1984	A	N1-C2-N3	7.76	133.18	129.30
1	X	1975	G	C6-N1-C2	-7.69	120.49	125.10
1	X	2703	C	C5-C6-N1	-7.68	117.16	121.00
1	X	2590	U	C5-C6-N1	-7.67	118.86	122.70
1	X	1655	C	C5-C6-N1	-7.67	117.17	121.00
1	X	2855	C	N3-C2-O2	7.67	127.27	121.90
1	X	968	C	C2-N1-C1'	7.63	127.19	118.80
1	X	2655	C	C6-N1-C2	7.63	123.35	120.30
1	X	2247	A	N1-C6-N6	7.61	123.17	118.60
1	X	520	C	N1-C2-O2	-7.58	114.35	118.90
1	X	1642	G	C2-N3-C4	-7.57	108.11	111.90
1	X	1278	A	N7-C8-N9	7.55	117.57	113.80
1	X	1980	A	C5-N7-C8	7.54	107.67	103.90
1	X	1212	U	C5-C4-O4	7.53	130.42	125.90
1	X	2493	U	C5-C6-N1	-7.53	118.93	122.70
1	X	2023	C	C6-N1-C2	7.51	123.31	120.30
1	X	1982	C	C2-N3-C4	-7.50	116.15	119.90
1	X	1211	G	N9-C4-C5	-7.48	102.41	105.40
1	X	2701	A	N1-C2-N3	7.46	133.03	129.30
1	X	1304	U	C5-C6-N1	-7.46	118.97	122.70
1	X	1995	G	C8-N9-C4	7.46	109.38	106.40
1	X	2705	A	N9-C4-C5	-7.45	102.82	105.80
1	X	542	A	N1-C6-N6	7.44	123.07	118.60
1	X	1305	C	N3-C2-O2	7.42	127.09	121.90
1	X	2430	A	N1-C6-N6	-7.41	114.16	118.60
1	X	968	C	C6-N1-C1'	-7.40	111.92	120.80
1	X	1674	C	N3-C4-C5	7.37	124.85	121.90
1	X	1270	C	N3-C4-C5	-7.35	118.96	121.90
1	X	1674	C	C2-N3-C4	-7.34	116.23	119.90
1	X	1700	C	C5-C6-N1	-7.34	117.33	121.00
1	X	1993	G	N1-C6-O6	7.33	124.30	119.90
1	X	825	C	C6-N1-C2	7.32	123.23	120.30
1	X	1674	C	N3-C4-N4	-7.32	112.88	118.00
18	P	32	ARG	NE-CZ-NH1	7.30	123.95	120.30
1	X	1211	G	N3-C2-N2	7.30	125.01	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2805	G	C5-C6-O6	7.28	132.97	128.60
1	X	538	A	N1-C2-N3	-7.28	125.66	129.30
1	X	1683	G	C6-C5-N7	7.27	134.76	130.40
1	X	1275	A	N1-C6-N6	7.27	122.96	118.60
1	X	2766	U	C5-C6-N1	-7.26	119.07	122.70
1	X	1928	G	N1-C6-O6	-7.26	115.55	119.90
1	X	1622	G	N1-C6-O6	-7.25	115.55	119.90
1	X	787	A	C5-C6-N1	-7.25	114.08	117.70
1	X	1748	U	N3-C2-O2	7.24	127.27	122.20
1	X	1142	G	N3-C2-N2	7.23	124.96	119.90
1	X	1467	U	C4-C5-C6	7.22	124.03	119.70
1	X	1743	C	C6-N1-C2	7.22	123.19	120.30
1	X	1775	A	C8-N9-C4	7.22	108.69	105.80
1	X	527	C	C6-N1-C2	-7.21	117.42	120.30
1	X	2748	C	C6-N1-C2	7.20	123.18	120.30
1	X	1989	C	N3-C2-O2	7.17	126.92	121.90
1	X	542	A	N7-C8-N9	7.16	117.38	113.80
1	X	2671	C	C6-N1-C2	-7.14	117.44	120.30
1	X	1937	G	N7-C8-N9	-7.14	109.53	113.10
1	X	2717	G	C5-C6-N1	7.13	115.07	111.50
1	X	966	A	N1-C6-N6	7.13	122.88	118.60
1	X	1341	G	C8-N9-C4	7.12	109.25	106.40
1	X	2398	U	N3-C4-O4	-7.12	114.42	119.40
1	X	1278	A	N1-C6-N6	7.10	122.86	118.60
1	X	2611	A	C8-N9-C4	7.10	108.64	105.80
1	X	961	G	N1-C6-O6	-7.10	115.64	119.90
1	X	2040	A	C8-N9-C4	7.10	108.64	105.80
1	X	825	C	N1-C2-O2	-7.10	114.64	118.90
1	X	1305	C	N1-C2-O2	-7.08	114.65	118.90
1	X	2809	A	C5-C6-N1	7.06	121.23	117.70
1	X	1279	G	C8-N9-C4	7.06	109.22	106.40
1	X	2820	C	N3-C4-N4	-7.06	113.06	118.00
1	X	1245	G	N1-C6-O6	-7.05	115.67	119.90
1	X	545	C	C5-C6-N1	-7.04	117.48	121.00
1	X	2423	G	N1-C6-O6	-7.03	115.68	119.90
1	X	2765	C	C5-C6-N1	-7.03	117.48	121.00
1	X	1972	G	C8-N9-C4	-7.03	103.59	106.40
1	X	1289	A	N9-C4-C5	-7.02	102.99	105.80
1	X	1471	G	C5-C6-N1	7.01	115.01	111.50
1	X	2569	A	C8-N9-C4	7.01	108.60	105.80
1	X	1321	A	C8-N9-C4	7.01	108.60	105.80
1	X	883	A	C8-N9-C4	7.00	108.60	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1286	U	N1-C2-O2	-7.00	117.90	122.80
1	X	1679	U	C4-C5-C6	7.00	123.90	119.70
1	X	1663	C	N1-C2-N3	-6.99	114.31	119.20
1	X	789	G	C5-C6-O6	-6.99	124.41	128.60
1	X	799	C	C6-N1-C2	6.98	123.09	120.30
1	X	1989	C	C4-C5-C6	-6.97	113.91	117.40
1	X	2702	G	N1-C6-O6	-6.96	115.72	119.90
1	X	2551	A	C8-N9-C4	6.95	108.58	105.80
13	K	99	ARG	NE-CZ-NH1	6.94	123.77	120.30
1	X	2741	G	C8-N9-C4	6.92	109.17	106.40
1	X	2793	G	C8-N9-C4	6.91	109.16	106.40
1	X	527	C	N3-C2-O2	-6.91	117.06	121.90
1	X	1720	G	C8-N9-C4	6.91	109.16	106.40
1	X	1766	U	C5-C6-N1	-6.90	119.25	122.70
1	X	2600	A	N1-C6-N6	-6.90	114.46	118.60
1	X	2520	A	N1-C6-N6	-6.89	114.47	118.60
1	X	741	G	C5-N7-C8	6.88	107.74	104.30
1	X	2634	G	N7-C8-N9	-6.88	109.66	113.10
1	X	746	G	N1-C6-O6	-6.87	115.78	119.90
1	X	757	U	C5-C6-N1	-6.87	119.26	122.70
1	X	2807	U	C6-N1-C2	6.87	125.12	121.00
1	X	840	U	C5-C6-N1	-6.87	119.27	122.70
1	X	1633	C	C6-N1-C2	6.87	123.05	120.30
1	X	802	A	N1-C6-N6	6.86	122.72	118.60
1	X	1682	A	C2-N3-C4	6.86	114.03	110.60
1	X	542	A	C5-N7-C8	-6.86	100.47	103.90
1	X	1324	G	N1-C6-O6	6.85	124.01	119.90
1	X	545	C	C6-N1-C2	6.85	123.04	120.30
1	X	1670	G	N3-C4-C5	6.85	132.02	128.60
1	X	2559	U	N3-C4-O4	6.84	124.19	119.40
1	X	1773	C	N1-C2-O2	6.83	123.00	118.90
1	X	1471	G	N3-C4-N9	6.83	130.10	126.00
1	X	841	G	C4-C5-N7	6.82	113.53	110.80
1	X	841	G	C5-N7-C8	-6.79	100.90	104.30
1	X	1676	U	C6-N1-C2	6.77	125.06	121.00
1	X	1920	A	C8-N9-C4	6.76	108.50	105.80
1	X	1655	C	C6-N1-C2	6.76	123.00	120.30
1	X	2655	C	C5-C6-N1	-6.75	117.63	121.00
1	X	527	C	C5-C6-N1	6.73	124.36	121.00
1	X	2467	A	N1-C6-N6	-6.73	114.56	118.60
1	X	1920	A	N7-C8-N9	-6.73	110.44	113.80
1	X	2852	G	C8-N9-C4	6.71	109.08	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1966	C	C6-N1-C2	6.70	122.98	120.30
1	X	1968	G	N7-C8-N9	-6.70	109.75	113.10
1	X	577	U	C4-C5-C6	6.69	123.72	119.70
1	X	1576	G	C8-N9-C4	-6.69	103.72	106.40
1	X	1285	A	C5-C6-N1	-6.68	114.36	117.70
1	X	1339	U	N3-C2-O2	-6.67	117.53	122.20
1	X	559	C	N3-C4-C5	-6.66	119.24	121.90
1	X	1748	U	C6-N1-C2	6.66	124.99	121.00
1	X	544	U	N3-C2-O2	-6.65	117.54	122.20
1	X	1931	G	C8-N9-C4	-6.63	103.75	106.40
1	X	2007	G	C4-C5-N7	-6.63	108.15	110.80
1	X	2495	G	N1-C6-O6	-6.62	115.93	119.90
1	X	2398	U	C2-N3-C4	-6.61	123.03	127.00
1	X	1653	C	C5-C6-N1	-6.61	117.70	121.00
1	X	477	A	C8-N9-C4	6.60	108.44	105.80
1	X	1988	A	C8-N9-C4	6.60	108.44	105.80
1	X	196	A	N1-C6-N6	-6.60	114.64	118.60
1	X	1770	U	C5-C4-O4	6.60	129.86	125.90
1	X	951	G	N1-C6-O6	-6.59	115.95	119.90
1	X	936	A	N1-C6-N6	-6.59	114.65	118.60
1	X	1975	G	N1-C2-N2	-6.57	110.28	116.20
1	X	841	G	N3-C4-C5	6.57	131.88	128.60
1	X	2418	A	C8-N9-C4	-6.57	103.17	105.80
1	X	699	G	N3-C4-C5	6.57	131.88	128.60
1	X	1822	C	C5-C6-N1	-6.56	117.72	121.00
1	X	465	C	C5-C6-N1	-6.56	117.72	121.00
1	X	825	C	N3-C2-O2	6.56	126.49	121.90
1	X	747	A	C8-N9-C4	6.55	108.42	105.80
1	X	2815	C	N3-C4-N4	-6.55	113.42	118.00
1	X	2623	A	C8-N9-C4	6.54	108.42	105.80
1	X	1309	G	N7-C8-N9	-6.54	109.83	113.10
1	X	1682	A	C5-C6-N6	-6.53	118.48	123.70
1	X	2406	C	N1-C2-O2	-6.51	114.99	118.90
1	X	2792	C	C2-N3-C4	-6.50	116.65	119.90
1	X	1259	A	C8-N9-C4	6.50	108.40	105.80
1	X	1991	C	C4-C5-C6	6.48	120.64	117.40
1	X	695	G	C8-N9-C4	6.48	108.99	106.40
1	X	460	U	C5-C6-N1	6.47	125.94	122.70
1	X	1006	C	N1-C2-O2	6.47	122.78	118.90
1	X	2686	C	C4-C5-C6	6.47	120.63	117.40
1	X	340	G	C8-N9-C4	6.47	108.99	106.40
1	X	1270	C	C4-C5-C6	6.46	120.63	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	550	C	C5-C6-N1	-6.45	117.77	121.00
1	X	2559	U	C5-C4-O4	-6.45	122.03	125.90
1	X	2431	C	N1-C2-O2	6.45	122.77	118.90
1	X	520	C	C6-N1-C2	-6.45	117.72	120.30
1	X	513	A	N1-C2-N3	6.44	132.52	129.30
1	X	2701	A	C2-N3-C4	-6.44	107.38	110.60
1	X	586	G	C8-N9-C4	6.44	108.97	106.40
1	X	581	A	N1-C6-N6	6.41	122.45	118.60
1	X	832	A	N9-C4-C5	-6.40	103.24	105.80
1	X	2760	G	C8-N9-C4	6.39	108.96	106.40
1	X	1571	G	C8-N9-C4	-6.39	103.84	106.40
1	X	691	C	C6-N1-C2	6.39	122.86	120.30
1	X	853	C	C6-N1-C2	6.38	122.85	120.30
1	X	1816	G	C8-N9-C4	6.38	108.95	106.40
1	X	2711	G	C8-N9-C4	6.38	108.95	106.40
1	X	2666	U	C2-N3-C4	-6.37	123.18	127.00
1	X	806	A	N1-C6-N6	-6.37	114.78	118.60
1	X	575	U	C5-C4-O4	6.37	129.72	125.90
1	X	1324	G	C5-C6-O6	-6.36	124.79	128.60
1	X	2718	A	C5-C6-N1	6.35	120.88	117.70
1	X	2704	U	C5-C6-N1	-6.35	119.53	122.70
1	X	2492	G	N3-C4-C5	-6.34	125.43	128.60
1	X	2331	A	N1-C6-N6	-6.34	114.80	118.60
1	X	1816	G	N7-C8-N9	-6.33	109.93	113.10
1	X	1623	C	N1-C2-O2	6.33	122.70	118.90
1	X	2854	G	N1-C6-O6	6.33	123.69	119.90
1	X	1205	G	C8-N9-C4	6.32	108.93	106.40
1	X	1699	A	C2-N3-C4	-6.32	107.44	110.60
1	X	1035	G	C8-N9-C4	-6.31	103.87	106.40
1	X	822	G	N3-C4-C5	-6.31	125.44	128.60
1	X	527	C	C2-N3-C4	6.31	123.05	119.90
1	X	528	G	N1-C6-O6	-6.30	116.12	119.90
1	X	2495	G	N3-C2-N2	6.30	124.31	119.90
1	X	2314	A	C5-C6-N1	6.29	120.85	117.70
1	X	2634	G	N9-C4-C5	-6.29	102.88	105.40
1	X	1974	U	N1-C2-O2	6.29	127.20	122.80
1	X	2553	G	N7-C8-N9	6.28	116.24	113.10
1	X	542	A	C2-N3-C4	-6.28	107.46	110.60
1	X	1540	C	C6-N1-C2	-6.28	117.79	120.30
1	X	1292	A	N1-C2-N3	6.28	132.44	129.30
1	X	1289	A	N1-C6-N6	6.27	122.36	118.60
1	X	2240	C	N3-C2-O2	-6.27	117.51	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1975	G	C8-N9-C1'	-6.26	118.86	127.00
1	X	2846	G	N7-C8-N9	-6.26	109.97	113.10
1	X	1980	A	N1-C6-N6	-6.26	114.84	118.60
1	X	590	C	N3-C4-N4	-6.24	113.63	118.00
1	X	1274	C	C6-N1-C2	6.24	122.80	120.30
1	X	1277	G	C8-N9-C4	6.24	108.90	106.40
1	X	122	G	C2-N3-C4	-6.24	108.78	111.90
1	X	689	A	C4-C5-N7	6.24	113.82	110.70
1	X	1312	G	N1-C6-O6	6.24	123.64	119.90
1	X	808	C	C6-N1-C2	6.23	122.79	120.30
1	X	1981	A	C4-C5-N7	-6.23	107.58	110.70
1	X	537	C	C5-C6-N1	-6.23	117.89	121.00
1	X	2033	C	N1-C2-O2	6.23	122.64	118.90
1	X	2711	G	N7-C8-N9	-6.23	109.99	113.10
1	X	754	G	C8-N9-C4	6.22	108.89	106.40
1	X	2686	C	N3-C2-O2	-6.22	117.54	121.90
1	X	542	A	C8-N9-C4	-6.22	103.31	105.80
1	X	608	G	N7-C8-N9	-6.22	109.99	113.10
1	X	774	A	N3-C4-C5	6.21	131.15	126.80
1	X	774	A	C2-N3-C4	6.21	113.70	110.60
1	X	1996	A	N7-C8-N9	6.19	116.90	113.80
1	X	1682	A	N3-C4-C5	-6.19	122.47	126.80
1	X	1292	A	C8-N9-C4	6.18	108.27	105.80
1	X	1713	G	N1-C6-O6	-6.17	116.19	119.90
1	X	1288	A	C4-C5-C6	6.16	120.08	117.00
1	X	1285	A	C2-N3-C4	-6.15	107.52	110.60
1	X	1291	G	C6-N1-C2	-6.15	121.41	125.10
1	X	1223	G	C2-N3-C4	-6.14	108.83	111.90
1	X	689	A	N7-C8-N9	6.13	116.87	113.80
1	X	2038	C	N3-C2-O2	-6.11	117.62	121.90
1	X	1378	A	C8-N9-C4	6.11	108.24	105.80
1	X	1993	G	C5-C6-N1	-6.11	108.45	111.50
1	X	771	C	N3-C2-O2	-6.10	117.63	121.90
1	X	1288	A	N1-C2-N3	6.10	132.35	129.30
1	X	1622	G	C8-N9-C4	6.09	108.84	106.40
1	X	534	U	C5-C6-N1	-6.09	119.66	122.70
1	X	799	C	C5-C6-N1	-6.09	117.96	121.00
1	X	1266	G	C4-C5-C6	6.08	122.45	118.80
1	X	2314	A	C2-N3-C4	6.08	113.64	110.60
1	X	1663	C	C2-N3-C4	6.08	122.94	119.90
1	X	822	G	C4-C5-N7	-6.07	108.37	110.80
1	X	1622	G	C5-C6-O6	6.07	132.24	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2227	C	N1-C2-O2	-6.07	115.26	118.90
1	X	1278	A	C6-C5-N7	-6.07	128.05	132.30
1	X	1687	C	C4-C5-C6	6.07	120.43	117.40
1	X	1467	U	C5-C6-N1	-6.06	119.67	122.70
1	X	600	G	N1-C6-O6	6.06	123.54	119.90
1	X	808	C	C5-C6-N1	-6.06	117.97	121.00
1	X	522	G	C4-C5-N7	6.06	113.22	110.80
1	X	608	G	C5-N7-C8	6.06	107.33	104.30
1	X	2551	A	N7-C8-N9	-6.06	110.77	113.80
1	X	2597	G	N1-C6-O6	-6.06	116.27	119.90
1	X	522	G	C5-C6-O6	-6.06	124.97	128.60
1	X	2677	U	C5-C6-N1	-6.05	119.67	122.70
1	X	1694	A	C8-N9-C4	6.05	108.22	105.80
1	X	1260	A	C8-N9-C4	6.05	108.22	105.80
1	X	1212	U	N3-C4-O4	-6.04	115.17	119.40
1	X	1015	U	C6-N1-C2	-6.04	117.38	121.00
1	X	497	C	N1-C2-O2	-6.03	115.28	118.90
1	X	1471	G	C5-C6-O6	-6.03	124.98	128.60
1	X	2626	U	N3-C2-O2	-6.02	117.99	122.20
1	X	1676	U	C2-N3-C4	-6.02	123.39	127.00
1	X	1678	G	N7-C8-N9	-6.02	110.09	113.10
1	X	1672	A	N1-C6-N6	6.01	122.21	118.60
1	X	2707	G	N1-C2-N2	6.01	121.61	116.20
1	X	1960	A	C8-N9-C4	6.01	108.20	105.80
1	X	577	U	C2-N3-C4	6.00	130.60	127.00
1	X	957	G	N1-C6-O6	-6.00	116.30	119.90
1	X	832	A	N1-C6-N6	5.99	122.19	118.60
1	X	2629	U	C5-C6-N1	-5.99	119.71	122.70
1	X	155	G	C8-N9-C4	-5.99	104.01	106.40
1	X	974	U	C5-C6-N1	-5.98	119.71	122.70
1	X	966	A	N9-C4-C5	-5.98	103.41	105.80
1	X	713	G	N7-C8-N9	-5.98	110.11	113.10
1	X	1956	G	C8-N9-C4	5.98	108.79	106.40
1	X	2495	G	N3-C4-C5	-5.97	125.61	128.60
1	X	2001	G	C2-N3-C4	-5.97	108.92	111.90
1	X	2688	G	C8-N9-C4	5.96	108.78	106.40
1	X	2854	G	C4-C5-N7	5.96	113.18	110.80
1	X	1652	G	C2-N3-C4	-5.96	108.92	111.90
1	X	552	C	C6-N1-C2	5.96	122.68	120.30
1	X	540	G	C6-N1-C2	5.95	128.67	125.10
1	X	2666	U	C4-C5-C6	5.95	123.27	119.70
1	X	2852	G	C2-N3-C4	-5.95	108.93	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1917	C	N1-C2-O2	5.94	122.46	118.90
1	X	608	G	C8-N9-C4	5.92	108.77	106.40
1	X	1969	G	C5-C6-O6	-5.92	125.05	128.60
1	X	430	C	C6-N1-C2	-5.91	117.94	120.30
1	X	1216	G	N1-C6-O6	-5.91	116.35	119.90
1	X	713	G	C8-N9-C4	5.91	108.76	106.40
1	X	479	G	C8-N9-C4	5.91	108.76	106.40
1	X	1767	G	N1-C6-O6	5.90	123.44	119.90
1	X	1278	A	C5-N7-C8	-5.90	100.95	103.90
1	X	1981	A	C6-N1-C2	-5.90	115.06	118.60
1	X	2822	U	N3-C2-O2	5.90	126.33	122.20
1	X	2258	G	C8-N9-C4	5.90	108.76	106.40
1	X	1699	A	C5-C6-N1	-5.89	114.75	117.70
1	X	1306	U	C2-N3-C4	-5.89	123.47	127.00
1	X	2712	G	C5-C6-O6	5.89	132.13	128.60
1	X	522	G	N3-C4-C5	5.88	131.54	128.60
1	X	544	U	C5-C6-N1	-5.88	119.76	122.70
1	X	1569	A	C6-N1-C2	-5.88	115.07	118.60
1	X	1770	U	N3-C4-O4	-5.88	115.29	119.40
1	X	2791	C	C5-C6-N1	-5.88	118.06	121.00
1	X	1211	G	N1-C2-N2	-5.87	110.92	116.20
1	X	2822	U	C5-C4-O4	-5.87	122.38	125.90
13	K	96	ARG	NE-CZ-NH1	-5.87	117.37	120.30
1	X	766	A	N1-C6-N6	-5.86	115.08	118.60
1	X	1680	U	C6-N1-C2	5.86	124.51	121.00
1	X	854	G	N1-C6-O6	5.86	123.41	119.90
1	X	465	C	C4-C5-C6	5.85	120.33	117.40
1	X	716	U	C5-C6-N1	-5.85	119.78	122.70
1	X	883	A	N7-C8-N9	-5.84	110.88	113.80
1	X	2656	G	C8-N9-C4	5.84	108.74	106.40
1	X	1225	G	N1-C6-O6	-5.84	116.40	119.90
1	X	2791	C	C2-N3-C4	-5.84	116.98	119.90
1	X	1272	G	C8-N9-C4	5.84	108.73	106.40
1	X	590	C	C5-C4-N4	5.84	124.28	120.20
1	X	1468	A	N7-C8-N9	-5.83	110.89	113.80
1	X	1678	G	C5-C6-N1	5.82	114.41	111.50
1	X	2370	G	C8-N9-C4	5.82	108.73	106.40
1	X	2710	C	C4-C5-C6	5.82	120.31	117.40
1	X	1578	U	C5-C6-N1	-5.82	119.79	122.70
1	X	1678	G	C5-N7-C8	5.82	107.21	104.30
1	X	748	A	C8-N9-C4	5.81	108.12	105.80
1	X	122	G	N3-C4-C5	5.81	131.50	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	497	C	N3-C2-O2	5.80	125.96	121.90
1	X	2792	C	C4-C5-C6	5.79	120.30	117.40
1	X	1766	U	C6-N1-C2	5.79	124.48	121.00
1	X	2853	U	N3-C4-O4	-5.79	115.34	119.40
1	X	1689	U	C5-C6-N1	-5.78	119.81	122.70
1	X	1974	U	N3-C2-O2	-5.78	118.15	122.20
1	X	1317	G	N1-C6-O6	5.78	123.37	119.90
1	X	1004	A	C8-N9-C4	-5.77	103.49	105.80
1	X	2686	C	C5-C6-N1	-5.76	118.12	121.00
1	X	1998	A	N1-C6-N6	-5.76	115.14	118.60
1	X	1991	C	C5-C4-N4	5.76	124.23	120.20
1	X	1683	G	C4-C5-C6	-5.76	115.35	118.80
1	X	2484	G	C8-N9-C4	-5.76	104.10	106.40
1	X	1996	A	C8-N9-C4	-5.75	103.50	105.80
1	X	609	U	C5-C6-N1	-5.75	119.83	122.70
1	X	1816	G	C5-N7-C8	5.75	107.17	104.30
1	X	2828	C	C5-C4-N4	-5.75	116.18	120.20
13	K	3	HIS	N-CA-C	5.75	126.52	111.00
1	X	814	G	C5-C6-O6	-5.74	125.16	128.60
1	X	789	G	C4-C5-N7	5.74	113.09	110.80
1	X	540	G	N3-C4-C5	5.74	131.47	128.60
1	X	2791	C	C6-N1-C2	5.74	122.59	120.30
1	X	2480	C	C6-N1-C2	5.73	122.59	120.30
1	X	2856	U	C5-C6-N1	5.73	125.57	122.70
1	X	2306	A	N1-C6-N6	5.73	122.04	118.60
1	X	1989	C	N1-C2-O2	-5.72	115.47	118.90
1	X	2703	C	C2-N1-C1'	-5.72	112.51	118.80
1	X	609	U	C6-N1-C2	5.71	124.43	121.00
1	X	2003	A	N1-C6-N6	-5.71	115.18	118.60
1	X	1315	A	N1-C6-N6	-5.70	115.18	118.60
1	X	2637	C	C6-N1-C2	5.70	122.58	120.30
1	X	661	C	C6-N1-C2	-5.70	118.02	120.30
1	X	1291	G	N1-C2-N3	5.70	127.32	123.90
1	X	2495	G	C5-C6-N1	5.70	114.35	111.50
1	X	2655	C	C2-N3-C4	-5.70	117.05	119.90
1	X	974	U	C4-C5-C6	5.70	123.12	119.70
1	X	1270	C	C6-N1-C2	-5.70	118.02	120.30
1	X	2590	U	N3-C4-C5	-5.70	111.18	114.60
1	X	579	G	C4-C5-N7	-5.69	108.52	110.80
1	X	57	G	C8-N9-C4	-5.69	104.12	106.40
1	X	490	A	C5-C6-N1	5.69	120.55	117.70
1	X	1669	A	C8-N9-C4	5.69	108.08	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2700	U	C5-C6-N1	-5.69	119.86	122.70
1	X	1642	G	C5-C6-N1	-5.69	108.66	111.50
1	X	1290	A	C8-N9-C4	5.68	108.07	105.80
1	X	1622	G	N7-C8-N9	-5.67	110.26	113.10
1	X	1277	G	N3-C2-N2	5.67	123.87	119.90
1	X	2371	A	C8-N9-C4	-5.67	103.53	105.80
1	X	1625	A	C2-N3-C4	-5.67	107.77	110.60
1	X	2430	A	C5-C6-N6	5.67	128.23	123.70
1	X	985	G	N3-C4-C5	-5.66	125.77	128.60
1	X	590	C	N3-C2-O2	-5.66	117.94	121.90
1	X	2710	C	C5-C6-N1	-5.66	118.17	121.00
1	X	691	C	C5-C6-N1	-5.66	118.17	121.00
1	X	1288	A	N1-C6-N6	5.66	122.00	118.60
1	X	1682	A	C6-N1-C2	-5.66	115.20	118.60
1	X	2403	C	C4-C5-C6	5.66	120.23	117.40
1	X	1006	C	N3-C2-O2	-5.66	117.94	121.90
1	X	502	A	C8-N9-C4	5.65	108.06	105.80
1	X	1344	C	N3-C4-C5	5.65	124.16	121.90
1	X	2681	A	C5-C6-N6	-5.65	119.18	123.70
1	X	2592	U	C5-C6-N1	-5.64	119.88	122.70
1	X	229	G	N3-C4-C5	5.64	131.42	128.60
1	X	2756	A	C6-N1-C2	-5.64	115.22	118.60
1	X	1932	G	C4-C5-N7	-5.63	108.55	110.80
1	X	1344	C	N1-C2-O2	5.63	122.28	118.90
1	X	1665	C	N3-C4-N4	-5.63	114.06	118.00
1	X	2060	A	C2-N3-C4	5.62	113.41	110.60
1	X	1750	A	C6-N1-C2	-5.62	115.23	118.60
1	X	2223	U	C5-C6-N1	-5.62	119.89	122.70
1	X	2705	A	N1-C6-N6	5.61	121.97	118.60
1	X	1664	G	N3-C4-C5	5.60	131.40	128.60
1	X	1988	A	N7-C8-N9	-5.60	111.00	113.80
2	Y	92	G	C8-N9-C4	5.60	108.64	106.40
1	X	472	C	N1-C2-O2	-5.60	115.54	118.90
1	X	2739	G	C2-N3-C4	5.60	114.70	111.90
1	X	1256	C	C5-C6-N1	-5.60	118.20	121.00
1	X	2681	A	C4-C5-N7	5.60	113.50	110.70
1	X	2669	C	N3-C4-C5	-5.60	119.66	121.90
1	X	556	A	N1-C6-N6	5.59	121.96	118.60
1	X	1991	C	N3-C4-N4	-5.59	114.08	118.00
1	X	985	G	C8-N9-C4	-5.59	104.16	106.40
1	X	1289	A	C8-N9-C4	5.58	108.03	105.80
1	X	1745	C	N1-C2-O2	-5.58	115.55	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1672	A	C5-C6-N6	-5.58	119.24	123.70
1	X	2549	G	N7-C8-N9	-5.58	110.31	113.10
1	X	2003	A	C2-N3-C4	5.58	113.39	110.60
1	X	822	G	C5-N7-C8	5.57	107.09	104.30
1	X	503	G	N7-C8-N9	-5.57	110.31	113.10
1	X	674	U	N1-C2-O2	-5.57	118.90	122.80
1	X	2713	A	N7-C8-N9	-5.57	111.02	113.80
1	X	1688	U	N3-C4-C5	-5.56	111.26	114.60
1	X	577	U	C5-C4-O4	5.56	129.24	125.90
1	X	961	G	C4-C5-N7	-5.56	108.58	110.80
1	X	236	C	C6-N1-C2	-5.55	118.08	120.30
1	X	39	C	C6-N1-C2	-5.55	118.08	120.30
1	X	1573	G	N1-C6-O6	-5.55	116.57	119.90
1	X	766	A	C6-N1-C2	-5.55	115.27	118.60
1	X	1292	A	C2-N3-C4	-5.55	107.83	110.60
1	X	1625	A	C5-C6-N1	-5.54	114.93	117.70
1	X	1204	G	N3-C4-C5	-5.54	125.83	128.60
1	X	550	C	C2-N3-C4	-5.54	117.13	119.90
1	X	2671	C	C5-C6-N1	5.54	123.77	121.00
1	X	827	C	C6-N1-C2	5.54	122.52	120.30
1	X	1769	U	C5-C6-N1	-5.53	119.93	122.70
1	X	1142	G	N9-C4-C5	-5.53	103.19	105.40
1	X	1670	G	N9-C4-C5	-5.53	103.19	105.40
1	X	2753	C	N1-C2-O2	-5.53	115.58	118.90
1	X	460	U	C6-N1-C2	-5.53	117.68	121.00
1	X	1685	A	C5-C6-N1	5.53	120.46	117.70
1	X	343	A	C8-N9-C4	-5.52	103.59	105.80
1	X	809	C	C5-C6-N1	-5.52	118.24	121.00
1	X	2342	U	C5-C6-N1	-5.52	119.94	122.70
1	X	804	C	C5-C6-N1	-5.51	118.24	121.00
1	X	1341	G	N9-C4-C5	-5.51	103.19	105.40
1	X	1265	G	C5-N7-C8	5.51	107.06	104.30
1	X	1468	A	N1-C6-N6	-5.51	115.29	118.60
1	X	802	A	C2-N3-C4	-5.51	107.84	110.60
1	X	608	G	C4-C5-N7	-5.51	108.60	110.80
1	X	1412	C	N3-C2-O2	5.51	125.75	121.90
1	X	2475	C	C6-N1-C2	-5.51	118.10	120.30
1	X	2765	C	N3-C4-N4	-5.51	114.14	118.00
1	X	1980	A	N7-C8-N9	-5.50	111.05	113.80
1	X	577	U	C6-N1-C2	-5.49	117.70	121.00
13	K	99	ARG	NE-CZ-NH2	-5.49	117.55	120.30
1	X	165	G	C8-N9-C4	5.49	108.60	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2707	G	N1-C6-O6	5.49	123.19	119.90
1	X	37	C	C6-N1-C2	-5.49	118.11	120.30
1	X	1176	U	C5-C6-N1	-5.49	119.96	122.70
1	X	1633	C	C5-C6-N1	-5.49	118.26	121.00
1	X	2716	G	C4-C5-N7	-5.48	108.61	110.80
1	X	2432	A	N7-C8-N9	5.48	116.54	113.80
1	X	2854	G	C5-C6-O6	-5.48	125.31	128.60
1	X	814	G	N1-C6-O6	5.47	123.18	119.90
1	X	2240	C	N1-C2-O2	5.47	122.18	118.90
1	X	2685	A	C2-N3-C4	-5.47	107.87	110.60
1	X	2686	C	C2-N3-C4	-5.47	117.17	119.90
1	X	2486	C	C6-N1-C2	-5.46	118.11	120.30
1	X	1025	A	N1-C6-N6	-5.46	115.32	118.60
2	Y	83	C	N3-C4-C5	-5.46	119.72	121.90
1	X	1999	U	C6-N1-C2	5.46	124.28	121.00
1	X	741	G	C4-C5-N7	-5.46	108.62	110.80
1	X	1977	C	N3-C4-N4	5.46	121.82	118.00
1	X	1966	C	C2-N3-C4	-5.46	117.17	119.90
1	X	1226	A	C2-N3-C4	-5.45	107.88	110.60
1	X	2496	C	C6-N1-C2	5.44	122.48	120.30
1	X	1472	C	C6-N1-C2	5.43	122.47	120.30
1	X	559	C	N3-C4-N4	5.43	121.80	118.00
1	X	2793	G	N7-C8-N9	-5.43	110.39	113.10
1	X	229	G	C8-N9-C4	5.43	108.57	106.40
1	X	2663	U	C5-C4-O4	5.43	129.16	125.90
1	X	1293	A	C8-N9-C4	5.41	107.97	105.80
1	X	2787	A	N1-C2-N3	5.41	132.01	129.30
1	X	789	G	C6-C5-N7	-5.41	127.15	130.40
1	X	2331	A	C5-C6-N6	5.41	128.03	123.70
1	X	2852	G	N1-C2-N3	5.41	127.15	123.90
1	X	2851	G	C8-N9-C4	5.41	108.56	106.40
1	X	1975	G	N3-C4-N9	5.40	129.24	126.00
1	X	699	G	C5-N7-C8	-5.40	101.60	104.30
1	X	1260	A	N1-C6-N6	-5.40	115.36	118.60
1	X	1344	C	C6-N1-C2	5.39	122.46	120.30
1	X	1995	G	N7-C8-N9	-5.39	110.40	113.10
1	X	989	G	C5-N7-C8	5.39	107.00	104.30
1	X	471	A	C8-N9-C4	5.39	107.95	105.80
1	X	2716	G	C5-N7-C8	5.39	106.99	104.30
1	X	788	G	C5-C6-N1	5.38	114.19	111.50
1	X	406	G	N1-C6-O6	-5.38	116.67	119.90
1	X	1969	G	N3-C4-N9	5.37	129.22	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2567	G	C8-N9-C4	-5.37	104.25	106.40
1	X	31	C	C6-N1-C2	-5.37	118.15	120.30
1	X	1779	C	N1-C2-O2	-5.37	115.68	118.90
1	X	2800	C	C6-N1-C2	-5.37	118.15	120.30
1	X	2034	A	C2-N3-C4	5.37	113.28	110.60
1	X	762	A	N1-C6-N6	5.36	121.82	118.60
1	X	1801	C	C5-C6-N1	-5.36	118.32	121.00
1	X	1984	A	C6-N1-C2	-5.36	115.38	118.60
1	X	2699	G	C6-N1-C2	5.36	128.31	125.10
1	X	1339	U	N1-C2-O2	5.35	126.55	122.80
1	X	2591	C	N1-C2-O2	-5.35	115.69	118.90
1	X	2832	G	C5-N7-C8	-5.35	101.62	104.30
1	X	1275	A	C5-N7-C8	-5.35	101.23	103.90
1	X	1266	G	N1-C2-N3	5.34	127.11	123.90
1	X	1670	G	C2-N3-C4	-5.34	109.23	111.90
1	X	1298	G	C5-C6-O6	5.34	131.81	128.60
1	X	1312	G	N3-C2-N2	5.34	123.64	119.90
1	X	2656	G	N7-C8-N9	-5.34	110.43	113.10
1	X	832	A	C4-C5-N7	5.33	113.37	110.70
1	X	23	G	C5-C6-O6	5.33	131.80	128.60
1	X	2712	G	C8-N9-C4	5.33	108.53	106.40
1	X	527	C	C2-N1-C1'	5.33	124.66	118.80
1	X	570	G	N3-C2-N2	-5.32	116.17	119.90
1	X	1274	C	N1-C2-N3	-5.32	115.47	119.20
1	X	1442	C	N3-C4-C5	5.32	124.03	121.90
1	X	2478	C	N3-C4-N4	5.32	121.72	118.00
1	X	1246	G	N1-C6-O6	-5.32	116.71	119.90
1	X	1980	A	C4-C5-N7	-5.31	108.04	110.70
1	X	1652	G	N3-C4-C5	5.30	131.25	128.60
1	X	2519	C	N3-C4-C5	-5.30	119.78	121.90
1	X	346	C	C4-C5-C6	5.30	120.05	117.40
1	X	1685	A	N1-C6-N6	-5.30	115.42	118.60
1	X	1266	G	C5-C6-N1	-5.30	108.85	111.50
1	X	1321	A	N7-C8-N9	-5.30	111.15	113.80
1	X	754	G	N7-C8-N9	-5.30	110.45	113.10
1	X	465	C	C6-N1-C2	5.29	122.42	120.30
1	X	2478	C	C5-C6-N1	5.29	123.65	121.00
1	X	497	C	C6-N1-C2	5.29	122.42	120.30
1	X	2432	A	C8-N9-C4	-5.29	103.69	105.80
1	X	544	U	N1-C2-O2	5.28	126.50	122.80
1	X	949	G	C8-N9-C4	5.28	108.51	106.40
1	X	1939	U	N1-C2-O2	-5.28	119.11	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1763	G	N3-C2-N2	5.27	123.59	119.90
1	X	826	U	C5-C4-O4	5.27	129.06	125.90
1	X	699	G	C6-N1-C2	5.26	128.26	125.10
1	X	1742	G	C8-N9-C4	5.26	108.51	106.40
1	X	1665	C	N3-C4-C5	5.26	124.00	121.90
1	X	714	G	N1-C6-O6	-5.26	116.75	119.90
1	X	1211	G	N7-C8-N9	-5.26	110.47	113.10
1	X	796	A	C5-N7-C8	-5.25	101.27	103.90
1	X	714	G	C4-C5-N7	-5.25	108.70	110.80
13	K	10	LEU	CB-CG-CD2	5.25	119.93	111.00
1	X	2233	C	C5-C6-N1	-5.25	118.38	121.00
1	X	2809	A	C2-N3-C4	5.25	113.22	110.60
1	X	1468	A	C5-N7-C8	5.25	106.52	103.90
1	X	2717	G	N1-C6-O6	-5.25	116.75	119.90
1	X	772	G	C5-C6-N1	5.25	114.12	111.50
1	X	550	C	N1-C2-O2	-5.24	115.75	118.90
1	X	2616	U	C5-C4-O4	-5.24	122.75	125.90
1	X	1667	A	C8-N9-C4	5.24	107.90	105.80
1	X	568	G	C4-C5-N7	-5.24	108.71	110.80
1	X	2700	U	C5-C4-O4	5.24	129.04	125.90
1	X	2665	G	C4-C5-N7	-5.23	108.71	110.80
1	X	757	U	N3-C2-O2	-5.23	118.54	122.20
1	X	1662	G	C4-C5-N7	-5.23	108.71	110.80
1	X	2618	A	N9-C4-C5	5.23	107.89	105.80
1	X	2007	G	C5-N7-C8	5.23	106.91	104.30
13	K	5	LYS	CD-CE-NZ	5.23	123.72	111.70
1	X	2555	G	C8-N9-C4	5.22	108.49	106.40
1	X	1312	G	C6-C5-N7	-5.22	127.27	130.40
1	X	1931	G	N7-C8-N9	5.22	115.71	113.10
1	X	2667	C	N3-C2-O2	5.22	125.55	121.90
1	X	2807	U	N3-C4-O4	-5.22	115.75	119.40
1	X	537	C	C2-N3-C4	-5.21	117.29	119.90
1	X	1223	G	N1-C6-O6	5.21	123.03	119.90
1	X	1995	G	N1-C6-O6	-5.21	116.77	119.90
1	X	607	C	N3-C2-O2	-5.21	118.25	121.90
1	X	704	G	C5-C6-O6	5.21	131.72	128.60
1	X	2853	U	N1-C2-O2	5.21	126.45	122.80
1	X	1290	A	N1-C6-N6	5.21	121.72	118.60
1	X	2371	A	N9-C4-C5	5.20	107.88	105.80
1	X	2791	C	N3-C4-C5	5.20	123.98	121.90
1	X	121	G	C4-C5-N7	-5.20	108.72	110.80
1	X	1459	U	N3-C2-O2	5.19	125.83	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	2748	C	N3-C2-O2	5.19	125.53	121.90
1	X	1662	G	C5-C6-O6	5.18	131.71	128.60
1	X	2815	C	N3-C4-C5	5.17	123.97	121.90
1	X	538	A	C5-C6-N6	-5.17	119.56	123.70
1	X	2766	U	N3-C4-O4	-5.16	115.79	119.40
1	X	2618	A	C6-N1-C2	-5.16	115.50	118.60
1	X	87	G	C8-N9-C4	-5.16	104.34	106.40
1	X	1743	C	C4-C5-C6	5.16	119.98	117.40
1	X	2683	C	C6-N1-C2	5.16	122.36	120.30
3	A	21	ASP	CB-CG-OD2	5.16	122.94	118.30
1	X	1665	C	C6-N1-C2	5.16	122.36	120.30
1	X	2796	A	C4-C5-C6	5.16	119.58	117.00
1	X	504	G	C2-N3-C4	-5.15	109.32	111.90
1	X	1278	A	C4-C5-C6	5.15	119.58	117.00
1	X	2824	C	C6-N1-C2	5.15	122.36	120.30
2	Y	84	G	C8-N9-C4	5.15	108.46	106.40
1	X	529	U	C6-N1-C2	-5.15	117.91	121.00
1	X	1694	A	C2-N3-C4	-5.15	108.03	110.60
1	X	1716	G	N1-C6-O6	-5.15	116.81	119.90
1	X	2848	A	C2-N3-C4	5.15	113.18	110.60
1	X	522	G	C5-N7-C8	-5.15	101.72	104.30
1	X	1992	G	C8-N9-C4	5.15	108.46	106.40
1	X	481	A	N1-C6-N6	5.15	121.69	118.60
1	X	1282	A	C2-N3-C4	-5.15	108.03	110.60
1	X	1764	A	N1-C2-N3	5.15	131.87	129.30
1	X	1993	G	N3-C4-C5	5.15	131.17	128.60
1	X	537	C	N3-C2-O2	-5.14	118.30	121.90
1	X	2592	U	C4-C5-C6	5.14	122.79	119.70
1	X	1260	A	N7-C8-N9	-5.14	111.23	113.80
1	X	544	U	N3-C4-O4	-5.14	115.80	119.40
1	X	1748	U	N1-C2-O2	-5.14	119.20	122.80
1	X	2594	U	C5-C6-N1	5.14	125.27	122.70
1	X	1632	A	C8-N9-C4	-5.14	103.75	105.80
1	X	1721	G	C8-N9-C4	5.14	108.45	106.40
1	X	1032	A	C8-N9-C4	-5.13	103.75	105.80
1	X	2224	U	C5-C4-O4	5.13	128.98	125.90
1	X	1467	U	C2-N1-C1'	5.13	123.85	117.70
1	X	2565	C	C6-N1-C2	-5.12	118.25	120.30
1	X	2611	A	N7-C8-N9	-5.12	111.24	113.80
1	X	2329	C	N3-C2-O2	5.12	125.48	121.90
1	X	1357	U	C5-C6-N1	-5.12	120.14	122.70
1	X	1998	A	N7-C8-N9	-5.11	111.24	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1678	G	C8-N9-C4	5.11	108.44	106.40
1	X	1770	U	N1-C2-N3	5.11	117.97	114.90
1	X	1822	C	C2-N3-C4	-5.11	117.35	119.90
1	X	2007	G	C5-C6-O6	5.10	131.66	128.60
1	X	459	A	P-O3'-C3'	5.10	125.82	119.70
1	X	1276	U	C5-C6-N1	-5.10	120.15	122.70
1	X	1305	C	C2-N3-C4	-5.10	117.35	119.90
1	X	1816	G	C4-C5-N7	-5.10	108.76	110.80
1	X	2520	A	C5-C6-N6	5.10	127.78	123.70
1	X	2815	C	C2-N3-C4	-5.10	117.35	119.90
1	X	2839	G	C8-N9-C4	5.10	108.44	106.40
1	X	2681	A	N9-C4-C5	-5.10	103.76	105.80
1	X	1281	A	N1-C2-N3	5.09	131.85	129.30
1	X	1302	C	C2-N1-C1'	-5.09	113.20	118.80
1	X	74	G	C8-N9-C4	5.09	108.44	106.40
1	X	345	U	N1-C2-O2	-5.09	119.24	122.80
1	X	2797	G	N3-C4-C5	-5.09	126.06	128.60
1	X	2590	U	C2-N3-C4	-5.09	123.95	127.00
1	X	1328	C	N3-C2-O2	-5.09	118.34	121.90
1	X	2623	A	N7-C8-N9	-5.08	111.26	113.80
1	X	2666	U	N1-C2-N3	5.08	117.95	114.90
1	X	2033	C	C6-N1-C2	-5.08	118.27	120.30
1	X	2680	U	N3-C2-O2	5.08	125.75	122.20
1	X	2764	U	C5-C6-N1	-5.08	120.16	122.70
1	X	29	U	C5-C6-N1	5.07	125.24	122.70
1	X	2008	C	N3-C4-C5	-5.07	119.87	121.90
1	X	330	C	C6-N1-C2	-5.07	118.27	120.30
1	X	695	G	N7-C8-N9	-5.07	110.57	113.10
1	X	1294	G	N1-C2-N3	5.07	126.94	123.90
1	X	2483	U	C6-N1-C2	-5.07	117.96	121.00
1	X	2556	A	N9-C4-C5	5.07	107.83	105.80
1	X	2748	C	N1-C2-O2	-5.07	115.86	118.90
1	X	190	A	C8-N9-C4	5.06	107.83	105.80
1	X	550	C	C6-N1-C2	5.06	122.33	120.30
1	X	1145	C	N1-C2-O2	-5.06	115.86	118.90
1	X	1999	U	N3-C2-O2	5.06	125.74	122.20
1	X	2408	G	C8-N9-C4	-5.06	104.38	106.40
1	X	2398	U	N3-C2-O2	-5.05	118.66	122.20
1	X	2658	A	C8-N9-C4	5.05	107.82	105.80
1	X	2760	G	N7-C8-N9	-5.05	110.57	113.10
1	X	1391	A	C8-N9-C4	5.05	107.82	105.80
2	Y	85	G	C2-N3-C4	-5.05	109.38	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	X	1631	C	C5-C6-N1	-5.05	118.48	121.00
1	X	2804	G	C8-N9-C4	5.05	108.42	106.40
1	X	69	G	C8-N9-C4	5.05	108.42	106.40
15	M	71	ILE	CG1-CB-CG2	-5.05	100.30	111.40
1	X	2722	C	C6-N1-C2	5.04	122.32	120.30
1	X	196	A	C4-C5-N7	-5.04	108.18	110.70
1	X	1687	C	N3-C4-C5	-5.04	119.88	121.90
1	X	2260	C	N3-C4-C5	5.04	123.91	121.90
1	X	2556	A	C8-N9-C4	-5.04	103.79	105.80
1	X	340	G	N7-C8-N9	-5.03	110.58	113.10
1	X	1344	C	C5-C6-N1	-5.03	118.48	121.00
1	X	1614	C	N1-C2-O2	-5.03	115.88	118.90
1	X	2437	G	C5-C6-O6	-5.03	125.58	128.60
1	X	2005	U	C5-C6-N1	-5.03	120.19	122.70
1	X	122	G	C5-C6-N1	-5.03	108.99	111.50
1	X	542	A	C6-C5-N7	-5.03	128.78	132.30
1	X	1750	A	N1-C2-N3	5.03	131.81	129.30
1	X	1775	A	N7-C8-N9	-5.03	111.29	113.80
1	X	1979	C	N1-C2-O2	-5.03	115.88	118.90
1	X	1235	C	C6-N1-C2	5.02	122.31	120.30
1	X	2569	A	N7-C8-N9	-5.02	111.29	113.80
1	X	748	A	N1-C6-N6	5.02	121.61	118.60
1	X	966	A	C8-N9-C4	5.02	107.81	105.80
1	X	2375	G	C8-N9-C4	5.02	108.41	106.40
1	X	2545	A	N1-C6-N6	5.02	121.61	118.60
1	X	1652	G	N1-C6-O6	5.01	122.91	119.90
1	X	1660	G	C5-C6-O6	5.01	131.61	128.60
1	X	2542	U	C6-N1-C2	5.01	124.01	121.00
2	Y	20	A	C8-N9-C4	5.01	107.81	105.80
1	X	1274	C	C5-C4-N4	-5.01	116.69	120.20
1	X	2578	G	N3-C4-N9	5.01	129.01	126.00
1	X	2695	C	C6-N1-C2	-5.01	118.30	120.30
1	X	2762	G	N1-C6-O6	5.01	122.91	119.90
1	X	1339	U	C2-N1-C1'	5.01	123.71	117.70
1	X	490	A	N1-C6-N6	-5.01	115.60	118.60
1	X	1652	G	N9-C4-C5	-5.01	103.40	105.40
1	X	1687	C	C5-C6-N1	-5.01	118.50	121.00
1	X	1767	G	C5-C6-O6	-5.00	125.60	128.60
1	X	2798	A	C4-C5-N7	5.00	113.20	110.70

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-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 hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	X	57035	0	28741	1817	0
2	Y	2561	0	1306	48	0
3	A	1920	0	1974	176	0
4	B	1539	0	1600	147	0
5	C	1481	0	1504	120	0
6	D	1400	0	1481	61	0
7	E	1286	0	1336	44	0
8	F	451	0	474	7	0
9	G	1114	0	1144	100	0
10	H	997	0	1046	98	0
11	I	1011	0	1047	98	0
12	J	1090	0	1125	78	0
13	K	878	0	930	80	0
14	L	779	0	820	72	0
15	M	871	0	894	99	0
16	N	978	0	1020	82	0
17	O	741	0	756	45	0
18	P	1004	0	1083	88	0
19	Q	726	0	753	50	0
20	R	825	0	881	69	0
21	S	1345	0	1372	43	0
22	T	556	0	579	38	0
23	U	552	0	604	48	0
24	V	525	0	546	29	0
25	W	424	0	470	17	0
26	Z	452	0	457	53	0
27	1	431	0	456	58	0
28	2	383	0	414	52	0
29	3	462	0	506	63	0
30	4	297	0	330	23	0
31	X	58	0	69	13	0
32	C	1	0	0	0	0
32	I	1	0	0	0	0
32	X	151	0	0	0	0
32	Y	1	0	0	0	0
33	A	1	0	0	0	0
33	K	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
33	X	37	0	0	0	0
33	Y	2	0	0	0	0
33	Z	1	0	0	0	0
34	M	1	0	0	0	0
34	X	14	0	0	0	0
All	All	84383	0	55718	3336	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 24.

