



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 08:09 PM UTC

PDB ID : 3J92 / pdb_00003j92
EMDB ID : EMD-2832
Title : Structure and assembly pathway of the ribosome quality control complex
Authors : Shao, S.; Brown, A.; Santhanam, B.; Hegde, R.S.
Deposited on : 2014-12-02
Resolution : 3.60 Å(reported)
Based on initial models : 4W1Z, 4W20

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

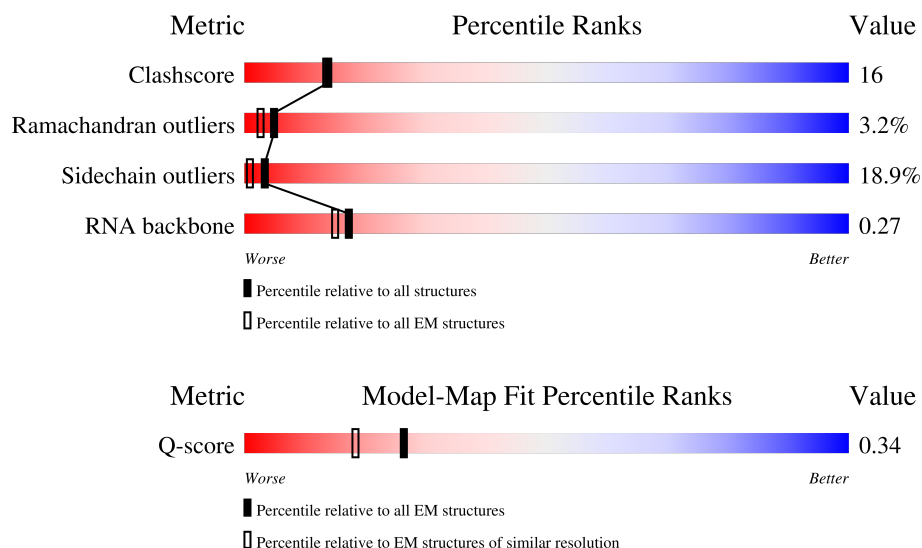
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.60 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	12797 (3.10 - 4.10)

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

Mol	Chain	Length	Quality of chain
1	A	257	 53% 31% 11% 5%
2	B	395	 68% 25% 5%
3	C	368	 10% 59% 32% 7%

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Mol	Chain	Length	Quality of chain
4	D	297	
5	E	284	
6	F	250	
7	G	266	
8	H	192	
9	I	214	
10	J	178	
11	L	211	
12	M	213	
13	N	204	
14	O	204	
15	P	184	
16	Q	188	
17	R	196	
18	S	224	
19	T	160	
20	U	128	
21	V	140	
22	W	157	
23	X	156	
24	Y	145	
25	Z	136	
26	a	148	
27	b	160	
28	c	115	

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Mol	Chain	Length	Quality of chain
29	d	125	
30	e	135	
31	f	110	
32	g	117	
33	h	123	
34	i	105	
35	j	97	
36	k	70	
37	l	51	
38	m	128	
39	o	106	
40	p	92	
41	r	137	
42	s	317	
43	t	165	
44	u	501	
44	v	501	
45	0	1766	
45	w	1766	
45	z	1766	
46	x	218	
46	y	218	
47	1	104	
48	2	77	
49	5	3664	

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Mol	Chain	Length	Quality of chain
50	7	120	
51	8	156	

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
53	ZN	j	101	-	-	X	-

2 Entry composition

There are 53 unique types of molecules in this entry. The entry contains 146386 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	244	Total	C	N	O	S	0	0
			1868	1171	382	309	6		

- Molecule 2 is a protein called uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	394	Total	C	N	O	S	0	0
			3147	2005	591	538	13		

- Molecule 3 is a protein called uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	367	Total	C	N	O	S	0	0
			2919	1836	582	486	15		

- Molecule 4 is a protein called uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	292	Total	C	N	O	S	0	0
			2384	1511	435	426	12		

- Molecule 5 is a protein called eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	236	Total	C	N	O	S	0	0
			1904	1219	364	316	5		

- Molecule 6 is a protein called eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	225	Total	C	N	O	S	0	0
			1870	1202	358	301	9		

- Molecule 7 is a protein called eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	241	Total	C	N	O	S	0	0
			1939	1235	372	328	4		

- Molecule 8 is a protein called uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	190	Total	C	N	O	S	0	0
			1518	956	284	272	6		

- Molecule 9 is a protein called uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	204	Total	C	N	O	S	0	0
			1651	1048	318	271	14		

- Molecule 10 is a protein called uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	170	Total	C	N	O	S	0	0
			1359	856	256	241	6		

- Molecule 11 is a protein called eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	L	210	Total	C	N	O	S	0	0
			1703	1064	354	280	5		

- Molecule 12 is a protein called eL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	138	Total	C	N	O	S	0	0
			1131	727	216	181	7		

- Molecule 13 is a protein called eL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	N	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 14 is a protein called uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	O	199	Total	C	N	O	S	0	0
			1638	1056	321	256	5		

- Molecule 15 is a protein called uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	P	153	Total	C	N	O	S	0	0
			1242	776	241	216	9		

- Molecule 16 is a protein called eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Q	187	Total	C	N	O	S	0	0
			1506	941	311	249	5		

- Molecule 17 is a protein called eL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	R	180	Total	C	N	O	S	0	0
			1508	933	328	238	9		

- Molecule 18 is a protein called eL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	S	175	Total	C	N	O	S	0	0
			1454	925	284	235	10		

- Molecule 19 is a protein called eL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	T	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 20 is a protein called eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	U	99	Total	C	N	O	S	0	0
			808	518	141	147	2		

- Molecule 21 is a protein called uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	V	131	Total	C	N	O	S	0	0
			979	618	184	172	5		

- Molecule 22 is a protein called eL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	W	63	Total	C	N	O	S	0	0
			528	337	103	85	3		

- Molecule 23 is a protein called uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	X	119	Total	C	N	O	S	0	0
			976	624	183	168	1		

- Molecule 24 is a protein called uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Y	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 25 is a protein called eL27.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Z	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 26 is a protein called uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	a	147	Total	C	N	O	S	0	0
			1163	735	239	185	4		

- Molecule 27 is a protein called eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	b	75	Total	C	N	O	S	0	0
			610	378	130	99	3		

- Molecule 28 is a protein called eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	c	94	Total	C	N	O	S	0	0
			732	465	130	131	6		

- Molecule 29 is a protein called eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	d	107	Total	C	N	O	S	0	0
			888	560	171	155	2		

- Molecule 30 is a protein called eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	e	128	Total	C	N	O	S	0	0
			1053	667	216	165	5		

- Molecule 31 is a protein called eL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	f	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 32 is a protein called eL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	g	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 33 is a protein called uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	h	122	Total	C	N	O	S	0	0
			1015	642	205	167	1		

- Molecule 34 is a protein called eL36.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	i	102	Total	C	N	O	S	0	0
			832	521	177	129	5		

- Molecule 35 is a protein called eL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	j	86	Total	C	N	O	S	0	0
			706	436	155	110	5		

- Molecule 36 is a protein called eL38.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	k	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

- Molecule 37 is a protein called eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	l	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 38 is a protein called eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	m	52	Total	C	N	O	S	0	0
			429	266	90	67	6		

- Molecule 39 is a protein called eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	o	104	Total	C	N	O	S	0	0
			851	533	174	138	6		

- Molecule 40 is a protein called eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	p	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 41 is a protein called eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	r	125	Total	C	N	O	S	0	0
			1001	622	206	168	5		

- Molecule 42 is a protein called uL10.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	s	198	Total	C	N	O	S	0	0
			1522	968	265	280	9		

- Molecule 43 is a protein called uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	t	163	Total	C	N	O	S	0	0
			1238	773	230	230	5		

- Molecule 44 is a protein called NEMF.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	u	130	Total	C	N	O		0	0
			645	385	130	130			
44	v	136	Total	C	N	O	S	0	0
			1092	687	197	206	2		

- Molecule 45 is a protein called Listerin.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	w	15	Total	C	N	O		0	0
			110	67	23	20			
45	z	130	Total	C	N	O	S	0	0
			1057	681	180	189	7		
45	0	36	Total	C	N	O	S	0	0
			293	187	53	48	5		

- Molecule 46 is a protein called Listerin.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	x	218	Total	C	N	O		0	0
			1090	654	218	218			
46	y	211	Total	C	N	O		0	0
			1055	633	211	211			

- Molecule 47 is a protein called nascent chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	1	15	Total	C	N	O	S	0	0
			125	82	20	22	1		

- Molecule 48 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	2	75	Total	C	N	O	P	0	0
			1601	715	292	520	74		

- Molecule 49 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	5	3662	Total	C	N	O	P	0	0
			78486	34947	14363	25515	3661		

- Molecule 50 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	7	120	Total	C	N	O	P	0	0
			2558	1141	456	842	119		

- Molecule 51 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	8	156	Total	C	N	O	P	0	0
			3314	1480	585	1094	155		

- Molecule 52 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
52	P	1	Total	Mg	0
			1	1	
52	V	1	Total	Mg	0
			1	1	
52	g	1	Total	Mg	0
			1	1	
52	5	150	Total	Mg	0
			150	150	
52	7	5	Total	Mg	0
			5	5	
52	8	1	Total	Mg	0
			1	1	

- Molecule 53 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
53	g	1	Total	Zn	0
			1	1	

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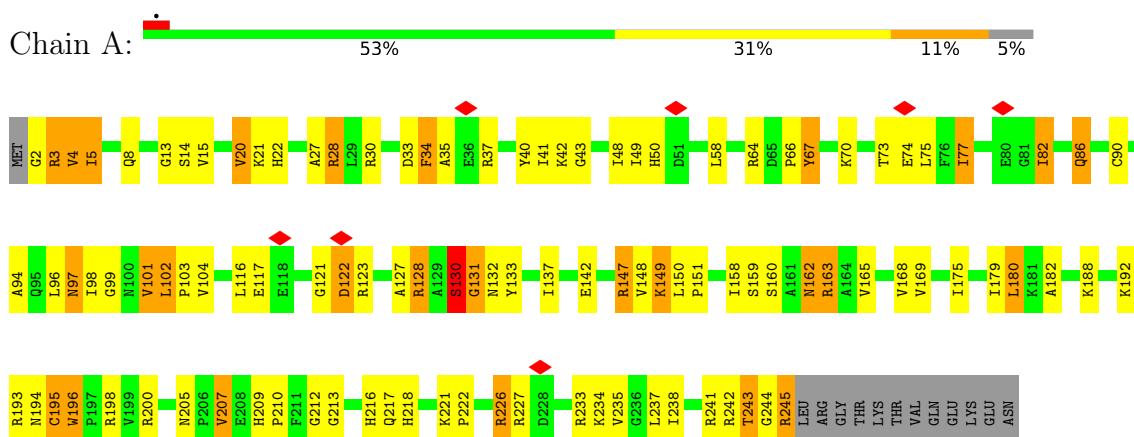
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Mol	Chain	Residues	Atoms		AltConf
53	j	1	Total 1	Zn 1	0
53	m	1	Total 1	Zn 1	0
53	o	1	Total 1	Zn 1	0
53	p	1	Total 1	Zn 1	0

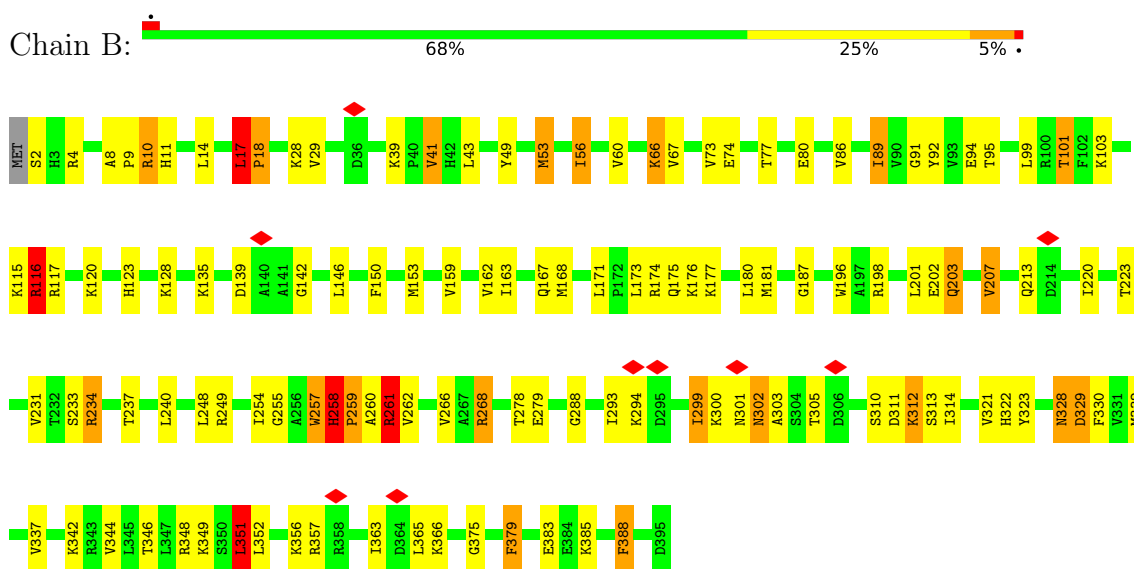
3 Residue-property plots

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

• Molecule 1: uL2

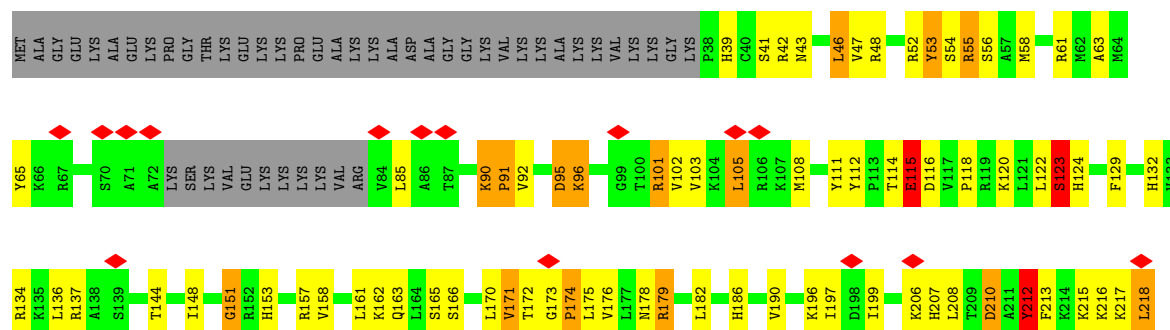


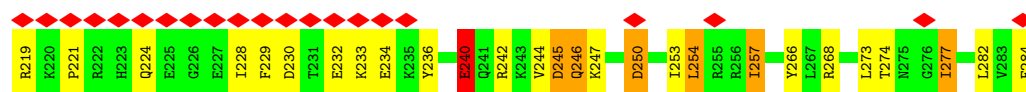
• Molecule 2: uL3



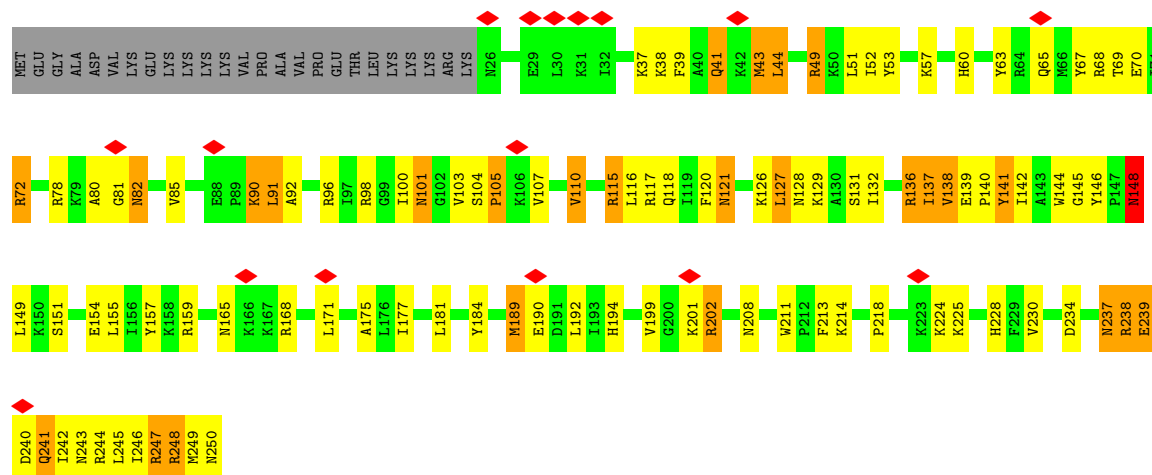
• Molecule 3: uL4



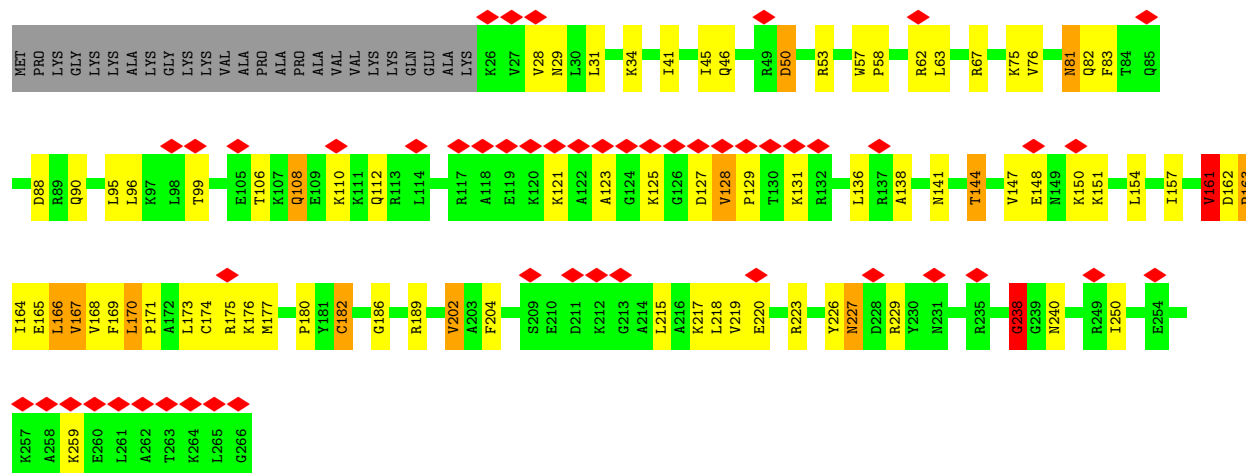




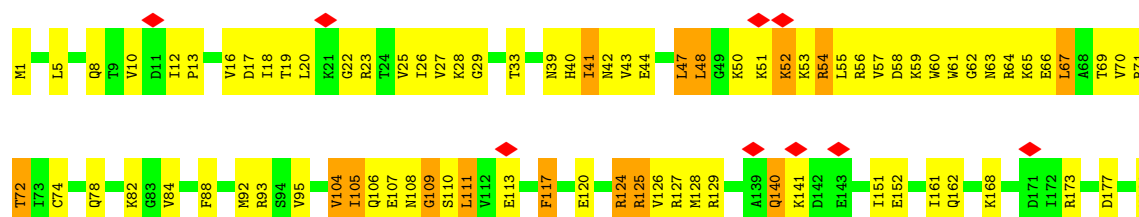
• Molecule 6: eL30

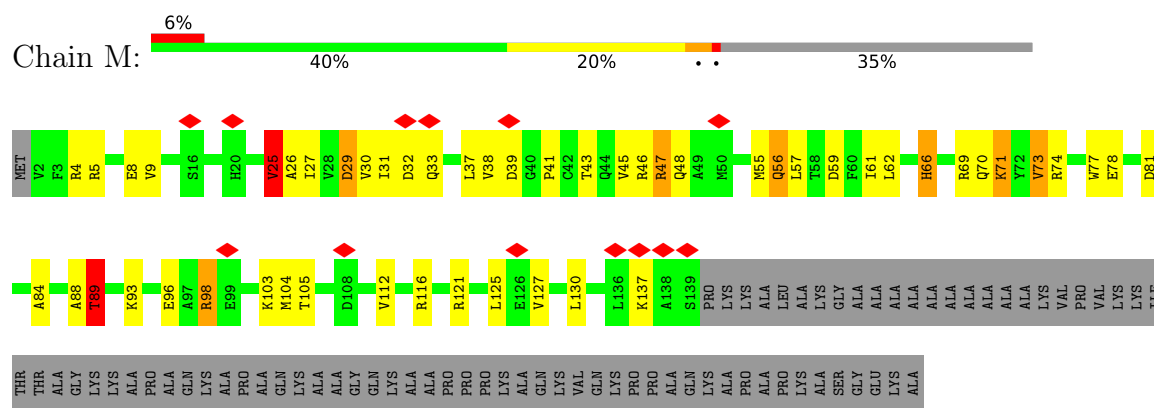


• Molecule 7: eL8

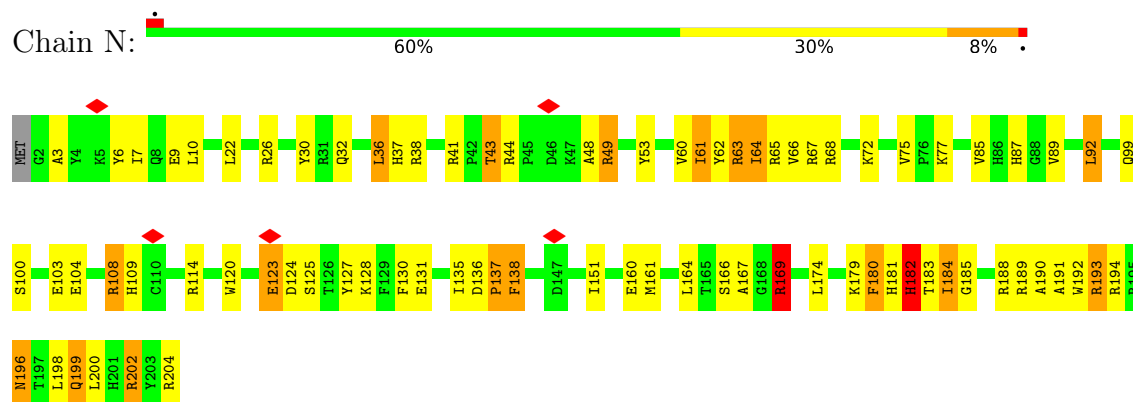


• Molecule 8: uL6

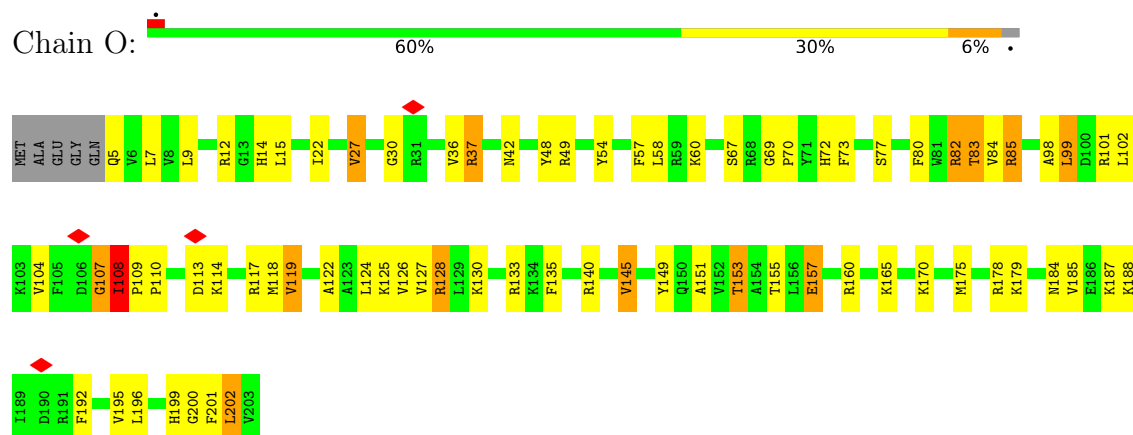




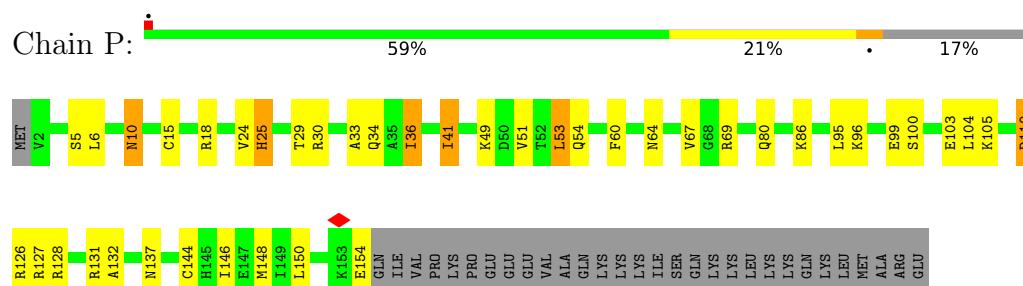
• Molecule 13: eL15



• Molecule 14: uL13



• Molecule 15: uL22

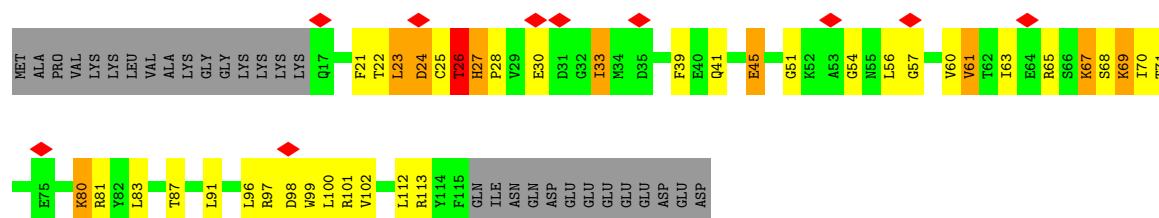


Chain Q: 8% 70% 26%

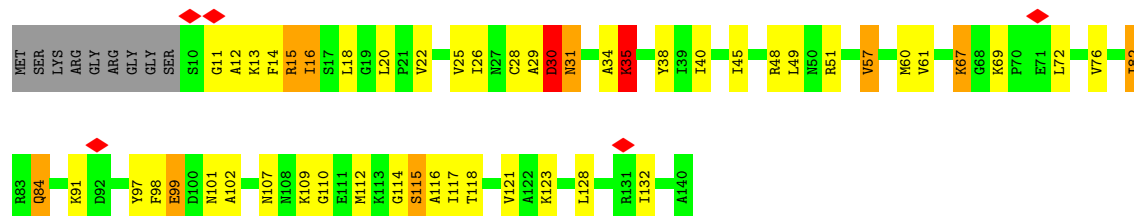




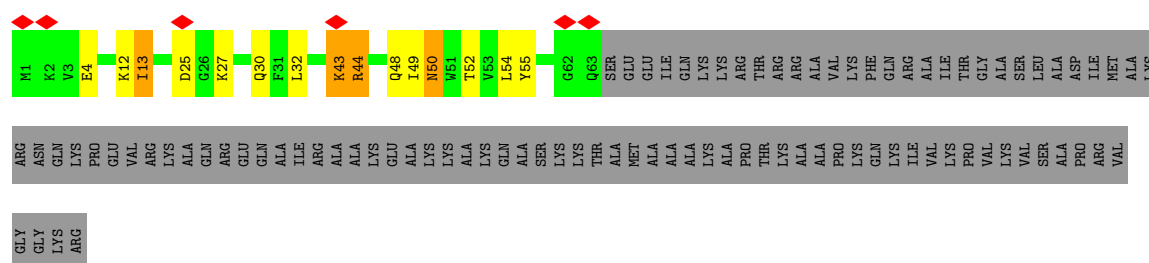
- Molecule 20: eL22



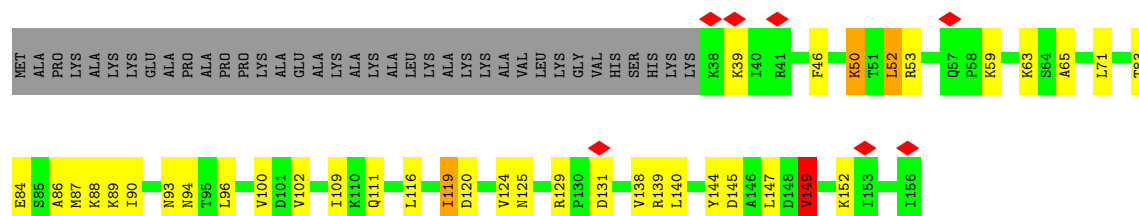
- Molecule 21: uL14



- Molecule 22: eL24

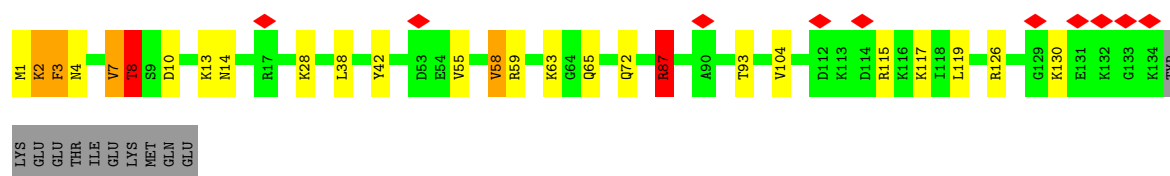
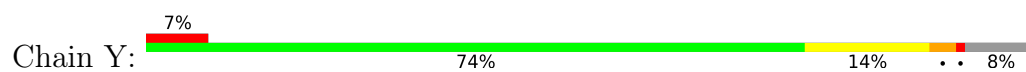


- Molecule 23: uL23

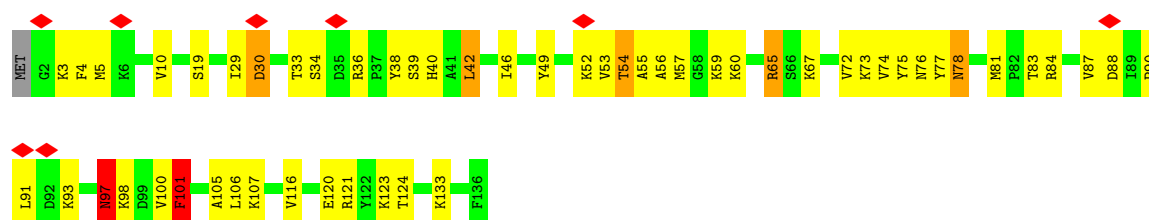


- Molecule 24: uL24

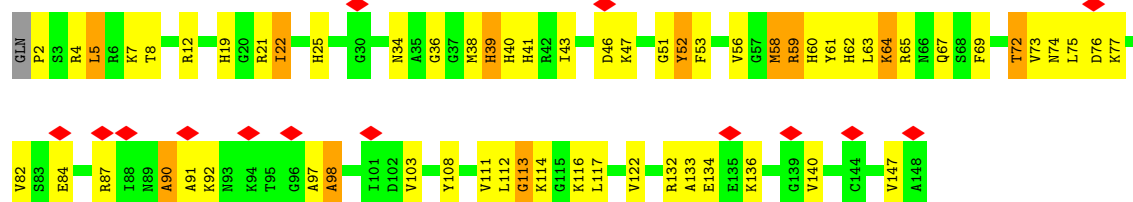




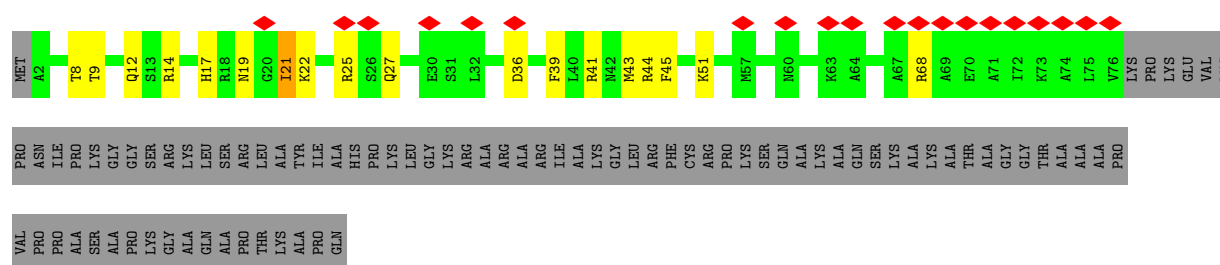
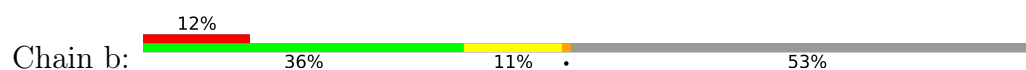
• Molecule 25: eL27



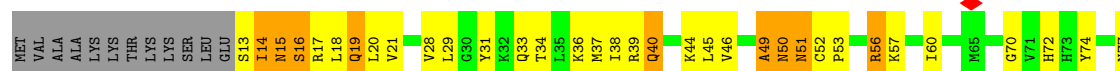
• Molecule 26: uL15

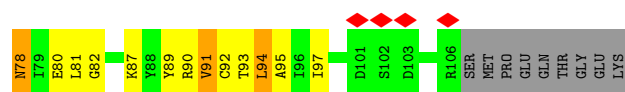


• Molecule 27: eL29

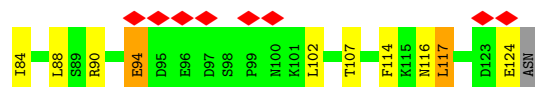
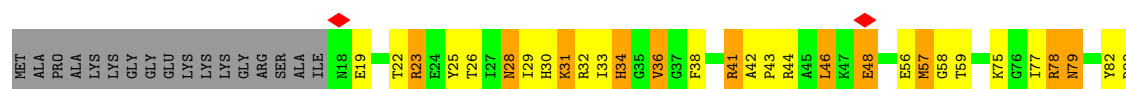


• Molecule 28: eL30

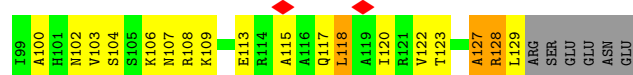
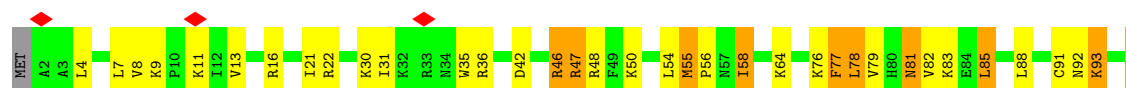




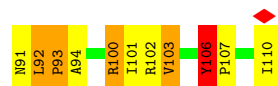
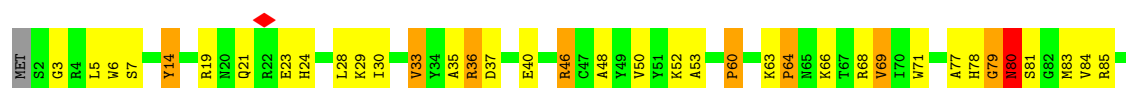
• Molecule 29: eL31



• Molecule 30: eL32



• Molecule 31: eL33

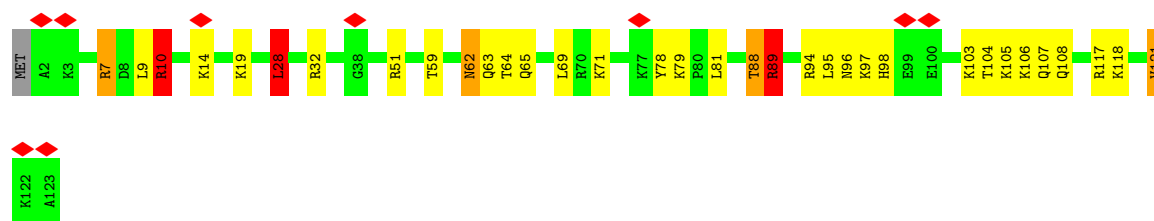


• Molecule 32: eL34

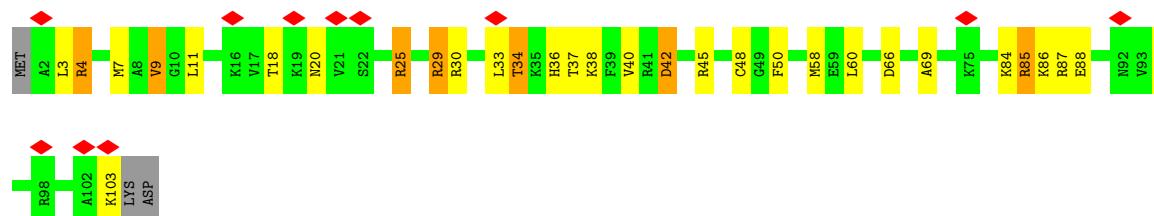


• Molecule 33: uL29





• Molecule 34: eL36



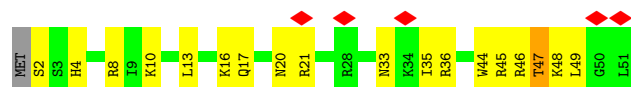
• Molecule 35: eL37



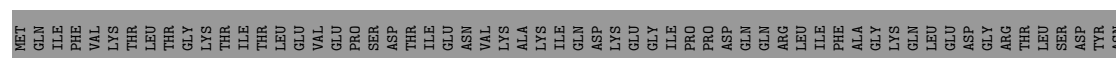
• Molecule 36: eL38

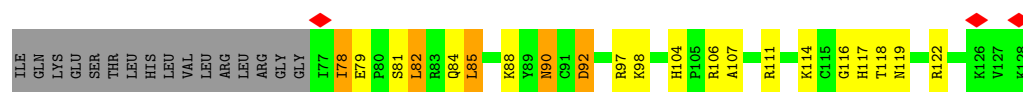


• Molecule 37: eL39

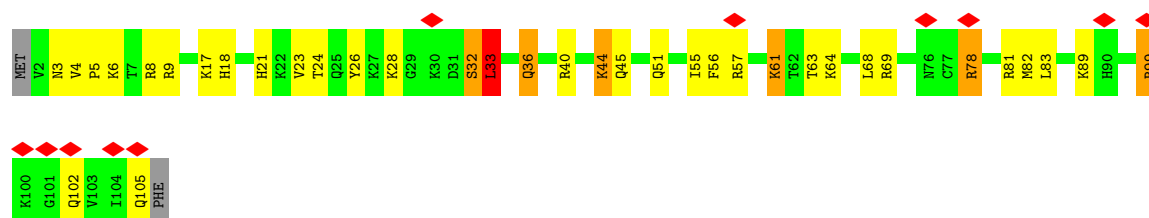


• Molecule 38: eL40

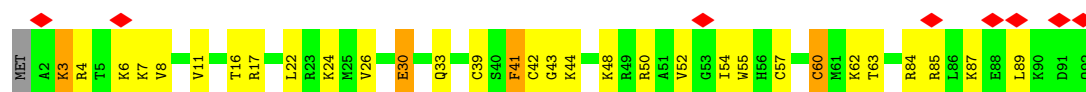




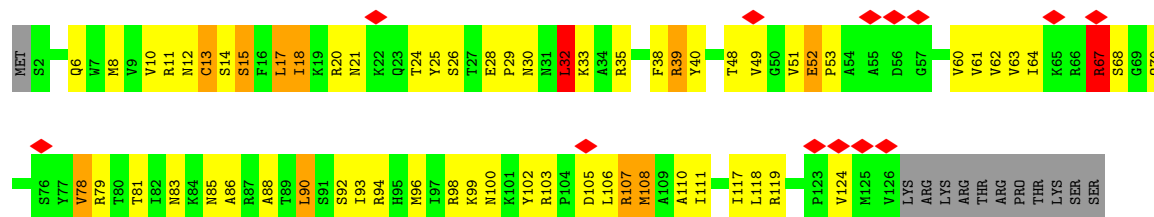
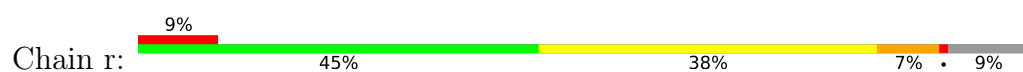
• Molecule 39: eL42



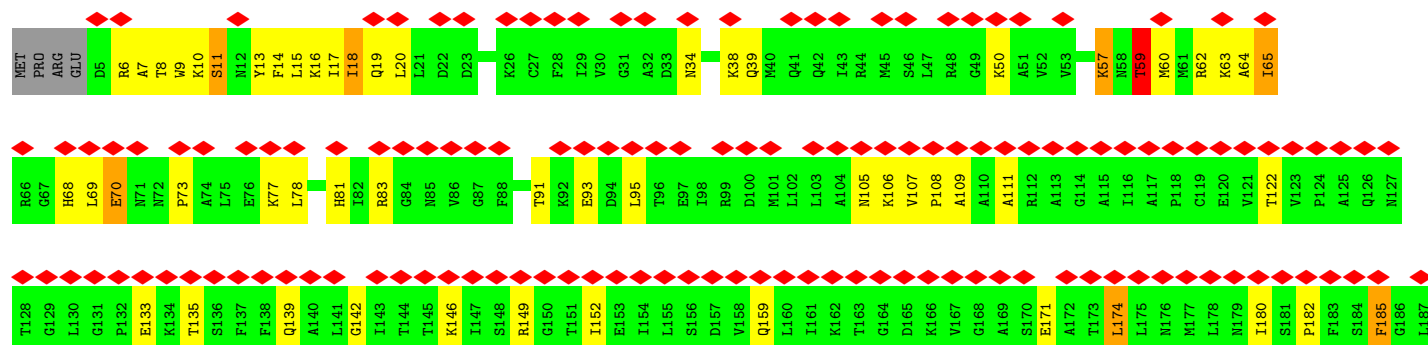
• Molecule 40: eL43

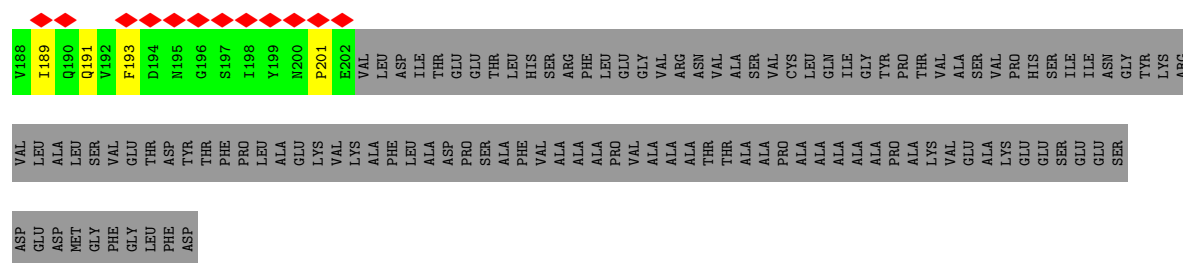


• Molecule 41: eL28

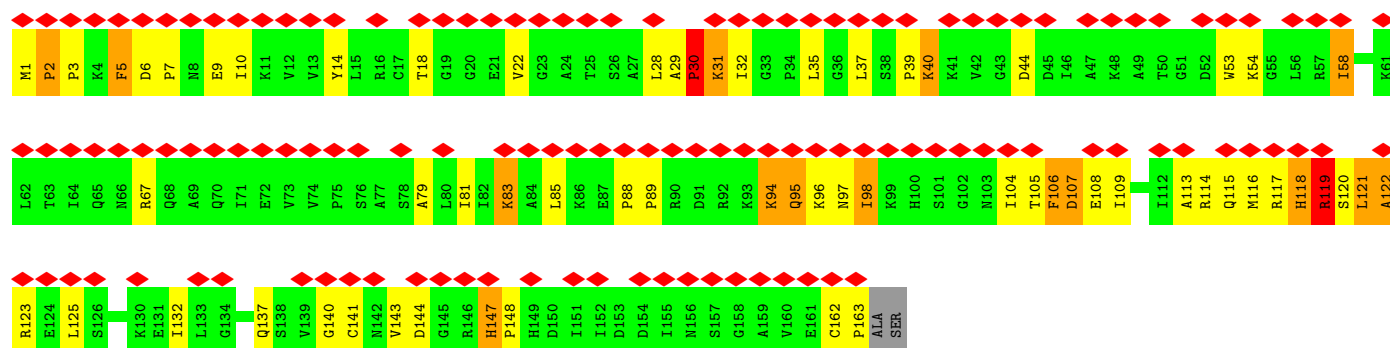
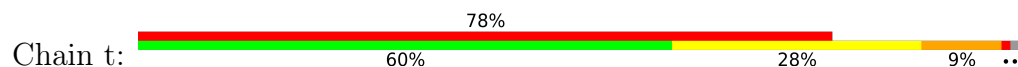


• Molecule 42: uL10

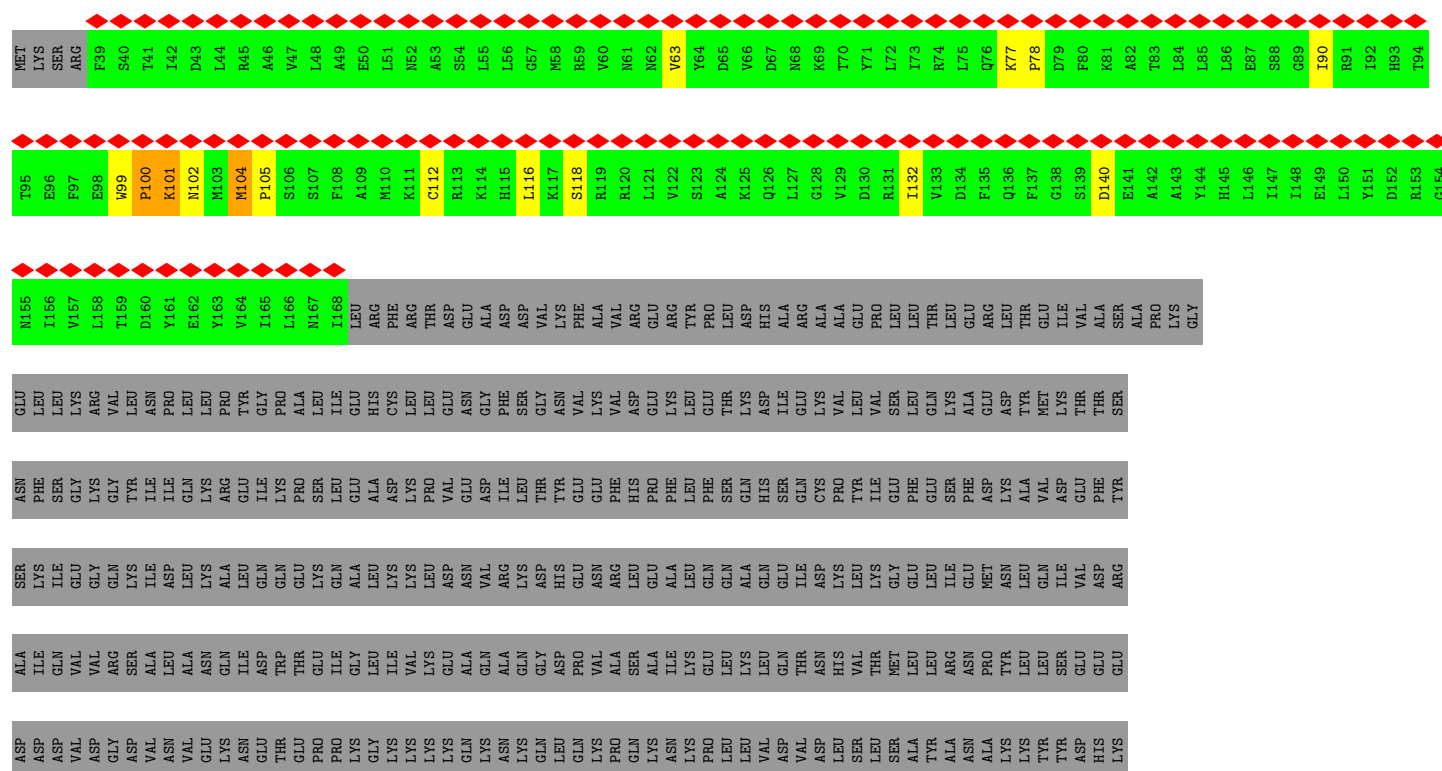




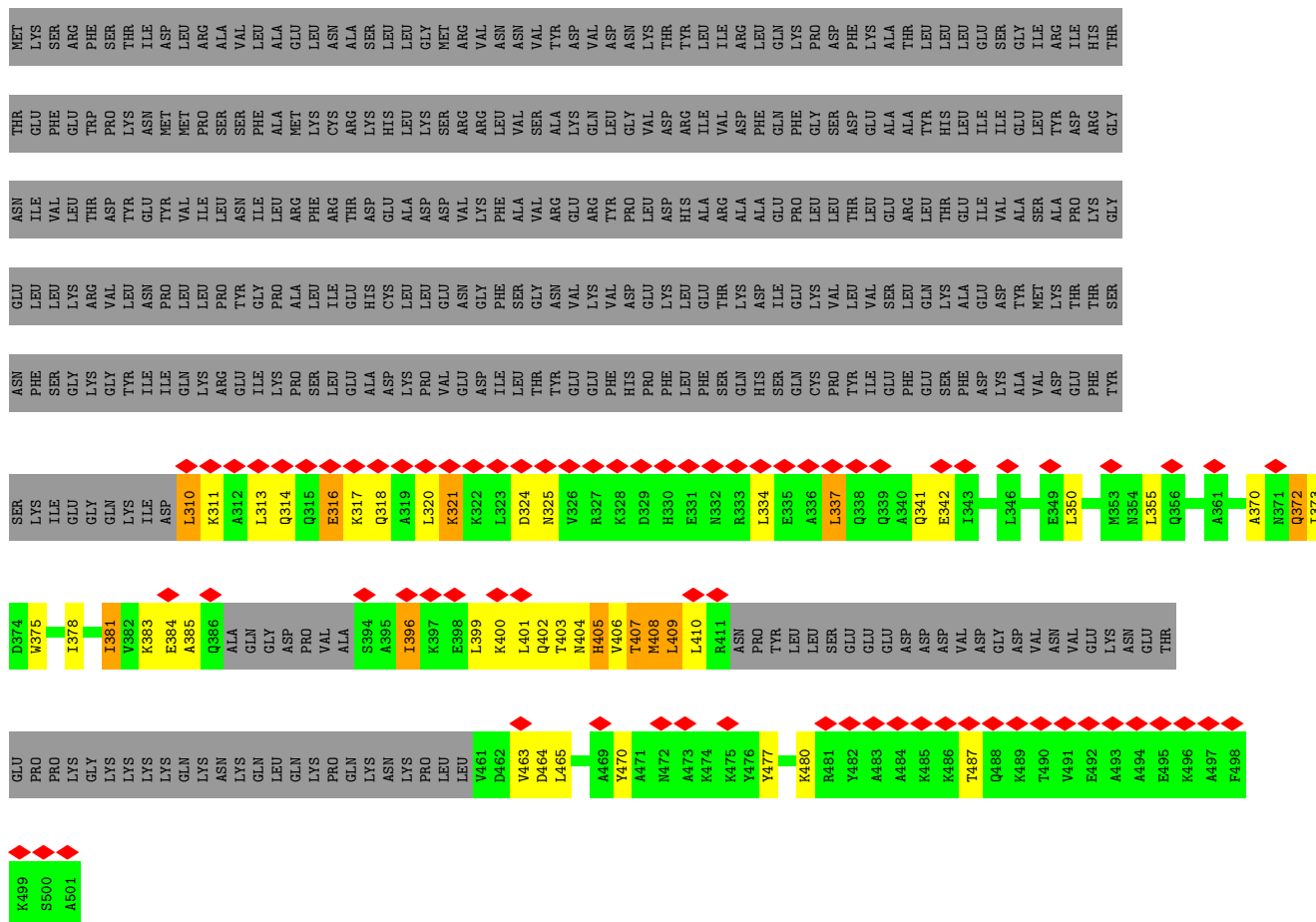
• Molecule 43: uL11



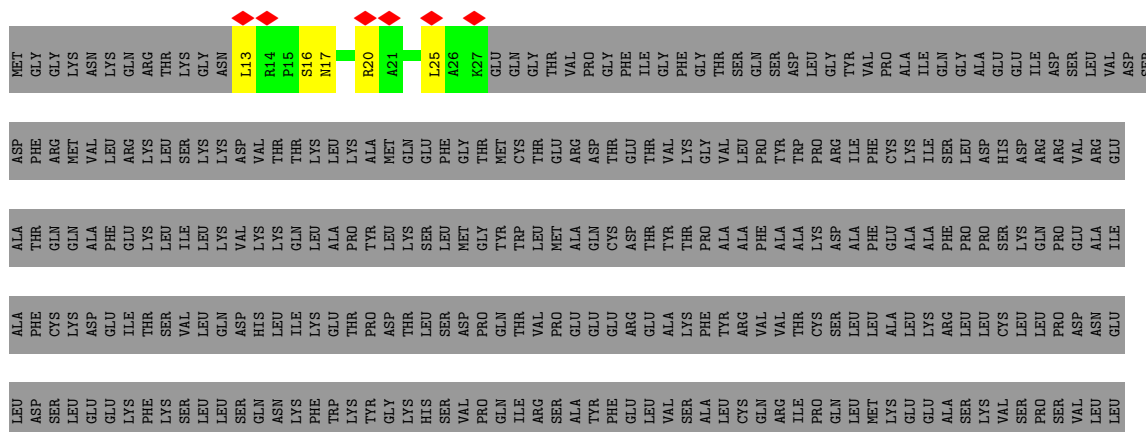
• Molecule 44: NEMF



Chain v:



Chain w: . 99%

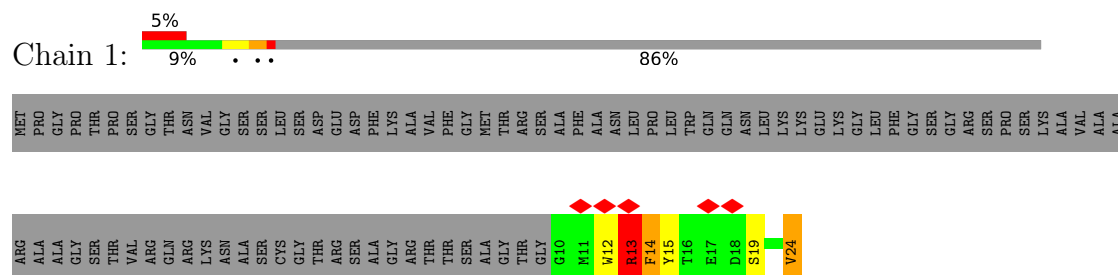




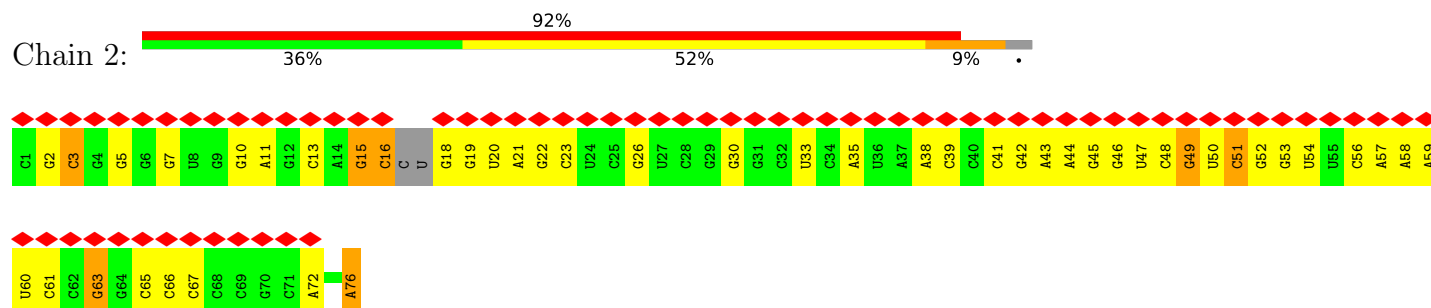




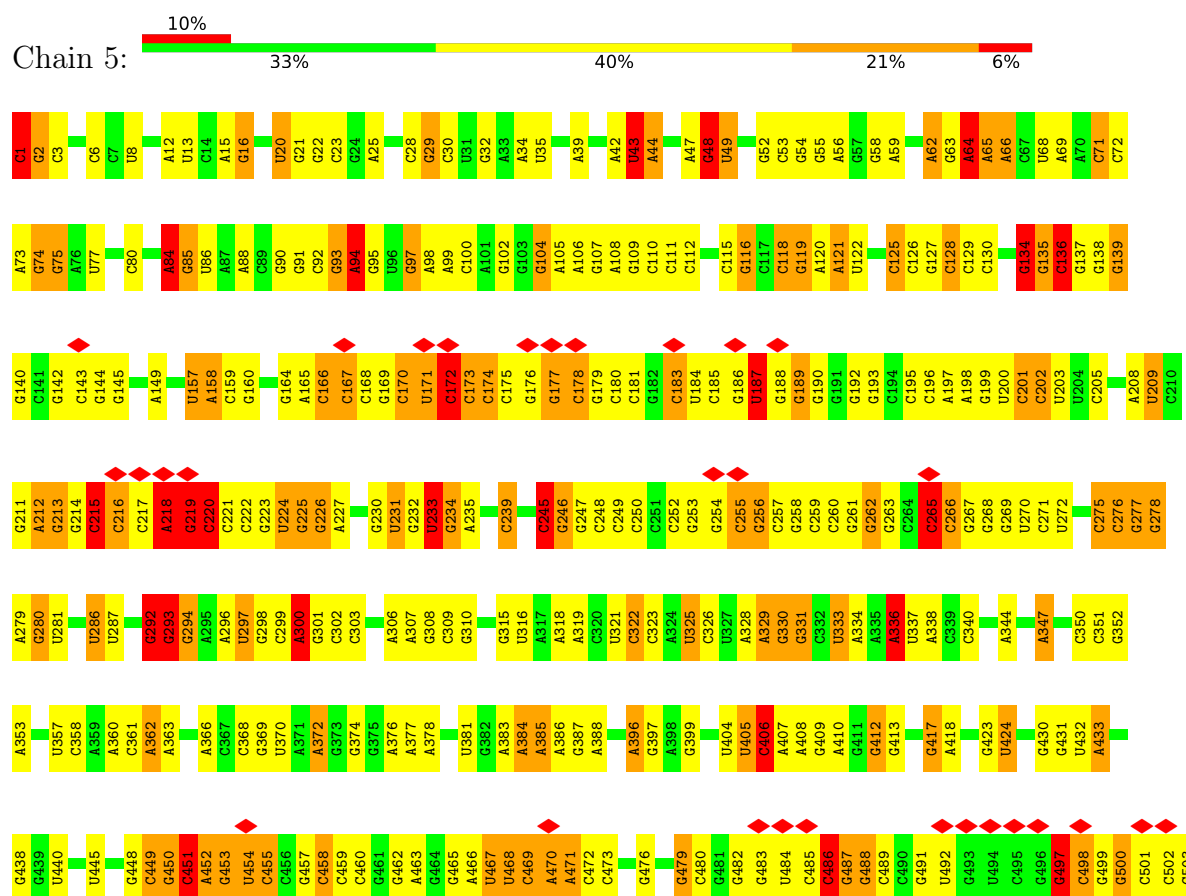
- Molecule 47: nascent chain

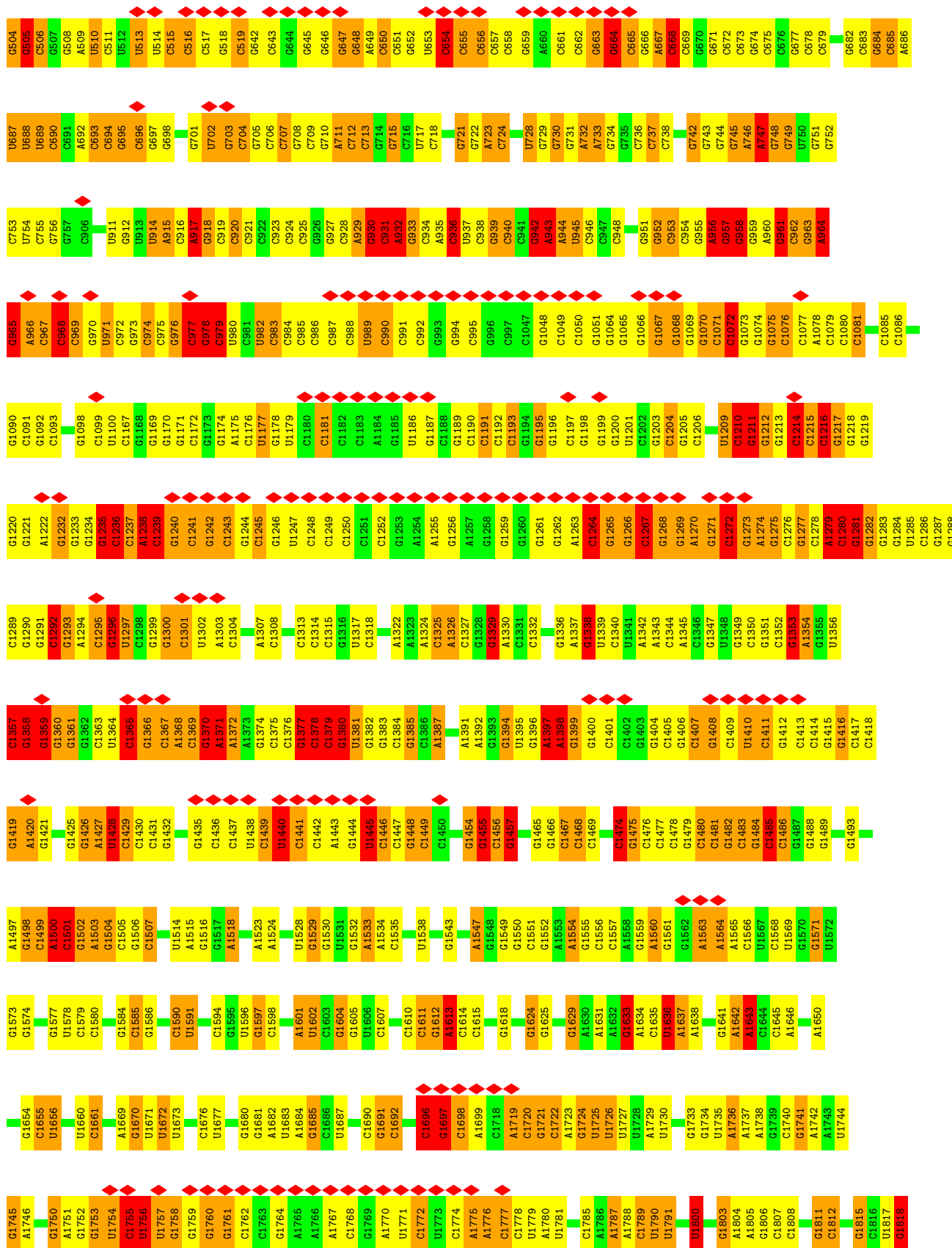


- Molecule 48: tRNA

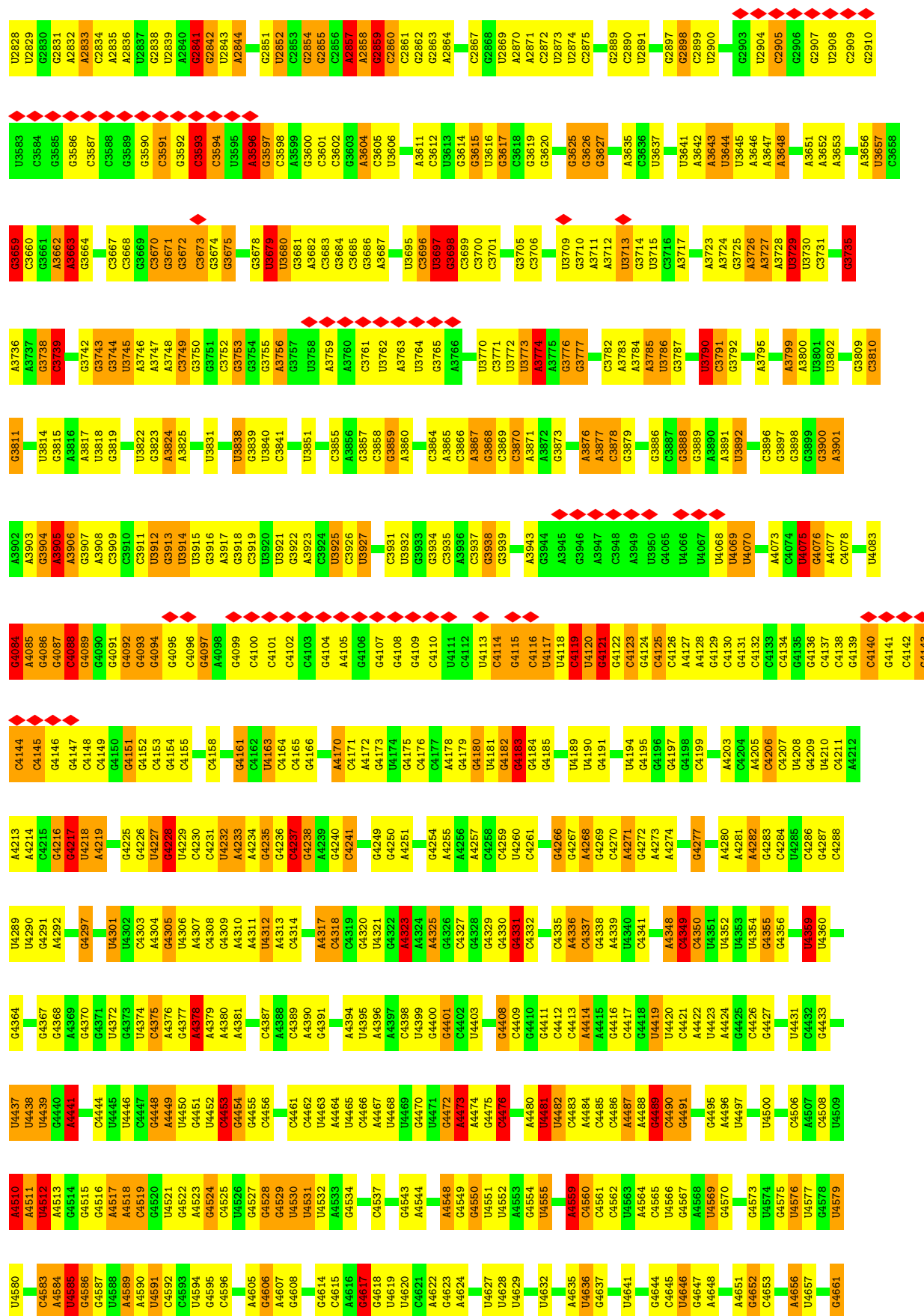


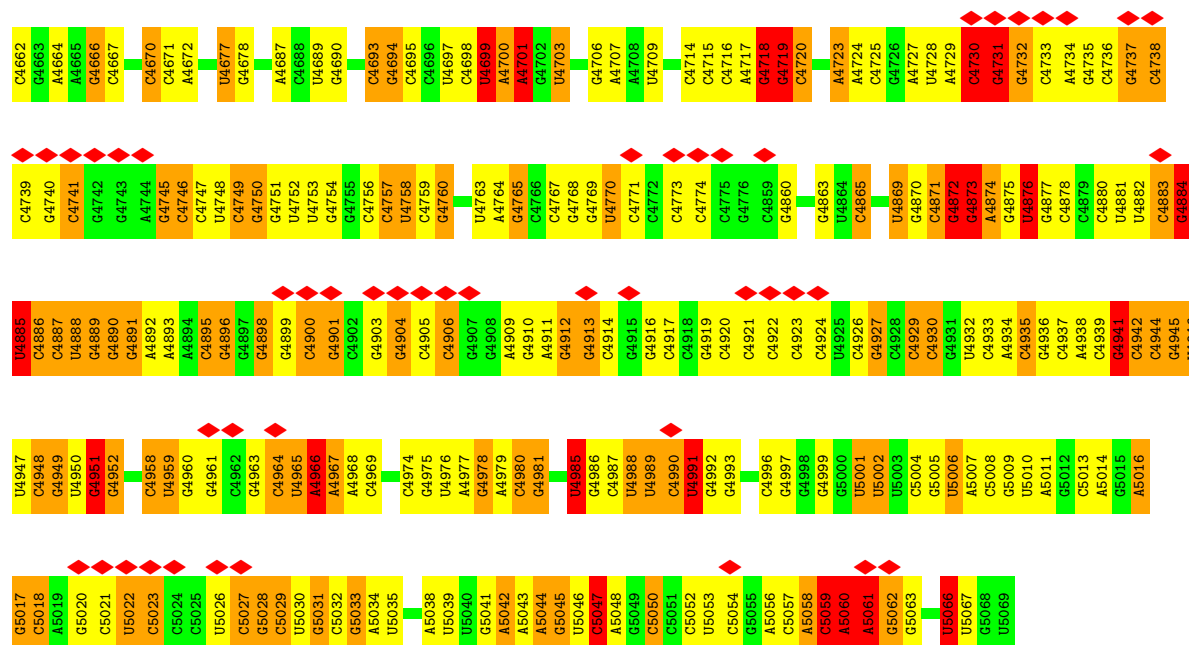
- Molecule 49: 28S rRNA





A2755	G2688	G2613	A2543	G2481	G2339	G2270	G2099	C2023	G1819
G2756	C2689	C2614	G2544	C2482	C2340	C2271	G2100	G2024	C1820
A2757	C2690	C2615	U2545	G2483	G2341	C2272	C2101	A2025	C1893
G2758	C2691	C2616	G2546	A2484	G2342	G2273	G2102	A2026	U1821
G2759	U2692	G2617	G2547	U2485	G2343	G2274	G2103	U2027	U1822
G2760	G2693	G2618	G2548	G2486	G2344	G2275	G2104	G2028	G1823
U2761	C2694	G2619	C2549	G2487	G2345	G2276	A2105	A2029	G
G2762	A2695	G2620	G2550	G2488	G2346	G2277	G2106	G1825	A1825
A2696	A2621	A2621	A2551	G2489	G2347	A2278	G2107	G2034	G1826
G2763	A2697	G2622	G2552	C2489	G2348	G2279	G2108	G1904	G1827
A2698	A2623	G2623	G2553	U2490	U2350	G2280	G2109	G1905	G1828
G2765	G2624	G2624	A2554	U2491	G2351	U2281	G2110	G1906	G1829
A2766	G2625	G2625	U2555	G2492	G2352	A2282	G2111	A1907	G1830
U2767	G2626	G2626	G2556	C2493	U2353	G2283	G2112	G1908	G1831
G2768	U2628	C2627	G2557	G2494	G2354	G2284	G2113	G1909	G1832
U2769	U2629	U2628	C2558	U2495	G2355	G2285	G2114	G1910	G1833
G2770	U2630	G2629	C2559	U2496	G2356	C2286	G2115	G1911	U1834
G2771	U2631	G2630	G2560	C2497	G2357	C2287	G2116	G1912	G1835
G2772	U2632	U2632	C2561	C2498	A2360	G2288	G2117	G1913	G1836
G2773	U2633	U2633	G2562	G2499	G2361	G2289	G2118	G1914	G1837
U2707	G2634	G2634	G2563	G2502	G2362	G2290	G2119	U1918	A1838
U2708	G2635	G2635	U2564	G2503	A2363	C2291	G2120	G1919	A1839
C2709	G2636	G2636	A2565	C2504	G2364	G2292	G2121	G1920	G1840
G2710	G2637	G2637	G2566	G2505	A2365	G2293	G2122	G1921	G1842
G2711	G2638	G2638	G2567	C2506	A2366	G2294	G2123	G1922	G1843
G2712	G2639	G2639	C2568	G2507	A2367	G2295	G2124	G1923	G1846
G2713	G2640	A2641	G2569	U2508	A2368	G2296	G2125	G1924	G1847
G2714	G2641	G2641	U2570	G2509	A2369	G2297	G2126	G1925	G1848
G2715	G2642	G2642	C2571	G2510	A2370	G2298	G2127	U1926	U1849
G2716	G2643	G2643	C2572	G2511	G2373	G2299	G2128	U1927	U1849
U2787	G2644	G2644	U2573	A2512	G2374	G2300	G2129	G1928	G1849
U2788	G2645	G2645	G2574	A2513	G2375	G2301	G2130	G1929	U1850
U2789	G2646	G2646	G2575	G2514	G2376	G2302	G2131	U1930	G1851
U2790	G2647	G2647	G2576	G2515	A2382	G2303	G2132	G1931	G1855
G2791	G2648	G2648	G2577	G2516	U2385	G2304	G2133	G1932	G1856
G2792	G2649	G2649	G2578	A2517	U2386	G2305	G2134	G1933	U1860
G2793	G2650	G2650	U2579	G2518	G2387	G2306	G2135	G1934	U1861
G2794	G2651	G2651	G2580	U2519	A2389	G2307	G2136	G1935	U1862
G2795	G2652	G2652	G2581	G2520	G2390	G2308	G2137	G1936	U1863
G2796	G2653	G2653	A2582	G2521	G2391	G2309	G2138	G1937	U1864
G2797	G2654	G2654	G2583	G2522	G2392	G2310	G2139	G1938	G1865
G2798	G2655	G2655	G2584	G2523	G2393	G2311	G2140	G1939	U1866
G2799	G2656	G2656	G2585	G2524	G2394	G2312	G2141	G1940	A1867
G2800	G2657	G2657	G2586	U2525	A2395	G2313	G2142	U2004	A1868
U2801	G2658	G2658	A2587	G2526	A2396	G2314	G2143	G2005	G1869
A2806	G2659	G2659	C2588	G2527	G2397	G2315	G2144	U2006	G1872
A2807	G2660	G2660	G2589	G2528	U2398	G2316	G2145	G1946	U1947
G2808	G2661	A2674	G2590	A2529	G2399	G2317	G2146	G1947	G1878
G2809	G2662	G2675	G2591	U2530	G2400	G2318	G2147	G1948	C1879
A2813	G2663	G2676	G2592	G2531	A2401	G2319	G2148	U1949	G1880
A2814	G2664	G2677	G2593	G2532	G2402	G2320	G2149	G1950	G1881
A2815	G2665	G2678	G2594	G2533	G2403	G2321	G2150	G1951	G1882
A2816	G2666	G2679	G2595	G2534	G2404	G2322	G2151	G1952	U1883
A2817	G2667	G2680	G2596	G2535	G2405	G2323	G2152	G1953	U1884
A2818	G2668	G2681	A2536	G2536	G2406	G2324	G2153	U1954	G1886
G2823	G2669	G2682	G2537	G2537	G2407	G2325	G2154	G1955	U1887
G2824	G2670	G2683	G2538	G2538	G2408	G2326	G2155	G1956	U1888
A2825	G2671	G2684	U2539	G2539	G2409	G2327	G2156	U2007	U1889
G2826	G2672	G2685	G2540	G2540	U2409	G2328	G2157	G1957	G1890
G2827	G2673	G2686	G2541	G2541	G2410	G2329	G2158	U1958	U1891
	A2743		G2612	G2542		G2330	G2159	G2098	
	A2744					G2331	G2160	G2099	
	A2745					G2332	G2161	G2100	
	A2746					G2333	G2162	G2101	
	U2747					G2334	G2163	G2102	
	G2748					G2335	G2164	G2103	
	G2749					G2336	G2165	G2104	
	G2750					G2337	G2166	G2105	
	G2751					G2338	G2167	G2106	
	G2752					G2339	G2168	G2107	
	G2753					G2340	G2169	G2108	
	G2754					G2341	G2170	G2109	

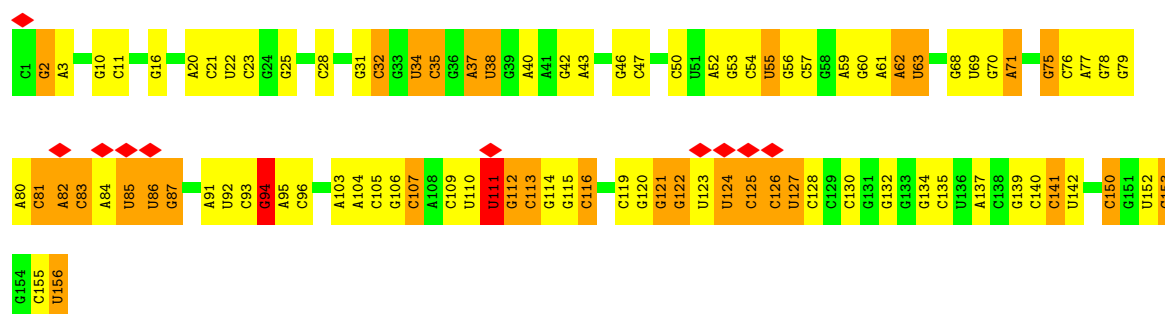
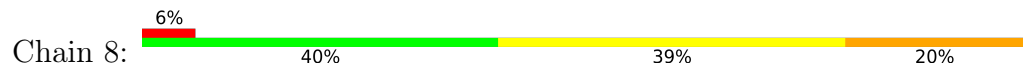




- Molecule 50: 5S rRNA



- Molecule 51: 5.8S rRNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	63826	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	Not provided	
Microscope	FEI TITAN KRIOS, FEI TITAN KRIOS	Depositor
Voltage (kV)	300, 300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	30	Depositor
Minimum defocus (nm)	2000, 2000	Depositor
Maximum defocus (nm)	3500, 3500	Depositor
Magnification	104478, 104478	Depositor
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.494	Depositor
Minimum map value	-0.237	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.019	Depositor
Recommended contour level	0.08	Depositor
Map size ($\text{\AA}$)	428.80002, 428.80002, 428.80002	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.34, 1.34, 1.34	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG, 5MU

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.79	0/1906	1.08	5/2556 (0.2%)
2	B	0.78	1/3214 (0.0%)	1.07	12/4308 (0.3%)
3	C	0.80	1/2973 (0.0%)	1.19	16/3990 (0.4%)
4	D	0.67	0/2430	1.09	1/3256 (0.0%)
5	E	0.74	0/1941	1.17	13/2601 (0.5%)
6	F	0.90	0/1905	1.21	8/2539 (0.3%)
7	G	0.69	1/1971 (0.1%)	1.17	5/2652 (0.2%)
8	H	0.71	0/1537	1.12	6/2066 (0.3%)
9	I	0.75	0/1690	1.13	6/2257 (0.3%)
10	J	0.63	0/1382	1.08	6/1849 (0.3%)
11	L	0.79	0/1734	1.24	7/2318 (0.3%)
12	M	0.79	0/1152	1.16	2/1539 (0.1%)
13	N	0.81	0/1746	1.22	8/2338 (0.3%)
14	O	0.93	1/1671 (0.1%)	1.32	8/2234 (0.4%)
15	P	0.79	0/1268	1.09	3/1701 (0.2%)
16	Q	0.79	0/1530	1.17	2/2041 (0.1%)
17	R	0.68	0/1524	1.25	2/2013 (0.1%)
18	S	0.84	0/1493	1.11	2/2002 (0.1%)
19	T	0.83	0/1326	1.10	7/1770 (0.4%)
20	U	0.57	0/822	1.06	3/1103 (0.3%)
21	V	0.83	0/993	1.10	4/1332 (0.3%)
22	W	0.66	0/541	0.96	0/720
23	X	0.67	0/993	1.04	3/1334 (0.2%)
24	Y	0.68	0/1132	1.21	3/1504 (0.2%)
25	Z	0.67	0/1130	1.05	6/1507 (0.4%)
26	a	0.86	0/1192	1.19	4/1591 (0.3%)
27	b	0.74	0/620	1.26	2/819 (0.2%)
28	c	0.72	0/742	1.13	2/996 (0.2%)
29	d	0.77	0/903	1.16	1/1216 (0.1%)
30	e	0.80	0/1071	1.11	4/1429 (0.3%)
31	f	0.92	0/895	1.23	10/1198 (0.8%)
32	g	0.67	0/916	1.12	2/1220 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	h	0.67	0/1023	1.22	5/1350 (0.4%)
34	i	0.63	0/843	1.26	1/1115 (0.1%)
35	j	0.92	0/721	1.23	1/953 (0.1%)
36	k	0.58	0/575	1.21	4/761 (0.5%)
37	l	0.71	0/454	1.10	1/599 (0.2%)
38	m	0.77	0/435	1.15	1/575 (0.2%)
39	o	0.70	0/864	1.04	1/1140 (0.1%)
40	p	0.71	0/718	1.10	1/953 (0.1%)
41	r	0.85	1/1017 (0.1%)	1.27	7/1365 (0.5%)
42	s	0.75	1/1546 (0.1%)	1.04	2/2087 (0.1%)
43	t	0.85	1/1257 (0.1%)	1.17	5/1697 (0.3%)
44	u	0.80	0/644	1.32	6/897 (0.7%)
44	v	0.60	0/1099	1.29	4/1470 (0.3%)
45	0	0.71	0/301	0.99	0/400
45	w	0.59	0/110	1.18	0/146
45	z	0.58	0/1076	1.12	0/1451
47	1	0.77	0/129	1.06	0/173
48	2	0.41	0/1765	0.76	0/2749
49	5	0.48	3/87791 (0.0%)	1.02	540/136941 (0.4%)
50	7	0.44	0/2858	0.85	3/4455 (0.1%)
51	8	0.45	0/3701	0.90	9/5766 (0.2%)
All	All	0.60	10/155270 (0.0%)	1.06	754/229042 (0.3%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
2	B	0	4
3	C	0	2
4	D	0	1
5	E	0	4
6	F	0	1
7	G	0	2
8	H	0	1
9	I	0	3
11	L	0	2
13	N	0	1
14	O	0	1
17	R	0	2

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Continued from previous page...

Mol	Chain	#Chirality outliers	#Planarity outliers
18	S	0	3
19	T	0	3
21	V	0	1
24	Y	0	1
25	Z	0	1
26	a	0	2
27	b	0	1
31	f	0	2
33	h	0	1
34	i	0	1
36	k	0	1
42	s	0	2
43	t	0	4
47	l	0	1
49	5	0	3
All	All	0	52

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	5	957	G	O3'-P	6.98	1.71	1.61
41	r	52	GLU	C-N	6.45	1.41	1.33
49	5	1358	G	O3'-P	5.93	1.70	1.61
7	G	138	ALA	CA-C	5.77	1.55	1.52
49	5	956	A	O3'-P	5.72	1.69	1.61
43	t	118	HIS	ND1-CE1	5.38	1.38	1.32
2	B	17	LEU	CA-C	-5.22	1.46	1.52
3	C	113	ARG	CA-C	-5.17	1.46	1.52
14	O	108	ILE	C-N	5.13	1.39	1.33
42	s	139	GLN	CD-OE1	5.03	1.33	1.23