All (3336) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2044:G:OP1	5:C:62:LYS:HG3	1.36	1.18
15:M:28:ARG:HB2	15:M:29:PRO:HD3	1.29	1.14
9:G:103:TYR:HB3	9:G:107:GLN:HE21	1.14	1.12
4:B:9:ILE:HD11	4:B:27:LEU:HB2	1.32	1.10
4:B:116:VAL:HG22	4:B:136:ARG:NE	1.69	1.05
9:G:67:ARG:HB3	9:G:70:PHE:HA	1.39	1.05
28:2:10:ARG:H	28:2:10:ARG:HD2	1.19	1.05
10:H:83:ARG:HD2	10:H:89:ILE:HD11	1.38	1.05
9:G:100:TYR:HB2	9:G:116:ARG:HH11	1.20	1.04
4:B:116:VAL:HG22	4:B:136:ARG:HE	1.21	1.03
23:U:17:SER:HB2	23:U:44:ALA:HA	1.36	1.03
5:C:176:ASN:HD21	5:C:178:TYR:HB3	1.22	1.03
9:G:100:TYR:HB2	9:G:116:ARG:NH1	1.71	1.02
1:X:591:G:H2'	1:X:592:G:C8	1.94	1.02
3:A:96:LEU:HD12	3:A:106:ILE:HD12	1.43	1.00
1:X:552:C:H2'	1:X:553:C:H5''	1.41	1.00
3:A:244:GLY:H	3:A:245:ARG:NH1	1.60	1.00
16:N:50:ARG:HA	16:N:53:LYS:HE2	1.43	1.00
6:D:38:GLU:HB3	6:D:87:ILE:HB	1.42	0.99
2:Y:17:A:H1'	2:Y:112:A:C8	1.97	0.99
9:G:106:TYR:CE2	9:G:108:GLY:HA3	1.99	0.98
1:X:2797:G:OP2	13:K:3:HIS:CE1	2.16	0.97
14:L:31:VAL:HG23	14:L:38:ILE:HD13	1.46	0.97
3:A:49:ARG:HD2	3:A:49:ARG:H	1.29	0.97
29:3:13:ARG:HH11	29:3:25:PHE:HB2	1.30	0.96
1:X:1466:C:H2'	1:X:1467:U:O4'	1.67	0.95
4:B:14:ILE:HG12	15:M:20:HIS:CD2	2.02	0.95
9:G:132:PHE:HD2	9:G:145:HIS:CD2	1.84	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:20:ARG:HD3	23:U:43:ARG:HH22	1.30	0.94
1:X:2592:U:H2'	26:Z:5:PRO:HG2	1.48	0.93
5:C:176:ASN:HD22	5:C:179:ASP:H	1.10	0.93
1:X:2736:U:H3	1:X:2738:A:H62	1.05	0.93
1:X:540:G:H2'	1:X:542:A:H2	1.31	0.93
1:X:760:U:C6	26:Z:3:LYS:HE2	2.04	0.92
1:X:2170:C:H3'	1:X:2171:U:H5''	1.49	0.92
9:G:132:PHE:CD2	9:G:145:HIS:CD2	2.57	0.91
1:X:2757:G:H5''	1:X:2758:A:H5'	1.49	0.91
4:B:14:ILE:HA	15:M:20:HIS:HD2	1.34	0.91
3:A:44:ARG:HD2	3:A:44:ARG:N	1.83	0.91
4:B:110:GLY:HA2	4:B:161:GLY:HA3	1.52	0.91
1:X:2044:G:OP1	5:C:62:LYS:CG	2.18	0.91
22:T:12:ASN:HB3	22:T:14:ARG:HG2	1.51	0.91
1:X:225:G:C2	1:X:2410:U:H4'	2.05	0.91
31:X:2881:LMA:H37B	31:X:2881:LMA:H35	1.52	0.91
13:K:45:ARG:HG3	13:K:95:THR:HG21	1.54	0.90
23:U:49:LYS:HB3	23:U:61:TRP:CE3	2.05	0.90
5:C:26:VAL:HG22	11:I:18:ARG:HH12	1.35	0.90
1:X:2426:G:H3'	1:X:2479:U:OP2	1.72	0.90
1:X:2447:G:HO2'	1:X:2448:A:H8	0.91	0.90
15:M:11:GLU:HG3	15:M:14:ARG:HH11	1.36	0.90
1:X:635:C:H2'	1:X:636:G:H5''	1.50	0.90
9:G:103:TYR:HB3	9:G:107:GLN:NE2	1.86	0.89
20:R:15:HIS:HD1	20:R:16:PHE:HD2	1.19	0.89
16:N:66:ASN:HB3	16:N:76:TYR:HB2	1.53	0.89
20:R:18:LYS:HD3	20:R:18:LYS:H	1.36	0.89
20:R:22:VAL:HG11	20:R:80:LYS:HE3	1.54	0.89
2:Y:119:G:H4'	14:L:57:ALA:HB3	1.55	0.89
18:P:66:GLU:HB3	18:P:67:PRO:HD3	1.53	0.88
1:X:347:C:H4'	20:R:15:HIS:CD2	2.08	0.88
1:X:870:C:H1'	22:T:26:PHE:HE2	1.39	0.88
15:M:33:VAL:HG22	15:M:51:GLU:HB2	1.53	0.88
27:1:34:LYS:HA	27:1:34:LYS:HE3	1.56	0.88
1:X:1296:G:H22	1:X:1299:A:H5''	1.39	0.87
1:X:2204:A:H4'	1:X:2205:C:O5'	1.71	0.87
7:E:103:LEU:HD21	7:E:131:ILE:HD13	1.55	0.87
12:J:15:ARG:HD3	12:J:73:LYS:HG3	1.56	0.87
13:K:84:ALA:HB3	13:K:85:PRO:HD3	1.55	0.87
3:A:44:ARG:HD2	3:A:44:ARG:H	1.34	0.87
2:Y:59:A:H1'	6:D:27:ALA:HB2	1.56	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1816:G:OP1	3:A:53:ARG:HD3	1.75	0.86
7:E:105:MET:HB2	7:E:113:VAL:HB	1.57	0.86
13:K:100:VAL:HG12	13:K:101:GLY:N	1.90	0.86
1:X:2811:G:H2'	1:X:2812:A:C8	2.11	0.86
1:X:870:C:H4'	22:T:23:VAL:HG21	1.56	0.86
1:X:1086:C:H3'	1:X:1087:C:H5''	1.57	0.86
2:Y:33:C:H42	2:Y:53:G:H1	1.22	0.86
9:G:106:TYR:CE2	9:G:108:GLY:CA	2.59	0.85
10:H:25:LEU:HD11	10:H:52:VAL:HG23	1.55	0.85
1:X:1790:G:H4'	1:X:1791:C:O5'	1.77	0.85
1:X:1067:G:H21	1:X:1114:A:H62	1.21	0.85
1:X:313:U:H2'	1:X:314:G:H8	1.39	0.85
4:B:76:ARG:NH1	15:M:4:HIS:HB2	1.91	0.85
5:C:163:ASN:HD21	5:C:167:VAL:H	1.21	0.85
28:2:37:LYS:O	28:2:40:HIS:HE1	1.59	0.85
1:X:2598:C:O2'	1:X:2599:U:H5'	1.77	0.85
12:J:42:TRP:HB3	12:J:95:VAL:HG11	1.55	0.84
31:X:2881:LMA:H32	31:X:2881:LMA:O53	1.76	0.84
11:I:31:GLY:O	11:I:32:ARG:HG3	1.77	0.84
1:X:347:C:H4'	20:R:15:HIS:HD2	1.38	0.84
20:R:15:HIS:ND1	20:R:16:PHE:HD2	1.75	0.84
25:W:46:THR:HG22	25:W:47:VAL:HG13	1.60	0.84
1:X:918:A:H2'	1:X:919:U:H5''	1.60	0.84
3:A:173:TYR:HA	3:A:187:HIS:HA	1.60	0.84
3:A:43:GLY:C	3:A:44:ARG:HH11	1.81	0.83
1:X:1811:A:H4'	1:X:1812:U:O5'	1.78	0.83
9:G:162:LYS:H	9:G:163:PRO:HD2	1.43	0.83
1:X:504:G:H4'	18:P:27:VAL:HG13	1.60	0.83
1:X:1469:U:H5'	1:X:1470:G:OP2	1.77	0.83
13:K:49:GLU:OE1	13:K:95:THR:HG22	1.77	0.83
16:N:66:ASN:HB2	16:N:70:ARG:HH12	1.43	0.83
10:H:2:ILE:HB	10:H:45:ALA:HB3	1.60	0.83
4:B:131:SER:HB2	4:B:134:TRP:CD1	2.12	0.83
18:P:85:MET:HE3	18:P:130:GLU:HG3	1.61	0.82
13:K:98:LEU:HD23	26:Z:45:ILE:HD11	1.59	0.82
1:X:165:G:H1	1:X:185:C:H42	1.27	0.82
1:X:2266:A:O2'	1:X:2267:A:H2'	1.78	0.82
1:X:1147:G:H2'	1:X:1148:G:H8	1.45	0.82
4:B:146:THR:HB	4:B:147:PRO:HD2	1.59	0.82
1:X:1631:C:H1'	18:P:108:PRO:HG2	1.59	0.82
20:R:22:VAL:HG13	20:R:81:VAL:O	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2194:A:H3'	1:X:2195:C:H5''	1.60	0.82
1:X:595:A:H5'	5:C:83:ALA:HB3	1.62	0.81
1:X:2796:A:P	13:K:3:HIS:HE2	2.03	0.81
18:P:95:ALA:HB2	18:P:126:ILE:HD13	1.61	0.81
26:Z:42:SER:O	26:Z:44:HIS:HD2	1.63	0.81
1:X:2200:G:H2'	1:X:2201:G:C8	2.15	0.81
1:X:2289:A:H2	6:D:79:LEU:HD11	1.44	0.81
23:U:20:ARG:HD3	23:U:43:ARG:NH2	1.94	0.81
3:A:80:VAL:HB	3:A:115:GLY:H	1.46	0.81
27:1:9:ILE:HA	27:1:28:ARG:HA	1.62	0.80
3:A:25:LEU:CB	3:A:206:VAL:HG22	2.12	0.80
14:L:37:HIS:CE1	14:L:57:ALA:HB2	2.16	0.80
1:X:938:G:O2'	1:X:939:C:H5'	1.82	0.80
1:X:540:G:H2'	1:X:542:A:C2	2.16	0.80
1:X:2797:G:OP2	13:K:3:HIS:HE1	1.60	0.80
18:P:103:LEU:HB2	18:P:119:LYS:HB2	1.62	0.80
20:R:90:LYS:HB2	20:R:108:VAL:HG21	1.64	0.80
1:X:408:U:H2'	1:X:409:G:C8	2.16	0.80
1:X:1053:G:H4'	1:X:1054:C:OP1	1.80	0.80
28:2:43:THR:O	28:2:43:THR:HG22	1.78	0.79
15:M:99:VAL:HG21	15:M:104:LEU:HD21	1.62	0.79
1:X:1016:C:O2'	9:G:56:THR:HG21	1.81	0.79
4:B:174:GLU:HB3	4:B:183:LEU:HD12	1.64	0.79
1:X:37:C:H1'	5:C:44:SER:OG	1.83	0.79
10:H:13:ASN:HD21	10:H:109:ARG:HG2	1.48	0.79
10:H:116:ARG:HD2	15:M:38:LYS:NZ	1.98	0.79
1:X:2861:A:O2'	26:Z:31:THR:HG23	1.83	0.79
1:X:666:U:H2'	1:X:667:U:H5''	1.64	0.79
27:1:39:LYS:NZ	27:1:47:HIS:HA	1.98	0.79
1:X:1630:A:N1	18:P:114:ALA:HB2	1.98	0.79
13:K:49:GLU:O	13:K:52:ILE:HG12	1.83	0.79
18:P:41:VAL:O	18:P:44:VAL:HG22	1.82	0.79
22:T:43:THR:O	22:T:43:THR:HG22	1.82	0.79
5:C:154:ASP:O	5:C:157:THR:HG22	1.83	0.78
1:X:1142:G:N3	9:G:103:TYR:HD2	1.80	0.78
3:A:69:LYS:HD3	3:A:69:LYS:H	1.48	0.78
16:N:66:ASN:HB2	16:N:70:ARG:NH1	1.98	0.78
1:X:824:U:C2'	11:I:30:ALA:HB2	2.14	0.78
1:X:2672:U:H2'	1:X:2673:G:H8	1.49	0.78
10:H:27:SER:HA	10:H:50:ILE:HD12	1.64	0.78
1:X:1404:C:H5'	1:X:1405:A:OP2	1.84	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:168:A:H2'	1:X:169:C:C6	2.19	0.78
1:X:469:G:H5'	28:2:39:ARG:HB2	1.66	0.77
27:1:14:SER:HB2	27:1:22:TYR:HA	1.67	0.77
28:2:37:LYS:O	28:2:40:HIS:CE1	2.37	0.77
1:X:2796:A:OP2	13:K:3:HIS:NE2	2.16	0.77
1:X:1976:U:H4'	4:B:128:SER:OG	1.83	0.77
1:X:317:U:H2'	1:X:318:G:H5'	1.65	0.77
10:H:76:ARG:O	10:H:94:ASN:HA	1.84	0.77
1:X:2659:C:H5'	4:B:189:PRO:HA	1.65	0.77
3:A:61:ARG:HD3	3:A:88:ASN:OD1	1.85	0.77
18:P:87:GLU:HA	18:P:90:LEU:HG	1.67	0.77
1:X:313:U:H2'	1:X:314:G:C8	2.20	0.77
5:C:5:ASN:HA	5:C:118:VAL:HG23	1.67	0.77
14:L:89:PHE:HB3	14:L:91:ARG:NH2	1.99	0.77
1:X:1584:G:H5''	3:A:62:LEU:HG	1.67	0.77
27:1:39:LYS:CE	27:1:47:HIS:HA	2.15	0.76
16:N:6:THR:O	16:N:9:VAL:HG23	1.84	0.76
1:X:492:G:H22	1:X:519:C:H42	1.32	0.76
4:B:78:LEU:O	4:B:79:ARG:HD3	1.86	0.76
10:H:10:VAL:HG23	10:H:17:ARG:O	1.84	0.76
11:I:74:VAL:HG13	11:I:109:LEU:HD12	1.68	0.76
15:M:28:ARG:CB	15:M:29:PRO:HD3	2.11	0.76
5:C:162:ARG:HD2	5:C:162:ARG:C	2.05	0.76
1:X:2495:G:O2'	1:X:2496:C:H5'	1.85	0.76
27:1:29:ARG:HA	27:1:33:ALA:CB	2.16	0.76
13:K:98:LEU:HD21	26:Z:56:GLN:HG2	1.67	0.76
19:Q:53:ILE:HD13	19:Q:80:VAL:HG12	1.65	0.76
2:Y:51:G:H2'	2:Y:52:G:C8	2.21	0.76
3:A:143:VAL:HG12	3:A:194:ILE:HA	1.67	0.76
27:1:8:ILE:H	27:1:8:ILE:HD13	1.49	0.75
1:X:824:U:H2'	11:I:30:ALA:HB2	1.66	0.75
1:X:2590:U:C5	26:Z:4:HIS:NE2	2.53	0.75
1:X:1314:A:O2'	1:X:1315:A:H3'	1.86	0.75
27:1:14:SER:CB	27:1:23:THR:H	1.99	0.75
10:H:99:ILE:HD12	10:H:103:GLY:HA2	1.67	0.75
1:X:542:A:H2'	16:N:28:ARG:NE	2.01	0.75
1:X:1441:A:H4'	1:X:1442:C:O5'	1.84	0.75
3:A:71:ARG:HG2	3:A:191:TYR:CE1	2.22	0.75
5:C:162:ARG:O	5:C:162:ARG:HD2	1.86	0.75
1:X:1016:C:HO2'	1:X:1023:U:H5	1.34	0.75
11:I:43:ALA:O	11:I:45:LYS:N	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1048:U:H3	1:X:1129:A:H61	1.33	0.75
1:X:2811:G:H2'	1:X:2812:A:H8	1.49	0.75
27:1:29:ARG:HA	27:1:33:ALA:HB2	1.67	0.75
14:L:38:ILE:HD12	14:L:39:TYR:H	1.51	0.75
18:P:59:PHE:HD1	26:Z:30:LEU:HD11	1.52	0.75
21:S:51:LEU:H	21:S:51:LEU:HD23	1.51	0.75
1:X:128:C:H2'	1:X:129:A:H5''	1.68	0.75
12:J:99:LYS:HE3	12:J:100:PRO:HD2	1.69	0.74
1:X:1673:C:H2'	1:X:1674:C:H6	1.52	0.74
2:Y:51:G:H2'	2:Y:52:G:H8	1.51	0.74
4:B:11:MET:HG2	4:B:24:THR:OG1	1.87	0.74
1:X:2484:G:O2'	1:X:2485:U:H5''	1.87	0.74
3:A:209:LYS:HE3	3:A:209:LYS:HA	1.68	0.74
21:S:100:THR:HG23	21:S:138:VAL:HG11	1.69	0.74
1:X:1444:C:H42	1:X:1579:G:H1	1.33	0.74
4:B:14:ILE:HD12	4:B:23:VAL:HG21	1.70	0.74
13:K:28:LEU:C	13:K:28:LEU:HD23	2.08	0.74
1:X:1173:G:H4'	17:O:22:VAL:HG22	1.70	0.74
19:Q:62:ARG:O	19:Q:63:LYS:HB3	1.88	0.74
1:X:754:G:H2'	1:X:755:C:H6	1.52	0.74
29:3:30:ARG:HH21	29:3:31:HIS:CE1	2.06	0.74
29:3:60:LEU:HD12	29:3:63:PRO:HG2	1.69	0.74
1:X:2245:A:H4'	1:X:2246:A:N3	2.02	0.74
1:X:161:U:H4'	1:X:194:G:H21	1.51	0.73
1:X:2590:U:C5	26:Z:4:HIS:CE1	2.76	0.73
15:M:32:THR:O	15:M:51:GLU:HA	1.89	0.73
1:X:2660:C:H42	1:X:2707:G:H1	1.37	0.73
1:X:552:C:C2'	1:X:553:C:H5''	2.17	0.73
15:M:104:LEU:HA	15:M:106:TYR:CE2	2.24	0.73
26:Z:6:VAL:HG13	26:Z:7:PRO:HD2	1.70	0.73
29:3:13:ARG:NH1	29:3:25:PHE:HB2	2.03	0.73
3:A:245:ARG:C	3:A:253:LYS:HE2	2.09	0.73
3:A:54:PHE:O	3:A:55:ILE:HB	1.87	0.73
6:D:60:ILE:HG13	6:D:61:THR:HG23	1.71	0.73
13:K:87:TYR:HE1	13:K:94:TYR:HD1	1.36	0.73
1:X:590:C:H2'	1:X:591:G:H8	1.54	0.73
26:Z:52:TYR:O	26:Z:53:ASP:HB2	1.89	0.73
1:X:1336:G:H2'	1:X:1337:G:H5'	1.69	0.73
1:X:1542:G:H22	1:X:1562:G:H1	1.37	0.73
18:P:37:LYS:HE2	18:P:64:ALA:HB2	1.71	0.72
1:X:73:A:H5''	1:X:74:G:O4'	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:3:13:ARG:HD2	29:3:25:PHE:N	2.04	0.72
23:U:51:ILE:HG23	23:U:59:THR:HG22	1.71	0.72
18:P:25:PHE:HD1	18:P:127:ILE:HD11	1.54	0.72
14:L:38:ILE:HD11	14:L:40:ALA:H	1.53	0.72
1:X:177:U:H3'	23:U:40:ARG:HH21	1.53	0.72
1:X:2734:U:H4'	30:4:26:ILE:HD13	1.70	0.72
11:I:58:ALA:HA	29:3:12:ARG:HH21	1.54	0.72
20:R:29:HIS:CD2	20:R:51:VAL:HG22	2.24	0.72
1:X:1278:A:H2	1:X:1997:A:H62	1.37	0.72
1:X:394:U:OP1	23:U:19:ILE:HD11	1.89	0.72
1:X:1277:G:OP1	26:Z:19:ARG:NH2	2.22	0.72
1:X:540:G:C2'	1:X:542:A:H2	2.02	0.72
1:X:2825:A:H2'	1:X:2825:A:N3	2.04	0.72
1:X:797:A:C5	3:A:230:VAL:HG21	2.24	0.72
1:X:1656:U:C2'	1:X:1657:A:H5''	2.20	0.72
1:X:2218:G:H5'	3:A:250:PRO:HD3	1.70	0.72
1:X:654:A:N3	1:X:654:A:H3'	2.04	0.72
1:X:73:A:H3'	1:X:74:G:H5'	1.72	0.72
26:Z:58:LEU:H	26:Z:58:LEU:HD12	1.54	0.72
9:G:103:TYR:CB	9:G:107:GLN:HE21	1.99	0.72
11:I:49:PHE:HD1	11:I:50:GLU:H	1.38	0.72
24:V:42:ARG:O	24:V:46:LEU:HG	1.90	0.72
1:X:2260:C:O2'	1:X:2261:G:H5'	1.89	0.72
1:X:1884:A:O2'	3:A:245:ARG:HG2	1.90	0.71
1:X:2284:U:H4'	6:D:133:LYS:HG2	1.70	0.71
1:X:2736:U:H5''	30:4:19:ARG:HG2	1.72	0.71
1:X:1714:A:H5''	1:X:1715:A:H2'	1.71	0.71
1:X:635:C:C2'	1:X:636:G:H5''	2.20	0.71
3:A:253:LYS:H	3:A:254:PRO:HD2	1.55	0.71
6:D:4:LEU:HG	6:D:5:LYS:H	1.54	0.71
1:X:1688:U:HO2'	1:X:1690:U:H5	1.38	0.71
1:X:841:G:H2'	1:X:842:A:C8	2.26	0.71
16:N:99:ALA:HB2	16:N:106:PHE:CD1	2.26	0.71
1:X:2291:U:O2'	6:D:86:GLY:HA3	1.91	0.71
28:2:43:THR:O	28:2:43:THR:CG2	2.38	0.71
13:K:45:ARG:HG3	13:K:95:THR:CG2	2.21	0.71
1:X:1745:C:H2'	1:X:1746:A:O4'	1.91	0.71
3:A:45:ASN:HB3	3:A:50:ILE:HA	1.71	0.71
4:B:144:ARG:HG2	4:B:145:LYS:H	1.55	0.71
1:X:2704:U:H2'	1:X:2705:A:C2	2.26	0.71
13:K:28:LEU:O	13:K:28:LEU:HD23	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:504:G:H4'	18:P:27:VAL:CG1	2.21	0.71
1:X:870:C:H1'	22:T:26:PHE:CE2	2.23	0.70
1:X:839:U:H5''	1:X:2408:G:OP2	1.91	0.70
9:G:132:PHE:HB2	9:G:145:HIS:CD2	2.26	0.70
10:H:23:ARG:HB3	10:H:23:ARG:NH2	2.06	0.70
1:X:1147:G:H2'	1:X:1148:G:C8	2.26	0.70
9:G:106:TYR:HE2	9:G:108:GLY:HA3	1.54	0.70
25:W:4:LYS:HG3	25:W:52:GLU:HB3	1.73	0.70
1:X:2048:C:H1'	1:X:2428:U:H3	1.56	0.70
1:X:2051:U:H3	1:X:2409:A:H62	1.38	0.70
1:X:2781:G:H2'	1:X:2782:G:H5''	1.72	0.70
1:X:557:U:H4'	1:X:558:G:O4'	1.92	0.70
15:M:34:ARG:HH21	15:M:91:VAL:HG21	1.55	0.70
15:M:104:LEU:HD23	15:M:106:TYR:HE2	1.57	0.70
16:N:17:VAL:HG21	16:N:32:TYR:HE1	1.55	0.70
1:X:590:C:H2'	1:X:591:G:C8	2.27	0.70
19:Q:12:ILE:H	19:Q:12:ILE:HD13	1.55	0.70
1:X:2194:A:C3'	1:X:2195:C:H5''	2.21	0.70
1:X:242:A:O2'	1:X:243:G:H4'	1.90	0.70
1:X:2592:U:H2'	26:Z:5:PRO:CG	2.21	0.70
14:L:38:ILE:CD1	14:L:40:ALA:H	2.05	0.70
1:X:1174:G:N2	1:X:1175:A:C4	2.60	0.70
4:B:116:VAL:HG13	4:B:136:ARG:HH21	1.57	0.70
10:H:41:ASN:O	10:H:42:LYS:O	2.10	0.70
20:R:23:ILE:HG22	20:R:33:THR:HB	1.73	0.69
1:X:2756:A:H4'	1:X:2757:G:O5'	1.91	0.69
1:X:595:A:H5'	5:C:83:ALA:CB	2.22	0.69
2:Y:39:C:H5'	2:Y:40:C:OP2	1.92	0.69
15:M:34:ARG:CZ	15:M:88:VAL:HG11	2.22	0.69
10:H:110:VAL:HG23	10:H:129:LEU:HB2	1.74	0.69
19:Q:63:LYS:HD3	19:Q:69:ILE:HA	1.73	0.69
1:X:1043:A:H5'	30:4:7:VAL:O	1.92	0.69
1:X:183:U:H6	1:X:183:U:O5'	1.76	0.69
1:X:539:A:C5	1:X:2025:A:C2	2.80	0.69
1:X:564:U:H2'	1:X:565:A:C8	2.27	0.69
1:X:2324:G:N3	1:X:2360:C:H2'	2.07	0.69
3:A:44:ARG:HH11	3:A:44:ARG:N	1.91	0.69
5:C:153:ASP:O	5:C:154:ASP:HB3	1.91	0.69
1:X:45:C:OP2	1:X:192:G:H2'	1.93	0.69
1:X:1148:G:H5''	1:X:1149:G:OP2	1.93	0.69
1:X:2240:C:O2'	1:X:2241:U:H5'	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:543:G:H5'	16:N:24:PHE:CE1	2.28	0.69
1:X:591:G:H2'	1:X:592:G:H8	1.57	0.69
16:N:101:ARG:O	16:N:103:PRO:HD3	1.93	0.69
24:V:18:ILE:HG22	24:V:22:LYS:HE2	1.74	0.69
1:X:1656:U:H2'	1:X:1657:A:H5''	1.75	0.69
10:H:116:ARG:CZ	15:M:38:LYS:HE3	2.23	0.69
9:G:70:PHE:HB3	16:N:64:ARG:HG2	1.74	0.69
1:X:2660:C:N4	1:X:2707:G:H1	1.91	0.69
1:X:538:A:C4'	1:X:539:A:OP1	2.41	0.69
1:X:538:A:N3	1:X:538:A:H2'	2.06	0.69
3:A:71:ARG:HH22	3:A:150:PRO:HA	1.57	0.69
1:X:2293:G:H5''	6:D:35:VAL:HG21	1.75	0.69
1:X:971:A:H61	12:J:83:ARG:HH22	1.40	0.69
4:B:60:ASN:HB3	4:B:62:PRO:HD2	1.74	0.69
14:L:89:PHE:HZ	14:L:103:LEU:HD22	1.58	0.69
1:X:2670:C:H4'	1:X:2846:G:O2'	1.93	0.69
1:X:317:U:C2'	1:X:318:G:H5'	2.22	0.69
4:B:131:SER:HB2	4:B:134:TRP:NE1	2.08	0.68
10:H:47:VAL:HA	10:H:74:VAL:HG12	1.75	0.68
15:M:39:VAL:HG12	15:M:45:THR:HG23	1.75	0.68
1:X:1442:C:O2'	1:X:1585:A:OP2	2.08	0.68
1:X:239:A:H5''	1:X:621:U:H5'	1.75	0.68
1:X:2293:G:H5'	6:D:35:VAL:HG11	1.76	0.68
1:X:1166:A:H5''	16:N:55:ARG:HD3	1.74	0.68
1:X:491:A:H4'	20:R:55:THR:HB	1.74	0.68
3:A:218:ARG:HG2	3:A:219:LYS:H	1.58	0.68
1:X:342:G:H4'	1:X:343:A:OP2	1.92	0.68
4:B:155:ARG:HG3	4:B:155:ARG:HH11	1.57	0.68
12:J:12:LYS:O	12:J:13:GLN:HB2	1.93	0.68
1:X:1096:A:H4'	1:X:1097:A:OP1	1.93	0.68
10:H:75:VAL:HG12	10:H:118:LEU:HD21	1.76	0.68
28:2:42:LEU:HD12	28:2:42:LEU:N	2.09	0.68
16:N:72:HIS:HD2	16:N:110:VAL:HG21	1.58	0.68
1:X:1493:A:H2'	1:X:1494:G:O4'	1.94	0.68
1:X:919:U:H2'	1:X:920:G:H8	1.59	0.68
1:X:337:G:HO2'	20:R:9:HIS:HD1	1.42	0.68
30:4:19:ARG:HD2	30:4:24:LEU:HD22	1.75	0.67
16:N:49:ASP:O	16:N:53:LYS:HG2	1.94	0.67
5:C:137:ALA:HB1	5:C:142:LEU:HB2	1.74	0.67
13:K:51:LEU:HD21	13:K:70:ILE:HD11	1.74	0.67
1:X:2447:G:O2'	1:X:2448:A:H8	1.72	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:597:U:H2'	1:X:598:U:C6	2.29	0.67
1:X:1976:U:H4'	4:B:128:SER:CB	2.24	0.67
1:X:1988:A:H5''	1:X:1989:C:OP2	1.94	0.67
1:X:408:U:H2'	1:X:409:G:H8	1.59	0.67
1:X:854:G:H1	1:X:948:C:H42	1.41	0.67
9:G:84:ASN:O	9:G:152:ALA:HA	1.94	0.67
11:I:61:PRO:HD3	29:3:27:SER:HB3	1.75	0.67
4:B:183:LEU:HD21	15:M:16:ILE:HG21	1.76	0.67
5:C:176:ASN:ND2	5:C:178:TYR:HB3	2.03	0.67
13:K:87:TYR:HE1	13:K:94:TYR:CD1	2.12	0.67
1:X:2551:A:N7	4:B:145:LYS:HB2	2.08	0.67
12:J:64:LYS:NZ	12:J:110:VAL:HG13	2.10	0.67
12:J:66:TYR:HB2	12:J:106:GLU:HG2	1.75	0.67
17:O:34:GLU:HB2	17:O:56:VAL:CG2	2.24	0.67
1:X:494:A:C8	20:R:56:LYS:HD2	2.30	0.67
1:X:1357:U:H4'	1:X:1397:A:C6	2.30	0.67
15:M:39:VAL:HG12	15:M:45:THR:OG1	1.93	0.67
23:U:23:LYS:HB2	23:U:35:THR:HG23	1.76	0.67
1:X:923:A:H5''	1:X:924:C:H5''	1.74	0.67
7:E:146:ALA:O	7:E:150:LYS:HG3	1.95	0.67
23:U:22:GLY:HA3	23:U:39:LYS:HG3	1.77	0.67
1:X:1991:C:H2'	1:X:1992:G:H8	1.60	0.67
1:X:652:C:H42	1:X:657:A:H61	1.41	0.67
3:A:78:ALA:HB2	3:A:98:TYR:HD1	1.59	0.66
1:X:1141:U:C4	4:B:147:PRO:HG3	2.29	0.66
1:X:1978:U:C2	1:X:1979:C:C5	2.83	0.66
1:X:2200:G:H2'	1:X:2201:G:H8	1.58	0.66
1:X:38:G:H4'	1:X:39:C:OP1	1.95	0.66
1:X:538:A:H3'	9:G:142:ARG:HH12	1.57	0.66
4:B:120:TRP:CD2	4:B:155:ARG:HD2	2.30	0.66
12:J:40:PRO:HB3	12:J:99:LYS:HZ2	1.60	0.66
19:Q:27:PHE:CZ	19:Q:42:ILE:HD13	2.30	0.66
20:R:75:ALA:O	20:R:76:LEU:HD23	1.95	0.66
5:C:151:VAL:HG12	5:C:173:ALA:HA	1.76	0.66
6:D:65:PRO:HB3	6:D:89:VAL:HG22	1.77	0.66
9:G:162:LYS:N	9:G:163:PRO:HD2	2.09	0.66
10:H:1:MET:HB3	10:H:44:TYR:HB3	1.75	0.66
19:Q:10:PRO:HD3	24:V:30:PHE:CD2	2.30	0.66
1:X:1563:U:H2'	1:X:1564:U:C6	2.31	0.66
3:A:246:VAL:HG12	3:A:252:GLY:N	2.11	0.66
18:P:67:PRO:O	18:P:71:VAL:HG23	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2043:A:H62	5:C:68:ARG:NH1	1.93	0.66
1:X:2675:U:H2'	1:X:2676:G:C8	2.31	0.66
29:3:13:ARG:HD2	29:3:25:PHE:H	1.60	0.66
29:3:46:LYS:HE3	29:3:46:LYS:HA	1.77	0.66
1:X:1107:A:H3'	1:X:1108:U:H5''	1.78	0.66
1:X:1941:C:O2'	1:X:1942:G:H5'	1.96	0.66
5:C:163:ASN:HD21	5:C:167:VAL:N	1.93	0.66
15:M:66:PHE:HD2	15:M:83:PHE:CE1	2.14	0.66
16:N:61:TRP:O	16:N:65:ILE:HG13	1.96	0.66
1:X:2409:A:H4'	1:X:2410:U:OP1	1.96	0.66
1:X:2543:A:C2	1:X:2626:U:H4'	2.30	0.66
1:X:826:U:H2'	1:X:827:C:C6	2.29	0.66
1:X:984:A:C2	1:X:1201:G:N2	2.64	0.66
1:X:1469:U:H5	13:K:64:ARG:HH21	1.42	0.66
1:X:1343:C:O2'	1:X:1344:C:H5'	1.96	0.66
1:X:1683:G:O2'	1:X:1684:G:H5'	1.95	0.66
3:A:244:GLY:N	3:A:245:ARG:NH1	2.41	0.66
4:B:76:ARG:HH12	15:M:4:HIS:HB2	1.61	0.66
1:X:1968:G:H2'	1:X:1969:G:H8	1.59	0.66
29:3:9:MET:HG3	29:3:60:LEU:HD22	1.77	0.66
1:X:1300:A:H5'	13:K:103:ARG:HD2	1.78	0.66
22:T:23:VAL:HG13	22:T:38:VAL:HG22	1.77	0.66
22:T:21:LEU:HD21	22:T:41:ARG:HE	1.59	0.66
1:X:1468:A:OP2	1:X:1468:A:C8	2.49	0.66
27:1:39:LYS:HE2	27:1:47:HIS:HA	1.75	0.66
1:X:477:A:OP1	28:2:34:ARG:NH2	2.29	0.66
4:B:13:GLN:O	4:B:14:ILE:HG13	1.96	0.66
1:X:879:A:H2'	1:X:879:A:N3	2.10	0.66
9:G:132:PHE:CD2	9:G:145:HIS:CG	2.84	0.65
12:J:116:LYS:O	12:J:120:ARG:HB2	1.95	0.65
15:M:37:THR:CG2	15:M:39:VAL:HG13	2.26	0.65
28:2:37:LYS:C	28:2:40:HIS:HE1	2.00	0.65
3:A:219:LYS:HD2	3:A:219:LYS:C	2.17	0.65
5:C:46:ARG:HB3	5:C:51:VAL:HG23	1.79	0.65
1:X:1053:G:C4'	1:X:1054:C:OP1	2.43	0.65
1:X:1128:G:H2'	1:X:1129:A:H5''	1.78	0.65
1:X:1938:U:H1'	1:X:1939:U:OP1	1.97	0.65
1:X:2705:A:N3	1:X:2705:A:O4'	2.28	0.65
9:G:107:GLN:O	9:G:109:GLY:N	2.29	0.65
10:H:2:ILE:O	10:H:44:TYR:HA	1.96	0.65
10:H:42:LYS:HE3	10:H:44:TYR:O	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:76:THR:HB	12:J:88:LYS:O	1.96	0.65
13:K:33:ARG:HG3	13:K:114:GLU:HB3	1.77	0.65
1:X:1299:A:O2'	1:X:1301:U:OP2	2.14	0.65
1:X:2372:A:H5''	11:I:61:PRO:HA	1.79	0.65
12:J:42:TRP:HB3	12:J:95:VAL:CG1	2.26	0.65
21:S:69:VAL:HG13	21:S:81:VAL:HG22	1.79	0.65
1:X:591:G:C2'	1:X:592:G:C8	2.78	0.65
24:V:2:LYS:HA	24:V:6:MET:HE1	1.78	0.65
1:X:626:A:C8	5:C:174:GLY:HA3	2.31	0.65
18:P:59:PHE:CD1	26:Z:30:LEU:HD11	2.31	0.65
3:A:87:PRO:O	3:A:88:ASN:HB2	1.97	0.65
1:X:1673:C:H5''	4:B:136:ARG:HB3	1.79	0.65
5:C:95:LEU:HD21	5:C:99:VAL:HB	1.77	0.65
10:H:42:LYS:NZ	10:H:46:HIS:HD2	1.95	0.65
1:X:227:G:OP2	29:3:8:LYS:HE3	1.95	0.65
1:X:1270:C:H4'	5:C:77:PHE:CE2	2.32	0.65
19:Q:22:ARG:NH1	19:Q:24:VAL:HG21	2.12	0.65
1:X:448:C:H5	1:X:449:C:C4	2.14	0.65
4:B:141:ILE:HG22	4:B:150:VAL:HB	1.79	0.65
5:C:27:LEU:O	5:C:31:VAL:HG22	1.96	0.65
15:M:104:LEU:HD23	15:M:106:TYR:CE2	2.31	0.65
1:X:603:C:H5'	29:3:62:LEU:HD22	1.79	0.65
12:J:77:LYS:O	12:J:79:PRO:HD3	1.97	0.65
14:L:33:ARG:HG2	14:L:38:ILE:HB	1.78	0.65
1:X:2788:C:H2'	1:X:2789:U:H6	1.61	0.65
1:X:617:U:H5	1:X:632:A:N1	1.95	0.65
5:C:176:ASN:HD22	5:C:179:ASP:N	1.89	0.65
1:X:177:U:O4	1:X:225:G:C2	2.50	0.65
1:X:2441:U:H2'	1:X:2442:C:C6	2.32	0.65
15:M:103:LYS:O	15:M:104:LEU:HB2	1.95	0.64
1:X:48:A:H4'	1:X:49:U:O5'	1.97	0.64
1:X:754:G:H2'	1:X:755:C:C6	2.31	0.64
7:E:43:VAL:HG23	7:E:52:VAL:HG22	1.79	0.64
1:X:38:G:C4'	1:X:39:C:OP1	2.44	0.64
1:X:2328:G:OP2	29:3:42:ARG:HG3	1.97	0.64
16:N:30:LYS:HB3	16:N:30:LYS:NZ	2.13	0.64
1:X:1153:A:OP1	1:X:1153:A:H4'	1.97	0.64
13:K:75:VAL:O	13:K:79:VAL:HG12	1.97	0.64
14:L:31:VAL:HG23	14:L:38:ILE:CD1	2.24	0.64
24:V:37:LEU:HD23	24:V:39:GLN:H	1.62	0.64
1:X:2426:G:C3'	1:X:2479:U:OP2	2.44	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2262:C:OP1	27:1:3:LYS:HE2	1.96	0.64
4:B:49:ILE:HG22	4:B:79:ARG:O	1.97	0.64
6:D:132:ILE:HG13	6:D:154:ILE:HD13	1.79	0.64
17:O:73:LYS:HB2	17:O:82:ARG:HB2	1.78	0.64
18:P:85:MET:CE	18:P:130:GLU:HG3	2.28	0.64
21:S:13:LYS:HB2	21:S:13:LYS:NZ	2.13	0.64
1:X:2426:G:H4'	1:X:2427:A:O5'	1.97	0.64
1:X:2265:A:OP1	27:1:28:ARG:HD2	1.97	0.64
18:P:41:VAL:HG21	18:P:64:ALA:HB3	1.79	0.64
1:X:2598:C:C4'	4:B:150:VAL:HG22	2.27	0.64
1:X:163:A:H2'	1:X:164:G:C8	2.33	0.64
1:X:26:G:C6	1:X:27:G:N1	2.66	0.64
1:X:2660:C:N3	1:X:2707:G:N2	2.46	0.64
1:X:346:C:H2'	1:X:347:C:H6	1.61	0.64
4:B:116:VAL:CG2	4:B:136:ARG:HE	2.05	0.64
11:I:18:ARG:HB2	11:I:21:ARG:HB2	1.80	0.64
19:Q:7:LEU:HD22	19:Q:8:GLN:N	2.12	0.64
1:X:459:A:C2	1:X:466:A:C8	2.86	0.64
1:X:790:A:N7	1:X:806:A:H2	1.95	0.64
1:X:840:U:H4'	1:X:841:G:C2	2.33	0.64
26:Z:51:TYR:HA	26:Z:55:ARG:HA	1.78	0.64
3:A:219:LYS:O	3:A:219:LYS:HD2	1.97	0.64
12:J:40:PRO:HB3	12:J:99:LYS:HD2	1.79	0.64
14:L:89:PHE:CZ	14:L:103:LEU:HD22	2.32	0.64
15:M:34:ARG:NH1	15:M:88:VAL:HG21	2.12	0.64
1:X:2640:G:H2'	1:X:2641:A:C8	2.33	0.64
1:X:82:G:N2	1:X:83:A:H62	1.96	0.64
12:J:28:VAL:HG21	12:J:135:ARG:HA	1.80	0.64
16:N:99:ALA:HB2	16:N:106:PHE:CE1	2.33	0.64
20:R:85:ASP:HB3	20:R:86:PRO:HD3	1.80	0.64
1:X:1182:U:H3	1:X:1193:G:H22	1.45	0.64
28:2:14:LYS:HE3	28:2:14:LYS:HA	1.80	0.63
4:B:49:ILE:HG21	4:B:81:PHE:HE2	1.62	0.63
5:C:95:LEU:CD2	5:C:99:VAL:HB	2.28	0.63
2:Y:30:C:OP1	14:L:37:HIS:HB3	1.97	0.63
15:M:55:ILE:HB	15:M:103:LYS:O	1.99	0.63
1:X:1007:A:H1'	17:O:6:GLN:HG2	1.79	0.63
1:X:2533:U:C4	1:X:2534:U:O4	2.51	0.63
2:Y:51:G:OP1	14:L:97:HIS:HD2	1.81	0.63
19:Q:7:LEU:HD22	19:Q:7:LEU:C	2.18	0.63
1:X:1329:U:H2'	1:X:1330:G:H8	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1685:A:O4'	1:X:1686:A:C2	2.51	0.63
1:X:1979:C:H4'	1:X:1980:A:OP1	1.97	0.63
1:X:2043:A:O4'	1:X:2481:G:O4'	2.16	0.63
1:X:859:U:O2'	1:X:860:U:C2	2.50	0.63
4:B:176:ARG:HE	15:M:16:ILE:HG12	1.63	0.63
9:G:132:PHE:HD2	9:G:145:HIS:CG	2.16	0.63
3:A:245:ARG:O	3:A:253:LYS:HE2	1.99	0.63
18:P:126:ILE:HD12	18:P:127:ILE:H	1.63	0.63
18:P:35:PRO:O	18:P:39:ARG:HD3	1.98	0.63
1:X:1332:G:C6	1:X:1333:G:O6	2.51	0.63
1:X:1775:A:H4'	1:X:1776:A:O5'	1.98	0.63
1:X:822:G:C2'	1:X:823:U:H5'	2.29	0.63
21:S:3:LEU:HD23	21:S:56:VAL:HG22	1.81	0.63
23:U:22:GLY:HA3	23:U:39:LYS:HE3	1.81	0.63
1:X:16:G:C2	1:X:535:U:O2	2.51	0.63
1:X:2240:C:C2'	1:X:2241:U:H5'	2.28	0.63
1:X:484:G:N1	1:X:485:G:C6	2.66	0.63
1:X:617:U:H5	1:X:632:A:C2	2.16	0.63
9:G:154:GLU:O	9:G:157:PRO:HD2	1.98	0.63
12:J:128:ILE:O	12:J:128:ILE:HD12	1.99	0.63
14:L:38:ILE:HD12	14:L:39:TYR:N	2.14	0.63
1:X:1392:U:OP1	1:X:1392:U:H6	1.82	0.63
1:X:1469:U:OP1	1:X:1470:G:OP2	2.17	0.63
1:X:1715:A:C8	1:X:1717:A:O4'	2.52	0.63
1:X:2516:U:H2'	1:X:2517:C:C6	2.34	0.63
4:B:136:ARG:HG2	4:B:137:ARG:N	2.14	0.63
1:X:458:G:H4'	1:X:459:A:H5'	1.80	0.63
1:X:789:G:O2'	1:X:790:A:OP2	2.11	0.63
9:G:85:ALA:HB1	9:G:127:ILE:HD13	1.81	0.63
2:Y:17:A:H1'	2:Y:112:A:N9	2.13	0.63
5:C:176:ASN:ND2	5:C:179:ASP:H	1.91	0.62
7:E:127:GLU:HG3	7:E:128:PRO:HD2	1.79	0.62
13:K:73:LYS:O	13:K:76:VAL:HG12	1.98	0.62
21:S:168:VAL:HG12	21:S:169:VAL:HG13	1.80	0.62
1:X:2424:G:O2'	1:X:2425:G:H5'	1.99	0.62
1:X:787:A:H5''	3:A:49:ARG:HH22	1.63	0.62
1:X:968:C:N4	1:X:970:A:C6	2.67	0.62
28:2:25:LYS:N	28:2:25:LYS:HE2	2.14	0.62
10:H:47:VAL:HA	10:H:74:VAL:CG1	2.29	0.62
13:K:81:ASP:O	13:K:85:PRO:HG2	1.98	0.62
15:M:37:THR:HG22	15:M:39:VAL:HG13	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1166:A:H5''	16:N:55:ARG:HH11	1.63	0.62
1:X:1827:G:H1'	1:X:1914:U:C2	2.34	0.62
1:X:1856:U:OP1	1:X:2389:G:O2'	2.17	0.62
27:1:34:LYS:HE2	27:1:53:LYS:NZ	2.14	0.62
10:H:109:ARG:HA	10:H:129:LEU:HD13	1.79	0.62
1:X:1432:G:O6	1:X:1594:U:H5''	2.00	0.62
1:X:2039:G:H2'	1:X:2039:G:N3	2.14	0.62
1:X:2378:G:H1	1:X:2396:C:H42	1.45	0.62
3:A:68:PHE:HE2	3:A:107:LEU:HD11	1.63	0.62
10:H:125:LYS:O	10:H:128:SER:HB2	1.98	0.62
17:O:67:LYS:HD2	17:O:68:LYS:H	1.65	0.62
1:X:1837:G:H2'	1:X:1838:G:C8	2.35	0.62
1:X:1919:A:N7	1:X:1928:G:C6	2.67	0.62
1:X:2336:G:N2	1:X:2339:A:OP2	2.32	0.62
1:X:2642:G:H2'	1:X:2643:G:O4'	1.99	0.62
1:X:931:G:H4'	2:Y:83:C:H4'	1.80	0.62
3:A:211:GLY:HA2	3:A:214:ARG:HG2	1.80	0.62
1:X:1223:G:H5'	1:X:1224:A:H3'	1.81	0.62
1:X:1420:A:C2	1:X:1612:U:O2	2.52	0.62
1:X:1779:C:H2'	1:X:1780:A:C8	2.34	0.62
13:K:62:SER:O	13:K:66:VAL:HG23	2.00	0.62
16:N:32:TYR:O	16:N:35:ALA:HB3	1.99	0.62
22:T:23:VAL:HA	22:T:38:VAL:HG13	1.82	0.62
1:X:2379:G:H1	1:X:2395:C:H42	1.46	0.62
1:X:2705:A:N7	1:X:2707:G:C4	2.68	0.62
1:X:685:U:C2	1:X:822:G:N2	2.68	0.62
7:E:124:ALA:HB3	7:E:132:ASP:HB3	1.82	0.62
1:X:2011:U:H2'	1:X:2012:A:H8	1.65	0.62
1:X:2518:C:H4'	30:4:3:VAL:HG21	1.82	0.62
1:X:2824:C:H4'	1:X:2825:A:O5'	2.00	0.62
1:X:919:U:H2'	1:X:920:G:C8	2.34	0.62
4:B:144:ARG:HG2	4:B:145:LYS:N	2.15	0.62
1:X:1837:G:H2'	1:X:1838:G:H8	1.64	0.62
1:X:572:G:H5'	1:X:581:A:H4'	1.81	0.62
12:J:40:PRO:HB3	12:J:99:LYS:CD	2.30	0.62
1:X:100:G:H4'	1:X:101:A:OP1	2.00	0.62
1:X:1978:U:H2'	1:X:1979:C:C6	2.35	0.62
1:X:467:U:O2'	1:X:468:A:O5'	2.17	0.62
4:B:147:PRO:O	4:B:149:ARG:N	2.33	0.62
13:K:72:ASP:CG	13:K:75:VAL:HG23	2.20	0.62
20:R:15:HIS:ND1	20:R:16:PHE:CD2	2.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:16:PHE:HZ	20:R:46:VAL:HG22	1.65	0.62
1:X:75:C:O2	1:X:109:A:H2	1.83	0.62
1:X:1811:A:H1'	1:X:1812:U:OP2	2.00	0.62
5:C:128:ALA:O	5:C:130:THR:N	2.31	0.61
10:H:42:LYS:HZ2	10:H:46:HIS:HD2	1.47	0.61
12:J:92:GLU:HG3	12:J:93:TYR:HD2	1.65	0.61
15:M:104:LEU:HA	15:M:106:TYR:HE2	1.64	0.61
1:X:2426:G:C4	1:X:2479:U:H5	2.18	0.61
1:X:334:G:H4'	1:X:335:A:O5'	1.98	0.61
1:X:757:U:O2'	1:X:758:G:H5'	2.00	0.61
9:G:104:THR:OG1	9:G:105:GLY:N	2.32	0.61
10:H:116:ARG:HD2	15:M:38:LYS:HZ1	1.65	0.61
18:P:14:ARG:HA	18:P:17:GLN:HG2	1.82	0.61
1:X:663:G:H3'	1:X:664:C:H5''	1.81	0.61
29:3:34:THR:OG1	29:3:41:ILE:HD11	1.99	0.61
11:I:56:LEU:HD22	29:3:52:LYS:HZ2	1.65	0.61
1:X:2011:U:H2'	1:X:2012:A:C8	2.34	0.61
1:X:2598:C:O4'	4:B:150:VAL:HG22	1.99	0.61
1:X:334:G:C2'	5:C:162:ARG:HD3	2.29	0.61
14:L:89:PHE:HB3	14:L:91:ARG:HH21	1.64	0.61
19:Q:12:ILE:O	19:Q:12:ILE:HG12	1.99	0.61
1:X:2026:C:N4	1:X:2757:G:C2	2.69	0.61
28:2:10:ARG:H	28:2:10:ARG:CD	1.97	0.61
11:I:56:LEU:HB3	29:3:52:LYS:HE3	1.82	0.61
8:F:112:MET:HB2	8:F:113:PRO:HD3	1.80	0.61
1:X:1164:C:H2'	1:X:1165:G:O4'	2.01	0.61
1:X:1479:G:H2'	1:X:1480:G:C8	2.35	0.61
1:X:218:A:C8	1:X:220:U:C2	2.88	0.61
5:C:102:LEU:O	5:C:102:LEU:HD23	2.00	0.61
15:M:28:ARG:HB2	15:M:29:PRO:CD	2.19	0.61
1:X:1225:G:H2'	1:X:1249:G:H22	1.65	0.61
1:X:2409:A:C4'	1:X:2410:U:OP1	2.48	0.61
1:X:2604:G:H2'	1:X:2605:C:C6	2.36	0.61
27:1:28:ARG:HB2	27:1:30:ASN:OD1	2.01	0.61
21:S:127:PRO:O	21:S:128:ARG:HG2	2.00	0.61
1:X:2064:U:H5''	23:U:43:ARG:HH11	1.66	0.61
1:X:2690:A:OP1	1:X:2692:A:P	2.58	0.61
1:X:736:G:H2'	1:X:737:C:O4'	2.01	0.61
14:L:33:ARG:HE	14:L:38:ILE:HB	1.66	0.61
18:P:92:VAL:HG13	18:P:126:ILE:CD1	2.29	0.61
19:Q:35:LYS:HD3	19:Q:53:ILE:HG23	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:25:LEU:HD13	24:V:46:LEU:HD12	1.82	0.61
1:X:1096:A:C4'	1:X:1097:A:OP1	2.47	0.61
1:X:1964:A:H5''	1:X:1965:U:OP2	1.99	0.61
9:G:55:ALA:C	9:G:134:MET:HE1	2.20	0.61
11:I:51:GLY:O	11:I:55:ARG:NH1	2.31	0.61
25:W:23:LEU:HD21	25:W:43:MET:HB3	1.82	0.61
1:X:163:A:H2'	1:X:164:G:H8	1.66	0.61
1:X:2064:U:H5''	23:U:43:ARG:NH1	2.16	0.61
1:X:38:G:H1'	1:X:39:C:O5'	2.01	0.61
1:X:971:A:N6	12:J:83:ARG:HH22	1.99	0.61
9:G:89:ALA:C	9:G:90:LEU:HD12	2.22	0.61
11:I:107:LYS:HG2	11:I:109:LEU:HD21	1.83	0.61
11:I:62:LYS:HG2	11:I:63:ARG:H	1.66	0.61
1:X:2310:G:H4'	22:T:43:THR:H	1.66	0.61
1:X:529:U:H2'	1:X:530:G:H8	1.66	0.61
21:S:49:THR:OG1	21:S:132:GLN:HA	2.00	0.60
1:X:1438:G:C2'	1:X:1439:G:H5'	2.31	0.60
1:X:2222:U:H2'	1:X:2223:U:C6	2.36	0.60
1:X:688:A:H62	1:X:816:U:H3	1.49	0.60
2:Y:9:G:H5''	14:L:32:TYR:CD1	2.36	0.60
27:1:34:LYS:HE2	27:1:53:LYS:HZ2	1.66	0.60
1:X:2201:G:H5'	3:A:189:GLU:OE1	2.00	0.60
12:J:64:LYS:HZ3	12:J:110:VAL:HG13	1.66	0.60
13:K:24:GLN:HB3	13:K:44:LEU:HD22	1.83	0.60
15:M:39:VAL:HG12	15:M:45:THR:CG2	2.31	0.60
1:X:538:A:O2'	1:X:539:A:H5''	2.01	0.60
1:X:638:A:C8	11:I:74:VAL:HG11	2.36	0.60
1:X:613:A:C6	1:X:668:A:H1'	2.37	0.60
1:X:692:C:H42	1:X:811:G:H1	1.49	0.60
3:A:71:ARG:HH12	3:A:150:PRO:HB3	1.66	0.60
11:I:29:THR:O	11:I:30:ALA:HB3	2.01	0.60
15:M:5:ILE:HD13	15:M:7:ILE:HG22	1.81	0.60
16:N:22:LYS:HG3	16:N:23:GLY:H	1.66	0.60
1:X:178:C:O5'	23:U:40:ARG:NH2	2.33	0.60
1:X:1288:A:H2	1:X:1662:G:H21	1.47	0.60
1:X:2662:C:O2	10:H:82:LYS:NZ	2.33	0.60
1:X:2859:U:N3	26:Z:52:TYR:CE1	2.69	0.60
28:2:17:GLY:O	28:2:20:ALA:HB3	2.01	0.60
3:A:49:ARG:HD2	3:A:49:ARG:N	2.10	0.60
5:C:15:ILE:HD11	5:C:195:ILE:H	1.67	0.60
11:I:91:ASP:HA	11:I:94:GLU:OE2	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:935:C:H1'	22:T:29:GLU:HG2	1.81	0.60
1:X:1357:U:O2'	1:X:1358:C:P	2.59	0.60
1:X:192:G:H4'	1:X:193:A:H4'	1.83	0.60
1:X:2016:A:O2'	1:X:2018:G:OP2	2.18	0.60
1:X:2048:C:H1'	1:X:2428:U:N3	2.17	0.60
1:X:753:U:H2'	1:X:754:G:C8	2.37	0.60
1:X:999:A:H5''	25:W:8:SER:HB2	1.82	0.60
2:Y:33:C:N4	2:Y:53:G:H1	1.97	0.60
29:3:31:HIS:O	29:3:32:GLN:C	2.39	0.60
4:B:134:TRP:O	4:B:135:HIS:C	2.40	0.60
4:B:155:ARG:NH1	4:B:155:ARG:HG3	2.15	0.60
7:E:87:LEU:HB2	7:E:131:ILE:HB	1.82	0.60
7:E:154:PRO:HA	7:E:160:LYS:O	2.01	0.60
15:M:34:ARG:NH1	15:M:81:PHE:HB3	2.15	0.60
1:X:1744:G:N2	1:X:1747:G:OP2	2.31	0.60
31:X:2881:LMA:O55	31:X:2881:LMA:H12	2.00	0.60
28:2:15:THR:O	28:2:16:HIS:HB2	2.02	0.60
5:C:151:VAL:CG1	5:C:173:ALA:HA	2.31	0.60
12:J:29:ALA:HB3	12:J:68:ARG:HH21	1.65	0.60
1:X:1226:A:C8	1:X:1250:A:H2	2.18	0.60
1:X:2311:U:H4'	1:X:2315:A:N6	2.16	0.60
1:X:455:A:H2	1:X:1258:G:N3	1.99	0.60
1:X:521:U:H5''	1:X:522:G:OP2	2.01	0.60
1:X:817:A:H5''	1:X:818:G:OP1	2.01	0.60
13:K:73:LYS:HA	13:K:76:VAL:HG12	1.83	0.60
16:N:62:ILE:HG23	16:N:76:TYR:CE1	2.37	0.60
17:O:36:LYS:NZ	17:O:54:TYR:HB3	2.15	0.60
1:X:1666:G:H1	1:X:1991:C:H42	1.47	0.60
1:X:2229:G:H5'	12:J:84:MET:HG2	1.83	0.60
1:X:2782:G:H2'	1:X:2783:U:O5'	2.01	0.60
1:X:2796:A:H2'	1:X:2797:G:H8	1.66	0.60
1:X:695:G:H5''	28:2:26:SER:HB2	1.83	0.60
1:X:1479:G:H2'	1:X:1480:G:H8	1.67	0.60
1:X:1693:A:N3	1:X:1976:U:H5'	2.16	0.60
1:X:1770:U:H5	1:X:1775:A:N7	2.00	0.60
1:X:1977:C:O2	1:X:1977:C:H2'	2.02	0.60
1:X:2616:U:H5''	4:B:82:ARG:NH2	2.16	0.60
1:X:28:A:H1'	1:X:523:A:C2	2.37	0.60
1:X:48:A:H4'	1:X:49:U:C5'	2.32	0.60
6:D:5:LYS:O	6:D:8:TYR:HB3	2.01	0.60
6:D:60:ILE:HG22	6:D:140:GLU:HB2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:94:PHE:HE2	7:E:160:LYS:HB3	1.66	0.60
10:H:16:ALA:HB3	10:H:98:ILE:HD11	1.82	0.60
16:N:25:TRP:CE3	16:N:26:GLY:CA	2.85	0.60
21:S:155:PRO:HG2	21:S:158:CYS:SG	2.42	0.60
22:T:47:ALA:HB1	22:T:51:VAL:O	2.02	0.60
1:X:1886:G:O2'	1:X:1887:G:H5'	2.02	0.60
1:X:2074:U:H3'	1:X:2075:U:H5''	1.83	0.60
1:X:2700:U:H2'	1:X:2700:U:O2	2.02	0.60
19:Q:68:PHE:O	19:Q:69:ILE:HD12	2.01	0.59
1:X:1016:C:O2'	1:X:1023:U:C5	2.54	0.59
1:X:1050:G:H1	1:X:1127:C:H42	1.49	0.59
1:X:1399:C:H2'	1:X:1400:A:H8	1.66	0.59
1:X:1468:A:H8	1:X:1468:A:OP2	1.85	0.59
1:X:760:U:C5	26:Z:3:LYS:HG3	2.37	0.59
26:Z:10:LYS:HG2	26:Z:11:THR:N	2.15	0.59
1:X:122:G:H2'	28:2:19:ARG:HH21	1.67	0.59
5:C:176:ASN:HB3	5:C:179:ASP:OD2	2.02	0.59
16:N:79:PHE:HE2	16:N:95:LEU:HD21	1.66	0.59
19:Q:31:PRO:HA	19:Q:76:LYS:HD2	1.82	0.59
1:X:1329:U:O2'	1:X:1330:G:H5'	2.02	0.59
1:X:1337:G:C2	1:X:1341:G:N1	2.70	0.59
1:X:1505:U:H2'	1:X:1506:C:H5''	1.85	0.59
1:X:1751:A:H2'	1:X:1752:U:C6	2.37	0.59
1:X:2736:U:H5''	30:4:19:ARG:CG	2.32	0.59
1:X:699:G:C6	28:2:12:ARG:HA	2.37	0.59
5:C:27:LEU:HD23	5:C:181:LEU:HD22	1.84	0.59
9:G:61:ARG:HG2	9:G:65:LYS:HD2	1.82	0.59
18:P:106:LEU:HD23	18:P:106:LEU:C	2.23	0.59
18:P:92:VAL:HG13	18:P:126:ILE:HD11	1.83	0.59
18:P:39:ARG:HD2	18:P:97:VAL:HB	1.84	0.59
1:X:1925:C:H2'	1:X:1926:U:C5	2.37	0.59
1:X:314:G:N1	1:X:326:A:C2	2.71	0.59
1:X:538:A:H4'	1:X:539:A:OP1	2.02	0.59
28:2:34:ARG:HH11	28:2:42:LEU:HG	1.67	0.59
10:H:29:ILE:HG21	10:H:123:PHE:CE1	2.37	0.59
17:O:19:VAL:HG13	17:O:90:PHE:CD1	2.37	0.59
20:R:38:LEU:HB2	20:R:47:VAL:CG2	2.33	0.59
1:X:1433:A:H62	1:X:1435:G:H1'	1.67	0.59
1:X:1314:A:H2	1:X:1642:G:H21	1.50	0.59
1:X:761:G:OP2	18:P:110:ALA:CB	2.50	0.59
1:X:2350:G:O2'	27:1:46:LYS:HB3	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:163:ASN:ND2	5:C:167:VAL:H	1.97	0.59
6:D:13:ARG:HB3	6:D:14:PRO:HD3	1.84	0.59
10:H:13:ASN:ND2	10:H:109:ARG:HG2	2.16	0.59
1:X:824:U:O2'	11:I:30:ALA:HB2	2.02	0.59
1:X:1182:U:C4'	1:X:1183:C:OP1	2.50	0.59
1:X:1623:C:H4'	1:X:1624:A:O5'	2.02	0.59
6:D:117:ILE:HD12	6:D:175:LEU:HD11	1.83	0.59
13:K:13:ASN:OD1	13:K:14:SER:N	2.35	0.59
14:L:60:LYS:HZ2	14:L:64:LYS:HE2	1.68	0.59
17:O:15:SER:HA	17:O:95:ILE:O	2.03	0.59
1:X:1173:G:H2'	1:X:1174:G:H8	1.68	0.59
1:X:1361:G:H1	1:X:1614:C:N4	2.01	0.59
1:X:2245:A:H4'	1:X:2246:A:C2	2.37	0.59
17:O:11:GLN:HE22	17:O:38:LEU:HD12	1.68	0.59
1:X:338:G:H1'	20:R:10:HIS:HE1	1.67	0.59
20:R:81:VAL:HG11	20:R:89:GLY:CA	2.32	0.59
1:X:1310:C:H2'	1:X:1311:C:H6	1.66	0.59
1:X:13:A:N3	1:X:15:G:C6	2.71	0.59
1:X:1909:U:H5	1:X:1910:A:H62	1.49	0.59
1:X:2010:G:O6	1:X:2016:A:C8	2.55	0.59
1:X:2845:C:H6	1:X:2845:C:H3'	1.67	0.59
1:X:597:U:H2'	1:X:598:U:H6	1.67	0.59
1:X:1976:U:H5''	4:B:128:SER:HB3	1.83	0.59
4:B:14:ILE:HA	15:M:20:HIS:CD2	2.26	0.59
12:J:44:LYS:HD3	12:J:47:GLN:NE2	2.17	0.59
1:X:29:U:H6	1:X:29:U:O5'	1.85	0.59
10:H:133:VAL:HG12	10:H:133:VAL:O	2.01	0.59
1:X:762:A:H2	1:X:766:A:HO2'	1.48	0.59
3:A:25:LEU:CB	3:A:206:VAL:H	2.15	0.59
7:E:7:GLN:O	7:E:9:ILE:HG13	2.02	0.59
1:X:1996:A:C2	18:P:109:ARG:NH2	2.71	0.59
20:R:38:LEU:HB2	20:R:47:VAL:HG23	1.83	0.59
24:V:43:VAL:O	24:V:47:ARG:HG2	2.03	0.59
1:X:1234:C:O2	1:X:1242:A:C2	2.56	0.59
1:X:1665:C:H2'	1:X:1666:G:O4'	2.03	0.59
1:X:2209:G:H5''	23:U:46:LEU:HB2	1.83	0.59
31:X:2881:LMA:H34B	31:X:2881:LMA:C54	2.33	0.59
1:X:321:A:C2	1:X:323:G:H1'	2.38	0.59
1:X:40:U:H2'	1:X:41:G:O4'	2.02	0.59
1:X:57:G:C4	1:X:69:G:N2	2.71	0.59
10:H:28:GLY:O	10:H:35:THR:OG1	2.11	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1430:G:H2'	1:X:1431:U:C6	2.38	0.58
1:X:1684:G:C2	1:X:1974:U:C5	2.91	0.58
1:X:712:A:H2'	1:X:713:G:O4'	2.03	0.58
4:B:116:VAL:HG22	4:B:136:ARG:CD	2.32	0.58
5:C:26:VAL:HG22	11:I:18:ARG:NH1	2.13	0.58
12:J:40:PRO:CB	12:J:99:LYS:HZ2	2.15	0.58
12:J:92:GLU:HG3	12:J:93:TYR:CD2	2.38	0.58
1:X:1466:C:C2'	1:X:1467:U:O4'	2.47	0.58
1:X:2781:G:C2'	1:X:2782:G:H5''	2.32	0.58
20:R:29:HIS:HD2	20:R:51:VAL:HG22	1.67	0.58
21:S:120:LEU:HD23	21:S:121:GLN:N	2.18	0.58
1:X:1270:C:O2	5:C:78:VAL:HG23	2.02	0.58
1:X:177:U:H3'	23:U:40:ARG:NH2	2.18	0.58
1:X:2674:C:O2'	1:X:2675:U:H5'	2.03	0.58
9:G:62:ILE:O	9:G:77:GLY:HA3	2.03	0.58
16:N:24:PHE:HB2	16:N:29:SER:HB3	1.86	0.58
1:X:1468:A:H8	1:X:1468:A:P	2.26	0.58
1:X:1628:C:H5'	28:2:7:PRO:HG2	1.85	0.58
1:X:2256:G:OP2	12:J:86:LYS:HD2	2.04	0.58
16:N:40:LEU:HB3	17:O:74:TYR:CE2	2.38	0.58
1:X:1699:A:H61	1:X:1723:U:H3	1.52	0.58
1:X:2625:U:O5'	1:X:2625:U:H6	1.84	0.58
1:X:555:U:H3'	1:X:556:A:H8	1.67	0.58
1:X:757:U:C2'	1:X:758:G:H5'	2.33	0.58
1:X:334:G:H2'	5:C:162:ARG:HD3	1.86	0.58
1:X:547:U:H1'	9:G:73:ASN:HD21	1.68	0.58
1:X:1433:A:C4	1:X:1595:A:H2	2.21	0.58
1:X:306:G:N2	1:X:355:G:H1'	2.19	0.58
1:X:540:G:C2'	1:X:542:A:C2	2.84	0.58
29:3:8:LYS:HG3	29:3:12:ARG:NH1	2.17	0.58
4:B:59:VAL:HG21	4:B:74:PRO:HB3	1.85	0.58
7:E:90:ARG:HH21	7:E:163:ARG:NH1	2.01	0.58
1:X:1304:U:O2'	1:X:1305:C:H5'	2.04	0.58
1:X:2323:U:O2'	27:1:38:LYS:HB3	2.04	0.58
1:X:2796:A:H2'	1:X:2797:G:C8	2.39	0.58
1:X:923:A:C5	12:J:12:LYS:HE2	2.39	0.58
3:A:131:ALA:HA	3:A:192:ALA:O	2.03	0.58
19:Q:35:LYS:HA	19:Q:38:ILE:CG2	2.32	0.58
1:X:2695:C:H2'	1:X:2696:A:H8	1.69	0.58
27:1:14:SER:HB2	27:1:23:THR:H	1.67	0.58
4:B:118:LYS:HG2	4:B:160:MET:SD	2.43	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1919:A:H1'	1:X:1923:U:N3	2.18	0.58
1:X:2237:C:H3'	1:X:2238:G:H5'	1.86	0.58
1:X:721:C:H42	1:X:736:G:H1	1.52	0.58
1:X:836:G:H2'	1:X:837:U:H6	1.68	0.58
1:X:2339:A:OP1	29:3:49:VAL:HG22	2.04	0.58
5:C:62:LYS:HD3	5:C:63:GLY:N	2.19	0.58
19:Q:61:LYS:HB2	19:Q:72:ARG:HD3	1.86	0.58
22:T:12:ASN:CB	22:T:14:ARG:HG2	2.29	0.58
23:U:78:ILE:HD13	23:U:79:GLU:N	2.19	0.58
1:X:839:U:H5''	1:X:2408:G:P	2.44	0.58
1:X:797:A:N7	3:A:230:VAL:HG21	2.18	0.58
26:Z:51:TYR:CD2	26:Z:55:ARG:HB2	2.39	0.58
17:O:5:ILE:HD11	17:O:9:GLY:HA2	1.84	0.57
1:X:1496:G:C4'	1:X:1497:C:OP1	2.52	0.57
27:1:40:TYR:HB2	27:1:50:PHE:CD2	2.38	0.57
28:2:42:LEU:N	28:2:42:LEU:CD1	2.66	0.57
3:A:207:LEU:HA	3:A:212:ARG:HH11	1.69	0.57
17:O:68:LYS:HD2	17:O:69:ILE:N	2.19	0.57
1:X:1469:U:C5'	1:X:1470:G:OP2	2.51	0.57
1:X:2522:G:C6	1:X:2523:G:C6	2.92	0.57
1:X:820:U:OP1	11:I:40:ARG:NH2	2.37	0.57
3:A:109:PRO:HA	3:A:197:VAL:HA	1.86	0.57
4:B:100:GLU:O	4:B:172:VAL:HG23	2.03	0.57
7:E:16:THR:HB	7:E:27:LYS:HB2	1.85	0.57
18:P:37:LYS:O	18:P:40:LEU:HB2	2.04	0.57
1:X:1674:C:H2'	1:X:1675:C:C6	2.40	0.57
1:X:2447:G:O2'	1:X:2448:A:C8	2.51	0.57
1:X:2663:U:C4	1:X:2664:G:N7	2.72	0.57
1:X:318:G:H21	1:X:341:A:H62	1.53	0.57
1:X:761:G:OP2	18:P:110:ALA:HB2	2.04	0.57
27:1:8:ILE:O	27:1:9:ILE:HG12	2.04	0.57
1:X:1142:G:N3	9:G:103:TYR:CD2	2.68	0.57
1:X:1182:U:H4'	1:X:1183:C:OP1	2.04	0.57
1:X:577:U:H2'	1:X:579:G:OP2	2.03	0.57
1:X:760:U:C6	26:Z:3:LYS:CE	2.81	0.57
3:A:244:GLY:H	3:A:245:ARG:HH11	1.45	0.57
3:A:43:GLY:C	3:A:44:ARG:NH1	2.55	0.57
15:M:67:THR:OG1	15:M:80:VAL:HG22	2.04	0.57
1:X:1224:A:H5'	18:P:10:ASN:ND2	2.19	0.57
1:X:1850:G:H21	1:X:1867:A:H8	1.50	0.57
1:X:684:C:H5	11:I:43:ALA:HA	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:13:ARG:HG3	6:D:28:VAL:HG21	1.86	0.57
10:H:1:MET:N	10:H:1:MET:HE2	2.20	0.57
1:X:637:G:H1	11:I:101:ARG:HD3	1.70	0.57
20:R:20:ASP:O	20:R:36:VAL:HG23	2.05	0.57
1:X:2617:G:HO2'	1:X:2618:A:H8	1.51	0.57
1:X:555:U:H3'	1:X:556:A:C8	2.39	0.57
1:X:759:C:C2'	1:X:760:U:OP2	2.52	0.57
1:X:923:A:H5''	1:X:924:C:C5'	2.34	0.57
4:B:136:ARG:CG	4:B:137:ARG:H	2.18	0.57
12:J:22:ALA:HB2	12:J:100:PRO:O	2.05	0.57
9:G:70:PHE:HB2	16:N:64:ARG:NE	2.19	0.57
22:T:43:THR:HG23	22:T:46:LYS:HG2	1.86	0.57
1:X:1441:A:O4'	1:X:1442:C:C6	2.58	0.57
1:X:2571:G:C6	1:X:2572:U:C2	2.92	0.57
1:X:487:G:H4'	1:X:512:A:N1	2.20	0.57
5:C:148:VAL:HG22	5:C:185:ARG:HB2	1.86	0.57
7:E:117:PRO:HD3	7:E:123:PHE:HE1	1.70	0.57
9:G:61:ARG:HE	9:G:65:LYS:CD	2.17	0.57
15:M:50:PHE:CZ	15:M:70:LYS:HB3	2.39	0.57
23:U:17:SER:CB	23:U:44:ALA:HA	2.25	0.57
1:X:567:G:H5'	9:G:140:GLN:OE1	2.04	0.57
1:X:750:C:C4	1:X:751:G:N7	2.73	0.57
11:I:56:LEU:HB3	29:3:52:LYS:CE	2.34	0.57
4:B:136:ARG:HG2	4:B:137:ARG:H	1.68	0.57
9:G:75:ILE:HG13	9:G:75:ILE:O	2.04	0.57
10:H:85:ASP:OD2	10:H:87:SER:N	2.37	0.57
13:K:18:VAL:HG12	13:K:19:ALA:N	2.20	0.57
13:K:51:LEU:CD2	13:K:70:ILE:HD11	2.34	0.57
1:X:1223:G:H4'	1:X:1224:A:O5'	2.05	0.57
1:X:173:A:H2'	1:X:173:A:N3	2.18	0.57
1:X:1773:C:O2'	1:X:2588:U:H5''	2.05	0.57
1:X:1918:G:C4	1:X:1945:C:N4	2.73	0.57
1:X:1967:U:H2'	1:X:1968:G:H8	1.68	0.57
1:X:538:A:N6	1:X:2026:C:O5'	2.37	0.57
1:X:2262:C:H5'	27:1:7:ARG:HH22	1.70	0.57
1:X:2490:U:H2'	1:X:2491:C:O4'	2.05	0.57
1:X:623:G:H21	1:X:626:A:H2	1.53	0.57
19:Q:62:ARG:NH1	19:Q:73:ASN:ND2	2.52	0.57
1:X:2494:C:O2'	1:X:2495:G:H5'	2.04	0.57
1:X:2545:A:H61	10:H:40:GLY:HA3	1.69	0.57
1:X:2671:C:O2'	1:X:2672:U:H5'	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:836:G:H2'	1:X:837:U:C6	2.39	0.57
1:X:88:G:C8	1:X:89:A:C8	2.92	0.57
7:E:15:VAL:HG11	7:E:76:VAL:HG13	1.87	0.56
15:M:34:ARG:HD3	15:M:88:VAL:HG22	1.87	0.56
1:X:494:A:H5'	20:R:58:VAL:HG22	1.87	0.56
1:X:1135:C:H2'	1:X:1136:G:O4'	2.03	0.56
1:X:1322:G:H4'	28:2:7:PRO:HB2	1.87	0.56
1:X:1696:C:C5	1:X:1697:U:C5	2.93	0.56
1:X:2728:A:O2'	7:E:63:ALA:HA	2.04	0.56
31:X:2881:LMA:C32	31:X:2881:LMA:O53	2.50	0.56
11:I:89:ASP:OD2	11:I:120:VAL:HA	2.05	0.56
1:X:1644:G:O2'	1:X:1645:U:H5'	2.05	0.56
1:X:2426:G:H1'	1:X:2427:A:OP2	2.05	0.56
1:X:2757:G:C5'	1:X:2758:A:H5'	2.31	0.56
1:X:617:U:C5	1:X:632:A:N1	2.74	0.56
4:B:34:VAL:HG21	4:B:78:LEU:HD22	1.88	0.56
1:X:2728:A:C2	1:X:2737:A:C5	2.93	0.56
1:X:503:G:H2'	1:X:504:G:O4'	2.05	0.56
2:Y:25:G:H2'	2:Y:26:G:C5	2.40	0.56
26:Z:58:LEU:HD12	26:Z:58:LEU:N	2.20	0.56
28:2:34:ARG:HH11	28:2:42:LEU:HA	1.70	0.56
6:D:108:LEU:HB2	6:D:109:PRO:HD3	1.87	0.56
9:G:141:GLY:O	9:G:144:MET:N	2.37	0.56
1:X:2372:A:H5''	11:I:61:PRO:CA	2.35	0.56
23:U:52:ARG:HG3	23:U:62:LEU:HD22	1.85	0.56
1:X:1033:G:H2'	9:G:97:ASP:OD1	2.04	0.56
1:X:1687:C:H4'	1:X:1977:C:O2'	2.06	0.56
1:X:1769:U:C5	1:X:1775:A:C2	2.94	0.56
1:X:686:C:C2'	1:X:687:G:H5'	2.35	0.56
1:X:825:C:H5'	11:I:30:ALA:HB1	1.86	0.56
5:C:102:LEU:HD21	5:C:106:MET:CE	2.35	0.56
13:K:90:ARG:O	13:K:90:ARG:HG3	2.05	0.56
24:V:25:LEU:HD13	24:V:46:LEU:HB2	1.87	0.56
1:X:1016:C:O2'	1:X:1023:U:H5	1.86	0.56
1:X:1949:A:N6	1:X:2581:A:H62	2.03	0.56
1:X:2634:G:O2'	1:X:2635:U:C5	2.59	0.56
1:X:2845:C:C6	1:X:2845:C:H3'	2.40	0.56
1:X:459:A:H4'	1:X:461:A:C8	2.40	0.56
1:X:48:A:N6	1:X:154:U:H5	2.04	0.56
1:X:540:G:H5''	1:X:541:C:OP2	2.05	0.56
7:E:57:ASP:HB3	7:E:62:ARG:HH11	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:39:VAL:CG1	15:M:45:THR:HG23	2.35	0.56
19:Q:11:VAL:HG23	19:Q:27:PHE:HA	1.87	0.56
22:T:51:VAL:HG21	22:T:79:ILE:O	2.06	0.56
1:X:1006:C:OP2	16:N:54:LYS:NZ	2.23	0.56
1:X:1073:G:H21	8:F:133:SER:HB3	1.69	0.56
1:X:219:G:H2'	1:X:220:U:OP2	2.05	0.56
2:Y:107:C:H2'	2:Y:108:G:O4'	2.06	0.56
4:B:7:THR:CG2	4:B:193:GLY:HA2	2.35	0.56
13:K:76:VAL:O	13:K:80:MET:HB2	2.05	0.56
10:H:132:GLU:HB2	15:M:73:PHE:HE1	1.71	0.56
17:O:78:VAL:O	17:O:79:GLN:HB2	2.06	0.56
1:X:1016:C:H1'	1:X:1023:U:C5	2.41	0.56
1:X:1129:A:C6	1:X:1130:U:N3	2.74	0.56
1:X:1218:C:H4'	11:I:13:ARG:HH11	1.69	0.56
1:X:2262:C:H2'	1:X:2263:C:O4'	2.05	0.56
1:X:2383:C:H2'	1:X:2384:G:O4'	2.05	0.56
1:X:88:G:H3'	1:X:89:A:H5''	1.88	0.56
4:B:56:GLU:HG2	4:B:74:PRO:HG2	1.87	0.56
5:C:187:VAL:O	5:C:187:VAL:HG12	2.05	0.56
11:I:85:ASP:HA	11:I:116:ARG:HH12	1.71	0.56
20:R:25:LEU:HD23	20:R:26:SER:HB3	1.87	0.56
24:V:25:LEU:CD1	24:V:46:LEU:HD12	2.36	0.56
1:X:1478:U:H2'	1:X:1479:G:H8	1.70	0.56
1:X:1712:G:H2'	1:X:1713:G:H5'	1.88	0.56
1:X:2016:A:C5	1:X:2019:C:C4	2.94	0.56
1:X:1834:G:N2	1:X:1884:A:C6	2.73	0.56
1:X:1967:U:H2'	1:X:1968:G:C8	2.40	0.56
1:X:2170:C:H3'	1:X:2171:U:C5'	2.32	0.56
1:X:2073:A:H61	1:X:2208:U:H3	1.52	0.56
1:X:2844:G:C2	1:X:2845:C:O2	2.58	0.56
1:X:760:U:HO2'	1:X:761:G:P	2.28	0.56
1:X:877:G:H1	1:X:924:C:H42	1.54	0.56
26:Z:31:THR:HG22	26:Z:32:GLU:N	2.21	0.56
1:X:2323:U:H3'	27:1:39:LYS:O	2.05	0.56
1:X:2734:U:H4'	30:4:26:ILE:CD1	2.35	0.56
7:E:7:GLN:HB2	7:E:8:PRO:HD3	1.88	0.56
10:H:75:VAL:HG12	10:H:118:LEU:CD2	2.36	0.56
12:J:42:TRP:CB	12:J:95:VAL:HG11	2.31	0.56
14:L:37:HIS:NE2	14:L:39:TYR:CZ	2.74	0.56
1:X:101:A:H2'	1:X:102:C:O4'	2.06	0.56
1:X:1068:A:H2'	1:X:1069:G:C8	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1310:C:H2'	1:X:1311:C:C6	2.41	0.56
1:X:1423:A:C2	1:X:1609:G:C2	2.94	0.56
1:X:1407:G:H4'	1:X:1619:A:H4'	1.87	0.56
1:X:305:A:C2	1:X:356:A:C2	2.94	0.56
2:Y:90:C:H2'	2:Y:91:A:O4'	2.06	0.56
1:X:1810:U:OP2	3:A:158:ARG:HD3	2.06	0.56
4:B:85:ALA:N	4:B:86:PRO:HD3	2.21	0.56
1:X:1310:C:C2	1:X:1311:C:C5	2.94	0.56
1:X:2499:C:C2'	1:X:2500:C:H5'	2.35	0.56
1:X:2666:U:O2'	1:X:2667:C:H5'	2.06	0.56
27:1:14:SER:HB3	27:1:50:PHE:CZ	2.41	0.55
3:A:159:SER:O	3:A:197:VAL:HG21	2.06	0.55
6:D:118:ASN:HB3	6:D:122:PHE:HZ	1.69	0.55
12:J:32:ASP:H	12:J:108:ALA:HB2	1.70	0.55
17:O:13:ARG:HD2	17:O:95:ILE:HG13	1.88	0.55
19:Q:20:MET:HA	19:Q:24:VAL:O	2.06	0.55
1:X:177:U:C4'	23:U:40:ARG:HE	2.19	0.55
25:W:4:LYS:CG	25:W:52:GLU:HB3	2.36	0.55
1:X:2397:A:H2'	1:X:2398:U:O4'	2.06	0.55
26:Z:14:SER:O	26:Z:18:MET:HG3	2.06	0.55
1:X:538:A:H5''	9:G:142:ARG:HH12	1.72	0.55
14:L:38:ILE:HD11	14:L:40:ALA:N	2.21	0.55
21:S:51:LEU:CD2	21:S:51:LEU:H	2.18	0.55
1:X:393:U:H1'	23:U:18:VAL:HG21	1.88	0.55
1:X:1329:U:H2'	1:X:1330:G:C8	2.41	0.55
1:X:2672:U:H2'	1:X:2673:G:C8	2.38	0.55
1:X:516:G:H4'	1:X:519:C:O2	2.07	0.55
2:Y:58:G:H4'	2:Y:59:A:H8	1.70	0.55
10:H:80:ALA:HB2	10:H:90:ARG:HD3	1.87	0.55
16:N:93:LYS:O	16:N:94:VAL:HB	2.06	0.55
1:X:1333:G:C2	1:X:1342:U:H5'	2.41	0.55
1:X:1466:C:C5	1:X:1467:U:O2	2.59	0.55
1:X:1643:A:H61	1:X:1656:U:H3	1.54	0.55
1:X:521:U:O4	1:X:522:G:N2	2.40	0.55
1:X:967:G:O6	12:J:17:ARG:NH2	2.38	0.55
26:Z:31:THR:O	26:Z:39:LYS:HA	2.06	0.55
5:C:26:VAL:O	5:C:30:VAL:HG23	2.06	0.55
1:X:969:U:O4	12:J:18:MET:HA	2.06	0.55
15:M:102:ALA:O	15:M:103:LYS:HD2	2.06	0.55
1:X:2426:G:C4	1:X:2479:U:C5	2.94	0.55
1:X:496:C:C2'	1:X:497:C:H5'	2.35	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:807:A:H2'	1:X:808:C:H6	1.71	0.55
1:X:760:U:C5	26:Z:3:LYS:HE2	2.41	0.55
3:A:218:ARG:HG2	3:A:219:LYS:N	2.21	0.55
3:A:44:ARG:HE	3:A:56:GLY:HA2	1.71	0.55
6:D:38:GLU:HG2	6:D:57:LEU:HD11	1.88	0.55
14:L:43:ILE:HG23	14:L:49:GLN:O	2.06	0.55
21:S:100:THR:CG2	21:S:138:VAL:HG11	2.36	0.55
1:X:70:A:OP2	1:X:111:G:H4'	2.06	0.55
1:X:1299:A:HO2'	1:X:1301:U:P	2.29	0.55
1:X:1474:A:H2'	1:X:1474:A:N3	2.22	0.55
1:X:1684:G:N3	1:X:1974:U:C5	2.75	0.55
1:X:2251:U:H5''	1:X:2252:A:OP1	2.06	0.55
1:X:2274:C:OP2	14:L:11:LEU:HD21	2.06	0.55
29:3:8:LYS:HG3	29:3:12:ARG:HH12	1.71	0.55
13:K:79:VAL:HG13	13:K:80:MET:N	2.21	0.55
13:K:84:ALA:HB3	13:K:85:PRO:CD	2.32	0.55
20:R:48:VAL:HG12	20:R:50:GLY:H	1.72	0.55
21:S:120:LEU:C	21:S:120:LEU:HD23	2.27	0.55
21:S:95:SER:HB3	21:S:119:ASN:HD21	1.72	0.55
1:X:1974:U:H2'	1:X:1975:G:H5'	1.87	0.55
1:X:794:A:H5'	3:A:219:LYS:NZ	2.22	0.55
1:X:822:G:O2'	1:X:823:U:H5'	2.07	0.55
2:Y:50:U:H2'	2:Y:51:G:C8	2.41	0.55
28:2:34:ARG:NH1	28:2:42:LEU:HG	2.21	0.55
11:I:31:GLY:HA3	11:I:34:HIS:ND1	2.22	0.55
1:X:1031:C:H1'	1:X:1032:A:OP2	2.06	0.55
1:X:1655:C:H4'	1:X:2689:C:O2	2.06	0.55
1:X:1699:A:H2'	1:X:1700:C:C6	2.41	0.55
1:X:218:A:C8	1:X:220:U:O2	2.60	0.55
1:X:2728:A:C2	1:X:2737:A:C6	2.95	0.55
3:A:252:GLY:HA3	3:A:256:LYS:NZ	2.21	0.55
9:G:103:TYR:CE1	9:G:111:LYS:HB2	2.41	0.55
10:H:29:ILE:HG12	10:H:30:GLY:N	2.19	0.55
15:M:66:PHE:CD2	15:M:83:PHE:CE1	2.94	0.55
22:T:65:GLY:HA3	22:T:81:ILE:HG22	1.88	0.55
1:X:115:G:C6	1:X:117:A:N6	2.75	0.55
1:X:1744:G:H2'	1:X:1746:A:OP2	2.07	0.55
1:X:174:A:H2	1:X:2413:A:N6	2.05	0.55
1:X:1673:C:H42	1:X:1987:G:H1	1.54	0.55
1:X:2013:A:H4'	1:X:2014:A:C8	2.41	0.55
1:X:2013:A:H4'	1:X:2014:A:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2453:C:H5'	1:X:2454:C:OP2	2.07	0.55
1:X:2705:A:C8	1:X:2707:G:C5	2.95	0.55
1:X:839:U:OP1	1:X:2408:G:OP1	2.24	0.55
14:L:42:ILE:HD13	14:L:43:ILE:N	2.22	0.55
20:R:15:HIS:CE1	20:R:16:PHE:CD2	2.94	0.55
1:X:1141:U:H3	1:X:2008:C:H5''	1.72	0.55
1:X:1507:A:O4'	3:A:100:ASP:HB3	2.06	0.55
1:X:2375:G:H2'	1:X:2376:G:H8	1.72	0.55
1:X:2404:A:C4'	1:X:2405:A:OP2	2.55	0.55
1:X:2821:G:C6	1:X:2846:G:N2	2.75	0.55
1:X:807:A:H2'	1:X:808:C:C6	2.42	0.55
2:Y:8:C:H1'	14:L:39:TYR:OH	2.07	0.55
17:O:6:GLN:O	17:O:7:THR:OG1	2.19	0.55
1:X:2235:G:N2	1:X:2254:C:N4	2.55	0.55
3:A:26:THR:HG22	3:A:27:LYS:N	2.21	0.54
4:B:93:VAL:C	4:B:95:ILE:H	2.10	0.54
10:H:127:VAL:HG13	10:H:133:VAL:HG21	1.88	0.54