All (754) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	a	61	TYR	N-CA-C	19.46	131.89	111.07
49	5	1358	G	C4'-C3'-O3'	15.46	136.20	113.00
24	Y	8	THR	N-CA-C	14.91	127.03	111.07
44	u	77	LYS	CA-C-N	13.13	136.25	119.84
44	u	77	LYS	C-N-CA	13.13	136.25	119.84
10	J	145	LYS	N-CA-C	13.03	125.21	111.14
6	F	238	ARG	N-CA-C	-12.31	89.25	109.07
42	s	59	THR	N-CA-C	-12.27	96.83	112.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	5	293	G	C4'-C3'-O3'	-12.07	94.89	113.00
49	5	2695	A	C2'-C3'-O3'	11.96	127.43	109.50
49	5	1279	A	C2'-C3'-O3'	11.60	126.89	109.50
35	j	61	THR	N-CA-C	11.47	123.78	111.28
9	I	92	HIS	N-CA-C	-11.32	95.57	109.72
49	5	1696	C	C2'-C3'-O3'	11.11	126.16	109.50
49	5	48	G	C2'-C3'-O3'	10.94	125.91	109.50
49	5	728	U	C2'-C3'-O3'	10.83	125.75	109.50
21	V	115	SER	N-CA-C	10.82	123.07	111.28
49	5	1365	C	C4'-C3'-O3'	10.80	125.60	109.40
49	5	958	G	C2'-C3'-O3'	10.71	129.76	113.70
49	5	4228	G	C2'-C3'-O3'	10.53	125.29	109.50
36	k	60	LEU	CA-C-N	-10.52	109.55	120.38
36	k	60	LEU	C-N-CA	-10.52	109.55	120.38
49	5	4951	G	C2'-C3'-O3'	10.44	125.16	109.50
49	5	5061	A	C2'-C3'-O3'	10.33	125.00	109.50
49	5	1455	G	C2'-C3'-O3'	10.15	128.93	113.70
49	5	977	C	C2'-C3'-O3'	10.11	128.86	113.70
1	A	243	THR	N-CA-C	10.10	122.29	111.28
49	5	292	G	C4'-C3'-O3'	10.04	124.46	109.40
49	5	2046	G	C2'-C3'-O3'	9.99	124.49	109.50
49	5	226	G	C2'-C3'-O3'	9.99	124.48	109.50
49	5	215	C	C2'-C3'-O3'	9.95	128.62	113.70
49	5	4331	G	C2'-C3'-O3'	9.73	124.09	109.50
49	5	1398	A	C2'-C3'-O3'	9.70	124.06	109.50
49	5	4266	G	C2'-C3'-O3'	-9.71	99.14	113.70
49	5	2827	G	C2'-C3'-O3'	-9.64	95.03	109.50
49	5	1590	C	C2'-C3'-O3'	-9.60	99.29	113.70
49	5	4453	C	C2'-C3'-O3'	-9.57	99.34	113.70
49	5	125	C	C2'-C3'-O3'	9.52	127.98	113.70
49	5	2083	C	C4'-C3'-O3'	9.51	127.27	113.00
49	5	2389	A	C2'-C3'-O3'	9.50	127.95	113.70
20	U	54	GLY	N-CA-C	9.47	124.42	111.54
49	5	4528	G	C2'-C3'-O3'	9.45	127.87	113.70
49	5	4948	C	C2'-C3'-O3'	9.45	127.87	113.70
49	5	1474	C	C2'-C3'-O3'	9.35	127.72	113.70
51	8	111	U	C2'-C3'-O3'	9.33	123.50	109.50
49	5	1485	C	C2'-C3'-O3'	9.31	123.46	109.50
49	5	4163	U	C4'-C3'-O3'	9.28	126.92	113.00
49	5	1356	U	C2'-C3'-O3'	9.26	127.60	113.70
49	5	1912	G	C4'-C3'-O3'	-9.13	99.30	113.00
49	5	1642	A	C2'-C3'-O3'	9.11	123.16	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	G	163	PRO	N-CA-C	-9.09	93.75	112.47
49	5	1211	G	C2'-C3'-O3'	9.09	127.33	113.70
49	5	293	G	C2'-C3'-O3'	9.07	127.30	113.70
49	5	1610	C	C4'-C3'-O3'	-9.06	99.40	113.00
49	5	1356	U	C4'-C3'-O3'	-8.85	99.73	113.00
49	5	961	G	C2'-C3'-O3'	-8.79	96.32	109.50
49	5	4887	C	C2'-C3'-O3'	8.78	126.87	113.70
26	a	113	GLY	N-CA-C	8.76	129.74	115.46
49	5	1947	U	C4'-C3'-O3'	8.76	126.14	113.00
49	5	1338	G	C1'-C2'-O2'	-8.75	98.68	111.80
49	5	956	A	C2'-C3'-O3'	8.74	122.62	109.50
49	5	3673	C	C2'-C3'-O3'	8.74	122.62	109.50
49	5	4084	G	C2'-C3'-O3'	8.71	122.56	109.50
13	N	182	HIS	N-CA-C	-8.69	98.24	110.50
49	5	1533	A	C2'-C3'-O3'	8.67	122.50	109.50
49	5	118	C	C4'-C3'-O3'	-8.57	100.15	113.00
49	5	2083	C	C2'-C3'-O3'	-8.57	100.84	113.70
49	5	1380	G	C1'-C2'-O2'	-8.57	98.95	111.80
49	5	406	C	C2'-C3'-O3'	8.57	126.55	113.70
49	5	2398	U	C2'-C3'-O3'	8.55	122.33	109.50
49	5	978	G	C2'-C3'-O3'	8.54	126.51	113.70
49	5	2588	C	C4'-C3'-O3'	8.53	125.79	113.00
49	5	5047	C	C2'-C3'-O3'	8.50	122.24	109.50
44	v	406	VAL	N-CA-C	-8.49	95.74	108.99
2	B	261	ARG	N-CA-C	-8.48	92.73	110.80
49	5	1380	G	C4'-C3'-O3'	8.46	122.09	109.40
49	5	979	C	C2'-C3'-O3'	8.45	126.37	113.70
49	5	1292	C	C2'-C3'-O3'	8.44	126.35	113.70
49	5	4885	U	C2'-C3'-O3'	8.40	126.30	113.70
49	5	2107	C	C2'-C3'-O3'	8.37	122.06	109.50
49	5	2272	C	C2'-C3'-O3'	8.37	126.25	113.70
3	C	246	VAL	N-CA-C	8.34	119.13	110.62
49	5	1329	G	C2'-C3'-O3'	8.29	126.13	113.70
14	O	107	GLY	N-CA-C	-8.25	100.60	112.81
49	5	1359	G	C4'-C3'-O3'	-8.21	100.69	113.00
49	5	1280	C	C4'-C3'-O3'	-8.20	100.70	113.00
49	5	2361	G	C2'-C3'-O3'	8.17	121.76	109.50
49	5	2123	C	C2'-C3'-O3'	8.16	121.75	109.50
49	5	4872	G	C2'-C3'-O3'	8.11	121.67	109.50
49	5	2116	C	C2'-C3'-O3'	8.11	121.67	109.50
44	v	325	ASN	CA-C-O	-8.11	111.96	120.55
5	E	90	LYS	CA-C-N	8.10	129.97	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	90	LYS	C-N-CA	8.10	129.97	119.84
49	5	1371	A	O4'-C1'-C2'	-8.09	99.52	107.60
49	5	4670	C	C2'-C3'-O3'	-8.06	101.61	113.70
11	L	99	ASP	N-CA-C	-8.02	98.93	110.40
49	5	4414	A	C4'-C3'-O3'	-8.02	100.97	113.00
26	a	64	LYS	N-CA-C	-8.02	96.17	109.07
49	5	3625	G	C2'-C3'-O3'	8.00	125.70	113.70
49	5	1507	C	C4'-C3'-O3'	-8.00	101.00	113.00
14	O	110	PRO	N-CA-C	7.97	120.43	110.70
5	E	53	TYR	N-CA-C	7.95	124.15	113.97
49	5	333	U	C4'-C3'-O3'	7.92	124.88	113.00
49	5	5001	U	C4'-C3'-O3'	-7.88	101.18	113.00
49	5	2761	U	C4'-C3'-O3'	7.87	121.21	109.40
49	5	4115	G	C4'-C3'-O3'	7.87	121.20	109.40
49	5	1359	G	C2'-C3'-O3'	7.84	125.46	113.70
49	5	2246	C	C2'-C3'-O3'	7.83	125.44	113.70
49	5	1613	A	C2'-C3'-O3'	7.79	121.19	109.50
49	5	4228	G	C4'-C3'-O3'	-7.77	97.75	109.40
49	5	668	C	C2'-C3'-O3'	7.76	125.34	113.70
49	5	2859	G	C3'-C2'-O2'	7.76	122.34	110.70
49	5	47	A	C2'-C3'-O3'	-7.75	97.87	109.50
49	5	5027	C	C2'-C3'-O3'	7.74	121.11	109.50
3	C	67	TRP	N-CA-C	-7.72	98.60	110.10
49	5	2769	U	C4'-C3'-O3'	7.68	120.92	109.40
2	B	258	HIS	N-CA-C	7.67	122.90	112.55
49	5	4182	G	C4'-C3'-O3'	-7.67	101.50	113.00
13	N	185	GLY	N-CA-C	-7.62	101.58	112.55
49	5	3773	U	C4'-C3'-O3'	7.57	124.35	113.00
31	f	92	LEU	CA-C-N	7.55	127.58	119.28
31	f	92	LEU	C-N-CA	7.55	127.58	119.28
49	5	1410	U	C2'-C3'-O3'	7.54	120.81	109.50
49	5	930	G	C4'-C3'-O3'	7.54	120.71	109.40
49	5	2632	U	N1-C1'-C2'	7.54	123.31	112.00
20	U	26	THR	N-CA-C	7.53	119.49	111.28
36	k	59	SER	N-CA-C	7.53	121.56	112.38
49	5	1670	G	C2'-C3'-O3'	-7.49	102.46	113.70
49	5	1239	C	C2'-C3'-O3'	7.49	120.74	109.50
13	N	92	LEU	N-CA-C	7.47	121.03	110.50
49	5	3888	G	C2'-C3'-O3'	7.46	124.89	113.70
49	5	4468	U	C1'-C2'-O2'	7.46	119.59	108.40
49	5	4730	C	C4'-C3'-O3'	7.44	120.56	109.40
49	5	1210	C	C2'-C3'-O3'	7.42	120.63	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	k	61	PRO	N-CA-C	7.41	119.73	110.70
49	5	1722	C	C4'-C3'-O3'	-7.39	101.91	113.00
5	E	246	GLN	CA-C-N	7.35	130.00	120.44
5	E	246	GLN	C-N-CA	7.35	130.00	120.44
49	5	276	C	C2'-C3'-O3'	7.33	124.70	113.70
49	5	964	A	C4'-C3'-O3'	7.29	123.94	113.00
13	N	85	VAL	CB-CA-C	-7.29	102.75	111.94
49	5	2332	A	C4'-C3'-O3'	-7.28	98.48	109.40
49	5	276	C	C4'-C3'-O3'	-7.25	102.12	113.00
49	5	3604	A	C2'-C3'-O3'	-7.23	102.86	113.70
49	5	964	A	O4'-C1'-C2'	-7.19	100.41	107.60
49	5	215	C	C4'-C3'-O3'	-7.19	102.22	113.00
49	5	4289	U	C2'-C3'-O3'	-7.16	102.96	113.70
49	5	2263	A	C2'-C3'-O3'	7.15	120.23	109.50
49	5	119	G	O4'-C4'-C3'	-7.14	98.96	106.10
49	5	505	G	C2'-C3'-O3'	7.13	124.40	113.70
49	5	1629	G	C2'-C3'-O3'	-7.11	103.03	113.70
49	5	294	G	C4'-C3'-O3'	-7.09	102.36	113.00
49	5	5059	C	C2'-C3'-O3'	7.09	124.33	113.70
49	5	968	C	C4'-C3'-O3'	7.07	120.01	109.40
49	5	300	A	N9-C1'-C2'	7.07	122.60	112.00
49	5	385	A	C4'-C3'-O3'	7.06	119.98	109.40
49	5	1501	C	N1-C1'-C2'	7.04	124.57	114.00
49	5	3697	U	C2'-C3'-O3'	7.04	124.26	113.70
7	G	147	VAL	N-CA-C	-7.04	106.06	111.62
27	b	41	ARG	N-CA-C	-7.03	102.44	111.02
49	5	4331	G	C4'-C3'-O3'	-7.03	98.85	109.40
49	5	1818	G	C4'-C3'-O3'	-7.02	102.47	113.00
49	5	4473	A	N9-C1'-C2'	7.01	122.52	112.00
49	5	2089	G	C1'-C2'-O2'	-6.99	101.31	111.80
49	5	4181	U	C4'-C3'-O3'	-6.99	102.51	113.00
49	5	747	A	C3'-C2'-O2'	6.99	121.18	110.70
49	5	936	C	C2'-C3'-O3'	6.98	119.98	109.50
49	5	2661	U	C2'-C3'-O3'	6.96	119.95	109.50
49	5	2836	A	C4'-C3'-O3'	-6.95	102.57	113.00
49	5	4512	U	C2'-C3'-O3'	-6.94	99.08	109.50
16	Q	158	THR	N-CA-C	-6.93	97.10	108.82
49	5	1889	U	C2'-C3'-O3'	-6.93	103.30	113.70
49	5	1282	G	C1'-C2'-O2'	6.93	118.80	108.40
49	5	4666	G	C4'-C3'-O3'	-6.93	102.61	113.00
49	5	1291	G	C4'-C3'-O3'	-6.93	102.61	113.00
49	5	715	G	C4'-C3'-O3'	-6.92	102.61	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	5	275	C	C2'-C3'-O3'	6.92	124.08	113.70
49	5	94	A	N9-C1'-C2'	6.91	122.37	112.00
24	Y	87	ARG	NE-CZ-NH2	6.90	125.41	119.20
49	5	2468	U	C4'-C3'-O3'	6.90	119.75	109.40
49	5	2797	C	N1-C1'-C2'	-6.89	103.67	114.00
49	5	4301	U	C4'-C3'-O3'	-6.88	102.69	113.00
49	5	1604	G	C1'-C2'-O2'	6.87	118.70	108.40
25	Z	54	THR	N-CA-C	6.84	121.38	113.38
49	5	1741	G	C2'-C3'-O3'	-6.84	103.44	113.70
13	N	169	ARG	N-CA-C	6.84	118.73	111.28
49	5	1745	G	C1'-C2'-O2'	6.82	118.63	108.40
49	5	4941	G	C4'-C3'-O3'	-6.81	102.79	113.00
8	H	47	LEU	N-CA-C	-6.79	98.33	109.40
49	5	2669	C	C4'-C3'-O3'	6.78	119.57	109.40
21	V	35	LYS	N-CA-C	6.78	118.75	111.36
49	5	286	U	N1-C1'-C2'	6.78	122.17	112.00
49	5	336	A	C1'-O4'-C4'	-6.76	103.14	109.90
49	5	2521	G	C3'-C2'-O2'	6.76	120.84	110.70
49	5	136	C	C2'-C3'-O3'	6.76	119.63	109.50
49	5	1789	C	C4'-C3'-O3'	-6.76	102.87	113.00
49	5	384	A	C4'-C3'-O3'	-6.75	102.87	113.00
49	5	220	C	C4'-C3'-O3'	-6.74	102.89	113.00
49	5	47	A	C4'-C3'-O3'	6.74	119.50	109.40
49	5	2514	G	C1'-C2'-O2'	6.72	118.49	108.40
49	5	1921	C	C2'-C3'-O3'	6.72	119.58	109.50
49	5	1697	G	C4'-C3'-O3'	6.70	119.45	109.40
49	5	2823	G	C4'-C3'-O3'	-6.70	102.95	113.00
3	C	232	VAL	CB-CA-C	-6.69	102.99	112.22
49	5	4211	C	C4'-C3'-O3'	-6.69	102.97	113.00
49	5	917	A	C4'-C3'-O3'	6.68	119.42	109.40
49	5	90	G	C4'-C3'-O3'	-6.68	102.98	113.00
49	5	1214	C	C4'-C3'-O3'	6.67	119.41	109.40
10	J	13	ARG	N-CA-C	-6.67	99.62	109.62
49	5	2857	A	C3'-C2'-O2'	6.67	120.70	110.70
49	5	2857	A	C4'-C3'-O3'	6.66	122.99	113.00
6	F	141	TYR	N-CA-C	6.66	121.42	113.16
49	5	1624	G	C4'-C3'-O3'	6.65	119.38	109.40
43	t	118	HIS	CB-CG-CD2	-6.64	122.57	131.20
49	5	2266	C	C2'-C3'-O3'	6.63	119.44	109.50
49	5	3663	A	C2'-C3'-O3'	-6.62	99.56	109.50
49	5	3774	A	C4'-C3'-O3'	-6.62	103.07	113.00
43	t	2	PRO	N-CA-C	6.62	118.77	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	h	63	GLN	N-CA-C	-6.61	103.76	110.97
49	5	3773	U	C2'-C3'-O3'	6.61	123.61	113.70
49	5	2844	A	C4'-C3'-O3'	-6.59	103.12	113.00
49	5	1467	C	C1'-C2'-O2'	6.59	118.28	108.40
49	5	4317	A	C4'-C3'-O3'	-6.59	103.12	113.00
49	5	4873	G	C2'-C3'-O3'	-6.59	99.62	109.50
49	5	3745	U	C4'-C3'-O3'	-6.57	103.14	113.00
41	r	13	CYS	N-CA-C	6.57	121.00	112.92
49	5	2756	G	C4'-C3'-O3'	-6.56	103.16	113.00
49	5	5066	U	N1-C1'-C2'	6.56	121.84	112.00
7	G	57	TRP	CA-C-N	6.56	126.58	119.89
7	G	57	TRP	C-N-CA	6.56	126.58	119.89
49	5	664	G	C4'-C3'-O3'	6.56	119.24	109.40
44	u	99	TRP	CA-C-N	6.55	128.03	119.84
44	u	99	TRP	C-N-CA	6.55	128.03	119.84
49	5	1379	C	N1-C1'-C2'	6.55	123.82	114.00
18	S	83	ARG	NE-CZ-NH2	6.53	125.08	119.20
49	5	4227	U	C4'-C3'-O3'	-6.53	103.20	113.00
49	5	2832	A	C4'-C3'-O3'	-6.53	103.21	113.00
49	5	1345	A	C4'-C3'-O3'	-6.52	103.22	113.00
49	5	2857	A	C1'-C2'-O2'	-6.51	98.63	108.40
49	5	711	A	C4'-C3'-O3'	-6.51	103.23	113.00
49	5	4375	C	C4'-C3'-O3'	-6.51	103.23	113.00
49	5	2093	A	C2'-C3'-O3'	6.50	119.25	109.50
49	5	347	A	C4'-C3'-O3'	-6.50	103.26	113.00
49	5	3859	G	C4'-C3'-O3'	-6.46	103.31	113.00
19	T	141	VAL	N-CA-C	-6.45	99.08	108.11
49	5	1528	U	C4'-C3'-O3'	-6.43	103.35	113.00
49	5	3670	C	C4'-C3'-O3'	6.42	119.02	109.40
28	c	14	ILE	N-CA-C	6.39	117.14	110.62
49	5	1947	U	C2'-C3'-O3'	-6.38	104.13	113.70
49	5	4237	C	C4'-C3'-O3'	-6.38	103.43	113.00
49	5	965	G	C2'-C3'-O3'	6.37	119.06	109.50
49	5	2639	U	C4'-C3'-O3'	-6.37	103.44	113.00
43	t	140	GLY	N-CA-C	6.37	120.60	112.83
49	5	134	G	C4'-C3'-O3'	6.36	118.94	109.40
51	8	150	C	C2'-C3'-O3'	-6.35	104.17	113.70
49	5	43	U	O4'-C4'-C3'	-6.35	97.65	104.00
31	f	93	PRO	N-CA-C	6.34	122.21	113.65
49	5	4985	U	C4'-C3'-O3'	-6.34	103.49	113.00
49	5	1514	U	C1'-C2'-O2'	6.34	117.91	108.40
2	B	302	ASN	N-CA-C	6.33	117.84	111.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	H	48	LEU	N-CA-C	6.33	119.04	109.23
49	5	4378	A	C2'-C3'-O3'	6.32	118.98	109.50
49	5	4888	U	C4'-C3'-O3'	6.32	118.88	109.40
49	5	1500	A	C4'-C3'-O3'	6.31	122.47	113.00
49	5	1358	G	O4'-C1'-C2'	-6.31	101.29	107.60
3	C	183	VAL	CB-CA-C	-6.30	103.90	111.97
49	5	1818	G	C2'-C3'-O3'	6.29	123.14	113.70
2	B	258	HIS	CA-C-N	-6.28	111.99	119.84
2	B	258	HIS	C-N-CA	-6.28	111.99	119.84
49	5	2273	G	C4'-C3'-O3'	-6.28	103.58	113.00
51	8	20	A	C1'-C2'-O2'	6.27	117.81	108.40
6	F	131	SER	N-CA-C	6.27	118.20	111.36
33	h	79	LYS	N-CA-C	6.26	115.52	108.25
49	5	4701	A	C4'-C3'-O3'	-6.26	103.60	113.00
49	5	2588	C	C2'-C3'-O3'	-6.26	104.31	113.70
49	5	956	A	C4'-C3'-O3'	6.25	118.78	109.40
44	u	104	MET	CA-C-N	6.25	127.66	119.84
44	u	104	MET	C-N-CA	6.25	127.66	119.84
49	5	233	U	C2'-C3'-O3'	6.24	118.86	109.50
49	5	1343	A	C4'-C3'-O3'	-6.23	103.65	113.00
49	5	1615	C	C4'-C3'-O3'	-6.23	103.65	113.00
49	5	325	U	C4'-C3'-O3'	-6.23	103.66	113.00
49	5	3925	U	C3'-C2'-O2'	6.22	120.03	110.70
41	r	52	GLU	CA-C-N	-6.22	113.55	120.14
41	r	52	GLU	C-N-CA	-6.22	113.55	120.14
49	5	64	A	C4'-C3'-O3'	6.22	118.72	109.40
49	5	3625	G	C4'-C3'-O3'	-6.21	103.68	113.00
49	5	412	G	C4'-C3'-O3'	6.21	118.72	109.40
49	5	265	C	C4'-C3'-O3'	6.19	118.68	109.40
49	5	4163	U	C2'-C3'-O3'	-6.18	104.42	113.70
49	5	209	U	C4'-C3'-O3'	6.18	118.67	109.40
49	5	3619	G	C4'-C3'-O3'	-6.18	103.73	113.00
49	5	2264	C	C2'-C3'-O3'	6.17	118.76	109.50
18	S	100	LEU	N-CA-C	6.17	118.01	111.28
49	5	1440	U	C2'-C3'-O3'	6.17	122.95	113.70
49	5	3698	G	C4'-C3'-O3'	-6.17	103.75	113.00
49	5	1826	G	C4'-C3'-O3'	-6.16	103.75	113.00
50	7	78	C	C2'-C3'-O3'	-6.16	104.46	113.70
49	5	172	C	C2'-C3'-O3'	6.14	118.71	109.50
49	5	4576	U	C4'-C3'-O3'	-6.14	103.79	113.00
49	5	2459	G	C4'-C3'-O3'	-6.14	103.80	113.00
49	5	3790	U	C4'-C3'-O3'	6.14	118.61	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	5	3903	A	C4'-C3'-O3'	-6.13	103.80	113.00
49	5	5060	A	C4'-C3'-O3'	6.13	122.20	113.00
49	5	1643	A	C4'-C3'-O3'	-6.13	103.80	113.00
49	5	1359	G	N9-C1'-C2'	6.12	121.18	112.00
49	5	1272	C	C1'-C2'-O2'	-6.11	102.63	111.80
49	5	3873	G	C1'-C2'-O2'	6.10	117.56	108.40
49	5	3679	U	C4'-C3'-O3'	-6.10	100.25	109.40
49	5	4375	C	C2'-C3'-O3'	-6.10	104.55	113.70
49	5	231	U	C4'-C3'-O3'	-6.10	103.85	113.00
49	5	3593	C	C4'-C3'-O3'	6.10	118.55	109.40
3	C	82	GLY	N-CA-C	6.10	120.36	112.68
49	5	3729	U	N1-C1'-C2'	6.08	121.13	112.00
23	X	90	ILE	N-CA-C	6.08	116.82	110.62
49	5	932	A	C3'-C2'-O2'	6.07	119.81	110.70
16	Q	187	LYS	N-CA-C	6.06	118.28	109.07
49	5	1370	G	N9-C1'-C2'	6.06	123.09	114.00
1	A	86	GLN	N-CA-C	-6.05	99.83	109.76
49	5	1392	A	C4'-C3'-O3'	-6.05	103.92	113.00
49	5	4589	A	O4'-C4'-C3'	-6.05	100.05	106.10
49	5	1503	A	C4'-C3'-O3'	6.03	118.45	109.40
49	5	1899	G	C4'-C3'-O3'	-6.03	103.96	113.00
49	5	1236	C	C2'-C3'-O3'	6.01	122.72	113.70
49	5	1377	G	C2'-C3'-O3'	6.01	122.72	113.70
49	5	2090	U	C4'-C3'-O3'	-6.01	103.98	113.00
49	5	2025	A	C2'-C3'-O3'	-6.00	100.50	109.50
3	C	316	LYS	N-CA-C	-6.00	99.42	108.96
49	5	2046	G	C3'-C2'-O2'	6.00	123.60	114.60
49	5	4170	A	C2'-C3'-O3'	6.00	118.50	109.50
49	5	1232	G	C4'-C3'-O3'	6.00	118.39	109.40
49	5	654	C	C2'-C3'-O3'	-5.99	104.71	113.70
49	5	1396	G	C4'-C3'-O3'	-5.98	104.03	113.00
5	E	247	LYS	CA-C-N	-5.97	112.68	120.44
5	E	247	LYS	C-N-CA	-5.97	112.68	120.44
49	5	979	C	C4'-C3'-O3'	-5.97	104.04	113.00
49	5	1361	G	C4'-C3'-O3'	-5.97	104.04	113.00
49	5	1573	G	C4'-C3'-O3'	-5.97	104.04	113.00
49	5	486	C	C2'-C3'-O3'	5.97	122.65	113.70
41	r	62	VAL	N-CA-C	5.97	116.98	108.93
49	5	1238	A	C2'-C3'-O3'	5.96	122.64	113.70
49	5	4087	G	C2'-C3'-O3'	-5.95	104.77	113.70
14	O	157	GLU	CA-C-O	-5.95	113.13	119.97
49	5	1618	G	C4'-C3'-O3'	-5.95	104.08	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	5	3931	C	C1'-C2'-O2'	5.94	117.31	108.40
49	5	3659	G	C4'-C3'-O3'	-5.93	104.10	113.00
49	5	4075	U	C2'-C3'-O3'	5.93	118.40	109.50
41	r	32	LEU	N-CA-C	-5.93	101.70	110.48
49	5	2320	G	C4'-C3'-O3'	5.92	118.28	109.40
49	5	3697	U	C3'-C2'-O2'	5.92	119.58	110.70
49	5	3735	G	C4'-C3'-O3'	-5.92	104.12	113.00
49	5	3663	A	O4'-C4'-C3'	-5.92	100.19	106.10
43	t	118	HIS	CB-CG-ND1	5.91	131.57	122.70
5	E	240	GLU	N-CA-C	-5.91	106.72	114.04
49	5	931	C	C2'-C3'-O3'	5.90	118.35	109.50
49	5	1791	U	C1'-C2'-O2'	5.90	117.25	108.40
49	5	1407	C	C4'-C3'-O3'	5.90	118.25	109.40
49	5	2796	G	C2'-C3'-O3'	-5.90	100.65	109.50
49	5	4873	G	C4'-C3'-O3'	5.89	118.24	109.40
49	5	943	A	C4'-C3'-O3'	5.89	118.23	109.40
49	5	2386	U	C1'-C2'-O2'	5.89	117.23	108.40
6	F	110	VAL	CB-CA-C	-5.88	104.44	111.97
49	5	2440	U	C2'-C3'-O3'	5.88	118.32	109.50
49	5	4297	G	C1'-C2'-O2'	5.88	117.22	108.40
49	5	2335	C	C3'-C2'-O2'	5.88	119.52	110.70
49	5	1974	U	C4'-C3'-O3'	5.88	118.22	109.40
11	L	116	ARG	CB-CA-C	-5.87	101.66	110.88
49	5	2751	G	C3'-C2'-O2'	5.87	119.50	110.70
49	5	2743	A	C4'-C3'-O3'	-5.86	104.21	113.00
49	5	1336	G	C2'-C3'-O3'	-5.86	104.92	113.70
49	5	3735	G	C2'-C3'-O3'	5.86	122.48	113.70
49	5	4476	C	C4'-C3'-O3'	-5.86	104.22	113.00
3	C	80	ARG	N-CA-C	5.85	118.73	109.96
25	Z	101	PHE	N-CA-C	5.85	117.65	111.28
49	5	2060	G	C4'-C3'-O3'	-5.84	104.24	113.00
14	O	140	ARG	CB-CA-C	-5.84	101.71	110.88
49	5	977	C	C3'-C2'-O2'	5.84	119.46	110.70
49	5	3627	G	C1'-C2'-O2'	5.84	117.15	108.40
49	5	1740	C	C3'-C2'-O2'	5.83	119.45	110.70
49	5	1832	C	C4'-C3'-O3'	-5.82	104.27	113.00
49	5	1636	U	C4'-C3'-O3'	-5.82	104.27	113.00
10	J	89	VAL	N-CA-C	-5.82	104.69	110.62
9	I	43	VAL	CB-CA-C	-5.82	104.29	112.14
49	5	2348	G	C1'-C2'-O2'	-5.81	103.08	111.80
49	5	2055	G	C2'-C3'-O3'	-5.81	104.99	113.70
30	e	42	ASP	N-CA-C	-5.81	98.27	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	v	405	HIS	N-CA-C	-5.80	104.96	111.28
9	I	70	ILE	CB-CA-C	-5.79	104.56	111.97
49	5	2282	A	C4'-C3'-O3'	-5.79	104.31	113.00
49	5	5022	U	C2'-C3'-O3'	5.79	122.39	113.70
49	5	4517	A	C4'-C3'-O3'	-5.79	104.32	113.00
49	5	4622	A	C4'-C3'-O3'	-5.78	104.33	113.00
49	5	1529	G	C4'-C3'-O3'	-5.78	104.33	113.00
49	5	1378	C	N1-C1'-C2'	5.77	120.66	112.00
49	5	4966	A	N9-C1'-C2'	5.76	120.65	112.00
49	5	43	U	C1'-C2'-O2'	5.76	117.05	108.40
49	5	1397	A	C3'-C2'-O2'	5.76	119.34	110.70
9	I	211	VAL	N-CA-C	-5.76	106.09	111.45
32	g	76	ARG	N-CA-C	5.76	116.00	107.88
41	r	15	SER	N-CA-C	-5.76	105.01	111.28
49	5	961	G	C4'-C3'-O3'	5.75	118.03	109.40
49	5	1835	G	C3'-C2'-O2'	5.74	119.32	110.70
49	5	2640	G	C4'-C3'-O3'	-5.74	104.39	113.00
49	5	4965	U	C4'-C3'-O3'	-5.74	104.39	113.00
49	5	276	C	C3'-C2'-O2'	5.74	119.31	110.70
49	5	4238	G	C4'-C3'-O3'	-5.74	104.39	113.00
49	5	4719	G	C3'-C2'-O2'	5.74	119.31	110.70
49	5	2526	C	C4'-C3'-O3'	-5.73	104.40	113.00
5	E	153	HIS	N-CA-C	-5.73	99.79	108.67
49	5	4181	U	C2'-C3'-O3'	5.73	122.29	113.70
49	5	4355	G	C4'-C3'-O3'	-5.73	104.41	113.00
49	5	1344	C	C1'-C2'-O2'	5.72	116.98	108.40
49	5	4579	U	N1-C1'-C2'	5.72	120.59	112.00
51	8	124	U	C4'-C3'-O3'	5.72	117.99	109.40
49	5	187	U	C2'-C3'-O3'	5.71	122.27	113.70
49	5	4876	U	C2'-C3'-O3'	5.71	118.07	109.50
49	5	2474	G	C3'-C2'-O2'	5.71	119.27	110.70
49	5	4325	A	C4'-C3'-O3'	-5.71	104.43	113.00
20	U	24	ASP	N-CA-C	5.71	118.51	110.23
49	5	2793	G	C4'-C3'-O3'	-5.70	104.44	113.00
49	5	4180	G	C4'-C3'-O3'	-5.70	104.45	113.00
49	5	693	C	C2'-C3'-O3'	5.70	122.25	113.70
49	5	1756	U	N1-C1'-C2'	5.69	120.53	112.00
49	5	3679	U	O4'-C4'-C3'	-5.69	100.41	106.10
49	5	4088	C	C4'-C3'-O3'	-5.68	104.48	113.00
49	5	4277	G	C4'-C3'-O3'	-5.68	104.48	113.00
49	5	2060	G	C2'-C3'-O3'	5.68	122.22	113.70
49	5	451	C	C2'-C3'-O3'	5.67	118.00	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	5	1353	G	C4'-C3'-O3'	-5.66	104.51	113.00
49	5	1499	C	C4'-C3'-O3'	-5.66	104.51	113.00
49	5	4656	A	C2'-C3'-O3'	5.66	117.99	109.50
10	J	83	LEU	N-CA-C	-5.65	105.12	111.28
49	5	1427	A	C2'-C3'-O3'	5.65	122.18	113.70
12	M	66	HIS	N-CA-C	5.65	119.65	112.87
49	5	4550	G	C4'-C3'-O3'	-5.65	104.52	113.00
49	5	1730	U	C2'-C3'-O3'	5.65	122.18	113.70
49	5	1376	C	C4'-C3'-O3'	-5.65	104.53	113.00
4	D	37	VAL	N-CA-C	5.64	118.57	113.10
49	5	4268	A	C1'-C2'-O2'	5.64	116.87	108.40
49	5	4620	U	C3'-C2'-O2'	5.64	119.17	110.70
14	O	83	THR	N-CA-CB	5.64	118.51	110.16
49	5	2353	U	C2'-C3'-O3'	-5.64	105.24	113.70
49	5	4208	U	C1'-C2'-O2'	5.64	116.85	108.40
49	5	4738	C	C4'-C3'-O3'	-5.64	104.54	113.00
49	5	1924	C	C1'-C2'-O2'	5.63	116.84	108.40
3	C	98	GLY	N-CA-C	-5.62	99.86	113.18
11	L	9	ILE	N-CA-C	-5.62	99.13	107.51
42	s	8	THR	N-CA-C	-5.62	105.15	111.28
49	5	1361	G	C2'-C3'-O3'	5.62	122.12	113.70
49	5	712	C	C1'-C2'-O2'	5.61	116.82	108.40
19	T	143	THR	N-CA-C	-5.61	99.38	108.41
49	5	2269	C	C4'-C3'-O3'	-5.61	104.59	113.00
49	5	1912	G	C2'-C3'-O3'	5.61	122.11	113.70
49	5	219	G	O4'-C1'-C2'	-5.60	102.00	107.60
49	5	1235	G	C2'-C3'-O3'	-5.60	105.30	113.70
51	8	93	C	C4'-C3'-O3'	-5.59	104.61	113.00
49	5	1755	C	C2'-C3'-O3'	5.59	117.89	109.50
49	5	1960	A	C2'-C3'-O3'	-5.59	101.11	109.50
49	5	1211	G	C4'-C3'-O3'	5.58	121.37	113.00
10	J	22	LEU	CA-C-N	-5.58	115.12	122.99
10	J	22	LEU	C-N-CA	-5.58	115.12	122.99
29	d	41	ARG	N-CA-C	5.58	118.21	111.40
49	5	233	U	C3'-C2'-O2'	5.58	122.96	114.60
49	5	1216	C	C2'-C3'-O3'	5.58	122.06	113.70
49	5	4585	U	C4'-C3'-O3'	-5.58	104.64	113.00
49	5	2827	G	C4'-C3'-O3'	5.57	117.76	109.40
49	5	1457	G	C4'-C3'-O3'	-5.57	104.65	113.00
49	5	4144	C	C4'-C3'-O3'	5.56	117.75	109.40
49	5	4617	G	C4'-C3'-O3'	-5.56	104.66	113.00
1	A	196	TRP	CA-C-N	-5.56	112.89	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	196	TRP	C-N-CA	-5.56	112.89	119.84
33	h	89	ARG	CG-CD-NE	5.56	124.23	112.00
43	t	88	PRO	C-N-CD	-5.56	108.37	120.60
49	5	372	A	C4'-C3'-O3'	-5.56	104.67	113.00
49	5	1672	U	N1-C1'-C2'	5.55	120.33	112.00
49	5	2112	G	N9-C1'-C2'	5.55	120.33	112.00
49	5	2732	G	C4'-C3'-O3'	-5.55	104.67	113.00
49	5	4884	G	C4'-C3'-O3'	-5.55	104.67	113.00
3	C	164	THR	CB-CA-C	-5.55	101.25	110.68
23	X	88	LYS	N-CA-C	-5.55	105.23	111.28
49	5	2714	G	C4'-C3'-O3'	-5.55	104.68	113.00
49	5	3647	A	C4'-C3'-O3'	-5.54	104.69	113.00
49	5	125	C	C3'-C2'-O2'	5.54	119.01	110.70
49	5	1800	U	C4'-C3'-O3'	-5.53	104.70	113.00
49	5	4364	G	C4'-C3'-O3'	-5.53	104.70	113.00
49	5	4569	U	C1'-C2'-O2'	5.53	116.70	108.40
49	5	497	G	C4'-C3'-O3'	5.53	121.30	113.00
23	X	149	VAL	N-CA-CB	5.53	118.06	110.54
49	5	3841	C	C3'-C2'-O2'	5.53	118.99	110.70
49	5	2474	G	C2'-C3'-O3'	5.53	121.99	113.70
6	F	43	MET	CB-CG-SD	5.52	129.26	112.70
49	5	1238	A	C3'-C2'-O2'	5.52	118.98	110.70
49	5	684	G	C2'-C3'-O3'	5.52	121.97	113.70
49	5	1380	G	O4'-C4'-C3'	-5.51	100.59	106.10
25	Z	105	ALA	N-CA-C	5.50	117.28	111.28
49	5	4381	A	C4'-C3'-O3'	-5.50	104.74	113.00
25	Z	30	ASP	N-CA-C	5.50	119.57	112.86
49	5	1642	A	C4'-C3'-O3'	-5.50	101.15	109.40
49	5	62	A	C4'-C3'-O3'	-5.50	104.75	113.00
2	B	18	PRO	N-CA-C	-5.49	101.15	112.47
2	B	388	PHE	N-CA-C	5.49	117.07	111.14
49	5	4121	G	C2'-C3'-O3'	5.49	117.74	109.50
49	5	4548	A	C4'-C3'-O3'	5.49	117.64	109.40
49	5	943	A	N9-C1'-C2'	-5.49	105.77	114.00
49	5	3776	G	C2'-C3'-O3'	5.49	117.73	109.50
3	C	42	THR	N-CA-CB	5.49	118.18	110.12
49	5	1633	G	C4'-C3'-O3'	5.49	121.23	113.00
49	5	4217	G	C4'-C3'-O3'	-5.48	104.77	113.00
49	5	3818	U	C2'-C3'-O3'	-5.48	105.48	113.70
51	8	94	G	C2'-C3'-O3'	5.48	117.72	109.50
31	f	106	TYR	CA-C-N	-5.48	112.99	119.84
31	f	106	TYR	C-N-CA	-5.48	112.99	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	L	29	PRO	N-CA-C	-5.47	106.06	113.40
15	P	53	LEU	N-CA-C	5.47	118.96	112.72
49	5	4086	G	C4'-C3'-O3'	-5.47	101.20	109.40
49	5	943	A	C2'-C3'-O3'	5.46	117.69	109.50
14	O	110	PRO	CA-C-N	-5.46	112.99	119.05
14	O	110	PRO	C-N-CA	-5.46	112.99	119.05
49	5	97	G	C4'-C3'-O3'	-5.46	104.81	113.00
49	5	1370	G	C4'-C3'-O3'	5.46	117.59	109.40
49	5	4473	A	C4'-C3'-O3'	-5.46	104.81	113.00
41	r	124	VAL	N-CA-C	5.46	115.70	110.74
38	m	118	THR	N-CA-C	5.44	116.89	111.07
49	5	1279	A	C4'-C3'-O3'	-5.44	101.24	109.40
49	5	4489	G	C4'-C3'-O3'	-5.44	104.84	113.00
49	5	4119	C	C2'-C3'-O3'	5.43	121.85	113.70
49	5	4765	G	C3'-C2'-O2'	5.43	118.85	110.70
49	5	4958	C	O4'-C1'-C2'	-5.43	102.17	107.60
51	8	37	A	C2'-C3'-O3'	5.43	117.65	109.50
49	5	2751	G	C4'-C3'-O3'	-5.42	104.86	113.00
49	5	4485	C	C4'-C3'-O3'	-5.42	104.87	113.00
49	5	1357	C	C3'-C2'-O2'	5.41	122.72	114.60
49	5	2257	C	C2'-C3'-O3'	5.41	117.62	109.50
31	f	80	ASN	N-CA-C	5.41	122.32	110.80
49	5	2406	G	C3'-C2'-O2'	5.41	118.81	110.70
49	5	1915	C	C1'-C2'-O2'	-5.41	103.69	111.80
49	5	4408	G	C4'-C3'-O3'	-5.41	104.89	113.00
49	5	497	G	C2'-C3'-O3'	-5.40	105.60	113.70
49	5	2841	G	C1'-C2'-O2'	5.40	116.50	108.40
7	G	166	LEU	N-CA-C	5.40	116.85	111.07
33	h	28	LEU	CA-C-O	-5.40	114.83	120.55
49	5	3905	A	C2'-C3'-O3'	5.39	121.79	113.70
49	5	4551	U	C4'-C3'-O3'	-5.39	104.91	113.00
25	Z	97	ASN	N-CA-C	-5.39	101.34	109.85
49	5	5045	G	C2'-C3'-O3'	5.39	121.78	113.70
49	5	1726	U	C4'-C3'-O3'	-5.39	104.92	113.00
49	5	1343	A	C2'-C3'-O3'	5.39	121.78	113.70
49	5	4125	C	C4'-C3'-O3'	-5.38	104.93	113.00
49	5	1445	U	C2'-C3'-O3'	5.37	121.76	113.70
5	E	217	LYS	N-CA-C	5.37	118.41	110.46
49	5	4349	C	C4'-C3'-O3'	5.37	117.45	109.40
49	5	4317	A	C2'-C3'-O3'	5.36	121.75	113.70
49	5	4441	A	P-O5'-C5'	-5.36	112.86	120.90
49	5	2554	U	C4'-C3'-O3'	5.36	121.04	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	f	63	LYS	CA-C-N	5.36	126.54	119.84
31	f	63	LYS	C-N-CA	5.36	126.54	119.84
2	B	258	HIS	N-CA-CB	5.34	117.80	110.11
49	5	4318	C	C4'-C3'-O3'	-5.34	104.99	113.00
49	5	2251	G	C4'-C3'-O3'	5.34	117.41	109.40
49	5	2256	C	C2'-C3'-O3'	5.34	117.51	109.50
49	5	2422	C	C3'-C2'-O2'	5.34	118.71	110.70
50	7	59	G	C1'-C2'-O2'	5.33	116.40	108.40
49	5	4323	A	C1'-C2'-O2'	5.33	116.39	108.40
5	E	212	TYR	CA-CB-CG	5.33	123.49	113.90
49	5	4075	U	C4'-C3'-O3'	5.33	117.39	109.40
37	l	48	LYS	N-CA-C	5.31	117.65	110.06
49	5	4731	G	N9-C1'-C2'	5.31	121.97	114.00
3	C	340	ILE	CB-CA-C	-5.30	105.54	111.80
15	P	148	MET	N-CA-C	5.30	116.34	108.60
49	5	336	A	C8-N9-C1'	-5.30	111.79	127.70
6	F	237	ASN	N-CA-C	5.30	117.36	109.25
49	5	1264	C	C3'-C2'-O2'	5.30	118.65	110.70
49	5	2806	A	C3'-C2'-O2'	5.30	118.65	110.70
2	B	258	HIS	CA-CB-CG	-5.30	108.50	113.80
49	5	479	G	C2'-C3'-O3'	5.30	121.64	113.70
49	5	4584	A	C4'-C3'-O3'	-5.29	105.06	113.00
49	5	4183	G	O4'-C4'-C3'	-5.29	100.81	106.10
21	V	30	ASP	N-CA-C	-5.29	100.42	107.88
49	5	336	A	C4-N9-C1'	5.29	142.16	126.30
49	5	1296	G	C2'-C3'-O3'	5.29	117.43	109.50
49	5	2769	U	C1'-C2'-O2'	5.28	119.72	111.80
49	5	4979	A	C4'-C3'-O3'	-5.28	105.08	113.00
49	5	3888	G	C3'-C2'-O2'	5.28	118.62	110.70
49	5	977	C	O4'-C4'-C3'	-5.28	98.72	104.00
17	R	29	THR	N-CA-C	5.28	117.94	111.82
13	N	182	HIS	CA-C-N	-5.28	114.61	122.36
13	N	182	HIS	C-N-CA	-5.28	114.61	122.36
19	T	101	SER	N-CA-C	-5.28	105.53	111.28
49	5	4723	A	N9-C1'-C2'	5.27	119.91	112.00
49	5	1933	G	C1'-C2'-O2'	5.27	116.30	108.40
8	H	109	GLY	N-CA-C	-5.27	100.70	113.18
49	5	513	U	C4'-C3'-O3'	-5.27	105.10	113.00
49	5	171	U	C4'-C3'-O3'	-5.26	101.50	109.40
49	5	212	A	C4'-C3'-O3'	-5.26	105.11	113.00
49	5	1722	C	C2'-C3'-O3'	5.25	121.58	113.70
49	5	4991	U	C2'-C3'-O3'	5.25	121.58	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	5	2407	G	C2'-C3'-O3'	5.25	117.38	109.50
49	5	84	A	C2'-C3'-O3'	-5.25	101.62	109.50
33	h	64	THR	N-CA-CB	5.25	117.83	110.12
49	5	300	A	O4'-C1'-C2'	-5.25	102.35	107.60
49	5	1329	G	C4'-C3'-O3'	5.25	120.87	113.00
49	5	4632	U	C4'-C3'-O3'	-5.24	105.14	113.00
49	5	2792	C	C1'-C2'-O2'	5.24	116.26	108.40
49	5	4359	U	C1'-C2'-O2'	5.24	116.26	108.40
40	p	6	LYS	N-CA-C	5.24	116.99	111.28
49	5	1	C	C5'-C4'-C3'	5.24	123.06	115.20
49	5	1975	G	C4'-C3'-O3'	5.24	117.26	109.40
49	5	245	C	C3'-C2'-O2'	5.23	118.55	110.70
27	b	39	PHE	CB-CA-C	-5.23	102.44	110.81
49	5	2806	A	O4'-C1'-C2'	-5.23	102.37	107.60
49	5	5044	A	C4'-C3'-O3'	-5.23	105.16	113.00
11	L	155	MET	CA-C-N	5.23	125.51	119.92
11	L	155	MET	C-N-CA	5.23	125.51	119.92
49	5	1823	G	C4'-C3'-O3'	-5.22	105.17	113.00
49	5	2054	U	C4'-C3'-O3'	-5.22	101.57	109.40
49	5	3825	A	C1'-C2'-O2'	5.22	116.23	108.40
3	C	36	ILE	CB-CA-C	-5.22	105.18	112.02
49	5	1474	C	C3'-C2'-O2'	5.22	118.52	110.70
49	5	4900	C	C2'-C3'-O3'	5.21	117.32	109.50
3	C	333	LYS	N-CA-C	-5.21	105.49	111.07
49	5	4699	U	C4'-C3'-O3'	5.21	117.22	109.40
49	5	2546	G	C3'-C2'-O2'	5.21	118.51	110.70
49	5	1	C	C5'-C4'-O4'	5.21	116.91	109.10
49	5	2053	C	C4'-C3'-O3'	-5.20	105.19	113.00
51	8	43	A	C3'-C2'-O2'	5.20	118.50	110.70
24	Y	58	VAL	CB-CA-C	-5.20	106.31	111.30
31	f	103	VAL	N-CA-CB	5.20	117.74	110.56
1	A	132	ASN	N-CA-C	5.20	118.13	110.59
34	i	37	THR	N-CA-CB	5.20	118.34	110.28
49	5	1357	C	C4'-C3'-O3'	5.20	117.20	109.40
49	5	3749	C	C2'-C3'-O3'	-5.20	105.90	113.70
17	R	36	ASN	N-CA-C	5.20	121.87	110.80
49	5	1880	G	C4'-C3'-O3'	-5.19	105.21	113.00
49	5	4591	U	C1'-C2'-O2'	5.19	116.19	108.40
9	I	204	GLY	N-CA-C	5.19	122.93	112.34
28	c	49	ALA	N-CA-C	-5.19	103.29	110.35
49	5	4086	G	C2'-C3'-O3'	5.19	117.28	109.50
49	5	1878	G	C4'-C3'-O3'	-5.18	105.23	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	5	71	C	C4'-C3'-O3'	-5.18	105.23	113.00
49	5	3596	A	C3'-C2'-O2'	5.18	118.47	110.70
49	5	4481	U	N1-C1'-C2'	5.18	119.77	112.00
30	e	55	MET	CA-C-N	-5.18	114.42	119.76
30	e	55	MET	C-N-CA	-5.18	114.42	119.76
49	5	338	A	C4'-C3'-O3'	-5.18	105.23	113.00
49	5	1338	G	C3'-C2'-O2'	5.18	122.37	114.60
49	5	3739	C	O4'-C1'-C2'	-5.18	102.42	107.60
49	5	2452	G	C4'-C3'-O3'	-5.17	105.24	113.00
19	T	93	ILE	CB-CA-C	-5.17	102.81	111.29
49	5	1449	C	C2'-C3'-O3'	5.17	121.46	113.70
49	5	2786	C	C2'-C3'-O3'	-5.17	105.94	113.70
49	5	430	G	C4'-C3'-O3'	-5.17	105.25	113.00
3	C	76	ILE	CB-CA-C	-5.16	101.96	111.36
19	T	147	GLU	CA-C-N	-5.16	114.46	119.78
19	T	147	GLU	C-N-CA	-5.16	114.46	119.78
49	5	1428	U	N1-C1'-C2'	5.16	119.74	112.00
49	5	1850	A	C4'-C3'-O3'	-5.16	105.26	113.00
39	o	78	ARG	NE-CZ-NH2	5.16	123.84	119.20
49	5	2260	C	C3'-C2'-O2'	5.16	118.44	110.70
49	5	2546	G	C4'-C3'-O3'	5.16	120.74	113.00
49	5	1211	G	O4'-C1'-C2'	-5.16	102.44	107.60
49	5	2521	G	C2'-C3'-O3'	5.16	121.43	113.70
49	5	4437	U	C4'-C3'-O3'	-5.16	105.27	113.00
49	5	2060	G	C1'-C2'-O2'	5.15	116.13	108.40
49	5	1860	U	C1'-C2'-O2'	5.15	116.12	108.40
15	P	51	VAL	CB-CA-C	-5.14	105.39	111.97
13	N	199	GLN	N-CA-C	-5.14	102.67	110.28
49	5	1730	U	C4'-C3'-O3'	-5.14	105.29	113.00
49	5	2440	U	C3'-C2'-O2'	5.14	122.31	114.60
19	T	30	TYR	CA-CB-CG	5.14	123.15	113.90
2	B	301	ASN	N-CA-C	5.13	117.61	111.71
49	5	648	G	C2'-C3'-O3'	5.13	121.40	113.70
49	5	3659	G	C3'-C2'-O2'	5.13	118.40	110.70
49	5	4703	U	C4'-C3'-O3'	-5.13	105.30	113.00
49	5	4889	G	C4'-C3'-O3'	5.13	117.10	109.40
49	5	953	C	C4'-C3'-O3'	-5.13	105.31	113.00
49	5	4206	C	C4'-C3'-O3'	-5.13	105.31	113.00
21	V	102	ALA	N-CA-C	5.12	116.08	108.60
49	5	2623	A	N9-C1'-C2'	5.12	119.69	112.00
49	5	4559	A	C2'-C3'-O3'	5.12	121.38	113.70
49	5	1361	G	C1'-C2'-O2'	5.12	116.08	108.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	5	20	U	C2'-C3'-O3'	5.12	117.17	109.50
49	5	4718	G	N9-C1'-C2'	-5.12	106.33	114.00
49	5	3752	C	C2'-C3'-O3'	-5.11	106.03	113.70
49	5	4312	U	C4'-C3'-O3'	-5.11	105.33	113.00
51	8	141	C	C1'-C2'-O2'	5.11	116.07	108.40
49	5	404	U	C4'-C3'-O3'	-5.11	105.33	113.00
49	5	4677	U	C2'-C3'-O3'	5.11	117.16	109.50
49	5	2441	C	C4'-C3'-O3'	-5.11	105.34	113.00
3	C	317	ASN	N-CA-C	5.10	116.12	109.64
25	Z	116	VAL	CB-CA-C	-5.10	105.44	111.97
49	5	63	G	C1'-C2'-O2'	5.10	116.05	108.40
49	5	1585	C	C1'-C2'-O2'	5.10	116.05	108.40
49	5	1590	C	C4'-C3'-O3'	5.10	120.65	113.00
32	g	67	LEU	N-CA-C	5.10	116.86	110.24
49	5	404	U	C2'-C3'-O3'	5.10	121.34	113.70
49	5	2310	C	C1'-C2'-O2'	5.09	116.04	108.40
12	M	73	VAL	N-CA-C	-5.09	105.43	110.62
44	v	321	LYS	N-CA-C	5.09	117.22	111.11
49	5	1072	C	N1-C1'-C2'	5.09	121.64	114.00
49	5	2843	U	C4'-C3'-O3'	-5.09	105.37	113.00
2	B	207	VAL	N-CA-C	-5.09	105.75	110.53
49	5	2313	A	C3'-C2'-O2'	5.08	118.32	110.70
50	7	1	G	C5'-C4'-O4'	5.08	117.42	109.80
5	E	245	ASP	N-CA-C	5.08	116.82	111.28
11	L	46	ILE	N-CA-C	-5.08	99.94	107.51
49	5	1898	C	C2'-C3'-O3'	5.08	117.12	109.50
49	5	4454	G	C1'-C2'-O2'	5.08	116.02	108.40
8	H	29	GLY	CA-C-N	5.08	126.18	119.84
8	H	29	GLY	C-N-CA	5.08	126.18	119.84
49	5	1379	C	C1'-O4'-C4'	-5.07	104.63	109.70
49	5	4888	U	C2'-C3'-O3'	5.07	117.11	109.50
49	5	2448	G	C4'-C3'-O3'	-5.07	105.39	113.00
31	f	106	TYR	N-CA-C	5.07	121.02	109.81
49	5	654	C	N1-C1'-C2'	5.07	119.60	112.00
6	F	120	PHE	N-CA-C	5.07	119.31	113.38
49	5	1938	C	C2'-C3'-O3'	-5.06	101.91	109.50
49	5	4510	A	C3'-C2'-O2'	5.06	118.29	110.70
49	5	2818	C	C1'-C2'-O2'	5.06	115.99	108.40
49	5	4935	C	C2'-C3'-O3'	5.06	121.29	113.70
5	E	230	ASP	N-CA-C	5.05	118.74	112.47
8	H	53	LYS	N-CA-C	5.05	116.79	111.28
49	5	728	U	C3'-C2'-O2'	5.05	122.18	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	5	1342	A	C3'-C2'-O2'	5.05	118.28	110.70
49	5	2075	G	C2'-C3'-O3'	5.05	121.28	113.70
49	5	3678	G	C2'-C3'-O3'	-5.05	101.92	109.50
49	5	4548	A	C2'-C3'-O3'	5.05	117.08	109.50
49	5	157	U	C3'-C2'-O2'	5.05	118.28	110.70
49	5	438	G	C1'-C2'-O2'	5.05	115.97	108.40
49	5	2843	U	C2'-C3'-O3'	5.05	121.27	113.70
49	5	4521	U	C4'-C3'-O3'	-5.05	105.43	113.00
26	a	22	ILE	N-CA-C	-5.04	98.85	109.34
3	C	32	ILE	CB-CA-C	-5.04	104.60	111.15
6	F	107	VAL	CB-CA-C	-5.04	105.53	111.97
2	B	299	ILE	N-CA-C	5.03	115.80	110.72
49	5	1281	G	C1'-C2'-O2'	-5.03	104.25	111.80
49	5	3838	U	C1'-C2'-O2'	5.03	115.95	108.40
49	5	1826	G	C1'-C2'-O2'	5.03	115.94	108.40
49	5	942	G	C3'-C2'-O2'	5.03	118.24	110.70
49	5	1547	A	C3'-C2'-O2'	5.03	118.24	110.70
49	5	2393	C	C4'-C3'-O3'	-5.03	105.46	113.00
49	5	2615	C	C4'-C3'-O3'	-5.02	105.46	113.00
49	5	2649	G	C4'-C3'-O3'	-5.02	105.47	113.00
49	5	1501	C	O4'-C1'-C2'	-5.02	100.78	105.80
14	O	108	ILE	N-CA-C	5.01	113.45	107.73
30	e	98	GLU	N-CA-C	-5.01	102.73	109.95
49	5	486	C	C3'-C2'-O2'	5.01	118.22	110.70
49	5	1267	C	C2'-C3'-O3'	5.01	117.02	109.50
49	5	218	A	C4'-C3'-O3'	5.01	116.91	109.40
49	5	2862	G	C2'-C3'-O3'	5.01	117.01	109.50
49	5	4706	G	C2'-C3'-O3'	-5.01	106.19	113.70
49	5	116	G	C4'-C3'-O3'	-5.01	105.49	113.00
9	I	20	SER	N-CA-C	5.00	114.65	108.19
49	5	5038	A	C4'-C3'-O3'	-5.00	105.50	113.00
49	5	2246	C	C4'-C3'-O3'	-5.00	105.50	113.00

There are no chirality outliers.

All (52) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
47	1	13	ARG	Peptide
49	5	1191	C	Sidechain
49	5	2793	G	Sidechain
49	5	300	A	Sidechain
1	A	131	GLY	Peptide

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Mol	Chain	Res	Type	Group
2	B	17	LEU	Peptide
2	B	257	TRP	Peptide
2	B	332	MET	Peptide
2	B	351	LEU	Peptide
3	C	131	SER	Peptide
3	C	339	THR	Peptide
4	D	160	PHE	Peptide
5	E	123	SER	Peptide
5	E	173	GLY	Peptide
5	E	196	LYS	Peptide
5	E	216	LYS	Peptide
6	F	148	ASN	Peptide
7	G	161	VAL	Peptide
7	G	238	GLY	Peptide
8	H	188	GLN	Peptide
9	I	143	GLN	Peptide
9	I	188	LYS	Peptide
9	I	204	GLY	Peptide
11	L	146	LEU	Peptide
11	L	66	TYR	Peptide
13	N	184	ILE	Peptide
14	O	200	GLY	Peptide
17	R	39	GLN	Peptide
17	R	93	VAL	Peptide
18	S	154	LEU	Peptide
18	S	164	LYS	Peptide
18	S	5	GLY	Peptide
19	T	135	PRO	Peptide
19	T	32	ARG	Peptide
19	T	87	LYS	Peptide
21	V	97	TYR	Peptide
24	Y	14	ASN	Peptide
25	Z	53	VAL	Peptide
26	a	46	ASP	Peptide
26	a	90	ALA	Peptide
27	b	19	ASN	Peptide
31	f	100	ARG	Peptide
31	f	106	TYR	Peptide
33	h	95	LEU	Peptide
34	i	42	ASP	Peptide
36	k	28	ASN	Peptide
42	s	6	ARG	Peptide

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Mol	Chain	Res	Type	Group
42	s	81	HIS	Peptide
43	t	147	HIS	Peptide
43	t	29	ALA	Peptide
43	t	6	ASP	Peptide
43	t	98	ILE	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1868	0	1959	69	0
2	B	3147	0	3280	91	0
3	C	2919	0	3100	133	0
4	D	2384	0	2423	58	0
5	E	1904	0	2055	76	0
6	F	1870	0	1994	140	0
7	G	1939	0	2095	61	0
8	H	1518	0	1601	57	0
9	I	1651	0	1692	40	0
10	J	1359	0	1390	53	0
11	L	1703	0	1818	69	0
12	M	1131	0	1209	45	0
13	N	1701	0	1749	63	0
14	O	1638	0	1777	61	0
15	P	1242	0	1269	16	0
16	Q	1506	0	1623	28	0
17	R	1508	0	1664	21	0
18	S	1454	0	1496	59	0
19	T	1298	0	1366	59	0
20	U	808	0	831	42	0
21	V	979	0	1039	42	0
22	W	528	0	541	7	0
23	X	976	0	1053	22	0
24	Y	1115	0	1205	19	0
25	Z	1107	0	1182	28	0
26	a	1163	0	1209	53	0
27	b	610	0	650	12	0
28	c	732	0	769	57	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	d	888	0	930	31	0
30	e	1053	0	1147	29	0
31	f	876	0	912	23	0
32	g	906	0	1000	18	0
33	h	1015	0	1150	17	0
34	i	832	0	917	28	0
35	j	706	0	742	43	0
36	k	569	0	637	22	0
37	l	444	0	483	6	0
38	m	429	0	465	11	0
39	o	851	0	921	15	0
40	p	708	0	755	17	0
41	r	1001	0	1062	46	0
42	s	1522	0	1575	64	0
43	t	1238	0	1293	20	0
44	u	645	0	285	22	0
44	v	1092	0	1143	55	0
45	0	293	0	299	3	0
45	w	110	0	118	3	0
45	z	1057	0	1074	25	0
46	x	1090	0	248	0	0
46	y	1055	0	237	2	0
47	1	125	0	117	7	0
48	2	1601	0	818	27	0
49	5	78486	0	39661	2358	0
50	7	2558	0	1296	24	0
51	8	3314	0	1683	86	0
52	5	150	0	0	0	0
52	7	5	0	0	0	0
52	8	1	0	0	0	0
52	P	1	0	0	0	0
52	V	1	0	0	0	0
52	g	1	0	0	0	0
53	g	1	0	0	1	0
53	j	1	0	0	2	0
53	m	1	0	0	0	0
53	o	1	0	0	0	0
53	p	1	0	0	0	0
All	All	146386	0	105007	3948	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 16.