1:X:1182:U:O2'	1:X:1183:C:H5''	2.07	0.54
1:X:1272:G:H2'	1:X:1273:G:C8	2.42	0.54
1:X:1447:U:H1'	1:X:1577:G:N2	2.22	0.54
1:X:1769:U:H5	1:X:1775:A:C2	2.25	0.54
1:X:2477:C:OP2	1:X:2478:C:OP2	2.26	0.54
1:X:2557:G:N7	4:B:140:SER:HB3	2.22	0.54
1:X:2751:C:H2'	1:X:2752:C:C6	2.42	0.54
1:X:958:G:H2'	1:X:959:C:C6	2.42	0.54
9:G:103:TYR:CZ	9:G:111:LYS:HB2	2.42	0.54
9:G:94:LYS:HG2	9:G:117:GLU:HB2	1.89	0.54
12:J:16:GLY:O	12:J:17:ARG:HB3	2.06	0.54
19:Q:29:VAL:HG11	19:Q:38:ILE:HD11	1.89	0.54
19:Q:62:ARG:O	19:Q:70:GLY:HA3	2.07	0.54
23:U:32:ARG:NE	23:U:32:ARG:H	2.05	0.54
1:X:1062:G:H4'	1:X:2732:C:O2'	2.07	0.54
1:X:2355:A:H2'	1:X:2356:A:O4'	2.07	0.54
1:X:2031:A:C2	1:X:2600:A:C2	2.94	0.54
10:H:16:ALA:CB	10:H:98:ILE:HD11	2.36	0.54
1:X:883:A:H5'	12:J:10:PHE:O	2.06	0.54
25:W:13:PRO:O	25:W:17:VAL:HG23	2.07	0.54
1:X:1813:A:H2'	1:X:1814:G:C8	2.43	0.54
1:X:1922:U:O4'	1:X:1922:U:O2	2.25	0.54
1:X:2542:U:H2'	1:X:2544:A:OP2	2.07	0.54
1:X:2674:C:H2'	1:X:2675:U:H6	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1981:A:O3'	1:X:2704:U:H4'	2.07	0.54
1:X:2660:C:C2	1:X:2704:U:O4	2.60	0.54
1:X:962:C:H42	1:X:977:G:H1	1.56	0.54
3:A:245:ARG:HA	3:A:253:LYS:HZ1	1.71	0.54
14:L:51:LEU:N	14:L:51:LEU:HD12	2.23	0.54
17:O:10:LYS:HD2	17:O:37:ALA:HB3	1.90	0.54
18:P:57:LEU:HD13	18:P:69:ALA:HA	1.89	0.54
19:Q:48:VAL:CG2	19:Q:82:LEU:HD22	2.38	0.54
20:R:106:VAL:O	20:R:107:ALA:HB2	2.06	0.54
1:X:1974:U:H2'	1:X:1975:G:C5'	2.38	0.54
1:X:1978:U:H2'	1:X:1979:C:C5	2.42	0.54
1:X:2201:G:H2'	1:X:2202:G:H8	1.72	0.54
1:X:2570:C:H2'	1:X:2571:G:C8	2.43	0.54
1:X:2791:C:O2'	1:X:2792:C:H5'	2.07	0.54
27:1:51:ARG:C	27:1:51:ARG:HD2	2.28	0.54
6:D:112:ARG:H	6:D:112:ARG:HD2	1.73	0.54
4:B:9:ILE:HG22	15:M:13:LEU:HD11	1.90	0.54
16:N:17:VAL:HG21	16:N:32:TYR:CE1	2.40	0.54
18:P:37:LYS:HE2	18:P:64:ALA:CB	2.36	0.54
1:X:1478:U:H2'	1:X:1479:G:C8	2.43	0.54
1:X:742:G:C4	1:X:1766:U:O2	2.61	0.54
1:X:2044:G:N7	1:X:2482:A:O4'	2.40	0.54
1:X:536:A:N6	1:X:2605:C:H4'	2.22	0.54
1:X:2836:U:C2	1:X:2837:G:C8	2.95	0.54
1:X:494:A:N7	20:R:56:LYS:NZ	2.50	0.54
2:Y:56:G:H2'	2:Y:57:U:O4'	2.08	0.54
9:G:117:GLU:C	9:G:119:LEU:H	2.11	0.54
10:H:46:HIS:HB2	10:H:49:ASP:OD2	2.08	0.54
14:L:43:ILE:HD12	14:L:43:ILE:N	2.21	0.54
21:S:100:THR:HG23	21:S:138:VAL:CG1	2.38	0.54
1:X:1076:U:OP1	8:F:86:LYS:HD3	2.07	0.54
1:X:1212:U:H2'	1:X:1213:U:C6	2.43	0.54
1:X:1356:G:N2	1:X:1418:C:C2	2.76	0.54
1:X:1607:A:H1'	1:X:1608:U:O5'	2.08	0.54
1:X:2074:U:H3'	1:X:2075:U:C5'	2.37	0.54
1:X:225:G:N7	1:X:227:G:N3	2.55	0.54
27:1:14:SER:HB3	27:1:50:PHE:HZ	1.72	0.54
27:1:9:ILE:HG22	27:1:28:ARG:HB2	1.89	0.54
29:3:13:ARG:CD	29:3:25:PHE:H	2.20	0.54
1:X:2616:U:H5'	4:B:44:TYR:CE1	2.43	0.54
1:X:2292:C:H5'	6:D:37:ASN:ND2	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:137:LYS:O	9:G:137:LYS:HG2	2.07	0.54
9:G:61:ARG:HA	9:G:65:LYS:HB2	1.88	0.54
11:I:57:ILE:O	11:I:58:ALA:O	2.25	0.54
13:K:103:ARG:CG	13:K:104:ARG:N	2.70	0.54
14:L:33:ARG:HE	14:L:38:ILE:CB	2.21	0.54
20:R:17:LYS:O	20:R:36:VAL:HG11	2.07	0.54
23:U:17:SER:OG	23:U:45:ASN:N	2.40	0.54
1:X:1283:C:H5'	1:X:1284:G:O5'	2.08	0.54
1:X:1337:G:OP2	18:P:105:ARG:NH1	2.41	0.54
1:X:1644:G:H2'	1:X:1645:U:C6	2.43	0.54
1:X:2262:C:H5'	27:1:7:ARG:NH2	2.22	0.54
1:X:456:C:OP2	16:N:2:PRO:HD3	2.08	0.54
10:H:117:GLU:HA	10:H:120:ASP:OD2	2.08	0.54
10:H:29:ILE:HB	10:H:34:LEU:CD2	2.37	0.54
10:H:17:ARG:HE	10:H:59:ALA:HB2	1.73	0.54
14:L:89:PHE:O	14:L:91:ARG:NH2	2.41	0.54
16:N:25:TRP:CE3	16:N:26:GLY:N	2.75	0.54
1:X:1074:G:H1	1:X:1086:C:N4	2.05	0.54
1:X:1179:A:C2	1:X:1196:G:C2	2.95	0.54
1:X:1336:G:O6	1:X:1337:G:C6	2.61	0.54
1:X:2507:U:OP1	30:4:31:LYS:HE3	2.08	0.54
1:X:2696:A:H2'	1:X:2697:G:H8	1.72	0.54
1:X:623:G:N2	1:X:626:A:H2	2.05	0.54
1:X:754:G:C4	1:X:755:C:C5	2.96	0.54
1:X:999:A:OP2	25:W:8:SER:HB3	2.08	0.54
27:1:41:ASP:HB3	27:1:47:HIS:H	1.72	0.54
16:N:8:ILE:O	16:N:12:ARG:HG3	2.08	0.54
1:X:2043:A:N6	5:C:68:ARG:NH1	2.56	0.54
1:X:2837:G:H2'	1:X:2838:U:H6	1.72	0.54
1:X:537:C:H1'	1:X:538:A:C6	2.43	0.54
1:X:666:U:C2'	1:X:667:U:H5''	2.35	0.54
11:I:62:LYS:HD2	29:3:25:PHE:CE1	2.43	0.54
4:B:116:VAL:HG22	4:B:136:ARG:CG	2.38	0.54
9:G:41:TRP:CZ3	9:G:79:PHE:CG	2.96	0.54
10:H:24:VAL:HG12	10:H:42:LYS:HG2	1.88	0.54
20:R:15:HIS:CE1	20:R:16:PHE:HD2	2.26	0.54
1:X:1337:G:C4	1:X:1341:G:O6	2.61	0.54
1:X:26:G:C6	1:X:27:G:C6	2.96	0.54
1:X:471:A:C2	1:X:481:A:C4	2.96	0.54
1:X:699:G:O6	28:2:12:ARG:HA	2.08	0.54
11:I:62:LYS:HD2	29:3:25:PHE:HE1	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2218:G:OP1	3:A:250:PRO:HB3	2.09	0.53
3:A:44:ARG:CD	3:A:44:ARG:N	2.64	0.53
4:B:154:LYS:HG3	4:B:155:ARG:N	2.21	0.53
5:C:43:ALA:HB1	5:C:86:PRO:O	2.08	0.53
18:P:32:ARG:NH2	18:P:120:ARG:O	2.41	0.53
1:X:1607:A:C4'	1:X:1608:U:OP1	2.55	0.53
1:X:623:G:H3'	1:X:624:A:H5''	1.89	0.53
1:X:954:U:OP2	11:I:38:LYS:NZ	2.38	0.53
29:3:24:ALA:O	29:3:47:GLY:N	2.42	0.53
1:X:1810:U:C5	3:A:158:ARG:HD2	2.43	0.53
1:X:2554:C:O2'	4:B:140:SER:HB3	2.08	0.53
4:B:4:ILE:HG12	4:B:31:CYS:SG	2.48	0.53
7:E:107:ILE:HD11	7:E:151:VAL:HG11	1.90	0.53
12:J:15:ARG:CD	12:J:73:LYS:HG3	2.32	0.53
18:P:8:PHE:O	18:P:9:ARG:HB2	2.09	0.53
23:U:21:ARG:C	23:U:39:LYS:HD2	2.28	0.53
24:V:37:LEU:C	24:V:37:LEU:HD23	2.29	0.53
1:X:1265:G:H22	16:N:37:GLN:NE2	2.06	0.53
1:X:1337:G:C5	1:X:1341:G:O6	2.61	0.53
1:X:1923:U:H1'	1:X:1924:C:OP2	2.08	0.53
1:X:2045:A:O2'	1:X:2046:C:C5'	2.56	0.53
1:X:2218:G:H5'	3:A:250:PRO:CD	2.38	0.53
1:X:1773:C:H2'	1:X:2587:G:O2'	2.07	0.53
1:X:2593:A:H5'	26:Z:5:PRO:HB3	1.90	0.53
1:X:544:U:H2'	1:X:545:C:C6	2.43	0.53
1:X:637:G:N1	11:I:101:ARG:HD3	2.22	0.53
3:A:37:ALA:HB1	3:A:63:TYR:O	2.07	0.53
1:X:334:G:N2	5:C:162:ARG:NH2	2.55	0.53
1:X:1392:U:C6	1:X:1392:U:OP1	2.61	0.53
1:X:1420:A:H2	1:X:1612:U:O2	1.90	0.53
1:X:1944:C:H2'	1:X:1945:C:O4'	2.07	0.53
1:X:2292:C:H5'	6:D:37:ASN:HD22	1.73	0.53
1:X:2598:C:C2'	1:X:2599:U:H5'	2.37	0.53
1:X:2026:C:C4	1:X:2757:G:C2	2.97	0.53
3:A:109:PRO:HB3	3:A:144:HIS:CE1	2.44	0.53
3:A:246:VAL:C	3:A:253:LYS:HD3	2.29	0.53
4:B:121:ASN:O	4:B:122:PHE:C	2.47	0.53
1:X:38:G:N2	5:C:42:THR:HG22	2.23	0.53
10:H:65:LYS:HD2	10:H:65:LYS:N	2.24	0.53
1:X:1744:G:OP1	15:M:100:ARG:CD	2.57	0.53
15:M:27:PHE:HB3	15:M:93:ILE:HD12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:34:ARG:HE	15:M:91:VAL:HG22	1.72	0.53
18:P:106:LEU:O	18:P:106:LEU:HD23	2.08	0.53
20:R:44:GLN:O	20:R:77:HIS:HA	2.08	0.53
21:S:130:ILE:HD12	21:S:130:ILE:N	2.23	0.53
24:V:31:GLN:HA	24:V:34:ALA:HB3	1.90	0.53
1:X:1173:G:H4'	17:O:22:VAL:CG2	2.36	0.53
1:X:1182:U:H1'	1:X:1183:C:O5'	2.08	0.53
1:X:1407:G:H3'	1:X:1407:G:N3	2.24	0.53
1:X:2041:A:N1	31:X:2881:LMA:H40A	2.24	0.53
1:X:2282:G:O2'	6:D:129:ASN:HB2	2.08	0.53
1:X:652:C:N4	1:X:657:A:H61	2.06	0.53
27:1:11:LYS:N	27:1:11:LYS:HD2	2.24	0.53
27:1:9:ILE:HG22	27:1:28:ARG:CB	2.37	0.53
6:D:104:ILE:HD13	6:D:174:GLY:HA3	1.91	0.53
9:G:96:ASP:O	9:G:98:LYS:N	2.41	0.53
12:J:40:PRO:HB3	12:J:99:LYS:NZ	2.23	0.53
1:X:99:U:H3'	1:X:100:G:H5''	1.90	0.53
1:X:1257:U:H2'	1:X:1258:G:C8	2.44	0.53
1:X:1677:C:H42	1:X:1983:G:H1	1.56	0.53
1:X:224:G:C2	1:X:229:G:C6	2.96	0.53
1:X:559:C:H2'	1:X:560:G:O4'	2.08	0.53
1:X:867:G:C2	1:X:936:A:C2	2.96	0.53
13:K:87:TYR:OH	13:K:115:LEU:HB3	2.08	0.53
13:K:28:LEU:HD21	13:K:115:LEU:HD21	1.90	0.53
13:K:55:ALA:HB2	13:K:66:VAL:HG21	1.91	0.53
14:L:37:HIS:CG	14:L:37:HIS:O	2.61	0.53
14:L:42:ILE:O	14:L:50:THR:HG23	2.08	0.53
1:X:57:G:OP1	19:Q:74:ASP:HB2	2.09	0.53
1:X:2366:U:H1'	22:T:41:ARG:NH1	2.24	0.53
1:X:2217:G:H2'	1:X:2217:G:N3	2.23	0.53
1:X:2392:G:H2'	1:X:2393:G:H8	1.74	0.53
1:X:2664:G:C6	1:X:2705:A:N6	2.76	0.53
1:X:589:C:H4'	16:N:31:GLN:NE2	2.24	0.53
1:X:673:G:H2'	1:X:674:U:C6	2.43	0.53
28:2:42:LEU:H	28:2:42:LEU:CD1	2.22	0.53
29:3:41:ILE:HG22	29:3:42:ARG:HD3	1.91	0.53
10:H:19:ILE:O	10:H:19:ILE:HG13	2.08	0.53
17:O:68:LYS:HD2	17:O:69:ILE:H	1.74	0.53
17:O:70:TYR:CD2	17:O:83:ARG:NH1	2.73	0.53
1:X:1002:C:H6	1:X:1002:C:O5'	1.92	0.53
1:X:1544:A:C2	1:X:1560:A:C2	2.96	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1810:U:C6	3:A:158:ARG:HD2	2.44	0.53
1:X:668:A:H2'	1:X:669:G:O4'	2.09	0.53
1:X:999:A:H5''	25:W:8:SER:CB	2.38	0.53
4:B:31:CYS:HB3	4:B:49:ILE:CG1	2.39	0.53
11:I:49:PHE:CD1	11:I:50:GLU:N	2.76	0.53
12:J:99:LYS:CE	12:J:100:PRO:HD2	2.38	0.53
1:X:1357:U:C2'	1:X:1358:C:OP1	2.56	0.53
1:X:2039:G:C8	1:X:2556:A:C6	2.97	0.53
1:X:2598:C:H4'	4:B:150:VAL:HG22	1.91	0.53
4:B:134:TRP:CD1	4:B:134:TRP:N	2.74	0.53
7:E:137:ASP:HB3	7:E:140:LEU:HD12	1.91	0.53
10:H:51:ILE:HD12	10:H:52:VAL:O	2.08	0.53
21:S:149:ALA:O	21:S:160:LEU:HD11	2.08	0.53
1:X:591:G:H1	1:X:1271:C:H42	1.57	0.53
1:X:1433:A:H62	1:X:1435:G:C1'	2.22	0.53
1:X:1888:C:H2'	1:X:1913:G:N7	2.23	0.53
1:X:1938:U:H4'	1:X:1939:U:OP2	2.08	0.53
1:X:2486:C:C2	1:X:2562:G:C2	2.96	0.53
1:X:1949:A:H61	1:X:2581:A:H62	1.56	0.53
1:X:304:A:C6	1:X:359:G:N2	2.77	0.53
1:X:500:G:H2'	1:X:501:G:O4'	2.09	0.53
1:X:760:U:O2'	1:X:761:G:P	2.66	0.53
1:X:746:G:O6	1:X:774:A:C8	2.62	0.53
3:A:66:ILE:HD11	3:A:107:LEU:HD12	1.89	0.53
3:A:73:LYS:HE2	3:A:98:TYR:CD2	2.44	0.53
5:C:74:VAL:HG23	5:C:76:THR:H	1.74	0.53
9:G:100:TYR:CB	9:G:116:ARG:HH11	2.08	0.53
13:K:103:ARG:CG	13:K:104:ARG:H	2.22	0.53
18:P:25:PHE:CD1	18:P:127:ILE:HD11	2.40	0.53
1:X:518:A:N6	18:P:30:TYR:CD1	2.77	0.53
1:X:455:A:H1'	1:X:1215:A:O4'	2.09	0.53
1:X:1257:U:H2'	1:X:1258:G:H8	1.73	0.53
1:X:1370:U:H2'	1:X:1371:G:O4'	2.08	0.53
1:X:1399:C:O2'	1:X:1400:A:H5'	2.09	0.53
1:X:1688:U:O2'	1:X:1690:U:H5	1.90	0.53
1:X:2311:U:C4'	1:X:2315:A:N6	2.71	0.53
1:X:474:G:N2	1:X:477:A:OP2	2.38	0.53
1:X:746:G:C5	1:X:774:A:C5	2.97	0.53
13:K:90:ARG:HD2	13:K:94:TYR:HB2	1.92	0.52
1:X:1174:G:C2	1:X:1175:A:C5	2.96	0.52
3:A:28:LYS:NZ	3:A:30:PRO:HG3	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:116:VAL:H	4:B:136:ARG:CD	2.22	0.52
10:H:2:ILE:CB	10:H:45:ALA:HB3	2.37	0.52
1:X:1218:C:H4'	11:I:13:ARG:NH1	2.23	0.52
12:J:43:ILE:HG13	12:J:98:VAL:HG21	1.91	0.52
24:V:17:GLU:HB3	24:V:21:ARG:NH1	2.24	0.52
1:X:1053:G:H1'	1:X:1054:C:O5'	2.08	0.52
1:X:75:C:N3	1:X:109:A:C2	2.77	0.52
1:X:1145:C:C6	1:X:1147:G:OP2	2.62	0.52
1:X:2528:G:C2	1:X:2529:G:N7	2.77	0.52
28:2:25:LYS:NZ	28:2:28:ARG:HG3	2.24	0.52
30:4:15:LYS:HB2	30:4:26:ILE:HG13	1.90	0.52
9:G:61:ARG:NE	9:G:65:LYS:HD2	2.24	0.52
10:H:26:ASN:HB3	10:H:38:GLY:H	1.73	0.52
11:I:43:ALA:O	11:I:45:LYS:CB	2.57	0.52
2:Y:9:G:H5''	14:L:32:TYR:CE1	2.44	0.52
1:X:1429:A:H1'	1:X:1603:A:C6	2.43	0.52
1:X:463:C:C2	1:X:465:C:C5	2.97	0.52
1:X:762:A:H2	1:X:766:A:O2'	1.91	0.52
1:X:810:U:H2'	1:X:811:G:O4'	2.09	0.52
3:A:247:PRO:C	3:A:249:THR:H	2.12	0.52
3:A:38:LEU:HB3	3:A:39:PRO:HD2	1.92	0.52
12:J:69:ILE:HD13	12:J:104:MET:HB3	1.90	0.52
12:J:64:LYS:HD3	12:J:108:ALA:O	2.09	0.52
18:P:80:LEU:HD11	18:P:87:GLU:HB3	1.91	0.52
1:X:1010:U:O2'	1:X:1011:A:H5'	2.09	0.52
1:X:1746:A:C2	1:X:2696:A:H1'	2.44	0.52
1:X:1811:A:H2'	3:A:179:PRO:HG2	1.91	0.52
1:X:2468:G:O2'	1:X:2469:G:H5'	2.09	0.52
1:X:2664:G:N2	1:X:2665:G:H1'	2.23	0.52
1:X:758:G:C2'	1:X:759:C:OP1	2.57	0.52
6:D:40:LEU:HD11	6:D:50:ILE:HA	1.91	0.52
16:N:24:PHE:CB	16:N:29:SER:HB3	2.40	0.52
17:O:13:ARG:HD3	17:O:16:GLU:HB2	1.90	0.52
18:P:110:ALA:O	18:P:111:ARG:HB2	2.08	0.52
21:S:47:SER:OG	21:S:48:THR:N	2.42	0.52
1:X:1433:A:C4	1:X:1595:A:C2	2.98	0.52
1:X:1976:U:C5	1:X:1977:C:C5	2.97	0.52
1:X:2340:C:OP1	29:3:27:SER:N	2.36	0.52
1:X:2815:C:H42	1:X:2852:G:H1	1.57	0.52
1:X:513:A:C6	1:X:516:G:C6	2.97	0.52
28:2:19:ARG:NH1	28:2:19:ARG:HB2	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:78:ALA:HB2	3:A:98:TYR:CD1	2.43	0.52
1:X:2289:A:C2	6:D:79:LEU:HD11	2.34	0.52
1:X:538:A:H3'	9:G:142:ARG:HH22	1.74	0.52
10:H:9:ASP:HB2	10:H:95:ALA:HB2	1.90	0.52
16:N:16:LYS:O	16:N:19:LYS:HG2	2.09	0.52
1:X:793:G:H21	1:X:796:A:H62	1.57	0.52
1:X:795:A:H5'	1:X:796:A:C2	2.44	0.52
1:X:968:C:N4	1:X:970:A:C5	2.78	0.52
1:X:659:G:H1'	29:3:46:LYS:HG3	1.92	0.52
1:X:1976:U:C5'	4:B:128:SER:HB3	2.39	0.52
9:G:162:LYS:N	9:G:163:PRO:CD	2.72	0.52
13:K:85:PRO:O	13:K:88:ALA:HB2	2.10	0.52
16:N:11:ARG:HB3	16:N:15:LYS:HZ1	1.75	0.52
16:N:7:GLY:O	16:N:9:VAL:HG23	2.10	0.52
1:X:1867:A:O2'	1:X:1868:A:C8	2.63	0.52
1:X:983:G:H3'	1:X:984:A:C5'	2.39	0.52
1:X:15:G:H4'	26:Z:21:SER:HB2	1.91	0.52
3:A:148:LEU:CD2	3:A:156:LEU:HD11	2.40	0.52
4:B:115:GLY:HA3	4:B:136:ARG:HD2	1.92	0.52
19:Q:29:VAL:HG11	19:Q:38:ILE:CD1	2.40	0.52
22:T:45:PHE:HA	22:T:77:ARG:HB2	1.92	0.52
1:X:1355:A:HO2'	1:X:1357:U:P	2.32	0.52
1:X:1920:A:H5''	1:X:1921:A:OP2	2.09	0.52
1:X:1963:G:O2'	1:X:1965:U:OP2	2.28	0.52
1:X:2234:G:H2'	1:X:2235:G:O4'	2.09	0.52
1:X:2422:C:O2'	1:X:2423:G:H5'	2.10	0.52
1:X:2736:U:H3	1:X:2738:A:N6	1.89	0.52
1:X:399:G:H4'	23:U:21:ARG:HH12	1.75	0.52
1:X:2736:U:C5'	30:4:19:ARG:HG2	2.40	0.52
1:X:2722:C:OP1	30:4:35:ARG:HD2	2.10	0.52
4:B:131:SER:HB2	4:B:134:TRP:HE1	1.74	0.52
18:P:45:ILE:O	18:P:48:LYS:HG2	2.10	0.52
21:S:128:ARG:HG3	21:S:129:ARG:HG3	1.91	0.52
1:X:1224:A:H4'	1:X:1225:G:OP2	2.10	0.52
1:X:13:A:N3	1:X:15:G:O6	2.43	0.52
1:X:203:G:H1'	1:X:205:A:H61	1.75	0.52
1:X:2264:C:OP2	27:1:28:ARG:HD3	2.10	0.52
1:X:689:A:H1'	1:X:2422:C:O4'	2.10	0.52
1:X:2706:U:OP1	1:X:2706:U:C6	2.63	0.52
1:X:537:C:O2'	1:X:538:A:C4	2.61	0.52
1:X:215:G:H21	1:X:632:A:H8	1.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:57:G:N3	1:X:69:G:N2	2.58	0.52
1:X:941:U:H2'	1:X:942:U:O4'	2.09	0.52
27:1:51:ARG:HD2	27:1:51:ARG:O	2.10	0.52
28:2:19:ARG:HB2	28:2:19:ARG:CZ	2.40	0.52
1:X:603:C:H5''	29:3:62:LEU:HD13	1.92	0.52
6:D:36:VAL:HB	6:D:89:VAL:HB	1.90	0.52
6:D:4:LEU:CG	6:D:5:LYS:H	2.23	0.52
2:Y:9:G:H21	14:L:41:GLN:HE22	1.58	0.52
21:S:134:LEU:HD21	21:S:152:ILE:HG21	1.91	0.52
1:X:1255:A:H2'	1:X:1256:C:C6	2.44	0.52
1:X:1290:A:H5''	13:K:40:LYS:HZ3	1.75	0.52
1:X:1467:U:H6	1:X:1467:U:H3'	1.74	0.52
1:X:1505:U:O2	1:X:1506:C:H5	1.92	0.52
1:X:2180:U:H5	1:X:2203:G:C5	2.28	0.52
1:X:659:G:O2'	1:X:660:G:H5'	2.09	0.52
2:Y:44:C:H42	6:D:88:LYS:NZ	2.07	0.52
1:X:787:A:H5''	3:A:49:ARG:NH2	2.26	0.51
1:X:178:C:OP2	23:U:40:ARG:CZ	2.58	0.51
1:X:1351:G:O2'	1:X:1352:G:H5'	2.10	0.51
1:X:2839:G:H2'	1:X:2840:U:C6	2.46	0.51
1:X:882:C:H42	1:X:920:G:H1	1.59	0.51
27:1:11:LYS:H	27:1:11:LYS:HD2	1.75	0.51
16:N:79:PHE:O	16:N:83:LEU:HD13	2.11	0.51
17:O:66:GLY:O	17:O:87:ARG:NH2	2.43	0.51
20:R:93:ARG:O	20:R:94:VAL:C	2.48	0.51
24:V:2:LYS:CG	24:V:3:PRO:HD3	2.40	0.51
1:X:540:G:C6	1:X:2005:U:H5''	2.45	0.51
1:X:2033:C:N4	1:X:2034:A:C6	2.78	0.51
1:X:2338:C:H2'	1:X:2339:A:O4'	2.09	0.51
1:X:2382:C:N4	1:X:2393:G:H1	2.08	0.51
1:X:2457:A:N7	1:X:2458:U:C5	2.78	0.51
1:X:2674:C:H2'	1:X:2675:U:C6	2.46	0.51
1:X:2782:G:C2'	1:X:2783:U:O5'	2.57	0.51
1:X:652:C:H42	1:X:657:A:N6	2.06	0.51
1:X:613:A:O4'	1:X:668:A:H2	1.92	0.51
9:G:95:LEU:HD21	9:G:117:GLU:OE1	2.10	0.51
11:I:32:ARG:HH22	17:O:82:ARG:HE	1.58	0.51
1:X:1644:G:H2'	1:X:1645:U:H6	1.75	0.51
1:X:1724:C:N3	1:X:1747:G:C6	2.78	0.51
1:X:2368:G:H5''	1:X:2369:U:O4'	2.10	0.51
1:X:618:A:C2	1:X:632:A:C5	2.99	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:753:U:H2'	1:X:754:G:H8	1.76	0.51
3:A:22:PHE:O	3:A:209:LYS:HG3	2.11	0.51
4:B:188:ILE:CG2	4:B:189:PRO:CD	2.88	0.51
20:R:16:PHE:CZ	20:R:46:VAL:HG22	2.44	0.51
24:V:6:MET:CE	24:V:56:VAL:HG21	2.41	0.51
1:X:1923:U:OP2	1:X:2582:G:N2	2.35	0.51
1:X:2314:A:O2'	1:X:2315:A:C8	2.64	0.51
1:X:2424:G:C2'	1:X:2425:G:H5'	2.40	0.51
1:X:356:A:H2'	1:X:357:A:C8	2.46	0.51
1:X:542:A:H2'	16:N:28:ARG:HE	1.73	0.51
28:2:25:LYS:HZ2	28:2:28:ARG:HG3	1.75	0.51
6:D:80:ARG:H	6:D:80:ARG:HD2	1.75	0.51
9:G:58:ILE:HG23	9:G:80:VAL:HG11	1.92	0.51
12:J:96:SER:O	12:J:98:VAL:HG23	2.11	0.51
1:X:1332:G:O6	1:X:1333:G:O6	2.28	0.51
1:X:1685:A:H4'	1:X:1686:A:O5'	2.11	0.51
1:X:1941:C:C2'	1:X:1942:G:H5'	2.41	0.51
1:X:2046:C:O2	1:X:2430:A:C2	2.64	0.51
1:X:219:G:C2'	1:X:220:U:OP2	2.59	0.51
1:X:2238:G:C2	1:X:2261:G:C6	2.98	0.51
1:X:2426:G:C5	1:X:2479:U:C5	2.99	0.51
1:X:2623:A:C2'	1:X:2624:G:H5'	2.41	0.51
1:X:469:G:H3'	28:2:39:ARG:O	2.10	0.51
1:X:525:A:C2'	1:X:526:C:H5'	2.40	0.51
1:X:778:G:H2'	1:X:779:U:H6	1.75	0.51
27:1:8:ILE:H	27:1:8:ILE:CD1	2.23	0.51
7:E:90:ARG:NH2	7:E:163:ARG:HH12	2.08	0.51
11:I:57:ILE:HG22	11:I:58:ALA:N	2.25	0.51
16:N:81:ASN:ND2	16:N:117:ARG:NH2	2.58	0.51
1:X:1781:C:C6	1:X:1781:C:H5'	2.46	0.51
1:X:2629:U:H2'	1:X:2630:C:H6	1.76	0.51
1:X:2653:A:O3'	10:H:42:LYS:HA	2.11	0.51
28:2:19:ARG:O	28:2:23:LYS:HG3	2.09	0.51
5:C:45:THR:HG21	5:C:86:PRO:HD2	1.93	0.51
11:I:85:ASP:HA	11:I:116:ARG:NH1	2.25	0.51
14:L:29:LEU:HD23	14:L:89:PHE:CE1	2.45	0.51
14:L:79:ALA:HB1	14:L:84:ILE:HB	1.92	0.51
24:V:49:GLU:O	24:V:53:LEU:HG	2.11	0.51
1:X:121:G:H2'	1:X:122:G:O4'	2.10	0.51
1:X:1496:G:O2'	1:X:1497:C:H5''	2.10	0.51
1:X:1787:U:H2'	1:X:1788:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2014:A:C6	1:X:2477:C:H1'	2.45	0.51
1:X:48:A:H8	1:X:50:G:H21	1.57	0.51
1:X:603:C:C5'	29:3:62:LEU:HD22	2.40	0.51
1:X:626:A:O2'	5:C:176:ASN:HB2	2.10	0.51
11:I:49:PHE:CZ	29:3:59:LYS:HE3	2.46	0.51
5:C:137:ALA:HB1	5:C:142:LEU:CB	2.41	0.51
10:H:14:SER:OG	10:H:98:ILE:HD12	2.11	0.51
13:K:103:ARG:HG3	13:K:104:ARG:H	1.76	0.51
18:P:126:ILE:HD12	18:P:127:ILE:N	2.25	0.51
1:X:2033:C:C4	1:X:2034:A:C6	2.99	0.51
1:X:303:C:N3	1:X:360:A:H2	2.08	0.51
1:X:746:G:C8	1:X:774:A:N6	2.79	0.51
1:X:75:C:C2	1:X:109:A:H2	2.28	0.51
6:D:34:ILE:HD12	6:D:156:ILE:HG12	1.92	0.51
10:H:3:MET:O	10:H:6:SER:HB2	2.11	0.51
11:I:57:ILE:HG22	29:3:12:ARG:NH2	2.25	0.51
15:M:75:GLU:O	15:M:77:VAL:HG23	2.10	0.51
20:R:18:LYS:HD3	20:R:18:LYS:N	2.13	0.51
1:X:1607:A:H4'	1:X:1608:U:OP1	2.11	0.51
1:X:2617:G:O2'	1:X:2618:A:H8	1.93	0.51
1:X:2806:G:O4'	1:X:2858:A:C2	2.63	0.51
1:X:350:U:O5'	1:X:350:U:H6	1.94	0.51
1:X:62:U:H4'	1:X:63:A:OP1	2.10	0.51
1:X:746:G:N7	1:X:774:A:N7	2.58	0.51
3:A:247:PRO:O	3:A:249:THR:N	2.44	0.51
4:B:84:PHE:CE2	4:B:86:PRO:CD	2.94	0.51
5:C:117:LEU:HD23	5:C:118:VAL:N	2.26	0.51
13:K:69:ASP:O	13:K:71:HIS:ND1	2.44	0.51
21:S:94:VAL:HG23	21:S:125:PRO:HG3	1.93	0.51
1:X:2310:G:H4'	22:T:43:THR:N	2.25	0.51
1:X:2329:C:N4	1:X:2330:G:C6	2.79	0.51
1:X:2364:C:H2'	1:X:2365:U:C6	2.46	0.51
1:X:330:C:H2'	1:X:331:U:O4'	2.11	0.51
1:X:459:A:H1'	1:X:461:A:N6	2.26	0.51
1:X:482:A:C6	1:X:483:A:C2	2.99	0.51
26:Z:3:LYS:HB3	26:Z:5:PRO:HD2	1.93	0.51
4:B:78:LEU:O	4:B:79:ARG:CD	2.59	0.50
5:C:111:ARG:O	5:C:116:LYS:HB3	2.11	0.50
5:C:130:THR:O	5:C:133:PHE:HB3	2.10	0.50
5:C:48:ARG:HB2	5:C:51:VAL:HG22	1.93	0.50
1:X:2475:C:OP1	12:J:83:ARG:HB3	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1744:G:OP1	15:M:100:ARG:HD2	2.10	0.50
4:B:181:LEU:HD13	15:M:16:ILE:HD11	1.93	0.50
17:O:80:TYR:HE2	17:O:82:ARG:CZ	2.24	0.50
1:X:1069:G:H3'	1:X:1070:G:H5''	1.92	0.50
1:X:1223:G:C5'	1:X:1224:A:H3'	2.41	0.50
1:X:1300:A:C5'	13:K:103:ARG:HD2	2.41	0.50
1:X:1631:C:H5	1:X:1633:C:C2	2.29	0.50
1:X:2238:G:N1	1:X:2261:G:C6	2.79	0.50
1:X:838:A:H4'	1:X:2407:G:C5	2.47	0.50
1:X:2705:A:C4'	1:X:2706:U:OP1	2.59	0.50
1:X:558:G:N3	1:X:558:G:H3'	2.26	0.50
1:X:751:G:O2'	1:X:752:G:O5'	2.29	0.50
1:X:2265:A:P	27:1:28:ARG:HD2	2.51	0.50
3:A:71:ARG:NH2	3:A:150:PRO:HA	2.25	0.50
7:E:96:ALA:HB2	7:E:105:MET:HE1	1.92	0.50
15:M:104:LEU:C	15:M:106:TYR:H	2.13	0.50
16:N:61:TRP:CZ3	16:N:94:VAL:N	2.75	0.50
18:P:41:VAL:O	18:P:44:VAL:CG2	2.58	0.50
1:X:2210:C:OP1	23:U:45:ASN:HA	2.11	0.50
1:X:1404:C:H41	1:X:1407:G:P	2.34	0.50
1:X:2016:A:C5	1:X:2019:C:N4	2.80	0.50
1:X:2329:C:H6	1:X:2329:C:H3'	1.76	0.50
1:X:2373:C:C5	1:X:2374:C:C5	2.99	0.50
1:X:2375:G:H4'	23:U:32:ARG:O	2.11	0.50
1:X:2634:G:H2'	1:X:2643:G:O6	2.11	0.50
1:X:538:A:C2	1:X:2025:A:C5	3.00	0.50
1:X:877:G:C6	1:X:878:C:N4	2.79	0.50
1:X:2262:C:OP1	27:1:3:LYS:HB3	2.10	0.50
1:X:2659:C:C5'	4:B:189:PRO:HA	2.37	0.50
4:B:20:ALA:HB2	10:H:85:ASP:O	2.11	0.50
11:I:58:ALA:C	11:I:60:LEU:H	2.14	0.50
1:X:2372:A:OP1	11:I:61:PRO:HB3	2.12	0.50
18:P:66:GLU:HB3	18:P:67:PRO:CD	2.32	0.50
21:S:121:GLN:O	21:S:161:ALA:HB3	2.10	0.50
1:X:95:G:H4'	24:V:41:HIS:CG	2.46	0.50
1:X:1692:C:C5	1:X:1693:A:C5	2.98	0.50
1:X:2180:U:O4	1:X:2203:G:H2'	2.11	0.50
1:X:2379:G:N2	1:X:2380:U:O2	2.44	0.50
1:X:789:G:C2	1:X:2220:A:OP1	2.64	0.50
1:X:2796:A:O3'	4:B:162:MET:HE1	2.12	0.50
4:B:61:LYS:N	4:B:62:PRO:CD	2.74	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:61:PRO:HG3	29:3:27:SER:HA	1.93	0.50
15:M:25:PRO:O	15:M:27:PHE:CD2	2.64	0.50
16:N:25:TRP:CE3	16:N:26:GLY:HA3	2.47	0.50
1:X:1020:A:H4'	16:N:59:ARG:HG3	1.92	0.50
1:X:1324:G:HO2'	1:X:1325:U:H5	1.60	0.50
1:X:765:C:C5	1:X:1772:C:C2	2.99	0.50
1:X:1787:U:H4'	3:A:255:THR:H	1.76	0.50
1:X:1945:C:O2'	1:X:1946:U:C5	2.65	0.50
1:X:2598:C:H5'	4:B:150:VAL:O	2.11	0.50
1:X:573:C:H2'	1:X:574:C:H6	1.77	0.50
1:X:633:G:H2'	1:X:634:G:C8	2.46	0.50
3:A:95:LEU:O	3:A:95:LEU:HG	2.11	0.50
25:W:40:VAL:HA	25:W:43:MET:CG	2.41	0.50
1:X:1050:G:H2'	1:X:1051:U:H5'	1.93	0.50
1:X:1145:C:C5	1:X:1147:G:P	3.05	0.50
1:X:1987:G:C6	1:X:1988:A:C5	3.00	0.50
1:X:2562:G:C6	1:X:2563:U:N3	2.79	0.50
31:X:2881:LMA:C37	31:X:2881:LMA:H35	2.30	0.50
1:X:465:C:O2	1:X:467:U:C6	2.65	0.50
1:X:958:G:H2'	1:X:959:C:H6	1.76	0.50
1:X:966:A:N6	1:X:967:G:C6	2.80	0.50
4:B:188:ILE:CG2	4:B:189:PRO:HD2	2.41	0.50
15:M:11:GLU:HG3	15:M:14:ARG:NH1	2.18	0.50
18:P:95:ALA:HB2	18:P:126:ILE:CD1	2.37	0.50
20:R:23:ILE:HD12	20:R:23:ILE:O	2.11	0.50
1:X:1007:A:N6	1:X:1171:A:C6	2.79	0.50
1:X:1354:A:O3'	19:Q:54:SER:HB2	2.12	0.50
1:X:2729:A:C6	1:X:2730:A:N6	2.80	0.50
31:X:2881:LMA:H57	31:X:2881:LMA:O55	2.11	0.50
1:X:562:G:H2'	1:X:563:U:O4'	2.11	0.50
27:1:39:LYS:HZ3	27:1:41:ASP:HB3	1.76	0.50
5:C:48:ARG:O	5:C:51:VAL:HG22	2.11	0.50
6:D:134:GLU:HG2	6:D:136:LEU:H	1.76	0.50
18:P:87:GLU:HA	18:P:90:LEU:CG	2.39	0.50
21:S:88:TYR:C	21:S:127:PRO:HG2	2.31	0.50
1:X:1629:G:C6	1:X:1633:C:C5	2.99	0.50
1:X:2016:A:C6	1:X:2019:C:C4	2.99	0.50
1:X:459:A:N6	1:X:484:G:H1'	2.27	0.50
6:D:106:ILE:HG21	6:D:139:PRO:HB3	1.94	0.50
7:E:94:PHE:CG	7:E:107:ILE:HG22	2.46	0.50
14:L:14:ARG:O	14:L:18:ARG:HB2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:66:ALA:O	23:U:70:LEU:HB2	2.12	0.50
1:X:1457:A:C2	1:X:1565:G:C2	2.99	0.50
1:X:158:A:H2	1:X:447:U:O2'	1.95	0.50
1:X:2409:A:O2'	1:X:2410:U:C5	2.65	0.50
1:X:2722:C:H2'	1:X:2723:C:H6	1.76	0.50
1:X:841:G:H4'	1:X:844:G:N1	2.27	0.50
1:X:986:A:C2	1:X:1001:A:C8	2.99	0.50
26:Z:52:TYR:O	26:Z:53:ASP:CB	2.58	0.50
1:X:795:A:C2	3:A:227:MET:HE2	2.47	0.50
1:X:2551:A:H62	4:B:145:LYS:HD2	1.77	0.50
12:J:35:LEU:HD12	12:J:131:LYS:O	2.11	0.50
13:K:63:ARG:HA	13:K:80:MET:HE1	1.94	0.50
4:B:14:ILE:CA	15:M:20:HIS:HD2	2.14	0.50
1:X:2571:G:C6	1:X:2572:U:N3	2.79	0.50
1:X:2757:G:OP2	1:X:2761:A:O2'	2.26	0.50
1:X:320:A:N3	1:X:340:G:O2'	2.42	0.50
1:X:588:G:N2	1:X:1275:A:C4	2.80	0.50
1:X:642:A:O2'	11:I:65:PHE:HB3	2.12	0.50
3:A:43:GLY:H	3:A:44:ARG:NH1	2.10	0.49
7:E:103:LEU:HD21	7:E:105:MET:HE3	1.94	0.49
13:K:68:GLN:O	13:K:71:HIS:CE1	2.65	0.49
16:N:40:LEU:O	16:N:43:ALA:HB3	2.12	0.49
1:X:1255:A:H2'	1:X:1256:C:H6	1.76	0.49
1:X:1469:U:H5''	1:X:1470:G:N7	2.27	0.49
1:X:1747:G:H5'	1:X:1748:U:OP1	2.12	0.49
1:X:1774:A:H5'	1:X:2587:G:H4'	1.93	0.49
1:X:2282:G:C2	1:X:2293:G:C2	3.00	0.49
1:X:754:G:C6	1:X:755:C:N4	2.80	0.49
1:X:79:G:H1	1:X:104:C:H42	1.58	0.49
4:B:147:PRO:O	4:B:149:ARG:HG3	2.12	0.49
9:G:99:VAL:HG12	9:G:99:VAL:O	2.11	0.49
11:I:80:LEU:HD13	11:I:120:VAL:HG22	1.94	0.49
11:I:94:GLU:HB2	11:I:97:ARG:HH11	1.76	0.49
15:M:104:LEU:O	15:M:106:TYR:N	2.44	0.49
18:P:34:SER:HA	18:P:120:ARG:HB2	1.94	0.49
1:X:409:G:O3'	23:U:47:HIS:HE1	1.95	0.49
23:U:49:LYS:HB3	23:U:61:TRP:CZ3	2.47	0.49
1:X:1056:U:H1'	1:X:1058:G:C2	2.47	0.49
1:X:1336:G:C2'	1:X:1337:G:H5'	2.39	0.49
1:X:1351:G:C2	1:X:1352:G:C4	3.01	0.49
1:X:1926:U:O4'	1:X:1928:G:H5'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2016:A:O4'	1:X:2016:A:OP2	2.30	0.49
1:X:2338:C:H42	1:X:2407:G:H1	1.60	0.49
1:X:26:G:C5	1:X:27:G:C6	3.00	0.49
1:X:490:A:C4	1:X:492:G:O4'	2.65	0.49
1:X:537:C:H1'	1:X:538:A:N1	2.27	0.49
1:X:969:U:H4'	1:X:970:A:OP2	2.13	0.49
3:A:89:ARG:HG2	3:A:91:ALA:HB3	1.94	0.49
4:B:114:GLN:OE1	4:B:114:GLN:HA	2.11	0.49
5:C:148:VAL:HB	5:C:167:VAL:HG12	1.94	0.49
5:C:14:THR:O	5:C:15:ILE:HB	2.11	0.49
1:X:334:G:C3'	5:C:162:ARG:HD3	2.42	0.49
19:Q:5:ASP:O	19:Q:6:ILE:HB	2.12	0.49
1:X:1145:C:C6	1:X:1147:G:P	3.06	0.49
1:X:2045:A:O2'	1:X:2046:C:O4'	2.30	0.49
1:X:2053:G:N2	1:X:2054:A:N3	2.61	0.49
1:X:2369:U:H5'	29:3:36:LYS:NZ	2.27	0.49
1:X:33:C:H4'	1:X:34:U:OP1	2.10	0.49
1:X:471:A:C2	1:X:481:A:C5	3.00	0.49
1:X:595:A:OP1	5:C:83:ALA:HB3	2.12	0.49
1:X:124:A:OP2	28:2:44:VAL:CG1	2.60	0.49
5:C:14:THR:HG22	5:C:15:ILE:H	1.75	0.49
14:L:37:HIS:CD2	14:L:39:TYR:CZ	3.01	0.49
14:L:91:ARG:H	14:L:91:ARG:NE	2.11	0.49
16:N:66:ASN:CB	16:N:76:TYR:HB2	2.36	0.49
16:N:61:TRP:HZ3	16:N:94:VAL:H	1.54	0.49
18:P:19:LYS:O	18:P:20:LEU:HB3	2.12	0.49
20:R:98:ILE:HG22	20:R:99:VAL:HG13	1.94	0.49
24:V:52:GLN:O	24:V:56:VAL:HG23	2.12	0.49
1:X:105:G:C2'	1:X:106:G:H5'	2.42	0.49
1:X:116:A:OP2	1:X:117:A:H2'	2.12	0.49
1:X:1976:U:OP2	1:X:1976:U:H3'	2.13	0.49
1:X:20:C:O2'	1:X:21:A:H5'	2.12	0.49
1:X:2490:U:O2	4:B:139:GLY:HA3	2.12	0.49
1:X:2499:C:H2'	1:X:2500:C:H5'	1.93	0.49
1:X:2569:A:H2'	1:X:2570:C:C6	2.47	0.49
1:X:2730:A:H5''	1:X:2731:G:OP1	2.12	0.49
1:X:346:C:H2'	1:X:347:C:C6	2.44	0.49
1:X:2262:C:P	27:1:7:ARG:HH22	2.36	0.49
29:3:14:ILE:O	29:3:14:ILE:HG12	2.13	0.49
5:C:28:HIS:ND1	11:I:17:LYS:HA	2.27	0.49
9:G:38:GLU:HG3	9:G:68:PRO:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:56:LEU:HD22	29:3:52:LYS:NZ	2.26	0.49
1:X:1202:U:H5'	17:O:78:VAL:HG22	1.93	0.49
18:P:64:ALA:O	18:P:67:PRO:HD2	2.12	0.49
21:S:13:LYS:HG3	21:S:18:MET:HB2	1.94	0.49
1:X:2045:A:O2'	1:X:2046:C:O5'	2.30	0.49
1:X:2836:U:O2'	1:X:2837:G:H5'	2.12	0.49
1:X:668:A:O2'	1:X:669:G:O4'	2.31	0.49
1:X:173:A:O2'	1:X:818:G:O6	2.30	0.49
11:I:58:ALA:CA	29:3:12:ARG:HH21	2.23	0.49
4:B:188:ILE:HG23	4:B:189:PRO:HD2	1.94	0.49
1:X:334:G:H3'	5:C:162:ARG:HD3	1.93	0.49
6:D:4:LEU:HD22	6:D:101:GLU:HB2	1.94	0.49
7:E:127:GLU:CG	7:E:128:PRO:HD2	2.43	0.49
12:J:95:VAL:HG12	12:J:96:SER:N	2.27	0.49
1:X:1693:A:C2	1:X:1976:U:H5'	2.47	0.49
1:X:1997:A:H5'	18:P:115:ASN:ND2	2.27	0.49
1:X:1142:G:C8	1:X:2008:C:H4'	2.48	0.49
1:X:2015:G:O4'	1:X:2015:G:OP1	2.30	0.49
1:X:525:A:C8	1:X:526:C:C6	3.01	0.49
1:X:717:G:H1'	1:X:739:G:N2	2.27	0.49
1:X:759:C:O2'	1:X:760:U:OP2	2.30	0.49
29:3:30:ARG:HH21	29:3:31:HIS:HE1	1.60	0.49
5:C:172:VAL:O	5:C:173:ALA:C	2.50	0.49
6:D:51:ASP:O	6:D:55:LYS:HG2	2.12	0.49
10:H:1:MET:H3	10:H:1:MET:HE2	1.76	0.49
13:K:28:LEU:CD2	13:K:28:LEU:C	2.77	0.49
25:W:16:GLN:O	25:W:20:VAL:HG23	2.13	0.49
1:X:2044:G:N7	1:X:2480:C:H4'	2.27	0.49
1:X:2657:G:H2'	1:X:2658:A:O4'	2.12	0.49
1:X:2845:C:C6	1:X:2845:C:C3'	2.95	0.49
1:X:484:G:C2	1:X:485:G:C5	3.01	0.49
1:X:67:G:N2	1:X:73:A:C4	2.81	0.49
1:X:705:C:H4'	3:A:42:GLY:O	2.13	0.49
6:D:123:ASP:OD2	6:D:127:ASN:HB2	2.13	0.49
10:H:64:VAL:C	10:H:65:LYS:HD2	2.33	0.49
13:K:106:ASP:OD1	13:K:108:VAL:HG23	2.12	0.49
17:O:34:GLU:HB2	17:O:56:VAL:HG23	1.93	0.49
19:Q:35:LYS:HG2	19:Q:35:LYS:O	2.13	0.49
1:X:2404:A:H4'	1:X:2405:A:OP2	2.11	0.49
1:X:2553:G:C2	1:X:2554:C:O2	2.66	0.49
1:X:2583:U:O2'	1:X:2584:U:H5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2797:G:H2'	1:X:2798:A:H5''	1.93	0.49
1:X:502:A:H2'	1:X:503:G:O4'	2.12	0.49
1:X:725:C:H2'	1:X:726:G:C8	2.47	0.49
1:X:693:A:C4	1:X:811:G:N2	2.81	0.49
1:X:945:G:H2'	1:X:946:U:H6	1.76	0.49
2:Y:73:C:H2'	2:Y:74:A:O4'	2.12	0.49
29:3:13:ARG:CD	29:3:25:PHE:HD1	2.25	0.49
29:3:62:LEU:HB3	29:3:63:PRO:HD3	1.95	0.49
4:B:4:ILE:HG12	4:B:5:LEU:H	1.78	0.49
1:X:2291:U:P	6:D:71:LYS:HD2	2.53	0.49
17:O:67:LYS:HD2	17:O:68:LYS:N	2.27	0.49
1:X:1096:A:H1'	1:X:1097:A:O5'	2.13	0.49
1:X:1770:U:C5	1:X:1775:A:N7	2.81	0.49
1:X:2407:G:H21	11:I:59:ARG:HH22	1.61	0.49
1:X:485:G:C6	1:X:520:C:N4	2.81	0.49
3:A:222:GLN:OE1	3:A:222:GLN:HA	2.13	0.49
4:B:188:ILE:HG23	4:B:189:PRO:CD	2.43	0.49
4:B:183:LEU:HD21	15:M:16:ILE:HD13	1.95	0.49
15:M:16:ILE:HG22	15:M:16:ILE:O	2.13	0.49
18:P:24:GLY:O	18:P:127:ILE:HA	2.13	0.49
1:X:1398:G:H4'	1:X:1398:G:OP1	2.13	0.49
1:X:1811:A:H4'	1:X:1812:U:C5'	2.42	0.49
1:X:36:G:N2	1:X:457:C:C2	2.81	0.49
1:X:648:A:H4'	1:X:649:G:H5'	1.94	0.49
1:X:596:C:H5'	5:C:84:PHE:HE1	1.78	0.48
11:I:73:GLU:OE1	11:I:73:GLU:N	2.46	0.48
1:X:1052:C:H42	1:X:1125:G:H1	1.58	0.48
1:X:1226:A:C8	1:X:1250:A:C2	3.01	0.48
1:X:1429:A:O2'	1:X:1430:G:H4'	2.13	0.48
1:X:1836:C:H42	1:X:1879:G:H1	1.61	0.48
1:X:2629:U:H2'	1:X:2630:C:C6	2.48	0.48
1:X:346:C:C6	1:X:347:C:H5	2.30	0.48
4:B:116:VAL:H	4:B:136:ARG:NE	2.12	0.48
5:C:102:LEU:HD21	5:C:106:MET:HE3	1.95	0.48
5:C:2:ALA:N	5:C:12:GLY:O	2.46	0.48
1:X:2654:A:H5'	10:H:41:ASN:HB2	1.95	0.48
10:H:19:ILE:HG22	10:H:55:VAL:HA	1.95	0.48
12:J:110:VAL:HB	12:J:114:GLN:HB2	1.94	0.48
19:Q:38:ILE:O	19:Q:42:ILE:HG22	2.13	0.48
19:Q:68:PHE:O	19:Q:69:ILE:C	2.51	0.48
24:V:2:LYS:HG3	24:V:3:PRO:HD3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:W:5:LEU:HA	25:W:51:LEU:HD23	1.94	0.48
1:X:1003:C:O3'	17:O:71:ILE:HD13	2.13	0.48
1:X:1032:A:C2	1:X:1034:U:C2	3.01	0.48
1:X:1054:C:H42	1:X:1123:G:H1	1.61	0.48
1:X:1629:G:C6	1:X:1633:C:C6	3.01	0.48
1:X:1685:A:C5	1:X:1691:G:C5	3.01	0.48
1:X:178:C:H2'	1:X:179:U:H6	1.78	0.48
1:X:1911:A:H2'	1:X:1912:G:O4'	2.12	0.48
1:X:224:G:H4'	1:X:399:G:C4	2.48	0.48
1:X:2387:U:H2'	1:X:2388:G:H8	1.78	0.48
1:X:2622:G:H2'	1:X:2623:A:O4'	2.13	0.48
1:X:2665:G:C5	1:X:2666:U:C4	3.01	0.48
1:X:2796:A:C2	1:X:2797:G:C4	3.01	0.48
1:X:781:G:H2'	1:X:782:U:C6	2.48	0.48
1:X:874:A:H2'	1:X:875:G:O4'	2.13	0.48
27:1:38:LYS:HD3	27:1:40:TYR:HE1	1.78	0.48
4:B:115:GLY:O	4:B:119:ARG:HB2	2.12	0.48
4:B:49:ILE:HG21	4:B:81:PHE:CE2	2.45	0.48
4:B:88:GLY:O	4:B:89:ASP:OD1	2.31	0.48
5:C:47:THR:HG23	5:C:85:GLY:H	1.78	0.48
1:X:1992:G:H1'	13:K:106:ASP:O	2.12	0.48
16:N:20:ARG:HH12	17:O:83:ARG:NH2	2.11	0.48
20:R:11:ASN:ND2	20:R:11:ASN:O	2.36	0.48
1:X:1128:G:C2'	1:X:1129:A:H5''	2.42	0.48
1:X:1656:U:O2'	1:X:1657:A:H5''	2.12	0.48
1:X:1851:A:H2'	1:X:1852:G:O4'	2.12	0.48
1:X:2695:C:O2'	1:X:2696:A:H5'	2.13	0.48
1:X:73:A:H3'	1:X:74:G:C5'	2.42	0.48
1:X:692:C:N4	1:X:811:G:H1	2.10	0.48
1:X:860:U:C2'	1:X:860:U:O2	2.61	0.48
1:X:1796:A:H1'	3:A:51:THR:HG23	1.94	0.48
11:I:86:THR:OG1	11:I:118:VAL:HG12	2.12	0.48
14:L:31:VAL:CG2	14:L:33:ARG:HG3	2.44	0.48
10:H:113:PRO:HD3	15:M:73:PHE:HB2	1.95	0.48
18:P:25:PHE:CD2	18:P:25:PHE:C	2.87	0.48
18:P:91:PHE:CD1	18:P:129:ALA:O	2.66	0.48
19:Q:62:ARG:O	19:Q:70:GLY:CA	2.61	0.48
1:X:1008:G:C2	1:X:1170:U:O2	2.66	0.48
1:X:1118:G:C2'	1:X:1119:U:H5'	2.44	0.48
1:X:1631:C:H5	1:X:1633:C:C6	2.31	0.48
1:X:2299:A:H4'	1:X:2300:G:C2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2237:C:C4	1:X:2405:A:H5'	2.48	0.48
1:X:465:C:O2	1:X:467:U:H6	1.96	0.48
1:X:795:A:C2	3:A:227:MET:HG2	2.49	0.48
3:A:109:PRO:HB3	3:A:144:HIS:HE1	1.78	0.48
3:A:244:GLY:C	3:A:245:ARG:NE	2.67	0.48
4:B:116:VAL:N	4:B:136:ARG:HE	2.11	0.48
4:B:44:TYR:HB2	4:B:82:ARG:HH12	1.79	0.48
19:Q:63:LYS:HD3	19:Q:69:ILE:CA	2.43	0.48
1:X:1968:G:H2'	1:X:1969:G:C8	2.45	0.48
1:X:1980:A:C2	1:X:1981:A:C5	3.01	0.48
1:X:2064:U:H5'	23:U:41:VAL:HG21	1.96	0.48
1:X:2527:G:C6	1:X:2540:A:N1	2.82	0.48
1:X:2757:G:H5''	1:X:2758:A:C5'	2.33	0.48
1:X:2762:G:N2	1:X:2763:U:C2	2.82	0.48
1:X:2800:C:C5	1:X:2801:A:C8	3.01	0.48
31:X:2881:LMA:C54	31:X:2881:LMA:C34	2.91	0.48
1:X:573:C:H2'	1:X:574:C:C6	2.49	0.48
1:X:746:G:H3'	1:X:774:A:H61	1.78	0.48
1:X:76:C:O4'	24:V:55:THR:HG21	2.13	0.48
1:X:819:C:H2'	1:X:820:U:H6	1.77	0.48
3:A:201:GLU:HG3	3:A:203:LYS:H	1.78	0.48
4:B:105:THR:CG2	4:B:197:VAL:HB	2.44	0.48
1:X:334:G:H2'	5:C:162:ARG:CD	2.44	0.48
11:I:31:GLY:C	11:I:32:ARG:HG3	2.33	0.48
23:U:32:ARG:CZ	23:U:32:ARG:H	2.27	0.48
1:X:1033:G:C6	1:X:1151:U:C5	3.01	0.48
1:X:1357:U:H4'	1:X:1397:A:N6	2.27	0.48
1:X:1674:C:H2'	1:X:1674:C:O2	2.14	0.48
1:X:304:A:H62	1:X:356:A:N6	2.11	0.48
1:X:538:A:N6	1:X:2025:A:H2'	2.28	0.48
1:X:75:C:H2'	1:X:76:C:H5'	1.94	0.48
1:X:778:G:H2'	1:X:779:U:C6	2.48	0.48
26:Z:58:LEU:H	26:Z:58:LEU:CD1	2.24	0.48
27:1:34:LYS:HE3	27:1:34:LYS:CA	2.37	0.48
27:1:39:LYS:HD3	27:1:39:LYS:C	2.33	0.48
27:1:9:ILE:HD12	27:1:26:LYS:HD2	1.94	0.48
1:X:2796:A:H5''	4:B:162:MET:HE1	1.95	0.48
9:G:49:VAL:HG21	9:G:170:PRO:HG2	1.95	0.48
12:J:39:GLU:HB3	12:J:128:ILE:CG2	2.43	0.48
1:X:1560:A:C2'	1:X:1561:A:H5'	2.44	0.48
1:X:1762:C:C2	1:X:1763:G:C8	3.00	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1782:A:O3'	3:A:206:VAL:O	2.31	0.48
1:X:1813:A:OP1	3:A:160:ALA:HB3	2.14	0.48
1:X:1871:G:N3	1:X:1871:G:H3'	2.28	0.48
1:X:2426:G:C8	1:X:2479:U:C6	3.02	0.48
1:X:2812:A:H2'	1:X:2813:G:C8	2.49	0.48
1:X:476:G:H4'	28:2:16:HIS:CG	2.48	0.48
2:Y:65:A:H2'	2:Y:66:G:C8	2.48	0.48
28:2:40:HIS:O	28:2:41:GLN:CD	2.52	0.48
6:D:103:LEU:HD12	6:D:107:GLY:HA3	1.95	0.48
6:D:79:LEU:HD12	6:D:79:LEU:N	2.29	0.48
7:E:117:PRO:HD3	7:E:123:PHE:CE1	2.49	0.48
17:O:36:LYS:HZ1	17:O:54:TYR:HB3	1.78	0.48
19:Q:19:ALA:O	19:Q:24:VAL:HB	2.13	0.48
1:X:1283:C:H5''	1:X:1284:G:C5'	2.44	0.48
1:X:1469:U:H5	13:K:64:ARG:NH2	2.10	0.48
1:X:1836:C:C2	1:X:1880:G:N2	2.82	0.48
1:X:1774:A:N1	1:X:2566:A:H2'	2.29	0.48
1:X:321:A:O2'	1:X:322:A:H2'	2.14	0.48
28:2:40:HIS:O	28:2:41:GLN:OE1	2.31	0.48
4:B:60:ASN:O	4:B:64:GLN:HG3	2.13	0.48
9:G:56:THR:N	9:G:134:MET:HE1	2.28	0.48
13:K:84:ALA:N	13:K:85:PRO:HD2	2.29	0.48
15:M:60:SER:HA	15:M:64:LYS:HB2	1.95	0.48
18:P:60:ILE:HA	18:P:61:PRO:HD3	1.63	0.48
20:R:22:VAL:HG12	20:R:23:ILE:N	2.28	0.48
20:R:23:ILE:HD12	20:R:23:ILE:C	2.34	0.48
1:X:1482:U:H2'	1:X:1483:G:H8	1.78	0.48
1:X:2329:C:H2'	1:X:2330:G:O4'	2.14	0.48
1:X:2690:A:OP1	1:X:2692:A:OP2	2.31	0.48
1:X:2795:A:H1'	13:K:5:LYS:NZ	2.29	0.48
1:X:412:U:H2'	1:X:413:G:O4'	2.13	0.48
1:X:477:A:H4'	28:2:30:ILE:HD13	1.95	0.48
1:X:596:C:H5'	5:C:84:PHE:CE1	2.49	0.48
1:X:2265:A:H61	27:1:25:THR:HG21	1.79	0.48
27:1:41:ASP:HB2	27:1:46:LYS:HA	1.96	0.48
1:X:814:G:OP1	5:C:50:GLN:OE1	2.32	0.48
7:E:107:ILE:HD11	7:E:151:VAL:CG1	2.44	0.48
14:L:33:ARG:HH21	14:L:38:ILE:HG21	1.78	0.48
15:M:103:LYS:HG3	15:M:105:TYR:CZ	2.48	0.48
1:X:34:U:H1'	20:R:4:PRO:HA	1.96	0.48
21:S:104:SER:HA	21:S:139:THR:HA	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:23:LYS:HA	23:U:36:GLY:O	2.14	0.48
1:X:1175:A:C2	1:X:1176:U:C2	3.02	0.48
1:X:1229:C:H2'	1:X:1230:C:H6	1.79	0.48
1:X:1779:C:H2'	1:X:1780:A:H8	1.79	0.48
1:X:2192:U:C4	1:X:2193:C:C4	3.02	0.48
1:X:2552:C:H5''	1:X:2553:G:H5''	1.96	0.48
2:Y:50:U:H2'	2:Y:51:G:H8	1.78	0.48
27:1:40:TYR:H	27:1:50:PHE:HB3	1.79	0.47
27:1:45:LYS:O	27:1:46:LYS:HB2	2.13	0.47
1:X:1810:U:O4	3:A:155:GLN:HG2	2.14	0.47
3:A:44:ARG:HH21	3:A:56:GLY:HA2	1.79	0.47
4:B:136:ARG:CG	4:B:137:ARG:N	2.75	0.47
5:C:158:ARG:O	5:C:160:ALA:N	2.47	0.47
5:C:107:ALA:HB1	5:C:180:ILE:HD13	1.96	0.47
7:E:139:GLN:O	7:E:143:GLN:HG3	2.14	0.47
1:X:538:A:H5''	9:G:142:ARG:NH1	2.29	0.47
11:I:32:ARG:HD2	11:I:32:ARG:O	2.14	0.47
15:M:19:ASP:C	15:M:20:HIS:ND1	2.68	0.47
16:N:7:GLY:O	16:N:8:ILE:HG12	2.14	0.47
16:N:88:ILE:HA	17:O:49:GLU:HG3	1.96	0.47
1:X:1223:G:C6	1:X:1250:A:N7	2.82	0.47
1:X:1441:A:H1'	1:X:1442:C:OP2	2.14	0.47
1:X:2273:C:H2'	1:X:2274:C:C6	2.49	0.47
1:X:2821:G:H2'	1:X:2822:U:C6	2.48	0.47
1:X:224:G:H4'	1:X:399:G:C5	2.49	0.47
1:X:815:A:C6	1:X:816:U:C4	3.01	0.47
1:X:1142:G:C2	9:G:103:TYR:HD2	2.31	0.47
22:T:65:GLY:HA3	22:T:81:ILE:CG2	2.44	0.47
1:X:161:U:H4'	1:X:194:G:N2	2.26	0.47
1:X:2285:U:C2	6:D:150:ARG:NH2	2.82	0.47
1:X:2401:A:N3	1:X:2403:C:C4	2.82	0.47
1:X:2639:A:H2'	1:X:2640:G:O4'	2.13	0.47
1:X:2860:C:H2'	1:X:2861:A:O4'	2.14	0.47
1:X:308:C:H4'	20:R:95:ARG:CZ	2.44	0.47
1:X:640:C:H4'	1:X:660:G:N3	2.29	0.47
2:Y:16:U:H4'	2:Y:72:C:O2	2.14	0.47
1:X:1781:C:H1'	3:A:210:ALA:HB2	1.95	0.47
5:C:102:LEU:HD21	5:C:106:MET:HE1	1.96	0.47
7:E:137:ASP:OD2	7:E:140:LEU:HG	2.13	0.47
9:G:132:PHE:CE2	9:G:145:HIS:HB2	2.48	0.47
12:J:133:VAL:HG12	21:S:76:ARG:HE	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:30:GLY:O	17:O:32:LYS:HG2	2.15	0.47
20:R:106:VAL:HG23	20:R:113:THR:HG21	1.96	0.47
22:T:43:THR:HG22	22:T:46:LYS:HE2	1.96	0.47
1:X:1025:A:H2	1:X:1160:C:C2	2.32	0.47
1:X:1326:U:H4'	1:X:1345:G:H4'	1.97	0.47
1:X:1979:C:O2	1:X:1980:A:H1'	2.15	0.47
1:X:2324:G:C2	1:X:2360:C:H2'	2.48	0.47
1:X:983:G:O2'	1:X:984:A:OP1	2.32	0.47
10:H:115:ALA:HB3	10:H:118:LEU:HD13	1.96	0.47
10:H:62:GLY:O	10:H:65:LYS:NZ	2.43	0.47
15:M:34:ARG:HH11	15:M:88:VAL:HG21	1.77	0.47
18:P:107:ILE:HG21	18:P:117:ILE:HG12	1.96	0.47
1:X:1074:G:H4'	8:F:134:MET:HG3	1.97	0.47
1:X:1755:G:C6	1:X:1972:G:C2	3.01	0.47
1:X:2053:G:C2	1:X:2054:A:C4	3.01	0.47
1:X:2237:C:O2'	1:X:2406:C:OP2	2.18	0.47
1:X:2825:A:N7	1:X:2843:A:O2'	2.32	0.47
1:X:521:U:C5	1:X:522:G:C2	3.03	0.47
10:H:41:ASN:HB2	10:H:42:LYS:H	1.53	0.47
23:U:22:GLY:HA3	23:U:39:LYS:CG	2.44	0.47
1:X:1482:U:H2'	1:X:1483:G:C8	2.49	0.47
1:X:977:G:O4'	1:X:2246:A:N6	2.48	0.47
1:X:467:U:HO2'	1:X:468:A:P	2.37	0.47
1:X:888:G:N2	1:X:915:C:C2	2.82	0.47
1:X:1780:A:H5''	3:A:222:GLN:OE1	2.15	0.47
3:A:45:ASN:CB	3:A:50:ILE:HA	2.39	0.47
4:B:97:ALA:HB3	4:B:100:GLU:HG3	1.96	0.47
10:H:115:ALA:HB3	10:H:118:LEU:CD1	2.45	0.47
1:X:2541:U:O2'	10:H:23:ARG:NH1	2.47	0.47
13:K:21:ALA:HB1	13:K:47:PHE:CD2	2.50	0.47
13:K:56:LYS:HG2	13:K:56:LYS:O	2.15	0.47
17:O:36:LYS:HE3	17:O:55:THR:CA	2.44	0.47
17:O:10:LYS:HD2	17:O:37:ALA:CB	2.45	0.47
20:R:23:ILE:HD11	20:R:81:VAL:HB	1.97	0.47
1:X:1802:A:H2'	1:X:1803:G:O4'	2.15	0.47
1:X:1813:A:H2'	1:X:1814:G:H8	1.78	0.47
1:X:1830:C:H42	1:X:1881:U:H3'	1.78	0.47
1:X:193:A:C4	1:X:445:A:C2	3.03	0.47
1:X:2673:G:C4	1:X:2674:C:C5	3.03	0.47
1:X:525:A:H2'	1:X:526:C:H5'	1.96	0.47
1:X:55:A:C2	1:X:113:C:O2	2.67	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:694:G:H2'	1:X:695:G:O4'	2.15	0.47
1:X:1791:C:OP1	3:A:264:ARG:HG3	2.14	0.47
9:G:122:HIS:HB3	9:G:125:ARG:HG2	1.96	0.47
14:L:26:ARG:HD3	14:L:86:GLN:HB3	1.96	0.47
14:L:31:VAL:HG11	14:L:89:PHE:HE2	1.80	0.47
1:X:1087:C:OP1	8:F:90:THR:HG22	2.14	0.47
1:X:2171:U:H4'	1:X:2171:U:OP1	2.13	0.47
1:X:2199:C:H2'	1:X:2200:G:H5'	1.96	0.47
1:X:2237:C:C3'	1:X:2238:G:H5'	2.44	0.47
1:X:2264:C:H42	1:X:2362:G:H1	1.63	0.47
1:X:2769:C:H2'	1:X:2770:A:C8	2.49	0.47
1:X:305:A:N1	1:X:356:A:C2	2.83	0.47
1:X:573:C:H2'	1:X:574:C:O4'	2.14	0.47
1:X:819:C:C2	1:X:820:U:C5	3.01	0.47
26:Z:16:ARG:NH1	26:Z:17:ASP:OD1	2.47	0.47
3:A:162:THR:OG1	3:A:197:VAL:HG22	2.15	0.47
3:A:247:PRO:C	3:A:249:THR:N	2.68	0.47
7:E:98:LEU:HD12	7:E:102:ALA:O	2.15	0.47
11:I:29:THR:O	11:I:30:ALA:CB	2.63	0.47
12:J:137:VAL:CG1	12:J:139:ASP:OD2	2.63	0.47
18:P:29:LYS:HB3	18:P:30:TYR:CD2	2.50	0.47
20:R:10:HIS:ND1	20:R:10:HIS:N	2.63	0.47
1:X:1919:A:H2	1:X:1925:C:H42	1.62	0.47
1:X:1974:U:O2'	1:X:1975:G:H5''	2.14	0.47
1:X:19:C:O2	1:X:532:A:C2	2.68	0.47
1:X:2327:U:O4	1:X:2361:G:N2	2.47	0.47
1:X:2387:U:H2'	1:X:2388:G:C8	2.48	0.47
1:X:2675:U:H2'	1:X:2676:G:H8	1.79	0.47
1:X:668:A:C2'	1:X:669:G:O4'	2.62	0.47
3:A:150:PRO:HD3	3:A:187:HIS:NE2	2.29	0.47
4:B:84:PHE:CD2	4:B:86:PRO:HD3	2.50	0.47
12:J:44:LYS:HB2	12:J:47:GLN:HG3	1.96	0.47
13:K:20:LEU:O	13:K:22:ARG:N	2.48	0.47
14:L:100:VAL:HG13	14:L:101:LYS:N	2.29	0.47
14:L:91:ARG:HB2	14:L:94:TYR:HD1	1.79	0.47
16:N:14:HIS:HD2	16:N:32:TYR:CE1	2.33	0.47
18:P:66:GLU:O	18:P:69:ALA:HB3	2.15	0.47
20:R:81:VAL:HG11	20:R:89:GLY:HA2	1.97	0.47
21:S:1:MET:H1	21:S:52:PHE:HE2	1.63	0.47
2:Y:94:G:H5''	21:S:74:ARG:HH12	1.78	0.47
1:X:537:C:C5	1:X:2759:U:H2'	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:555:U:O2'	1:X:1234:C:H5'	2.14	0.47
2:Y:58:G:C4'	2:Y:59:A:H8	2.28	0.47
2:Y:7:C:H2'	2:Y:8:C:H6	1.80	0.47
18:P:59:PHE:CD1	26:Z:30:LEU:CD1	2.97	0.47
4:B:67:PHE:CE1	4:B:75:THR:HG22	2.50	0.47
5:C:22:VAL:HG21	5:C:110:SER:HA	1.97	0.47
7:E:103:LEU:HD12	7:E:104:GLU:N	2.30	0.47
10:H:70:VAL:HG13	10:H:70:VAL:O	2.15	0.47
11:I:14:LYS:O	11:I:14:LYS:HG3	2.15	0.47
11:I:55:ARG:O	11:I:56:LEU:HB2	2.15	0.47
1:X:2407:G:H21	11:I:59:ARG:HH12	1.61	0.47
12:J:76:THR:HA	12:J:89:GLY:O	2.15	0.47
14:L:31:VAL:HG11	14:L:89:PHE:CE2	2.50	0.47
15:M:34:ARG:HH21	15:M:91:VAL:CG2	2.23	0.47
16:N:22:LYS:C	16:N:24:PHE:H	2.19	0.47
1:X:1025:A:C2	1:X:1160:C:C2	3.03	0.47
1:X:1438:G:H2'	1:X:1439:G:H5'	1.97	0.47
1:X:1496:G:H1'	1:X:1497:C:O5'	2.14	0.47
1:X:1725:C:C2	1:X:1742:G:N2	2.83	0.47
1:X:1978:U:H3'	1:X:1979:C:H5''	1.97	0.47
1:X:2705:A:H62	1:X:2707:G:N2	2.13	0.47
1:X:2793:G:O2'	1:X:2794:G:H5'	2.14	0.47
1:X:591:G:C2'	1:X:592:G:H8	2.21	0.47
1:X:647:G:O2'	1:X:649:G:H4'	2.14	0.47
1:X:2505:G:H1'	30:4:1:MET:HB3	1.97	0.47
3:A:118:VAL:HG13	3:A:129:GLY:O	2.15	0.47
7:E:149:ARG:HA	7:E:162:VAL:HB	1.97	0.47
9:G:132:PHE:HB2	9:G:145:HIS:NE2	2.30	0.47
16:N:7:GLY:O	16:N:8:ILE:CG1	2.63	0.47
17:O:19:VAL:CG1	17:O:90:PHE:CD1	2.98	0.47
21:S:71:MET:SD	21:S:71:MET:N	2.88	0.47
1:X:393:U:O2'	23:U:18:VAL:HB	2.15	0.47
1:X:115:G:C6	1:X:117:A:C6	3.03	0.47
1:X:1811:A:C4'	1:X:1812:U:O5'	2.58	0.47
1:X:1950:C:N4	1:X:1951:G:C6	2.83	0.47
1:X:2026:C:N3	1:X:2757:G:N2	2.63	0.47
1:X:2055:G:O2'	1:X:2056:C:H5'	2.15	0.47
1:X:2494:C:O2	1:X:2549:G:C2	2.68	0.47
1:X:2560:G:N2	1:X:2560:G:OP2	2.47	0.47
1:X:31:C:O2'	1:X:32:C:H5'	2.15	0.47
1:X:461:A:C5	1:X:462:G:C5	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:492:G:O2'	1:X:516:G:N2	2.48	0.47
1:X:695:G:H5''	28:2:26:SER:CB	2.44	0.46
1:X:2256:G:P	12:J:86:LYS:HD2	2.55	0.46
16:N:86:ALA:C	16:N:88:ILE:N	2.69	0.46
1:X:165:G:H1	1:X:185:C:N4	2.04	0.46
1:X:1950:C:C4	1:X:1951:G:C5	3.03	0.46
1:X:2659:C:H2'	1:X:2660:C:C6	2.50	0.46
1:X:306:G:H22	1:X:355:G:H1'	1.78	0.46
1:X:514:G:H2'	1:X:514:G:N3	2.30	0.46
1:X:538:A:O4'	1:X:539:A:OP1	2.33	0.46
1:X:618:A:C2	1:X:632:A:N7	2.82	0.46
1:X:638:A:N7	11:I:74:VAL:HG11	2.31	0.46
1:X:760:U:C4	26:Z:3:LYS:HG3	2.50	0.46
13:K:98:LEU:CD2	26:Z:56:GLN:HG2	2.41	0.46
29:3:31:HIS:O	29:3:32:GLN:O	2.33	0.46
1:X:1790:G:C5	3:A:178:LEU:HD13	2.50	0.46
5:C:163:ASN:HD22	5:C:164:VAL:N	2.13	0.46
9:G:104:THR:H	9:G:107:GLN:HG3	1.79	0.46
10:H:100:ASN:OD1	10:H:100:ASN:C	2.54	0.46
13:K:84:ALA:N	13:K:85:PRO:CD	2.78	0.46
19:Q:25:TYR:HE2	19:Q:82:LEU:HD12	1.80	0.46
20:R:84:VAL:HA	20:R:90:LYS:HE2	1.97	0.46
1:X:1730:G:C2	1:X:1737:G:C2	3.02	0.46
1:X:2282:G:C2	1:X:2293:G:N2	2.82	0.46
1:X:654:A:N6	1:X:2348:A:O2'	2.48	0.46
1:X:2379:G:C2	1:X:2380:U:O2	2.68	0.46
1:X:2447:G:C8	1:X:2455:A:C2	3.03	0.46
31:X:2881:LMA:O55	31:X:2881:LMA:C34	2.64	0.46
1:X:797:A:H5''	3:A:228:ASN:OD1	2.15	0.46
4:B:84:PHE:CZ	4:B:86:PRO:HG2	2.51	0.46
5:C:179:ASP:O	5:C:182:ARG:HB3	2.16	0.46
10:H:7:ARG:C	10:H:8:LEU:HD23	2.36	0.46
11:I:102:LYS:O	11:I:103:ASN:HB3	2.15	0.46
12:J:40:PRO:HB3	12:J:99:LYS:CE	2.46	0.46
15:M:60:SER:CA	15:M:64:LYS:HB2	2.45	0.46
16:N:81:ASN:HD22	16:N:117:ARG:NH2	2.14	0.46
22:T:43:THR:CG2	22:T:46:LYS:HG2	2.45	0.46
1:X:1312:G:H5''	1:X:1313:U:OP1	2.15	0.46
1:X:48:A:N6	1:X:154:U:C5	2.81	0.46
1:X:2240:C:C4	1:X:2259:G:N1	2.84	0.46
1:X:45:C:N4	1:X:191:G:OP2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:491:A:H3'	1:X:492:G:H5''	1.97	0.46
1:X:591:G:H1	1:X:1271:C:N4	2.13	0.46
2:Y:89:G:C6	2:Y:93:G:C6	3.03	0.46
7:E:157:TYR:O	7:E:171:LEU:HD23	2.15	0.46
9:G:141:GLY:O	9:G:144:MET:HB2	2.15	0.46
10:H:22:ILE:HB	10:H:52:VAL:HG12	1.97	0.46
10:H:47:VAL:HG22	10:H:77:THR:HG23	1.97	0.46
11:I:51:GLY:HA3	29:3:59:LYS:NZ	2.30	0.46
1:X:2371:A:O2'	11:I:59:ARG:O	2.23	0.46
13:K:79:VAL:HA	13:K:83:VAL:CG2	2.45	0.46
16:N:13:ARG:O	16:N:17:VAL:HG23	2.16	0.46
17:O:22:VAL:HA	17:O:91:THR:HG22	1.96	0.46
25:W:12:ARG:HG2	25:W:12:ARG:HH11	1.81	0.46
1:X:1514:C:H4'	1:X:1592:U:O2'	2.15	0.46
1:X:42:G:H2'	1:X:43:A:O4'	2.16	0.46
1:X:476:G:H4'	28:2:16:HIS:ND1	2.31	0.46
1:X:633:G:H2'	1:X:634:G:H8	1.79	0.46
1:X:170:U:H5''	1:X:816:U:H1'	1.97	0.46
28:2:15:THR:O	28:2:16:HIS:CB	2.61	0.46
3:A:135:ARG:HB3	3:A:188:SER:HB2	1.97	0.46
3:A:246:VAL:HG12	3:A:251:TRP:H	1.80	0.46
5:C:45:THR:HB	5:C:86:PRO:HG2	1.98	0.46
9:G:61:ARG:HE	9:G:65:LYS:HD2	1.78	0.46
1:X:1835:C:H5'	3:A:256:LYS:HE2	1.98	0.46
1:X:1840:A:H2'	1:X:1841:G:O4'	2.15	0.46
1:X:1981:A:H4'	1:X:2704:U:O2'	2.15	0.46
1:X:2522:G:H2'	1:X:2523:G:C8	2.50	0.46
1:X:2664:G:N2	1:X:2665:G:C1'	2.78	0.46
1:X:2819:G:H2'	1:X:2820:C:H6	1.79	0.46
1:X:303:C:H2'	1:X:304:A:H5''	1.98	0.46
1:X:317:U:C3'	1:X:318:G:H5'	2.46	0.46
1:X:518:A:C6	18:P:30:TYR:CE1	3.04	0.46
1:X:518:A:N6	18:P:30:TYR:CE1	2.83	0.46
1:X:742:G:N7	3:A:210:ALA:O	2.49	0.46
1:X:832:A:C4	1:X:1203:A:C2	3.04	0.46
1:X:82:G:N2	1:X:83:A:N6	2.60	0.46
3:A:80:VAL:HB	3:A:115:GLY:N	2.21	0.46
4:B:120:TRP:O	4:B:121:ASN:HB2	2.15	0.46
4:B:61:LYS:HB3	4:B:62:PRO:HD3	1.97	0.46
4:B:44:TYR:HD1	4:B:82:ARG:NH1	2.14	0.46
7:E:103:LEU:HD12	7:E:104:GLU:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:132:PHE:CD2	9:G:145:HIS:HB2	2.51	0.46
15:M:55:ILE:HG22	15:M:104:LEU:HB2	1.98	0.46
1:X:2726:U:O5'	1:X:2726:U:H6	1.98	0.46
3:A:33:ALA:O	3:A:34:LEU:HB3	2.15	0.46
1:X:1672:A:O4'	4:B:113:THR:HG22	2.16	0.46
4:B:31:CYS:HB3	4:B:49:ILE:HG12	1.97	0.46
5:C:58:MET:HG2	5:C:59:TYR:N	2.31	0.46
10:H:2:ILE:HD12	10:H:2:ILE:HG23	1.69	0.46
10:H:7:ARG:O	10:H:8:LEU:HD23	2.16	0.46
15:M:24:LEU:HD11	15:M:34:ARG:HH22	1.81	0.46
15:M:6:LYS:HD2	15:M:6:LYS:N	2.31	0.46
15:M:82:PRO:O	15:M:84:ALA:N	2.48	0.46
18:P:37:LYS:HE2	18:P:64:ALA:H	1.80	0.46
1:X:1050:G:C2'	1:X:1051:U:H5'	2.45	0.46
1:X:1347:C:O2'	1:X:1348:C:H5'	2.16	0.46
1:X:1467:U:C3'	1:X:1467:U:C6	2.99	0.46
1:X:1469:U:H5'	1:X:1470:G:P	2.55	0.46
1:X:1496:G:H4'	1:X:1497:C:OP1	2.15	0.46
1:X:178:C:H2'	1:X:179:U:C6	2.50	0.46
1:X:2327:U:H5'	27:1:21:TYR:CE1	2.50	0.46
1:X:2445:C:H2'	1:X:2446:C:C6	2.51	0.46
1:X:2677:U:H2'	1:X:2678:C:C6	2.51	0.46
1:X:2704:U:C2'	1:X:2705:A:C2	2.98	0.46
1:X:2026:C:C4	1:X:2757:G:N3	2.83	0.46
1:X:568:G:H2'	1:X:569:C:O4'	2.15	0.46
1:X:640:C:H4'	1:X:660:G:H21	1.81	0.46
27:1:28:ARG:NH1	27:1:28:ARG:HB3	2.30	0.46
3:A:147:GLU:HB2	3:A:190:CYS:HB3	1.97	0.46
4:B:4:ILE:HD11	4:B:90:SER:O	2.16	0.46
1:X:1270:C:H4'	5:C:77:PHE:CD2	2.51	0.46
12:J:86:LYS:O	12:J:88:LYS:HG3	2.16	0.46
13:K:20:LEU:HA	13:K:20:LEU:HD12	1.70	0.46
14:L:82:LYS:HB2	14:L:84:ILE:CD1	2.45	0.46
1:X:1141:U:N3	1:X:2008:C:H5''	2.30	0.46
1:X:1326:U:H3'	1:X:1326:U:O2	2.16	0.46
1:X:1469:U:H5''	1:X:1470:G:C8	2.51	0.46
1:X:1444:C:N4	1:X:1579:G:H1	2.08	0.46
1:X:1628:C:H5'	28:2:7:PRO:CG	2.46	0.46
1:X:1641:C:H2'	1:X:1642:G:O4'	2.16	0.46
1:X:1712:G:C2'	1:X:1713:G:H5'	2.45	0.46
1:X:1790:G:C6	1:X:1811:A:N7	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1841:G:C2'	1:X:1842:G:H5'	2.46	0.46
1:X:1854:G:H1'	1:X:1864:G:N2	2.31	0.46
1:X:2082:C:H2'	1:X:2083:G:H5'	1.96	0.46
1:X:2442:C:H2'	1:X:2443:C:C6	2.51	0.46
1:X:2484:G:O2'	1:X:2485:U:C5'	2.61	0.46
1:X:2837:G:H2'	1:X:2838:U:C6	2.50	0.46
1:X:513:A:C5	1:X:516:G:C6	3.04	0.46
1:X:699:G:H4'	1:X:700:C:OP2	2.15	0.46
1:X:820:U:H2'	1:X:821:A:C8	2.51	0.46
3:A:118:VAL:HG22	3:A:129:GLY:HA3	1.97	0.46
4:B:16:LYS:HB3	4:B:21:ILE:HD11	1.97	0.46
9:G:84:ASN:O	9:G:85:ALA:HB3	2.16	0.46
10:H:116:ARG:CG	10:H:116:ARG:O	2.64	0.46
13:K:82:GLU:O	13:K:86:LYS:HG3	2.16	0.46
16:N:70:ARG:HH11	16:N:70:ARG:HG3	1.80	0.46
16:N:94:VAL:O	16:N:94:VAL:HG12	2.15	0.46
19:Q:34:THR:O	19:Q:38:ILE:HG22	2.16	0.46
19:Q:39:LYS:HA	19:Q:42:ILE:HG22	1.98	0.46
19:Q:58:VAL:HA	19:Q:59:PRO:HD2	1.61	0.46
1:X:1790:G:N2	3:A:156:LEU:HD23	2.31	0.46
1:X:1837:G:C2	1:X:1879:G:C2	3.04	0.46
1:X:1922:U:H3'	1:X:1923:U:H5''	1.98	0.46
1:X:2324:G:HO2'	1:X:2360:C:HO2'	1.46	0.46
1:X:2581:A:N3	1:X:2581:A:H5''	2.31	0.46
1:X:1061:A:C2	1:X:2731:G:N1	2.84	0.46
1:X:2736:U:OP2	30:4:17:VAL:HG11	2.16	0.46
1:X:531:G:H2'	1:X:532:A:C8	2.50	0.46
1:X:579:G:OP1	1:X:983:G:O3'	2.34	0.46
29:3:13:ARG:NH1	29:3:26:LYS:N	2.64	0.46
4:B:9:ILE:HD13	15:M:12:LEU:HD13	1.98	0.46
9:G:125:ARG:HD2	9:G:129:HIS:CE1	2.50	0.46
11:I:73:GLU:OE1	11:I:105:PRO:O	2.34	0.46
13:K:87:TYR:CE1	13:K:94:TYR:HB3	2.51	0.46
1:X:168:A:H2'	1:X:169:C:H6	1.73	0.46
1:X:1790:G:C6	3:A:178:LEU:HD13	2.50	0.46
1:X:1941:C:H2'	1:X:1942:G:H8	1.81	0.46
1:X:1947:G:O2'	1:X:1950:C:OP2	2.31	0.46
1:X:2014:A:C5	1:X:2477:C:H1'	2.51	0.46