All (3948) 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)
36:k:8:ILE:CD1	36:k:56:LEU:HD12	1.37	1.54
36:k:8:ILE:CD1	36:k:56:LEU:CD1	1.86	1.49
26:a:116:LYS:NZ	49:5:1419:G:C4	1.72	1.41
36:k:8:ILE:CG1	36:k:56:LEU:HD11	1.52	1.40
26:a:116:LYS:NZ	49:5:1419:G:C5	1.91	1.36
11:L:80:GLU:OE1	11:L:102:ARG:NH1	1.63	1.31
6:F:110:VAL:HG21	6:F:137:ILE:CD1	1.58	1.30
2:B:150:PHE:CE2	2:B:198:ARG:NH1	1.99	1.30
42:s:14:PHE:CE2	49:5:1960:A:C2	2.19	1.29
49:5:1983:A:N1	49:5:2008:U:O4	1.65	1.27
6:F:39:PHE:CE1	49:5:2123:C:H3'	1.70	1.26
6:F:241:GLN:NE2	18:S:37:HIS:NE2	1.81	1.25
49:5:2468:U:O4	49:5:2473:A:N1	1.71	1.22
6:F:148:ASN:HB2	6:F:243:ASN:ND2	1.53	1.22
6:F:239:GLU:OE2	18:S:38:VAL:HG22	1.33	1.22
49:5:1991:A:N6	49:5:2003:G:OP1	1.73	1.22
20:U:24:ASP:OD2	20:U:69:LYS:NZ	1.70	1.21
10:J:27:GLY:HA2	10:J:68:ILE:HG23	1.20	1.19
44:u:101:LYS:CB	44:v:310:LEU:HD11	1.71	1.19
49:5:1358:G:H2'	49:5:1359:G:O4'	1.37	1.19
20:U:24:ASP:OD2	20:U:69:LYS:CE	1.91	1.19
28:c:36:LYS:O	28:c:40:GLN:HG2	1.39	1.18
7:G:127:ASP:O	7:G:128:VAL:HG23	1.44	1.17
35:j:63:ARG:NH2	51:8:57:C:C5	2.10	1.16
8:H:48:LEU:HD11	8:H:54:ARG:HD3	1.28	1.15
44:u:100:PRO:CB	44:v:311:LYS:HD2	1.75	1.15
49:5:1990:A:H2'	49:5:1991:A:H4'	1.16	1.14
44:u:100:PRO:CB	44:v:311:LYS:CD	2.25	1.14
26:a:116:LYS:NZ	49:5:1419:G:C2	2.16	1.13
36:k:8:ILE:HD11	36:k:56:LEU:CD1	1.62	1.13
6:F:127:LEU:HD12	6:F:132:ILE:HG12	1.28	1.12
26:a:116:LYS:NZ	49:5:1419:G:N3	1.97	1.12
44:v:314:GLN:HA	44:v:317:LYS:HE2	1.21	1.12
20:U:24:ASP:OD2	20:U:69:LYS:HE3	1.48	1.11
7:G:165:GLU:OE1	13:N:22:LEU:HD13	1.50	1.11
5:E:161:LEU:HD21	5:E:253:ILE:HD11	1.18	1.10
36:k:8:ILE:HD12	36:k:56:LEU:HD12	1.20	1.10
49:5:1983:A:N1	49:5:2008:U:C4	2.19	1.10
36:k:8:ILE:HD11	36:k:56:LEU:HD12	1.09	1.09
4:D:23:ARG:NH2	49:5:4280:A:OP2	1.87	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:i:29:ARG:NH1	34:i:29:ARG:O	1.87	1.07
20:U:24:ASP:HB3	20:U:69:LYS:HG3	1.36	1.07
42:s:14:PHE:HE2	49:5:1960:A:C2	1.61	1.07
45:z:1639:TYR:CE2	45:z:1702:LYS:CG	2.38	1.07
49:5:2367:A:N1	49:5:2788:U:O4	1.88	1.07
17:R:31:GLU:OE1	17:R:31:GLU:N	1.88	1.07
3:C:140:LYS:HD2	3:C:247:GLY:O	1.55	1.06
47:1:24:VAL:O	48:2:76:A:O2'	1.63	1.06
3:C:84:THR:HG22	49:5:366:A:N1	1.69	1.06
45:z:1639:TYR:CE2	45:z:1702:LYS:HG3	1.90	1.06
2:B:150:PHE:CD2	2:B:198:ARG:NH1	2.23	1.06
49:5:1358:G:C2'	49:5:1359:G:O4'	2.03	1.05
49:5:4892:A:N1	49:5:4927:G:O6	1.90	1.05
6:F:244:ARG:NH1	49:5:942:G:OP2	1.90	1.04
25:Z:100:VAL:CG1	25:Z:107:LYS:HA	1.86	1.04
44:u:101:LYS:CB	44:v:310:LEU:CD1	2.35	1.04
2:B:300:LYS:HG3	2:B:311:ASP:HB2	1.36	1.04
20:U:26:THR:HG22	20:U:68:SER:OG	1.57	1.04
26:a:116:LYS:NZ	49:5:1419:G:C6	2.25	1.04
10:J:94:LEU:HD23	10:J:98:ASN:ND2	1.72	1.04
49:5:976:G:H2'	49:5:977:C:O4'	1.58	1.04
1:A:244:GLY:HA3	49:5:3746:A:H5''	1.38	1.04
14:O:5:GLN:N	14:O:5:GLN:OE1	1.91	1.04
6:F:144:TRP:CH2	6:F:237:ASN:ND2	2.25	1.03
43:t:79:ALA:HB3	49:5:1977:C:OP1	1.57	1.03
41:r:32:LEU:HD23	41:r:32:LEU:H	1.23	1.03
49:5:2089:G:O2'	49:5:2090:U:O2	1.77	1.02
1:A:90:CYS:HB3	1:A:101:VAL:HG13	1.37	1.02
2:B:300:LYS:CG	2:B:311:ASP:HB2	1.89	1.02
44:v:403:THR:O	44:v:405:HIS:N	1.92	1.02
36:k:8:ILE:HG13	36:k:56:LEU:HD11	1.03	1.02
2:B:300:LYS:HG2	2:B:311:ASP:HA	1.37	1.01
14:O:14:HIS:CD2	14:O:124:LEU:HD12	1.92	1.01
49:5:703:G:O6	49:5:706:C:N4	1.92	1.01
42:s:9:TRP:CZ2	49:5:1999:A:OP1	2.14	1.01
34:i:29:ARG:HH11	34:i:29:ARG:HG3	1.25	1.01
36:k:8:ILE:HD12	36:k:56:LEU:CD1	1.74	1.00
6:F:92:ALA:HB2	6:F:127:LEU:CD2	1.92	1.00
2:B:173:LEU:HD11	2:B:342:LYS:HB3	1.43	1.00
2:B:300:LYS:HG2	2:B:311:ASP:CB	1.91	1.00
49:5:1756:U:O4	49:5:1775:A:N1	1.95	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:k:8:ILE:HG13	36:k:56:LEU:CD1	1.89	1.00
6:F:127:LEU:CD1	6:F:132:ILE:HG12	1.92	0.99
49:5:1990:A:H2'	49:5:1991:A:C4'	1.92	0.99
1:A:90:CYS:CB	1:A:101:VAL:HG13	1.92	0.99
18:S:78:PHE:CE1	18:S:102:THR:HG23	1.98	0.99
49:5:1990:A:H3'	49:5:1991:A:H5''	1.45	0.98
12:M:98:ARG:HG2	12:M:98:ARG:HH21	1.27	0.98
19:T:39:ILE:HD12	19:T:102:ARG:HB2	1.45	0.98
21:V:12:ALA:HB1	49:5:4617:G:O2'	1.63	0.98
42:s:14:PHE:HE2	49:5:1960:A:N1	1.59	0.98
8:H:48:LEU:CD1	8:H:54:ARG:HD3	1.93	0.98
49:5:3914:U:H3	49:5:4378:A:H61	1.03	0.97
36:k:8:ILE:CD1	36:k:56:LEU:HD11	1.72	0.97
35:j:63:ARG:HH22	51:8:57:C:H5	1.00	0.97
49:5:977:C:C2	49:5:978:G:C8	2.53	0.97
6:F:148:ASN:HB2	6:F:243:ASN:HD22	1.14	0.97
45:z:1679:TRP:HZ2	45:z:1708:ARG:HB2	1.29	0.97
2:B:300:LYS:HG2	2:B:311:ASP:CA	1.95	0.96
20:U:26:THR:HG23	20:U:68:SER:HB3	1.47	0.96
11:L:29:PRO:HB2	49:5:1371:A:H2'	1.45	0.96
42:s:10:LYS:NZ	49:5:1960:A:O3'	1.98	0.96
16:Q:65:ARG:NH1	49:5:1502:G:OP1	1.97	0.96
41:r:32:LEU:HD21	41:r:106:LEU:HD12	1.45	0.96
34:i:33:LEU:HD13	34:i:34:THR:N	1.80	0.96
49:5:1266:G:N2	49:5:2111:G:N3	2.14	0.95
49:5:1823:G:O3'	49:5:1825:A:P	2.24	0.95
5:E:101:ARG:NH1	49:5:471:A:C2	2.34	0.95
42:s:10:LYS:NZ	49:5:1960:A:O2'	2.00	0.95
49:5:1991:A:C8	49:5:1992:U:N1	2.35	0.95
28:c:13:SER:OG	28:c:16:SER:OG	1.85	0.94
10:J:141:ILE:HG22	10:J:149:GLY:O	1.66	0.94
42:s:14:PHE:O	42:s:62:ARG:NH1	1.99	0.94
9:I:80:CYS:SG	9:I:81:GLY:N	2.32	0.94
9:I:75:TYR:O	9:I:79:SER:OG	1.85	0.94
21:V:31:ASN:O	21:V:31:ASN:ND2	1.99	0.94
49:5:2769:U:C2	49:5:2770:C:C5	2.55	0.94
6:F:239:GLU:OE2	18:S:38:VAL:CG2	2.15	0.93
36:k:60:LEU:HD22	36:k:60:LEU:H	1.32	0.93
49:5:1991:A:N7	49:5:1992:U:C2	2.35	0.93
11:L:80:GLU:OE2	11:L:113:ASN:HB3	1.66	0.93
40:p:4:ARG:NH1	49:5:1554:A:OP2	2.01	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:92:ALA:HB2	6:F:127:LEU:HD23	1.46	0.93
2:B:300:LYS:CG	2:B:311:ASP:CB	2.46	0.93
48:2:15:G:O2'	48:2:16:C:OP1	1.85	0.93
6:F:110:VAL:HG21	6:F:137:ILE:HD12	1.49	0.92
3:C:69:THR:HG21	49:5:3906:A:H2'	1.47	0.92
44:u:100:PRO:CB	44:v:311:LYS:CG	2.46	0.92
32:g:83:CYS:SG	53:g:201:ZN:ZN	1.57	0.92
49:5:292:G:O2'	49:5:293:G:O5'	1.88	0.92
12:M:46:ARG:CZ	49:5:936:C:O2'	2.17	0.92
49:5:3662:A:H61	49:5:3680:U:H3	1.16	0.92
6:F:90:LYS:O	6:F:127:LEU:HB2	1.67	0.92
13:N:182:HIS:O	13:N:183:THR:OG1	1.88	0.91
49:5:1991:A:C8	49:5:1992:U:C6	2.58	0.91
19:T:17:ARG:HG2	19:T:17:ARG:HH11	1.35	0.91
9:I:25:GLY:HA2	48:2:63:G:O2'	1.70	0.91
8:H:47:LEU:HG	8:H:52:LYS:HD2	1.52	0.90
49:5:962:C:OP2	49:5:2264:C:N3	2.02	0.90
6:F:110:VAL:HG21	6:F:137:ILE:HD11	1.54	0.90
3:C:316:LYS:HE3	49:5:1283:G:OP1	1.71	0.90
49:5:1378:C:H3'	49:5:1379:C:H5'	1.50	0.89
6:F:39:PHE:CE1	49:5:2123:C:C3'	2.55	0.89
21:V:12:ALA:HB2	49:5:4617:G:O4'	1.72	0.89
12:M:88:ALA:O	12:M:93:LYS:HE2	1.73	0.89
20:U:24:ASP:HB3	20:U:69:LYS:HA	1.52	0.89
7:G:165:GLU:OE1	13:N:22:LEU:CD1	2.20	0.89
14:O:122:ALA:O	14:O:128:ARG:HD2	1.73	0.89
1:A:90:CYS:HB3	1:A:101:VAL:CG1	2.02	0.89
7:G:127:ASP:O	7:G:128:VAL:CG2	2.20	0.89
41:r:48:THR:HG22	41:r:49:VAL:H	1.37	0.89
24:Y:8:THR:HG21	24:Y:13:LYS:CB	2.03	0.89
42:s:15:LEU:HA	42:s:18:ILE:CG2	2.02	0.89
44:v:314:GLN:CA	44:v:317:LYS:HE2	2.03	0.89
44:u:100:PRO:CB	44:v:311:LYS:HG3	2.02	0.89
49:5:1990:A:C2	49:5:1991:A:H1'	2.09	0.88
5:E:161:LEU:HD21	5:E:253:ILE:CD1	2.02	0.88
6:F:110:VAL:CG2	6:F:137:ILE:CD1	2.48	0.88
10:J:94:LEU:CD2	10:J:98:ASN:HD22	1.85	0.88
29:d:34:HIS:CD2	49:5:5048:A:C5	2.61	0.88
49:5:4094:G:H2'	49:5:4095:G:O4'	1.73	0.88
7:G:162:ASP:HB3	7:G:163:PRO:HD3	1.53	0.88
20:U:24:ASP:CB	20:U:69:LYS:HA	2.03	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:i:33:LEU:HD11	34:i:38:LYS:HB2	1.55	0.88
49:5:1990:A:C5	49:5:1991:A:N3	2.41	0.88
49:5:2669:C:O2'	49:5:2670:C:C6	2.25	0.87
49:5:2769:U:O2	49:5:2770:C:C5	2.26	0.87
49:5:1485:C:O2'	49:5:1486:C:OP1	1.92	0.87
49:5:2468:U:N3	49:5:2473:A:N6	2.22	0.87
26:a:116:LYS:HG2	26:a:117:LEU:N	1.89	0.87
49:5:1635:C:H2'	49:5:1636:U:H5'	1.57	0.87
1:A:41:ILE:HG22	1:A:90:CYS:SG	2.14	0.87
35:j:74:PHE:CG	51:8:34:U:O2	2.28	0.87
49:5:504:G:N1	49:5:654:C:C2	2.43	0.87
8:H:47:LEU:CG	8:H:52:LYS:HD2	2.04	0.87
44:v:316:GLU:O	44:v:320:LEU:HG	1.75	0.87
7:G:82:GLN:OE1	7:G:171:PRO:HG2	1.73	0.87
49:5:3914:U:H3	49:5:4378:A:N6	1.72	0.87
3:C:193:LYS:CD	3:C:196:MET:HE3	2.05	0.86
49:5:2268:A:H4'	49:5:2269:C:H5'	1.57	0.86
3:C:84:THR:CG2	49:5:366:A:N1	2.37	0.86
11:L:116:ARG:NH1	11:L:155:MET:O	2.08	0.86
18:S:99:ASP:OD1	18:S:100:LEU:N	2.08	0.86
26:a:72:THR:OG1	26:a:112:LEU:HD12	1.74	0.86
49:5:2669:C:HO2'	49:5:2670:C:H6	1.20	0.86
49:5:688:U:H2'	49:5:689:U:O4'	1.75	0.86
7:G:164:ILE:O	7:G:168:VAL:HG23	1.76	0.86
10:J:94:LEU:CD2	10:J:98:ASN:ND2	2.37	0.86
6:F:43:MET:SD	49:5:2121:C:O4'	2.33	0.86
19:T:17:ARG:HD2	19:T:47:THR:HG23	1.56	0.86
6:F:148:ASN:CB	6:F:243:ASN:ND2	2.38	0.85
3:C:130:ALA:HB3	3:C:246:VAL:CG1	2.07	0.85
49:5:1367:C:N3	49:5:1369:C:OP2	2.09	0.85
21:V:15:ARG:NH1	21:V:15:ARG:HB2	1.91	0.85
45:z:1639:TYR:CE2	45:z:1702:LYS:HG2	2.09	0.85
5:E:101:ARG:NH1	49:5:471:A:N1	2.25	0.85
21:V:12:ALA:CB	49:5:4617:G:O4'	2.25	0.85
27:b:17:HIS:CD2	49:5:1724:G:C8	2.64	0.84
49:5:1268:G:C2	49:5:1270:A:C8	2.65	0.84
21:V:30:ASP:HA	21:V:116:ALA:O	1.77	0.84
18:S:72:PRO:O	18:S:100:LEU:HD12	1.77	0.84
36:k:8:ILE:CG1	36:k:56:LEU:CD1	2.28	0.84
2:B:173:LEU:HD11	2:B:342:LYS:CB	2.07	0.84
42:s:17:ILE:HG23	42:s:62:ARG:NH1	1.93	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:245:LEU:HD23	6:F:245:LEU:O	1.77	0.84
41:r:63:VAL:HG22	41:r:79:ARG:HG2	1.57	0.84
35:j:63:ARG:HH21	51:8:57:C:N4	1.75	0.84
45:z:1679:TRP:CZ2	45:z:1708:ARG:HB2	2.12	0.84
24:Y:4:ASN:HB3	24:Y:7:VAL:HG23	1.60	0.83
43:t:79:ALA:HB3	49:5:1977:C:P	2.17	0.83
44:u:101:LYS:CB	44:v:310:LEU:CG	2.55	0.83
12:M:48:GLN:OE1	12:M:48:GLN:N	2.11	0.83
20:U:56:LEU:HB3	20:U:61:VAL:HG22	1.59	0.83
2:B:174:ARG:HH12	49:5:4974:C:C4'	1.92	0.83
25:Z:100:VAL:HG13	25:Z:107:LYS:HA	1.60	0.83
8:H:54:ARG:HG3	8:H:54:ARG:HH11	1.40	0.83
49:5:745:G:H2'	49:5:746:A:O4'	1.78	0.83
49:5:1983:A:C2	49:5:2008:U:O4	2.30	0.83
49:5:1991:A:H3'	49:5:1992:U:C6	2.13	0.83
26:a:116:LYS:NZ	49:5:1419:G:N1	2.26	0.83
2:B:173:LEU:CD1	2:B:342:LYS:HD3	2.08	0.82
29:d:78:ARG:NH1	49:5:4636:U:O4	2.12	0.82
21:V:12:ALA:HB3	49:5:4617:G:H4'	1.59	0.82
25:Z:38:TYR:CE2	25:Z:76:ASN:OD1	2.33	0.82
29:d:34:HIS:HD2	49:5:5048:A:C5	1.97	0.82
49:5:1213:G:C6	49:5:1215:C:C2	2.67	0.82
35:j:63:ARG:NH2	51:8:57:C:C4	2.48	0.82
44:v:314:GLN:HA	44:v:317:LYS:CE	2.07	0.82
49:5:977:C:C2'	49:5:978:G:H5'	2.10	0.82
24:Y:2:LYS:HE3	24:Y:7:VAL:O	1.80	0.82
6:F:127:LEU:HD12	6:F:132:ILE:CG1	2.08	0.81
28:c:18:LEU:O	28:c:21:VAL:N	2.13	0.81
42:s:17:ILE:HG23	42:s:62:ARG:CZ	2.10	0.81
2:B:379:PHE:HD2	2:B:385:LYS:HB2	1.43	0.81
3:C:242:PRO:HG2	3:C:248:ARG:HH11	1.46	0.81
6:F:39:PHE:CD1	49:5:2123:C:H3'	2.15	0.81
49:5:969:C:O2'	49:5:970:G:O4'	1.98	0.81
49:5:1960:A:H5''	49:5:1961:G:O4'	1.79	0.81
49:5:4113:U:H2'	49:5:4114:C:O4'	1.80	0.81
49:5:723:A:C2	49:5:943:A:N1	2.47	0.81
49:5:956:A:H3'	49:5:957:G:C5	2.15	0.81
5:E:199:ILE:HD11	5:E:253:ILE:HG12	1.63	0.81
49:5:2658:G:N2	49:5:2675:G:O2'	2.13	0.81
3:C:69:THR:CG2	49:5:3906:A:H2'	2.10	0.81
49:5:48:G:O2'	49:5:49:U:OP2	1.96	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2367:A:N6	49:5:2788:U:H3	1.77	0.81
49:5:1890:G:H22	49:5:1938:C:H41	1.28	0.80
49:5:2089:G:O2'	49:5:2090:U:P	2.39	0.80
10:J:90:ARG:O	10:J:93:GLU:HG2	1.81	0.80
14:O:113:ASP:OD1	14:O:114:LYS:HG3	1.81	0.80
28:c:14:ILE:CD1	28:c:72:HIS:CE1	2.64	0.80
49:5:1269:G:H3'	49:5:2111:G:O6	1.81	0.80
42:s:7:ALA:O	42:s:11:SER:OG	1.99	0.80
20:U:26:THR:HG23	20:U:68:SER:CB	2.11	0.80
35:j:9:GLY:HA3	49:5:2800:G:H1'	1.62	0.80
49:5:1269:G:C8	49:5:2111:G:C6	2.69	0.80
49:5:1990:A:C3'	49:5:1991:A:H5''	2.11	0.80
49:5:3823:G:O2'	49:5:3824:A:C8	2.35	0.80
3:C:193:LYS:HB2	3:C:193:LYS:NZ	1.97	0.80
3:C:242:PRO:CG	3:C:248:ARG:NH1	2.45	0.80
20:U:26:THR:CG2	20:U:68:SER:CB	2.59	0.80
44:u:101:LYS:CA	44:v:310:LEU:HG	2.12	0.80
6:F:146:TYR:CE2	6:F:239:GLU:HB2	2.17	0.80
8:H:47:LEU:CD2	8:H:52:LYS:HD2	2.11	0.80
49:5:504:G:C2	49:5:654:C:O2	2.35	0.80
49:5:1245:C:C5	49:5:1269:G:C6	2.70	0.79
24:Y:8:THR:HG21	24:Y:13:LYS:HB2	1.65	0.79
49:5:1270:A:H2'	49:5:1271:G:O5'	1.82	0.79
6:F:241:GLN:NE2	18:S:37:HIS:CD2	2.50	0.79
49:5:1271:G:H3'	49:5:1272:C:H5'	1.64	0.79
6:F:128:ASN:O	6:F:132:ILE:HG13	1.82	0.79
29:d:31:LYS:NZ	49:5:5048:A:OP1	2.14	0.79
6:F:41:GLN:CG	49:5:2095:A:N1	2.45	0.79
49:5:1074:G:C2	49:5:1238:A:C2	2.71	0.79
5:E:246:GLN:O	5:E:250:ASP:HB3	1.83	0.79
6:F:110:VAL:HG21	6:F:137:ILE:HD13	1.64	0.79
49:5:1990:A:N7	49:5:1991:A:N3	2.31	0.79
10:J:87:LEU:O	10:J:91:GLU:N	2.16	0.79
49:5:919:C:N4	49:5:920:C:C4	2.51	0.79
49:5:1983:A:C2	49:5:2008:U:C4	2.70	0.79
3:C:193:LYS:HD2	3:C:196:MET:CE	2.13	0.79
13:N:181:HIS:CE1	49:5:99:A:H4'	2.19	0.78
49:5:2127:C:H2'	49:5:2128:G:C8	2.19	0.78
49:5:2367:A:N6	49:5:2788:U:N3	2.31	0.78
30:e:35:TRP:CZ2	30:e:55:MET:HG2	2.18	0.78
2:B:116:ARG:HB3	2:B:177:LYS:HG3	1.66	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:193:LYS:HD2	3:C:196:MET:SD	2.23	0.78
6:F:41:GLN:HG3	49:5:2095:A:N6	1.99	0.78
10:J:26:VAL:HG23	10:J:28:GLU:H	1.47	0.78
49:5:969:C:O2'	49:5:970:G:N3	2.17	0.78
49:5:4769:G:H2'	49:5:4770:U:O4'	1.85	0.77
3:C:242:PRO:CG	3:C:248:ARG:HH11	1.98	0.77
10:J:141:ILE:CG2	10:J:149:GLY:O	2.31	0.77
20:U:26:THR:CG2	20:U:68:SER:HB3	2.15	0.77
49:5:1378:C:H3'	49:5:1379:C:C5'	2.14	0.77
20:U:23:LEU:HD12	20:U:83:LEU:HD23	1.67	0.77
49:5:1265:G:C2'	49:5:1266:G:H5'	2.14	0.77
5:E:174:PRO:O	5:E:176:VAL:N	2.17	0.77
11:L:10:LEU:HD23	11:L:10:LEU:H	1.50	0.77
28:c:77:ASN:OD1	28:c:78:ASN:N	2.16	0.77
3:C:193:LYS:HD3	3:C:196:MET:HE3	1.66	0.77
6:F:110:VAL:CG2	6:F:137:ILE:HD11	2.14	0.77
49:5:2256:C:O2	49:5:2256:C:H2'	1.82	0.77
49:5:956:A:H3'	49:5:957:G:C4	2.20	0.77
14:O:119:VAL:HG13	14:O:124:LEU:HD11	1.67	0.76
21:V:12:ALA:CB	49:5:4617:G:C4'	2.63	0.76
41:r:32:LEU:H	41:r:32:LEU:CD2	1.96	0.76
2:B:174:ARG:NH1	49:5:4974:C:H4'	1.99	0.76
7:G:82:GLN:OE1	7:G:171:PRO:CG	2.32	0.76
20:U:24:ASP:HB3	20:U:69:LYS:CG	2.15	0.76
21:V:15:ARG:HB2	21:V:15:ARG:CZ	2.14	0.76
42:s:18:ILE:HA	42:s:62:ARG:HH22	1.50	0.76
49:5:1990:A:C6	49:5:1991:A:N3	2.53	0.76
13:N:179:LYS:O	49:5:297:U:O2'	2.04	0.76
35:j:63:ARG:HH21	51:8:57:C:H41	1.33	0.76
9:I:76:MET:HA	9:I:76:MET:HE3	1.67	0.76
34:i:29:ARG:NH1	34:i:29:ARG:HG3	1.98	0.76
41:r:64:ILE:HG23	41:r:102:TYR:CZ	2.21	0.76
49:5:723:A:H2	49:5:943:A:N1	1.81	0.76
49:5:4579:U:H2'	49:5:4580:U:O4'	1.86	0.76
49:5:497:G:N2	49:5:657:C:C2	2.53	0.76
49:5:1269:G:C5	49:5:2111:G:C2	2.73	0.76
49:5:2468:U:C4	49:5:2473:A:N1	2.54	0.76
36:k:60:LEU:HD22	36:k:60:LEU:N	2.01	0.76
2:B:174:ARG:NH1	49:5:4974:C:C4'	2.49	0.76
3:C:322:LEU:HB3	49:5:1281:G:C8	2.20	0.76
6:F:146:TYR:CD2	6:F:239:GLU:HB2	2.20	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2457:G:H21	49:5:3672:G:H21	1.34	0.76
49:5:4481:U:H2'	49:5:4482:U:C6	2.20	0.76
28:c:82:GLY:HA2	28:c:91:VAL:HG12	1.67	0.75
49:5:919:C:C4	49:5:920:C:C5	2.74	0.75
49:5:2263:A:O3'	49:5:2264:C:H6	1.69	0.75
49:5:3680:U:O2	49:5:3680:U:H2'	1.85	0.75
3:C:84:THR:HG21	49:5:366:A:H61	1.50	0.75
10:J:145:LYS:HD2	10:J:145:LYS:O	1.85	0.75
40:p:4:ARG:NH2	49:5:1555:G:N7	2.34	0.75
6:F:41:GLN:HE22	49:5:2096:G:H22	1.32	0.75
49:5:1266:G:H5''	49:5:2112:G:N3	2.02	0.75
49:5:5047:C:O2'	49:5:5050:C:OP2	2.04	0.75
18:S:80:ILE:HD12	18:S:106:VAL:HG22	1.66	0.75
35:j:63:ARG:NH1	35:j:63:ARG:HB2	2.00	0.75
49:5:181:C:N3	49:5:256:G:C2	2.55	0.75
11:L:49:ARG:HG2	11:L:49:ARG:HH11	1.49	0.75
6:F:241:GLN:HE22	18:S:37:HIS:CD2	2.04	0.75
12:M:81:ASP:OD1	12:M:84:ALA:HB3	1.86	0.75
35:j:22:CYS:SG	53:j:101:ZN:ZN	1.75	0.75
49:5:4441:A:H5''	49:5:4441:A:H8	1.52	0.75
11:L:31:ARG:HG3	11:L:34:ARG:NH1	2.02	0.74
44:u:101:LYS:CB	44:v:310:LEU:HG	2.18	0.74
6:F:136:ARG:NH1	6:F:136:ARG:HB2	2.02	0.74
49:5:166:C:O2	49:5:167:C:C5	2.40	0.74
21:V:12:ALA:CB	49:5:4617:G:C1'	2.64	0.74
49:5:976:G:C2'	49:5:977:C:O4'	2.33	0.74
49:5:978:G:H2'	49:5:979:C:O4'	1.87	0.74
6:F:41:GLN:CD	49:5:2095:A:N1	2.45	0.74
19:T:39:ILE:O	19:T:40:VAL:HG23	1.86	0.74
49:5:917:A:C2	49:5:919:C:C5	2.75	0.74
2:B:139:ASP:OD1	2:B:142:GLY:N	2.19	0.74
6:F:92:ALA:CB	6:F:127:LEU:CD2	2.66	0.74
7:G:82:GLN:OE1	7:G:171:PRO:CB	2.35	0.74
35:j:9:GLY:HA2	49:5:2792:C:O2	1.88	0.74
49:5:1359:G:H2'	49:5:1360:G:C8	2.22	0.74
49:5:1444:G:H2'	49:5:1445:U:C6	2.22	0.74
11:L:80:GLU:OE2	11:L:113:ASN:CB	2.34	0.74
2:B:174:ARG:HH12	49:5:4974:C:C1'	2.01	0.74
16:Q:11:ARG:NH2	49:5:1690:C:OP2	2.20	0.74
31:f:69:VAL:HG13	49:5:4945:G:N3	2.02	0.74
10:J:144:LYS:O	10:J:148:THR:HG22	1.88	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:S:76:LYS:CE	18:S:100:LEU:O	2.36	0.74
32:g:11:LEU:O	32:g:18:ASN:ND2	2.20	0.74
44:v:403:THR:HB	44:v:408:MET:O	1.88	0.74
49:5:222:C:H2'	49:5:223:G:O4'	1.88	0.74
49:5:1981:G:O2'	49:5:1982:G:O4'	2.06	0.74
49:5:1358:G:O2'	49:5:1359:G:O4'	2.05	0.73
21:V:12:ALA:HB1	49:5:4617:G:C2'	2.17	0.73
49:5:1437:C:O2	49:5:2098:G:N7	2.21	0.73
26:a:76:ASP:OD2	26:a:114:LYS:HE2	1.87	0.73
49:5:3593:C:H4'	49:5:3594:C:OP2	1.88	0.73
2:B:173:LEU:HD11	2:B:342:LYS:CG	2.18	0.73
39:o:6:LYS:HZ3	39:o:6:LYS:HB2	1.52	0.73
42:s:14:PHE:O	42:s:18:ILE:HG22	1.88	0.73
43:t:121:LEU:HD22	43:t:132:ILE:HD13	1.69	0.73
49:5:2261:G:H2'	49:5:2262:G:C8	2.23	0.73
44:v:313:LEU:O	44:v:317:LYS:HG3	1.88	0.73
8:H:62:GLY:O	8:H:67:LEU:HD11	1.89	0.73
41:r:32:LEU:HD21	41:r:106:LEU:CD1	2.18	0.73
49:5:1999:A:O2'	49:5:2000:G:O4'	2.00	0.73
2:B:261:ARG:HE	49:5:3870:C:H4'	1.53	0.73
11:L:49:ARG:HG2	11:L:49:ARG:NH1	2.02	0.73
11:L:49:ARG:H	11:L:49:ARG:HD3	1.54	0.73
49:5:2288:G:N2	49:5:2290:C:C2	2.57	0.73
49:5:516:C:C2	49:5:646:G:N2	2.57	0.72
49:5:2269:C:C6	49:5:2269:C:H5''	2.24	0.72
28:c:31:TYR:HD1	28:c:60:ILE:HD11	1.53	0.72
49:5:3723:A:C2	49:5:3724:A:C6	2.76	0.72
2:B:150:PHE:HE2	2:B:198:ARG:HH12	1.35	0.72
3:C:193:LYS:O	3:C:194:GLY:C	2.30	0.72
4:D:16:TYR:O	19:T:20:ARG:HD2	1.88	0.72
4:D:277:LYS:O	4:D:280:VAL:HG22	1.88	0.72
7:G:127:ASP:C	7:G:128:VAL:HG23	2.14	0.72
42:s:18:ILE:CA	42:s:62:ARG:HH22	2.02	0.72
49:5:106:A:H1'	49:5:336:A:C8	2.24	0.72
49:5:1635:C:C2'	49:5:1636:U:H5'	2.20	0.72
6:F:144:TRP:CZ3	6:F:237:ASN:ND2	2.57	0.72
49:5:504:G:C6	49:5:654:C:C2	2.76	0.72
49:5:1755:C:O2'	49:5:1756:U:OP1	2.08	0.72
21:V:12:ALA:HB1	49:5:4617:G:C1'	2.18	0.72
49:5:138:G:H2'	49:5:139:G:H5'	1.70	0.72
6:F:129:LYS:HD2	6:F:129:LYS:O	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Y:4:ASN:HB3	24:Y:7:VAL:CG2	2.20	0.72
49:5:973:G:N2	49:5:1282:G:HO2'	1.86	0.72
28:c:36:LYS:O	28:c:40:GLN:CG	2.30	0.72
30:e:35:TRP:HZ2	30:e:55:MET:HG2	1.53	0.72
49:5:1371:A:N6	51:8:28:C:O2'	2.23	0.72
2:B:300:LYS:CG	2:B:311:ASP:HA	2.17	0.72
47:1:12:TRP:O	47:1:14:PHE:N	2.22	0.72
3:C:242:PRO:HG2	3:C:248:ARG:NH1	2.05	0.72
19:T:17:ARG:HD2	19:T:47:THR:CG2	2.20	0.72
41:r:17:LEU:HD23	41:r:17:LEU:C	2.15	0.72
49:5:22:G:C2	51:8:35:C:N3	2.58	0.72
49:5:1266:G:H5''	49:5:2112:G:C2	2.25	0.71
1:A:245:ARG:O	1:A:245:ARG:HG3	1.89	0.71
49:5:986:C:C2	49:5:1068:G:N2	2.58	0.71
49:5:1379:C:H4'	49:5:1380:G:C1'	2.20	0.71
7:G:157:ILE:CG2	7:G:167:VAL:HG11	2.20	0.71
24:Y:2:LYS:O	24:Y:2:LYS:HG3	1.88	0.71
27:b:45:PHE:CE1	49:5:1815:G:N7	2.58	0.71
49:5:4951:G:O2'	49:5:4952:G:OP1	2.03	0.71
10:J:27:GLY:CA	10:J:68:ILE:HG23	2.12	0.71
18:S:78:PHE:HE1	18:S:102:THR:HG23	1.53	0.71
44:u:101:LYS:C	44:v:310:LEU:CD2	2.63	0.71
3:C:322:LEU:O	3:C:326:LEU:HG	1.91	0.71
3:C:140:LYS:CD	3:C:247:GLY:O	2.37	0.71
49:5:1983:A:C6	49:5:2008:U:O4	2.43	0.71
6:F:136:ARG:HH11	6:F:136:ARG:HG3	1.55	0.71
6:F:241:GLN:HE21	18:S:37:HIS:CE1	2.09	0.71
49:5:504:G:C6	49:5:654:C:N3	2.59	0.71
49:5:2468:U:H3	49:5:2473:A:N6	1.88	0.71
49:5:2858:A:O2'	49:5:2859:G:C8	2.44	0.71
28:c:14:ILE:HD13	28:c:72:HIS:CE1	2.26	0.71
49:5:3723:A:H2'	49:5:3724:A:C8	2.25	0.71
34:i:33:LEU:HD13	34:i:33:LEU:C	2.15	0.71
41:r:48:THR:HG22	41:r:49:VAL:N	2.03	0.71
11:L:56:ARG:O	11:L:116:ARG:NH2	2.23	0.71
19:T:39:ILE:HD12	19:T:102:ARG:CB	2.20	0.71
20:U:26:THR:CG2	20:U:68:SER:OG	2.38	0.71
3:C:130:ALA:HB3	3:C:246:VAL:HG12	1.72	0.70
35:j:17:THR:HG22	35:j:29:LEU:HD21	1.72	0.70
49:5:1213:G:C4	49:5:1215:C:H1'	2.26	0.70
2:B:173:LEU:HD12	2:B:342:LYS:HD3	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2852:U:O2	49:5:2854:G:H8	1.73	0.70
2:B:14:LEU:HD23	2:B:17:LEU:HD21	1.71	0.70
49:5:499:G:C2	49:5:656:C:C2	2.79	0.70
49:5:1890:G:N2	49:5:1938:C:H41	1.89	0.70
11:L:47:ALA:HB3	11:L:48:PRO:CD	2.21	0.70
49:5:957:G:H1'	49:5:958:G:OP2	1.92	0.70
49:5:4216:G:H2'	49:5:4217:G:H5'	1.73	0.70
49:5:1771:U:H2'	49:5:1772:C:O4'	1.90	0.70
6:F:41:GLN:OE1	49:5:2095:A:C2	2.45	0.70
12:M:46:ARG:NH2	49:5:936:C:O2'	2.24	0.70
35:j:10:LYS:HG2	35:j:10:LYS:O	1.91	0.70
49:5:1991:A:H3'	49:5:1992:U:C5	2.26	0.70
49:5:1682:A:C2	49:5:1683:U:C2	2.79	0.70
49:5:1890:G:H22	49:5:1938:C:N4	1.90	0.70
3:C:193:LYS:HD2	3:C:196:MET:HE3	1.69	0.70
7:G:166:LEU:HD23	13:N:7:ILE:HD11	1.74	0.70
14:O:122:ALA:O	14:O:128:ARG:CD	2.38	0.70
31:f:69:VAL:HG22	49:5:4945:G:H21	1.56	0.70
49:5:977:C:N3	49:5:978:G:N7	2.40	0.70
49:5:2108:G:C6	49:5:2125:C:N4	2.59	0.70
49:5:2263:A:O3'	49:5:2264:C:C6	2.45	0.70
28:c:34:THR:OG1	28:c:95:ALA:HB2	1.92	0.70
49:5:1359:G:H2'	49:5:1360:G:O4'	1.91	0.70
18:S:78:PHE:CE1	18:S:102:THR:CG2	2.75	0.70
21:V:13:LYS:O	21:V:14:PHE:HB2	1.92	0.70
42:s:62:ARG:O	42:s:65:ILE:N	2.24	0.70
6:F:136:ARG:HH11	6:F:136:ARG:CG	2.05	0.69
49:5:106:A:H2'	49:5:107:G:O4'	1.92	0.69
20:U:26:THR:O	20:U:30:GLU:HG2	1.91	0.69
49:5:1264:C:H2'	49:5:1265:G:O4'	1.92	0.69
11:L:80:GLU:OE2	11:L:113:ASN:OD1	2.10	0.69
49:5:1269:G:C6	49:5:2111:G:C2	2.81	0.69
49:5:5066:U:H2'	49:5:5067:U:C6	2.27	0.69
6:F:41:GLN:NE2	6:F:41:GLN:HA	2.06	0.69
19:T:87:LYS:NZ	49:5:4301:U:OP2	2.24	0.69
49:5:22:G:N2	51:8:35:C:C2	2.60	0.69
11:L:29:PRO:HG2	11:L:30:ALA:H	1.56	0.69
12:M:98:ARG:HE	49:5:4873:G:H1	1.40	0.69
30:e:91:CYS:O	30:e:93:LYS:N	2.24	0.69
36:k:60:LEU:H	36:k:60:LEU:CD2	2.04	0.69
49:5:484:U:C4	49:5:486:C:C5	2.80	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:730:G:N2	49:5:939:G:N2	2.40	0.69
49:5:1268:G:C2	49:5:2111:G:N2	2.61	0.69
49:5:3662:A:N6	49:5:3680:U:H3	1.90	0.69
4:D:17:GLN:NE2	19:T:20:ARG:O	2.25	0.69
42:s:15:LEU:HA	42:s:18:ILE:HG22	1.73	0.69
49:5:181:C:C2	49:5:256:G:N2	2.60	0.69
49:5:665:C:O2	49:5:665:C:H2'	1.91	0.69
49:5:973:G:N2	49:5:1282:G:O2'	2.25	0.69
49:5:1269:G:C6	49:5:2111:G:N2	2.61	0.69
16:Q:82:VAL:HG21	16:Q:86:ILE:HD11	1.74	0.69
25:Z:97:ASN:O	25:Z:100:VAL:HG23	1.93	0.69
49:5:1380:G:O2'	49:5:1381:U:O2	2.10	0.69
2:B:234:ARG:NH2	49:5:4566:U:O2'	2.25	0.69
3:C:84:THR:HG21	49:5:366:A:N6	2.07	0.69
3:C:139:SER:O	41:r:15:SER:HB3	1.92	0.69
3:C:242:PRO:HG3	3:C:248:ARG:NH1	2.07	0.69
14:O:114:LYS:O	49:5:4757:C:O2	2.11	0.69
44:u:100:PRO:CB	44:v:311:LYS:CE	2.70	0.69
49:5:932:A:H2'	49:5:932:A:N3	2.07	0.69
1:A:194:ASN:O	1:A:195:CYS:HB3	1.93	0.69
4:D:282:GLN:NE2	49:5:1176:C:O2	2.23	0.69
17:R:60:ARG:NH1	17:R:63:CYS:SG	2.66	0.69
35:j:22:CYS:HG	53:j:101:ZN:ZN	1.05	0.69
49:5:2669:C:O2'	49:5:2670:C:H6	1.71	0.69
4:D:282:GLN:NE2	49:5:1176:C:O2'	2.25	0.69
10:J:94:LEU:HD21	10:J:98:ASN:HD22	1.58	0.69
14:O:14:HIS:NE2	14:O:124:LEU:HD12	2.08	0.69
23:X:89:LYS:NZ	49:5:2437:C:H42	1.90	0.69
4:D:33:ARG:NH2	50:7:7:G:O3'	2.26	0.68
7:G:144:THR:CG2	7:G:169:PHE:HE1	2.06	0.68
2:B:258:HIS:O	2:B:260:ALA:N	2.26	0.68
26:a:60:HIS:ND1	26:a:63:LEU:HD12	2.08	0.68
49:5:1357:C:H4'	49:5:1358:G:OP1	1.91	0.68
49:5:1613:A:H3'	49:5:1614:C:H5'	1.74	0.68
49:5:4349:C:H3'	49:5:4350:C:H5'	1.75	0.68
7:G:169:PHE:CZ	13:N:3:ALA:HB1	2.28	0.68
10:J:35:ARG:HD3	10:J:123:ILE:HA	1.75	0.68
49:5:1756:U:C4	49:5:1776:A:C2	2.81	0.68
2:B:173:LEU:HD11	2:B:342:LYS:HD3	1.74	0.68
11:L:22:VAL:HG13	13:N:200:LEU:HD12	1.75	0.68
11:L:31:ARG:HG3	11:L:34:ARG:HH12	1.56	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:642:G:N2	49:5:643:C:C2	2.61	0.68
3:C:307:LYS:HE3	49:5:2090:U:C2	2.27	0.68
6:F:148:ASN:HB2	6:F:243:ASN:HD21	1.52	0.68
12:M:46:ARG:CZ	49:5:936:C:C2'	2.72	0.68
32:g:83:CYS:O	32:g:85:LYS:N	2.26	0.68
49:5:1271:G:N2	49:5:2122:G:OP2	2.26	0.68
49:5:3717:A:OP2	49:5:3735:G:N2	2.26	0.68
5:E:41:SER:CB	49:5:978:G:H5''	2.24	0.68
27:b:17:HIS:NE2	49:5:1724:G:C8	2.61	0.68
49:5:1198:G:H2'	49:5:1199:G:C8	2.29	0.68
6:F:239:GLU:HG2	6:F:240:ASP:H	1.57	0.68
28:c:17:ARG:HG2	28:c:17:ARG:HH11	1.59	0.68
49:5:138:G:C2'	49:5:139:G:H5'	2.23	0.68
3:C:322:LEU:O	3:C:322:LEU:HD22	1.93	0.68
34:i:29:ARG:O	34:i:29:ARG:HG3	1.93	0.68
49:5:1265:G:H2'	49:5:1266:G:H5'	1.76	0.68
49:5:4281:A:C2	49:5:4283:G:C5	2.82	0.68
2:B:173:LEU:HD11	2:B:342:LYS:CD	2.24	0.68
8:H:54:ARG:HG3	8:H:54:ARG:NH1	1.99	0.68
19:T:108:ARG:HG2	19:T:108:ARG:HH11	1.59	0.68
49:5:166:C:C2	49:5:167:C:H5	2.12	0.68
49:5:2632:U:H2'	49:5:2633:U:C6	2.29	0.68
49:5:4723:A:H2'	49:5:4724:A:C8	2.29	0.68
1:A:90:CYS:HB2	1:A:101:VAL:HG13	1.75	0.68
48:2:15:G:H5''	48:2:15:G:H8	1.59	0.68
49:5:102:G:O2'	49:5:1381:U:O2'	1.85	0.68
49:5:1990:A:O2'	49:5:1991:A:OP1	2.06	0.68
49:5:1991:A:H3'	49:5:1992:U:H6	1.57	0.68
49:5:167:C:C2	49:5:269:G:N2	2.62	0.67
49:5:1213:G:N1	49:5:1215:C:C2	2.62	0.67
49:5:2127:C:H2'	49:5:2128:G:N7	2.09	0.67
8:H:48:LEU:HD11	8:H:54:ARG:CD	2.17	0.67
49:5:1404:G:C2	49:5:1414:C:C2	2.82	0.67
49:5:3637:U:O4	49:5:3651:A:H2	1.76	0.67
3:C:322:LEU:O	3:C:322:LEU:HD13	1.94	0.67
11:L:47:ALA:HB3	11:L:48:PRO:HD2	1.76	0.67
13:N:202:ARG:NH2	49:5:1372:A:OP1	2.27	0.67
49:5:2258:C:O2	49:5:2258:C:H2'	1.94	0.67
49:5:4560:C:H2'	49:5:4560:C:O2	1.94	0.67
49:5:3860:A:H61	49:5:4560:C:H5	1.41	0.67
1:A:41:ILE:CG2	1:A:90:CYS:SG	2.83	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:130:ALA:CB	3:C:246:VAL:CG1	2.73	0.67
11:L:29:PRO:CB	49:5:1371:A:H2'	2.23	0.67
21:V:28:CYS:HB3	21:V:34:ALA:O	1.95	0.67
28:c:90:ARG:HG3	28:c:90:ARG:HH11	1.57	0.67
49:5:2113:G:C8	49:5:2115:G:H1'	2.28	0.67
6:F:39:PHE:CD1	49:5:2123:C:C3'	2.77	0.67
19:T:55:LYS:HE3	49:5:4217:G:OP1	1.94	0.67
45:z:1639:TYR:HE2	45:z:1702:LYS:HG3	1.58	0.67
29:d:34:HIS:CD2	49:5:5048:A:C4	2.83	0.67
29:d:34:HIS:HD2	49:5:5048:A:C4	2.12	0.67
36:k:57:LYS:O	36:k:60:LEU:HD23	1.95	0.67
23:X:139:ARG:NH2	49:5:2533:C:OP1	2.28	0.67
49:5:4216:G:C2'	49:5:4217:G:H5'	2.25	0.67
28:c:31:TYR:CD1	28:c:60:ILE:HD11	2.28	0.66
10:J:13:ARG:HH21	10:J:154:LYS:C	2.03	0.66
49:5:2457:G:H21	49:5:3672:G:N2	1.91	0.66
51:8:55:U:O4	51:8:62:A:N1	2.28	0.66
3:C:341:LEU:CD2	5:E:46:LEU:HD21	2.26	0.66
19:T:17:ARG:HH11	19:T:17:ARG:CG	2.07	0.66
49:5:709:C:H42	49:5:1287:G:H1	1.43	0.66
49:5:4901:G:N2	49:5:4921:C:C2	2.63	0.66
49:5:499:G:N2	49:5:656:C:C2	2.63	0.66
49:5:1380:G:H2'	49:5:1382:G:N7	2.10	0.66
49:5:2447:U:HO2'	49:5:2448:G:C5'	2.07	0.66
49:5:4093:G:C3'	49:5:4094:G:H5'	2.25	0.66
5:E:172:THR:OG1	5:E:182:LEU:HD23	1.96	0.66
6:F:146:TYR:CE2	6:F:239:GLU:CB	2.79	0.66
49:5:1991:A:C8	49:5:1992:U:C2	2.79	0.66
4:D:282:GLN:OE1	49:5:1177:U:H1'	1.95	0.66
10:J:28:GLU:O	10:J:29:SER:HB3	1.94	0.66
35:j:4:GLY:O	35:j:8:PHE:HD1	1.78	0.66
49:5:1937:C:OP2	49:5:1938:C:O2'	2.12	0.66
9:I:76:MET:HA	9:I:76:MET:CE	2.25	0.66
12:M:46:ARG:NE	49:5:936:C:O2'	2.28	0.66
28:c:17:ARG:HG2	28:c:17:ARG:NH1	2.10	0.66
35:j:63:ARG:NH2	51:8:57:C:H5	1.69	0.66
44:v:401:LEU:O	44:v:409:LEU:CD2	2.44	0.66
45:z:1644:ILE:CD1	45:z:1709:PHE:HE2	2.08	0.66
49:5:1550:G:C2	49:5:1579:C:C2	2.84	0.66
49:5:2090:U:P	49:5:2090:U:O4'	2.54	0.66
4:D:41:LYS:CG	19:T:93:ILE:HD11	2.26	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:70:GLN:O	12:M:73:VAL:HG12	1.96	0.66
14:O:14:HIS:NE2	14:O:124:LEU:CD1	2.59	0.66
21:V:12:ALA:HB3	49:5:4617:G:C4'	2.26	0.66
1:A:241:ARG:HG3	49:5:3659:G:OP1	1.96	0.66
42:s:14:PHE:CE2	49:5:1960:A:N1	2.48	0.66
49:5:1280:C:C2	49:5:1282:G:C5	2.84	0.66
49:5:2395:A:O2'	49:5:2806:A:H1'	1.95	0.66
49:5:3724:A:N6	49:5:3725:G:C6	2.64	0.66
3:C:193:LYS:HB2	3:C:193:LYS:HZ2	1.61	0.66
3:C:317:ASN:ND2	49:5:715:G:OP1	2.29	0.66
5:E:39:HIS:HE1	49:5:1069:G:O6	1.79	0.66
49:5:1245:C:C6	49:5:1269:G:C6	2.83	0.66
49:5:1552:G:H2'	49:5:1574:G:H22	1.61	0.66
49:5:1975:G:O4'	49:5:1984:A:H1'	1.95	0.66
49:5:1987:C:O2	49:5:1987:C:H2'	1.95	0.66
49:5:2793:G:C6	49:5:2797:C:C4	2.84	0.66
8:H:47:LEU:HD23	8:H:52:LYS:HD2	1.76	0.65
10:J:14:GLU:OE1	10:J:14:GLU:HA	1.95	0.65
10:J:23:ASN:O	10:J:23:ASN:ND2	2.29	0.65
20:U:25:CYS:HB2	20:U:28:PRO:CG	2.25	0.65
26:a:25:HIS:CE1	49:5:1338:G:N2	2.64	0.65
49:5:1430:C:C2	49:5:1455:G:C2	2.84	0.65
5:E:41:SER:HA	49:5:978:G:H5''	1.79	0.65
17:R:103:ARG:NH2	49:5:2668:G:OP2	2.29	0.65
26:a:72:THR:OG1	26:a:112:LEU:CD1	2.42	0.65
35:j:17:THR:HG22	35:j:29:LEU:CD2	2.27	0.65
44:v:402:GLN:HA	44:v:409:LEU:HD23	1.79	0.65
49:5:92:C:OP2	49:5:4341:C:O2'	2.12	0.65
49:5:4453:C:H6	49:5:4453:C:O5'	1.78	0.65
26:a:116:LYS:HG2	26:a:117:LEU:H	1.60	0.65
33:h:96:ASN:HD21	49:5:136:C:H4'	1.61	0.65
42:s:59:THR:O	42:s:62:ARG:HB2	1.96	0.65
49:5:2447:U:O2'	49:5:2448:G:C5'	2.45	0.65
49:5:4508:C:N3	49:5:4512:U:H5	1.94	0.65
20:U:26:THR:HG22	20:U:68:SER:CB	2.25	0.65
21:V:26:ILE:HG22	21:V:101:ASN:HB3	1.79	0.65
35:j:63:ARG:HB2	35:j:63:ARG:HH11	1.61	0.65
49:5:1368:A:O2'	49:5:1369:C:OP1	2.14	0.65
10:J:91:GLU:HG3	10:J:91:GLU:O	1.95	0.65
11:L:29:PRO:HG2	11:L:30:ALA:N	2.10	0.65
25:Z:100:VAL:CG1	25:Z:107:LYS:CA	2.72	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:u:101:LYS:N	44:v:310:LEU:HG	2.11	0.65
49:5:1245:C:C5	49:5:1269:G:O6	2.50	0.65
45:w:17:ASN:OD1	45:w:20:ARG:NH1	2.29	0.65
49:5:2367:A:N6	49:5:2798:A:O4'	2.29	0.65
49:5:4730:C:O5'	49:5:4731:G:N2	2.30	0.65
49:5:4942:C:O2	49:5:4942:C:O5'	2.15	0.65
16:Q:22:ASP:OD1	16:Q:25:LEU:HB3	1.97	0.65
42:s:10:LYS:HZ3	49:5:1961:G:P	2.20	0.65
49:5:286:U:H2'	49:5:287:U:C6	2.31	0.65
49:5:4966:A:C2	49:5:4967:A:C2	2.84	0.65
13:N:30:TYR:CE1	13:N:63:ARG:HD2	2.32	0.65
28:c:18:LEU:O	28:c:20:LEU:N	2.30	0.65
49:5:167:C:C2	49:5:269:G:C2	2.86	0.64
12:M:70:GLN:HA	12:M:73:VAL:HG12	1.78	0.64
17:R:7:GLN:HG2	17:R:32:ILE:O	1.97	0.64
19:T:144:ASN:ND2	19:T:144:ASN:H	1.95	0.64
42:s:14:PHE:CD1	42:s:62:ARG:HD3	2.32	0.64
45:z:1679:TRP:HZ2	45:z:1708:ARG:CB	2.08	0.64
49:5:1990:A:C6	49:5:1991:A:C4	2.85	0.64
49:5:1990:A:N6	49:5:1991:A:N3	2.44	0.64
49:5:2693:G:C6	49:5:2694:G:N1	2.65	0.64
49:5:2827:G:N3	49:5:2827:G:H2'	2.12	0.64
49:5:166:C:O2	49:5:166:C:H2'	1.97	0.64
49:5:1756:U:O4	49:5:1776:A:N1	2.30	0.64
49:5:1818:G:O2'	49:5:1819:G:OP1	2.14	0.64
49:5:1937:C:H3'	49:5:1938:C:H2'	1.79	0.64
49:5:2320:G:O2'	49:5:2321:G:C8	2.48	0.64
12:M:81:ASP:OD1	12:M:84:ALA:CB	2.44	0.64
25:Z:42:LEU:HD12	25:Z:98:LYS:HG3	1.78	0.64
49:5:199:G:C6	49:5:201:C:N4	2.66	0.64
2:B:258:HIS:HB2	49:5:4518:A:OP2	1.98	0.64
7:G:96:LEU:O	7:G:99:THR:OG1	2.14	0.64
42:s:9:TRP:CE2	49:5:1999:A:OP1	2.50	0.64
49:5:986:C:C2	49:5:1068:G:C2	2.86	0.64
49:5:1280:C:N4	49:5:1282:G:O6	2.31	0.64
49:5:4183:G:H2'	49:5:4183:G:N3	2.12	0.64
45:z:1639:TYR:CZ	45:z:1702:LYS:HG3	2.33	0.64
49:5:919:C:N4	49:5:920:C:N4	2.45	0.64
49:5:1444:G:H2'	49:5:1445:U:C5	2.32	0.64
45:z:1644:ILE:HD11	45:z:1709:PHE:HE2	1.63	0.64
49:5:1213:G:O6	49:5:1215:C:C4	2.50	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2084:C:H3'	49:5:2085:G:C5'	2.28	0.64
49:5:916:C:N3	49:5:918:G:O6	2.31	0.64
49:5:1210:C:O2'	49:5:1211:G:OP1	2.14	0.64
49:5:2108:G:C2	49:5:2125:C:N3	2.65	0.64
49:5:2773:G:N2	49:5:2774:C:C2	2.66	0.64
7:G:169:PHE:HZ	13:N:3:ALA:HB1	1.63	0.64
49:5:466:A:C2	49:5:467:U:C4	2.85	0.64
49:5:1755:C:H3'	49:5:1756:U:H5''	1.78	0.64
49:5:4093:G:H3'	49:5:4094:G:H5'	1.80	0.64
49:5:1296:G:H1'	49:5:1297:U:OP2	1.98	0.64
49:5:1296:G:H1'	49:5:1297:U:P	2.38	0.64
49:5:4767:C:O2'	49:5:4874:A:N6	2.31	0.64
7:G:180:PRO:HA	7:G:227:ASN:HD21	1.63	0.63
10:J:78:LYS:O	10:J:82:ILE:HG13	1.98	0.63
49:5:1268:G:C4	49:5:2111:G:C2	2.86	0.63
2:B:142:GLY:O	2:B:146:LEU:HD23	1.98	0.63
3:C:130:ALA:CB	3:C:246:VAL:HG12	2.28	0.63
12:M:98:ARG:HH21	12:M:98:ARG:CG	2.07	0.63
49:5:2859:G:O2'	49:5:2860:C:O4'	2.16	0.63
20:U:25:CYS:HB2	20:U:28:PRO:HG3	1.80	0.63
49:5:515:C:C2	49:5:647:G:C2	2.87	0.63
49:5:2288:G:N1	49:5:2290:C:C4	2.66	0.63
49:5:4990:C:O3'	49:5:4991:U:H4'	1.99	0.63
6:F:118:GLN:HB2	6:F:121:ASN:HD21	1.62	0.63
6:F:245:LEU:HD23	6:F:245:LEU:C	2.22	0.63
12:M:47:ARG:HG3	12:M:47:ARG:O	1.98	0.63
45:z:1639:TYR:CD2	45:z:1702:LYS:HG2	2.33	0.63
49:5:1468:C:C2	49:5:1498:G:N2	2.67	0.63
20:U:24:ASP:HB3	20:U:69:LYS:CA	2.25	0.63
21:V:30:ASP:N	21:V:30:ASP:OD1	2.31	0.63
49:5:516:C:C2	49:5:646:G:C2	2.86	0.63
49:5:968:C:H4'	49:5:969:C:OP1	1.96	0.63
49:5:1269:G:O5'	49:5:2111:G:O6	2.16	0.63
3:C:193:LYS:O	3:C:195:LYS:N	2.30	0.63
18:S:72:PRO:O	18:S:100:LEU:CD1	2.45	0.63
49:5:111:C:C2	49:5:331:G:C2	2.85	0.63
49:5:964:A:H8	49:5:964:A:O5'	1.80	0.63
49:5:2091:C:H1'	49:5:2092:G:H2'	1.81	0.63
6:F:81:GLY:O	6:F:82:ASN:ND2	2.31	0.63
49:5:450:G:O2'	49:5:452:A:H4'	1.99	0.63
49:5:2758:G:O2'	49:5:2764:A:N3	2.29	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:148:ASN:CB	6:F:243:ASN:HD21	2.10	0.63
13:N:65:ARG:NH1	49:5:2457:G:OP1	2.29	0.63
26:a:116:LYS:CG	26:a:117:LEU:N	2.59	0.63
28:c:90:ARG:NH2	40:p:44:LYS:HG2	2.14	0.63
32:g:28:ASN:ND2	32:g:28:ASN:O	2.31	0.63
35:j:59:THR:O	51:8:42:G:OP1	2.17	0.63
49:5:979:C:H2'	49:5:980:U:O4'	1.97	0.63
49:5:1991:A:H5'	49:5:1992:U:H5	1.64	0.63
41:r:17:LEU:HD23	41:r:17:LEU:O	1.98	0.63
49:5:84:A:H5'	49:5:86:U:H1'	1.79	0.63
49:5:4281:A:C2	49:5:4283:G:C6	2.86	0.63
3:C:325:MET:HE1	6:F:157:TYR:CZ	2.35	0.62
5:E:41:SER:HA	49:5:978:G:C5'	2.29	0.62
6:F:41:GLN:HG2	49:5:2095:A:N1	2.14	0.62
8:H:47:LEU:HD12	8:H:55:LEU:HD12	1.81	0.62
10:J:87:LEU:HA	10:J:90:ARG:HB2	1.80	0.62
14:O:125:LYS:NZ	14:O:135:PHE:CZ	2.67	0.62
16:Q:175:GLU:O	16:Q:176:ARG:HG2	1.99	0.62
19:T:39:ILE:O	19:T:40:VAL:CG2	2.47	0.62
19:T:39:ILE:HG22	19:T:40:VAL:N	2.14	0.62
49:5:1249:C:C2	49:5:1262:G:C2	2.86	0.62
49:5:1280:C:C4	49:5:1282:G:O6	2.52	0.62
49:5:2409:U:C5	49:5:2783:A:N1	2.67	0.62
49:5:4906:C:C2	49:5:4916:G:C2	2.87	0.62
49:5:5031:G:N2	49:5:5032:C:C2	2.67	0.62
28:c:60:ILE:CD1	28:c:93:THR:HG21	2.29	0.62
42:s:57:LYS:HE2	49:5:1961:G:OP2	1.99	0.62
49:5:1081:C:C2	49:5:1220:G:C2	2.87	0.62
49:5:3908:A:N1	49:5:4449:A:N7	2.47	0.62
42:s:14:PHE:CE1	42:s:62:ARG:HG3	2.33	0.62
44:u:101:LYS:C	44:v:310:LEU:HD21	2.24	0.62
49:5:702:U:H2'	49:5:703:G:H4'	1.79	0.62
49:5:1398:A:H1'	49:5:1399:G:C8	2.34	0.62
49:5:1427:A:H3'	49:5:1428:U:H6	1.64	0.62
49:5:4441:A:H8	49:5:4441:A:C5'	2.12	0.62
1:A:207:VAL:HG11	49:5:1633:G:C6	2.34	0.62
3:C:86:ARG:HA	3:C:89:GLN:HG3	1.81	0.62
35:j:74:PHE:CD1	51:8:34:U:O2	2.51	0.62
49:5:1170:G:C2	49:5:1192:C:C2	2.87	0.62
49:5:3877:A:H2	49:5:4401:G:N3	1.98	0.62
1:A:244:GLY:CA	49:5:3746:A:H5''	2.23	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:81:GLY:O	3:C:87:SER:HB2	1.99	0.62
3:C:185:ALA:HB2	49:5:218:A:N6	2.13	0.62
21:V:13:LYS:HG3	21:V:128:LEU:HD22	1.82	0.62
45:z:1679:TRP:CZ3	45:z:1705:VAL:HG22	2.34	0.62
49:5:1280:C:O2'	49:5:1281:G:H3'	2.00	0.62
49:5:4768:G:H3'	49:5:4769:G:C8	2.34	0.62
11:L:63:THR:O	11:L:65:ARG:N	2.32	0.62
12:M:46:ARG:CZ	49:5:936:C:H2'	2.29	0.62
19:T:19:PHE:CD2	49:5:1791:U:H4'	2.33	0.62
36:k:22:SER:HA	36:k:65:ALA:HB3	1.81	0.62
47:1:24:VAL:C	48:2:76:A:O2'	2.40	0.62
49:5:292:G:O2'	49:5:293:G:C5'	2.47	0.62
49:5:1279:A:C3'	49:5:1280:C:H5''	2.28	0.62
49:5:3668:C:C2	49:5:3675:G:C2	2.88	0.62
49:5:4699:U:C4	49:5:4701:A:N6	2.68	0.62
6:F:41:GLN:HG3	49:5:2095:A:C6	2.35	0.62
7:G:166:LEU:HD23	13:N:7:ILE:CD1	2.29	0.62
49:5:1267:C:H5''	49:5:2110:C:O2	2.00	0.62
49:5:1755:C:O2'	49:5:1755:C:O2	2.17	0.62
14:O:54:TYR:OH	14:O:73:PHE:O	2.17	0.62
28:c:18:LEU:O	28:c:19:GLN:C	2.43	0.62
49:5:1756:U:C4	49:5:1775:A:N1	2.67	0.62
49:5:3680:U:O2	49:5:3680:U:C2'	2.48	0.62
49:5:4765:G:H22	49:5:4869:U:H3	1.48	0.62
7:G:169:PHE:HZ	13:N:3:ALA:CB	2.13	0.62
25:Z:38:TYR:CD2	25:Z:76:ASN:OD1	2.53	0.62
49:5:1245:C:C2	49:5:1246:G:N7	2.67	0.62
49:5:1370:G:O3'	49:5:1371:A:O4'	2.18	0.62
49:5:4929:C:H6	49:5:4929:C:H5''	1.64	0.62
42:s:18:ILE:HB	42:s:62:ARG:HH12	1.65	0.62
49:5:470:A:C5	49:5:471:A:C8	2.87	0.62
7:G:50:ASP:C	7:G:50:ASP:OD1	2.43	0.61
28:c:40:GLN:HA	28:c:40:GLN:HE21	1.65	0.61
31:f:3:GLY:O	31:f:5:LEU:HD23	2.01	0.61
49:5:1279:A:H2'	49:5:1280:C:C6	2.35	0.61
49:5:1669:A:H4'	49:5:1685:G:N2	2.16	0.61
49:5:3723:A:C2	49:5:3724:A:C5	2.89	0.61
2:B:379:PHE:HD2	2:B:385:LYS:CB	2.12	0.61
28:c:53:PRO:HG2	28:c:56:ARG:HB2	1.80	0.61
34:i:9:VAL:HG13	34:i:9:VAL:O	1.99	0.61
49:5:2858:A:HO2'	49:5:2859:G:H8	1.42	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:80:GLU:OE2	2:B:328:ASN:ND2	2.33	0.61
44:v:316:GLU:OE2	44:v:320:LEU:HD11	2.00	0.61
49:5:1280:C:C2	49:5:1282:G:N7	2.68	0.61
49:5:1367:C:N3	49:5:1369:C:P	2.73	0.61
49:5:1983:A:C2	49:5:2010:A:H5''	2.35	0.61
49:5:4966:A:H2'	49:5:4967:A:O4'	1.99	0.61
6:F:49:ARG:NH1	49:5:974:C:O3'	2.33	0.61
44:v:313:LEU:C	44:v:317:LYS:HZ3	2.08	0.61
49:5:32:G:H1	49:5:48:G:HO2'	1.49	0.61
49:5:3641:U:H5	49:5:3646:A:N7	1.99	0.61
49:5:3878:C:N4	49:5:4399:U:O2'	2.31	0.61
49:5:1272:C:O2'	49:5:1273:G:C1'	2.49	0.61
49:5:1984:A:N6	49:5:2011:C:O2'	2.34	0.61
49:5:4461:C:O2	49:5:4516:G:C2	2.53	0.61
4:D:22:ARG:NH1	4:D:28:THR:OG1	2.34	0.61
21:V:35:LYS:HB3	21:V:67:LYS:O	2.01	0.61
39:o:6:LYS:O	39:o:23:VAL:HB	2.00	0.61
49:5:1270:A:C2'	49:5:1271:G:O5'	2.48	0.61
49:5:1367:C:C4	49:5:1369:C:OP2	2.53	0.61
49:5:2688:G:C6	49:5:2689:C:N4	2.69	0.61
49:5:4419:U:OP1	49:5:4421:C:N4	2.33	0.61
3:C:181:LYS:CG	49:5:218:A:C8	2.84	0.61
6:F:41:GLN:HG3	49:5:2095:A:H61	1.65	0.61
13:N:181:HIS:O	13:N:184:ILE:HB	2.00	0.61
44:v:316:GLU:OE2	44:v:320:LEU:HD21	2.00	0.61
49:5:650:C:H2'	49:5:651:C:C6	2.35	0.61
49:5:1245:C:O2	49:5:1246:G:C8	2.53	0.61
49:5:1404:G:N2	49:5:1414:C:C2	2.69	0.61
7:G:162:ASP:HB3	7:G:163:PRO:CD	2.29	0.61
13:N:124:ASP:OD1	13:N:125:SER:N	2.33	0.61
49:5:3594:C:O2	49:5:3594:C:H2'	2.00	0.61
49:5:3739:C:H6	49:5:3739:C:H5''	1.66	0.61
49:5:4283:G:N2	49:5:4284:C:C2	2.69	0.61
3:C:343:GLN:OE1	49:5:722:G:N2	2.32	0.61
5:E:41:SER:CA	49:5:978:G:H5''	2.31	0.61
15:P:60:PHE:HD2	15:P:67:VAL:HG21	1.66	0.61
42:s:78:LEU:HD11	42:s:193:PHE:CD1	2.36	0.61
49:5:1067:G:H2'	49:5:1068:G:O4'	2.01	0.61
49:5:2065:G:H2'	49:5:2066:C:O4'	2.01	0.61
49:5:2113:G:OP1	49:5:2113:G:O4'	2.19	0.61
6:F:239:GLU:OE2	18:S:38:VAL:HG13	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:128:VAL:HB	7:G:129:PRO:HD3	1.83	0.60
23:X:89:LYS:HZ1	49:5:2437:C:H42	1.47	0.60
29:d:29:ILE:O	29:d:33:ILE:HG22	2.00	0.60
41:r:29:PRO:O	41:r:30:ASN:HB2	2.01	0.60
49:5:657:C:H2'	49:5:658:C:O4'	2.00	0.60
49:5:984:C:C2	49:5:1070:G:C2	2.89	0.60
49:5:3771:C:H2'	49:5:3772:U:C6	2.36	0.60
39:o:36:GLN:O	39:o:36:GLN:NE2	2.34	0.60
49:5:183:C:O2	49:5:253:G:O6	2.19	0.60
49:5:724:C:H42	49:5:942:G:H1	1.47	0.60
49:5:1213:G:C2	49:5:1215:C:O2	2.54	0.60
49:5:1299:G:H2'	49:5:1300:G:H5'	1.83	0.60
49:5:2108:G:N1	49:5:2125:C:C4	2.69	0.60
49:5:2769:U:O2	49:5:2770:C:C6	2.54	0.60
8:H:95:VAL:HG13	38:m:78:ILE:HD11	1.83	0.60
20:U:25:CYS:HB3	20:U:112:LEU:HD12	1.82	0.60
49:5:209:U:C4	49:5:233:U:C4	2.89	0.60
49:5:504:G:O2'	49:5:505:G:O4'	2.19	0.60
49:5:4092:G:N2	49:5:4158:C:C2	2.70	0.60
2:B:77:THR:HG21	2:B:337:VAL:HG22	1.83	0.60
6:F:138:VAL:HG23	6:F:138:VAL:O	2.02	0.60
12:M:98:ARG:HG2	12:M:98:ARG:NH2	2.06	0.60
49:5:1723:A:N1	49:5:1838:A:C2	2.69	0.60
49:5:2089:G:O2'	49:5:2090:U:OP2	2.15	0.60
6:F:39:PHE:CZ	49:5:2123:C:O3'	2.54	0.60
41:r:61:VAL:O	41:r:61:VAL:HG23	2.00	0.60
49:5:1358:G:H8	49:5:1358:G:H3'	1.65	0.60
8:H:88:PHE:CE2	8:H:151:ILE:HB	2.37	0.60
11:L:99:ASP:OD1	11:L:101:ARG:N	2.35	0.60
33:h:104:THR:O	33:h:107:GLN:N	2.33	0.60
49:5:1277:G:N2	49:5:1278:C:C2	2.70	0.60
49:5:1367:C:C2	49:5:1370:G:H2'	2.37	0.60
49:5:3912:U:H2'	49:5:3913:G:H5'	1.83	0.60
49:5:4260:U:H2'	49:5:4261:C:C6	2.37	0.60
25:Z:100:VAL:HG11	25:Z:107:LYS:HA	1.82	0.60
44:v:314:GLN:HG2	44:v:317:LYS:HE2	1.83	0.60
49:5:703:G:H3'	49:5:704:C:H5'	1.83	0.60
49:5:1271:G:H3'	49:5:1272:C:C5'	2.31	0.60
49:5:2110:C:C6	49:5:2110:C:OP1	2.54	0.60
49:5:2623:A:C2	49:5:2624:G:C5	2.89	0.60
49:5:2858:A:O2'	49:5:2859:G:P	2.60	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4579:U:H2'	49:5:4580:U:C6	2.36	0.60
14:O:125:LYS:NZ	14:O:135:PHE:CE1	2.70	0.60
16:Q:14:ARG:NH2	49:5:2083:C:OP2	2.35	0.60
49:5:1280:C:N3	49:5:1282:G:C6	2.69	0.60
49:5:1368:A:C2'	49:5:1369:C:OP1	2.50	0.60
49:5:2108:G:N2	49:5:2125:C:C2	2.69	0.60
49:5:2447:U:O2'	49:5:2448:G:H5'	2.00	0.60
3:C:194:GLY:O	3:C:197:ARG:N	2.35	0.60
42:s:18:ILE:HG23	42:s:19:GLN:H	1.65	0.60
51:8:126:C:O2'	51:8:127:U:C5	2.53	0.60
6:F:39:PHE:CE1	49:5:2123:C:O3'	2.53	0.60
17:R:120:TYR:CD1	17:R:120:TYR:C	2.80	0.60
19:T:48:VAL:HG21	19:T:94:GLU:HG2	1.83	0.60
22:W:50:ASN:N	22:W:50:ASN:OD1	2.35	0.60
26:a:63:LEU:HD21	26:a:65:ARG:HE	1.67	0.60
49:5:1271:G:H3'	49:5:1272:C:O4'	2.02	0.60
49:5:2726:G:C6	49:5:2727:C:N4	2.70	0.60
49:5:4320:G:H2'	49:5:4321:U:O4'	2.00	0.60
1:A:180:LEU:HD21	40:p:26:VAL:HG21	1.82	0.59
4:D:278:ASP:O	4:D:282:GLN:HG3	2.02	0.59
8:H:72:THR:OG1	49:5:4690:G:O2'	2.20	0.59
12:M:98:ARG:HD3	49:5:4873:G:O6	2.02	0.59
35:j:62:GLY:N	51:8:42:G:OP1	2.31	0.59
49:5:94:A:H2'	49:5:95:G:O4'	2.02	0.59
49:5:497:G:C2	49:5:657:C:N3	2.69	0.59
49:5:3739:C:C6	49:5:3739:C:C5'	2.85	0.59
3:C:323:ARG:NH2	49:5:1280:C:O4'	2.34	0.59
48:2:49:G:C2	48:2:66:C:C2	2.90	0.59
49:5:4750:G:O6	49:5:4949:G:O6	2.20	0.59
8:H:50:LYS:C	8:H:51:LYS:HG3	2.26	0.59
20:U:23:LEU:HD22	20:U:39:PHE:CE2	2.37	0.59
42:s:57:LYS:HB3	49:5:2021:G:OP1	2.02	0.59
49:5:1171:G:C2	49:5:1191:C:C2	2.90	0.59
49:5:4723:A:C2	49:5:4724:A:C5	2.90	0.59
2:B:117:ARG:NH2	2:B:177:LYS:HD3	2.17	0.59
6:F:39:PHE:CD2	49:5:2124:G:OP1	2.55	0.59
7:G:168:VAL:O	7:G:171:PRO:HD2	2.02	0.59
13:N:179:LYS:HE2	49:5:298:G:OP1	2.02	0.59
23:X:50:LYS:HG3	49:5:2475:G:C6	2.37	0.59
26:a:72:THR:HG21	26:a:112:LEU:HD11	1.85	0.59
35:j:81:GLY:HA3	49:5:134:G:C5	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:s:14:PHE:CD1	42:s:62:ARG:CD	2.86	0.59
49:5:43:U:C4	49:5:44:A:H1'	2.37	0.59
49:5:165:A:H3'	49:5:166:C:H6	1.67	0.59
49:5:2905:C:C2	49:5:3590:G:C2	2.91	0.59
49:5:483:G:C2	49:5:484:U:C5	2.90	0.59
49:5:1613:A:N6	49:5:3637:U:C4	2.71	0.59
49:5:1811:G:N2	49:5:1812:C:C2	2.70	0.59
49:5:1886:G:N2	49:5:1894:C:C2	2.71	0.59
49:5:2481:G:C2	49:5:2498:C:C2	2.90	0.59
49:5:2688:G:C2	49:5:2689:C:C4	2.90	0.59
49:5:4101:C:C2	49:5:4109:G:C2	2.90	0.59
2:B:86:VAL:HG13	2:B:162:VAL:HG13	1.83	0.59
4:D:16:TYR:O	19:T:20:ARG:CD	2.50	0.59
8:H:55:LEU:HG	8:H:56:ARG:N	2.15	0.59
9:I:61:SER:HA	9:I:126:VAL:HG23	1.83	0.59
26:a:12:ARG:NH1	49:5:1660:U:C4	2.71	0.59
26:a:116:LYS:CG	26:a:117:LEU:H	2.16	0.59
49:5:77:U:H3	49:5:336:A:H61	1.49	0.59
49:5:1751:A:C2	49:5:1780:A:C2	2.90	0.59
49:5:1991:A:C8	49:5:1992:U:C1'	2.85	0.59
49:5:2766:A:N3	49:5:2766:A:H5''	2.17	0.59
5:E:129:PHE:HA	5:E:132:HIS:CE1	2.38	0.59
6:F:184:TYR:HB3	6:F:202:ARG:HG2	1.84	0.59
19:T:143:THR:O	19:T:143:THR:HG23	2.01	0.59
49:5:1267:C:H5''	49:5:2110:C:O2'	2.03	0.59
49:5:1280:C:N3	49:5:1282:G:C5	2.71	0.59
5:E:254:LEU:O	5:E:254:LEU:HD23	2.02	0.59
21:V:82:ILE:HG12	21:V:121:VAL:HG13	1.83	0.59
32:g:90:ARG:NH2	49:5:4123:C:OP1	2.35	0.59
41:r:96:MET:O	41:r:100:ASN:HB2	2.02	0.59
49:5:181:C:C2	49:5:256:G:C2	2.91	0.59
49:5:1280:C:C4	49:5:1282:G:C6	2.91	0.59
49:5:2746:A:H2'	49:5:2747:U:O4'	2.03	0.59
49:5:4920:C:H2'	49:5:4921:C:C6	2.38	0.59
6:F:92:ALA:HB2	6:F:127:LEU:HD21	1.83	0.59
44:v:401:LEU:HD11	44:v:410:LEU:HD12	1.85	0.59
49:5:987:C:H2'	49:5:988:C:O4'	2.02	0.59
49:5:1245:C:C4	49:5:1269:G:O6	2.56	0.59
49:5:1890:G:H1	49:5:1938:C:H42	1.49	0.59
49:5:2859:G:O2'	49:5:2860:C:C5'	2.51	0.59
49:5:4138:C:C2	49:5:4147:G:C2	2.91	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4233:A:C8	49:5:4235:G:C8	2.90	0.59
50:7:30:C:C2	50:7:48:G:N2	2.71	0.59
30:e:58:ILE:HD12	30:e:58:ILE:O	2.03	0.59
42:s:18:ILE:HB	42:s:62:ARG:NH1	2.17	0.59
42:s:18:ILE:CB	42:s:62:ARG:HH12	2.16	0.59
49:5:199:G:C2	49:5:220:C:O2	2.55	0.59
49:5:982:U:H2'	49:5:983:C:C6	2.38	0.59
49:5:2457:G:N2	49:5:2465:C:C2	2.71	0.59
5:E:207:HIS:HE1	5:E:245:ASP:OD2	1.86	0.58
6:F:140:PRO:HG2	6:F:141:TYR:CD1	2.37	0.58
49:5:43:U:N3	49:5:44:A:H1'	2.17	0.58
49:5:43:U:O4	49:5:93:G:C6	2.55	0.58
49:5:4453:C:C2	49:5:4529:G:C2	2.91	0.58
5:E:124:HIS:NE2	49:5:1282:G:N7	2.51	0.58
24:Y:8:THR:CG2	24:Y:13:LYS:HD2	2.33	0.58
43:t:94:LYS:HA	43:t:95:GLN:C	2.28	0.58
49:5:1358:G:N2	49:5:1359:G:C6	2.71	0.58
49:5:1992:U:H5'	49:5:1993:C:OP1	2.03	0.58
49:5:2457:G:N2	49:5:3672:G:H21	2.01	0.58
49:5:2524:U:H5''	49:5:2711:G:C2	2.38	0.58
51:8:70:G:O2'	51:8:87:G:N2	2.35	0.58
8:H:48:LEU:HG	8:H:54:ARG:HG2	1.86	0.58
19:T:146:LYS:HD2	19:T:146:LYS:O	2.02	0.58
25:Z:101:PHE:HD1	25:Z:101:PHE:H	1.51	0.58
30:e:118:LEU:HD13	30:e:120:ILE:HD12	1.85	0.58
41:r:11:ARG:CZ	49:5:2269:C:H5	2.17	0.58
48:2:15:G:H5''	48:2:15:G:C8	2.38	0.58
49:5:917:A:C6	49:5:919:C:C4	2.91	0.58
49:5:977:C:C4	49:5:978:G:N7	2.71	0.58
49:5:1358:G:H3'	49:5:1358:G:C8	2.38	0.58
49:5:2852:U:O2	49:5:2852:U:H2'	2.04	0.58
50:7:30:C:N3	50:7:48:G:C2	2.72	0.58
2:B:41:VAL:HA	2:B:187:GLY:CA	2.34	0.58
6:F:157:TYR:CE1	6:F:189:MET:HG2	2.38	0.58
8:H:120:GLU:OE1	8:H:124:ARG:NH2	2.30	0.58
49:5:1991:A:C3'	49:5:1992:U:C6	2.85	0.58
49:5:4510:A:O2'	49:5:4511:A:O4'	2.22	0.58
49:5:4988:U:H4'	49:5:4989:U:O2	2.03	0.58
1:A:243:THR:O	49:5:3657:U:O2'	2.21	0.58
5:E:166:SER:CB	5:E:210:ASP:OD2	2.52	0.58
14:O:37:ARG:NH2	49:5:4760:G:OP2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:P:15:CYS:SG	15:P:150:LEU:HD12	2.43	0.58
19:T:109:VAL:HG22	49:5:1803:G:C6	2.39	0.58
24:Y:8:THR:HG21	24:Y:13:LYS:HB3	1.82	0.58
30:e:85:LEU:HD11	30:e:115:ALA:HB2	1.86	0.58
49:5:1538:U:O2'	49:5:1629:G:OP1	2.21	0.58
49:5:2440:U:O2'	49:5:2441:C:OP1	2.09	0.58
49:5:2857:A:O2'	49:5:2858:A:C5'	2.52	0.58
19:T:142:ARG:NH1	49:5:1090:G:OP1	2.35	0.58
25:Z:78:ASN:OD1	25:Z:78:ASN:N	2.36	0.58
49:5:4094:G:C2'	49:5:4095:G:O4'	2.51	0.58
3:C:80:ARG:HH11	3:C:80:ARG:CG	2.15	0.58
16:Q:186:TYR:CD2	49:5:4307:A:H4'	2.39	0.58
30:e:81:ASN:C	30:e:81:ASN:OD1	2.47	0.58
49:5:642:G:N1	49:5:643:C:C4	2.72	0.58
49:5:2089:G:C6	49:5:2262:G:H2'	2.38	0.58
5:E:129:PHE:HA	5:E:132:HIS:ND1	2.19	0.58
14:O:124:LEU:CD2	18:S:172:PRO:HD3	2.34	0.58
40:p:7:LYS:HG3	40:p:7:LYS:O	2.04	0.58
49:5:2391:G:N2	49:5:2392:C:C2	2.72	0.58
26:a:132:ARG:NH2	49:5:1468:C:OP1	2.37	0.58
49:5:301:G:C6	49:5:302:C:C4	2.92	0.58
49:5:1682:A:C6	49:5:1683:U:C4	2.92	0.58
49:5:1990:A:N6	49:5:1991:A:C2	2.72	0.58
49:5:1990:A:C4	49:5:1991:A:H1'	2.39	0.58
11:L:29:PRO:HG3	49:5:1371:A:C8	2.39	0.57
18:S:9:GLU:HG2	18:S:33:PHE:CE1	2.39	0.57
49:5:44:A:N3	49:5:94:A:C2	2.72	0.57
49:5:1986:U:H2'	49:5:2007:G:O6	2.03	0.57
49:5:2444:U:HO2'	51:8:112:G:HO2'	1.52	0.57
49:5:2547:G:N2	49:5:2548:C:C2	2.71	0.57
5:E:174:PRO:HG2	5:E:257:ILE:HD11	1.85	0.57
26:a:113:GLY:O	26:a:136:LYS:NZ	2.36	0.57
49:5:292:G:O2'	49:5:293:G:P	2.62	0.57
49:5:1438:U:C2	49:5:2099:G:O6	2.57	0.57
49:5:2852:U:O2	49:5:2854:G:C8	2.56	0.57
19:T:101:SER:HB2	49:5:1729:A:H2	1.68	0.57
20:U:24:ASP:CG	20:U:69:LYS:HE3	2.28	0.57
44:v:401:LEU:O	44:v:409:LEU:HD21	2.03	0.57
49:5:990:C:C4	49:5:1064:G:C2	2.92	0.57
49:5:1075:G:N2	49:5:1076:C:C2	2.72	0.57
49:5:1271:G:C3'	49:5:1272:C:H5'	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1279:A:H3'	49:5:1280:C:C6	2.40	0.57
49:5:3729:U:H2'	49:5:3730:U:O4'	2.05	0.57
51:8:121:G:C2	51:8:130:C:C2	2.92	0.57
3:C:195:LYS:NZ	51:8:21:C:OP1	2.37	0.57
5:E:132:HIS:CD2	49:5:711:A:H1'	2.40	0.57
49:5:488:G:N2	49:5:489:C:C2	2.72	0.57
49:5:1217:G:H2'	49:5:1218:G:C8	2.39	0.57
49:5:1252:C:C2	49:5:1259:G:C2	2.93	0.57
49:5:1358:G:N2	49:5:1359:G:O6	2.37	0.57
5:E:166:SER:HB2	5:E:210:ASP:OD2	2.04	0.57
6:F:148:ASN:N	6:F:243:ASN:HD21	2.01	0.57
12:M:46:ARG:NH1	49:5:936:C:H2'	2.19	0.57
19:T:39:ILE:C	19:T:40:VAL:HG23	2.27	0.57
26:a:111:VAL:O	26:a:111:VAL:HG12	2.02	0.57
29:d:79:ASN:OD1	29:d:79:ASN:N	2.37	0.57
49:5:2089:G:H2'	49:5:2089:G:N3	2.19	0.57
6:F:41:GLN:CG	49:5:2095:A:C6	2.87	0.57
34:i:38:LYS:O	34:i:42:ASP:OD1	2.23	0.57
42:s:57:LYS:HB3	49:5:2021:G:P	2.43	0.57
49:5:932:A:HO2'	49:5:933:G:P	2.27	0.57
49:5:1167:C:C2	49:5:1195:G:C2	2.93	0.57
14:O:7:LEU:HD13	14:O:9:LEU:HD21	1.85	0.57
49:5:1672:U:H2'	49:5:1673:U:C6	2.39	0.57
49:5:4441:A:C5'	49:5:4441:A:C8	2.88	0.57
49:5:4730:C:O2	49:5:4730:C:O4'	2.23	0.57
49:5:5028:G:C6	49:5:5029:C:N4	2.72	0.57
29:d:31:LYS:HD2	29:d:31:LYS:C	2.30	0.57
29:d:33:ILE:O	29:d:33:ILE:HG12	2.03	0.57
49:5:166:C:O2	49:5:167:C:C6	2.58	0.57
49:5:1367:C:N1	49:5:1370:G:H2'	2.19	0.57
49:5:2256:C:O2	49:5:2256:C:C2'	2.52	0.57
49:5:2623:A:C2	49:5:2633:U:N3	2.73	0.57
49:5:2688:G:N2	49:5:2689:C:C2	2.73	0.57
8:H:44:GLU:HB3	8:H:58:ASP:HB2	1.87	0.57
14:O:192:PHE:O	14:O:195:VAL:N	2.37	0.57
21:V:12:ALA:HB2	49:5:4617:G:C1'	2.33	0.57
32:g:21:ARG:NH2	49:5:2641:A:OP1	2.38	0.57
33:h:62:ASN:ND2	51:8:60:G:O6	2.36	0.57
42:s:15:LEU:CA	42:s:18:ILE:HG22	2.34	0.57
49:5:105:A:C2	49:5:336:A:C8	2.93	0.57
7:G:53:ARG:NH2	49:5:4165:C:OP1	2.32	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:O:48:TYR:CE2	49:5:1930:U:C2	2.92	0.57
18:S:118:ARG:NH1	49:5:2059:C:O2	2.37	0.57
28:c:49:ALA:HB1	28:c:78:ASN:CB	2.35	0.57
49:5:1339:U:H2'	49:5:1340:C:C6	2.40	0.57
49:5:2258:C:O2	49:5:2258:C:C2'	2.52	0.57
49:5:2367:A:N1	49:5:2788:U:C4	2.71	0.57
49:5:2468:U:H2'	49:5:2506:G:O6	2.05	0.57
5:E:215:LYS:NZ	49:5:4939:C:OP2	2.37	0.56
13:N:180:PHE:CD1	13:N:180:PHE:N	2.72	0.56
14:O:42:ASN:ND2	14:O:125:LYS:HD3	2.20	0.56
24:Y:1:MET:O	24:Y:3:PHE:CE1	2.58	0.56
49:5:685:C:O2	49:5:685:C:C2'	2.53	0.56
49:5:986:C:N3	49:5:1068:G:C2	2.73	0.56
49:5:1823:G:C3'	49:5:1825:A:P	2.93	0.56
49:5:1889:U:H3'	49:5:1890:G:C8	2.39	0.56
49:5:4227:U:O2'	49:5:4228:G:H5'	2.05	0.56
7:G:127:ASP:O	7:G:128:VAL:CB	2.52	0.56
7:G:144:THR:HG21	7:G:169:PHE:CE1	2.40	0.56
7:G:157:ILE:HD11	7:G:170:LEU:HD22	1.87	0.56
10:J:23:ASN:HD22	10:J:129:ASP:HB3	1.71	0.56
14:O:57:PHE:HZ	14:O:82:ARG:NH2	2.04	0.56
21:V:28:CYS:CB	21:V:34:ALA:O	2.52	0.56
25:Z:101:PHE:N	25:Z:101:PHE:CD1	2.72	0.56
41:r:38:PHE:O	41:r:39:ARG:C	2.48	0.56
45:z:1679:TRP:CZ2	45:z:1708:ARG:CB	2.85	0.56
49:5:977:C:C3'	49:5:978:G:H5'	2.33	0.56
51:8:38:U:O2	51:8:38:U:OP1	2.23	0.56
4:D:202:GLN:NE2	4:D:237:GLU:OE1	2.39	0.56
7:G:157:ILE:HG23	7:G:167:VAL:HG11	1.87	0.56
11:L:10:LEU:H	11:L:10:LEU:CD2	2.17	0.56
11:L:29:PRO:HG3	49:5:1371:A:H8	1.70	0.56
14:O:119:VAL:HG13	14:O:124:LEU:CD1	2.35	0.56
16:Q:68:ARG:CZ	49:5:1420:A:H5''	2.34	0.56
25:Z:100:VAL:HG13	25:Z:107:LYS:CA	2.33	0.56
43:t:5:PHE:CZ	43:t:37:LEU:HD21	2.41	0.56
45:z:1702:LYS:O	45:z:1706:ASP:OD1	2.23	0.56
49:5:279:A:O2'	49:5:280:G:OP2	2.19	0.56
49:5:689:U:N3	49:5:690:C:C5	2.73	0.56
49:5:1245:C:N3	49:5:1246:G:N7	2.53	0.56
49:5:1899:G:N2	49:5:1900:C:C2	2.73	0.56
49:5:1956:A:C2	49:5:2028:C:C2	2.93	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2089:G:N3	49:5:2089:G:C2'	2.68	0.56
49:5:2096:G:H3'	49:5:2096:G:N3	2.21	0.56
49:5:3617:G:O2'	49:5:3620:G:N7	2.39	0.56
49:5:4416:G:N2	49:5:4417:C:C2	2.73	0.56
49:5:4462:C:C2	49:5:4515:G:C2	2.93	0.56
49:5:5043:A:H2'	49:5:5044:A:O4'	2.05	0.56
4:D:291:GLN:HG3	4:D:292:GLU:N	2.19	0.56
5:E:95:ASP:OD1	5:E:96:LYS:N	2.38	0.56
9:I:184:MET:HB3	9:I:190:LEU:HD12	1.88	0.56
18:S:95:ARG:NH2	49:5:1951:G:O2'	2.38	0.56
49:5:130:C:C2	49:5:139:G:C2	2.93	0.56
49:5:202:C:C2	49:5:214:G:C2	2.93	0.56
49:5:497:G:C2	49:5:657:C:C2	2.93	0.56
49:5:1269:G:C5	49:5:2111:G:N1	2.74	0.56
49:5:1269:G:C3'	49:5:2111:G:O6	2.51	0.56
49:5:1886:G:C2	49:5:1894:C:C2	2.93	0.56
19:T:108:ARG:HG2	19:T:108:ARG:NH1	2.20	0.56
29:d:57:MET:O	29:d:59:THR:N	2.38	0.56
49:5:1266:G:H22	49:5:2111:G:H21	1.52	0.56
51:8:85:U:O2'	51:8:87:G:OP1	2.23	0.56
12:M:104:MET:HE2	14:O:199:HIS:HB3	1.87	0.56
44:u:100:PRO:CB	44:v:311:LYS:HE3	2.35	0.56
49:5:100:C:O4'	49:5:100:C:O2	2.21	0.56
49:5:1272:C:HO2'	49:5:1273:G:C1'	2.17	0.56
49:5:1848:C:H5''	49:5:1848:C:C6	2.41	0.56
49:5:2011:C:H2'	49:5:2012:A:O4'	2.06	0.56
49:5:4476:C:O2	49:5:4476:C:O4'	2.21	0.56
51:8:106:G:N2	51:8:107:C:C2	2.73	0.56
26:a:103:VAL:HG12	26:a:108:TYR:HB2	1.88	0.56
28:c:33:GLN:HB2	49:5:2675:G:O6	2.05	0.56
28:c:81:LEU:HD21	28:c:94:LEU:HD23	1.86	0.56
49:5:43:U:C4	49:5:93:G:O6	2.59	0.56
49:5:654:C:O2	49:5:654:C:H2'	2.04	0.56
49:5:742:G:C2	49:5:923:C:C2	2.94	0.56
49:5:970:G:H2'	49:5:971:U:O4'	2.05	0.56
49:5:1270:A:C5	49:5:1271:G:H1'	2.40	0.56
49:5:1946:G:O2'	49:5:1948:G:OP1	2.21	0.56
49:5:1990:A:N6	49:5:1991:A:C4	2.73	0.56
9:I:47:PRO:HB3	9:I:171:TRP:CE2	2.41	0.56
49:5:2555:G:O6	49:5:2572:C:N4	2.39	0.56
49:5:3739:C:H5''	49:5:3739:C:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4099:G:C6	49:5:4100:C:C4	2.93	0.56
49:5:4413:C:O4'	49:5:4413:C:O2	2.23	0.56
2:B:174:ARG:NH1	49:5:4974:C:C1'	2.68	0.56
4:D:31:TYR:CZ	4:D:35:ARG:NH2	2.74	0.56
7:G:144:THR:CG2	7:G:169:PHE:CE1	2.89	0.56
13:N:30:TYR:OH	13:N:43:THR:HG21	2.05	0.56
13:N:103:GLU:OE1	13:N:167:ALA:HB3	2.05	0.56
42:s:68:HIS:O	42:s:70:GLU:N	2.39	0.56
49:5:318:A:O2'	49:5:3727:A:H1'	2.06	0.56
49:5:973:G:C6	49:5:974:C:C4	2.93	0.56
49:5:977:C:C2	49:5:978:G:N7	2.74	0.56
49:5:1076:C:H2'	49:5:1077:C:O4'	2.06	0.56
49:5:2477:A:H2'	49:5:2478:C:C6	2.40	0.56
7:G:161:VAL:HG11	7:G:167:VAL:HG21	1.88	0.56
19:T:47:THR:OG1	19:T:48:VAL:N	2.36	0.56
21:V:15:ARG:HH11	21:V:15:ARG:C	2.14	0.56
30:e:46:ARG:HG2	30:e:46:ARG:HH11	1.71	0.56
48:2:49:G:N2	48:2:66:C:C2	2.74	0.56
49:5:259:C:H2'	49:5:260:C:O4'	2.06	0.56
49:5:685:C:O2	49:5:685:C:H2'	2.06	0.56
49:5:2890:C:H2'	49:5:2891:U:C6	2.41	0.56
6:F:148:ASN:CA	6:F:243:ASN:HD21	2.17	0.55
12:M:74:ARG:CG	12:M:78:GLU:OE1	2.54	0.55
13:N:37:HIS:CD2	13:N:63:ARG:HB3	2.41	0.55
15:P:118:GLN:HE22	49:5:423:G:H21	1.54	0.55
28:c:90:ARG:HG3	28:c:90:ARG:NH1	2.21	0.55
32:g:63:VAL:O	32:g:66:ARG:N	2.37	0.55
34:i:58:MET:HE3	34:i:94:LEU:HD13	1.88	0.55
45:z:1644:ILE:CD1	45:z:1709:PHE:CE2	2.88	0.55
49:5:1293:G:H5''	49:5:1293:G:H8	1.71	0.55
49:5:1835:G:O2'	49:5:1836:G:OP2	2.15	0.55
49:5:1965:G:H2'	49:5:1966:C:C6	2.40	0.55
49:5:2084:C:H3'	49:5:2085:G:H5'	1.88	0.55
49:5:2108:G:N2	49:5:2125:C:N3	2.53	0.55
4:D:264:LYS:HD2	4:D:266:TRP:CE2	2.42	0.55
13:N:166:SER:HB2	49:5:331:G:OP1	2.06	0.55
33:h:89:ARG:HD3	51:8:37:A:OP2	2.06	0.55
49:5:165:A:H3'	49:5:166:C:C6	2.41	0.55
49:5:1961:G:O2'	49:5:2025:A:N6	2.39	0.55
49:5:4207:C:C2	49:5:4226:G:C2	2.94	0.55
8:H:180:TYR:HB2	38:m:85:LEU:HD11	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:L:42:LYS:O	11:L:46:ILE:HG12	2.07	0.55
20:U:87:THR:HG23	20:U:102:VAL:HG21	1.89	0.55
24:Y:3:PHE:N	24:Y:3:PHE:CD1	2.72	0.55
44:v:402:GLN:HA	44:v:409:LEU:CD2	2.36	0.55
49:5:1358:G:C8	49:5:1358:G:C3'	2.90	0.55
49:5:1669:A:H4'	49:5:1685:G:H22	1.71	0.55
3:C:181:LYS:HD2	49:5:2300:A:N1	2.21	0.55
5:E:43:ASN:HD21	49:5:977:C:H5''	1.71	0.55
23:X:125:ASN:OD1	49:5:2437:C:O3'	2.24	0.55
26:a:21:ARG:HD2	49:5:2282:A:H5''	1.88	0.55
28:c:29:LEU:HD23	28:c:94:LEU:HB2	1.88	0.55
41:r:64:ILE:CG2	41:r:102:TYR:CZ	2.90	0.55
49:5:105:A:C2	49:5:336:A:N7	2.75	0.55
49:5:1241:C:N4	49:5:1270:A:O2'	2.39	0.55
49:5:1379:C:O3'	49:5:1380:G:O4'	2.24	0.55
49:5:1468:C:N3	49:5:1498:G:C2	2.75	0.55
49:5:1564:A:H2'	49:5:1565:A:C8	2.41	0.55
49:5:2443:G:H5''	49:5:2443:G:H8	1.72	0.55
49:5:2654:C:C2	49:5:2681:G:N2	2.75	0.55
49:5:3870:C:C2	49:5:3886:G:C2	2.94	0.55
1:A:33:ASP:O	1:A:34:PHE:C	2.49	0.55
2:B:92:TYR:CE1	2:B:101:THR:HB	2.42	0.55
3:C:336:ARG:O	3:C:340:ILE:HG12	2.06	0.55
25:Z:74:VAL:HG23	25:Z:101:PHE:CZ	2.42	0.55
49:5:976:G:H2'	49:5:977:C:C1'	2.36	0.55
49:5:1550:G:C2	49:5:1579:C:O2	2.59	0.55
49:5:2468:U:O4	49:5:2473:A:C2	2.55	0.55
49:5:2825:A:H4'	49:5:2826:U:O5'	2.06	0.55
49:5:4737:G:H2'	49:5:4738:C:C6	2.42	0.55
49:5:4939:C:O3'	49:5:4941:G:P	2.65	0.55
3:C:61:GLN:NE2	49:5:358:C:OP1	2.39	0.55
49:5:1756:U:O4	49:5:1776:A:C2	2.60	0.55
49:5:2773:G:N1	49:5:2774:C:C4	2.75	0.55
3:C:229:LEU:HD22	3:C:229:LEU:N	2.21	0.55
5:E:207:HIS:CE1	5:E:245:ASP:OD2	2.60	0.55
8:H:47:LEU:HD23	8:H:52:LYS:CD	2.37	0.55
17:R:58:HIS:HA	49:5:4646:U:OP1	2.07	0.55
49:5:1672:U:O2'	49:5:4304:A:OP1	2.24	0.55
49:5:4093:G:H2'	49:5:4094:G:H5'	1.89	0.55
1:A:196:TRP:HH2	49:5:1613:A:C2	2.24	0.55
4:D:17:GLN:HG3	19:T:20:ARG:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:v:402:GLN:HG2	44:v:409:LEU:HD21	1.88	0.55
49:5:209:U:N3	49:5:233:U:C4	2.74	0.55
49:5:919:C:N4	49:5:920:C:C5	2.75	0.55
49:5:976:G:C6	49:5:977:C:C4	2.95	0.55
49:5:1279:A:H3'	49:5:1280:C:C5	2.41	0.55
49:5:2669:C:O2'	49:5:2670:C:P	2.65	0.55
8:H:88:PHE:CZ	8:H:151:ILE:HB	2.42	0.55
13:N:160:GLU:OE1	13:N:160:GLU:N	2.38	0.55
23:X:119:ILE:HG23	23:X:120:ASP:N	2.21	0.55
27:b:45:PHE:CD1	49:5:1815:G:N7	2.75	0.55
49:5:975:C:O3'	49:5:976:G:O4'	2.25	0.55
49:5:1379:C:H1'	49:5:1380:G:C8	2.41	0.55
49:5:2412:A:H2'	49:5:2413:U:C6	2.42	0.55
5:E:157:ARG:O	5:E:178:ASN:ND2	2.40	0.55
7:G:169:PHE:CZ	13:N:3:ALA:CB	2.90	0.55
11:L:81:LEU:HD11	11:L:98:VAL:HG22	1.89	0.55
41:r:48:THR:O	41:r:102:TYR:HE1	1.89	0.55
49:5:245:C:O4'	49:5:245:C:O2	2.22	0.55
49:5:504:G:H22	49:5:654:C:H1'	1.72	0.55
49:5:665:C:O2	49:5:665:C:C2'	2.55	0.55
49:5:701:G:C6	49:5:702:U:C6	2.94	0.55
2:B:117:ARG:NH2	49:5:4985:U:OP1	2.39	0.54
3:C:80:ARG:NH1	3:C:80:ARG:HG2	2.22	0.54
3:C:84:THR:CG2	49:5:366:A:C6	2.90	0.54
3:C:198:ASN:OD1	24:Y:10:ASP:HA	2.07	0.54
5:E:240:GLU:O	5:E:244:VAL:HG23	2.07	0.54
6:F:129:LYS:CB	19:T:133:ALA:HB3	2.37	0.54
11:L:80:GLU:HG2	11:L:110:LEU:CD1	2.36	0.54
35:j:74:PHE:CB	51:8:34:U:O2	2.55	0.54
49:5:166:C:O2	49:5:166:C:C2'	2.55	0.54
49:5:1270:A:C8	49:5:1271:G:C8	2.95	0.54
49:5:1990:A:C3'	49:5:1991:A:C5'	2.85	0.54
49:5:2294:G:N2	49:5:2295:C:C2	2.76	0.54
49:5:3594:C:O2	49:5:3594:C:C2'	2.55	0.54
49:5:3670:C:O2'	49:5:3671:G:O5'	2.26	0.54
49:5:4134:C:C2	49:5:4151:G:N2	2.75	0.54
49:5:4136:G:C6	49:5:4137:C:C4	2.95	0.54
49:5:4901:G:C2	49:5:4921:C:N3	2.75	0.54
49:5:5023:C:O2	49:5:5023:C:O4'	2.24	0.54
8:H:47:LEU:CD1	8:H:55:LEU:HD12	2.37	0.54
9:I:45:GLU:O	9:I:46:PHE:CD1	2.60	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:a:74:ASN:ND2	26:a:114:LYS:HB3	2.22	0.54
49:5:491:G:C2	49:5:492:U:C5	2.95	0.54
49:5:1322:A:N6	49:5:4446:U:OP1	2.40	0.54
49:5:1366:G:N7	49:5:1367:C:O3'	2.40	0.54
49:5:2468:U:H2'	49:5:2506:G:C6	2.42	0.54
2:B:388:PHE:CD1	2:B:388:PHE:C	2.85	0.54
3:C:32:ILE:HD12	3:C:130:ALA:HB2	1.89	0.54
8:H:47:LEU:CD2	8:H:52:LYS:CD	2.85	0.54
11:L:46:ILE:O	11:L:46:ILE:HG13	2.07	0.54
21:V:57:VAL:HG23	21:V:84:GLN:HG2	1.89	0.54
49:5:1379:C:H4'	49:5:1380:G:C8	2.42	0.54
49:5:4530:U:H2'	49:5:4531:U:C6	2.43	0.54
51:8:56:G:C4	51:8:62:A:C2	2.95	0.54
2:B:4:ARG:HH12	2:B:8:ALA:HB3	1.73	0.54
4:D:23:ARG:HD2	49:5:4280:A:N1	2.23	0.54
13:N:120:TRP:NE1	13:N:123:GLU:OE1	2.35	0.54
14:O:113:ASP:OD1	14:O:114:LYS:N	2.41	0.54
16:Q:152:PHE:CE2	49:5:1847:C:H4'	2.42	0.54
31:f:69:VAL:CG1	49:5:4945:G:H1'	2.38	0.54
44:u:102:ASN:N	44:v:310:LEU:HD21	2.22	0.54
45:0:1748:LYS:HD3	49:5:2707:U:C6	2.43	0.54
49:5:483:G:N1	49:5:484:U:C4	2.76	0.54
49:5:976:G:C4	49:5:977:C:C6	2.96	0.54
49:5:1991:A:C5	49:5:1992:U:C2	2.96	0.54
49:5:2248:C:O2	49:5:2248:C:H2'	2.07	0.54
49:5:2517:A:N3	49:5:2539:C:O2'	2.38	0.54
49:5:4303:C:O5'	49:5:4303:C:O2	2.25	0.54
49:5:4758:U:O2	49:5:4758:U:O4'	2.25	0.54
1:A:20:VAL:HB	49:5:3679:U:H5	1.73	0.54
4:D:107:ARG:NH2	4:D:116:ASP:OD1	2.39	0.54
32:g:64:LEU:HB3	49:5:2749:C:H4'	1.90	0.54
49:5:1074:G:H2'	49:5:1075:G:C1'	2.37	0.54
49:5:1613:A:N6	49:5:3637:U:N3	2.56	0.54
49:5:1991:A:C3'	49:5:1992:U:C5	2.91	0.54
49:5:2089:G:O6	49:5:2263:A:C5'	2.55	0.54
3:C:305:PRO:O	49:5:2092:G:N1	2.37	0.54
14:O:14:HIS:HD2	14:O:124:LEU:HD12	1.61	0.54
16:Q:155:ALA:O	16:Q:158:THR:OG1	2.25	0.54
35:j:29:LEU:HD23	35:j:29:LEU:N	2.23	0.54
46:y:364:UNK:CB	46:y:403:UNK:HA	2.37	0.54
49:5:1213:G:C5	49:5:1215:C:N1	2.75	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1474:C:H2'	49:5:1475:G:O4'	2.08	0.54
51:8:155:C:H2'	51:8:156:U:O4'	2.07	0.54
3:C:81:GLY:O	3:C:87:SER:CB	2.56	0.54
3:C:184:TYR:HB3	49:5:218:A:N1	2.23	0.54
20:U:24:ASP:CB	20:U:69:LYS:HG3	2.23	0.54
26:a:59:ARG:NH2	39:o:36:GLN:OE1	2.41	0.54
49:5:158:A:C5	49:5:277:G:C6	2.96	0.54
49:5:677:G:N2	49:5:678:C:C2	2.76	0.54
49:5:976:G:C2	49:5:977:C:C2	2.95	0.54
49:5:3663:A:H2'	49:5:3663:A:N3	2.22	0.54
10:J:89:VAL:HG21	10:J:115:LEU:HD23	1.88	0.54
28:c:51:ASN:ND2	28:c:78:ASN:HB3	2.23	0.54
34:i:45:ARG:NH2	34:i:50:PHE:CE1	2.76	0.54
49:5:209:U:N3	49:5:233:U:C5	2.76	0.54
49:5:671:G:N2	49:5:672:C:C2	2.76	0.54
49:5:746:A:O2'	49:5:747:A:O5'	2.22	0.54
49:5:1085:C:C2	49:5:1213:G:N1	2.75	0.54
49:5:1370:G:O3'	49:5:1371:A:C4'	2.56	0.54
49:5:1846:G:H2'	49:5:1847:C:C6	2.43	0.54
49:5:2020:U:O2	49:5:2020:U:H2'	2.07	0.54
49:5:2446:C:C2	49:5:2515:G:C2	2.96	0.54