1:X:219:G:N2	1:X:232:A:OP2	2.45	0.46
1:X:2495:G:C2'	1:X:2496:C:H5'	2.45	0.46
1:X:2707:G:C8	1:X:2708:U:C5	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2862:G:H1'	26:Z:29:ASN:HD21	1.81	0.46
1:X:321:A:P	20:R:27:GLY:H	2.40	0.46
1:X:314:G:C2	1:X:326:A:C2	3.04	0.46
1:X:242:A:N7	1:X:441:A:C6	2.84	0.46
1:X:193:A:N3	1:X:445:A:C2	2.84	0.46
1:X:689:A:C2	1:X:690:A:C8	3.04	0.46
26:Z:51:TYR:CE2	26:Z:55:ARG:HB2	2.51	0.46
27:1:18:THR:O	27:1:20:PHE:CE1	2.68	0.45
1:X:1790:G:H21	3:A:156:LEU:HD23	1.82	0.45
12:J:99:LYS:CD	12:J:100:PRO:HD2	2.45	0.45
15:M:9:ARG:HA	15:M:12:LEU:HD12	1.98	0.45
21:S:117:VAL:HG22	21:S:168:VAL:HA	1.98	0.45
1:X:177:U:H4'	23:U:40:ARG:HE	1.81	0.45
25:W:40:VAL:HA	25:W:43:MET:HG3	1.98	0.45
1:X:1289:A:C2	1:X:1290:A:C8	3.04	0.45
1:X:1573:G:O6	1:X:1574:A:N6	2.49	0.45
1:X:2048:C:O2'	1:X:2049:C:H5'	2.16	0.45
1:X:2477:C:H6	1:X:2477:C:H5'	1.81	0.45
1:X:2722:C:H2'	1:X:2723:C:C6	2.51	0.45
1:X:812:G:H3'	1:X:813:A:H2'	1.97	0.45
1:X:825:C:H2'	1:X:826:U:H6	1.81	0.45
2:Y:72:C:H42	2:Y:109:G:H1	1.63	0.45
11:I:56:LEU:HD13	29:3:52:LYS:HE3	1.98	0.45
29:3:59:LYS:O	29:3:60:LEU:HB2	2.16	0.45
3:A:244:GLY:O	3:A:245:ARG:NE	2.49	0.45
5:C:39:ARG:HH21	5:C:91:TYR:CB	2.29	0.45
6:D:135:GLN:CD	6:D:150:ARG:H	2.19	0.45
10:H:28:GLY:O	10:H:35:THR:N	2.31	0.45
16:N:30:LYS:HB3	16:N:30:LYS:HZ2	1.81	0.45
1:X:1166:A:C5'	16:N:55:ARG:HH11	2.27	0.45
1:X:1022:A:OP1	16:N:75:ASN:ND2	2.50	0.45
1:X:321:A:OP1	20:R:26:SER:HA	2.15	0.45
1:X:1086:C:H3'	1:X:1087:C:C5'	2.36	0.45
1:X:1226:A:N1	1:X:1250:A:H1'	2.31	0.45
1:X:1438:G:O2'	1:X:1439:G:H5'	2.16	0.45
1:X:1505:U:O2	1:X:1506:C:C5	2.68	0.45
1:X:1791:C:N4	1:X:1810:U:O2'	2.49	0.45
1:X:2245:A:H4'	1:X:2246:A:C4	2.50	0.45
1:X:2444:C:O2'	1:X:2445:C:H5'	2.16	0.45
1:X:2685:A:C2	1:X:2686:C:H1'	2.51	0.45
1:X:333:A:C5	1:X:351:A:C2	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:696:U:O5'	1:X:696:U:H6	1.99	0.45
1:X:883:A:H1'	12:J:11:ARG:HH21	1.80	0.45
1:X:15:G:O2'	26:Z:18:MET:HA	2.15	0.45
1:X:15:G:C4'	26:Z:21:SER:HB2	2.45	0.45
26:Z:6:VAL:HG13	26:Z:7:PRO:CD	2.43	0.45
3:A:90:SER:O	3:A:199:ASN:OD1	2.34	0.45
1:X:2218:G:O4'	3:A:250:PRO:HG3	2.15	0.45
4:B:116:VAL:H	4:B:136:ARG:HE	1.65	0.45
10:H:29:ILE:HB	10:H:34:LEU:HD23	1.97	0.45
11:I:35:LYS:O	11:I:36:GLY:O	2.34	0.45
12:J:26:ASP:HB3	12:J:27:TYR:H	1.61	0.45
13:K:35:GLN:HB3	13:K:112:LEU:HD23	1.98	0.45
14:L:37:HIS:CD2	14:L:39:TYR:CE1	3.05	0.45
14:L:42:ILE:HG22	14:L:53:ALA:N	2.31	0.45
9:G:70:PHE:CB	16:N:64:ARG:HG2	2.44	0.45
18:P:79:ALA:HA	18:P:83:ASP:HB2	1.99	0.45
24:V:14:PHE:O	24:V:18:ILE:HG13	2.16	0.45
25:W:18:LYS:O	25:W:21:GLN:HB3	2.16	0.45
1:X:1631:C:H5	1:X:1633:C:C4	2.34	0.45
1:X:1643:A:H1'	1:X:1657:A:C2	2.50	0.45
1:X:1978:U:H2'	1:X:1979:C:H6	1.80	0.45
1:X:484:G:N1	1:X:485:G:C5	2.83	0.45
1:X:493:A:OP2	1:X:517:A:N6	2.42	0.45
1:X:538:A:C2	1:X:2025:A:C6	3.04	0.45
1:X:2265:A:H3'	27:1:32:GLN:HB2	1.97	0.45
3:A:246:VAL:HG12	3:A:252:GLY:H	1.78	0.45
8:F:75:SER:O	8:F:79:ARG:HG3	2.16	0.45
9:G:117:GLU:C	9:G:119:LEU:N	2.69	0.45
9:G:84:ASN:C	9:G:86:ALA:H	2.20	0.45
11:I:56:LEU:HB3	29:3:52:LYS:HZ1	1.81	0.45
14:L:67:THR:O	14:L:71:VAL:HG12	2.16	0.45
15:M:22:ARG:NH1	15:M:24:LEU:HD21	2.31	0.45
16:N:50:ARG:O	16:N:54:LYS:HE2	2.16	0.45
19:Q:91:LEU:N	19:Q:91:LEU:HD22	2.31	0.45
24:V:7:ARG:HD2	24:V:7:ARG:C	2.37	0.45
1:X:1414:G:C6	1:X:1415:C:N3	2.85	0.45
1:X:1756:C:O2'	1:X:1757:C:H5'	2.16	0.45
1:X:2843:A:H2'	1:X:2844:G:O4'	2.15	0.45
1:X:635:C:O2'	1:X:670:U:OP1	2.30	0.45
4:B:116:VAL:CG1	4:B:136:ARG:HH21	2.29	0.45
1:X:883:A:C5'	12:J:10:PHE:O	2.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:61:LYS:HG2	19:Q:61:LYS:O	2.15	0.45
1:X:1200:G:H2'	1:X:1201:G:O4'	2.17	0.45
1:X:1514:C:O4'	1:X:1593:C:H4'	2.16	0.45
1:X:1834:G:N2	1:X:1884:A:C5	2.85	0.45
1:X:1941:C:H2'	1:X:1942:G:C8	2.51	0.45
1:X:2087:U:H3	1:X:2169:A:H2	1.65	0.45
1:X:2201:G:H2'	1:X:2202:G:C8	2.51	0.45
1:X:304:A:C5	1:X:359:G:N2	2.85	0.45
1:X:719:A:H2'	1:X:720:A:O4'	2.17	0.45
1:X:957:G:H2'	1:X:958:G:C8	2.51	0.45
1:X:2594:U:C6	26:Z:7:PRO:HA	2.52	0.45
1:X:1791:C:P	3:A:264:ARG:HG3	2.56	0.45
9:G:55:ALA:HB1	9:G:134:MET:CE	2.46	0.45
11:I:49:PHE:CE1	29:3:59:LYS:HE3	2.51	0.45
11:I:53:ARG:C	11:I:53:ARG:HD2	2.37	0.45
20:R:60:PRO:HB2	20:R:61:SER:H	1.61	0.45
21:S:71:MET:HA	21:S:78:PRO:HA	1.98	0.45
25:W:14:GLY:O	25:W:18:LYS:HG2	2.17	0.45
1:X:1174:G:C2	1:X:1175:A:C8	3.05	0.45
1:X:455:A:C2	1:X:1258:G:N3	2.83	0.45
1:X:1437:A:H2'	1:X:1438:G:C8	2.52	0.45
1:X:1752:U:O5'	1:X:1752:U:H6	2.00	0.45
1:X:1673:C:N4	1:X:1987:G:H1	2.15	0.45
1:X:1987:G:C5	1:X:1988:A:C8	3.04	0.45
1:X:2708:U:H2'	1:X:2709:C:C6	2.52	0.45
1:X:207:U:O4	1:X:432:C:H4'	2.16	0.45
1:X:495:C:H2'	1:X:496:C:C6	2.52	0.45
1:X:2002:A:H62	26:Z:9:LYS:NZ	2.14	0.45
30:4:22:ARG:HD2	30:4:37:GLY:HA3	1.99	0.45
30:4:9:LYS:HD2	30:4:9:LYS:N	2.32	0.45
5:C:72:ARG:HG3	5:C:77:PHE:CD2	2.51	0.45
6:D:61:THR:HG22	6:D:99:PHE:CD1	2.51	0.45
7:E:56:SER:H	7:E:61:HIS:CD2	2.35	0.45
11:I:107:LYS:HG3	11:I:108:LEU:N	2.32	0.45
11:I:45:LYS:HD3	11:I:45:LYS:C	2.37	0.45
12:J:71:PRO:HA	12:J:96:SER:HB2	1.99	0.45
14:L:11:LEU:HD23	14:L:14:ARG:NH1	2.31	0.45
18:P:71:VAL:HG12	18:P:126:ILE:CG2	2.47	0.45
21:S:73:LYS:O	21:S:74:ARG:HB2	2.16	0.45
1:X:1226:A:C5	1:X:1250:A:N3	2.85	0.45
1:X:1332:G:C6	1:X:1333:G:C6	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:167:A:C4	1:X:184:A:C2	3.04	0.45
1:X:1763:G:C2'	1:X:1764:A:H5'	2.46	0.45
1:X:1770:U:O2	1:X:1774:A:C6	2.70	0.45
1:X:1805:G:N3	3:A:51:THR:HG21	2.31	0.45
1:X:2066:G:C6	1:X:2067:U:N3	2.85	0.45
1:X:2299:A:H3'	1:X:2299:A:N3	2.31	0.45
1:X:537:C:H5	1:X:2759:U:H2'	1.82	0.45
1:X:27:G:N2	1:X:522:G:H1'	2.32	0.45
1:X:487:G:O4'	1:X:515:A:C2	2.70	0.45
1:X:686:C:O2'	1:X:687:G:H5'	2.17	0.45
1:X:854:G:H2'	1:X:855:G:C8	2.52	0.45
1:X:982:C:C4	1:X:983:G:N7	2.85	0.45
18:P:40:LEU:HD22	26:Z:25:LEU:CD1	2.46	0.45
1:X:1507:A:H5'	3:A:100:ASP:OD1	2.17	0.45
4:B:117:MET:HA	4:B:121:ASN:O	2.17	0.45
1:X:2551:A:C8	4:B:144:ARG:HD3	2.52	0.45
5:C:33:TRP:HD1	5:C:93:TYR:CE1	2.35	0.45
11:I:43:ALA:O	11:I:45:LYS:HB2	2.17	0.45
12:J:48:ILE:HD12	12:J:71:PRO:HG3	1.99	0.45
25:W:41:ARG:HB3	25:W:45:LYS:NZ	2.32	0.45
1:X:1710:U:H5'	1:X:1711:C:C5	2.51	0.45
1:X:771:C:O2	1:X:1964:A:H2	1.99	0.45
1:X:2321:C:O2'	1:X:2353:G:H5''	2.17	0.45
1:X:2409:A:O2'	1:X:2410:U:C6	2.70	0.45
1:X:2651:U:H2'	1:X:2652:G:O5'	2.17	0.45
1:X:2702:G:H4'	13:K:5:LYS:HE2	1.99	0.45
1:X:571:U:C4	1:X:2019:C:O4'	2.69	0.45
2:Y:17:A:C1'	2:Y:112:A:C8	2.86	0.45
3:A:122:PRO:HG2	3:A:123:GLU:CD	2.38	0.45
6:D:34:ILE:HD13	6:D:156:ILE:HA	1.99	0.45
1:X:609:U:H4'	11:I:18:ARG:CZ	2.47	0.45
12:J:39:GLU:HB3	12:J:128:ILE:HB	1.99	0.45
15:M:99:VAL:CG2	15:M:100:ARG:N	2.79	0.45
16:N:66:ASN:N	16:N:66:ASN:OD1	2.47	0.45
23:U:67:LEU:HD23	23:U:67:LEU:C	2.37	0.45
1:X:1017:C:H2'	1:X:1018:C:H6	1.82	0.45
1:X:1391:A:C4'	1:X:1392:U:OP1	2.64	0.45
1:X:1849:G:C6	1:X:1850:G:N1	2.85	0.45
1:X:2769:C:H1'	1:X:2866:A:H2	1.82	0.45
1:X:2780:A:O2'	1:X:2781:G:H5'	2.16	0.45
1:X:571:U:C2	1:X:581:A:C8	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:133:PRO:HD3	3:A:191:TYR:CE2	2.51	0.45
4:B:82:ARG:C	4:B:84:PHE:H	2.19	0.45
9:G:116:ARG:HD2	9:G:119:LEU:HD12	1.99	0.45
9:G:154:GLU:OE2	9:G:155:THR:HG22	2.16	0.45
9:G:61:ARG:HE	9:G:65:LYS:HD3	1.80	0.45
10:H:24:VAL:CG1	10:H:42:LYS:HG2	2.46	0.45
10:H:116:ARG:NE	15:M:38:LYS:HE3	2.32	0.45
16:N:106:PHE:O	16:N:110:VAL:HG23	2.17	0.45
19:Q:48:VAL:HG22	19:Q:49:ARG:O	2.16	0.45
20:R:25:LEU:HB2	20:R:81:VAL:HG23	1.98	0.45
1:X:1008:G:O2'	1:X:1009:C:H5'	2.16	0.45
1:X:124:A:OP2	28:2:44:VAL:HG11	2.17	0.45
1:X:1381:G:H2'	1:X:1382:G:H8	1.82	0.45
1:X:1631:C:H5	1:X:1633:C:C5	2.34	0.45
1:X:2260:C:C2'	1:X:2261:G:H5'	2.47	0.45
1:X:1678:G:H4'	1:X:2691:C:N4	2.31	0.45
1:X:2825:A:C2	1:X:2826:C:C2	3.05	0.45
1:X:757:U:H3	1:X:766:A:H61	1.65	0.45
1:X:832:A:N3	1:X:1203:A:C2	2.85	0.45
29:3:13:ARG:HD3	29:3:25:PHE:HD1	1.83	0.44
4:B:11:MET:HA	4:B:23:VAL:O	2.16	0.44
5:C:163:ASN:HD22	5:C:163:ASN:C	2.21	0.44
5:C:53:LYS:O	5:C:54:THR:OG1	2.30	0.44
1:X:648:A:H5''	11:I:110:ALA:O	2.17	0.44
12:J:29:ALA:HB3	12:J:68:ARG:NH2	2.30	0.44
12:J:36:ILE:CG2	12:J:37:ALA:N	2.80	0.44
18:P:118:LYS:HE3	18:P:118:LYS:HB2	1.80	0.44
1:X:1213:U:H2'	1:X:1214:C:C6	2.52	0.44
1:X:1283:C:H5''	1:X:1284:G:H5'	1.99	0.44
1:X:1405:A:N6	1:X:1406:A:N6	2.65	0.44
1:X:1710:U:H5'	1:X:1711:C:H5	1.82	0.44
1:X:1884:A:O2'	3:A:245:ARG:CG	2.64	0.44
1:X:2499:C:O2'	1:X:2500:C:H5'	2.17	0.44
1:X:2673:G:H2'	1:X:2674:C:H6	1.82	0.44
1:X:830:C:O2'	1:X:852:U:H5''	2.17	0.44
1:X:940:G:O6	1:X:941:U:O4	2.35	0.44
4:B:14:ILE:HD12	4:B:23:VAL:CG2	2.43	0.44
9:G:66:HIS:O	9:G:70:PHE:CE1	2.70	0.44
11:I:120:VAL:HB	11:I:140:VAL:HG22	1.98	0.44
15:M:31:ASP:HA	15:M:52:GLY:O	2.18	0.44
17:O:36:LYS:HE2	17:O:56:VAL:HG13	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:12:ASN:C	22:T:14:ARG:H	2.20	0.44
1:X:1656:U:H4'	1:X:2678:C:H4'	1.99	0.44
1:X:1674:C:C2'	1:X:1674:C:O2	2.64	0.44
1:X:2340:C:P	29:3:27:SER:OG	2.75	0.44
1:X:2494:C:H2'	1:X:2495:G:C8	2.52	0.44
1:X:2825:A:C6	1:X:2826:C:C4	3.05	0.44
1:X:430:C:H1'	1:X:2386:G:N2	2.32	0.44
1:X:627:A:H2'	1:X:628:A:C8	2.52	0.44
1:X:641:G:H4'	1:X:651:C:O2'	2.18	0.44
1:X:693:A:C5	1:X:811:G:N2	2.85	0.44
1:X:820:U:H2'	1:X:821:A:H8	1.81	0.44
1:X:867:G:H1	1:X:935:C:H42	1.65	0.44
1:X:918:A:C2'	1:X:919:U:H5''	2.40	0.44
1:X:2200:G:O2'	3:A:150:PRO:HG2	2.17	0.44
3:A:56:GLY:H	3:A:218:ARG:H	1.65	0.44
4:B:32:PRO:HD2	4:B:50:GLY:O	2.16	0.44
9:G:162:LYS:H	9:G:163:PRO:CD	2.20	0.44
13:K:71:HIS:HD1	13:K:71:HIS:N	2.15	0.44
15:M:104:LEU:HA	15:M:106:TYR:CD2	2.51	0.44
18:P:19:LYS:O	18:P:20:LEU:CB	2.66	0.44
20:R:51:VAL:HG12	20:R:51:VAL:O	2.17	0.44
20:R:6:ALA:C	20:R:8:SER:H	2.21	0.44
1:X:1567:A:H2'	1:X:1568:A:O4'	2.16	0.44
1:X:1923:U:H4'	1:X:1924:C:O5'	2.17	0.44
1:X:1924:C:C2	1:X:1948:C:C2	3.05	0.44
1:X:2173:G:H2'	1:X:2174:G:C8	2.52	0.44
1:X:43:A:C6	1:X:44:G:C6	3.05	0.44
1:X:459:A:N6	1:X:484:G:C4	2.85	0.44
1:X:538:A:H62	1:X:2026:C:C5'	2.30	0.44
1:X:546:A:H2'	1:X:547:U:C6	2.53	0.44
1:X:822:G:H2'	1:X:823:U:H5'	1.99	0.44
5:C:3:GLN:HB2	5:C:116:LYS:HD2	1.99	0.44
6:D:29:PRO:HB2	6:D:169:LEU:HD22	2.00	0.44
6:D:78:LYS:HG2	6:D:80:ARG:NH1	2.32	0.44
2:Y:47:A:C8	6:D:92:ARG:NH1	2.85	0.44
10:H:60:PRO:O	10:H:61:ARG:HB2	2.17	0.44
12:J:99:LYS:HG3	12:J:100:PRO:HD2	2.00	0.44
12:J:22:ALA:HA	12:J:99:LYS:HB3	2.00	0.44
22:T:45:PHE:CD2	22:T:77:ARG:HB3	2.52	0.44
1:X:1453:A:C2	1:X:1569:A:C6	3.06	0.44
1:X:1437:A:C2	1:X:1592:U:O2	2.70	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1722:G:C6	1:X:1723:U:N3	2.86	0.44
1:X:2754:C:H2'	1:X:2755:A:O4'	2.17	0.44
28:2:41:GLN:HA	28:2:41:GLN:OE1	2.17	0.44
3:A:47:ARG:HD3	3:A:47:ARG:C	2.38	0.44
3:A:69:LYS:CD	3:A:69:LYS:H	2.23	0.44
3:A:71:ARG:HH12	3:A:150:PRO:CB	2.30	0.44
9:G:132:PHE:CB	9:G:145:HIS:CD2	2.99	0.44
9:G:93:LYS:HB3	9:G:97:ASP:HB3	1.99	0.44
1:X:637:G:H1	11:I:101:ARG:CD	2.30	0.44
13:K:12:ARG:NH2	13:K:20:LEU:HD22	2.32	0.44
19:Q:53:ILE:CD1	19:Q:80:VAL:HG12	2.42	0.44
21:S:107:GLU:HA	21:S:111:GLY:O	2.17	0.44
1:X:1450:G:N3	1:X:1573:G:C2	2.85	0.44
1:X:2495:G:C6	1:X:2496:C:N4	2.86	0.44
1:X:2494:C:C2	1:X:2549:G:C2	3.06	0.44
1:X:2616:U:H5''	4:B:82:ARG:HH22	1.80	0.44
1:X:395:G:C2	1:X:406:G:C2	3.05	0.44
1:X:779:U:O4	1:X:780:U:O4	2.36	0.44
1:X:819:C:H2'	1:X:820:U:C6	2.53	0.44
3:A:151:GLY:O	3:A:153:GLY:N	2.51	0.44
5:C:191:ALA:HA	5:C:194:GLU:HB3	1.99	0.44
7:E:105:MET:CE	7:E:131:ILE:HD11	2.47	0.44
1:X:576:A:O3'	11:I:40:ARG:NH1	2.51	0.44
11:I:43:ALA:O	11:I:44:GLY:C	2.55	0.44
1:X:1817:U:H4'	3:A:253:LYS:HZ2	1.82	0.44
1:X:2235:G:N2	1:X:2254:C:C4	2.86	0.44
1:X:2670:C:O3'	1:X:2846:G:H4'	2.18	0.44
1:X:538:A:C2'	1:X:538:A:N3	2.79	0.44
1:X:843:G:O4'	1:X:2427:A:N1	2.51	0.44
1:X:861:G:N2	1:X:943:U:H1'	2.33	0.44
29:3:36:LYS:HE2	29:3:36:LYS:HB2	1.83	0.44
1:X:2554:C:O2'	4:B:140:SER:CB	2.66	0.44
4:B:14:ILE:HG12	15:M:20:HIS:HD2	1.76	0.44
11:I:107:LYS:HB2	11:I:107:LYS:HE2	1.84	0.44
14:L:37:HIS:HE1	14:L:57:ALA:HB2	1.76	0.44
1:X:935:C:C1'	22:T:29:GLU:HG2	2.46	0.44
23:U:59:THR:O	23:U:60:VAL:C	2.56	0.44
1:X:1001:A:H1'	1:X:1167:A:C2	2.53	0.44
1:X:13:A:C2	1:X:15:G:C6	3.06	0.44
1:X:1422:C:H2'	1:X:1423:A:C8	2.53	0.44
1:X:155:G:O2'	1:X:156:G:H5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1692:C:H2'	1:X:1693:A:O4'	2.18	0.44
1:X:2245:A:H5'	1:X:2246:A:C4	2.53	0.44
1:X:2329:C:C6	1:X:2329:C:H3'	2.53	0.44
1:X:2490:U:H2'	1:X:2491:C:C6	2.52	0.44
1:X:2780:A:H2'	1:X:2781:G:C8	2.53	0.44
1:X:459:A:C2	1:X:466:A:H2'	2.52	0.44
1:X:538:A:H4'	9:G:139:ARG:NE	2.33	0.44
1:X:541:C:N3	1:X:572:G:C8	2.86	0.44
4:B:67:PHE:CD2	4:B:74:PRO:HA	2.53	0.44
5:C:38:ARG:NH2	5:C:178:TYR:CE2	2.84	0.44
1:X:2289:A:N3	6:D:79:LEU:HD21	2.33	0.44
14:L:72:GLY:O	14:L:75:LEU:HB3	2.18	0.44
14:L:99:ARG:HG3	14:L:100:VAL:H	1.82	0.44
1:X:409:G:O3'	23:U:47:HIS:CE1	2.71	0.44
1:X:1070:G:H5'	1:X:1071:U:H2'	1.99	0.44
1:X:1007:A:C5	1:X:1171:A:C2	3.06	0.44
1:X:317:U:O2'	1:X:1224:A:N7	2.50	0.44
1:X:1255:A:C6	1:X:1256:C:C4	3.06	0.44
1:X:2026:C:H2'	1:X:2027:C:H6	1.82	0.44
1:X:2436:U:O2'	1:X:2437:G:H5'	2.18	0.44
1:X:2659:C:H2'	1:X:2660:C:H6	1.82	0.44
1:X:813:A:O4'	1:X:815:A:H5'	2.17	0.44
3:A:89:ARG:O	3:A:90:SER:C	2.55	0.44
5:C:102:LEU:C	5:C:102:LEU:HD23	2.37	0.44
6:D:51:ASP:HA	6:D:54:ALA:HB3	1.99	0.44
9:G:111:LYS:O	9:G:111:LYS:HG3	2.17	0.44
9:G:55:ALA:HB1	9:G:134:MET:HE1	1.98	0.44
10:H:114:VAL:O	10:H:115:ALA:O	2.36	0.44
20:R:16:PHE:HZ	20:R:46:VAL:CG2	2.31	0.44
21:S:127:PRO:C	21:S:129:ARG:H	2.21	0.44
22:T:18:PRO:O	22:T:19:LYS:HG2	2.17	0.44
1:X:1173:G:H2'	1:X:1174:G:C8	2.52	0.44
1:X:1313:U:H4'	1:X:1314:A:H5''	2.00	0.44
1:X:1335:A:C2	1:X:1346:C:O2'	2.69	0.44
1:X:1361:G:C6	1:X:1362:A:C6	3.06	0.44
1:X:1506:C:H2'	1:X:1507:A:H5'	1.99	0.44
1:X:1974:U:C2'	1:X:1975:G:C5'	2.96	0.44
1:X:2057:U:C2	1:X:2415:G:N2	2.86	0.44
1:X:2821:G:H2'	1:X:2822:U:O4'	2.18	0.44
1:X:313:U:O2'	1:X:314:G:H5'	2.18	0.44
1:X:555:U:HO2'	1:X:556:A:P	2.41	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:688:A:H5'	5:C:61:GLN:OE1	2.18	0.44
1:X:768:U:C4	1:X:769:C:C4	3.05	0.44
1:X:815:A:C6	1:X:816:U:N3	2.86	0.44
1:X:913:A:N7	1:X:914:C:C4	2.86	0.44
1:X:987:G:C2	1:X:988:G:C8	3.05	0.44
1:X:1812:U:O2	3:A:160:ALA:O	2.34	0.43
3:A:245:ARG:HD3	3:A:245:ARG:N	2.33	0.43
4:B:176:ARG:HH21	15:M:16:ILE:HA	1.83	0.43
5:C:111:ARG:HH12	5:C:181:LEU:HD12	1.82	0.43
5:C:54:THR:HB	5:C:73:SER:HB3	1.99	0.43
1:X:2285:U:O2	6:D:44:LYS:HD2	2.18	0.43
10:H:22:ILE:HG21	10:H:22:ILE:HD13	1.76	0.43
12:J:70:PHE:HA	12:J:71:PRO:HD3	1.66	0.43
13:K:20:LEU:O	13:K:21:ALA:C	2.55	0.43
2:Y:8:C:O2'	14:L:39:TYR:CE1	2.70	0.43
23:U:22:GLY:HA3	23:U:39:LYS:CE	2.46	0.43
1:X:1026:U:O2'	1:X:1027:C:H5'	2.18	0.43
1:X:122:G:H2'	28:2:19:ARG:NH2	2.33	0.43
1:X:1356:G:O5'	1:X:1356:G:H8	2.01	0.43
1:X:1686:A:OP2	1:X:1687:C:H5	2.01	0.43
1:X:1922:U:OP1	1:X:2583:U:O2'	2.32	0.43
1:X:538:A:N3	1:X:2025:A:C6	2.86	0.43
1:X:2210:C:C4	1:X:2211:U:C4	3.06	0.43
1:X:2668:U:O2	1:X:2693:U:O4'	2.36	0.43
1:X:2700:U:C2'	1:X:2700:U:O2	2.64	0.43
1:X:542:A:OP1	1:X:570:G:N2	2.49	0.43
1:X:599:A:H61	1:X:679:C:N4	2.16	0.43
3:A:207:LEU:C	3:A:212:ARG:HD3	2.38	0.43
3:A:69:LYS:N	3:A:69:LYS:HD3	2.25	0.43
10:H:82:LYS:HE3	10:H:82:LYS:HB2	1.78	0.43
1:X:1223:G:C5	1:X:1250:A:N6	2.86	0.43
1:X:1223:G:H4'	1:X:1224:A:C5'	2.48	0.43
1:X:1223:G:H5'	1:X:1225:G:O4'	2.18	0.43
1:X:1381:G:H2'	1:X:1382:G:C8	2.53	0.43
1:X:1405:A:C6	1:X:1406:A:C6	3.05	0.43
1:X:1511:A:N6	1:X:1512:A:N6	2.66	0.43
1:X:1631:C:C5	1:X:1633:C:C2	3.06	0.43
1:X:1724:C:C4	1:X:1747:G:C6	3.05	0.43
1:X:1835:C:C5'	3:A:256:LYS:HE2	2.48	0.43
1:X:1838:G:N2	1:X:1878:C:C2	2.86	0.43
1:X:1991:C:H2'	1:X:1992:G:C8	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2053:G:C2	1:X:2421:C:C2	3.05	0.43
1:X:2065:A:C2	1:X:2218:G:N3	2.86	0.43
1:X:2705:A:N7	1:X:2707:G:C5	2.85	0.43
1:X:2815:C:N4	1:X:2852:G:H1	2.16	0.43
1:X:620:G:N2	1:X:630:G:H1'	2.32	0.43
1:X:869:C:H4'	22:T:69:PHE:HB2	1.98	0.43
3:A:106:ILE:HG22	3:A:107:LEU:N	2.34	0.43
3:A:214:ARG:HA	3:A:214:ARG:HD2	1.84	0.43
4:B:54:LYS:HD2	4:B:59:VAL:HG22	1.99	0.43
7:E:105:MET:HE2	7:E:105:MET:HA	2.01	0.43
9:G:30:LYS:HE3	9:G:30:LYS:HB2	1.68	0.43
16:N:86:ALA:C	16:N:88:ILE:H	2.21	0.43
17:O:48:GLY:O	17:O:49:GLU:HB2	2.19	0.43
23:U:49:LYS:HB3	23:U:61:TRP:CD2	2.53	0.43
1:X:1336:G:C2	1:X:1346:C:H1'	2.53	0.43
1:X:1342:U:H3'	1:X:1343:C:H6	1.82	0.43
1:X:1346:C:O5'	1:X:1346:C:H6	2.02	0.43
1:X:2043:A:N6	5:C:68:ARG:HH12	2.16	0.43
1:X:2062:U:H2'	1:X:2063:A:C8	2.54	0.43
1:X:2664:G:N3	1:X:2664:G:H2'	2.32	0.43
1:X:799:C:O2'	1:X:800:U:H5'	2.19	0.43
1:X:475:U:C2	1:X:801:A:C6	3.06	0.43
2:Y:12:C:H2'	2:Y:13:C:O4'	2.18	0.43
26:Z:42:SER:O	26:Z:44:HIS:CD2	2.55	0.43
30:4:24:LEU:HD23	30:4:35:ARG:CZ	2.49	0.43
3:A:148:LEU:HD21	3:A:156:LEU:HD11	1.98	0.43
3:A:247:PRO:HD3	3:A:253:LYS:CG	2.49	0.43
3:A:27:LYS:HE2	3:A:205:ILE:HD13	2.01	0.43
7:E:56:SER:HB2	7:E:61:HIS:CE1	2.54	0.43
9:G:33:ILE:HB	9:G:34:PRO:HD2	2.01	0.43
17:O:29:ALA:HA	17:O:59:GLU:HB3	1.99	0.43
18:P:30:TYR:H	18:P:123:HIS:CE1	2.36	0.43
19:Q:35:LYS:HA	19:Q:38:ILE:HG22	1.98	0.43
22:T:32:LYS:H	22:T:35:ASN:HD22	1.65	0.43
24:V:6:MET:HE3	24:V:56:VAL:HG21	2.01	0.43
24:V:56:VAL:O	24:V:59:GLU:HB2	2.18	0.43
1:X:1252:C:H6	1:X:1252:C:H3'	1.83	0.43
1:X:1441:A:O4'	1:X:1442:C:C5	2.71	0.43
1:X:2445:C:C4	1:X:2446:C:N4	2.86	0.43
1:X:320:A:H1'	1:X:340:G:N3	2.34	0.43
1:X:470:U:OP1	28:2:40:HIS:HA	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:46:ASN:O	3:A:47:ARG:C	2.55	0.43
7:E:137:ASP:O	7:E:141:VAL:HG23	2.18	0.43
10:H:23:ARG:CZ	10:H:23:ARG:HB3	2.48	0.43
1:X:684:C:C5	11:I:43:ALA:HA	2.53	0.43
12:J:36:ILE:HG22	12:J:37:ALA:N	2.33	0.43
16:N:29:SER:C	16:N:30:LYS:HG2	2.38	0.43
19:Q:10:PRO:HD3	24:V:30:PHE:HD2	1.83	0.43
1:X:1002:C:O2	1:X:1175:A:C2	2.72	0.43
1:X:1220:G:N2	1:X:1253:C:C4	2.86	0.43
1:X:1467:U:H3'	1:X:1467:U:C6	2.53	0.43
1:X:1673:C:O2'	1:X:1674:C:H5'	2.18	0.43
1:X:2064:U:O2'	1:X:2065:A:H5'	2.18	0.43
1:X:2300:G:H3'	1:X:2300:G:N3	2.34	0.43
1:X:2370:G:H2'	1:X:2371:A:H2	1.83	0.43
1:X:2565:C:O2	1:X:2565:C:H2'	2.18	0.43
1:X:608:G:H2'	1:X:609:U:C6	2.53	0.43
1:X:797:A:O2'	1:X:798:G:H8	2.02	0.43
3:A:185:ARG:HH21	3:A:269:ARG:HH11	1.66	0.43
4:B:59:VAL:HG12	4:B:64:GLN:HG3	1.99	0.43
9:G:156:HIS:N	9:G:157:PRO:CD	2.82	0.43
12:J:21:ASP:C	12:J:99:LYS:HG2	2.38	0.43
18:P:14:ARG:HA	18:P:17:GLN:CG	2.48	0.43
24:V:17:GLU:O	24:V:21:ARG:HD3	2.18	0.43
1:X:1411:C:H2'	1:X:1412:C:H5'	2.00	0.43
1:X:1810:U:H5	3:A:158:ARG:NH1	2.16	0.43
1:X:1965:U:H2'	1:X:1966:C:H6	1.83	0.43
1:X:635:C:C3'	1:X:636:G:H5''	2.49	0.43
1:X:854:G:H1	1:X:948:C:N4	2.12	0.43
1:X:66:U:H1'	1:X:87:G:N2	2.33	0.43
1:X:916:U:C4	1:X:917:U:C4	3.07	0.43
1:X:957:G:H2'	1:X:958:G:H8	1.84	0.43
6:D:77:PHE:HB3	6:D:78:LYS:H	1.58	0.43
8:F:74:MET:SD	8:F:127:VAL:HG22	2.59	0.43
9:G:103:TYR:CE1	9:G:111:LYS:C	2.92	0.43
11:I:52:GLY:O	11:I:53:ARG:HB3	2.19	0.43
13:K:79:VAL:HG13	13:K:80:MET:H	1.83	0.43
14:L:33:ARG:NH2	14:L:103:LEU:HD12	2.34	0.43
4:B:14:ILE:CG1	15:M:20:HIS:CD2	2.88	0.43
16:N:20:ARG:HD2	16:N:39:LEU:HD13	2.01	0.43
19:Q:48:VAL:HG21	19:Q:82:LEU:HD22	2.00	0.43
1:X:1817:U:C4'	3:A:253:LYS:HD2	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:227:G:C6	1:X:228:A:C6	3.07	0.43
1:X:2426:G:C2'	1:X:2479:U:OP2	2.66	0.43
1:X:2742:G:O2'	1:X:2743:G:H5'	2.18	0.43
1:X:2766:U:O2'	1:X:2767:C:H5'	2.19	0.43
1:X:2791:C:C2	1:X:2806:G:N2	2.86	0.43
1:X:64:C:H3'	1:X:64:C:H6	1.82	0.43
29:3:13:ARG:C	29:3:23:MET:O	2.56	0.43
1:X:618:A:OP1	5:C:94:THR:HG21	2.19	0.43
9:G:156:HIS:HB2	9:G:157:PRO:HD3	2.01	0.43
10:H:104:GLU:HG2	10:H:125:LYS:NZ	2.33	0.43
15:M:103:LYS:O	15:M:104:LEU:CB	2.65	0.43
15:M:46:ARG:HG2	15:M:47:SER:N	2.34	0.43
18:P:107:ILE:O	18:P:107:ILE:HG23	2.18	0.43
1:X:1439:G:C2	1:X:1440:G:C2	3.07	0.43
1:X:2391:A:C8	1:X:2392:G:C8	3.07	0.43
1:X:2696:A:H2'	1:X:2697:G:C8	2.52	0.43
1:X:637:G:H1	11:I:101:ARG:CG	2.32	0.43
1:X:83:A:H1'	1:X:84:G:O4'	2.18	0.43
28:2:14:LYS:HD3	28:2:14:LYS:O	2.19	0.43
1:X:1673:C:H5'	4:B:136:ARG:HD3	2.01	0.43
5:C:163:ASN:ND2	5:C:163:ASN:C	2.72	0.43
9:G:61:ARG:HH22	9:G:78:ASP:HB2	1.84	0.43
10:H:116:ARG:NH1	15:M:38:LYS:HE3	2.33	0.43
20:R:77:HIS:C	20:R:79:SER:H	2.22	0.43
21:S:137:ASP:OD2	21:S:138:VAL:N	2.52	0.43
21:S:88:TYR:O	21:S:127:PRO:HG2	2.19	0.43
22:T:41:ARG:HD3	22:T:41:ARG:HA	1.76	0.43
23:U:32:ARG:HB2	23:U:33:LYS:H	1.63	0.43
1:X:1047:G:N2	1:X:1131:G:C4	2.87	0.43
1:X:1069:G:C3'	1:X:1070:G:H5''	2.49	0.43
1:X:1356:G:N2	1:X:1418:C:N3	2.67	0.43
1:X:239:A:H5'	1:X:620:G:O2'	2.18	0.43
1:X:321:A:OP1	20:R:27:GLY:N	2.47	0.43
1:X:482:A:N6	1:X:483:A:C2	2.87	0.43
1:X:538:A:H3'	9:G:142:ARG:NH1	2.30	0.43
1:X:872:G:OP2	1:X:872:G:C8	2.72	0.43
1:X:2323:U:O2'	27:1:40:TYR:CE1	2.71	0.43
3:A:262:ARG:O	3:A:265:LYS:HB3	2.19	0.43
6:D:12:VAL:O	6:D:16:LEU:HG	2.19	0.43
13:K:5:LYS:HB2	13:K:5:LYS:HE2	1.78	0.43
18:P:16:GLN:H	18:P:16:GLN:HG2	1.70	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1166:A:C2'	1:X:1167:A:H5''	2.49	0.43
1:X:1226:A:C4	1:X:1250:A:N3	2.87	0.43
1:X:1313:U:H4'	1:X:1314:A:O5'	2.18	0.43
1:X:1345:G:C5	1:X:1625:A:C5	3.07	0.43
1:X:1779:C:C5	1:X:1780:A:N7	2.87	0.43
1:X:2238:G:C5	1:X:2406:C:N4	2.87	0.43
1:X:2594:U:H2'	1:X:2595:C:H6	1.83	0.43
1:X:940:G:C6	1:X:941:U:C4	3.07	0.43
2:Y:5:C:H2'	2:Y:6:C:O4'	2.19	0.43
29:3:13:ARG:HD2	29:3:25:PHE:CD1	2.54	0.42
4:B:38:THR:HG22	4:B:40:GLN:H	1.84	0.42
5:C:148:VAL:HG12	5:C:149:LEU:N	2.34	0.42
10:H:116:ARG:HD2	15:M:38:LYS:CE	2.49	0.42
11:I:77:LEU:HB3	11:I:112:GLY:H	1.84	0.42
18:P:29:LYS:O	18:P:30:TYR:HB2	2.19	0.42
18:P:31:VAL:O	18:P:33:MET:N	2.43	0.42
23:U:22:GLY:HA3	23:U:39:LYS:CD	2.49	0.42
1:X:1166:A:H2'	1:X:1167:A:H5''	2.01	0.42
1:X:1453:A:C8	1:X:1454:U:C6	3.07	0.42
1:X:196:A:O2'	1:X:197:G:H5'	2.19	0.42
1:X:2301:A:H2'	1:X:2302:G:O4'	2.19	0.42
1:X:314:G:C6	1:X:326:A:C2	3.06	0.42
1:X:396:U:C4	1:X:398:C:C5	3.07	0.42
1:X:43:A:H2	1:X:448:C:H41	1.65	0.42
1:X:701:U:O5'	1:X:701:U:H6	2.01	0.42
1:X:840:U:C5	1:X:2409:A:C5	3.07	0.42
1:X:922:A:N7	1:X:923:A:C6	2.86	0.42
1:X:943:U:O2'	1:X:944:A:O4'	2.34	0.42
3:A:91:ALA:HA	3:A:199:ASN:OD1	2.19	0.42
5:C:172:VAL:O	5:C:172:VAL:HG12	2.19	0.42
1:X:2293:G:C5'	6:D:35:VAL:HG11	2.45	0.42
7:E:55:PRO:HB2	7:E:61:HIS:CD2	2.54	0.42
9:G:61:ARG:CD	9:G:65:LYS:HD2	2.49	0.42
2:Y:93:G:OP1	12:J:19:THR:HB	2.19	0.42
13:K:73:LYS:O	13:K:76:VAL:CG1	2.67	0.42
14:L:40:ALA:HB2	14:L:103:LEU:HD11	2.01	0.42
14:L:42:ILE:C	14:L:42:ILE:HD13	2.39	0.42
18:P:117:ILE:HD12	18:P:117:ILE:HG23	1.72	0.42
18:P:25:PHE:HD1	18:P:127:ILE:CD1	2.28	0.42
24:V:6:MET:HE2	24:V:56:VAL:HG21	2.02	0.42
1:X:1407:G:O6	1:X:1408:A:N6	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1462:C:H2'	1:X:1463:A:C8	2.54	0.42
1:X:1508:G:H5'	1:X:1509:A:H5''	2.00	0.42
1:X:1836:C:N3	1:X:1880:G:N2	2.67	0.42
1:X:2053:G:C2	1:X:2054:A:N3	2.88	0.42
1:X:2327:U:H6	1:X:2327:U:O5'	2.02	0.42
1:X:2363:G:OP1	22:T:55:ARG:HD2	2.19	0.42
1:X:2407:G:N2	11:I:59:ARG:HH22	2.18	0.42
1:X:2697:G:H2'	1:X:2698:G:O4'	2.20	0.42
1:X:2705:A:H4'	1:X:2706:U:OP1	2.18	0.42
1:X:334:G:N2	5:C:162:ARG:HH22	2.17	0.42
1:X:531:G:O2'	1:X:532:A:H5'	2.19	0.42
1:X:637:G:H8	1:X:637:G:O5'	2.02	0.42
1:X:7:G:H2'	1:X:8:A:O4'	2.19	0.42
28:2:34:ARG:HH11	28:2:42:LEU:CA	2.32	0.42
5:C:3:GLN:O	5:C:12:GLY:HA3	2.18	0.42
6:D:112:ARG:H	6:D:112:ARG:CD	2.30	0.42
10:H:27:SER:HB3	10:H:50:ILE:H	1.82	0.42
12:J:78:LYS:HE2	12:J:81:GLU:HA	2.01	0.42
13:K:100:VAL:HG12	13:K:101:GLY:H	1.75	0.42
10:H:116:ARG:HH22	15:M:41:GLU:HG2	1.83	0.42
18:P:47:GLY:HA2	18:P:92:VAL:O	2.19	0.42
1:X:1615:C:OP1	19:Q:35:LYS:HB2	2.20	0.42
1:X:1058:G:H2'	1:X:1121:G:O6	2.19	0.42
1:X:1685:A:C4	1:X:1691:G:N7	2.87	0.42
1:X:2045:A:C6	31:X:2881:LMA:H27	2.54	0.42
1:X:2497:A:H2'	1:X:2497:A:N3	2.34	0.42
1:X:331:U:H1'	5:C:162:ARG:HH21	1.84	0.42
1:X:68:C:H2'	1:X:69:G:O4'	2.19	0.42
1:X:700:C:O4'	28:2:4:THR:HA	2.18	0.42
1:X:971:A:H5''	1:X:972:C:OP2	2.19	0.42
1:X:2594:U:C2	26:Z:7:PRO:HA	2.54	0.42
9:G:140:GLN:O	9:G:144:MET:HG3	2.19	0.42
23:U:50:ALA:HB1	23:U:52:ARG:NH2	2.33	0.42
1:X:341:A:H2	1:X:1223:G:C8	2.37	0.42
1:X:1326:U:C2'	1:X:1326:U:O2	2.65	0.42
1:X:1363:C:O2'	1:X:1364:C:H5'	2.20	0.42
1:X:1672:A:O4'	4:B:113:THR:O	2.37	0.42
1:X:1710:U:H4'	1:X:1711:C:OP2	2.20	0.42
1:X:1279:G:O2'	1:X:1995:G:O6	2.23	0.42
1:X:2740:C:O2'	1:X:2741:G:H5'	2.19	0.42
1:X:318:G:N1	1:X:321:A:OP2	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:404:A:C2	1:X:424:G:C2	3.08	0.42
1:X:487:G:H4'	1:X:512:A:H61	1.84	0.42
1:X:604:U:H5''	29:3:61:MET:SD	2.59	0.42
1:X:860:U:H2'	1:X:860:U:O2	2.17	0.42
30:4:19:ARG:HD2	30:4:24:LEU:HD13	2.01	0.42
3:A:119:ASN:HD22	3:A:124:ALA:HB2	1.85	0.42
3:A:251:TRP:O	3:A:256:LYS:NZ	2.41	0.42
3:A:252:GLY:HA3	3:A:256:LYS:CE	2.49	0.42
6:D:118:ASN:HB3	6:D:122:PHE:CZ	2.52	0.42
1:X:2291:U:HO2'	6:D:86:GLY:HA3	1.83	0.42
11:I:99:VAL:HG23	11:I:99:VAL:O	2.19	0.42
14:L:29:LEU:HD23	14:L:89:PHE:CD1	2.55	0.42
15:M:82:PRO:C	15:M:84:ALA:N	2.70	0.42
25:W:47:VAL:HB	25:W:50:LEU:HD12	2.01	0.42
1:X:1036:G:C4	1:X:1145:C:H1'	2.54	0.42
1:X:1203:A:OP1	11:I:33:GLY:O	2.38	0.42
1:X:1623:C:C4'	1:X:1624:A:O5'	2.67	0.42
1:X:805:G:C5	1:X:2419:C:C6	3.07	0.42
1:X:2852:G:O2'	1:X:2853:U:H5'	2.20	0.42
1:X:357:A:H2'	1:X:358:C:H5'	2.02	0.42
1:X:413:G:O2'	1:X:414:A:H5''	2.19	0.42
1:X:421:G:O2'	1:X:422:C:H5'	2.19	0.42
1:X:470:U:O4	1:X:481:A:C8	2.72	0.42
1:X:5:A:O2'	1:X:6:A:H5'	2.19	0.42
1:X:623:G:C3'	1:X:624:A:H5''	2.50	0.42
1:X:688:A:H4'	5:C:61:GLN:CG	2.49	0.42
1:X:781:G:H2'	1:X:782:U:O4'	2.19	0.42
30:4:19:ARG:HD2	30:4:24:LEU:CD2	2.46	0.42
5:C:48:ARG:H	5:C:48:ARG:HD2	1.84	0.42
7:E:171:LEU:N	7:E:171:LEU:HD12	2.35	0.42
9:G:106:TYR:O	9:G:106:TYR:CD2	2.73	0.42
9:G:61:ARG:NH2	9:G:61:ARG:HB3	2.35	0.42
13:K:94:TYR:CD2	13:K:115:LEU:O	2.72	0.42
14:L:47:ARG:C	14:L:49:GLN:H	2.23	0.42
16:N:14:HIS:CD2	16:N:32:TYR:CE2	3.07	0.42
18:P:93:LYS:HB2	18:P:129:ALA:HB3	2.01	0.42
18:P:28:ALA:HB2	18:P:71:VAL:HG22	2.02	0.42
19:Q:5:ASP:O	19:Q:7:LEU:HD12	2.20	0.42
23:U:51:ILE:O	23:U:52:ARG:HD3	2.18	0.42
1:X:1053:G:C6	1:X:1125:G:C2	3.08	0.42
1:X:1045:G:N2	1:X:1133:G:H1'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1174:G:C2	1:X:1175:A:C4	3.07	0.42
1:X:1499:A:C6	1:X:1500:U:N3	2.88	0.42
1:X:1970:G:O2'	1:X:1971:C:H5'	2.20	0.42
1:X:2629:U:OP1	10:H:35:THR:HG21	2.19	0.42
1:X:2790:C:H42	1:X:2806:G:H1	1.66	0.42
1:X:2825:A:N3	1:X:2825:A:C2'	2.80	0.42
1:X:396:U:C4	1:X:398:C:C6	3.07	0.42
1:X:454:G:C2	1:X:456:C:C2	3.07	0.42
1:X:806:A:OP2	1:X:2055:G:H5'	2.19	0.42
1:X:933:G:H2'	1:X:934:G:C8	2.55	0.42
26:Z:16:ARG:HD2	26:Z:16:ARG:C	2.40	0.42
1:X:659:G:C1'	29:3:46:LYS:HG3	2.49	0.42
29:3:60:LEU:HA	29:3:63:PRO:HG2	2.00	0.42
3:A:248:VAL:H	3:A:248:VAL:HG13	1.40	0.42
9:G:170:PRO:HB2	9:G:171:LEU:H	1.64	0.42
9:G:52:GLY:O	9:G:53:ARG:C	2.55	0.42
14:L:44:ASP:HB3	14:L:47:ARG:O	2.20	0.42
15:M:56:ALA:HB3	15:M:67:THR:H	1.84	0.42
15:M:82:PRO:O	15:M:83:PHE:C	2.58	0.42
15:M:99:VAL:HG22	15:M:100:ARG:N	2.34	0.42
1:X:456:C:P	16:N:2:PRO:HD3	2.60	0.42
17:O:11:GLN:HA	17:O:38:LEU:O	2.20	0.42
23:U:53:GLU:HA	23:U:58:LYS:HB2	2.02	0.42
1:X:1129:A:N6	1:X:1130:U:H3	2.18	0.42
1:X:128:C:C2'	1:X:129:A:H5''	2.46	0.42
1:X:1631:C:C5	1:X:1633:C:C6	3.07	0.42
1:X:224:G:N2	1:X:229:G:C6	2.87	0.42
1:X:2426:G:H4'	1:X:2427:A:C5'	2.49	0.42
1:X:2508:G:H5''	1:X:2509:A:H5''	2.01	0.42
1:X:2685:A:N1	1:X:2686:C:C2	2.87	0.42
1:X:2768:C:O2	1:X:2784:A:H2	2.02	0.42
1:X:424:G:H4'	1:X:425:A:OP1	2.19	0.42
1:X:843:G:O4'	1:X:2427:A:C2	2.73	0.42
1:X:98:U:N3	1:X:100:G:N2	2.67	0.42
1:X:334:G:H2'	5:C:162:ARG:NH1	2.35	0.42
11:I:76:LYS:HG3	11:I:111:SER:HB2	2.02	0.42
14:L:38:ILE:CD1	14:L:39:TYR:N	2.82	0.42
15:M:104:LEU:C	15:M:106:TYR:N	2.73	0.42
16:N:27:SER:HB2	16:N:31:GLN:HG3	2.02	0.42
17:O:38:LEU:HD13	17:O:39:PHE:N	2.35	0.42
18:P:107:ILE:CG2	18:P:117:ILE:HG12	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:26:LYS:HE3	21:S:26:LYS:HB2	1.80	0.42
22:T:20:TYR:O	22:T:21:LEU:HB2	2.20	0.42
22:T:23:VAL:HA	22:T:38:VAL:HG22	2.02	0.42
1:X:1099:A:O3'	1:X:1100:G:H8	2.03	0.42
1:X:1386:A:H2'	1:X:1387:G:O4'	2.19	0.42
1:X:1357:U:C4'	1:X:1397:A:C6	3.01	0.42
1:X:1928:G:C6	1:X:1929:U:C4	3.07	0.42
1:X:2036:G:OP1	4:B:144:ARG:HG3	2.20	0.42
1:X:177:U:O4	1:X:225:G:N1	2.53	0.42
1:X:2788:C:O2'	1:X:2789:U:H5'	2.19	0.42
1:X:816:U:C4	1:X:817:A:N7	2.88	0.42
1:X:2004:U:P	26:Z:12:SER:HG	2.42	0.42
3:A:252:GLY:HA3	3:A:256:LYS:HZ1	1.84	0.42
4:B:167:VAL:HG11	4:B:170:LEU:HD21	2.02	0.42
5:C:62:LYS:HD3	5:C:62:LYS:C	2.39	0.42
9:G:106:TYR:CZ	9:G:108:GLY:CA	3.03	0.42
10:H:104:GLU:OE2	10:H:125:LYS:NZ	2.53	0.42
10:H:9:ASP:O	10:H:95:ALA:HB1	2.19	0.42
1:X:589:C:H4'	16:N:31:GLN:CD	2.40	0.42
18:P:27:VAL:HG23	18:P:125:THR:HG22	2.01	0.42
19:Q:30:SER:O	19:Q:33:ALA:HB3	2.19	0.42
20:R:38:LEU:H	20:R:47:VAL:HB	1.84	0.42
1:X:1081:A:H62	1:X:1108:U:H4'	1.84	0.42
1:X:1492:A:N6	1:X:1531:C:C4	2.87	0.42
1:X:1666:G:H1	1:X:1991:C:N4	2.14	0.42
1:X:1703:C:H2'	1:X:1704:G:O4'	2.19	0.42
1:X:1969:G:N2	1:X:1970:G:C4	2.88	0.42
1:X:1988:A:C5'	1:X:1989:C:OP2	2.64	0.42
1:X:448:C:H5	1:X:449:C:C5	2.37	0.42
1:X:42:G:N2	1:X:450:C:C2	2.88	0.42
1:X:759:C:H1'	1:X:761:G:N2	2.35	0.42
1:X:817:A:C5'	1:X:818:G:OP1	2.68	0.42
2:Y:43:G:H5'	2:Y:44:C:H5'	2.01	0.42
2:Y:48:A:N6	2:Y:49:C:C4	2.88	0.42
2:Y:58:G:H5''	2:Y:59:A:OP1	2.19	0.42
1:X:2722:C:P	30:4:35:ARG:HH11	2.43	0.42
3:A:198:GLY:O	3:A:200:ALA:N	2.53	0.42
3:A:245:ARG:HA	3:A:253:LYS:NZ	2.35	0.42
3:A:71:ARG:HH22	3:A:150:PRO:CA	2.30	0.42
5:C:14:THR:HG22	5:C:15:ILE:N	2.33	0.42
5:C:149:LEU:HD11	5:C:170:LEU:HD22	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:43:ALA:C	11:I:45:LYS:N	2.72	0.42
16:N:39:LEU:HD23	16:N:39:LEU:HA	1.83	0.42
17:O:72:ARG:HA	17:O:82:ARG:O	2.20	0.42
19:Q:61:LYS:HA	19:Q:71:GLN:O	2.20	0.42
20:R:10:HIS:C	20:R:12:ASP:H	2.22	0.42
1:X:1255:A:C5	1:X:1256:C:C5	3.08	0.42
1:X:1299:A:N6	1:X:1342:U:C2	2.88	0.42
1:X:1379:A:H2'	1:X:1380:C:O4'	2.20	0.42
1:X:1744:G:N2	1:X:1746:A:H3'	2.35	0.42
1:X:1886:G:H2'	1:X:1887:G:C8	2.55	0.42
1:X:1947:G:HO2'	1:X:1950:C:P	2.42	0.42
1:X:2329:C:C3'	1:X:2329:C:C6	3.03	0.42
1:X:971:A:H61	12:J:83:ARG:NH2	2.13	0.42
10:H:10:VAL:HG23	10:H:17:ARG:C	2.39	0.41
10:H:116:ARG:NH1	15:M:38:LYS:CE	2.83	0.41
14:L:43:ILE:HG22	14:L:44:ASP:N	2.34	0.41
15:M:39:VAL:HG12	15:M:45:THR:CB	2.50	0.41
17:O:12:TYR:HB2	17:O:39:PHE:HB2	2.02	0.41
18:P:89:ARG:HG2	18:P:131:LYS:H	1.84	0.41
1:X:1455:C:H4'	1:X:1644:G:OP1	2.20	0.41
1:X:1674:C:H2'	1:X:1675:C:H6	1.84	0.41
1:X:2273:C:OP2	14:L:15:ARG:NH2	2.53	0.41
1:X:2312:A:H4'	1:X:2313:G:O5'	2.19	0.41
1:X:2417:U:O2'	1:X:2418:A:H5''	2.20	0.41
1:X:591:G:C3'	1:X:592:G:H8	2.33	0.41
1:X:758:G:H2'	1:X:759:C:OP1	2.20	0.41
1:X:791:G:H5'	3:A:49:ARG:NH2	2.35	0.41
26:Z:4:HIS:CD2	26:Z:4:HIS:H	2.38	0.41
1:X:2263:C:OP2	27:1:9:ILE:HD13	2.20	0.41
28:2:25:LYS:HE2	28:2:25:LYS:CA	2.51	0.41
29:3:13:ARG:NE	29:3:25:PHE:H	2.17	0.41
29:3:53:ALA:O	29:3:54:GLU:C	2.58	0.41
3:A:147:GLU:HG2	3:A:153:GLY:O	2.19	0.41
3:A:198:GLY:O	3:A:199:ASN:C	2.58	0.41
4:B:47:VAL:O	4:B:80:GLU:HA	2.20	0.41
5:C:17:LEU:HA	5:C:18:PRO:HD3	1.81	0.41
14:L:91:ARG:CD	14:L:91:ARG:H	2.33	0.41
15:M:85:SER:HA	15:M:86:PRO:HD3	1.89	0.41
16:N:24:PHE:O	16:N:29:SER:HB3	2.21	0.41
16:N:36:PHE:O	16:N:39:LEU:HB2	2.20	0.41
16:N:82:GLY:HA3	16:N:113:SER:OG	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:12:LYS:O	18:P:15:LYS:HB2	2.20	0.41
18:P:50:VAL:O	18:P:53:ALA:HB3	2.20	0.41
18:P:81:HIS:HD2	18:P:82:ASN:ND2	2.18	0.41
19:Q:52:GLY:HA3	19:Q:81:ARG:HB3	2.02	0.41
20:R:18:LYS:H	20:R:18:LYS:CD	2.21	0.41
21:S:120:LEU:CD2	21:S:120:LEU:C	2.88	0.41
21:S:51:LEU:N	21:S:51:LEU:HD23	2.28	0.41
1:X:1175:A:C2	1:X:1176:U:N3	2.88	0.41
1:X:1509:A:N7	1:X:1510:A:C5	2.88	0.41
1:X:1830:C:N3	1:X:1881:U:C5	2.88	0.41
1:X:192:G:C4'	1:X:193:A:H4'	2.49	0.41
1:X:1922:U:H5	1:X:1950:C:HO2'	1.66	0.41
1:X:1826:U:H4'	1:X:1952:A:C5	2.55	0.41
1:X:2324:G:OP2	27:1:40:TYR:CD2	2.73	0.41
1:X:1750:A:H4'	1:X:2695:C:O4'	2.20	0.41
1:X:2737:A:OP1	1:X:2737:A:H8	2.02	0.41
1:X:428:A:H2'	1:X:429:C:C6	2.55	0.41
1:X:448:C:C5	1:X:449:C:C5	3.07	0.41
1:X:615:C:H41	11:I:100:ARG:NH1	2.18	0.41
1:X:664:C:C6	1:X:666:U:H5	2.38	0.41
1:X:751:G:O2'	1:X:752:G:P	2.78	0.41
1:X:803:C:H4'	1:X:804:C:OP2	2.19	0.41
1:X:861:G:C2	1:X:943:U:H1'	2.55	0.41
2:Y:7:C:H2'	2:Y:8:C:C6	2.56	0.41
4:B:116:VAL:HG13	4:B:136:ARG:HE	1.85	0.41
5:C:108:ILE:HG23	5:C:112:GLN:HE21	1.85	0.41
6:D:4:LEU:O	6:D:5:LYS:HB3	2.21	0.41
10:H:116:ARG:HH21	15:M:40:ARG:HB2	1.85	0.41
10:H:29:ILE:HG21	10:H:123:PHE:HE1	1.84	0.41
13:K:18:VAL:O	13:K:19:ALA:C	2.56	0.41
14:L:60:LYS:HG3	14:L:64:LYS:HZ3	1.85	0.41
18:P:50:VAL:O	18:P:54:GLU:HG3	2.21	0.41
1:X:1769:U:C5	1:X:1775:A:C4	3.08	0.41
1:X:1834:G:C2	1:X:1884:A:C6	3.08	0.41
1:X:2340:C:O3'	29:3:28:GLY:HA2	2.20	0.41
1:X:2695:C:H2'	1:X:2696:A:C8	2.52	0.41
1:X:2665:G:C2	1:X:2704:U:O2	2.73	0.41
1:X:2660:C:C2	1:X:2707:G:N2	2.88	0.41
1:X:2617:G:C5	1:X:2755:A:C6	3.07	0.41
2:Y:91:A:H2'	2:Y:92:G:C8	2.55	0.41
27:1:17:GLY:O	27:1:18:THR:HB	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:476:G:O4'	28:2:16:HIS:CE1	2.73	0.41
3:A:232:HIS:CG	3:A:233:PRO:HD2	2.55	0.41
3:A:59:HIS:O	3:A:60:LYS:C	2.58	0.41
5:C:150:LEU:HD13	5:C:167:VAL:HB	2.03	0.41
1:X:825:C:C5'	11:I:30:ALA:HB1	2.49	0.41
13:K:76:VAL:O	13:K:79:VAL:HG13	2.20	0.41
16:N:74:MET:HE3	16:N:78:THR:HG22	2.02	0.41
1:X:1354:A:H4'	19:Q:56:MET:HG2	2.02	0.41
21:S:92:VAL:HG22	21:S:93:GLU:N	2.36	0.41
22:T:56:ASP:O	22:T:57:HIS:HB2	2.21	0.41
1:X:1277:G:H8	1:X:1277:G:O5'	2.02	0.41
1:X:1356:G:H5'	1:X:1614:C:OP2	2.20	0.41
1:X:169:C:H2'	1:X:170:U:H5'	2.03	0.41
1:X:1744:G:HO2'	1:X:1745:C:H6	1.67	0.41
1:X:2000:U:O2	26:Z:10:LYS:HB2	2.19	0.41
1:X:2426:G:C8	1:X:2479:U:H6	2.39	0.41
1:X:1937:G:H1'	1:X:2530:C:H4'	2.02	0.41
1:X:2651:U:C2'	1:X:2652:G:O5'	2.68	0.41
1:X:1061:A:C2	1:X:2731:G:C2	3.08	0.41
1:X:459:A:H2	1:X:466:A:H2'	1.84	0.41
1:X:578:U:H5''	1:X:579:G:OP2	2.20	0.41
1:X:686:C:H2'	1:X:687:G:H5'	2.02	0.41
1:X:742:G:O2'	1:X:776:G:H4'	2.20	0.41
1:X:771:C:O2'	1:X:772:G:H5'	2.21	0.41
1:X:968:C:C4	1:X:970:A:C5	3.09	0.41
1:X:99:U:H3'	1:X:100:G:C5'	2.50	0.41
2:Y:45:C:O2	6:D:90:THR:HB	2.20	0.41
3:A:122:PRO:HG2	3:A:123:GLU:OE1	2.20	0.41
4:B:124:GLY:HA3	4:B:135:HIS:O	2.20	0.41
5:C:133:PHE:O	5:C:136:TRP:HB3	2.20	0.41
5:C:158:ARG:O	5:C:159:ARG:C	2.58	0.41
12:J:11:ARG:HB3	12:J:12:LYS:H	1.48	0.41
12:J:59:PHE:O	12:J:60:ARG:C	2.59	0.41
15:M:28:ARG:CB	15:M:29:PRO:CD	2.88	0.41
15:M:33:VAL:CG2	15:M:51:GLU:HB2	2.36	0.41
16:N:25:TRP:O	16:N:28:ARG:HB2	2.21	0.41
17:O:80:TYR:CE2	17:O:82:ARG:CZ	3.03	0.41
18:P:36:ARG:O	18:P:39:ARG:HB2	2.21	0.41
20:R:14:LEU:HD22	20:R:16:PHE:CZ	2.56	0.41
22:T:69:PHE:C	22:T:70:ILE:HG13	2.40	0.41
1:X:1128:G:H3'	1:X:1129:A:C5'	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1313:U:H4'	1:X:1314:A:C5'	2.50	0.41
1:X:1380:C:H42	1:X:1799:A:H2	1.68	0.41
1:X:1885:C:C4'	3:A:245:ARG:HD2	2.50	0.41
1:X:201:G:H2'	1:X:202:A:C8	2.55	0.41
1:X:2572:U:H2'	1:X:2573:C:C6	2.56	0.41
31:X:2881:LMA:C12	31:X:2881:LMA:O55	2.68	0.41
1:X:404:A:N7	1:X:405:C:C4	2.89	0.41
1:X:30:G:C6	1:X:521:U:O2	2.74	0.41
1:X:788:G:C4	1:X:807:A:C8	3.09	0.41
1:X:88:G:C8	1:X:89:A:H8	2.37	0.41
30:4:15:LYS:HB2	30:4:26:ILE:CG1	2.50	0.41
1:X:1810:U:OP1	3:A:159:SER:HB3	2.21	0.41
4:B:5:LEU:HD13	4:B:49:ILE:HD13	2.03	0.41
5:C:117:LEU:HD23	5:C:117:LEU:C	2.41	0.41
7:E:7:GLN:H	7:E:8:PRO:CD	2.34	0.41
9:G:49:VAL:HG12	9:G:50:PRO:O	2.20	0.41
12:J:78:LYS:HA	12:J:88:LYS:NZ	2.36	0.41
20:R:22:VAL:HG13	20:R:81:VAL:C	2.38	0.41
20:R:24:VAL:HG11	20:R:28:LYS:O	2.20	0.41
24:V:15:ALA:O	24:V:18:ILE:HB	2.21	0.41
1:X:1049:C:C2	1:X:1129:A:C2	3.08	0.41
1:X:1373:G:H2'	1:X:1374:G:H5'	2.02	0.41
1:X:1467:U:H6	1:X:1467:U:C3'	2.34	0.41
1:X:1607:A:HO2'	1:X:1608:U:H6	1.68	0.41
1:X:1742:G:C6	1:X:1743:C:N4	2.89	0.41
1:X:1770:U:O2	1:X:1774:A:N6	2.54	0.41
1:X:1830:C:C4	1:X:1881:U:C5	3.09	0.41
1:X:2221:G:H2'	1:X:2222:U:O5'	2.20	0.41
1:X:2382:C:N3	1:X:2394:G:C2	2.88	0.41
1:X:2664:G:C2	1:X:2665:G:C8	3.09	0.41
1:X:2796:A:C2	1:X:2797:G:C5	3.08	0.41
1:X:459:A:H1'	1:X:461:A:H62	1.85	0.41
1:X:539:A:C6	1:X:2025:A:N3	2.88	0.41
1:X:614:G:C4	1:X:636:G:C2	3.09	0.41
1:X:814:G:OP2	5:C:56:ARG:CZ	2.69	0.41
1:X:931:G:H2'	1:X:932:G:O4'	2.20	0.41
3:A:211:GLY:C	3:A:213:SER:N	2.68	0.41
1:X:777:A:N3	3:A:214:ARG:NH1	2.68	0.41
3:A:220:PRO:O	3:A:221:HIS:O	2.38	0.41
3:A:247:PRO:HD3	3:A:253:LYS:HG3	2.03	0.41
4:B:116:VAL:CG2	4:B:136:ARG:CG	2.99	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:15:TRP:CD1	15:M:86:PRO:HD3	2.56	0.41
1:X:1268:U:H2'	5:C:66:ASN:HA	2.03	0.41
5:C:74:VAL:HA	5:C:75:PRO:HD3	1.84	0.41
7:E:136:ILE:N	7:E:136:ILE:HD12	2.35	0.41
7:E:156:ALA:O	7:E:157:TYR:CG	2.74	0.41
7:E:16:THR:O	7:E:26:VAL:HA	2.21	0.41
14:L:60:LYS:HZ2	14:L:64:LYS:CE	2.33	0.41
15:M:101:ARG:HH21	15:M:101:ARG:HG2	1.85	0.41
1:X:1276:U:C1'	26:Z:10:LYS:HG3	2.51	0.41
1:X:1290:A:H5''	13:K:40:LYS:NZ	2.35	0.41
1:X:1312:G:H5''	1:X:1313:U:P	2.61	0.41
1:X:173:A:O2'	1:X:2051:U:H5	2.03	0.41
1:X:1757:C:O2'	1:X:1758:C:H5'	2.20	0.41
1:X:1926:U:C1'	1:X:1928:G:H5'	2.51	0.41
1:X:1932:G:N2	1:X:1941:C:C2	2.89	0.41
1:X:1970:G:N2	1:X:1971:C:C2	2.89	0.41
1:X:2291:U:H2'	6:D:37:ASN:HD21	1.86	0.41
1:X:2405:A:H4'	1:X:2406:C:OP2	2.21	0.41
1:X:2863:U:O5'	1:X:2863:U:H6	2.04	0.41
1:X:2:G:O2'	1:X:3:U:H5'	2.20	0.41
1:X:646:C:O2'	1:X:650:U:H5''	2.21	0.41
11:I:61:PRO:CD	29:3:27:SER:HB3	2.46	0.41
3:A:178:LEU:C	3:A:180:SER:H	2.24	0.41
3:A:87:PRO:O	3:A:88:ASN:CB	2.65	0.41
4:B:101:LYS:HA	4:B:170:LEU:O	2.20	0.41
13:K:37:THR:OG1	13:K:40:LYS:HG3	2.20	0.41
13:K:54:THR:HG22	13:K:55:ALA:N	2.36	0.41
13:K:72:ASP:C	13:K:72:ASP:OD2	2.59	0.41
14:L:10:LYS:O	14:L:14:ARG:HG3	2.20	0.41
14:L:12:ARG:HG3	14:L:13:THR:HG23	2.02	0.41
14:L:73:LYS:O	14:L:74:ALA:C	2.59	0.41
19:Q:68:PHE:O	19:Q:69:ILE:O	2.38	0.41
22:T:43:THR:O	22:T:43:THR:CG2	2.55	0.41
1:X:1031:C:O2'	1:X:1032:A:OP2	2.30	0.41
1:X:1265:G:O2'	1:X:1266:G:C8	2.73	0.41
1:X:1974:U:C2'	1:X:1975:G:H5''	2.51	0.41
1:X:2441:U:H2'	1:X:2442:C:H6	1.83	0.41
1:X:2445:C:N4	1:X:2446:C:N4	2.69	0.41
1:X:2454:C:H42	1:X:2508:G:H22	1.68	0.41
1:X:1773:C:H1'	1:X:2588:U:C5'	2.51	0.41
1:X:2668:U:O2	1:X:2693:U:O5'	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:395:G:N3	1:X:406:G:N2	2.69	0.41
1:X:465:C:C2	1:X:467:U:C5	3.08	0.41
1:X:600:G:H2'	1:X:601:A:OP1	2.21	0.41
1:X:849:G:C5	1:X:850:C:C4	3.09	0.41
1:X:967:G:O6	12:J:17:ARG:CZ	2.69	0.41
2:Y:58:G:H5''	2:Y:59:A:P	2.60	0.41
27:1:14:SER:HB2	27:1:23:THR:N	2.35	0.41
1:X:696:U:H5'	28:2:30:ILE:HD11	2.02	0.41
4:B:50:GLY:HA2	4:B:77:ILE:O	2.21	0.41
1:X:334:G:C2	5:C:162:ARG:NH2	2.89	0.41
11:I:56:LEU:HB3	29:3:52:LYS:NZ	2.35	0.41
14:L:24:SER:C	14:L:26:ARG:H	2.23	0.41
15:M:5:ILE:N	15:M:5:ILE:HD12	2.36	0.41
21:S:13:LYS:HB2	21:S:13:LYS:HZ2	1.82	0.41
1:X:1042:G:H4'	30:4:6:SER:OG	2.21	0.41
1:X:105:G:H2'	1:X:106:G:H5'	2.02	0.41
1:X:123:A:C2	28:2:10:ARG:HA	2.56	0.41
1:X:1770:U:C2	1:X:1774:A:N7	2.89	0.41
1:X:1976:U:H4'	4:B:128:SER:HB3	2.02	0.41
1:X:2015:G:O4'	1:X:2015:G:P	2.79	0.41
1:X:2505:G:H1'	30:4:1:MET:CB	2.51	0.41
1:X:2594:U:H2'	1:X:2595:C:C6	2.56	0.41
1:X:2673:G:N3	1:X:2674:C:C6	2.89	0.41
1:X:496:C:H2'	1:X:497:C:H5'	2.02	0.41
1:X:579:G:H1'	1:X:994:A:N6	2.36	0.41
1:X:638:A:H4'	1:X:639:G:OP1	2.21	0.41
1:X:872:G:O2'	1:X:928:G:O6	2.36	0.41
3:A:146:LEU:HB3	3:A:156:LEU:HB2	2.02	0.41
3:A:39:PRO:HA	3:A:62:LEU:HD22	2.03	0.41
6:D:146:VAL:HB	6:D:147:ASP:H	1.62	0.41
15:M:13:LEU:HD12	15:M:13:LEU:N	2.35	0.41
15:M:83:PHE:N	15:M:83:PHE:HD1	2.19	0.41
16:N:14:HIS:CD2	16:N:32:TYR:CD2	3.09	0.41
18:P:37:LYS:O	18:P:40:LEU:N	2.54	0.41
19:Q:62:ARG:HB2	19:Q:63:LYS:H	1.74	0.41
21:S:149:ALA:HB1	21:S:160:LEU:HD13	2.02	0.41
22:T:12:ASN:HD22	22:T:14:ARG:HD3	1.86	0.41
22:T:18:PRO:O	22:T:19:LYS:O	2.38	0.41
1:X:1129:A:C5	1:X:1130:U:N3	2.89	0.41
1:X:1345:G:C5	1:X:1625:A:C6	3.08	0.41
1:X:1399:C:H2'	1:X:1400:A:C8	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1478:U:C2	1:X:1479:G:C8	3.09	0.41
1:X:1550:C:O2'	1:X:1551:U:H5''	2.20	0.41
1:X:1433:A:C5	1:X:1595:A:H2	2.39	0.41
1:X:1745:C:C2'	1:X:1746:A:O4'	2.66	0.41
1:X:1978:U:C2	1:X:1979:C:H5	2.34	0.41
1:X:2031:A:C6	1:X:2600:A:N1	2.89	0.41
1:X:2194:A:H3'	1:X:2195:C:C5'	2.41	0.41
1:X:2432:A:H2'	1:X:2433:G:C8	2.55	0.41
1:X:2477:C:O2'	1:X:2478:C:H5'	2.21	0.41
1:X:1938:U:O2'	1:X:2531:U:H5'	2.21	0.41
1:X:2691:C:O2'	1:X:2692:A:C5'	2.69	0.41
1:X:2736:U:C3'	30:4:19:ARG:HA	2.51	0.41
1:X:2762:G:H2'	1:X:2762:G:N3	2.35	0.41
1:X:2827:G:C6	1:X:2828:C:N3	2.88	0.41
1:X:14:A:C6	1:X:536:A:C2	3.08	0.41
26:Z:30:LEU:HD23	26:Z:30:LEU:HA	1.91	0.41
27:1:41:ASP:OD2	27:1:46:LYS:HD2	2.21	0.41
29:3:13:ARG:HG3	29:3:13:ARG:O	2.21	0.41
3:A:219:LYS:HD2	3:A:220:PRO:O	2.20	0.41
4:B:146:THR:CB	4:B:147:PRO:HD2	2.41	0.41
5:C:95:LEU:C	5:C:95:LEU:HD23	2.40	0.41
10:H:20:MET:O	10:H:53:ALA:HB1	2.21	0.41
12:J:68:ARG:O	12:J:102:ARG:NH2	2.54	0.41
12:J:17:ARG:O	12:J:18:MET:HB2	2.21	0.41
14:L:29:LEU:HD12	14:L:41:GLN:O	2.20	0.41
18:P:40:LEU:HD23	18:P:40:LEU:HA	1.87	0.41
20:R:16:PHE:HB3	20:R:82:ALA:HB1	2.02	0.41
24:V:25:LEU:HD13	24:V:46:LEU:CD1	2.48	0.41
1:X:1147:G:C4	1:X:1148:G:C8	3.09	0.41
1:X:1698:C:H1'	1:X:1753:A:H2'	2.03	0.41
1:X:1923:U:C4'	1:X:1924:C:O5'	2.69	0.41
1:X:2182:A:C2	1:X:2204:A:C2	3.09	0.41
1:X:965:G:O2'	1:X:2253:A:N1	2.45	0.41
1:X:82:G:H21	1:X:83:A:N6	2.20	0.41
1:X:934:G:H1'	22:T:26:PHE:CD1	2.56	0.41
2:Y:83:C:H2'	2:Y:84:G:O4'	2.21	0.41
6:D:30:ARG:O	6:D:158:THR:HB	2.20	0.40
4:B:152:LYS:HB2	9:G:106:TYR:HB3	2.01	0.40
10:H:73:VAL:O	10:H:96:ALA:HB1	2.21	0.40
1:X:1300:A:C8	13:K:106:ASP:OD2	2.74	0.40
16:N:72:HIS:CD2	16:N:110:VAL:HG21	2.45	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:13:ARG:O	16:N:16:LYS:HB2	2.21	0.40
17:O:5:ILE:HB	17:O:6:GLN:H	1.67	0.40
20:R:55:THR:OG1	20:R:56:LYS:N	2.53	0.40
20:R:5:SER:O	20:R:6:ALA:O	2.39	0.40
1:X:1033:G:N2	1:X:1035:G:N2	2.69	0.40
1:X:1174:G:N3	1:X:1175:A:C8	2.89	0.40
1:X:1625:A:H1'	1:X:1632:A:H1'	2.02	0.40
1:X:1672:A:O2'	4:B:115:GLY:HA2	2.20	0.40
1:X:1761:G:H2'	1:X:1762:C:H6	1.86	0.40
1:X:1950:C:C4	1:X:1951:G:N7	2.89	0.40
1:X:2043:A:C1'	1:X:2481:G:O4'	2.69	0.40
1:X:2705:A:N6	1:X:2707:G:N2	2.69	0.40
2:Y:26:G:N3	2:Y:58:G:C6	2.90	0.40
27:1:12:MET:HB2	27:1:27:ASN:OD1	2.20	0.40
3:A:54:PHE:HA	3:A:218:ARG:HH21	1.86	0.40
5:C:23:ASN:HB3	5:C:26:VAL:CG2	2.52	0.40
14:L:99:ARG:HG3	14:L:100:VAL:N	2.36	0.40
15:M:66:PHE:HD2	15:M:83:PHE:HE1	1.65	0.40
18:P:62:ARG:O	18:P:65:SER:HB2	2.20	0.40
20:R:16:PHE:CZ	20:R:46:VAL:CG2	3.04	0.40
1:X:1202:U:O2'	1:X:1203:A:H5'	2.21	0.40
1:X:573:C:HO2'	1:X:1266:G:H1	1.69	0.40
1:X:1281:A:H2'	1:X:1282:A:O4'	2.21	0.40
1:X:1475:U:H3'	1:X:1475:U:H6	1.86	0.40
1:X:1978:U:C2'	1:X:1979:C:OP1	2.69	0.40
1:X:2002:A:N7	26:Z:9:LYS:NZ	2.63	0.40
1:X:2041:A:N1	31:X:2881:LMA:C40	2.84	0.40
1:X:2043:A:O2'	1:X:2044:G:H5'	2.20	0.40
1:X:2282:G:N3	1:X:2293:G:N2	2.69	0.40
1:X:2756:A:OP1	1:X:2756:A:H3'	2.21	0.40
1:X:334:G:H4'	1:X:335:A:C5'	2.51	0.40
1:X:59:G:O6	1:X:62:U:N3	2.55	0.40
1:X:760:U:C5	26:Z:3:LYS:CE	3.03	0.40
1:X:769:C:C4	1:X:770:U:C4	3.09	0.40
1:X:824:U:H1'	1:X:1264:C:O4'	2.21	0.40
4:B:136:ARG:NH2	4:B:157:ALA:HB2	2.37	0.40
1:X:2753:C:H5''	4:B:164:ARG:HG2	2.02	0.40
11:I:108:LEU:HD22	11:I:120:VAL:HG11	2.03	0.40
12:J:29:ALA:O	12:J:106:GLU:HG3	2.21	0.40
13:K:29:LEU:HD23	13:K:29:LEU:HA	1.90	0.40
1:X:2273:C:OP1	14:L:95:LYS:HG2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:24:LEU:HD11	15:M:34:ARG:NH2	2.37	0.40
20:R:83:LEU:O	20:R:90:LYS:HE2	2.20	0.40
21:S:163:ASP:HA	21:S:164:PRO:HD3	1.88	0.40
24:V:2:LYS:N	24:V:3:PRO:CD	2.84	0.40
1:X:1814:G:H2'	1:X:1815:G:H8	1.86	0.40
1:X:2013:A:H5''	1:X:2014:A:OP1	2.21	0.40
1:X:2665:G:C6	1:X:2666:U:C4	3.09	0.40
1:X:2765:C:O2'	1:X:2766:U:H5'	2.21	0.40
1:X:2609:G:N3	1:X:2868:G:C2	2.89	0.40
1:X:514:G:N3	1:X:514:G:C2'	2.84	0.40
1:X:617:U:O4'	1:X:617:U:O2	2.40	0.40
1:X:75:C:C2'	1:X:76:C:H5'	2.51	0.40
1:X:2264:C:C4	27:1:28:ARG:NH2	2.89	0.40
29:3:13:ARG:HH12	29:3:26:LYS:N	2.19	0.40
3:A:132:LEU:HD23	3:A:132:LEU:N	2.36	0.40
3:A:207:LEU:O	3:A:212:ARG:HB3	2.21	0.40
3:A:234:HIS:CE1	3:A:253:LYS:NZ	2.90	0.40
3:A:69:LYS:HG2	3:A:70:ARG:N	2.36	0.40
5:C:149:LEU:HD11	5:C:170:LEU:HB2	2.02	0.40
5:C:39:ARG:HH21	5:C:91:TYR:HB2	1.87	0.40
9:G:46:ALA:HB1	9:G:54:LEU:HD22	2.03	0.40
9:G:90:LEU:HD12	9:G:90:LEU:N	2.36	0.40
10:H:134:LEU:HD23	10:H:134:LEU:HA	1.81	0.40
10:H:4:PRO:O	10:H:5:GLN:CB	2.69	0.40
12:J:64:LYS:HZ1	12:J:110:VAL:HG13	1.84	0.40
17:O:36:LYS:HE3	17:O:55:THR:C	2.41	0.40
20:R:44:GLN:HE21	20:R:78:ALA:HB2	1.86	0.40
20:R:48:VAL:O	20:R:50:GLY:N	2.54	0.40
22:T:32:LYS:N	22:T:35:ASN:HD22	2.20	0.40
23:U:39:LYS:O	23:U:40:ARG:HB2	2.22	0.40
1:X:1468:A:O5'	1:X:1468:A:H8	2.05	0.40
1:X:1537:U:O2'	1:X:1538:A:H5'	2.22	0.40
1:X:1609:G:H2'	1:X:1610:A:O4'	2.21	0.40
1:X:1652:G:H2'	1:X:1653:C:C6	2.56	0.40
1:X:1683:G:C2'	1:X:1684:G:H5'	2.51	0.40
1:X:1725:C:H42	1:X:1741:G:H1	1.70	0.40
1:X:1841:G:H2'	1:X:1842:G:H5'	2.04	0.40
1:X:1947:G:N1	1:X:1950:C:C4	2.89	0.40
1:X:2059:U:H5	1:X:2575:U:O2	2.05	0.40
1:X:2348:A:O2'	1:X:2349:G:H5'	2.21	0.40
1:X:2625:U:H2'	1:X:2626:U:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2614:A:C2	1:X:2764:U:N3	2.90	0.40
1:X:2817:A:C2	1:X:2851:G:C2	3.10	0.40
1:X:2819:G:H2'	1:X:2820:C:C6	2.55	0.40
1:X:448:C:C5	1:X:449:C:C4	3.03	0.40
1:X:521:U:C4	1:X:522:G:C2	3.10	0.40
1:X:688:A:N6	1:X:689:A:N6	2.69	0.40
1:X:784:U:H2'	1:X:785:U:C6	2.57	0.40
2:Y:55:C:H2'	2:Y:56:G:O4'	2.21	0.40
28:2:34:ARG:HH11	28:2:42:LEU:CG	2.34	0.40
29:3:49:VAL:HB	29:3:52:LYS:HG2	2.03	0.40
4:B:116:VAL:CG2	4:B:136:ARG:HG3	2.52	0.40
4:B:49:ILE:HD13	4:B:49:ILE:HG21	1.85	0.40
6:D:41:GLY:HA2	6:D:44:LYS:O	2.21	0.40
9:G:75:ILE:HG23	9:G:140:GLN:HE21	1.86	0.40
10:H:55:VAL:HG12	10:H:56:LYS:N	2.36	0.40
11:I:45:LYS:HE3	11:I:47:ALA:HB3	2.03	0.40
11:I:77:LEU:HD22	11:I:110:ALA:HA	2.03	0.40
12:J:64:LYS:CD	12:J:108:ALA:O	2.70	0.40
1:X:1261:G:O2'	16:N:3:ARG:HA	2.22	0.40
18:P:42:VAL:O	18:P:44:VAL:N	2.55	0.40
1:X:1742:G:C2	1:X:1743:C:N3	2.89	0.40
1:X:177:U:H4'	23:U:40:ARG:HG3	2.03	0.40
1:X:1951:G:O2'	1:X:1952:A:O5'	2.30	0.40
1:X:2046:C:C5	1:X:2047:C:C4	3.09	0.40
1:X:2557:G:O2'	1:X:2558:C:H5'	2.21	0.40
1:X:2659:C:C2	1:X:2660:C:C5	3.09	0.40
1:X:2751:C:H2'	1:X:2752:C:H6	1.87	0.40
1:X:5:A:C2	1:X:2873:G:C2	3.10	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	A	251/274 (92%)	195 (78%)	44 (18%)	12 (5%)	2	18
4	B	203/211 (96%)	160 (79%)	29 (14%)	14 (7%)	1	9
5	C	192/205 (94%)	143 (74%)	37 (19%)	12 (6%)	1	11
6	D	175/180 (97%)	137 (78%)	32 (18%)	6 (3%)	4	27
7	E	169/185 (91%)	142 (84%)	20 (12%)	7 (4%)	3	22
8	F	61/144 (42%)	48 (79%)	12 (20%)	1 (2%)	11	47
9	G	140/174 (80%)	104 (74%)	27 (19%)	9 (6%)	1	11
10	H	132/134 (98%)	111 (84%)	17 (13%)	4 (3%)	5	30
11	I	132/156 (85%)	82 (62%)	31 (24%)	19 (14%)	0	1
12	J	134/141 (95%)	96 (72%)	27 (20%)	11 (8%)	1	6
13	K	111/116 (96%)	89 (80%)	14 (13%)	8 (7%)	1	8
14	L	102/114 (90%)	73 (72%)	26 (26%)	3 (3%)	5	31
15	M	106/166 (64%)	82 (77%)	18 (17%)	6 (6%)	2	15
16	N	115/118 (98%)	95 (83%)	16 (14%)	4 (4%)	4	26
17	O	92/100 (92%)	68 (74%)	17 (18%)	7 (8%)	1	7
18	P	124/134 (92%)	101 (82%)	18 (14%)	5 (4%)	3	23
19	Q	91/95 (96%)	63 (69%)	19 (21%)	9 (10%)	1	4
20	R	108/115 (94%)	70 (65%)	26 (24%)	12 (11%)	0	3
21	S	173/237 (73%)	135 (78%)	32 (18%)	6 (4%)	4	26
22	T	72/91 (79%)	53 (74%)	18 (25%)	1 (1%)	13	50
23	U	70/81 (86%)	50 (71%)	13 (19%)	7 (10%)	1	4
24	V	63/67 (94%)	55 (87%)	5 (8%)	3 (5%)	2	18
25	W	53/55 (96%)	47 (89%)	6 (11%)	0	100	100
26	Z	55/60 (92%)	42 (76%)	9 (16%)	4 (7%)	1	8
27	1	51/55 (93%)	30 (59%)	15 (29%)	6 (12%)	0	2
28	2	44/47 (94%)	37 (84%)	5 (11%)	2 (4%)	3	20
29	3	57/66 (86%)	34 (60%)	18 (32%)	5 (9%)	1	5
30	4	35/37 (95%)	29 (83%)	6 (17%)	0	100	100
All	All	3111/3558 (87%)	2371 (76%)	557 (18%)	183 (6%)	2	14