49:5:2465:C:H2'	49:5:2466:G:C8	2.43	0.54
49:5:2586:G:C8	49:5:2770:C:H1'	2.42	0.54
11:L:28:GLN:HE22	49:5:1360:G:P	2.30	0.54
21:V:29:ALA:HB1	21:V:118:THR:HG22	1.88	0.54
27:b:17:HIS:CG	49:5:1724:G:N7	2.75	0.54
49:5:516:C:N3	49:5:646:G:C2	2.75	0.54
49:5:1272:C:O2'	49:5:1273:G:O4'	2.26	0.54
49:5:1380:G:O2'	49:5:1381:U:H5''	2.08	0.54
8:H:48:LEU:C	8:H:48:LEU:HD12	2.33	0.54
11:L:26:PHE:O	11:L:29:PRO:HD2	2.08	0.54
16:Q:89:ASP:OD1	16:Q:91:ARG:NH2	2.40	0.54
48:2:51:C:H2'	48:2:52:G:H5'	1.89	0.54
49:5:28:C:C2	49:5:55:G:N2	2.75	0.54
49:5:917:A:C6	49:5:919:C:N4	2.76	0.54
49:5:2297:G:N2	49:5:2338:C:C2	2.76	0.54
49:5:2557:G:C6	49:5:2558:C:C4	2.96	0.54
49:5:4988:U:O2	49:5:4988:U:H2'	2.08	0.54
3:C:334:THR:HG21	6:F:53:TYR:OH	2.08	0.53
11:L:47:ALA:CB	11:L:48:PRO:CD	2.85	0.53
14:O:27:VAL:O	14:O:101:ARG:NH1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Y:3:PHE:N	24:Y:3:PHE:HD1	2.06	0.53
33:h:7:ARG:HG2	51:8:86:U:C5	2.43	0.53
49:5:1211:G:H2'	49:5:1212:G:C8	2.43	0.53
49:5:1367:C:N4	49:5:1369:C:OP2	2.41	0.53
49:5:1661:C:C2	49:5:2345:G:N1	2.76	0.53
49:5:2616:C:C2	49:5:2722:G:C2	2.96	0.53
49:5:2674:A:H5''	49:5:2675:G:C8	2.44	0.53
3:C:190:ARG:HD2	3:C:199:ARG:O	2.09	0.53
14:O:196:LEU:HB3	14:O:202:LEU:HD22	1.90	0.53
49:5:515:C:C2	49:5:647:G:N2	2.76	0.53
49:5:2128:G:C6	49:5:2129:C:C4	2.96	0.53
49:5:2668:G:C2'	49:5:2669:C:H5'	2.38	0.53
49:5:5029:C:H2'	49:5:5030:U:O4'	2.07	0.53
12:M:81:ASP:CG	12:M:84:ALA:HB3	2.34	0.53
26:a:43:ILE:HG23	49:5:4304:A:C2	2.43	0.53
35:j:54:LYS:O	35:j:58:THR:HG23	2.08	0.53
49:5:22:G:C2	51:8:35:C:C2	2.97	0.53
49:5:300:A:C2	49:5:301:G:C5	2.96	0.53
49:5:976:G:C5	49:5:977:C:C5	2.97	0.53
49:5:2753:G:H3'	49:5:2754:G:C8	2.43	0.53
50:7:82:G:C2	50:7:95:C:C2	2.97	0.53
23:X:52:LEU:HD22	23:X:53:ARG:N	2.22	0.53
25:Z:46:ILE:HD11	25:Z:49:TYR:CE2	2.43	0.53
25:Z:106:LEU:HD12	25:Z:106:LEU:N	2.23	0.53
40:p:42:CYS:SG	40:p:44:LYS:HB2	2.49	0.53
49:5:499:G:C2	49:5:500:G:C8	2.96	0.53
49:5:713:C:H42	49:5:955:G:H1	1.56	0.53
49:5:932:A:O2'	49:5:933:G:P	2.66	0.53
49:5:1379:C:H4'	49:5:1380:G:O4'	2.07	0.53
49:5:2622:G:C6	49:5:2623:A:N7	2.77	0.53
49:5:3761:C:O2	49:5:3761:C:O4'	2.25	0.53
49:5:4152:G:N2	49:5:4153:C:C2	2.77	0.53
2:B:302:ASN:HB2	2:B:313:SER:HA	1.89	0.53
5:E:42:ARG:HG3	49:5:979:C:OP1	2.08	0.53
5:E:122:LEU:HD13	49:5:971:U:C6	2.43	0.53
10:J:140:SER:O	10:J:141:ILE:C	2.51	0.53
12:M:77:TRP:CD1	12:M:77:TRP:C	2.86	0.53
19:T:87:LYS:NZ	49:5:4301:U:P	2.81	0.53
48:2:2:G:N2	48:2:3:C:C2	2.76	0.53
49:5:4699:U:N3	49:5:4701:A:N6	2.56	0.53
1:A:5:ILE:HD13	1:A:8:GLN:HG3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:41:GLN:CD	49:5:2095:A:C2	2.87	0.53
14:O:27:VAL:CG1	14:O:98:ALA:HB1	2.39	0.53
20:U:23:LEU:HD22	20:U:39:PHE:HE2	1.73	0.53
41:r:85:ASN:OD1	41:r:88:ALA:HB3	2.09	0.53
42:s:122:THR:HG22	42:s:159:GLN:HG2	1.90	0.53
45:z:1644:ILE:HG13	45:z:1709:PHE:CE2	2.43	0.53
49:5:470:A:C6	49:5:471:A:C8	2.97	0.53
49:5:1076:C:HO2'	49:5:2114:G:H1	1.55	0.53
49:5:1380:G:N2	49:5:1382:G:C4	2.77	0.53
49:5:1787:A:N3	49:5:4210:U:O2'	2.40	0.53
49:5:3730:U:H2'	49:5:3731:C:O4'	2.08	0.53
2:B:288:GLY:HA3	2:B:330:PHE:CE1	2.44	0.53
31:f:35:ALA:O	31:f:37:ASP:N	2.42	0.53
35:j:64:MET:O	35:j:68:LYS:HD2	2.09	0.53
49:5:1398:A:H1'	49:5:1399:G:H8	1.73	0.53
49:5:1412:G:N2	49:5:1413:C:C2	2.77	0.53
49:5:2890:C:O2'	49:5:5016:A:N6	2.40	0.53
49:5:4749:C:O2	49:5:4749:C:O4'	2.27	0.53
49:5:4929:C:H5''	49:5:4929:C:C6	2.44	0.53
2:B:168:MET:HG2	2:B:177:LYS:O	2.09	0.53
7:G:58:PRO:CD	23:X:46:PHE:HD2	2.22	0.53
20:U:57:GLY:O	20:U:60:VAL:HG23	2.08	0.53
25:Z:5:MET:HG2	25:Z:77:TYR:CE1	2.44	0.53
49:5:467:U:C4	49:5:468:U:C5	2.97	0.53
49:5:1075:G:H2'	49:5:1076:C:C6	2.44	0.53
49:5:1248:C:N3	49:5:1249:C:C5	2.77	0.53
49:5:1268:G:N1	49:5:2111:G:N2	2.56	0.53
49:5:1279:A:H2'	49:5:1280:C:C5	2.44	0.53
49:5:1995:G:C2	49:5:1996:C:C2	2.96	0.53
49:5:2907:G:H2'	49:5:2908:U:O4'	2.09	0.53
35:j:27:TYR:HA	35:j:34:CYS:HA	1.91	0.53
49:5:1995:G:C6	49:5:1996:C:C4	2.97	0.53
49:5:2245:G:H2'	49:5:2246:C:O4'	2.09	0.53
49:5:2532:C:C2	49:5:2533:C:C5	2.97	0.53
2:B:53:MET:HG2	2:B:77:THR:HG22	1.90	0.53
2:B:163:ILE:CG2	2:B:180:LEU:HD23	2.38	0.53
3:C:346:ASN:HB2	49:5:723:A:H4'	1.90	0.53
8:H:95:VAL:HG22	38:m:82:LEU:HD22	1.90	0.53
9:I:98:ARG:HB3	9:I:120:GLY:HA3	1.91	0.53
10:J:15:LEU:HD23	10:J:134:LEU:HD22	1.89	0.53
10:J:90:ARG:HD2	10:J:93:GLU:HG3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:S:84:TYR:CE2	18:S:93:MET:HE3	2.44	0.53
49:5:199:G:N1	49:5:220:C:C2	2.77	0.53
49:5:688:U:C2'	49:5:689:U:O4'	2.54	0.53
49:5:967:C:N3	49:5:2254:G:O6	2.42	0.53
49:5:977:C:H2'	49:5:978:G:H5'	1.89	0.53
49:5:1377:G:C8	49:5:1378:C:H4'	2.44	0.53
49:5:2093:A:H5''	49:5:2093:A:N3	2.23	0.53
49:5:2497:C:N3	49:5:2498:C:C5	2.77	0.53
49:5:3810:C:O2	49:5:3810:C:H2'	2.09	0.53
49:5:5057:C:H2'	49:5:5058:A:C8	2.44	0.53
3:C:38:ASN:O	3:C:42:THR:HG23	2.09	0.52
3:C:48:ASN:C	3:C:48:ASN:HD22	2.16	0.52
6:F:138:VAL:CG2	6:F:142:ILE:HD13	2.39	0.52
7:G:63:LEU:HD23	7:G:63:LEU:C	2.33	0.52
28:c:90:ARG:NH2	40:p:44:LYS:CG	2.72	0.52
30:e:108:ARG:NH2	30:e:127:ALA:HB3	2.24	0.52
35:j:79:ARG:HG2	51:8:94:G:H5''	1.90	0.52
41:r:32:LEU:HD23	41:r:32:LEU:N	2.06	0.52
49:5:650:C:H2'	49:5:651:C:H6	1.74	0.52
49:5:662:C:H2'	49:5:663:G:H8	1.74	0.52
49:5:1370:G:H5''	49:5:1371:A:OP1	2.09	0.52
49:5:1468:C:C2	49:5:1498:G:C2	2.96	0.52
49:5:1840:G:O3'	49:5:1842:G:P	2.67	0.52
49:5:2268:A:C4'	49:5:2269:C:H5'	2.36	0.52
49:5:5006:U:C2	49:5:5042:A:C8	2.97	0.52
3:C:144:ILE:HD11	3:C:150:LEU:CD2	2.39	0.52
4:D:41:LYS:HG3	19:T:93:ILE:HD11	1.91	0.52
18:S:53:LYS:NZ	50:7:74:A:O2'	2.41	0.52
33:h:89:ARG:HG2	33:h:89:ARG:HH11	1.73	0.52
49:5:504:G:O6	49:5:654:C:C4	2.62	0.52
49:5:751:G:C2	49:5:752:G:N7	2.78	0.52
49:5:1273:G:N2	49:5:2123:C:OP1	2.42	0.52
49:5:1297:U:OP2	49:5:1297:U:O4'	2.27	0.52
49:5:2127:C:C2'	49:5:2128:G:C8	2.92	0.52
49:5:3823:G:O2'	49:5:3824:A:H8	1.89	0.52
49:5:4883:C:O2'	49:5:4884:G:P	2.67	0.52
13:N:38:ARG:HG3	13:N:62:TYR:CE1	2.44	0.52
49:5:174:C:C2	49:5:263:G:C2	2.97	0.52
49:5:499:G:H2'	49:5:499:G:N3	2.24	0.52
49:5:931:C:C5	49:5:932:A:N7	2.77	0.52
49:5:933:G:C2	49:5:940:C:C6	2.97	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1354:A:N1	49:5:1385:G:O2'	2.34	0.52
49:5:4093:G:C2'	49:5:4094:G:H5'	2.38	0.52
49:5:4441:A:H5''	49:5:4441:A:C8	2.40	0.52
1:A:48:ILE:HD11	1:A:82:ILE:HG22	1.90	0.52
6:F:39:PHE:CD2	49:5:2124:G:P	3.02	0.52
8:H:69:THR:O	8:H:72:THR:N	2.43	0.52
11:L:100:PRO:O	34:i:25:ARG:NH2	2.42	0.52
13:N:48:ALA:HB1	13:N:53:TYR:HB2	1.91	0.52
13:N:65:ARG:HD2	13:N:127:TYR:CE1	2.44	0.52
17:R:88:ARG:O	49:5:2725:A:N6	2.43	0.52
35:j:45:ARG:NH1	49:5:372:A:O3'	2.43	0.52
44:u:112:CYS:O	44:u:116:LEU:N	2.41	0.52
44:v:317:LYS:O	44:v:321:LYS:HG3	2.08	0.52
49:5:93:G:C2	49:5:94:A:C2	2.98	0.52
49:5:172:C:P	49:5:172:C:O4'	2.67	0.52
49:5:723:A:H2	49:5:943:A:C2	2.28	0.52
49:5:1380:G:N2	49:5:1382:G:N3	2.56	0.52
49:5:2108:G:N1	49:5:2125:C:N4	2.56	0.52
49:5:3670:C:O2'	49:5:3671:G:C5'	2.57	0.52
49:5:3904:G:O2'	49:5:3905:A:OP1	2.21	0.52
49:5:4303:C:O2'	49:5:4304:A:H2'	2.08	0.52
7:G:108:GLN:N	7:G:108:GLN:OE1	2.41	0.52
8:H:8:GLN:OE1	8:H:71:ARG:HA	2.09	0.52
14:O:54:TYR:CE1	14:O:145:VAL:HG11	2.44	0.52
20:U:23:LEU:O	20:U:23:LEU:HD23	2.09	0.52
28:c:82:GLY:O	28:c:87:LYS:O	2.27	0.52
49:5:751:G:N2	49:5:912:G:C4	2.78	0.52
49:5:957:G:H1'	49:5:958:G:P	2.50	0.52
49:5:2275:G:H5''	49:5:2275:G:H8	1.74	0.52
7:G:34:LYS:O	49:5:4128:A:N3	2.42	0.52
11:L:49:ARG:HH11	11:L:49:ARG:CG	2.14	0.52
11:L:80:GLU:OE2	11:L:113:ASN:CG	2.52	0.52
19:T:14:MET:HE3	19:T:58:HIS:CB	2.40	0.52
49:5:736:C:H2'	49:5:737:C:O4'	2.10	0.52
49:5:994:G:C2	49:5:1050:C:C2	2.98	0.52
49:5:1213:G:C4	49:5:1215:C:C1'	2.91	0.52
49:5:1268:G:C2	49:5:2111:G:C2	2.97	0.52
49:5:1886:G:C2	49:5:1894:C:N3	2.78	0.52
49:5:2319:C:H2'	49:5:2320:G:H5'	1.90	0.52
49:5:3762:U:H2'	49:5:3763:A:O4'	2.10	0.52
49:5:4583:C:N4	49:5:4718:G:C6	2.77	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:8:55:U:N3	51:8:62:A:C2	2.76	0.52
51:8:106:G:C2'	51:8:107:C:O5'	2.58	0.52
1:A:82:ILE:HA	1:A:86:GLN:OE1	2.10	0.52
3:C:181:LYS:HG2	49:5:218:A:C8	2.45	0.52
7:G:144:THR:HG21	7:G:169:PHE:HE1	1.75	0.52
11:L:29:PRO:CG	11:L:30:ALA:N	2.73	0.52
18:S:84:TYR:HD1	18:S:84:TYR:C	2.17	0.52
42:s:65:ILE:N	42:s:65:ILE:CD1	2.73	0.52
49:5:62:A:H2	49:5:77:U:O2	1.92	0.52
49:5:166:C:O2	49:5:167:C:H5	1.86	0.52
49:5:181:C:N4	49:5:256:G:C6	2.78	0.52
49:5:1278:C:C2	49:5:1279:A:H1'	2.45	0.52
49:5:1806:G:N2	49:5:1807:C:C2	2.78	0.52
49:5:4735:G:C2	49:5:4736:C:C2	2.97	0.52
49:5:4913:G:O2'	49:5:4914:C:O4'	2.26	0.52
1:A:196:TRP:CH2	49:5:1613:A:C2	2.98	0.52
3:C:84:THR:HG22	49:5:366:A:C2	2.43	0.52
11:L:9:ILE:HG13	26:a:34:ASN:OD1	2.10	0.52
14:O:57:PHE:CZ	14:O:82:ARG:NH2	2.76	0.52
28:c:17:ARG:HH11	28:c:17:ARG:CG	2.23	0.52
31:f:80:ASN:HB2	49:5:1918:U:OP1	2.09	0.52
49:5:708:G:H1	49:5:1289:C:H42	1.58	0.52
49:5:1186:U:H2'	49:5:1187:G:O4'	2.10	0.52
49:5:1263:A:C6	49:5:1264:C:C4	2.98	0.52
49:5:1400:G:C6	49:5:1401:C:C4	2.97	0.52
49:5:1819:G:H5''	49:5:1819:G:C8	2.45	0.52
49:5:1990:A:N3	49:5:1991:A:H1'	2.24	0.52
49:5:2503:G:N2	49:5:4084:G:H5'	2.24	0.52
49:5:4233:A:C4	49:5:4235:G:N7	2.78	0.52
49:5:4413:C:O2	49:5:4413:C:O5'	2.27	0.52
49:5:4980:C:OP2	49:5:4981:G:N2	2.43	0.52
4:D:42:ASN:OD1	19:T:69:GLN:HA	2.10	0.52
6:F:136:ARG:HH11	6:F:136:ARG:CB	2.23	0.52
6:F:171:LEU:HB2	6:F:189:MET:HE1	1.92	0.52
8:H:18:ILE:HD11	8:H:55:LEU:HB2	1.90	0.52
10:J:90:ARG:O	10:J:91:GLU:HG2	2.09	0.52
14:O:84:VAL:HG11	14:O:102:LEU:HD22	1.92	0.52
49:5:112:C:C2	49:5:330:G:C2	2.98	0.52
49:5:977:C:H2'	49:5:978:G:O4'	2.09	0.52
49:5:1611:C:H4'	49:5:1612:G:H5''	1.92	0.52
49:5:2385:U:H2'	49:5:2386:U:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2484:A:H2'	49:5:2485:U:O4'	2.10	0.52
49:5:4077:A:C8	49:5:4078:C:C5	2.98	0.52
49:5:4754:G:C2	49:5:4880:C:C2	2.98	0.52
1:A:242:ARG:HD2	1:A:242:ARG:C	2.35	0.52
4:D:202:GLN:HE22	4:D:237:GLU:HB2	1.74	0.52
5:E:111:TYR:CE2	41:r:119:ARG:HD3	2.45	0.52
6:F:43:MET:SD	49:5:2121:C:C4'	2.97	0.52
6:F:136:ARG:NH1	6:F:136:ARG:CB	2.72	0.52
6:F:247:ARG:NH2	49:5:943:A:OP1	2.42	0.52
7:G:121:LYS:HE3	7:G:128:VAL:HG22	1.92	0.52
18:S:72:PRO:HD2	49:5:732:A:O2'	2.10	0.52
43:t:58:ILE:HD11	49:5:1978:C:OP2	2.10	0.52
46:y:562:UNK:CB	45:z:1578:MET:HE1	2.40	0.52
45:0:1748:LYS:HD3	49:5:2707:U:C1'	2.40	0.52
49:5:1776:A:C2	49:5:1777:C:C2	2.97	0.52
49:5:2112:G:N2	49:5:2113:G:C6	2.78	0.52
49:5:2712:G:N2	49:5:2713:C:C2	2.78	0.52
49:5:4099:G:C2	49:5:4100:C:C2	2.98	0.52
49:5:4560:C:O2	49:5:4560:C:C2'	2.57	0.52
2:B:86:VAL:HG13	2:B:162:VAL:CG1	2.40	0.51
4:D:280:VAL:O	4:D:284:LYS:HG2	2.10	0.51
10:J:109:ILE:CD1	10:J:115:LEU:HD11	2.40	0.51
11:L:12:PRO:HG2	49:5:1515:A:H1'	1.92	0.51
31:f:79:GLY:O	31:f:81:SER:N	2.42	0.51
38:m:90:ASN:N	38:m:90:ASN:OD1	2.42	0.51
49:5:377:A:H2'	49:5:378:A:O4'	2.09	0.51
49:5:479:G:N2	49:5:480:C:C2	2.79	0.51
49:5:967:C:N3	49:5:2254:G:C6	2.78	0.51
49:5:991:C:C4	49:5:992:C:C4	2.98	0.51
49:5:1189:G:C6	49:5:1190:C:C4	2.98	0.51
49:5:2668:G:H2'	49:5:2669:C:H5'	1.92	0.51
49:5:2769:U:O2'	49:5:2770:C:O5'	2.17	0.51
49:5:4481:U:C2	49:5:4482:U:C5	2.98	0.51
3:C:27:VAL:HG11	3:C:128:LEU:HD12	1.92	0.51
10:J:31:ASP:O	10:J:34:THR:HG22	2.10	0.51
13:N:10:LEU:HD12	34:i:48:CYS:SG	2.51	0.51
14:O:109:PRO:O	14:O:113:ASP:HB3	2.10	0.51
28:c:15:ASN:N	28:c:15:ASN:OD1	2.41	0.51
31:f:50:VAL:HG21	31:f:102:ARG:HH11	1.75	0.51
32:g:25:THR:HB	32:g:26:PRO:HD2	1.92	0.51
49:5:1072:C:O2	49:5:1072:C:C2'	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1934:A:O2'	49:5:2059:C:OP1	2.27	0.51
49:5:2539:C:H2'	49:5:2540:C:C6	2.45	0.51
49:5:2627:C:O4'	49:5:2627:C:O2	2.28	0.51
6:F:115:ARG:HH21	6:F:208:ASN:HA	1.75	0.51
7:G:136:LEU:HD22	7:G:202:VAL:HG13	1.93	0.51
14:O:12:ARG:HD3	14:O:37:ARG:NH2	2.25	0.51
30:e:77:PHE:C	30:e:77:PHE:CD1	2.88	0.51
34:i:30:ARG:NH2	49:5:277:G:O2'	2.43	0.51
44:v:470:TYR:CD1	49:5:2009:A:C8	2.98	0.51
49:5:77:U:N3	49:5:336:A:N6	2.58	0.51
49:5:1075:G:C6	49:5:1076:C:N4	2.78	0.51
49:5:1266:G:O2'	49:5:1267:C:H5'	2.10	0.51
49:5:1365:C:H4'	49:5:1366:G:OP1	2.10	0.51
49:5:1953:U:H2'	49:5:1954:U:O4'	2.10	0.51
49:5:1958:A:O2'	49:5:2025:A:N1	2.33	0.51
49:5:4723:A:C2	49:5:4724:A:C6	2.98	0.51
49:5:4740:G:C6	49:5:4741:C:N3	2.79	0.51
10:J:163:MET:HE1	10:J:174:ILE:HG21	1.92	0.51
35:j:12:ARG:NH1	49:5:2801:U:O2'	2.43	0.51
35:j:22:CYS:HB3	35:j:37:CYS:HB3	1.92	0.51
35:j:63:ARG:NH1	35:j:63:ARG:CB	2.73	0.51
49:5:64:A:H4'	49:5:65:A:O5'	2.11	0.51
49:5:707:C:H42	49:5:1290:G:H1	1.59	0.51
49:5:1314:C:C2	49:5:1315:C:C5	2.98	0.51
49:5:2496:G:C2	49:5:2497:C:C2	2.99	0.51
49:5:4543:G:H2'	49:5:4544:A:C8	2.45	0.51
51:8:83:C:H4'	51:8:85:U:O2	2.10	0.51
3:C:199:ARG:HE	49:5:2295:C:H5'	1.75	0.51
4:D:207:TYR:CZ	4:D:211:LEU:HD11	2.46	0.51
7:G:170:LEU:CD2	7:G:174:CYS:SG	2.99	0.51
16:Q:64:SER:OG	16:Q:89:ASP:OD2	2.26	0.51
36:k:19:ASP:OD1	36:k:20:ALA:N	2.44	0.51
44:v:375:TRP:CZ3	44:v:405:HIS:HA	2.46	0.51
49:5:744:G:H2'	49:5:745:G:H8	1.76	0.51
49:5:1265:G:C3'	49:5:1266:G:H5'	2.40	0.51
49:5:2905:C:C2	49:5:3590:G:N2	2.78	0.51
50:7:71:G:C2	50:7:105:C:C2	2.99	0.51
3:C:137:VAL:HG22	3:C:248:ARG:O	2.11	0.51
10:J:12:MET:HE2	10:J:137:PRO:HB2	1.92	0.51
11:L:10:LEU:CD2	11:L:10:LEU:N	2.73	0.51
24:Y:8:THR:CG2	24:Y:13:LYS:HB2	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:977:C:N3	49:5:978:G:C8	2.79	0.51
49:5:1272:C:H5''	49:5:2122:G:C8	2.45	0.51
49:5:1278:C:C3'	49:5:1279:A:H4'	2.40	0.51
49:5:1726:U:H3	49:5:1836:G:H1	1.59	0.51
49:5:2128:G:C2	49:5:2129:C:C2	2.99	0.51
49:5:2370:A:N1	49:5:2390:G:O2'	2.40	0.51
49:5:2505:C:O2	49:5:2505:C:O4'	2.28	0.51
49:5:2612:G:C6	49:5:2613:C:C4	2.99	0.51
49:5:4904:G:N2	49:5:4905:C:C2	2.78	0.51
49:5:4945:G:H3'	49:5:4946:U:H5'	1.92	0.51
6:F:149:LEU:HD23	49:5:944:A:H5''	1.91	0.51
23:X:93:ASN:OD1	49:5:2532:C:O2'	2.29	0.51
49:5:491:G:N2	49:5:663:G:N1	2.58	0.51
49:5:977:C:O2'	49:5:978:G:H5'	2.11	0.51
49:5:1965:G:O6	49:5:2021:G:O6	2.29	0.51
6:F:138:VAL:HG23	6:F:142:ILE:HD13	1.93	0.51
10:J:89:VAL:HG22	10:J:114:ASP:HB3	1.92	0.51
12:M:69:ARG:O	12:M:71:LYS:N	2.44	0.51
41:r:18:ILE:HG23	41:r:25:TYR:HB2	1.93	0.51
42:s:60:MET:C	42:s:62:ARG:H	2.18	0.51
49:5:932:A:O2'	49:5:933:G:OP2	2.29	0.51
49:5:978:G:C6	49:5:979:C:C4	2.98	0.51
49:5:1213:G:C6	49:5:1215:C:N3	2.78	0.51
49:5:1250:C:C2	49:5:1261:G:C2	2.98	0.51
49:5:2013:A:H2'	49:5:2014:C:O4'	2.11	0.51
49:5:2109:G:C6	49:5:2122:G:O6	2.64	0.51
49:5:2496:G:C6	49:5:2497:C:C4	2.99	0.51
49:5:3782:C:C2	49:5:3811:G:N2	2.79	0.51
5:E:112:TYR:CE2	41:r:108:MET:HE1	2.45	0.51
6:F:151:SER:OG	6:F:246:ILE:HD13	2.11	0.51
6:F:177:ILE:HD11	6:F:189:MET:SD	2.51	0.51
8:H:111:LEU:HD22	8:H:127:ARG:HD2	1.93	0.51
10:J:84:GLU:OE1	10:J:84:GLU:HA	2.10	0.51
18:S:84:TYR:C	18:S:84:TYR:CD1	2.89	0.51
34:i:88:GLU:HA	34:i:88:GLU:OE2	2.11	0.51
35:j:76:HIS:O	35:j:79:ARG:NH1	2.44	0.51
42:s:9:TRP:HZ2	49:5:1999:A:OP1	1.85	0.51
49:5:504:G:C2	49:5:654:C:C2	2.96	0.51
49:5:655:C:C2	49:5:656:C:C5	2.99	0.51
49:5:751:G:C2	49:5:752:G:C5	2.99	0.51
49:5:1696:C:O2'	49:5:1697:G:H4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1947:U:C2	49:5:4693:C:N4	2.79	0.51
49:5:4583:C:C4	49:5:4718:G:N1	2.79	0.51
49:5:4735:G:C6	49:5:4736:C:C4	2.99	0.51
49:5:5031:G:N1	49:5:5032:C:C4	2.79	0.51
3:C:114:ARG:HB2	3:C:114:ARG:CZ	2.40	0.51
12:M:29:ASP:C	12:M:29:ASP:OD1	2.53	0.51
12:M:73:VAL:HG13	12:M:74:ARG:N	2.25	0.51
49:5:383:A:O2'	49:5:384:A:H5'	2.11	0.51
49:5:717:U:H3	49:5:951:G:H1	1.59	0.51
49:5:1235:G:H2'	49:5:1236:C:H5'	1.93	0.51
49:5:1359:G:C2'	49:5:1360:G:C8	2.94	0.51
49:5:1848:C:H5''	49:5:1848:C:H6	1.74	0.51
49:5:1910:G:N2	49:5:1911:C:C2	2.79	0.51
49:5:2068:C:O2'	49:5:2069:A:H5''	2.11	0.51
49:5:3724:A:C6	49:5:3725:G:C5	2.99	0.51
1:A:77:ILE:HD13	1:A:128:ARG:HB2	1.94	0.50
3:C:80:ARG:CG	3:C:80:ARG:NH1	2.73	0.50
8:H:13:PRO:HG2	8:H:16:VAL:HG23	1.92	0.50
11:L:28:GLN:NE2	49:5:1360:G:OP1	2.44	0.50
11:L:146:LEU:HB2	11:L:148:THR:HG22	1.94	0.50
13:N:108:ARG:NH2	49:5:54:G:O2'	2.44	0.50
28:c:34:THR:O	28:c:38:ILE:HG13	2.11	0.50
32:g:68:SER:HA	49:5:2769:U:OP1	2.11	0.50
40:p:42:CYS:SG	40:p:43:GLY:N	2.84	0.50
49:5:471:A:C5	49:5:472:C:C6	2.99	0.50
49:5:971:U:H2'	49:5:971:U:O2	2.11	0.50
49:5:1280:C:C2'	49:5:1281:G:H3'	2.40	0.50
49:5:1757:U:C2	49:5:1758:G:C8	2.99	0.50
49:5:2315:G:C2	49:5:2325:C:O2	2.64	0.50
49:5:2674:A:H4'	49:5:2675:G:OP2	2.10	0.50
49:5:3918:G:C6	49:5:3919:C:C4	2.99	0.50
49:5:4481:U:N3	49:5:4482:U:C4	2.79	0.50
49:5:4724:A:C6	49:5:4725:C:C4	2.99	0.50
49:5:4967:A:C2	49:5:4968:A:C4	2.99	0.50
4:D:223:PHE:HB3	4:D:226:TYR:HB2	1.91	0.50
12:M:9:VAL:HG11	12:M:66:HIS:HA	1.92	0.50
28:c:44:LYS:HD2	28:c:97:ILE:O	2.12	0.50
49:5:742:G:N2	49:5:923:C:C2	2.79	0.50
49:5:977:C:H2'	49:5:978:G:H8	1.77	0.50
49:5:1380:G:C2	49:5:1382:G:C2	3.00	0.50
49:5:1751:A:C6	49:5:1752:G:C8	3.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4092:G:C2	49:5:4158:C:C2	2.99	0.50
49:5:4724:A:C5	49:5:4725:C:C5	3.00	0.50
3:C:84:THR:HG21	49:5:366:A:C6	2.46	0.50
11:L:29:PRO:CG	11:L:30:ALA:H	2.22	0.50
13:N:136:ASP:C	13:N:138:PHE:H	2.20	0.50
49:5:325:U:H2'	49:5:326:C:C6	2.46	0.50
49:5:1174:G:N2	49:5:1175:A:N7	2.59	0.50
49:5:1268:G:N3	49:5:2111:G:C2	2.80	0.50
49:5:1448:G:N2	49:5:1449:C:C2	2.80	0.50
49:5:1759:G:C6	49:5:1760:G:N7	2.80	0.50
49:5:2245:G:C6	49:5:2246:C:C4	2.99	0.50
49:5:2736:G:N2	49:5:2737:C:C2	2.79	0.50
49:5:3590:G:C6	49:5:3591:C:C4	3.00	0.50
49:5:3637:U:O4	49:5:3651:A:C2	2.62	0.50
49:5:4092:G:H3'	49:5:4093:G:H5''	1.92	0.50
5:E:58:MET:HE3	5:E:61:ARG:HB2	1.92	0.50
6:F:101:ASN:N	6:F:101:ASN:OD1	2.44	0.50
10:J:141:ILE:HG23	10:J:149:GLY:H	1.77	0.50
20:U:41:GLN:NE2	20:U:45:GLU:OE1	2.44	0.50
28:c:49:ALA:HB2	28:c:92:CYS:HA	1.93	0.50
30:e:98:GLU:OE1	30:e:98:GLU:HA	2.10	0.50
42:s:10:LYS:NZ	49:5:1961:G:P	2.81	0.50
49:5:1177:U:H2'	49:5:1178:G:H8	1.77	0.50
49:5:1246:G:H2'	49:5:1247:U:O4'	2.12	0.50
49:5:1265:G:OP1	49:5:2115:G:N1	2.45	0.50
49:5:1381:U:O2	49:5:1381:U:O4'	2.27	0.50
49:5:1822:U:O2	49:5:1822:U:O4'	2.29	0.50
49:5:2090:U:O4'	49:5:2090:U:OP2	2.28	0.50
49:5:2307:A:N3	49:5:2333:G:O2'	2.44	0.50
49:5:2520:C:H2'	49:5:2521:G:C8	2.47	0.50
49:5:3586:G:C6	49:5:3587:C:C4	2.99	0.50
49:5:3715:U:O2	49:5:3715:U:O4'	2.28	0.50
1:A:13:GLY:O	1:A:15:VAL:N	2.44	0.50
2:B:89:ILE:CD1	2:B:153:MET:HE1	2.42	0.50
36:k:37:ARG:NH2	49:5:2537:A:OP2	2.45	0.50
49:5:223:G:H4'	49:5:225:G:N7	2.27	0.50
49:5:1613:A:N6	49:5:3637:U:H3	2.10	0.50
49:5:1965:G:C6	49:5:1966:C:N4	2.80	0.50
49:5:2107:C:C5	49:5:2126:G:C2	3.00	0.50
49:5:2654:C:C2	49:5:2681:G:C2	2.99	0.50
49:5:2858:A:O2'	49:5:2859:G:H8	1.86	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2909:C:C2	49:5:3586:G:C2	3.00	0.50
49:5:3799:A:N3	49:5:4506:C:O2'	2.39	0.50
49:5:4606:G:H2'	49:5:4607:A:C8	2.46	0.50
49:5:4768:G:H3'	49:5:4769:G:H8	1.76	0.50
49:5:4773:C:C2	49:5:4863:G:C2	2.99	0.50
1:A:137:ILE:HD11	1:A:149:LYS:HB2	1.93	0.50
19:T:39:ILE:CG2	19:T:40:VAL:N	2.74	0.50
20:U:25:CYS:CB	20:U:112:LEU:HD12	2.42	0.50
21:V:118:THR:O	21:V:118:THR:HG23	2.10	0.50
30:e:77:PHE:C	30:e:77:PHE:HD1	2.20	0.50
31:f:78:HIS:HB2	31:f:85:ARG:HG3	1.93	0.50
45:z:1709:PHE:N	45:z:1709:PHE:CD1	2.79	0.50
49:5:667:A:C2	49:5:668:C:C5	3.00	0.50
49:5:1215:C:N3	49:5:1216:C:C5	2.80	0.50
49:5:1268:G:N3	49:5:2111:G:N1	2.60	0.50
49:5:1299:G:C2'	49:5:1300:G:H5'	2.42	0.50
49:5:2409:U:H5	49:5:2783:A:N1	2.08	0.50
49:5:3896:C:O2	49:5:4564:A:N1	2.45	0.50
49:5:4349:C:H3'	49:5:4350:C:C5'	2.41	0.50
13:N:36:LEU:HD12	13:N:64:ILE:HD12	1.94	0.50
31:f:28:LEU:O	31:f:83:MET:SD	2.70	0.50
48:2:16:C:O2'	48:2:18:G:O5'	2.28	0.50
49:5:695:G:H3'	49:5:696:C:H5'	1.94	0.50
49:5:951:G:H2'	49:5:952:G:H5'	1.93	0.50
49:5:1756:U:H2'	49:5:1757:U:O4'	2.12	0.50
49:5:1987:C:O2	49:5:1987:C:C2'	2.58	0.50
51:8:141:C:H2'	51:8:142:U:C6	2.47	0.50
1:A:207:VAL:HG11	49:5:1633:G:N1	2.27	0.50
4:D:271:MET:HE1	4:D:279:ARG:HE	1.75	0.50
5:E:101:ARG:CZ	49:5:471:A:C2	2.93	0.50
5:E:134:ARG:NH1	5:E:165:SER:O	2.45	0.50
6:F:72:ARG:NH1	49:5:1209:U:O2'	2.45	0.50
13:N:68:ARG:HG3	49:5:302:C:OP1	2.12	0.50
13:N:190:ALA:HA	13:N:193:ARG:HE	1.76	0.50
39:o:4:VAL:HB	39:o:5:PRO:HD2	1.93	0.50
41:r:32:LEU:HD12	41:r:110:ALA:HA	1.93	0.50
49:5:43:U:C4	49:5:93:G:C6	3.00	0.50
49:5:961:G:C2'	49:5:961:G:N3	2.74	0.50
49:5:1237:C:O2	49:5:1237:C:O4'	2.27	0.50
49:5:1268:G:N1	49:5:1270:A:N7	2.59	0.50
49:5:1426:G:O6	49:5:1457:G:H3'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1846:G:H2'	49:5:1847:C:H6	1.76	0.50
49:5:2688:G:C2	49:5:2689:C:N3	2.79	0.50
49:5:3591:C:C4	49:5:3592:G:C8	3.00	0.50
49:5:4096:C:C5	49:5:4097:G:C8	3.00	0.50
49:5:4096:C:C4	49:5:4097:G:C8	3.00	0.50
49:5:4559:A:O3'	49:5:4560:C:O2	2.30	0.50
49:5:4769:G:N2	49:5:4865:C:N3	2.58	0.50
1:A:4:VAL:HG12	1:A:8:GLN:HB2	1.94	0.50
8:H:23:ARG:NH2	8:H:39:ASN:HA	2.27	0.50
10:J:12:MET:HE2	10:J:137:PRO:CB	2.42	0.50
10:J:15:LEU:CD2	10:J:134:LEU:HD22	2.42	0.50
21:V:15:ARG:NH1	21:V:16:ILE:O	2.44	0.50
38:m:104:HIS:CD2	49:5:4697:U:H4'	2.47	0.50
42:s:171:GLU:O	42:s:174:LEU:HG	2.12	0.50
49:5:914:U:H2'	49:5:915:A:O4'	2.12	0.50
49:5:1378:C:O2	49:5:1378:C:H2'	2.12	0.50
49:5:1985:G:O2'	49:5:2003:G:OP2	2.24	0.50
49:5:2730:U:H2'	49:5:2731:C:C6	2.47	0.50
49:5:4093:G:H2'	49:5:4094:G:C5'	2.42	0.50
2:B:163:ILE:HG21	2:B:180:LEU:HD23	1.94	0.49
3:C:210:ILE:HG21	3:C:252:TRP:CZ3	2.47	0.49
8:H:69:THR:O	8:H:70:VAL:C	2.55	0.49
9:I:92:HIS:HB2	9:I:94:PHE:CE2	2.47	0.49
43:t:30:PRO:O	43:t:32:ILE:N	2.45	0.49
49:5:177:G:C6	49:5:178:C:C4	3.00	0.49
49:5:199:G:C6	49:5:220:C:N3	2.79	0.49
49:5:300:A:H2'	49:5:301:G:C8	2.47	0.49
49:5:672:C:H2'	49:5:673:C:O4'	2.12	0.49
49:5:918:G:H2'	49:5:918:G:N3	2.27	0.49
49:5:1066:G:C6	49:5:1067:G:C5	3.00	0.49
49:5:1441:C:N4	49:5:1442:C:N4	2.60	0.49
49:5:2857:A:O2'	49:5:2858:A:H5'	2.12	0.49
49:5:4237:C:H2'	49:5:4238:G:O4'	2.12	0.49
2:B:321:VAL:O	2:B:322:HIS:HB2	2.12	0.49
6:F:126:LYS:HG3	6:F:126:LYS:O	2.13	0.49
11:L:182:LEU:HD23	34:i:7:MET:HE2	1.94	0.49
14:O:14:HIS:CD2	14:O:124:LEU:CD1	2.81	0.49
14:O:149:TYR:O	14:O:153:THR:OG1	2.30	0.49
49:5:744:G:H2'	49:5:745:G:C8	2.47	0.49
49:5:1238:A:O2'	49:5:1239:C:O5'	2.22	0.49
49:5:1560:A:H2'	49:5:1561:G:O4'	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2245:G:C2	49:5:2246:C:C2	3.01	0.49
49:5:2586:G:N7	49:5:2587:A:C6	2.79	0.49
49:5:4714:C:C5	49:5:4715:C:C5	3.00	0.49
3:C:193:LYS:HB2	3:C:193:LYS:HZ3	1.72	0.49
9:I:4:ARG:NH2	9:I:9:TYR:OH	2.45	0.49
9:I:9:TYR:HD2	9:I:97:ILE:HG12	1.77	0.49
20:U:21:PHE:CD1	20:U:80:LYS:HG2	2.47	0.49
26:a:72:THR:CB	26:a:112:LEU:CD1	2.89	0.49
28:c:49:ALA:CB	28:c:78:ASN:CB	2.91	0.49
28:c:50:ASN:HB3	28:c:74:TYR:O	2.12	0.49
49:5:1358:G:O6	49:5:1379:C:N3	2.45	0.49
49:5:1398:A:O2'	49:5:1399:G:OP2	2.14	0.49
49:5:1400:G:C2	49:5:1401:C:C2	3.00	0.49
49:5:3900:G:H5'	49:5:3901:A:H4'	1.94	0.49
49:5:4891:G:N2	49:5:4929:C:C2	2.80	0.49
2:B:379:PHE:CD2	2:B:385:LYS:CB	2.94	0.49
18:S:106:VAL:O	18:S:109:CYS:N	2.45	0.49
22:W:30:GLN:N	22:W:30:GLN:CD	2.70	0.49
26:a:51:GLY:O	26:a:52:TYR:C	2.54	0.49
35:j:63:ARG:CB	35:j:63:ARG:CZ	2.90	0.49
49:5:505:G:C2	49:5:506:C:C2	3.00	0.49
49:5:703:G:H3'	49:5:704:C:C5'	2.42	0.49
49:5:929:A:H3'	49:5:930:G:C5'	2.42	0.49
49:5:4453:C:C3'	49:5:4453:C:C6	2.95	0.49
49:5:4644:G:C6	49:5:4645:C:C4	3.01	0.49
49:5:4727:A:H2'	49:5:4728:U:O4'	2.13	0.49
49:5:5020:G:C2	49:5:5021:C:C2	3.00	0.49
50:7:93:G:C6	50:7:94:C:C4	3.00	0.49
1:A:27:ALA:C	1:A:28:ARG:HG3	2.37	0.49
3:C:242:PRO:HG3	3:C:248:ARG:HH12	1.76	0.49
10:J:26:VAL:HG23	10:J:27:GLY:N	2.27	0.49
19:T:19:PHE:CE2	49:5:1791:U:H4'	2.47	0.49
29:d:42:ALA:HB3	29:d:43:PRO:HD3	1.94	0.49
29:d:46:LEU:CD2	49:5:2373:C:H5'	2.42	0.49
42:s:62:ARG:C	42:s:64:ALA:N	2.70	0.49
49:5:450:G:O6	49:5:1295:C:C4	2.66	0.49
49:5:751:G:N2	49:5:752:G:C5	2.80	0.49
49:5:1216:C:H2'	49:5:1217:G:O4'	2.12	0.49
49:5:3683:C:H4'	49:5:3684:G:OP2	2.12	0.49
11:L:9:ILE:HG21	26:a:52:TYR:CE2	2.48	0.49
17:R:24:LEU:O	17:R:25:ASP:C	2.55	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:V:117:ILE:HD11	21:V:132:ILE:HG23	1.95	0.49
29:d:28:ASN:C	29:d:28:ASN:OD1	2.56	0.49
39:o:3:ASN:C	39:o:3:ASN:OD1	2.54	0.49
41:r:92:SER:O	41:r:96:MET:HG3	2.13	0.49
49:5:1277:G:N1	49:5:1278:C:C4	2.81	0.49
49:5:1447:C:C2	49:5:2098:G:C2	3.01	0.49
49:5:1839:U:H3'	49:5:1840:G:H21	1.77	0.49
49:5:2468:U:N3	49:5:2473:A:C6	2.81	0.49
49:5:2517:A:H2'	49:5:2518:G:C8	2.47	0.49
49:5:3726:A:H2'	49:5:3727:A:C8	2.47	0.49
49:5:4109:G:C6	49:5:4110:C:C4	3.01	0.49
49:5:4232:U:H1'	49:5:4233:A:OP2	2.12	0.49
49:5:4963:G:H3'	49:5:4964:C:H5''	1.94	0.49
9:I:73:ASN:O	9:I:77:VAL:HG23	2.13	0.49
13:N:6:TYR:CZ	34:i:40:VAL:HG22	2.47	0.49
26:a:19:HIS:NE2	49:5:1338:G:N2	2.61	0.49
29:d:33:ILE:HD11	29:d:41:ARG:O	2.13	0.49
29:d:34:HIS:CD2	49:5:5048:A:N7	2.80	0.49
49:5:93:G:C6	49:5:94:A:C6	3.01	0.49
49:5:278:G:H4'	49:5:279:A:OP2	2.13	0.49
49:5:307:A:N3	49:5:310:G:O2'	2.39	0.49
49:5:1213:G:C5	49:5:1215:C:C6	3.01	0.49
49:5:1332:C:C2	49:5:2355:G:N2	2.81	0.49
49:5:1721:G:C6	49:5:1722:C:C4	3.01	0.49
49:5:1757:U:H2'	49:5:1758:G:O4'	2.12	0.49
49:5:1811:G:N1	49:5:1812:C:C4	2.81	0.49
49:5:1990:A:H2'	49:5:1991:A:C5'	2.40	0.49
49:5:2126:G:H1'	49:5:2127:C:C6	2.48	0.49
49:5:5020:G:H2'	49:5:5021:C:O4'	2.11	0.49
3:C:322:LEU:H	49:5:1281:G:H1'	1.77	0.49
7:G:170:LEU:HD23	7:G:170:LEU:O	2.12	0.49
13:N:6:TYR:CE1	34:i:40:VAL:HG22	2.48	0.49
13:N:192:TRP:NE1	49:5:48:G:H5'	2.28	0.49
43:t:85:LEU:HD13	43:t:109:ILE:HG22	1.93	0.49
49:5:179:G:C6	49:5:180:C:C4	3.01	0.49
49:5:956:A:H5''	49:5:957:G:C8	2.48	0.49
49:5:978:G:C2	49:5:979:C:C2	3.01	0.49
49:5:1171:G:C6	49:5:1172:C:C4	3.00	0.49
49:5:1247:U:C4	49:5:1248:C:C5	3.01	0.49
49:5:1271:G:O6	49:5:2109:G:O6	2.29	0.49
49:5:4269:G:H2'	49:5:4270:C:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4473:A:N1	49:5:4474:A:C6	2.80	0.49
49:5:4958:C:O2	49:5:4958:C:H2'	2.13	0.49
3:C:22:VAL:HG11	3:C:257:PHE:HD2	1.77	0.49
3:C:139:SER:O	41:r:15:SER:CB	2.61	0.49
5:E:172:THR:HG22	5:E:174:PRO:HA	1.93	0.49
11:L:55:LEU:HD22	11:L:120:TYR:CG	2.48	0.49
11:L:107:THR:HG23	34:i:20:ASN:HB3	1.94	0.49
31:f:60:PRO:HD3	49:5:4945:G:O6	2.12	0.49
31:f:69:VAL:HG22	49:5:4945:G:N2	2.27	0.49
34:i:33:LEU:C	34:i:33:LEU:CD1	2.85	0.49
44:v:318:GLN:HA	44:v:321:LYS:HD2	1.94	0.49
49:5:1697:G:C4'	49:5:1698:C:OP1	2.61	0.49
49:5:1724:G:H4'	49:5:1725:U:OP2	2.12	0.49
49:5:2396:A:N6	49:5:2814:C:C2	2.81	0.49
49:5:2438:A:C2	49:5:2441:C:C5	3.01	0.49
49:5:3612:C:H1'	49:5:5016:A:C8	2.48	0.49
49:5:3697:U:O2'	49:5:3698:G:OP2	2.30	0.49
50:7:66:G:C2	50:7:67:C:C2	3.01	0.49
18:S:76:LYS:HE2	18:S:100:LEU:O	2.09	0.49
49:5:1048:G:C2	49:5:1049:C:C2	3.00	0.49
49:5:1427:A:H3'	49:5:1428:U:C6	2.48	0.49
49:5:1645:C:H2'	49:5:1646:A:C8	2.48	0.49
49:5:2463:G:N2	49:5:2464:C:C2	2.81	0.49
49:5:4147:G:C6	49:5:4148:C:C4	3.00	0.49
49:5:4740:G:C6	49:5:4741:C:C4	3.00	0.49
49:5:4919:G:C6	49:5:4920:C:C4	3.01	0.49
1:A:128:ARG:HA	1:A:169:VAL:HG21	1.94	0.48
3:C:342:ARG:HG3	3:C:342:ARG:HH11	1.77	0.48
4:D:207:TYR:CE1	4:D:211:LEU:HD11	2.47	0.48
11:L:80:GLU:HG2	11:L:110:LEU:HD12	1.93	0.48
15:P:30:ARG:HD3	15:P:30:ARG:C	2.38	0.48
27:b:45:PHE:CD2	49:5:1815:G:C8	3.01	0.48
29:d:31:LYS:C	29:d:31:LYS:CD	2.85	0.48
38:m:81:SER:O	38:m:84:GLN:HG3	2.13	0.48
48:2:65:C:C2	48:2:66:C:C5	3.01	0.48
49:5:462:G:C2	49:5:694:C:C2	3.01	0.48
49:5:730:G:N2	49:5:731:G:C4	2.81	0.48
49:5:963:G:H2'	49:5:963:G:N3	2.27	0.48
49:5:2068:C:C2'	49:5:2069:A:H5''	2.43	0.48
49:5:2089:G:HO2'	49:5:2090:U:P	2.26	0.48
49:5:4142:C:C4	49:5:4143:G:N1	2.80	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4895:C:H1'	49:5:4896:G:C8	2.47	0.48
49:5:4967:A:C2	49:5:4968:A:C5	3.01	0.48
51:8:46:G:N2	51:8:47:C:C2	2.81	0.48
51:8:62:A:H4'	51:8:63:U:O5'	2.12	0.48
3:C:210:ILE:N	3:C:210:ILE:HD12	2.28	0.48
6:F:82:ASN:HD21	19:T:142:ARG:HB2	1.78	0.48
6:F:136:ARG:NH1	6:F:136:ARG:CG	2.71	0.48
13:N:138:PHE:N	13:N:138:PHE:CD1	2.80	0.48
25:Z:4:PHE:HE1	28:c:39:ARG:HA	1.78	0.48
26:a:72:THR:CB	26:a:112:LEU:HD11	2.43	0.48
34:i:25:ARG:CG	34:i:25:ARG:HH11	2.26	0.48
43:t:85:LEU:HD13	43:t:109:ILE:CG2	2.44	0.48
47:1:24:VAL:C	48:2:76:A:HO2'	2.11	0.48
49:5:209:U:C4	49:5:233:U:O4	2.66	0.48
49:5:975:C:C3'	49:5:976:G:O4'	2.61	0.48
49:5:1189:G:C2	49:5:1190:C:C2	3.01	0.48
49:5:1278:C:H3'	49:5:1279:A:C4'	2.43	0.48
49:5:2494:U:H2'	49:5:2495:U:O4'	2.13	0.48
49:5:4583:C:N3	49:5:4718:G:C2	2.81	0.48
49:5:4919:G:C2	49:5:4920:C:C2	3.01	0.48
6:F:168:ARG:HD2	6:F:211:TRP:CD1	2.49	0.48
11:L:64:VAL:HA	11:L:67:HIS:CD2	2.48	0.48
26:a:64:LYS:HG3	26:a:67:GLN:HG3	1.94	0.48
36:k:21:LYS:O	36:k:22:SER:C	2.56	0.48
37:l:44:TRP:CH2	37:l:45:ARG:HD3	2.48	0.48
42:s:15:LEU:CA	42:s:18:ILE:CG2	2.85	0.48
49:5:106:A:C1'	49:5:336:A:C8	2.96	0.48
49:5:130:C:C2	49:5:139:G:N2	2.81	0.48
49:5:504:G:N1	49:5:654:C:O2	2.43	0.48
49:5:919:C:C4	49:5:920:C:C4	3.00	0.48
49:5:1268:G:H1'	49:5:2111:G:C6	2.49	0.48
49:5:1584:G:C6	49:5:1585:C:C4	3.00	0.48
49:5:2065:G:C6	49:5:2066:C:C4	3.01	0.48
49:5:2264:C:O2'	49:5:2265:G:O5'	2.31	0.48
49:5:2336:G:C6	49:5:2337:C:C4	3.01	0.48
49:5:2395:A:O2'	49:5:2806:A:N3	2.42	0.48
49:5:3611:A:C2	49:5:5016:A:H8	2.32	0.48
49:5:3791:C:O2	49:5:3802:U:O4'	2.32	0.48
49:5:5020:G:C6	49:5:5021:C:C4	3.01	0.48
50:7:66:G:C6	50:7:67:C:C4	3.01	0.48
1:A:159:SER:O	1:A:160:SER:C	2.57	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:56:SER:CB	49:5:1236:C:H2'	2.44	0.48
6:F:82:ASN:ND2	19:T:142:ARG:HB2	2.29	0.48
7:G:157:ILE:HG21	7:G:167:VAL:HG11	1.92	0.48
7:G:180:PRO:HA	7:G:227:ASN:ND2	2.27	0.48
9:I:9:TYR:HD2	9:I:97:ILE:CG1	2.27	0.48
10:J:81:GLU:OE1	10:J:85:LYS:NZ	2.43	0.48
28:c:82:GLY:CA	28:c:91:VAL:HG12	2.39	0.48
30:e:30:LYS:NZ	49:5:2347:A:N3	2.57	0.48
49:5:66:A:O2'	49:5:326:C:O2	2.29	0.48
49:5:127:G:N2	49:5:128:C:C2	2.81	0.48
49:5:158:A:C4	49:5:277:G:C6	3.01	0.48
49:5:917:A:H4'	49:5:918:G:OP1	2.13	0.48
49:5:1266:G:H22	49:5:2111:G:N2	2.10	0.48
49:5:2594:C:O2	49:5:2752:G:C2	2.66	0.48
49:5:2612:G:C2	49:5:2613:C:C2	3.02	0.48
49:5:4084:G:O3'	49:5:4085:A:H4'	2.13	0.48
49:5:4096:C:N4	49:5:4097:G:C5	2.81	0.48
49:5:5008:C:H2'	49:5:5009:G:O4'	2.14	0.48