All (183) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	220	PRO
3	A	221	HIS
3	A	248	VAL
4	B	135	HIS
4	B	147	PRO
4	B	148	GLY
4	B	202	ALA
5	C	9	GLN
5	C	68	ARG
10	H	42	LYS
10	H	115	ALA
11	I	36	GLY
11	I	58	ALA
12	J	21	ASP
13	K	6	ALA
13	K	91	PRO
13	K	100	VAL
15	M	17	GLU
16	N	5	LYS
16	N	94	VAL
19	Q	59	PRO
19	Q	61	LYS
19	Q	69	ILE
19	Q	83	ALA
20	R	6	ALA
20	R	60	PRO
24	V	3	PRO
27	1	9	ILE
27	1	30	ASN
28	2	42	LEU
29	3	14	ILE
29	3	60	LEU
3	A	47	ARG
3	A	48	GLY
3	A	152	LYS
4	B	123	ALA
4	B	132	LYS
5	C	22	VAL
5	C	121	ASP
7	E	165	VAL
8	F	120	VAL
9	G	68	PRO
9	G	170	PRO

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Mol	Chain	Res	Type
11	I	38	LYS
11	I	44	GLY
11	I	53	ARG
11	I	86	THR
11	I	88	PHE
12	J	13	GLN
12	J	26	ASP
12	J	83	ARG
12	J	136	GLU
13	K	20	LEU
13	K	93	GLY
14	L	45	ASP
15	M	28	ARG
15	M	105	TYR
16	N	8	ILE
17	O	8	GLY
17	O	80	TYR
18	P	32	ARG
18	P	46	ARG
19	Q	63	LYS
19	Q	74	ASP
19	Q	87	SER
20	R	26	SER
20	R	63	THR
20	R	94	VAL
21	S	26	LYS
21	S	91	PRO
22	T	19	LYS
23	U	16	ASN
23	U	31	GLY
23	U	60	VAL
26	Z	37	HIS
27	1	34	LYS
27	1	42	PRO
29	3	31	HIS
3	A	157	ALA
5	C	128	ALA
5	C	159	ARG
7	E	55	PRO
7	E	173	ALA
10	H	27	SER
10	H	116	ARG