51:8:53:G:C6	51:8:54:C:C4	3.02	0.48
9:I:22:PHE:CZ	49:5:1788:A:H2'	2.49	0.48
9:I:193:ASP:OD1	49:5:1750:G:N2	2.46	0.48
28:c:34:THR:HG21	28:c:93:THR:HG22	1.95	0.48
29:d:32:ARG:NH2	49:5:4996:C:OP1	2.47	0.48
40:p:3:LYS:NZ	40:p:3:LYS:HB3	2.28	0.48
42:s:18:ILE:HG23	42:s:19:GLN:N	2.29	0.48
42:s:60:MET:C	42:s:62:ARG:N	2.72	0.48
49:5:990:C:C4	49:5:991:C:C5	3.01	0.48
49:5:1048:G:C6	49:5:1049:C:C4	3.01	0.48
49:5:1755:C:O2'	49:5:1756:U:O4'	2.32	0.48
49:5:3597:G:C2	49:5:3598:C:C2	3.02	0.48
49:5:3771:C:O2	49:5:3771:C:O4'	2.31	0.48
49:5:4740:G:C2	49:5:4741:C:C2	3.02	0.48
49:5:4747:C:H2'	49:5:4748:U:C6	2.48	0.48
11:L:59:VAL:HG22	49:5:74:G:OP1	2.13	0.48
11:L:182:LEU:HA	34:i:7:MET:HE1	1.95	0.48
21:V:112:MET:HE2	21:V:114:GLY:O	2.13	0.48
48:2:10:G:H2'	48:2:10:G:N3	2.29	0.48
48:2:30:G:N2	48:2:41:C:C2	2.81	0.48
49:5:469:C:C2	49:5:470:A:C8	3.02	0.48
49:5:497:G:H3'	49:5:498:C:H5''	1.95	0.48
49:5:964:A:O5'	49:5:964:A:C8	2.65	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1238:A:H2'	49:5:1239:C:C6	2.48	0.48
49:5:1367:C:H1'	49:5:1370:G:C8	2.49	0.48
49:5:1867:A:N3	49:5:4403:U:O2'	2.40	0.48
49:5:2363:A:C2	49:5:3860:A:C4	3.02	0.48
49:5:2522:G:H2'	49:5:2523:G:O4'	2.13	0.48
49:5:3763:A:H2'	49:5:3764:U:O4'	2.13	0.48
49:5:4102:C:C2	49:5:4108:G:C2	3.02	0.48
1:A:30:ARG:NH1	1:A:33:ASP:OD1	2.47	0.48
1:A:97:ASN:N	1:A:97:ASN:OD1	2.45	0.48
4:D:64:ILE:HD12	4:D:109:LEU:HD22	1.96	0.48
6:F:238:ARG:O	6:F:238:ARG:HG2	2.13	0.48
7:G:95:LEU:HA	7:G:218:LEU:HD11	1.95	0.48
16:Q:151:HIS:CD2	16:Q:166:TYR:CE1	3.01	0.48
21:V:15:ARG:NH1	21:V:15:ARG:CB	2.72	0.48
49:5:84:A:H5'	49:5:86:U:C1'	2.42	0.48
49:5:168:C:C2	49:5:268:G:N2	2.82	0.48
49:5:187:U:H3'	49:5:245:C:O2	2.14	0.48
49:5:462:G:N2	49:5:694:C:C2	2.81	0.48
49:5:1098:G:C2	49:5:1099:C:C2	3.01	0.48
49:5:1443:A:H2'	49:5:1444:G:O4'	2.14	0.48
49:5:2021:G:C6	49:5:2022:C:C4	3.02	0.48
49:5:2089:G:N1	49:5:2262:G:H2'	2.28	0.48
49:5:2477:A:C2	49:5:2478:C:C4	3.01	0.48
49:5:2557:G:C2	49:5:2558:C:C2	3.02	0.48
49:5:4942:C:H4'	49:5:4944:C:OP2	2.13	0.48
3:C:80:ARG:HH11	3:C:80:ARG:HB2	1.78	0.48
6:F:136:ARG:HB2	6:F:136:ARG:CZ	2.44	0.48
6:F:184:TYR:HB3	6:F:202:ARG:CG	2.42	0.48
11:L:103:ARG:NH2	49:5:75:G:O6	2.47	0.48
12:M:88:ALA:O	12:M:89:THR:C	2.56	0.48
16:Q:43:PHE:CD1	16:Q:43:PHE:C	2.91	0.48
16:Q:158:THR:HG22	16:Q:159:PRO:HD2	1.96	0.48
18:S:82:LEU:HD21	18:S:109:CYS:SG	2.54	0.48
42:s:14:PHE:HD1	42:s:62:ARG:HD3	1.78	0.48
49:5:196:C:C2	49:5:246:G:N2	2.82	0.48
49:5:2710:C:H3'	49:5:2711:G:C5'	2.43	0.48
49:5:2861:C:O2	49:5:3626:G:H4'	2.13	0.48
49:5:4136:G:C2	49:5:4137:C:C2	3.02	0.48
49:5:4472:G:H2'	49:5:4473:A:H5''	1.96	0.48
1:A:216:HIS:O	1:A:217:GLN:C	2.56	0.48
3:C:183:VAL:HG22	3:C:204:ARG:HB2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:145:GLY:HA3	6:F:242:ILE:HB	1.96	0.48
8:H:16:VAL:HG12	8:H:17:ASP:N	2.29	0.48
10:J:60:PHE:HB3	49:5:4257:A:C2	2.49	0.48
23:X:83:THR:HG22	23:X:84:GLU:N	2.29	0.48
32:g:40:LYS:NZ	49:5:2601:A:OP1	2.46	0.48
49:5:467:U:N3	49:5:468:U:C5	2.81	0.48
49:5:1264:C:C2	49:5:1265:G:C8	3.02	0.48
49:5:2123:C:O2'	49:5:2124:G:OP2	2.18	0.48
49:5:2424:G:H2'	49:5:2426:U:C5	2.48	0.48
49:5:2693:G:O6	49:5:2694:G:C2	2.67	0.48
49:5:2857:A:O2'	49:5:2858:A:O5'	2.31	0.48
3:C:48:ASN:O	3:C:48:ASN:ND2	2.44	0.48
9:I:36:LEU:HD21	9:I:69:ARG:HD2	1.96	0.48
28:c:45:LEU:HD12	28:c:70:GLY:O	2.13	0.48
28:c:50:ASN:C	28:c:50:ASN:ND2	2.72	0.48
33:h:9:LEU:O	33:h:10:ARG:C	2.57	0.48
42:s:10:LYS:HZ3	49:5:1960:A:C3'	2.17	0.48
49:5:486:C:C2	49:5:487:G:C8	3.01	0.48
49:5:705:G:N2	49:5:706:C:C2	2.82	0.48
49:5:1448:G:C2	49:5:1449:C:C2	3.01	0.48
49:5:1557:C:C2	49:5:1571:G:C2	3.02	0.48
49:5:2478:C:N4	49:5:2479:G:O6	2.46	0.48
49:5:4579:U:C2'	49:5:4580:U:O4'	2.61	0.48
5:E:58:MET:HE3	5:E:58:MET:HA	1.94	0.47
5:E:114:THR:O	5:E:115:GLU:HB2	2.14	0.47
6:F:82:ASN:ND2	19:T:142:ARG:CB	2.77	0.47
7:G:161:VAL:HG11	7:G:167:VAL:CG2	2.44	0.47
11:L:19:GLN:OE1	49:5:1518:A:N6	2.47	0.47
26:a:36:GLY:O	26:a:41:HIS:HB2	2.14	0.47
35:j:19:CYS:SG	35:j:20:ARG:N	2.87	0.47
41:r:51:VAL:O	41:r:51:VAL:HG12	2.14	0.47
49:5:994:G:C6	49:5:995:C:C4	3.02	0.47
49:5:1075:G:C2	49:5:1076:C:C2	3.01	0.47
49:5:1983:A:C2	49:5:2008:U:C5	3.01	0.47
49:5:3586:G:C2	49:5:3587:C:C2	3.02	0.47
49:5:4272:G:N7	49:5:4336:A:N1	2.62	0.47
2:B:41:VAL:HA	2:B:187:GLY:HA3	1.94	0.47
2:B:379:PHE:CE2	2:B:385:LYS:HG3	2.49	0.47
4:D:68:ARG:HG3	4:D:73:MET:HE2	1.96	0.47
5:E:63:ALA:HA	5:E:65:TYR:CE1	2.49	0.47
5:E:116:ASP:HA	30:e:7:LEU:HD11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:239:GLU:OE2	18:S:38:VAL:CG1	2.62	0.47
9:I:76:MET:CE	9:I:76:MET:CA	2.88	0.47
14:O:130:LYS:HD3	49:5:2055:G:C1'	2.44	0.47
41:r:52:GLU:O	41:r:61:VAL:HG22	2.13	0.47
42:s:18:ILE:HB	42:s:62:ARG:NH2	2.30	0.47
42:s:180:ILE:HG22	42:s:182:PRO:HD3	1.96	0.47
45:z:1624:MET:HB2	45:z:1702:LYS:HD2	1.95	0.47
49:5:255:C:O2	49:5:255:C:H2'	2.13	0.47
49:5:258:G:C6	49:5:259:C:C4	3.02	0.47
49:5:1322:A:C8	49:5:1326:A:C6	3.02	0.47
49:5:2089:G:O6	49:5:2263:A:H5''	2.14	0.47
49:5:2581:A:H2'	49:5:2582:A:C8	2.49	0.47
2:B:29:VAL:HG13	2:B:348:ARG:HD3	1.96	0.47
8:H:126:VAL:HG11	8:H:161:ILE:HG22	1.96	0.47
12:M:74:ARG:HG2	12:M:78:GLU:OE1	2.14	0.47
21:V:13:LYS:HG3	21:V:128:LEU:CD2	2.43	0.47
28:c:52:CYS:SG	28:c:57:LYS:HB2	2.54	0.47
28:c:78:ASN:ND2	28:c:78:ASN:C	2.72	0.47
29:d:34:HIS:ND1	29:d:34:HIS:C	2.72	0.47
40:p:55:TRP:N	40:p:55:TRP:CD1	2.82	0.47
49:5:508:G:C2	49:5:510:U:C5	3.02	0.47
49:5:702:U:C2'	49:5:703:G:H4'	2.42	0.47
49:5:916:C:N4	49:5:917:A:C5	2.83	0.47
49:5:1090:G:C2	49:5:1091:C:C2	3.02	0.47
49:5:1196:G:C2	49:5:1197:C:C2	3.01	0.47
49:5:1245:C:C6	49:5:1269:G:O6	2.67	0.47
49:5:1367:C:H3'	49:5:1368:A:H5''	1.97	0.47
49:5:4093:G:C3'	49:5:4094:G:C5'	2.91	0.47
49:5:4652:G:N2	49:5:4653:C:C2	2.82	0.47
51:8:78:G:H2'	51:8:79:G:O4'	2.14	0.47
2:B:379:PHE:HE2	2:B:385:LYS:HG3	1.80	0.47
8:H:50:LYS:O	8:H:51:LYS:HG3	2.14	0.47
25:Z:54:THR:O	25:Z:56:ALA:N	2.48	0.47
30:e:85:LEU:HD22	30:e:120:ILE:HD13	1.95	0.47
47:1:13:ARG:O	47:1:15:TYR:N	2.48	0.47
49:5:179:G:C2	49:5:180:C:C2	3.01	0.47
49:5:181:C:C4	49:5:256:G:N1	2.82	0.47
49:5:1070:G:C6	49:5:1071:C:C4	3.03	0.47
49:5:1404:G:C6	49:5:1405:C:C4	3.02	0.47
49:5:1754:U:O2	49:5:1754:U:O4'	2.32	0.47
49:5:1872:G:O2'	49:5:4219:A:N3	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:3685:C:H2'	49:5:3686:G:O4'	2.15	0.47
49:5:4913:G:HO2'	49:5:4914:C:C1'	2.26	0.47
50:7:117:G:C2	50:7:118:C:C2	3.03	0.47
51:8:115:G:N2	51:8:116:C:C2	2.82	0.47
3:C:181:LYS:HG3	49:5:218:A:C8	2.49	0.47
11:L:4:SER:O	11:L:5:ARG:HG3	2.13	0.47
49:5:127:G:C6	49:5:128:C:C4	3.03	0.47
49:5:265:C:H4'	49:5:266:C:OP1	2.14	0.47
49:5:1092:G:C6	49:5:1093:C:C4	3.02	0.47
49:5:1214:C:H4'	49:5:1215:C:O5'	2.14	0.47
49:5:2444:U:O2'	51:8:112:G:O2'	2.23	0.47
49:5:3705:G:C6	49:5:3706:C:C4	3.02	0.47
49:5:4916:G:C6	49:5:4917:C:C4	3.03	0.47
51:8:121:G:C5	51:8:122:G:C8	3.03	0.47
5:E:43:ASN:ND2	49:5:977:C:H5''	2.29	0.47
9:I:25:GLY:CA	48:2:63:G:O2'	2.54	0.47
9:I:75:TYR:CE2	9:I:150:GLU:HG2	2.49	0.47
10:J:93:GLU:HG3	10:J:93:GLU:O	2.12	0.47
17:R:70:ARG:HG2	17:R:76:MET:HE2	1.97	0.47
19:T:27:LEU:O	19:T:28:ALA:C	2.57	0.47
22:W:44:ARG:HH11	22:W:44:ARG:CG	2.27	0.47
30:e:31:ILE:HD11	49:5:2347:A:C5	2.49	0.47
37:l:10:LYS:NZ	49:5:2782:U:OP2	2.42	0.47
43:t:81:ILE:HD12	43:t:116:MET:HE3	1.96	0.47
44:v:477:TYR:O	44:v:480:LYS:HB3	2.13	0.47
49:5:199:G:C4	49:5:201:C:C5	3.03	0.47
49:5:994:G:C2	49:5:995:C:C2	3.03	0.47
49:5:1177:U:H2'	49:5:1178:G:C8	2.49	0.47
49:5:1196:G:C6	49:5:1197:C:C4	3.02	0.47
49:5:1214:C:N3	49:5:2116:C:N3	2.63	0.47
49:5:1359:G:C5	49:5:1360:G:C5	3.03	0.47
49:5:1484:G:H2'	49:5:1484:G:N3	2.30	0.47
49:5:1826:G:C6	49:5:1827:C:C4	3.02	0.47
49:5:2698:G:C6	49:5:2699:C:C4	3.03	0.47
2:B:56:ILE:CG1	2:B:365:LEU:HD22	2.44	0.47
2:B:117:ARG:HA	2:B:177:LYS:HE2	1.97	0.47
3:C:199:ARG:HE	49:5:2295:C:C5'	2.28	0.47
3:C:323:ARG:HB2	49:5:1281:G:O2'	2.15	0.47
5:E:53:TYR:O	5:E:54:SER:CB	2.63	0.47
6:F:140:PRO:HG2	6:F:141:TYR:HD1	1.78	0.47
9:I:73:ASN:ND2	9:I:73:ASN:C	2.72	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:41:PRO:HG3	12:M:73:VAL:HG13	1.96	0.47
19:T:70:HIS:ND1	19:T:70:HIS:N	2.63	0.47
19:T:108:ARG:HD2	19:T:130:ARG:CD	2.45	0.47
26:a:103:VAL:CG1	26:a:108:TYR:HB2	2.44	0.47
29:d:32:ARG:HG2	29:d:48:GLU:HG2	1.97	0.47
37:l:35:ILE:HG23	49:5:362:A:N6	2.30	0.47
44:v:337:LEU:HD12	44:v:487:THR:HG23	1.97	0.47
49:5:43:U:C5	49:5:44:A:C4	3.03	0.47
49:5:369:G:N2	49:5:372:A:OP2	2.39	0.47
49:5:966:A:N6	49:5:2252:G:C8	2.83	0.47
49:5:1086:C:O2	49:5:1212:G:C2	2.68	0.47
49:5:1210:C:O2	49:5:1210:C:C2'	2.63	0.47
49:5:1249:C:N3	49:5:1250:C:C5	2.83	0.47
49:5:1878:G:N2	49:5:1879:C:C2	2.83	0.47
49:5:1881:C:H5'	49:5:2281:U:H1'	1.97	0.47
49:5:2099:G:N2	49:5:2100:A:C8	2.83	0.47
49:5:2432:U:H2'	49:5:2433:G:O4'	2.15	0.47
49:5:2481:G:C6	49:5:2482:C:C4	3.03	0.47
49:5:3738:G:C5	49:5:3739:C:C5	3.02	0.47
49:5:4100:C:N3	49:5:4101:C:C5	2.82	0.47
49:5:4250:G:C2	49:5:4259:C:C2	3.03	0.47
49:5:4524:G:N2	49:5:4525:C:C2	2.83	0.47
49:5:4587:G:C2	49:5:4716:C:C2	3.03	0.47
49:5:5030:U:C2	49:5:5031:G:C8	3.02	0.47
51:8:34:U:HO2'	51:8:35:C:P	2.38	0.47
4:D:195:HIS:CE1	4:D:199:ILE:HD11	2.50	0.47
19:T:14:MET:HE3	19:T:58:HIS:CG	2.49	0.47
27:b:17:HIS:CD2	49:5:1724:G:N7	2.83	0.47
29:d:30:HIS:HB2	29:d:82:TYR:CD1	2.50	0.47
32:g:9:ARG:NE	49:5:2441:C:H4'	2.30	0.47
49:5:483:G:C2	49:5:484:U:C4	3.02	0.47
49:5:746:A:C2	49:5:915:A:C2	3.03	0.47
49:5:977:C:C6	49:5:977:C:OP2	2.68	0.47
49:5:1090:G:C6	49:5:1091:C:C4	3.02	0.47
49:5:1268:G:N1	49:5:1270:A:C5	2.82	0.47
49:5:1840:G:C3'	49:5:1842:G:P	3.03	0.47
49:5:2128:G:H2'	49:5:2129:C:O4'	2.15	0.47
49:5:2559:G:C6	49:5:2560:C:C4	3.03	0.47
49:5:4389:C:H2'	49:5:4390:A:C8	2.50	0.47
49:5:4486:C:H2'	49:5:4487:A:O4'	2.15	0.47
50:7:25:G:C6	50:7:26:C:C4	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:P:29:THR:HG21	15:P:146:ILE:HD11	1.97	0.47
29:d:57:MET:HE2	29:d:88:LEU:HG	1.97	0.47
31:f:14:TYR:OH	31:f:94:ALA:HB2	2.14	0.47
44:v:313:LEU:C	44:v:317:LYS:NZ	2.73	0.47
49:5:174:C:C2	49:5:263:G:N2	2.83	0.47
49:5:932:A:N3	49:5:932:A:C2'	2.77	0.47
49:5:1213:G:C6	49:5:1215:C:C4	3.03	0.47
49:5:1475:G:H2'	49:5:1476:C:C6	2.50	0.47
49:5:1761:G:C6	49:5:1762:C:C4	3.03	0.47
49:5:2279:A:C2	49:5:2280:G:C4	3.02	0.47
49:5:2320:G:O2'	49:5:2321:G:P	2.73	0.47
49:5:3908:A:C2	49:5:4449:A:N7	2.83	0.47
49:5:3937:C:H2'	49:5:3938:G:N2	2.30	0.47
49:5:4069:U:H2'	49:5:4070:U:C6	2.50	0.47
49:5:4416:G:N1	49:5:4417:C:C4	2.83	0.47
49:5:4489:G:C6	49:5:4490:C:C4	3.02	0.47
49:5:4651:A:H2'	49:5:4652:G:O4'	2.15	0.47
49:5:4898:G:C2	49:5:4923:C:C2	3.03	0.47
4:D:103:LEU:HD11	4:D:248:ARG:NH1	2.30	0.47
6:F:78:ARG:O	6:F:80:ALA:O	2.33	0.47
12:M:25:VAL:HG23	12:M:45:VAL:HG21	1.96	0.47
13:N:192:TRP:CE2	13:N:196:ASN:ND2	2.83	0.47
25:Z:36:ARG:HG2	25:Z:38:TYR:CZ	2.50	0.47
27:b:8:THR:OG1	27:b:9:THR:N	2.48	0.47
44:v:407:THR:HB	44:v:464:ASP:OD1	2.15	0.47
49:5:98:A:H1'	49:5:292:G:N7	2.29	0.47
49:5:196:C:C2	49:5:246:G:C2	3.03	0.47
49:5:300:A:C2	49:5:301:G:C6	3.03	0.47
49:5:748:G:O6	49:5:918:G:H1'	2.15	0.47
49:5:1178:G:N7	49:5:1179:U:C5	2.83	0.47
49:5:1236:C:O2'	49:5:1237:C:O5'	2.27	0.47
49:5:1243:C:O2	49:5:1269:G:N3	2.48	0.47
49:5:1367:C:N4	49:5:1371:A:OP2	2.48	0.47
49:5:1440:U:O2	49:5:1440:U:H2'	2.14	0.47
49:5:1776:A:C6	49:5:1777:C:C4	3.02	0.47
49:5:2570:U:N3	49:5:2571:C:C5	2.83	0.47
49:5:2588:C:OP1	49:5:2767:U:O2'	2.33	0.47
49:5:2613:C:N4	49:5:2614:C:N4	2.63	0.47
49:5:3755:G:H3'	49:5:3756:A:H5''	1.97	0.47
49:5:4119:C:O2	49:5:4119:C:O4'	2.32	0.47
51:8:83:C:OP2	51:8:85:U:O2	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:8:127:U:C4	51:8:128:C:C5	3.02	0.47
8:H:18:ILE:HG22	8:H:27:VAL:HG22	1.98	0.46
13:N:36:LEU:HD22	13:N:109:HIS:CD2	2.50	0.46
18:S:9:GLU:CG	18:S:33:PHE:CE1	2.98	0.46
24:Y:1:MET:O	24:Y:3:PHE:HE1	1.97	0.46
42:s:15:LEU:O	42:s:18:ILE:HG23	2.15	0.46
44:v:385:ALA:HB1	44:v:396:ILE:HG12	1.96	0.46
49:5:177:G:C2	49:5:178:C:C2	3.03	0.46
49:5:939:G:H2'	49:5:939:G:N3	2.31	0.46
49:5:967:C:O2	49:5:2254:G:N1	2.48	0.46
49:5:1359:G:C5	49:5:1360:G:C6	3.03	0.46
49:5:1563:A:H2'	49:5:1564:A:C8	2.50	0.46
49:5:1800:U:C6	49:5:1800:U:H5''	2.50	0.46
49:5:2702:C:O2	49:5:2715:G:C2	2.69	0.46
49:5:4414:A:C2	49:5:4427:G:C2	3.03	0.46
4:D:113:PHE:HE2	4:D:142:PHE:CD2	2.33	0.46
9:I:153:ARG:HA	9:I:165:ILE:HD11	1.98	0.46
28:c:82:GLY:HA2	28:c:91:VAL:CG1	2.43	0.46
39:o:64:LYS:HD2	49:5:4370:G:H5''	1.96	0.46
43:t:97:ASN:N	43:t:98:ILE:HA	2.30	0.46
49:5:1358:G:C6	49:5:1379:C:N3	2.83	0.46
49:5:1964:A:C2	49:5:4694:G:C4	3.03	0.46
49:5:2574:G:O6	49:5:2762:G:O6	2.33	0.46
49:5:4269:G:C6	49:5:4270:C:C4	3.03	0.46
49:5:4583:C:C2	49:5:4718:G:N2	2.83	0.46
49:5:4719:G:H8	49:5:4719:G:O5'	1.98	0.46
49:5:4876:U:O2	49:5:4876:U:O4'	2.34	0.46
51:8:111:U:O2'	51:8:112:G:OP2	2.25	0.46
3:C:223:ASN:HB3	49:5:223:G:H21	1.80	0.46
3:C:253:THR:O	3:C:256:ALA:N	2.47	0.46
8:H:55:LEU:HG	8:H:56:ARG:H	1.80	0.46
10:J:89:VAL:CG2	10:J:115:LEU:HD23	2.44	0.46
16:Q:89:ASP:HA	49:5:1502:G:O6	2.15	0.46
17:R:95:TRP:CZ2	17:R:99:MET:CE	2.99	0.46
42:s:17:ILE:CG2	42:s:62:ARG:NH1	2.73	0.46
49:5:423:G:H2'	49:5:424:U:O4'	2.15	0.46
49:5:1292:C:H3'	49:5:1293:G:H5''	1.97	0.46
49:5:1326:A:H2'	49:5:1327:C:C6	2.50	0.46
49:5:1584:G:C2	49:5:1585:C:C2	3.03	0.46
49:5:2097:U:O2	49:5:2097:U:O4'	2.33	0.46
49:5:2793:G:C5	49:5:2797:C:N4	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4230:C:O2'	49:5:4234:A:N1	2.44	0.46
49:5:4759:C:H2'	49:5:4760:G:O4'	2.15	0.46
6:F:129:LYS:HB2	19:T:133:ALA:HB3	1.98	0.46
7:G:164:ILE:HG13	7:G:168:VAL:CG2	2.45	0.46
8:H:10:VAL:O	8:H:54:ARG:HB2	2.15	0.46
8:H:151:ILE:HG23	8:H:152:GLU:N	2.31	0.46
9:I:75:TYR:HE2	9:I:150:GLU:HB3	1.81	0.46
11:L:66:TYR:O	11:L:68:THR:N	2.49	0.46
13:N:67:ARG:NH1	49:5:2458:C:OP1	2.48	0.46
18:S:36:ASN:ND2	18:S:39:VAL:HG13	2.31	0.46
18:S:176:PHE:CE2	49:5:4871:C:C6	3.04	0.46
23:X:100:VAL:HG11	23:X:109:ILE:HD11	1.97	0.46
28:c:51:ASN:ND2	28:c:51:ASN:C	2.71	0.46
29:d:42:ALA:N	29:d:43:PRO:CD	2.79	0.46
49:5:370:U:C6	49:5:1637:A:C2	3.03	0.46
49:5:973:G:H1	49:5:1282:G:H1'	1.79	0.46
49:5:1246:G:C6	49:5:1247:U:C4	3.04	0.46
49:5:1370:G:H4'	49:5:1371:A:H4'	1.96	0.46
49:5:2618:G:N2	49:5:2720:C:C2	2.84	0.46
49:5:4587:G:N2	49:5:4716:C:C2	2.83	0.46
49:5:4946:U:O2	49:5:4946:U:H2'	2.16	0.46
2:B:268:ARG:NH1	49:5:4565:C:O2	2.49	0.46
6:F:218:PRO:HA	6:F:249:MET:HG2	1.98	0.46
9:I:76:MET:HA	9:I:79:SER:OG	2.15	0.46
10:J:26:VAL:CG2	10:J:27:GLY:N	2.79	0.46
14:O:85:ARG:HG3	14:O:99:LEU:HD11	1.97	0.46
20:U:24:ASP:CB	20:U:69:LYS:CA	2.86	0.46
32:g:97:ILE:HD13	49:5:4120:U:C4	2.50	0.46
49:5:219:G:H4'	49:5:219:G:OP1	2.16	0.46
49:5:715:G:H1	49:5:953:C:H42	1.62	0.46
49:5:930:G:N3	49:5:931:C:H6	2.12	0.46
49:5:1064:G:C2	49:5:1065:G:C4	3.04	0.46
49:5:1086:C:C2	49:5:1212:G:C2	3.03	0.46
49:5:1380:G:O2'	49:5:1381:U:C5'	2.63	0.46
49:5:1744:U:H2'	49:5:1745:G:O4'	2.16	0.46
49:5:4737:G:C6	49:5:4738:C:N4	2.83	0.46
49:5:4916:G:C2	49:5:4917:C:C2	3.03	0.46
3:C:266:THR:HG22	3:C:269:LYS:HB3	1.96	0.46
6:F:159:ARG:NH2	6:F:250:ASN:OXT	2.47	0.46
6:F:247:ARG:HD3	6:F:247:ARG:HA	1.70	0.46
14:O:124:LEU:CD2	18:S:172:PRO:CD	2.93	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:P:49:LYS:O	15:P:53:LEU:HG	2.15	0.46
15:P:131:ARG:HD3	15:P:137:ASN:ND2	2.30	0.46
17:R:6:LEU:HD22	17:R:10:LEU:HD22	1.98	0.46
26:a:25:HIS:ND1	49:5:1338:G:N2	2.64	0.46
27:b:45:PHE:CZ	49:5:1815:G:N7	2.84	0.46
29:d:114:PHE:HA	29:d:117:LEU:HD23	1.98	0.46
45:z:1706:ASP:OD1	45:z:1706:ASP:N	2.48	0.46
49:5:172:C:C2	49:5:173:C:C6	3.03	0.46
49:5:322:C:O2	49:5:4356:G:C2	2.68	0.46
49:5:396:A:C2	49:5:397:G:C4	3.03	0.46
49:5:515:C:O2	49:5:515:C:H2'	2.15	0.46
49:5:723:A:N1	49:5:943:A:N1	2.64	0.46
49:5:737:C:H2'	49:5:738:C:O4'	2.16	0.46
49:5:976:G:O4'	49:5:976:G:P	2.73	0.46
49:5:1072:C:O2	49:5:1072:C:H2'	2.15	0.46
49:5:1271:G:H5''	49:5:1272:C:O4'	2.15	0.46
49:5:1280:C:C2	49:5:1282:G:C8	3.04	0.46
49:5:1301:C:O2	49:5:1301:C:O4'	2.31	0.46
49:5:1818:G:H2'	49:5:1819:G:H5'	1.98	0.46
49:5:2109:G:O6	49:5:2122:G:O6	2.33	0.46
49:5:2481:G:N2	49:5:2498:C:C2	2.84	0.46
49:5:2682:G:N2	49:5:2683:C:C2	2.84	0.46
49:5:3713:U:O2	49:5:3713:U:O4'	2.33	0.46
49:5:4140:C:C5	49:5:4141:G:C8	3.04	0.46
1:A:21:LYS:HG2	1:A:22:HIS:CE1	2.50	0.46
1:A:137:ILE:HD12	1:A:147:ARG:HG2	1.97	0.46
2:B:254:ILE:HG23	2:B:266:VAL:HG11	1.96	0.46
6:F:225:LYS:HE3	49:5:1907:A:H4'	1.98	0.46
16:Q:104:ARG:NH2	49:5:1353:G:N7	2.63	0.46
44:v:310:LEU:N	44:v:310:LEU:HD23	2.30	0.46
49:5:656:C:N3	49:5:657:C:C5	2.83	0.46
49:5:987:C:H2'	49:5:988:C:C6	2.50	0.46
49:5:1437:C:O2'	49:5:2098:G:OP2	2.33	0.46
49:5:1448:G:C6	49:5:1449:C:C4	3.03	0.46
49:5:1890:G:N2	49:5:1938:C:N4	2.58	0.46
49:5:2428:A:C4	49:5:2789:A:C2	3.04	0.46
49:5:2567:G:C6	49:5:2568:C:C4	3.04	0.46
49:5:3597:G:C6	49:5:3598:C:C4	3.04	0.46
49:5:4283:G:N1	49:5:4284:C:C4	2.83	0.46
49:5:4462:C:C2	49:5:4515:G:N2	2.84	0.46
49:5:4489:G:C2	49:5:4490:C:C2	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4737:G:C2	49:5:4738:C:C2	3.04	0.46
51:8:55:U:C4	51:8:62:A:N1	2.84	0.46
51:8:134:G:C6	51:8:135:C:C4	3.03	0.46
5:E:199:ILE:CD1	5:E:253:ILE:HG12	2.38	0.46
7:G:164:ILE:HG21	13:N:22:LEU:HD21	1.98	0.46
9:I:179:ASP:OD1	9:I:180:GLU:N	2.49	0.46
16:Q:67:ILE:CD1	16:Q:98:LEU:HD11	2.45	0.46
32:g:73:HIS:C	32:g:73:HIS:CD2	2.93	0.46
45:0:1736:THR:HG22	45:0:1763:GLU:HG3	1.96	0.46
49:5:28:C:C2	49:5:55:G:C2	3.04	0.46
49:5:190:G:C2	49:5:252:C:C2	3.04	0.46
49:5:488:G:N1	49:5:489:C:C4	2.84	0.46
49:5:518:G:C6	49:5:519:C:C4	3.04	0.46
49:5:1078:A:H2'	49:5:1079:C:H5	1.81	0.46
49:5:1483:C:O2	49:5:1483:C:O4'	2.34	0.46
49:5:2018:C:H2'	49:5:2019:C:O4'	2.16	0.46
49:5:2046:G:H1'	49:5:2047:A:C8	2.51	0.46
49:5:2857:A:HO2'	49:5:2858:A:H8	1.64	0.46
49:5:3590:G:N1	49:5:3591:C:C2	2.84	0.46
49:5:4139:G:C6	49:5:4140:C:C4	3.03	0.46
49:5:4595:G:C6	49:5:4596:C:C4	3.04	0.46
49:5:4661:G:H5''	49:5:4661:G:H8	1.80	0.46
51:8:94:G:C8	51:8:94:G:H5'	2.51	0.46
4:D:155:THR:HA	4:D:179:ARG:O	2.16	0.46
7:G:41:ILE:N	49:5:4116:C:OP2	2.48	0.46
7:G:58:PRO:HD3	23:X:46:PHE:HD2	1.81	0.46
14:O:27:VAL:HG12	14:O:98:ALA:HB1	1.97	0.46
21:V:34:ALA:HB2	21:V:72:LEU:CD1	2.45	0.46
41:r:103:ARG:NH2	41:r:106:LEU:HD21	2.31	0.46
43:t:58:ILE:CD1	49:5:1978:C:OP2	2.63	0.46
49:5:167:C:C4	49:5:269:G:N1	2.84	0.46
49:5:709:C:N4	49:5:1287:G:H1	2.09	0.46
49:5:1879:C:O2'	49:5:1891:A:N3	2.46	0.46
49:5:2567:G:C2	49:5:2568:C:C2	3.03	0.46
49:5:3600:G:C2	49:5:3601:C:C2	3.04	0.46
49:5:3729:U:H2'	49:5:3730:U:C6	2.50	0.46
49:5:4495:G:N2	49:5:4506:C:C2	2.84	0.46
49:5:4586:G:H5''	49:5:4586:G:H8	1.81	0.46
50:7:30:C:C2	50:7:48:G:C2	3.04	0.46
6:F:105:PRO:HB3	49:5:1724:G:C2	2.51	0.46
11:L:9:ILE:HA	11:L:9:ILE:HD12	1.61	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:P:25:HIS:CD2	49:5:2361:G:C6	3.04	0.46
18:S:76:LYS:NZ	18:S:100:LEU:O	2.48	0.46
18:S:93:MET:SD	18:S:113:MET:HE1	2.56	0.46
44:v:370:ALA:C	44:v:372:GLN:H	2.23	0.46
49:5:254:G:C2	49:5:255:C:C2	3.04	0.46
49:5:277:G:O2'	49:5:278:G:P	2.73	0.46
49:5:505:G:C6	49:5:506:C:C4	3.03	0.46
49:5:517:C:C2	49:5:645:G:C2	3.04	0.46
49:5:1179:U:C4	49:5:1181:C:OP2	2.69	0.46
49:5:1203:G:C6	49:5:1204:C:C4	3.04	0.46
49:5:1756:U:H3	49:5:1775:A:H2	1.64	0.46
49:5:2108:G:C2	49:5:2125:C:C4	3.04	0.46
49:5:2263:A:N7	49:5:2266:C:N4	2.60	0.46
49:5:2503:G:H1'	49:5:4084:G:C2	2.50	0.46
49:5:2557:G:C2	49:5:2571:C:C2	3.03	0.46
49:5:2684:C:H2'	49:5:2685:C:O4'	2.16	0.46
49:5:2889:G:H21	49:5:5034:A:H8	1.64	0.46
49:5:3790:U:N3	49:5:3792:G:O4'	2.49	0.46
49:5:4109:G:C2	49:5:4110:C:C2	3.04	0.46
49:5:4309:G:H2'	49:5:4310:A:O4'	2.16	0.46
49:5:4745:G:H2'	49:5:4746:C:C6	2.51	0.46
6:F:39:PHE:CZ	49:5:2123:C:OP2	2.70	0.45
12:M:112:VAL:HG11	14:O:201:PHE:CZ	2.51	0.45
17:R:35:ALA:O	17:R:36:ASN:OD1	2.34	0.45
23:X:65:ALA:HB2	33:h:69:LEU:HD11	1.97	0.45
28:c:60:ILE:HD12	28:c:93:THR:HG21	1.98	0.45
28:c:92:CYS:HB3	49:5:2674:A:OP1	2.15	0.45
48:2:22:G:N2	48:2:23:C:C2	2.84	0.45
49:5:258:G:C2	49:5:259:C:C2	3.04	0.45
49:5:449:C:H3'	49:5:450:G:H5''	1.98	0.45
49:5:1245:C:O2	49:5:2111:G:O2'	2.27	0.45
49:5:2068:C:O2'	49:5:2069:A:OP1	2.28	0.45
49:5:2439:G:H2'	49:5:2439:G:N3	2.30	0.45
49:5:4735:G:N2	49:5:4736:C:C2	2.85	0.45
49:5:5031:G:H5''	49:5:5031:G:H8	1.80	0.45
51:8:125:C:O3'	51:8:126:C:H3'	2.15	0.45
3:C:181:LYS:HG2	49:5:218:A:N7	2.32	0.45
3:C:190:ARG:HH11	3:C:190:ARG:HG3	1.81	0.45
3:C:261:ASP:C	3:C:261:ASP:OD1	2.59	0.45
6:F:44:LEU:CD1	49:5:2096:G:N1	2.79	0.45
17:R:63:CYS:SG	49:5:2809:G:H5''	2.56	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:S:106:VAL:O	18:S:107:THR:C	2.59	0.45
23:X:83:THR:HG21	49:5:2434:G:O3'	2.17	0.45
35:j:59:THR:HG23	49:5:23:C:H4'	1.98	0.45
49:5:1:C:H4'	49:5:2:G:O5'	2.15	0.45
49:5:292:G:O2'	49:5:293:G:H8	1.99	0.45
49:5:476:G:N2	49:5:679:C:C2	2.84	0.45
49:5:662:C:H2'	49:5:663:G:C8	2.50	0.45
49:5:1085:C:O2'	49:5:1086:C:H5'	2.16	0.45
49:5:1263:A:C5	49:5:1264:C:C5	3.05	0.45
49:5:1800:U:H5''	49:5:1800:U:H6	1.81	0.45
49:5:2126:G:O3'	49:5:2127:C:O4'	2.34	0.45
49:5:2254:G:O2'	49:5:2255:C:H4'	2.16	0.45
49:5:2751:G:H2'	49:5:2752:G:H5''	1.99	0.45
49:5:2889:G:C2	49:5:2890:C:C2	3.04	0.45
49:5:3684:G:C6	49:5:3685:C:N4	2.85	0.45
49:5:3876:A:O2'	49:5:3877:A:P	2.74	0.45
49:5:4077:A:N7	49:5:4078:C:C5	2.85	0.45
49:5:4237:C:H4'	49:5:4327:C:O2	2.17	0.45
49:5:5017:G:C6	49:5:5018:C:C4	3.04	0.45
50:7:117:G:C6	50:7:118:C:C4	3.04	0.45
1:A:117:GLU:OE1	1:A:121:GLY:N	2.49	0.45
4:D:22:ARG:HH11	4:D:22:ARG:HG3	1.81	0.45
6:F:44:LEU:O	6:F:44:LEU:HD23	2.16	0.45
10:J:23:ASN:HB2	10:J:71:HIS:HB3	1.98	0.45
14:O:114:LYS:HG2	49:5:4757:C:N3	2.31	0.45
14:O:126:VAL:HG13	14:O:127:VAL:N	2.29	0.45
15:P:114:ILE:HA	15:P:150:LEU:HD23	1.97	0.45
25:Z:49:TYR:CE2	25:Z:133:LYS:HA	2.51	0.45
36:k:40:ARG:HE	36:k:41:TYR:HE1	1.63	0.45
49:5:690:C:H5''	49:5:690:C:H6	1.80	0.45
49:5:724:C:N4	49:5:942:G:H1	2.14	0.45
49:5:1072:C:H1'	49:5:1073:G:C8	2.52	0.45
49:5:1099:C:H2'	49:5:1100:U:O4'	2.17	0.45
49:5:1205:G:C6	49:5:1206:C:C4	3.04	0.45
49:5:1241:C:C2'	49:5:1242:G:OP1	2.64	0.45
49:5:2267:U:O2	49:5:2267:U:O4'	2.32	0.45
49:5:2898:G:C2	49:5:2899:C:C2	3.04	0.45
51:8:76:C:H2'	51:8:77:A:O4'	2.16	0.45
3:C:288:ASP:OD1	3:C:288:ASP:C	2.60	0.45
9:I:3:ARG:NH2	49:5:4431:U:OP2	2.49	0.45
9:I:59:GLN:HB3	9:I:126:VAL:HG22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:13:ARG:NH2	10:J:154:LYS:C	2.74	0.45
16:Q:17:GLU:HB2	16:Q:18:PRO:HD2	1.99	0.45
19:T:147:GLU:O	19:T:147:GLU:HG3	2.15	0.45
25:Z:123:LYS:O	25:Z:124:THR:OG1	2.32	0.45
41:r:32:LEU:CD1	41:r:110:ALA:HA	2.46	0.45
41:r:67:ARG:O	41:r:68:SER:C	2.59	0.45
49:5:181:C:C4	49:5:256:G:C2	3.04	0.45
49:5:482:G:H2'	49:5:483:G:C8	2.51	0.45
49:5:722:G:N3	49:5:722:G:H2'	2.31	0.45
49:5:1735:U:H2'	49:5:1736:A:H5'	1.98	0.45
49:5:1755:C:C3'	49:5:1756:U:H5''	2.46	0.45
49:5:1987:C:N3	49:5:1988:G:C8	2.85	0.45
49:5:2391:G:N1	49:5:2392:C:C4	2.84	0.45
49:5:2546:G:H4'	49:5:2547:G:OP1	2.17	0.45
49:5:2889:G:C6	49:5:2890:C:C4	3.03	0.45
49:5:3738:G:C5	49:5:3739:C:C6	3.04	0.45
49:5:4089:G:C2	49:5:4161:G:C2	3.04	0.45
49:5:4461:C:N3	49:5:4516:G:C6	2.85	0.45
49:5:4735:G:C4	49:5:4736:C:C6	3.05	0.45
1:A:133:TYR:CD2	1:A:168:VAL:HG12	2.51	0.45
3:C:69:THR:HG21	49:5:3906:A:C2'	2.34	0.45
3:C:309:ILE:N	3:C:309:ILE:HD13	2.32	0.45
5:E:197:ILE:HD12	5:E:257:ILE:HG23	1.98	0.45
6:F:139:GLU:OE2	6:F:228:HIS:CD2	2.70	0.45
11:L:58:VAL:HG13	11:L:70:VAL:CG1	2.47	0.45
11:L:71:ARG:NH2	49:5:74:G:O3'	2.50	0.45
14:O:122:ALA:O	14:O:128:ARG:CG	2.64	0.45
16:Q:85:THR:HG22	16:Q:104:ARG:HB2	1.98	0.45
32:g:29:ARG:NH1	49:5:2523:G:OP2	2.50	0.45
37:l:2:SER:N	49:5:2406:G:N7	2.64	0.45
43:t:121:LEU:O	43:t:122:ALA:C	2.59	0.45
48:2:30:G:C2	48:2:41:C:C2	3.04	0.45
49:5:43:U:C4	49:5:93:G:N1	2.84	0.45
49:5:469:C:H2'	49:5:470:A:O4'	2.16	0.45
49:5:688:U:C2	49:5:689:U:C6	3.05	0.45
49:5:990:C:N3	49:5:991:C:C5	2.85	0.45
49:5:1278:C:H3'	49:5:1279:A:H4'	1.98	0.45
49:5:1590:C:H3'	49:5:1591:U:H4'	1.99	0.45
49:5:1598:C:C6	49:5:2798:A:N7	2.85	0.45
49:5:2542:G:N2	49:5:2775:C:C2	2.85	0.45
49:5:4142:C:C2	49:5:4143:G:C2	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4271:A:H3'	49:5:4272:G:H21	1.81	0.45
49:5:4699:U:H1'	49:5:4700:A:H5''	1.97	0.45
51:8:53:G:C2	51:8:54:C:C2	3.04	0.45
4:D:146:LEU:HD11	4:D:159:VAL:CG1	2.46	0.45
5:E:42:ARG:HB2	5:E:58:MET:HE1	1.99	0.45
5:E:246:GLN:O	5:E:250:ASP:N	2.41	0.45
18:S:80:ILE:CD1	18:S:106:VAL:HG22	2.41	0.45
33:h:104:THR:O	33:h:105:LYS:C	2.60	0.45
43:t:83:LYS:CE	49:5:1978:C:OP1	2.65	0.45
49:5:175:C:H2'	49:5:176:G:C8	2.51	0.45
49:5:450:G:C6	49:5:1295:C:N3	2.84	0.45
49:5:977:C:O2	49:5:978:G:C8	2.68	0.45
49:5:1075:G:C4	49:5:1076:C:C5	3.05	0.45
49:5:1076:C:C4	49:5:1077:C:C5	3.05	0.45
49:5:1268:G:N2	49:5:1270:A:N9	2.64	0.45
49:5:1443:A:C4	49:5:2102:G:C2	3.05	0.45
49:5:1756:U:O4	49:5:1775:A:C6	2.68	0.45
49:5:1964:A:H2'	49:5:1964:A:N3	2.32	0.45
49:5:2654:C:N3	49:5:2681:G:C2	2.85	0.45
49:5:2740:U:H5'	49:5:2740:U:O2	2.16	0.45
49:5:2768:C:O2	49:5:2768:C:O4'	2.35	0.45
49:5:4231:C:C2	49:5:4331:G:N2	2.84	0.45
49:5:4235:G:H2'	49:5:4235:G:N3	2.31	0.45
49:5:4986:G:C6	49:5:4987:C:C4	3.05	0.45
3:C:253:THR:O	3:C:254:GLU:C	2.59	0.45
4:D:99:TYR:CD1	4:D:99:TYR:C	2.94	0.45
25:Z:10:VAL:HG22	25:Z:87:VAL:HG23	1.99	0.45
26:a:62:HIS:O	26:a:62:HIS:CG	2.70	0.45
31:f:36:ARG:HG2	31:f:77:ALA:HB1	1.98	0.45
41:r:98:ARG:NH2	41:r:107:ARG:NH1	2.65	0.45
42:s:65:ILE:N	42:s:65:ILE:HD12	2.32	0.45
49:5:484:U:C4	49:5:486:C:C4	3.04	0.45
49:5:1358:G:OP1	49:5:1506:G:H4'	2.17	0.45
49:5:1395:U:O2	49:5:1469:C:H4'	2.15	0.45
49:5:1416:G:C6	49:5:1417:C:C4	3.05	0.45
49:5:1550:G:C6	49:5:1551:C:C4	3.05	0.45
49:5:1720:C:H2'	49:5:1721:G:O4'	2.16	0.45
49:5:2787:A:H2	49:5:2801:U:H3	1.64	0.45
49:5:2859:G:O2'	49:5:2860:C:O5'	2.35	0.45
49:5:3656:A:O4'	49:5:3747:A:C2	2.70	0.45
51:8:91:A:H2'	51:8:92:U:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:220:ILE:HG12	2:B:278:THR:HG23	1.98	0.45
3:C:185:ALA:HB2	49:5:218:A:H62	1.80	0.45
5:E:212:TYR:C	5:E:212:TYR:CD1	2.94	0.45
14:O:72:HIS:N	49:5:4586:G:OP1	2.47	0.45
18:S:168:THR:OG1	18:S:169:THR:N	2.50	0.45
23:X:87:MET:CA	23:X:87:MET:HE3	2.47	0.45
23:X:125:ASN:OD1	49:5:2438:A:H5'	2.17	0.45
28:c:77:ASN:HB3	28:c:80:GLU:HG3	1.98	0.45
41:r:33:LYS:HD2	41:r:40:TYR:CE2	2.51	0.45
42:s:18:ILE:CG2	42:s:62:ARG:HH12	2.29	0.45
48:2:22:G:C6	48:2:23:C:C4	3.05	0.45
49:5:193:G:C2	49:5:249:C:C2	3.05	0.45
49:5:463:A:N1	49:5:692:A:C2	2.85	0.45
49:5:504:G:O6	49:5:654:C:N3	2.49	0.45
49:5:674:G:C6	49:5:675:C:C4	3.05	0.45
49:5:1075:G:C6	49:5:1076:C:C4	3.04	0.45
49:5:1092:G:C2	49:5:1093:C:C2	3.05	0.45
49:5:1379:C:H4'	49:5:1380:G:N9	2.31	0.45
49:5:1721:G:C2	49:5:1722:C:C2	3.05	0.45
49:5:1979:A:H3'	49:5:1980:U:C5'	2.47	0.45
49:5:2046:G:O2'	49:5:2047:A:OP2	2.35	0.45
49:5:2397:G:C8	49:5:2399:G:C8	3.04	0.45
49:5:2685:C:H2'	49:5:2686:G:O4'	2.17	0.45
49:5:3641:U:C5	49:5:3646:A:N7	2.82	0.45
49:5:3644:U:H2'	49:5:3645:U:H5'	1.97	0.45
49:5:4989:U:O4	49:5:5060:A:N1	2.50	0.45
49:5:5028:G:C2	49:5:5029:C:C2	3.04	0.45
1:A:4:VAL:HG12	1:A:8:GLN:CB	2.47	0.45
2:B:66:LYS:HB2	21:V:11:GLY:HA3	1.99	0.45
3:C:138:MET:HG2	3:C:144:ILE:HG22	1.98	0.45
3:C:168:VAL:HG12	3:C:172:LYS:CE	2.47	0.45
4:D:56:THR:HG21	50:7:26:C:OP1	2.16	0.45
8:H:111:LEU:HD12	8:H:113:GLU:OE1	2.17	0.45
13:N:183:THR:HG22	13:N:188:ARG:N	2.32	0.45
26:a:38:MET:HE2	26:a:53:PHE:CG	2.52	0.45
41:r:90:LEU:HG	41:r:111:ILE:HG23	1.98	0.45
44:v:407:THR:HG22	45:w:16:SER:OG	2.17	0.45
49:5:433:A:C2	49:5:3867:A:H4'	2.52	0.45
49:5:482:G:H2'	49:5:483:G:C1'	2.47	0.45
49:5:1066:G:H2'	49:5:1067:G:O4'	2.17	0.45
49:5:1234:G:H2'	49:5:1235:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1267:C:H1'	49:5:1268:G:N7	2.31	0.45
49:5:1503:A:H4'	49:5:1504:G:H5'	1.98	0.45
49:5:1752:G:H2'	49:5:1753:G:O4'	2.17	0.45
49:5:1846:G:C2	49:5:1847:C:C2	3.05	0.45
49:5:1938:C:C4'	49:5:1939:A:O5'	2.65	0.45
49:5:2297:G:C2	49:5:2338:C:C2	3.05	0.45
49:5:2395:A:O2'	49:5:2806:A:C1'	2.62	0.45
49:5:4482:U:N3	49:5:4483:C:C5	2.85	0.45
49:5:4699:U:H4'	49:5:4700:A:OP1	2.16	0.45
49:5:4919:G:N2	49:5:4920:C:C2	2.85	0.45
2:B:260:ALA:C	2:B:261:ARG:HD3	2.42	0.45
2:B:379:PHE:CD2	2:B:385:LYS:HB2	2.35	0.45
3:C:150:LEU:HB3	3:C:151:PRO:HD3	1.99	0.45
3:C:209:ILE:HB	3:C:229:LEU:HD13	1.98	0.45
3:C:326:LEU:HD11	3:C:333:LYS:HG2	1.98	0.45
8:H:113:GLU:OE1	8:H:125:ARG:HB3	2.17	0.45
42:s:18:ILE:CB	42:s:62:ARG:HH22	2.29	0.45
44:v:403:THR:C	44:v:405:HIS:N	2.71	0.45
49:5:1098:G:C6	49:5:1099:C:C4	3.04	0.45
49:5:1374:G:C2	49:5:1375:C:C2	3.05	0.45
49:5:4093:G:C6	49:5:4094:G:N7	2.85	0.45
49:5:4986:G:C2	49:5:4987:C:C2	3.05	0.45
1:A:40:TYR:CE1	49:5:4117:U:N3	2.84	0.44
3:C:341:LEU:HD21	5:E:46:LEU:HD21	1.96	0.44
5:E:274:THR:HG22	5:E:277:ILE:HG21	1.98	0.44
7:G:182:CYS:HA	7:G:226:TYR:CE2	2.52	0.44
9:I:75:TYR:HD2	9:I:151:ALA:HA	1.81	0.44
10:J:43:LEU:HD11	10:J:82:ILE:HG23	1.98	0.44
26:a:25:HIS:CE1	49:5:1338:G:H22	2.33	0.44
26:a:39:HIS:O	26:a:40:HIS:ND1	2.50	0.44
28:c:18:LEU:C	28:c:20:LEU:N	2.73	0.44
36:k:35:LYS:NZ	49:5:2693:G:OP1	2.38	0.44
44:v:378:ILE:O	44:v:381:ILE:HG22	2.16	0.44
49:5:917:A:N1	49:5:919:C:C4	2.85	0.44
49:5:973:G:C6	49:5:974:C:C5	3.05	0.44
49:5:973:G:O6	49:5:1282:G:N3	2.50	0.44
49:5:977:C:N3	49:5:978:G:C5	2.85	0.44
49:5:1266:G:H5''	49:5:2112:G:N2	2.32	0.44
49:5:1351:G:H2'	49:5:1352:C:O4'	2.17	0.44
49:5:1912:G:N2	49:5:1913:C:C2	2.85	0.44
49:5:1990:A:N1	49:5:1991:A:H1'	2.28	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2430:C:O2'	49:5:2431:A:H5'	2.18	0.44
49:5:3670:C:O2'	49:5:3671:G:C8	2.58	0.44
49:5:4635:A:C2	49:5:4664:A:C5	3.05	0.44
49:5:4666:G:C2	49:5:4667:C:C2	3.05	0.44
49:5:4942:C:O3'	49:5:4944:C:P	2.75	0.44
2:B:300:LYS:HG2	2:B:311:ASP:HB3	1.93	0.44
4:D:10:LYS:O	4:D:14:LYS:HG3	2.18	0.44
7:G:144:THR:HG22	7:G:169:PHE:HE1	1.81	0.44
14:O:57:PHE:CD1	14:O:57:PHE:O	2.70	0.44
18:S:17:LEU:HB2	18:S:18:PRO:HD2	1.98	0.44
20:U:24:ASP:HB3	20:U:69:LYS:CB	2.46	0.44
31:f:6:TRP:CE3	31:f:6:TRP:O	2.70	0.44
39:o:61:LYS:HD2	49:5:4372:U:OP2	2.16	0.44
41:r:78:VAL:HG13	41:r:78:VAL:O	2.16	0.44
48:2:15:G:HO2'	48:2:16:C:P	2.31	0.44
49:5:1171:G:C2	49:5:1172:C:C2	3.06	0.44