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Mol	Chain	Res	Type
11	I	33	GLY
12	J	10	PHE
12	J	17	ARG
13	K	7	GLY
15	M	29	PRO
16	N	92	ARG
17	O	25	LEU
17	O	79	GLN
18	P	43	ASP
20	R	5	SER
21	S	87	THR
21	S	88	TYR
23	U	15	VAL
27	1	31	THR
28	2	8	ASN
29	3	32	GLN
3	A	56	GLY
3	A	126	PRO
3	A	253	LYS
4	B	14	ILE
4	B	122	PHE
4	B	137	ARG
5	C	10	ASN
5	C	67	ALA
6	D	146	VAL
7	E	7	GLN
7	E	12	PRO
9	G	67	ARG
9	G	97	ASP
11	I	30	ALA
11	I	65	PHE
11	I	81	GLN
11	I	91	ASP
12	J	79	PRO
12	J	139	ASP
13	K	13	ASN
14	L	60	LYS
15	M	25	PRO
17	O	24	SER
19	Q	65	VAL
20	R	49	GLU
20	R	85	ASP

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Mol	Chain	Res	Type
21	S	7	PRO
21	S	156	GLU
23	U	30	VAL
23	U	39	LYS
24	V	10	GLN
3	A	55	ILE
3	A	113	THR
4	B	43	GLY
4	B	95	ILE
4	B	115	GLY
4	B	136	ARG
5	C	15	ILE
6	D	21	GLY
6	D	52	LYS
9	G	107	GLN
9	G	108	GLY
9	G	118	ALA
9	G	163	PRO
11	I	37	GLN
11	I	57	ILE
11	I	68	VAL
12	J	111	THR
13	K	56	LYS
14	L	53	ALA
17	O	10	LYS
18	P	20	LEU
20	R	7	GLY
20	R	83	LEU
29	3	13	ARG
6	D	77	PHE
6	D	122	PHE
11	I	63	ARG
12	J	18	MET
15	M	83	PHE
17	O	66	GLY
26	Z	53	ASP
11	I	31	GLY
11	I	61	PRO
18	P	132	GLY
4	B	124	GLY
5	C	78	VAL
6	D	174	GLY

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Mol	Chain	Res	Type
7	E	118	PRO
9	G	64	GLY
23	U	14	VAL
24	V	18	ILE
5	C	175	VAL
20	R	51	VAL
20	R	65	PRO
26	Z	4	HIS
26	Z	5	PRO
5	C	103	GLY
7	E	107	ILE
11	I	122	VAL
19	Q	60	GLY
27	1	49	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	
3	A	194/215 (90%)	184 (95%)	10 (5%)	27	64
4	B	155/157 (99%)	149 (96%)	6 (4%)	37	72
5	C	154/163 (94%)	147 (96%)	7 (4%)	32	68
6	D	153/156 (98%)	150 (98%)	3 (2%)	60	84
7	E	136/144 (94%)	136 (100%)	0	100	100
8	F	46/107 (43%)	46 (100%)	0	100	100
9	G	118/146 (81%)	115 (98%)	3 (2%)	53	81
10	H	103/103 (100%)	94 (91%)	9 (9%)	12	41
11	I	101/121 (84%)	97 (96%)	4 (4%)	36	71
12	J	110/115 (96%)	108 (98%)	2 (2%)	64	85
13	K	90/93 (97%)	82 (91%)	8 (9%)	11	40
14	L	74/82 (90%)	68 (92%)	6 (8%)	14	46
15	M	94/134 (70%)	87 (93%)	7 (7%)	16	50

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
16	N	96/97 (99%)	93 (97%)	3 (3%)	45	76
17	O	75/79 (95%)	72 (96%)	3 (4%)	36	71
18	P	108/115 (94%)	101 (94%)	7 (6%)	20	56
19	Q	75/76 (99%)	70 (93%)	5 (7%)	19	55
20	R	91/96 (95%)	84 (92%)	7 (8%)	15	48
21	S	149/192 (78%)	146 (98%)	3 (2%)	60	84
22	T	55/67 (82%)	53 (96%)	2 (4%)	40	73
23	U	57/66 (86%)	55 (96%)	2 (4%)	41	74
24	V	53/55 (96%)	53 (100%)	0	100	100
25	W	48/48 (100%)	48 (100%)	0	100	100
26	Z	51/53 (96%)	47 (92%)	4 (8%)	15	48
27	1	46/48 (96%)	41 (89%)	5 (11%)	7	30
28	2	39/40 (98%)	33 (85%)	6 (15%)	3	15
29	3	46/52 (88%)	43 (94%)	3 (6%)	20	56
30	4	35/35 (100%)	35 (100%)	0	100	100
All	All	2552/2855 (89%)	2437 (96%)	115 (4%)	32	68

All (115) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	44	ARG
3	A	49	ARG
3	A	69	LYS
3	A	165	GLN
3	A	199	ASN
3	A	202	HIS
3	A	209	LYS
3	A	219	LYS
3	A	245	ARG
3	A	246	VAL
4	B	44	TYR
4	B	75	THR
4	B	87	ASP
4	B	119	ARG
4	B	137	ARG
4	B	154	LYS
5	C	31	VAL

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Mol	Chain	Res	Type
5	C	62	LYS
5	C	71	ASP
5	C	74	VAL
5	C	91	TYR
5	C	163	ASN
5	C	180	ILE
6	D	51	ASP
6	D	80	ARG
6	D	112	ARG
9	G	104	THR
9	G	113	GLU
9	G	154	GLU
10	H	1	MET
10	H	8	LEU
10	H	9	ASP
10	H	10	VAL
10	H	23	ARG
10	H	29	ILE
10	H	41	ASN
10	H	81	ILE
10	H	109	ARG
11	I	39	SER
11	I	49	PHE
11	I	53	ARG
11	I	60	LEU
12	J	8	THR
12	J	64	LYS
13	K	3	HIS
13	K	5	LYS
13	K	37	THR
13	K	48	VAL
13	K	71	HIS
13	K	91	PRO
13	K	95	THR
13	K	96	ARG
14	L	31	VAL
14	L	38	ILE
14	L	42	ILE
14	L	45	ASP
14	L	60	LYS
14	L	91	ARG
15	M	5	ILE

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Mol	Chain	Res	Type
15	M	20	HIS
15	M	25	PRO
15	M	31	ASP
15	M	85	SER
15	M	92	THR
15	M	98	LYS
16	N	22	LYS
16	N	30	LYS
16	N	93	LYS
17	O	5	ILE
17	O	18	ASP
17	O	87	ARG
18	P	32	ARG
18	P	36	ARG
18	P	39	ARG
18	P	65	SER
18	P	124	ILE
18	P	125	THR
18	P	126	ILE
19	Q	5	ASP
19	Q	7	LEU
19	Q	12	ILE
19	Q	36	THR
19	Q	62	ARG
20	R	10	HIS
20	R	11	ASN
20	R	15	HIS
20	R	18	LYS
20	R	55	THR
20	R	71	GLN
20	R	112	LYS
21	S	34	LEU
21	S	71	MET
21	S	82	ASP
22	T	15	ASP
22	T	64	ASP
23	U	32	ARG
23	U	78	ILE
26	Z	12	SER
26	Z	23	HIS
26	Z	41	LEU
26	Z	58	LEU

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Mol	Chain	Res	Type
27	1	8	ILE
27	1	15	SER
27	1	34	LYS
27	1	51	ARG
27	1	54	LYS
28	2	5	TYR
28	2	10	ARG
28	2	12	ARG
28	2	14	LYS
28	2	15	THR
28	2	44	VAL
29	3	31	HIS
29	3	39	ASP
29	3	46	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (33) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	155	GLN
3	A	167	GLN
3	A	199	ASN
5	C	132	ASN
5	C	163	ASN
5	C	176	ASN
6	D	37	ASN
7	E	61	HIS
9	G	73	ASN
9	G	107	GLN
9	G	129	HIS
9	G	145	HIS
10	H	46	HIS
12	J	46	ASN
12	J	47	GLN
13	K	24	GLN
14	L	41	GLN
14	L	97	HIS
16	N	14	HIS
16	N	37	GLN
16	N	72	HIS
16	N	81	ASN
17	O	88	GLN
18	P	73	ASN

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Mol	Chain	Res	Type
18	P	81	HIS
18	P	82	ASN
20	R	29	HIS
20	R	71	GLN
21	S	121	GLN
22	T	12	ASN
22	T	35	ASN
26	Z	29	ASN
26	Z	44	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	X	2647/2880 (91%)	473 (17%)	0
2	Y	119/123 (96%)	18 (15%)	0
All	All	2766/3003 (92%)	491 (17%)	0

All (491) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	X	4	C
1	X	13	A
1	X	14	A
1	X	34	U
1	X	35	G
1	X	39	C
1	X	45	C
1	X	49	U
1	X	59	G
1	X	63	A
1	X	70	A
1	X	74	G
1	X	76	C
1	X	83	A
1	X	87	G
1	X	88	G
1	X	89	A
1	X	90	G
1	X	98	U
1	X	100	G
1	X	101	A

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Mol	Chain	Res	Type
1	X	111	G
1	X	116	A
1	X	118	U
1	X	123	A
1	X	129	A
1	X	136	A
1	X	143	A
1	X	155	G
1	X	157	G
1	X	158	A
1	X	173	A
1	X	176	A
1	X	177	U
1	X	178	C
1	X	193	A
1	X	199	A
1	X	206	U
1	X	210	A
1	X	219	G
1	X	225	G
1	X	226	C
1	X	229	G
1	X	242	A
1	X	243	G
1	X	304	A
1	X	305	A
1	X	312	G
1	X	318	G
1	X	323	G
1	X	333	A
1	X	334	G
1	X	335	A
1	X	340	G
1	X	342	G
1	X	343	A
1	X	399	G
1	X	400	U
1	X	414	A
1	X	418	C
1	X	424	G
1	X	425	A
1	X	441	A

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Mol	Chain	Res	Type
1	X	456	C
1	X	460	U
1	X	463	C
1	X	467	U
1	X	468	A
1	X	469	G
1	X	482	A
1	X	484	G
1	X	491	A
1	X	492	G
1	X	497	C
1	X	515	A
1	X	537	C
1	X	538	A
1	X	539	A
1	X	540	G
1	X	541	C
1	X	542	A
1	X	543	G
1	X	554	U
1	X	555	U
1	X	556	A
1	X	557	U
1	X	572	G
1	X	578	U
1	X	581	A
1	X	582	G
1	X	583	C
1	X	584	A
1	X	587	A
1	X	595	A
1	X	602	C
1	X	613	A
1	X	614	G
1	X	624	A
1	X	625	A
1	X	626	A
1	X	627	A
1	X	628	A
1	X	631	G
1	X	633	G
1	X	636	G

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Mol	Chain	Res	Type
1	X	648	A
1	X	649	G
1	X	652	C
1	X	654	A
1	X	655	A
1	X	657	A
1	X	662	G
1	X	665	A
1	X	666	U
1	X	669	G
1	X	682	G
1	X	683	A
1	X	699	G
1	X	741	G
1	X	743	A
1	X	748	A
1	X	751	G
1	X	752	G
1	X	753	U
1	X	759	C
1	X	760	U
1	X	761	G
1	X	765	C
1	X	766	A
1	X	777	A
1	X	781	G
1	X	789	G
1	X	790	A
1	X	795	A
1	X	797	A
1	X	798	G
1	X	803	C
1	X	804	C
1	X	805	G
1	X	806	A
1	X	807	A
1	X	818	G
1	X	825	C
1	X	832	A
1	X	840	U
1	X	841	G
1	X	859	U

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Mol	Chain	Res	Type
1	X	919	U
1	X	921	A
1	X	922	A
1	X	926	C
1	X	939	C
1	X	940	G
1	X	944	A
1	X	952	A
1	X	956	A
1	X	957	G
1	X	969	U
1	X	970	A
1	X	972	C
1	X	983	G
1	X	984	A
1	X	985	G
1	X	994	A
1	X	1006	C
1	X	1007	A
1	X	1016	C
1	X	1019	U
1	X	1023	U
1	X	1032	A
1	X	1033	G
1	X	1037	U
1	X	1044	U
1	X	1051	U
1	X	1054	C
1	X	1056	U
1	X	1057	A
1	X	1058	G
1	X	1060	C
1	X	1070	G
1	X	1078	A
1	X	1081	A
1	X	1082	G
1	X	1087	C
1	X	1090	C
1	X	1097	A
1	X	1098	G
1	X	1099	A
1	X	1108	U

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Mol	Chain	Res	Type
1	X	1119	U
1	X	1123	G
1	X	1128	G
1	X	1129	A
1	X	1142	G
1	X	1145	C
1	X	1146	G
1	X	1148	G
1	X	1149	G
1	X	1152	C
1	X	1153	A
1	X	1167	A
1	X	1168	G
1	X	1183	C
1	X	1192	A
1	X	1220	G
1	X	1223	G
1	X	1224	A
1	X	1249	G
1	X	1250	A
1	X	1266	G
1	X	1269	G
1	X	1275	A
1	X	1278	A
1	X	1279	G
1	X	1282	A
1	X	1284	G
1	X	1285	A
1	X	1288	A
1	X	1289	A
1	X	1299	A
1	X	1301	U
1	X	1313	U
1	X	1314	A
1	X	1325	U
1	X	1326	U
1	X	1340	C
1	X	1342	U
1	X	1345	G
1	X	1358	C
1	X	1359	G
1	X	1378	A

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Mol	Chain	Res	Type
1	X	1381	G
1	X	1391	A
1	X	1392	U
1	X	1393	G
1	X	1398	G
1	X	1405	A
1	X	1409	U
1	X	1413	U
1	X	1428	G
1	X	1430	G
1	X	1432	G
1	X	1434	U
1	X	1440	G
1	X	1442	C
1	X	1443	G
1	X	1460	G
1	X	1465	G
1	X	1468	A
1	X	1469	U
1	X	1470	G
1	X	1475	U
1	X	1476	G
1	X	1482	U
1	X	1490	U
1	X	1497	C
1	X	1498	G
1	X	1506	C
1	X	1528	C
1	X	1551	U
1	X	1552	C
1	X	1553	G
1	X	1554	G
1	X	1562	G
1	X	1563	U
1	X	1570	C
1	X	1571	G
1	X	1574	A
1	X	1575	C
1	X	1585	A
1	X	1601	U
1	X	1602	G
1	X	1608	U

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Mol	Chain	Res	Type
1	X	1619	A
1	X	1624	A
1	X	1625	A
1	X	1626	A
1	X	1632	A
1	X	1634	A
1	X	1635	G
1	X	1648	C
1	X	1651	U
1	X	1656	U
1	X	1657	A
1	X	1665	C
1	X	1668	G
1	X	1677	C
1	X	1686	A
1	X	1691	G
1	X	1692	C
1	X	1701	C
1	X	1710	U
1	X	1712	G
1	X	1714	A
1	X	1717	A
1	X	1718	A
1	X	1747	G
1	X	1754	G
1	X	1755	G
1	X	1764	A
1	X	1775	A
1	X	1782	A
1	X	1790	G
1	X	1791	C
1	X	1793	A
1	X	1801	C
1	X	1802	A
1	X	1807	A
1	X	1808	C
1	X	1812	U
1	X	1821	A
1	X	1825	C
1	X	1831	G
1	X	1842	G
1	X	1868	A

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Mol	Chain	Res	Type
1	X	1884	A
1	X	1910	A
1	X	1919	A
1	X	1920	A
1	X	1921	A
1	X	1922	U
1	X	1923	U
1	X	1924	C
1	X	1927	U
1	X	1928	G
1	X	1938	U
1	X	1939	U
1	X	1947	G
1	X	1949	A
1	X	1950	C
1	X	1953	A
1	X	1954	A
1	X	1955	G
1	X	1965	U
1	X	1975	G
1	X	1976	U
1	X	1979	C
1	X	1980	A
1	X	1988	A
1	X	2006	G
1	X	2009	U
1	X	2014	A
1	X	2015	G
1	X	2016	A
1	X	2017	U
1	X	2019	C
1	X	2026	C
1	X	2029	G
1	X	2038	C
1	X	2039	G
1	X	2043	A
1	X	2044	G
1	X	2045	A
1	X	2046	C
1	X	2052	G
1	X	2075	U
1	X	2083	G

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Mol	Chain	Res	Type
1	X	2171	U
1	X	2181	A
1	X	2190	A
1	X	2191	A
1	X	2192	U
1	X	2195	C
1	X	2199	C
1	X	2200	G
1	X	2205	C
1	X	2218	G
1	X	2238	G
1	X	2241	U
1	X	2242	C
1	X	2246	A
1	X	2247	A
1	X	2259	G
1	X	2262	C
1	X	2265	A
1	X	2266	A
1	X	2272	A
1	X	2284	U
1	X	2285	U
1	X	2286	G
1	X	2287	G
1	X	2288	A
1	X	2298	U
1	X	2300	G
1	X	2301	A
1	X	2306	A
1	X	2313	G
1	X	2315	A
1	X	2324	G
1	X	2325	A
1	X	2326	C
1	X	2362	G
1	X	2364	C
1	X	2386	G
1	X	2396	C
1	X	2398	U
1	X	2402	U
1	X	2404	A
1	X	2405	A

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Mol	Chain	Res	Type
1	X	2407	G
1	X	2410	U
1	X	2418	A
1	X	2420	C
1	X	2426	G
1	X	2427	A
1	X	2452	U
1	X	2455	A
1	X	2458	U
1	X	2470	U
1	X	2471	U
1	X	2477	C
1	X	2481	G
1	X	2482	A
1	X	2483	U
1	X	2484	G
1	X	2485	U
1	X	2497	A
1	X	2498	U
1	X	2501	U
1	X	2528	G
1	X	2545	A
1	X	2546	G
1	X	2548	G
1	X	2553	G
1	X	2561	G
1	X	2564	U
1	X	2565	C
1	X	2581	A
1	X	2582	G
1	X	2588	U
1	X	2591	C
1	X	2594	U
1	X	2608	A
1	X	2609	G
1	X	2613	A
1	X	2634	G
1	X	2650	G
1	X	2664	G
1	X	2668	U
1	X	2691	C
1	X	2692	A

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Mol	Chain	Res	Type
1	X	2693	U
1	X	2694	G
1	X	2706	U
1	X	2713	A
1	X	2730	A
1	X	2731	G
1	X	2732	C
1	X	2737	A
1	X	2744	A
1	X	2745	A
1	X	2757	G
1	X	2758	A
1	X	2759	U
1	X	2760	G
1	X	2761	A
1	X	2770	A
1	X	2771	C
1	X	2782	G
1	X	2783	U
1	X	2792	C
1	X	2795	A
1	X	2796	A
1	X	2807	U
1	X	2808	U
1	X	2809	A
1	X	2814	G
1	X	2825	A
1	X	2842	C
1	X	2847	G
1	X	2850	U
1	X	2867	G
1	X	2868	G
2	Y	4	C
2	Y	14	C
2	Y	15	A
2	Y	17	A
2	Y	18	G
2	Y	26	G
2	Y	27	A
2	Y	28	A
2	Y	43	G
2	Y	44	C

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Mol	Chain	Res	Type
2	Y	46	G
2	Y	47	A
2	Y	59	A
2	Y	69	G
2	Y	102	A
2	Y	110	U
2	Y	111	C
2	Y	112	A

There are no RNA pucker outliers to report.

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

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 212 ligands modelled in this entry, 211 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
31	LMA	X	2881	-	58,60,60	4.73	25 (43%)	72,90,90	1.28	5 (6%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
31	LMA	X	2881	-	-	0/80/115/115	0/3/3/3

All (25) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
31	X	2881	LMA	C30-C2	-18.96	1.10	1.53
31	X	2881	LMA	C2-C1	-16.31	1.13	1.51
31	X	2881	LMA	O53-C8	-10.14	1.25	1.43
31	X	2881	LMA	C35-C12	-7.75	1.36	1.53
31	X	2881	LMA	C33-C8	-7.67	1.41	1.52
31	X	2881	LMA	C7-C6	-6.97	1.44	1.54
31	X	2881	LMA	C32-C6	-5.85	1.38	1.53
31	X	2881	LMA	C19-C16	-5.81	1.38	1.52
31	X	2881	LMA	C16-C17	-5.12	1.41	1.53
31	X	2881	LMA	O5-C16	-5.06	1.34	1.44
31	X	2881	LMA	C40-C23	-4.58	1.43	1.53
31	X	2881	LMA	O51-C17	-4.05	1.37	1.45
31	X	2881	LMA	C12-C13	-3.43	1.44	1.54
31	X	2881	LMA	C15-C16	2.02	1.57	1.52
31	X	2881	LMA	C4-C5	2.02	1.59	1.54
31	X	2881	LMA	O7-C5	2.15	1.49	1.43
31	X	2881	LMA	O4-C18	2.21	1.49	1.44
31	X	2881	LMA	O3-C3	2.93	1.50	1.43
31	X	2881	LMA	O17-C24	3.05	1.51	1.43
31	X	2881	LMA	C2-C3	3.58	1.63	1.55
31	X	2881	LMA	O2-C1	3.77	1.43	1.34
31	X	2881	LMA	O52-C51	4.42	1.37	1.20
31	X	2881	LMA	C6-C5	4.44	1.61	1.53
31	X	2881	LMA	O55-C54	4.76	1.38	1.20
31	X	2881	LMA	O2-C13	8.40	1.57	1.44

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	X	2881	LMA	C3-C2-C1	-2.78	104.38	110.07
31	X	2881	LMA	C25-C24-C23	-2.44	106.55	113.33
31	X	2881	LMA	O7-C5-C4	3.95	112.90	108.16
31	X	2881	LMA	O51-C51-C53	4.46	119.48	111.10
31	X	2881	LMA	O12-C54-C56	4.48	119.52	111.10

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 13 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
31	X	2881	LMA	13	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 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, 95th 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 ²)	Q<0.9
1	X	2657/2880 (92%)	-0.13	72 (2%) 55 43	32, 91, 207, 392	0
2	Y	120/123 (97%)	0.08	2 (1%) 70 60	85, 155, 211, 300	0
3	A	253/274 (92%)	0.42	16 (6%) 21 14	54, 119, 183, 297	0
4	B	205/211 (97%)	-0.34	3 (1%) 74 64	22, 64, 130, 298	0
5	C	194/205 (94%)	0.19	14 (7%) 16 11	44, 117, 220, 268	0
6	D	177/180 (98%)	0.87	25 (14%) 3 3	146, 209, 280, 370	0
7	E	171/185 (92%)	0.24	11 (6%) 20 13	86, 149, 209, 245	0
8	F	63/144 (43%)	3.08	43 (68%) 0 0	180, 261, 394, 440	0
9	G	142/174 (81%)	0.27	8 (5%) 25 16	55, 101, 188, 266	0
10	H	134/134 (100%)	-0.48	1 (0%) 87 82	35, 61, 108, 204	0
11	I	134/156 (85%)	0.65	15 (11%) 6 5	64, 145, 237, 367	0
12	J	136/141 (96%)	0.17	7 (5%) 29 19	76, 108, 190, 272	0
13	K	113/116 (97%)	-0.65	0 100 100	27, 46, 79, 105	0
14	L	104/114 (91%)	0.54	11 (10%) 7 5	117, 160, 248, 306	0
15	M	108/166 (65%)	-0.33	3 (2%) 53 42	36, 60, 135, 241	0
16	N	117/118 (99%)	-0.13	4 (3%) 46 33	44, 88, 156, 279	0
17	O	94/100 (94%)	0.15	6 (6%) 20 13	58, 119, 195, 238	0
18	P	126/134 (94%)	-0.40	0 100 100	29, 59, 118, 200	0
19	Q	93/95 (97%)	0.04	2 (2%) 62 51	59, 107, 182, 273	0
20	R	110/115 (95%)	0.66	22 (20%) 1 1	68, 127, 234, 359	0
21	S	175/237 (73%)	0.93	34 (19%) 1 1	112, 169, 237, 314	0
22	T	74/91 (81%)	0.62	13 (17%) 2 1	82, 123, 199, 271	0
23	U	72/81 (88%)	1.79	20 (27%) 1 1	89, 155, 302, 332	0
24	V	65/67 (97%)	0.28	4 (6%) 21 14	94, 126, 205, 256	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	W	55/55 (100%)	0.08	2 (3%) 43 31	73, 102, 166, 177	0
26	Z	57/60 (95%)	-0.15	2 (3%) 44 32	31, 63, 108, 191	0
27	1	53/55 (96%)	1.55	17 (32%) 0 1	106, 171, 261, 319	0
28	2	46/47 (97%)	0.22	3 (6%) 20 13	56, 85, 154, 195	0
29	3	59/66 (89%)	1.58	21 (35%) 0 0	97, 150, 276, 316	0
30	4	37/37 (100%)	6.38	34 (91%) 0 0	133, 223, 289, 323	0
All	All	5944/6561 (90%)	0.16	415 (6%) 17 12	22, 105, 230, 440	0

All (415) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
23	U	28	GLY	25.6
30	4	17	VAL	14.2
30	4	25	VAL	14.1
8	F	113	PRO	13.8
30	4	24	LEU	12.8
30	4	13	ASN	12.6
3	A	204	ASN	12.4
8	F	114	ASP	11.0
21	S	91	PRO	10.0
30	4	6	SER	9.4
30	4	23	VAL	9.3
23	U	27	ASP	9.2
27	1	35	LEU	9.1
30	4	35	ARG	8.9
8	F	125	ASN	8.4
21	S	15	ASP	8.3
30	4	4	ARG	8.2
1	X	1095	A	8.1
6	D	43	SER	8.0
6	D	75	SER	8.0
30	4	34	GLN	7.9
23	U	26	ALA	7.9
23	U	29	GLY	7.8
8	F	112	MET	7.4
5	C	19	LEU	7.3
30	4	5	SER	7.0
19	Q	64	ARG	7.0
30	4	12	ASP	7.0
23	U	47	HIS	7.0

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Mol	Chain	Res	Type	RSRZ
30	4	27	CYS	6.9
8	F	97	GLY	6.9
30	4	26	ILE	6.7
30	4	21	GLY	6.6
30	4	16	VAL	6.6
1	X	1080	A	6.5
30	4	3	VAL	6.4
30	4	28	SER	6.2
1	X	1085	G	6.1
29	3	50	LEU	6.0
22	T	73	GLY	5.9
1	X	665	A	5.9
30	4	11	CYS	5.9
30	4	29	ASN	5.8
3	A	251	TRP	5.8
8	F	123	ALA	5.8
1	X	1115	C	5.8
30	4	36	GLN	5.7
4	B	205	SER	5.7
30	4	1	MET	5.7
1	X	1106	A	5.6
30	4	37	GLY	5.6
6	D	45	GLU	5.5
1	X	1107	A	5.5
6	D	145	MET	5.5
21	S	23	ALA	5.3
6	D	76	ASN	5.3
27	1	45	LYS	5.3
6	D	147	ASP	5.2
30	4	14	CYS	5.2
5	C	165	SER	5.2
30	4	20	HIS	5.1
30	4	10	MET	5.1
9	G	156	HIS	5.1
30	4	33	LYS	5.1
21	S	92	VAL	5.0
11	I	56	LEU	5.0
27	1	32	GLN	5.0
30	4	7	VAL	5.0
1	X	248	A	5.0
30	4	22	ARG	5.0
20	R	57	ASN	4.9

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Mol	Chain	Res	Type	RSRZ
30	4	15	LYS	4.9
8	F	120	VAL	4.8
6	D	71	LYS	4.8
6	D	142	THR	4.8
12	J	84	MET	4.8
20	R	102	LYS	4.8
22	T	85	GLN	4.8
21	S	31	SER	4.7
6	D	143	TYR	4.7
29	3	9	MET	4.7
1	X	2287	G	4.7
11	I	54	SER	4.7
27	1	23	THR	4.6
1	X	1086	C	4.6
3	A	243	ALA	4.6
8	F	136	VAL	4.6
3	A	250	PRO	4.6
3	A	161	GLY	4.6
24	V	66	GLN	4.6
6	D	74	ILE	4.5
16	N	88	ILE	4.5
8	F	101	TRP	4.5
23	U	12	ASN	4.5
20	R	67	GLY	4.4
21	S	12	GLN	4.4
22	T	18	PRO	4.4
1	X	1104	G	4.4
27	1	47	HIS	4.4
1	X	1114	A	4.3
17	O	64	GLY	4.3
8	F	85	GLY	4.3
30	4	32	HIS	4.2
21	S	128	ARG	4.2
29	3	55	TRP	4.2
22	T	15	ASP	4.2
21	S	76	ARG	4.2
1	X	1072	U	4.2
27	1	27	ASN	4.1
22	T	16	SER	4.1
11	I	36	GLY	4.1
27	1	52	GLU	4.1
21	S	94	VAL	4.0

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Mol	Chain	Res	Type	RSRZ
9	G	97	ASP	4.0
21	S	30	VAL	4.0
6	D	120	ASN	4.0
1	X	558	G	4.0
23	U	52	ARG	4.0
23	U	30	VAL	3.9
8	F	76	TYR	3.9
1	X	1089	C	3.9
23	U	13	LEU	3.9
14	L	35	SER	3.8
20	R	58	VAL	3.8
22	T	13	GLY	3.8
1	X	2190	A	3.8
8	F	90	THR	3.8
8	F	94	ALA	3.8
7	E	25	LYS	3.7
21	S	22	VAL	3.7
27	1	13	GLU	3.7
16	N	91	ASN	3.7
1	X	1079	G	3.6
1	X	1068	A	3.6
29	3	33	ASN	3.6
20	R	112	LYS	3.6
8	F	99	LEU	3.6
21	S	55	THR	3.6
11	I	74	VAL	3.6
23	U	46	LEU	3.6
5	C	44	SER	3.6
30	4	2	LYS	3.5
6	D	42	SER	3.5
1	X	1077	U	3.5
1	X	1057	A	3.5
12	J	27	TYR	3.5
1	X	358	C	3.5
27	1	14	SER	3.5
29	3	44	LYS	3.5
3	A	220	PRO	3.5
8	F	111	LYS	3.4
8	F	121	GLU	3.4
27	1	36	GLU	3.4
3	A	85	TYR	3.4
8	F	132	ARG	3.4

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Mol	Chain	Res	Type	RSRZ
1	X	1081	A	3.4
24	V	4	SER	3.4
6	D	81	GLN	3.4
6	D	125	ARG	3.4
21	S	113	VAL	3.3
22	T	71	ASN	3.3
29	3	21	LYS	3.3
5	C	48	ARG	3.3
8	F	119	SER	3.3
21	S	14	LEU	3.3
11	I	52	GLY	3.2
5	C	193	LEU	3.2
5	C	167	VAL	3.2
6	D	18	GLN	3.2
23	U	16	ASN	3.2
21	S	21	ALA	3.2
10	H	27	SER	3.2
1	X	1108	U	3.2
20	R	52	ASN	3.2
29	3	61	MET	3.2
20	R	66	GLN	3.2
27	1	31	THR	3.2
6	D	144	ASP	3.2
8	F	129	GLY	3.2
3	A	268	ASP	3.2
20	R	100	ASP	3.2
20	R	94	VAL	3.2
8	F	92	ASN	3.1
14	L	63	ASN	3.1
21	S	83	PHE	3.1
8	F	91	PRO	3.1
11	I	57	ILE	3.1
9	G	159	SER	3.1
29	3	43	GLY	3.1
22	T	17	ASN	3.1
1	X	1552	C	3.1
1	X	1105	U	3.0
3	A	203	LYS	3.0
8	F	133	SER	3.0
27	1	24	THR	3.0
1	X	1120	C	3.0
3	A	32	LYS	3.0

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Mol	Chain	Res	Type	RSRZ
1	X	2290	A	3.0
14	L	62	GLY	3.0
30	4	18	ARG	3.0
7	E	51	LEU	3.0
17	O	36	LYS	3.0
5	C	47	THR	3.0
12	J	136	GLU	3.0
1	X	1734	C	3.0
3	A	221	HIS	3.0
1	X	1037	U	3.0
5	C	192	ALA	3.0
21	S	173	PRO	3.0
22	T	14	ARG	2.9
17	O	46	VAL	2.9
1	X	1191	G	2.9
29	3	10	ALA	2.9
8	F	78	ILE	2.9
1	X	1067	G	2.9
1	X	1913	G	2.9
14	L	64	LYS	2.9
1	X	732	G	2.9
29	3	39	ASP	2.9
1	X	1184	G	2.9
11	I	31	GLY	2.9
6	D	72	LYS	2.9
29	3	48	PHE	2.9
17	O	39	PHE	2.9
6	D	20	PHE	2.9
1	X	601	A	2.9
2	Y	68	A	2.9
25	W	33	GLU	2.9
29	3	54	GLU	2.8
4	B	135	HIS	2.8
21	S	11	LYS	2.8
21	S	77	ALA	2.8
7	E	23	VAL	2.8
1	X	2015	G	2.8
7	E	62	ARG	2.8
14	L	55	SER	2.8
29	3	14	ILE	2.8
22	T	20	TYR	2.8
21	S	147	ILE	2.8

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Mol	Chain	Res	Type	RSRZ
21	S	24	TYR	2.8
8	F	81	ALA	2.8
8	F	95	LYS	2.8
8	F	80	LYS	2.8
8	F	77	LEU	2.8
27	1	2	ALA	2.8
29	3	51	ALA	2.8
23	U	61	TRP	2.7
29	3	38	GLY	2.7
8	F	96	VAL	2.7
21	S	86	VAL	2.7
8	F	127	VAL	2.7
20	R	61	SER	2.7
8	F	122	ALA	2.7
30	4	9	LYS	2.7
6	D	46	ASP	2.7
1	X	1602	G	2.7
24	V	5	GLU	2.7
8	F	110	THR	2.7
8	F	84	ILE	2.7
6	D	40	LEU	2.7
21	S	32	PHE	2.7
21	S	165	GLU	2.7
23	U	8	THR	2.7
12	J	28	VAL	2.7
3	A	153	GLY	2.7
5	C	45	THR	2.6
1	X	304	A	2.6
1	X	1119	U	2.6
8	F	108	ALA	2.6
21	S	174	PRO	2.6
1	X	2289	A	2.6
1	X	1912	G	2.6
1	X	247	A	2.6
7	E	37	TYR	2.6
14	L	111	GLY	2.6
20	R	60	PRO	2.6
30	4	30	VAL	2.6
2	Y	4	C	2.6
11	I	97	ARG	2.6
8	F	105	LEU	2.6
9	G	129	HIS	2.6

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Mol	Chain	Res	Type	RSRZ
14	L	65	THR	2.6
27	1	22	TYR	2.5
1	X	302	U	2.5
1	X	667	U	2.5
20	R	71	GLN	2.5
8	F	104	VAL	2.5
1	X	1078	A	2.5
1	X	1522	C	2.5
23	U	54	ASN	2.5
23	U	25	ARG	2.5
1	X	1076	U	2.5
1	X	1055	A	2.5
9	G	39	GLN	2.5
11	I	33	GLY	2.5
21	S	145	ASP	2.5
11	I	55	ARG	2.5
21	S	85	MET	2.5
12	J	112	GLU	2.5
15	M	29	PRO	2.5
29	3	13	ARG	2.5
8	F	124	ALA	2.5
29	3	7	HIS	2.5
27	1	51	ARG	2.5
1	X	1098	G	2.5
5	C	59	TYR	2.5
1	X	1109	A	2.5
6	D	146	VAL	2.5
8	F	86	LYS	2.5
29	3	45	GLY	2.4
20	R	69	GLN	2.4
1	X	2085	G	2.4
21	S	125	PRO	2.4
22	T	66	LYS	2.4
21	S	124	ALA	2.4
17	O	47	PHE	2.4
1	X	1909	U	2.4
4	B	94	ASP	2.4
22	T	84	ALA	2.4
20	R	81	VAL	2.4
1	X	1084	A	2.4
7	E	119	ALA	2.4
14	L	56	SER	2.4

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Mol	Chain	Res	Type	RSRZ
15	M	40	ARG	2.4
29	3	63	PRO	2.4
9	G	109	GLY	2.3
21	S	93	GLU	2.3
1	X	1090	C	2.3
7	E	5	GLY	2.3
8	F	102	ASP	2.3
5	C	172	VAL	2.3
5	C	166	TRP	2.3
20	R	77	HIS	2.3
27	1	19	GLY	2.3
1	X	1093	U	2.3
1	X	1733	U	2.3
17	O	23	GLU	2.3
8	F	107	ILE	2.3
11	I	46	GLY	2.3
1	X	2044	G	2.3
1	X	2087	U	2.3
1	X	2174	G	2.3
21	S	58	GLY	2.3
7	E	61	HIS	2.3
12	J	21	ASP	2.3
8	F	109	LYS	2.3
21	S	123	VAL	2.3
28	2	39	ARG	2.3
26	Z	37	HIS	2.3
20	R	113	THR	2.2
1	X	2082	C	2.2
11	I	100	ARG	2.2
23	U	73	GLY	2.2
21	S	69	VAL	2.2
1	X	1074	G	2.2
28	2	38	GLY	2.2
3	A	272	VAL	2.2
24	V	65	GLU	2.2
26	Z	5	PRO	2.2
3	A	163	SER	2.2
11	I	24	GLY	2.2
8	F	100	ASN	2.2
9	G	167	LYS	2.2
5	C	21	GLU	2.2
23	U	57	VAL	2.2

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Mol	Chain	Res	Type	RSRZ
29	3	20	GLY	2.2
1	X	1841	G	2.2
1	X	1551	U	2.2
1	X	1099	A	2.2
9	G	66	HIS	2.2
3	A	92	ARG	2.2
6	D	136	LEU	2.2
20	R	83	LEU	2.2
14	L	58	ALA	2.1
22	T	61	ALA	2.1
6	D	11	GLN	2.1
14	L	34	SER	2.1
21	S	114	ASP	2.1
16	N	23	GLY	2.1
7	E	68	THR	2.1
23	U	65	ASN	2.1
1	X	1553	G	2.1
1	X	2169	A	2.1
11	I	53	ARG	2.1
25	W	54	GLN	2.1
1	X	1116	U	2.1
20	R	95	ARG	2.1
5	C	164	VAL	2.1
11	I	50	GLU	2.1
19	Q	65	VAL	2.1
27	1	50	PHE	2.1
12	J	72	ASP	2.1
20	R	103	LYS	2.1
1	X	871	U	2.1
1	X	1019	U	2.1
6	D	151	GLY	2.1
28	2	46	ASP	2.1
7	E	174	GLY	2.1
8	F	79	ARG	2.0
23	U	50	ALA	2.0
15	M	28	ARG	2.0
16	N	89	ASP	2.0
14	L	107	ALA	2.0
3	A	271	ILE	2.0
1	X	69	G	2.0
23	U	49	LYS	2.0
20	R	29	HIS	2.0

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Mol	Chain	Res	Type	RSRZ
1	X	1094	C	2.0
8	F	130	THR	2.0
1	X	1556	A	2.0
20	R	63	THR	2.0
7	E	82	GLY	2.0
29	3	25	PHE	2.0
6	D	90	THR	2.0
20	R	99	VAL	2.0

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

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

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

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, 95th 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	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	X	2901	1/1	0.87	0.49	49.95	30,30,30,30	0
32	MG	X	2982	1/1	0.96	0.48	25.83	51,51,51,51	0
32	MG	X	2979	1/1	0.92	0.60	24.57	50,50,50,50	0
32	MG	X	2886	1/1	0.98	0.37	20.14	16,16,16,16	0
32	MG	X	2943	1/1	0.94	0.52	17.34	29,29,29,29	0
32	MG	X	2914	1/1	0.93	0.61	15.29	60,60,60,60	0
32	MG	X	2896	1/1	0.98	0.41	14.14	28,28,28,28	0
32	MG	X	2961	1/1	0.92	0.36	12.89	61,61,61,61	0
32	MG	X	2933	1/1	0.96	0.50	11.53	59,59,59,59	0
33	NA	X	3033	1/1	0.97	0.44	11.52	38,38,38,38	0
32	MG	X	2904	1/1	0.98	0.49	11.22	39,39,39,39	0
32	MG	X	2915	1/1	0.97	0.55	10.46	47,47,47,47	0
32	MG	X	3004	1/1	0.90	0.39	10.42	71,71,71,71	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	X	2957	1/1	0.94	0.40	9.73	35,35,35,35	0
32	MG	X	3016	1/1	0.97	0.35	8.97	39,39,39,39	0
34	K	M	167	1/1	0.97	0.38	8.83	44,44,44,44	0
32	MG	X	2898	1/1	0.99	0.38	8.46	8,8,8,8	0
33	NA	X	3045	1/1	0.98	0.45	8.17	31,31,31,31	0
32	MG	X	2941	1/1	0.95	0.42	8.06	46,46,46,46	0
32	MG	X	2885	1/1	0.95	0.49	7.86	21,21,21,21	0
32	MG	X	2964	1/1	0.96	0.44	7.54	50,50,50,50	0
32	MG	X	2965	1/1	0.97	0.31	7.42	42,42,42,42	0
33	NA	Y	126	1/1	0.80	0.40	7.27	85,85,85,85	0
32	MG	X	3011	1/1	0.97	0.54	7.11	45,45,45,45	0
32	MG	X	2995	1/1	0.94	0.63	7.11	42,42,42,42	0
33	NA	X	3042	1/1	0.95	0.49	6.21	45,45,45,45	0
34	K	X	3077	1/1	0.93	0.45	6.09	80,80,80,80	0
32	MG	X	2960	1/1	0.95	0.36	6.07	33,33,33,33	0
32	MG	X	2911	1/1	0.93	0.47	6.01	83,83,83,83	0
32	MG	X	2897	1/1	0.96	0.36	5.96	37,37,37,37	0
32	MG	X	2978	1/1	0.89	0.42	5.80	48,48,48,48	0
32	MG	X	2973	1/1	0.98	0.22	5.34	30,30,30,30	0
32	MG	X	2890	1/1	0.99	0.24	4.64	38,38,38,38	0
32	MG	X	3020	1/1	0.97	0.35	4.35	42,42,42,42	0
32	MG	X	2888	1/1	0.98	0.46	4.21	36,36,36,36	0
32	MG	X	2944	1/1	0.96	0.36	3.93	59,59,59,59	0
32	MG	X	3024	1/1	0.95	0.28	3.83	68,68,68,68	0
34	K	X	3070	1/1	0.91	0.52	3.76	72,72,72,72	0
32	MG	X	2974	1/1	0.96	0.18	3.02	37,37,37,37	0
32	MG	X	2967	1/1	0.98	0.31	2.87	50,50,50,50	0
32	MG	X	2920	1/1	0.96	0.37	2.75	31,31,31,31	0
32	MG	X	2894	1/1	0.91	0.24	2.73	33,33,33,33	0
32	MG	X	3002	1/1	0.95	0.22	2.71	34,34,34,34	0
33	NA	X	3058	1/1	0.89	0.36	2.64	69,69,69,69	0
32	MG	X	2953	1/1	0.94	0.21	1.58	59,59,59,59	0
31	LMA	X	2881	58/58	0.90	0.27	1.56	22,83,114,128	0
32	MG	X	3007	1/1	0.93	0.20	1.53	37,37,37,37	0
32	MG	X	2926	1/1	0.97	0.17	1.51	35,35,35,35	0
32	MG	X	3025	1/1	0.98	0.19	0.92	62,62,62,62	0
32	MG	X	2991	1/1	0.98	0.38	0.67	51,51,51,51	0
32	MG	X	2917	1/1	0.99	0.27	0.60	52,52,52,52	0
32	MG	X	2976	1/1	0.96	0.24	0.48	32,32,32,32	0
32	MG	X	3009	1/1	0.97	0.25	0.37	53,53,53,53	0
32	MG	C	206	1/1	0.98	0.20	0.14	37,37,37,37	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	X	2922	1/1	0.95	0.18	-0.39	19,19,19,19	0
33	NA	K	117	1/1	0.90	0.16	-0.39	28,28,28,28	0
32	MG	X	3028	1/1	0.93	0.19	-0.82	65,65,65,65	0
32	MG	X	2996	1/1	0.98	0.08	-3.49	42,42,42,42	0
32	MG	X	2994	1/1	0.96	0.10	-3.56	41,41,41,41	0
32	MG	X	2932	1/1	0.99	0.36	-	31,31,31,31	0
32	MG	X	2945	1/1	0.93	0.47	-	32,32,32,32	0
33	NA	X	3052	1/1	0.92	0.25	-	43,43,43,43	0
32	MG	X	2987	1/1	0.94	0.46	-	38,38,38,38	0
32	MG	X	2948	1/1	0.97	0.43	-	40,40,40,40	0
32	MG	X	2906	1/1	0.97	0.39	-	43,43,43,43	0
33	NA	X	3035	1/1	0.94	0.29	-	50,50,50,50	0
32	MG	X	2910	1/1	0.92	0.30	-	47,47,47,47	0
33	NA	X	3067	1/1	0.91	0.29	-	47,47,47,47	0
32	MG	X	2999	1/1	0.94	0.18	-	49,49,49,49	0
32	MG	X	2899	1/1	0.97	0.30	-	57,57,57,57	0
33	NA	X	3062	1/1	0.93	0.14	-	47,47,47,47	0
32	MG	X	3012	1/1	0.96	0.57	-	45,45,45,45	0
33	NA	X	3068	1/1	0.98	0.30	-	64,64,64,64	0
34	K	X	3081	1/1	0.97	0.36	-	91,91,91,91	0
32	MG	X	2975	1/1	0.86	0.23	-	73,73,73,73	0
32	MG	X	2986	1/1	0.98	0.26	-	54,54,54,54	0
32	MG	X	2988	1/1	0.91	0.29	-	63,63,63,63	0
32	MG	X	2950	1/1	0.93	0.25	-	49,49,49,49	0
34	K	X	3073	1/1	0.97	0.40	-	57,57,57,57	0
32	MG	X	2908	1/1	0.94	0.31	-	55,55,55,55	0
33	NA	X	3046	1/1	0.89	0.59	-	80,80,80,80	0
33	NA	X	3039	1/1	0.93	0.28	-	51,51,51,51	0
32	MG	X	2972	1/1	0.94	0.21	-	65,65,65,65	0
32	MG	X	2977	1/1	0.96	0.32	-	51,51,51,51	0
32	MG	X	2936	1/1	0.95	0.27	-	26,26,26,26	0
33	NA	X	3041	1/1	0.96	0.31	-	37,37,37,37	0
32	MG	X	2952	1/1	0.86	0.44	-	57,57,57,57	0
33	NA	X	3060	1/1	0.98	0.70	-	73,73,73,73	0
32	MG	X	2882	1/1	0.98	0.33	-	5,5,5,5	0
32	MG	X	3022	1/1	0.92	0.14	-	43,43,43,43	0
32	MG	X	2900	1/1	0.95	0.41	-	37,37,37,37	0
34	K	X	3076	1/1	0.76	0.37	-	100,100,100,100	0
33	NA	X	3044	1/1	0.94	0.09	-	48,48,48,48	0
33	NA	X	3053	1/1	0.83	0.53	-	62,62,62,62	0
34	K	X	3075	1/1	0.95	0.22	-	68,68,68,68	0
33	NA	X	3049	1/1	0.93	0.49	-	68,68,68,68	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
34	K	X	3082	1/1	0.94	0.29	-	98,98,98,98	0
32	MG	X	2971	1/1	0.96	0.24	-	44,44,44,44	0
33	NA	X	3055	1/1	0.95	0.28	-	70,70,70,70	0
32	MG	X	2937	1/1	0.88	0.24	-	46,46,46,46	0
32	MG	X	2940	1/1	0.92	0.25	-	34,34,34,34	0
32	MG	X	2951	1/1	0.99	0.37	-	28,28,28,28	0
32	MG	X	2918	1/1	0.90	0.22	-	60,60,60,60	0
34	K	X	3083	1/1	0.96	0.28	-	103,103,103,103	0
32	MG	X	2992	1/1	0.84	0.23	-	44,44,44,44	0
32	MG	X	3023	1/1	0.85	0.32	-	73,73,73,73	0
32	MG	X	2998	1/1	0.96	0.38	-	29,29,29,29	0
32	MG	X	3021	1/1	0.96	0.54	-	70,70,70,70	0
32	MG	X	2925	1/1	0.93	0.35	-	72,72,72,72	0
32	MG	X	3003	1/1	0.95	0.48	-	55,55,55,55	0
33	NA	X	3066	1/1	0.92	0.41	-	48,48,48,48	0
32	MG	X	2887	1/1	0.90	0.31	-	37,37,37,37	0
32	MG	X	2963	1/1	0.94	0.27	-	69,69,69,69	0
32	MG	X	3018	1/1	0.92	0.41	-	59,59,59,59	0
34	K	X	3074	1/1	0.75	0.67	-	171,171,171,171	0
33	NA	X	3043	1/1	0.97	0.31	-	48,48,48,48	0
33	NA	X	3064	1/1	0.72	0.27	-	58,58,58,58	0
33	NA	X	3040	1/1	0.98	0.41	-	70,70,70,70	0
32	MG	X	2980	1/1	0.99	0.12	-	42,42,42,42	0
32	MG	X	2927	1/1	0.97	0.21	-	55,55,55,55	0
32	MG	X	2984	1/1	0.95	0.29	-	62,62,62,62	0
32	MG	X	2895	1/1	0.94	0.35	-	19,19,19,19	0
34	K	X	3072	1/1	0.95	0.21	-	104,104,104,104	0
34	K	X	3078	1/1	0.95	0.32	-	91,91,91,91	0
32	MG	X	2970	1/1	0.88	0.21	-	51,51,51,51	0
33	NA	X	3057	1/1	0.91	0.90	-	75,75,75,75	0
33	NA	X	3063	1/1	0.92	0.38	-	50,50,50,50	0
32	MG	X	2939	1/1	0.83	0.56	-	79,79,79,79	0
33	NA	X	3061	1/1	0.81	0.55	-	62,62,62,62	0
32	MG	X	3014	1/1	0.91	0.36	-	54,54,54,54	0
34	K	X	3071	1/1	0.96	0.23	-	86,86,86,86	0
32	MG	X	2968	1/1	0.93	0.26	-	56,56,56,56	0
32	MG	X	2883	1/1	0.92	0.33	-	34,34,34,34	0
32	MG	X	2969	1/1	0.94	0.24	-	31,31,31,31	0
32	MG	X	3013	1/1	0.97	0.11	-	60,60,60,60	0
32	MG	X	2989	1/1	0.95	0.39	-	83,83,83,83	0
32	MG	X	2924	1/1	0.98	0.31	-	26,26,26,26	0
32	MG	X	2966	1/1	0.87	0.29	-	60,60,60,60	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
34	K	X	3080	1/1	0.96	0.49	-	94,94,94,94	0
32	MG	X	2903	1/1	0.86	0.45	-	51,51,51,51	0
32	MG	X	2938	1/1	0.98	0.40	-	34,34,34,34	0
32	MG	X	2997	1/1	0.88	0.20	-	50,50,50,50	0
32	MG	X	3027	1/1	0.93	0.17	-	51,51,51,51	0
32	MG	X	3026	1/1	0.95	0.33	-	37,37,37,37	0
32	MG	X	2923	1/1	0.92	0.53	-	66,66,66,66	0
32	MG	X	2993	1/1	0.96	0.36	-	51,51,51,51	0
32	MG	X	2930	1/1	0.93	0.53	-	51,51,51,51	0
32	MG	X	2892	1/1	0.96	0.23	-	30,30,30,30	0
32	MG	X	2958	1/1	0.97	0.10	-	29,29,29,29	0
32	MG	X	2913	1/1	0.95	0.43	-	56,56,56,56	0
32	MG	X	3017	1/1	0.97	0.51	-	70,70,70,70	0
32	MG	X	2947	1/1	0.96	0.39	-	47,47,47,47	0
32	MG	X	3019	1/1	0.91	0.41	-	74,74,74,74	0
33	NA	X	3034	1/1	0.96	0.30	-	50,50,50,50	0
32	MG	X	3010	1/1	0.92	0.42	-	73,73,73,73	0
32	MG	X	2907	1/1	0.92	0.48	-	66,66,66,66	0
32	MG	X	2931	1/1	0.83	0.59	-	48,48,48,48	0
32	MG	X	3008	1/1	0.94	0.25	-	45,45,45,45	0
32	MG	X	3006	1/1	0.98	0.07	-	59,59,59,59	0
32	MG	X	2949	1/1	0.93	0.40	-	48,48,48,48	0
33	NA	X	3036	1/1	0.88	0.26	-	79,79,79,79	0
33	NA	Y	125	1/1	0.97	0.44	-	62,62,62,62	0
32	MG	X	3005	1/1	0.95	0.15	-	58,58,58,58	0
33	NA	X	3050	1/1	0.91	0.30	-	40,40,40,40	0
33	NA	A	277	1/1	0.83	0.43	-	72,72,72,72	0
32	MG	X	2928	1/1	0.89	0.40	-	41,41,41,41	0
32	MG	X	2905	1/1	0.97	0.37	-	57,57,57,57	0
33	NA	X	3069	1/1	0.84	0.94	-	74,74,74,74	0
32	MG	X	2934	1/1	0.91	0.20	-	62,62,62,62	0
32	MG	X	2889	1/1	0.97	0.26	-	26,26,26,26	0
33	NA	X	3037	1/1	0.83	0.26	-	53,53,53,53	0
32	MG	X	2891	1/1	0.78	0.20	-	56,56,56,56	0
33	NA	X	3048	1/1	0.95	0.26	-	71,71,71,71	0
32	MG	X	3000	1/1	0.90	0.25	-	65,65,65,65	0
32	MG	X	2919	1/1	0.96	0.35	-	61,61,61,61	0
33	NA	X	3065	1/1	0.96	0.38	-	58,58,58,58	0
32	MG	X	3001	1/1	0.97	0.46	-	84,84,84,84	0
32	MG	X	2912	1/1	0.95	0.34	-	24,24,24,24	0
32	MG	X	2954	1/1	0.97	0.31	-	31,31,31,31	0
33	NA	X	3051	1/1	0.96	0.24	-	43,43,43,43	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
32	MG	X	2981	1/1	0.97	0.47	-	65,65,65,65	0
32	MG	X	3031	1/1	0.98	0.15	-	48,48,48,48	0
32	MG	X	2893	1/1	0.95	0.48	-	25,25,25,25	0
32	MG	Y	124	1/1	0.96	0.11	-	40,40,40,40	0
33	NA	X	3056	1/1	0.93	0.70	-	76,76,76,76	0
32	MG	X	2956	1/1	0.95	0.66	-	71,71,71,71	0
33	NA	X	3047	1/1	0.94	0.59	-	75,75,75,75	0
32	MG	X	2884	1/1	0.97	0.54	-	38,38,38,38	0
34	K	X	3079	1/1	0.93	0.47	-	97,97,97,97	0
32	MG	X	2955	1/1	0.97	0.37	-	54,54,54,54	0
32	MG	X	2916	1/1	0.92	0.30	-	51,51,51,51	0
33	NA	X	3054	1/1	0.97	0.37	-	49,49,49,49	0
32	MG	X	2909	1/1	0.94	0.43	-	44,44,44,44	0
32	MG	X	2959	1/1	0.98	0.40	-	33,33,33,33	0
32	MG	X	2929	1/1	0.99	0.32	-	10,10,10,10	0
32	MG	X	2946	1/1	0.98	0.45	-	38,38,38,38	0
32	MG	X	2990	1/1	0.96	0.38	-	31,31,31,31	0
32	MG	X	3015	1/1	0.88	0.45	-	77,77,77,77	0
32	MG	X	3030	1/1	0.95	0.10	-	66,66,66,66	0
32	MG	X	2983	1/1	0.95	0.26	-	23,23,23,23	0
33	NA	X	3038	1/1	0.90	0.39	-	59,59,59,59	0
33	NA	Z	61	1/1	0.94	0.30	-	48,48,48,48	0
32	MG	X	2902	1/1	0.97	0.35	-	39,39,39,39	0
32	MG	X	2942	1/1	0.93	0.20	-	74,74,74,74	0
33	NA	X	3059	1/1	0.95	0.14	-	66,66,66,66	0
32	MG	I	157	1/1	0.88	0.35	-	50,50,50,50	0
32	MG	X	2935	1/1	0.94	0.31	-	55,55,55,55	0
32	MG	X	2985	1/1	0.92	0.17	-	50,50,50,50	0
32	MG	X	3032	1/1	0.93	0.38	-	74,74,74,74	0
32	MG	X	3029	1/1	0.94	0.41	-	63,63,63,63	0
32	MG	X	2962	1/1	0.96	0.13	-	70,70,70,70	0
32	MG	X	2921	1/1	0.94	0.23	-	52,52,52,52	0

6.5 Other polymers [i](#)

There are no such residues in this entry.