49:5:1205:G:C2	49:5:1206:C:C2	3.05	0.44
49:5:1400:G:H2'	49:5:1401:C:O4'	2.17	0.44
49:5:1890:G:H1	49:5:1938:C:N4	2.15	0.44
49:5:1991:A:C2'	49:5:1992:U:C6	3.00	0.44
49:5:2102:G:N1	49:5:2103:G:C5	2.86	0.44
49:5:2898:G:C6	49:5:2899:C:C4	3.04	0.44
49:5:4920:C:H2'	49:5:4921:C:H6	1.80	0.44
3:C:219:LYS:HG3	49:5:224:U:O2	2.17	0.44
11:L:65:ARG:HD3	26:a:69:PHE:CD1	2.53	0.44
14:O:7:LEU:HD23	14:O:7:LEU:HA	1.76	0.44
15:P:34:GLN:HA	15:P:34:GLN:HE21	1.82	0.44
18:S:83:ARG:HH21	18:S:83:ARG:CG	2.30	0.44
26:a:21:ARG:NH1	49:5:1317:U:OP1	2.45	0.44
49:5:245:C:O2'	49:5:246:G:O5'	2.30	0.44
49:5:292:G:O2'	49:5:293:G:C8	2.65	0.44
49:5:466:A:H2'	49:5:467:U:C6	2.52	0.44
49:5:470:A:C5	49:5:471:A:N7	2.86	0.44
49:5:488:G:C6	49:5:489:C:C4	3.05	0.44
49:5:491:G:N2	49:5:492:U:C4	2.85	0.44
49:5:652:G:H2'	49:5:653:U:O4'	2.17	0.44
49:5:709:C:H2'	49:5:710:G:O4'	2.17	0.44
49:5:963:G:N3	49:5:963:G:C2'	2.81	0.44
49:5:1214:C:H4'	49:5:1215:C:H4'	2.00	0.44
49:5:1263:A:H2'	49:5:1264:C:O4'	2.16	0.44
49:5:1270:A:C6	49:5:1271:G:H1'	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1891:A:O2'	49:5:1892:A:O4'	2.35	0.44
49:5:4075:U:O2'	49:5:4076:G:H2'	2.16	0.44
49:5:4739:C:H2'	49:5:4740:G:O4'	2.17	0.44
3:C:66:SER:O	3:C:67:TRP:C	2.56	0.44
3:C:84:THR:HG21	49:5:366:A:N1	2.28	0.44
6:F:141:TYR:CD1	6:F:141:TYR:N	2.85	0.44
12:M:70:GLN:CA	12:M:73:VAL:HG12	2.47	0.44
13:N:166:SER:HB2	49:5:331:G:P	2.58	0.44
19:T:18:PRO:HG2	19:T:21:LYS:HB2	1.99	0.44
21:V:38:TYR:CD2	21:V:38:TYR:O	2.70	0.44
23:X:84:GLU:CD	23:X:84:GLU:C	2.85	0.44
23:X:96:LEU:HG	23:X:140:LEU:HD11	1.98	0.44
24:Y:1:MET:O	24:Y:3:PHE:CD1	2.71	0.44
35:j:12:ARG:O	49:5:2405:G:H5'	2.17	0.44
39:o:68:LEU:N	39:o:83:LEU:O	2.48	0.44
48:2:51:C:H2'	48:2:52:G:C5'	2.48	0.44
49:5:127:G:C2	49:5:128:C:C2	3.05	0.44
49:5:694:C:H2'	49:5:695:G:O4'	2.18	0.44
49:5:919:C:C5	49:5:920:C:C5	3.05	0.44
49:5:1325:C:O2	49:5:1325:C:O5'	2.36	0.44
49:5:1387:A:C4	49:5:1397:A:N6	2.85	0.44
49:5:1789:C:C2'	49:5:1790:U:O5'	2.65	0.44
49:5:1982:G:O2'	49:5:2010:A:H5'	2.16	0.44
49:5:2316:G:N2	49:5:2317:C:C2	2.86	0.44
51:8:119:C:C2	51:8:132:G:N2	2.86	0.44
2:B:310:SER:OG	2:B:311:ASP:N	2.50	0.44
4:D:163:LEU:HD21	4:D:175:HIS:HB3	2.00	0.44
4:D:219:TYR:CE2	4:D:227:ILE:HD11	2.52	0.44
5:E:116:ASP:N	5:E:116:ASP:OD1	2.50	0.44
5:E:161:LEU:CD2	5:E:253:ILE:HD11	2.13	0.44
8:H:52:LYS:HD3	8:H:52:LYS:HA	1.70	0.44
14:O:124:LEU:HD21	18:S:172:PRO:HD3	1.99	0.44
14:O:160:ARG:NH2	49:5:4759:C:OP1	2.51	0.44
17:R:74:ARG:NH2	49:5:2891:U:OP2	2.51	0.44
17:R:143:HIS:CE1	49:5:3596:A:O3'	2.71	0.44
18:S:95:ARG:NH1	18:S:97:TYR:OH	2.51	0.44
20:U:56:LEU:HD22	20:U:61:VAL:CG2	2.47	0.44
25:Z:73:LYS:HG2	25:Z:75:TYR:CZ	2.52	0.44
28:c:14:ILE:CD1	28:c:72:HIS:NE2	2.79	0.44
40:p:41:PHE:O	49:5:2674:A:N6	2.44	0.44
48:2:2:G:C2	48:2:3:C:C2	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:219:G:H5''	49:5:219:G:C4	2.53	0.44
49:5:753:C:C2	49:5:754:U:C6	3.05	0.44
49:5:1170:G:N2	49:5:1192:C:C2	2.85	0.44
49:5:1203:G:C2	49:5:1204:C:C2	3.05	0.44
49:5:1358:G:N3	49:5:1359:G:N7	2.66	0.44
49:5:1359:G:H3'	49:5:1360:G:H8	1.82	0.44
49:5:1438:U:O2	49:5:2099:G:C6	2.70	0.44
49:5:1468:C:H2'	49:5:1469:C:C6	2.53	0.44
49:5:2272:C:H2'	49:5:2273:G:O5'	2.17	0.44
49:5:2447:U:O2'	49:5:2448:G:O5'	2.32	0.44
49:5:2609:G:C2	49:5:2731:C:O2	2.70	0.44
49:5:2712:G:N1	49:5:2713:C:C4	2.85	0.44
49:5:4524:G:OP2	49:5:4524:G:H4'	2.18	0.44
49:5:4890:G:C2	49:5:4930:C:C2	3.05	0.44
49:5:4912:G:O5'	49:5:4913:G:OP2	2.35	0.44
51:8:119:C:C2	51:8:132:G:C2	3.05	0.44
6:F:60:HIS:CE1	49:5:944:A:H2'	2.53	0.44
6:F:155:LEU:HB3	6:F:213:PHE:CE2	2.53	0.44
49:5:642:G:C2	49:5:643:C:C4	3.06	0.44
49:5:1066:G:C4	49:5:1067:G:C8	3.06	0.44
49:5:1246:G:C5	49:5:1247:U:C5	3.06	0.44
49:5:1416:G:C2	49:5:1417:C:C2	3.06	0.44
49:5:1735:U:C2'	49:5:1736:A:H5'	2.47	0.44
49:5:2446:C:H2'	49:5:2447:U:C6	2.53	0.44
49:5:2715:G:C6	49:5:2716:C:C4	3.06	0.44
49:5:2870:A:C2	49:5:2871:A:C4	3.06	0.44
49:5:3743:G:H2'	49:5:3744:G:H5'	1.99	0.44
49:5:4473:A:C2	49:5:4474:A:C5	3.06	0.44
49:5:4735:G:C5	49:5:4736:C:C5	3.05	0.44
49:5:4977:A:C2	49:5:4978:G:C4	3.06	0.44
49:5:5061:A:C4'	49:5:5062:G:H5''	2.48	0.44
51:8:10:G:C6	51:8:11:C:C4	3.04	0.44
1:A:8:GLN:OE1	49:5:3668:C:OP1	2.35	0.44
2:B:2:SER:N	49:5:4517:A:OP2	2.50	0.44
2:B:115:LYS:O	2:B:116:ARG:C	2.61	0.44
5:E:124:HIS:NE2	49:5:1282:G:C8	2.86	0.44
6:F:139:GLU:OE1	50:7:96:U:O2'	2.19	0.44
6:F:238:ARG:HG2	6:F:238:ARG:H	1.68	0.44
7:G:127:ASP:C	7:G:128:VAL:CG2	2.84	0.44
7:G:166:LEU:O	7:G:169:PHE:CE2	2.70	0.44
8:H:93:ARG:HE	8:H:140:GLN:NE2	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:L:79:GLU:OE1	11:L:79:GLU:HA	2.16	0.44
19:T:101:SER:HB2	49:5:1729:A:C2	2.50	0.44
29:d:34:HIS:CD2	49:5:5048:A:C8	3.06	0.44
41:r:32:LEU:CD2	41:r:32:LEU:N	2.72	0.44
41:r:48:THR:O	41:r:102:TYR:CE1	2.70	0.44
41:r:108:MET:HG2	49:5:962:C:H1'	2.00	0.44
49:5:1266:G:C5'	49:5:2112:G:C2	2.99	0.44
49:5:1358:G:C8	49:5:1359:G:OP2	2.71	0.44
49:5:1532:G:C2	49:5:1643:A:C2	3.05	0.44
49:5:1723:A:N1	49:5:1838:A:N1	2.66	0.44
49:5:1760:G:C5	49:5:1761:G:C8	3.06	0.44
49:5:1831:G:C6	49:5:1832:C:C4	3.06	0.44
49:5:2706:G:O2'	49:5:2709:C:N4	2.51	0.44
49:5:2743:A:H2'	49:5:2744:A:C8	2.53	0.44
49:5:3600:G:C6	49:5:3601:C:C4	3.06	0.44
49:5:3705:G:C2	49:5:3706:C:C2	3.06	0.44
49:5:3911:C:C2'	49:5:3912:U:O5'	2.66	0.44
49:5:4904:G:C2	49:5:4905:C:C2	3.06	0.44
2:B:49:TYR:CD1	2:B:171:LEU:HD11	2.53	0.44
2:B:89:ILE:HD12	2:B:153:MET:HE1	2.00	0.44
3:C:271:ALA:O	3:C:272:THR:OG1	2.34	0.44
8:H:48:LEU:HD12	8:H:54:ARG:HD3	1.93	0.44
11:L:78:LEU:HD11	11:L:100:PRO:CB	2.48	0.44
31:f:48:ALA:HB2	31:f:71:TRP:CZ3	2.53	0.44
40:p:39:CYS:SG	40:p:41:PHE:HB2	2.57	0.44
41:r:94:ARG:HB2	41:r:111:ILE:HD11	2.00	0.44
49:5:34:A:C2'	49:5:35:U:O5'	2.65	0.44
49:5:497:G:N1	49:5:657:C:C4	2.86	0.44
49:5:658:C:C2	49:5:659:G:C8	3.06	0.44
49:5:965:G:O2'	49:5:966:A:OP1	2.29	0.44
49:5:1092:G:H2'	49:5:1093:C:O4'	2.17	0.44
49:5:1211:G:H2'	49:5:1212:G:H8	1.81	0.44
49:5:1367:C:N3	49:5:1370:G:H3'	2.32	0.44
49:5:1397:A:O2'	49:5:1398:A:C5'	2.65	0.44
49:5:1404:G:C2	49:5:1405:C:C2	3.06	0.44
49:5:1724:G:C4'	49:5:1725:U:OP2	2.65	0.44
49:5:1938:C:H4'	49:5:1939:A:O5'	2.18	0.44
49:5:1990:A:C4	49:5:1991:A:C1'	3.01	0.44
49:5:2481:G:C2	49:5:2482:C:C2	3.05	0.44
49:5:2582:A:C2	49:5:2682:G:O4'	2.70	0.44
49:5:2623:A:H8	49:5:2623:A:H5''	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2663:G:H21	49:5:2676:A:HO2'	1.64	0.44
49:5:2757:A:H2'	49:5:2758:G:C8	2.52	0.44
49:5:3782:C:N3	49:5:3811:G:C2	2.86	0.44
49:5:4723:A:C2	49:5:4724:A:C4	3.06	0.44
49:5:4898:G:N2	49:5:4923:C:C2	2.85	0.44
49:5:4967:A:N1	49:5:4968:A:C5	2.86	0.44
50:7:92:C:H2'	50:7:93:G:H8	1.81	0.44
1:A:2:GLY:N	49:5:4185:G:OP1	2.51	0.44
4:D:51:MET:HE1	4:D:163:LEU:HA	1.99	0.44
12:M:116:ARG:CB	14:O:196:LEU:HD21	2.48	0.44
19:T:132:PRO:O	19:T:133:ALA:C	2.60	0.44
20:U:102:VAL:HG22	20:U:112:LEU:CD2	2.48	0.44
24:Y:42:TYR:CD1	24:Y:119:LEU:HD23	2.52	0.44
26:a:132:ARG:HB2	49:5:1397:A:OP1	2.17	0.44
30:e:35:TRP:CH2	30:e:55:MET:HG2	2.53	0.44
32:g:54:ARG:NH2	49:5:2653:C:OP1	2.51	0.44
39:o:8:ARG:O	39:o:21:HIS:N	2.47	0.44
42:s:14:PHE:CE2	49:5:1960:A:H2	2.19	0.44
45:z:1704:ASN:O	45:z:1707:LYS:HB2	2.18	0.44
49:5:2:G:C2	49:5:3:C:C2	3.05	0.44
49:5:93:G:C6	49:5:94:A:N1	2.86	0.44
49:5:1070:G:C2	49:5:1071:C:C2	3.06	0.44
49:5:1428:U:H3'	49:5:1429:C:C5	2.52	0.44
49:5:1428:U:H2'	49:5:1429:C:C5	2.52	0.44
49:5:1995:G:C5	49:5:1996:C:C4	3.05	0.44
49:5:2099:G:H2'	49:5:2100:A:O4'	2.18	0.44
49:5:2457:G:C2	49:5:2458:C:C2	3.05	0.44
49:5:3742:G:C2	49:5:3743:G:C8	3.06	0.44
49:5:4308:C:H2'	49:5:4309:G:O4'	2.18	0.44
49:5:4583:C:C4	49:5:4718:G:C6	3.06	0.44
49:5:4891:G:C2	49:5:4929:C:C2	3.06	0.44
49:5:4968:A:C6	49:5:4969:C:C4	3.06	0.44
2:B:202:GLU:O	2:B:203:GLN:NE2	2.49	0.43
4:D:49:TYR:CD2	4:D:142:PHE:CZ	3.06	0.43
6:F:91:LEU:HB2	6:F:199:VAL:CG2	2.47	0.43
6:F:245:LEU:CD2	6:F:249:MET:HE2	2.48	0.43
30:e:81:ASN:OD1	30:e:82:VAL:N	2.52	0.43
31:f:53:ALA:HB3	31:f:68:ARG:NH2	2.33	0.43
48:2:22:G:C2	48:2:23:C:C2	3.06	0.43
49:5:261:G:C6	49:5:262:G:C5	3.06	0.43
49:5:307:A:C5	49:5:308:G:C6	3.05	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:417:G:N2	51:8:16:G:C4	2.86	0.43
49:5:671:G:C6	49:5:672:C:C4	3.06	0.43
49:5:1264:C:HO2'	49:5:2114:G:P	2.41	0.43
49:5:1412:G:C6	49:5:1413:C:C4	3.06	0.43
49:5:1601:A:H2'	49:5:3643:A:C8	2.53	0.43
49:5:1737:A:H2'	49:5:1738:A:O4'	2.18	0.43
49:5:2328:G:C6	49:5:2329:U:C4	3.06	0.43
49:5:2597:G:C2	49:5:2749:C:O2	2.71	0.43
49:5:2683:C:H2'	49:5:2684:C:C6	2.52	0.43
49:5:2698:G:C2	49:5:2699:C:C2	3.06	0.43
49:5:2831:G:C2	49:5:3855:C:C2	3.06	0.43
49:5:4139:G:C2	49:5:4140:C:C2	3.06	0.43
49:5:4453:C:C2'	49:5:4454:G:O5'	2.66	0.43
49:5:4644:G:C2	49:5:4645:C:C2	3.06	0.43
51:8:34:U:O2'	51:8:35:C:O5'	2.35	0.43
51:8:106:G:N1	51:8:107:C:C4	2.86	0.43
2:B:10:ARG:HD3	2:B:11:HIS:N	2.34	0.43
3:C:114:ARG:CZ	49:5:1358:G:O5'	2.66	0.43
8:H:5:LEU:HB2	8:H:60:TRP:CZ3	2.53	0.43
13:N:191:ALA:HA	13:N:194:ARG:NH1	2.33	0.43
14:O:107:GLY:HA2	14:O:157:GLU:OE1	2.17	0.43
14:O:108:ILE:HD11	14:O:113:ASP:HA	2.00	0.43
15:P:10:ASN:OD1	15:P:10:ASN:N	2.51	0.43
18:S:15:ARG:NH2	19:T:141:VAL:HG22	2.33	0.43
22:W:50:ASN:HA	22:W:55:TYR:CD2	2.53	0.43
23:X:140:LEU:HD13	23:X:149:VAL:HG11	2.00	0.43
24:Y:8:THR:HG21	24:Y:13:LYS:HD2	2.01	0.43
42:s:18:ILE:HB	42:s:62:ARG:HH22	1.81	0.43
44:u:101:LYS:O	44:v:310:LEU:HD23	2.18	0.43
49:5:85:G:O2'	49:5:97:G:O6	2.28	0.43
49:5:646:G:H2'	49:5:647:G:O4'	2.17	0.43
49:5:753:C:N3	49:5:754:U:C5	2.86	0.43
49:5:936:C:O2	49:5:936:C:O4'	2.32	0.43
49:5:1466:G:N2	49:5:1467:C:C2	2.86	0.43
49:5:1484:G:N3	49:5:1484:G:C2'	2.81	0.43
49:5:2102:G:C2	49:5:2103:G:C5	3.06	0.43
49:5:2616:C:C2	49:5:2722:G:N2	2.86	0.43
49:5:4207:C:C2	49:5:4226:G:N2	2.86	0.43
49:5:4308:C:O2'	49:5:4338:G:H4'	2.18	0.43
1:A:30:ARG:O	1:A:163:ARG:NH2	2.51	0.43
2:B:146:LEU:HD22	2:B:146:LEU:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:39:PHE:CD1	49:5:2123:C:O3'	2.71	0.43
6:F:244:ARG:HH11	49:5:942:G:P	2.41	0.43
9:I:60:LEU:HD22	9:I:160:PRO:HD2	1.99	0.43
15:P:131:ARG:CD	15:P:137:ASN:ND2	2.81	0.43
24:Y:8:THR:HG23	24:Y:13:LYS:HD2	2.00	0.43
49:5:1245:C:C2	49:5:1246:G:C8	3.07	0.43
49:5:1358:G:N1	49:5:1379:C:O2	2.52	0.43
49:5:1374:G:C6	49:5:1375:C:C4	3.07	0.43
49:5:1378:C:P	49:5:1379:C:H2'	2.59	0.43
49:5:1881:C:O4'	49:5:2281:U:C6	2.71	0.43
49:5:1983:A:C2	49:5:2010:A:C5'	3.00	0.43
49:5:2107:C:O2	49:5:2107:C:O2'	2.35	0.43
49:5:2306:G:N2	49:5:2331:G:O2'	2.52	0.43
49:5:2487:G:C2'	49:5:2488:C:OP1	2.66	0.43
49:5:2620:G:C6	49:5:2621:A:C5	3.06	0.43
49:5:2703:G:H1'	49:5:2714:G:N2	2.33	0.43
49:5:2736:G:C2'	49:5:2737:C:H5'	2.48	0.43
49:5:4661:G:C6	49:5:4662:C:C4	3.06	0.43
49:5:4731:G:H4'	49:5:4732:G:H5'	2.00	0.43
2:B:91:GLY:HA3	2:B:153:MET:HE3	1.99	0.43
2:B:173:LEU:CD1	2:B:342:LYS:CG	2.93	0.43
2:B:375:GLY:HA3	49:5:5002:U:H4'	2.01	0.43
4:D:29:ASP:HA	49:5:4280:A:N1	2.33	0.43
5:E:47:VAL:O	5:E:48:ARG:C	2.60	0.43
6:F:96:ARG:HB2	6:F:116:LEU:HB3	2.01	0.43
6:F:144:TRP:CZ2	6:F:237:ASN:ND2	2.55	0.43
6:F:245:LEU:C	6:F:245:LEU:CD2	2.91	0.43
11:L:35:ARG:HB3	11:L:39:ARG:NH2	2.34	0.43
12:M:31:ILE:HD11	18:S:100:LEU:HD21	2.00	0.43
13:N:135:ILE:HD12	13:N:151:ILE:HD13	2.00	0.43
16:Q:40:ASN:O	16:Q:41:SER:C	2.61	0.43
17:R:99:MET:CE	17:R:128:LYS:HA	2.48	0.43
19:T:19:PHE:O	19:T:20:ARG:HB2	2.17	0.43
19:T:144:ASN:ND2	19:T:144:ASN:N	2.60	0.43
27:b:14:ARG:HA	49:5:1724:G:O6	2.18	0.43
31:f:93:PRO:O	31:f:94:ALA:HB3	2.19	0.43
35:j:19:CYS:SG	35:j:22:CYS:SG	3.17	0.43
47:1:12:TRP:C	47:1:14:PHE:N	2.76	0.43
49:5:22:G:N1	51:8:35:C:C4	2.86	0.43
49:5:270:U:N3	49:5:271:C:C5	2.86	0.43
49:5:964:A:C8	49:5:964:A:C5'	3.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1264:C:C4	49:5:1265:G:N7	2.86	0.43
49:5:1269:G:C4	49:5:2111:G:N1	2.86	0.43
49:5:1293:G:H8	49:5:1293:G:C5'	2.29	0.43
49:5:1296:G:C1'	49:5:1297:U:P	3.06	0.43
49:5:1404:G:C2	49:5:1414:C:N3	2.85	0.43
49:5:1408:G:O2'	49:5:1411:C:N4	2.51	0.43
49:5:1412:G:C2	49:5:1413:C:C2	3.07	0.43
49:5:1485:C:HO2'	49:5:1486:C:P	2.28	0.43
49:5:1506:G:H2'	49:5:1507:C:O4'	2.19	0.43
49:5:1549:G:N2	49:5:1580:C:C2	2.86	0.43
49:5:1808:C:C2	49:5:1831:G:C2	3.07	0.43
49:5:1925:G:C6	49:5:1926:C:C4	3.05	0.43
49:5:2021:G:C2	49:5:2022:C:C2	3.07	0.43
49:5:2446:C:C2	49:5:2515:G:N2	2.87	0.43
49:5:2468:U:C4	49:5:2473:A:N6	2.84	0.43
49:5:2688:G:N1	49:5:2689:C:C4	2.87	0.43
49:5:4189:U:H2'	49:5:4190:U:O4'	2.18	0.43
49:5:4666:G:C6	49:5:4667:C:C4	3.06	0.43
49:5:5028:G:N2	49:5:5029:C:C2	2.87	0.43
1:A:103:PRO:HA	1:A:163:ARG:HA	1.99	0.43
1:A:196:TRP:HZ2	49:5:3652:A:H4'	1.84	0.43
3:C:248:ARG:HG3	3:C:249:PHE:N	2.34	0.43
4:D:35:ARG:HB2	49:5:4325:A:C2	2.53	0.43
4:D:42:ASN:OD1	4:D:42:ASN:N	2.43	0.43
4:D:113:PHE:HE2	4:D:142:PHE:CE2	2.37	0.43
5:E:179:ARG:NE	49:5:4937:C:OP1	2.49	0.43
8:H:47:LEU:HG	8:H:52:LYS:CD	2.36	0.43
10:J:109:ILE:HD13	10:J:115:LEU:HD11	2.00	0.43
13:N:180:PHE:O	13:N:182:HIS:CD2	2.70	0.43
15:P:132:ALA:HB1	49:5:1597:G:C8	2.53	0.43
17:R:18:GLY:O	17:R:19:LYS:HB3	2.18	0.43
41:r:17:LEU:C	41:r:17:LEU:CD2	2.86	0.43
42:s:18:ILE:HG22	42:s:62:ARG:HH12	1.84	0.43
44:u:101:LYS:CA	44:v:310:LEU:CG	2.90	0.43
44:v:407:THR:CG2	45:w:16:SER:OG	2.66	0.43
49:5:468:U:O4	49:5:687:U:O4	2.36	0.43
49:5:747:A:O2'	49:5:748:G:H5'	2.18	0.43
49:5:1248:C:C2	49:5:1249:C:C5	3.06	0.43
49:5:1397:A:H2	49:5:1498:G:N3	2.16	0.43
49:5:1549:G:C2	49:5:1580:C:C2	3.06	0.43
49:5:1682:A:N1	49:5:1683:U:C2	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2385:U:H2'	49:5:2386:U:H6	1.83	0.43
49:5:2547:G:N1	49:5:2548:C:C4	2.87	0.43
49:5:2559:G:C2	49:5:2560:C:C2	3.06	0.43
49:5:2576:G:N2	49:5:2577:C:C2	2.86	0.43
49:5:2909:C:O2	49:5:3586:G:C2	2.71	0.43
49:5:5009:G:H2'	49:5:5010:U:O4'	2.18	0.43
49:5:5016:A:H2'	49:5:5017:G:O4'	2.18	0.43
1:A:40:TYR:CE1	49:5:4117:U:C4	3.07	0.43
4:D:40:ASP:HB2	4:D:43:LYS:HG2	2.01	0.43
4:D:207:TYR:CE1	4:D:211:LEU:CD1	3.02	0.43
6:F:117:ARG:NH1	16:Q:4:ASP:O	2.41	0.43
8:H:64:ARG:NH1	49:5:1949:U:OP1	2.44	0.43
13:N:48:ALA:HB1	13:N:53:TYR:CB	2.48	0.43
21:V:48:ARG:NH2	21:V:49:LEU:HB3	2.33	0.43
25:Z:30:ASP:HA	25:Z:39:SER:HB2	2.01	0.43
30:e:77:PHE:CD2	30:e:88:LEU:HD21	2.54	0.43
30:e:77:PHE:CE2	41:r:25:TYR:CE2	3.06	0.43
33:h:88:THR:O	33:h:89:ARG:C	2.61	0.43
34:i:29:ARG:NH1	34:i:29:ARG:CG	2.73	0.43
34:i:60:LEU:HB3	34:i:69:ALA:HB2	2.01	0.43
45:z:1679:TRP:CZ3	45:z:1705:VAL:CG2	3.02	0.43
49:5:149:A:H8	49:5:149:A:H5'	1.83	0.43
49:5:173:C:N3	49:5:174:C:C5	2.87	0.43
49:5:302:C:N4	49:5:303:C:N4	2.66	0.43
49:5:518:G:C2	49:5:519:C:C2	3.07	0.43
49:5:672:C:C4	49:5:673:C:C5	3.07	0.43
49:5:1066:G:C5	49:5:1067:G:N7	2.86	0.43
49:5:1444:G:C2'	49:5:1445:U:C6	2.97	0.43
49:5:2058:G:C6	49:5:2059:C:C4	3.07	0.43
49:5:2270:G:C6	49:5:2271:C:C4	3.07	0.43
49:5:2614:C:O2	49:5:2726:G:C2	2.72	0.43
49:5:3934:G:C6	49:5:3935:C:C4	3.06	0.43
49:5:4495:G:C2	49:5:4506:C:C2	3.07	0.43
49:5:5001:U:C2'	49:5:5002:U:O5'	2.66	0.43
1:A:150:LEU:HB3	1:A:151:PRO:HD2	1.99	0.43
2:B:80:GLU:OE1	2:B:323:TYR:OH	2.33	0.43
3:C:208:CYS:SG	3:C:230:LEU:HD12	2.58	0.43
3:C:213:GLU:OE1	3:C:213:GLU:N	2.51	0.43
6:F:165:ASN:O	6:F:165:ASN:CG	2.62	0.43
6:F:243:ASN:OD1	6:F:243:ASN:N	2.51	0.43
22:W:49:ILE:HG22	22:W:52:THR:HG23	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:c:49:ALA:HB1	28:c:78:ASN:HB3	1.99	0.43
28:c:90:ARG:NH1	28:c:90:ARG:CG	2.81	0.43
29:d:44:ARG:HA	29:d:44:ARG:HH11	1.83	0.43
31:f:92:LEU:HA	31:f:93:PRO:HD3	1.91	0.43
41:r:61:VAL:HG12	41:r:81:THR:HG23	1.99	0.43
42:s:16:LYS:O	42:s:20:LEU:HB2	2.18	0.43
42:s:57:LYS:HD2	49:5:2020:U:H5'	2.00	0.43
49:5:254:G:C6	49:5:255:C:C4	3.06	0.43
49:5:978:G:OP2	49:5:979:C:OP2	2.36	0.43
49:5:986:C:C4	49:5:1068:G:N1	2.87	0.43
49:5:1049:C:N3	49:5:1050:C:C5	2.86	0.43
49:5:1431:C:C2	49:5:1454:G:C2	3.06	0.43
49:5:1552:G:H2'	49:5:1574:G:N2	2.30	0.43
49:5:1552:G:O2'	49:5:1574:G:N2	2.52	0.43
49:5:1557:C:C2	49:5:1571:G:N2	2.87	0.43
49:5:1607:C:O2	49:5:1607:C:H2'	2.19	0.43
49:5:1864:G:H5'	49:5:1865:G:OP2	2.19	0.43
49:5:1904:G:C2	49:5:2073:C:C2	3.07	0.43
49:5:3857:G:C6	49:5:3858:C:C4	3.06	0.43
49:5:4240:G:C6	49:5:4241:C:C4	3.06	0.43
5:E:46:LEU:HD12	5:E:47:VAL:HG23	2.01	0.43
5:E:122:LEU:HD13	49:5:971:U:N1	2.34	0.43
7:G:167:VAL:O	7:G:171:PRO:HD3	2.19	0.43
10:J:22:LEU:HD21	10:J:130:PHE:CE2	2.54	0.43
11:L:9:ILE:CG1	26:a:34:ASN:OD1	2.66	0.43
11:L:103:ARG:NH2	49:5:75:G:C6	2.87	0.43
14:O:77:SER:HB2	14:O:104:VAL:HG12	1.99	0.43
15:P:33:ALA:O	15:P:36:ILE:HG22	2.19	0.43
18:S:51:LEU:HD12	19:T:151:LEU:HB3	2.01	0.43
25:Z:29:ILE:HG21	25:Z:40:HIS:CE1	2.53	0.43
27:b:14:ARG:NH1	49:5:1878:G:OP2	2.51	0.43
30:e:77:PHE:CE1	41:r:20:ARG:HD2	2.54	0.43
44:v:399:LEU:O	44:v:401:LEU:N	2.51	0.43
49:5:192:G:C2	49:5:250:C:C2	3.06	0.43
49:5:307:A:H3'	49:5:308:G:N2	2.33	0.43
49:5:1245:C:C6	49:5:1269:G:C5	3.06	0.43
49:5:1904:G:N2	49:5:2073:C:C2	2.87	0.43
49:5:1990:A:C6	49:5:1991:A:H1'	2.53	0.43
49:5:2265:G:H1'	49:5:2266:C:OP1	2.19	0.43
49:5:2463:G:C2	49:5:2464:C:C2	3.06	0.43
49:5:2664:G:H2'	49:5:2665:U:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2736:G:O2'	49:5:2737:C:H5'	2.19	0.43
49:5:2841:G:H3'	49:5:2842:G:H5''	2.00	0.43
49:5:4461:C:C2	49:5:4516:G:C2	3.07	0.43
51:8:139:G:C6	51:8:140:C:C4	3.07	0.43
1:A:73:THR:C	1:A:74:GLU:HG2	2.43	0.43
2:B:43:LEU:HD13	2:B:196:TRP:HH2	1.83	0.43
2:B:261:ARG:HD3	2:B:261:ARG:N	2.34	0.43
5:E:90:LYS:N	5:E:91:PRO:HD3	2.34	0.43
7:G:170:LEU:HD23	7:G:174:CYS:SG	2.59	0.43
13:N:49:ARG:CZ	13:N:49:ARG:HB3	2.49	0.43
14:O:196:LEU:CB	14:O:202:LEU:HD22	2.49	0.43
20:U:51:GLY:N	49:5:2631:U:O4	2.51	0.43
20:U:70:ILE:HG22	20:U:71:THR:N	2.34	0.43
21:V:38:TYR:CE2	21:V:40:ILE:HG22	2.53	0.43
40:p:41:PHE:CE1	40:p:62:LYS:HD2	2.54	0.43
42:s:15:LEU:HA	42:s:18:ILE:HG21	1.94	0.43
49:5:22:G:C2	51:8:35:C:C4	3.06	0.43
49:5:167:C:N3	49:5:269:G:C2	2.86	0.43
49:5:199:G:C2	49:5:201:C:C2	3.07	0.43
49:5:247:G:C2	49:5:248:C:C2	3.06	0.43
49:5:479:G:N1	49:5:480:C:C4	2.87	0.43
49:5:754:U:N3	49:5:755:C:C5	2.87	0.43
49:5:956:A:H4'	49:5:957:G:OP2	2.19	0.43
49:5:1398:A:OP1	49:5:1398:A:H2'	2.19	0.43
49:5:1447:C:H2'	49:5:1448:G:C8	2.54	0.43
49:5:1925:G:C2	49:5:1926:C:C2	3.07	0.43
49:5:1991:A:H62	49:5:2002:A:H3'	1.83	0.43
49:5:2294:G:N1	49:5:2295:C:C4	2.86	0.43
49:5:2457:G:N2	49:5:3672:G:N2	2.61	0.43
49:5:2492:C:H2'	49:5:2493:G:O4'	2.19	0.43
49:5:2525:U:P	49:5:2711:G:H1	2.42	0.43
49:5:3698:G:N2	49:5:3699:C:C2	2.87	0.43
49:5:3870:C:C2	49:5:3886:G:N2	2.86	0.43
49:5:4095:G:N2	49:5:4096:C:N4	2.66	0.43
49:5:4147:G:C2	49:5:4148:C:C2	3.06	0.43
49:5:4646:U:H6	49:5:4646:U:H5''	1.83	0.43
49:5:4978:G:O2'	49:5:4981:G:N1	2.49	0.43
49:5:5061:A:O4'	49:5:5062:G:H5''	2.19	0.43
1:A:27:ALA:O	1:A:128:ARG:NH2	2.48	0.43
1:A:33:ASP:O	1:A:35:ALA:N	2.52	0.43
2:B:348:ARG:NE	2:B:351:LEU:HD23	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:262:GLU:HB3	3:C:273:LEU:HD22	2.01	0.43
4:D:176:SER:HB3	49:5:4323:A:H4'	2.01	0.43
4:D:199:ILE:HG22	4:D:200:LEU:HD23	2.01	0.43
5:E:43:ASN:HD21	49:5:977:C:C5'	2.32	0.43
12:M:70:GLN:C	12:M:73:VAL:HG12	2.44	0.43
18:S:36:ASN:HD21	18:S:39:VAL:HG13	1.83	0.43
18:S:106:VAL:O	18:S:109:CYS:HB3	2.18	0.43
31:f:24:HIS:HA	31:f:91:ASN:OD1	2.19	0.43
45:z:1702:LYS:HB3	45:z:1702:LYS:HE2	1.71	0.43
49:5:746:A:N1	49:5:916:C:OP2	2.52	0.43
49:5:989:U:H2'	49:5:990:C:C5	2.54	0.43
49:5:1074:G:N2	49:5:1238:A:C2	2.86	0.43
49:5:1262:G:N1	49:5:1263:A:C5	2.86	0.43
49:5:1439:C:O2	49:5:1439:C:O4'	2.36	0.43
49:5:1448:G:C6	49:5:1449:C:N4	2.87	0.43
49:5:1761:G:C2	49:5:1762:C:C2	3.06	0.43
49:5:1806:G:N1	49:5:1807:C:C4	2.87	0.43
49:5:2034:G:C6	49:5:2035:C:C4	3.06	0.43
49:5:2576:G:C6	49:5:2577:C:C4	3.07	0.43
49:5:2586:G:C8	49:5:2587:A:C5	3.07	0.43
49:5:2623:A:H5''	49:5:2623:A:C8	2.53	0.43
49:5:3590:G:C2	49:5:3591:C:C2	3.07	0.43
49:5:4473:A:C2	49:5:4482:U:N3	2.85	0.43
49:5:4618:G:C2	49:5:4619:U:C6	3.07	0.43
49:5:4989:U:O2	49:5:4989:U:O4'	2.37	0.43
50:7:47:G:H2'	50:7:48:G:O4'	2.18	0.43
1:A:131:GLY:HA3	49:5:3683:C:C4	2.54	0.42
2:B:254:ILE:HG22	2:B:255:GLY:N	2.34	0.42
3:C:114:ARG:NH2	49:5:1358:G:O5'	2.51	0.42
3:C:332:ALA:HA	3:C:335:MET:HB2	2.01	0.42
6:F:110:VAL:CG2	6:F:137:ILE:HD12	2.34	0.42
8:H:117:PHE:C	8:H:117:PHE:CD1	2.97	0.42
17:R:11:ALA:HB1	17:R:50:ILE:HD13	2.01	0.42
26:a:75:LEU:HB3	26:a:117:LEU:HD13	2.01	0.42
34:i:4:ARG:NH2	49:5:1481:C:N3	2.66	0.42
34:i:33:LEU:HD13	34:i:34:THR:O	2.19	0.42
49:5:189:G:C2	49:5:190:G:C5	3.07	0.42
49:5:978:G:O3'	49:5:978:G:O5'	2.37	0.42
49:5:1302:U:C2	49:5:1303:A:C8	3.07	0.42
49:5:1725:U:C6	49:5:1725:U:H5''	2.53	0.42
49:5:1899:G:N1	49:5:1900:C:C4	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2270:G:C2	49:5:2271:C:C2	3.07	0.42
49:5:2275:G:H5''	49:5:2275:G:C8	2.53	0.42
49:5:4154:G:C2	49:5:4155:C:C2	3.07	0.42
49:5:4172:A:C2	49:5:4173:G:C5	3.07	0.42
49:5:4399:U:H2'	49:5:4400:G:O4'	2.18	0.42
49:5:5032:C:N4	49:5:5033:G:C6	2.87	0.42
51:8:112:G:N2	51:8:113:C:C2	2.87	0.42
1:A:234:LYS:HG2	1:A:238:ILE:HD12	2.01	0.42
2:B:176:LYS:HB3	49:5:4990:C:N4	2.35	0.42
3:C:32:ILE:HD13	3:C:129:ALA:HB3	2.02	0.42
3:C:180:ILE:HD11	3:C:227:ILE:HD11	2.00	0.42
3:C:323:ARG:NH2	49:5:1280:C:C1'	2.83	0.42
4:D:57:ASN:HB2	50:7:27:G:OP2	2.19	0.42
6:F:39:PHE:CG	49:5:2124:G:P	3.12	0.42
6:F:127:LEU:HD13	6:F:127:LEU:HA	1.75	0.42
9:I:11:TYR:O	9:I:13:LYS:N	2.53	0.42
12:M:70:GLN:HA	12:M:73:VAL:CG1	2.47	0.42
18:S:96:GLU:OE2	18:S:138:ARG:N	2.52	0.42
19:T:87:LYS:HZ3	49:5:4301:U:P	2.42	0.42
30:e:77:PHE:HD2	30:e:88:LEU:HD21	1.84	0.42
35:j:66:HIS:CD2	51:8:40:A:H4'	2.54	0.42
40:p:17:ARG:NH2	49:5:1577:G:OP1	2.51	0.42
43:t:117:ARG:O	43:t:119:ARG:N	2.52	0.42
49:5:298:G:C2	49:5:299:C:C2	3.07	0.42
49:5:504:G:C2	49:5:505:G:C5	3.07	0.42
49:5:752:G:C5	49:5:753:C:C5	3.08	0.42
49:5:917:A:C5	49:5:919:C:N4	2.87	0.42
49:5:1075:G:C2	49:5:1076:C:C4	3.07	0.42
49:5:4095:G:N2	49:5:4096:C:C4	2.87	0.42
49:5:4260:U:H2'	49:5:4261:C:H6	1.82	0.42
49:5:4311:A:O2'	49:5:4312:U:H5'	2.19	0.42
49:5:4904:G:C6	49:5:4905:C:C4	3.07	0.42
49:5:4939:C:O2	49:5:4939:C:H2'	2.19	0.42
51:8:56:G:C2	51:8:57:C:C2	3.07	0.42
2:B:56:ILE:HG22	2:B:74:GLU:HB3	2.00	0.42
3:C:74:ALA:HB1	3:C:76:ILE:HD11	2.00	0.42
3:C:317:ASN:HD22	3:C:317:ASN:H	1.66	0.42
8:H:47:LEU:HD23	8:H:52:LYS:CE	2.49	0.42
8:H:109:GLY:O	8:H:111:LEU:N	2.53	0.42
12:M:26:ALA:N	12:M:39:ASP:O	2.52	0.42
13:N:104:GLU:OE2	13:N:161:MET:HE1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:c:45:LEU:HD12	28:c:46:VAL:H	1.84	0.42
29:d:23:ARG:HG3	29:d:25:TYR:HE1	1.84	0.42
40:p:39:CYS:O	40:p:41:PHE:N	2.53	0.42
42:s:135:THR:HG22	42:s:152:ILE:HG23	2.01	0.42
44:u:101:LYS:CB	44:v:310:LEU:HD21	2.49	0.42
48:2:15:G:H2'	48:2:59:A:N1	2.34	0.42
49:5:269:G:C6	49:5:270:U:C5	3.07	0.42
49:5:488:G:C2	49:5:489:C:C6	3.07	0.42
49:5:661:C:C4	49:5:662:C:C5	3.08	0.42
49:5:721:G:C2	49:5:948:C:C2	3.07	0.42
49:5:1066:G:N1	49:5:1067:G:C5	2.87	0.42
49:5:1448:G:C2	49:5:2097:U:C4	3.07	0.42
49:5:1604:G:H2'	49:5:1605:G:C8	2.54	0.42
49:5:1862:U:H2'	49:5:1863:U:C6	2.54	0.42
49:5:1965:G:C2	49:5:1966:C:C2	3.07	0.42
49:5:2833:A:H5''	49:5:2833:A:H8	1.85	0.42
49:5:3611:A:C2	49:5:5016:A:C8	3.07	0.42
49:5:4142:C:C4	49:5:4143:G:C6	3.06	0.42
49:5:4423:U:O5'	49:5:4423:U:O2	2.37	0.42
49:5:4966:A:C2	49:5:5067:U:N3	2.86	0.42
50:7:27:G:C2	50:7:28:C:C2	3.07	0.42
50:7:93:G:C2	50:7:94:C:C2	3.07	0.42
1:A:209:HIS:CE1	1:A:235:VAL:HG11	2.54	0.42
3:C:33:ARG:NH1	49:5:1351:G:OP1	2.53	0.42
3:C:80:ARG:HH11	3:C:80:ARG:HG2	1.82	0.42
5:E:55:ARG:HH11	49:5:976:G:H5'	1.85	0.42
5:E:91:PRO:HB3	5:E:103:VAL:O	2.19	0.42
7:G:83:PHE:CE1	7:G:171:PRO:HG2	2.55	0.42
9:I:76:MET:O	9:I:79:SER:OG	2.38	0.42
10:J:33:LEU:O	10:J:33:LEU:HD23	2.19	0.42
19:T:108:ARG:HD2	19:T:130:ARG:HD2	2.01	0.42
30:e:35:TRP:CE2	30:e:56:PRO:HD2	2.54	0.42
30:e:47:ARG:O	30:e:47:ARG:CG	2.67	0.42
31:f:30:ILE:HB	31:f:33:VAL:CG1	2.50	0.42
39:o:32:SER:O	39:o:33:LEU:CB	2.67	0.42
43:t:162:CYS:N	43:t:163:PRO:CD	2.82	0.42
47:1:15:TYR:CE2	49:5:4555:U:C2	3.08	0.42
49:5:93:G:N1	49:5:94:A:C2	2.86	0.42
49:5:196:C:N3	49:5:246:G:C2	2.87	0.42
49:5:230:G:H2'	49:5:231:U:O4'	2.19	0.42
49:5:405:U:H5''	49:5:406:C:OP2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:454:U:H4'	49:5:455:C:C5'	2.49	0.42
49:5:1846:G:C6	49:5:1847:C:C4	3.08	0.42
49:5:2122:G:O2'	49:5:2123:C:P	2.77	0.42
49:5:2478:C:H2'	49:5:2479:G:C8	2.55	0.42
49:5:2597:G:C2	49:5:2749:C:C2	3.08	0.42
49:5:2898:G:C2	49:5:3602:C:C2	3.08	0.42
49:5:3648:A:H1'	49:5:3785:A:N6	2.35	0.42
49:5:3921:U:OP2	49:5:4183:G:O2'	2.37	0.42
49:5:4076:G:H8	49:5:4076:G:OP1	2.01	0.42
49:5:4178:A:H2'	49:5:4179:G:C8	2.54	0.42
49:5:4281:A:N1	49:5:4283:G:C4	2.87	0.42
2:B:173:LEU:CD1	2:B:342:LYS:CD	2.84	0.42
4:D:282:GLN:CD	49:5:1177:U:H1'	2.45	0.42
9:I:87:MET:HE2	9:I:87:MET:HB3	1.96	0.42
9:I:152:LEU:HB3	9:I:165:ILE:HG12	2.01	0.42
10:J:15:LEU:HD21	10:J:134:LEU:HD13	2.01	0.42
13:N:60:VAL:HG12	13:N:61:ILE:N	2.34	0.42
13:N:179:LYS:HB2	13:N:180:PHE:CD1	2.54	0.42
17:R:95:TRP:CZ2	17:R:99:MET:HE1	2.54	0.42
26:a:40:HIS:HA	49:5:1681:G:H21	1.83	0.42
49:5:192:G:N2	49:5:250:C:C2	2.87	0.42
49:5:259:C:C4	49:5:260:C:C5	3.06	0.42
49:5:1240:G:N7	49:5:1271:G:H4'	2.35	0.42
49:5:1265:G:O2'	49:5:2112:G:H3'	2.18	0.42
49:5:1455:G:O2'	49:5:1456:C:OP1	2.30	0.42
49:5:1506:G:C6	49:5:1507:C:C4	3.07	0.42
49:5:1818:G:HO2'	49:5:1819:G:P	2.37	0.42
49:5:1954:U:H2'	49:5:1955:G:O4'	2.19	0.42
49:5:2693:G:C6	49:5:2694:G:C6	3.07	0.42
49:5:4283:G:C2	49:5:4284:C:C2	3.08	0.42
49:5:4336:A:C5'	49:5:4337:C:O5'	2.68	0.42
49:5:4735:G:C6	49:5:4736:C:C5	3.08	0.42
5:E:122:LEU:O	5:E:123:SER:CB	2.67	0.42
6:F:60:HIS:HA	49:5:944:A:N7	2.34	0.42
6:F:85:VAL:HG22	18:S:62:VAL:HA	2.01	0.42
7:G:180:PRO:CA	7:G:227:ASN:HD21	2.30	0.42
21:V:35:LYS:CB	21:V:67:LYS:O	2.66	0.42
27:b:12:GLN:NE2	49:5:1671:U:H1'	2.34	0.42
29:d:83:ARG:NH1	49:5:4997:G:OP1	2.52	0.42
30:e:54:LEU:N	30:e:54:LEU:HD12	2.34	0.42
42:s:10:LYS:HE2	49:5:1961:G:OP1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:s:18:ILE:HB	42:s:62:ARG:CZ	2.49	0.42
43:t:81:ILE:HD11	43:t:113:ALA:HB1	2.00	0.42
44:u:101:LYS:O	44:v:310:LEU:N	2.52	0.42
49:5:923:C:H2'	49:5:924:C:O4'	2.19	0.42
49:5:1213:G:C2	49:5:1215:C:C2	3.07	0.42
49:5:1380:G:O2'	49:5:1381:U:O5'	2.37	0.42
49:5:1412:G:N1	49:5:1413:C:C4	2.87	0.42
49:5:1427:A:OP2	49:5:1428:U:C4	2.72	0.42
49:5:1819:G:H2'	49:5:1819:G:N3	2.35	0.42
49:5:2090:U:O4	49:5:2263:A:N1	2.52	0.42
49:5:2770:C:C4	49:5:2771:G:N7	2.88	0.42
49:5:3891:A:H2'	49:5:3892:U:O4'	2.19	0.42
49:5:4083:U:H2'	49:5:4084:G:H3'	2.00	0.42
49:5:4287:G:H2'	49:5:4288:C:C6	2.54	0.42
49:5:4303:C:H2'	49:5:4305:G:C8	2.55	0.42
49:5:4438:U:C2'	49:5:4439:U:O5'	2.67	0.42
49:5:4453:C:H2'	49:5:4454:G:O5'	2.20	0.42
4:D:207:TYR:CE1	50:7:33:U:C6	3.08	0.42
5:E:151:GLY:HA2	49:5:4942:C:H5''	2.01	0.42
6:F:110:VAL:CG2	49:5:1725:U:O2'	2.67	0.42
11:L:39:ARG:NH1	49:5:1363:C:OP2	2.53	0.42
12:M:73:VAL:CG1	12:M:74:ARG:N	2.82	0.42
13:N:200:LEU:HD22	13:N:204:ARG:CZ	2.49	0.42
26:a:72:THR:CG2	26:a:112:LEU:HD11	2.48	0.42
42:s:13:TYR:CD1	42:s:13:TYR:C	2.96	0.42
49:5:677:G:C6	49:5:678:C:N4	2.88	0.42
49:5:931:C:C6	49:5:932:A:N7	2.87	0.42
49:5:931:C:H3'	49:5:931:C:O2	2.20	0.42
49:5:984:C:C2	49:5:1070:G:N2	2.88	0.42
49:5:1085:C:O2	49:5:1213:G:C2	2.73	0.42
49:5:1275:G:C2	49:5:1276:C:C2	3.07	0.42
49:5:1400:G:C2	49:5:1418:C:C2	3.08	0.42
49:5:1456:C:H6	49:5:1456:C:H5''	1.83	0.42
49:5:1910:G:N1	49:5:1911:C:C4	2.88	0.42
49:5:2050:G:C6	49:5:2051:C:C4	3.08	0.42
49:5:3700:C:O2'	49:5:3774:A:N3	2.43	0.42
49:5:4121:G:C8	49:5:4121:G:H5'	2.54	0.42
49:5:4283:G:C6	49:5:4284:C:N4	2.87	0.42
49:5:4283:G:C6	49:5:4284:C:C4	3.08	0.42
49:5:4455:G:C6	49:5:4456:C:C4	3.07	0.42
49:5:4635:A:H3'	49:5:4636:U:H4'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:8:56:G:C6	51:8:57:C:C4	3.07	0.42
1:A:42:LYS:HG2	1:A:43:GLY:N	2.35	0.42
1:A:122:ASP:OD1	1:A:122:ASP:C	2.62	0.42
3:C:307:LYS:NZ	49:5:2087:C:H4'	2.34	0.42
12:M:47:ARG:O	18:S:73:LEU:HD22	2.19	0.42
12:M:56:GLN:HB2	49:5:4871:C:N3	2.35	0.42
13:N:22:LEU:HD23	13:N:22:LEU:HA	1.96	0.42
13:N:114:ARG:HD2	13:N:137:PRO:HG3	2.01	0.42
18:S:111:ARG:HD3	49:5:2061:U:O2	2.20	0.42
19:T:57:TYR:O	19:T:58:HIS:C	2.62	0.42
23:X:86:ALA:O	23:X:89:LYS:HB3	2.20	0.42
23:X:124:VAL:HG22	23:X:138:VAL:HG22	2.01	0.42
28:c:49:ALA:HB1	28:c:78:ASN:CA	2.50	0.42
33:h:104:THR:O	33:h:106:LYS:N	2.53	0.42
49:5:208:A:H3'	49:5:209:U:H5''	2.00	0.42
49:5:708:G:H1	49:5:1289:C:N4	2.17	0.42
49:5:747:A:C2	49:5:918:G:O6	2.72	0.42
49:5:1177:U:C2	49:5:1178:G:N7	2.88	0.42
49:5:1398:A:H61	49:5:1419:G:C2'	2.33	0.42
49:5:1964:A:N1	49:5:4694:G:C5	2.88	0.42
49:5:1964:A:C5	49:5:1965:G:C8	3.08	0.42
49:5:2579:G:C2	49:5:2583:C:C2	3.08	0.42
49:5:2855:G:H1'	49:5:2857:A:N6	2.34	0.42
49:5:2873:U:H2'	49:5:2875:C:C5	2.55	0.42
49:5:4131:G:C6	49:5:4132:C:C4	3.08	0.42
49:5:4199:C:O5'	49:5:4199:C:C6	2.73	0.42
49:5:4872:G:O2'	49:5:4873:G:OP1	2.37	0.42
49:5:4885:U:H2'	49:5:4886:C:O4'	2.20	0.42
49:5:5059:C:H2'	49:5:5060:A:O4'	2.20	0.42
51:8:71:A:C6	51:8:83:C:H1'	2.54	0.42
51:8:75:G:N2	51:8:76:C:C2	2.88	0.42
1:A:117:GLU:HB2	1:A:162:ASN:HB2	2.01	0.42
1:A:179:ILE:HD11	49:5:2739:C:C4	2.55	0.42
6:F:63:TYR:OH	6:F:194:HIS:HA	2.20	0.42
6:F:213:PHE:N	6:F:213:PHE:CD1	2.88	0.42
10:J:25:CYS:O	10:J:25:CYS:SG	2.78	0.42
11:L:8:MET:CE	16:Q:168:ARG:HA	2.50	0.42
14:O:15:LEU:HA	14:O:42:ASN:O	2.20	0.42
14:O:80:PHE:O	14:O:83:THR:HG22	2.20	0.42
39:o:44:LYS:NZ	49:5:43:U:O2	2.53	0.42
40:p:57:CYS:SG	40:p:60:CYS:N	2.91	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:351:C:C2	51:8:25:G:N2	2.88	0.42
49:5:368:C:C2	49:5:374:G:C2	3.08	0.42
49:5:497:G:H4'	49:5:498:C:OP2	2.19	0.42
49:5:677:G:C2	49:5:678:C:C2	3.07	0.42
49:5:730:G:C2	49:5:939:G:N2	2.87	0.42
49:5:747:A:C2	49:5:749:G:H1'	2.55	0.42
49:5:1210:C:O2	49:5:1210:C:H2'	2.19	0.42
49:5:1249:C:C4	49:5:1250:C:C5	3.08	0.42
49:5:1275:G:C6	49:5:1276:C:C4	3.08	0.42
49:5:1447:C:O2	49:5:2098:G:C2	2.73	0.42
49:5:1602:U:O2	49:5:1602:U:H2'	2.20	0.42
49:5:1774:C:C2	49:5:1775:A:C8	3.07	0.42
49:5:2264:C:O2'	49:5:2265:G:P	2.78	0.42
49:5:2503:G:H3'	49:5:2504:C:C4'	2.50	0.42
49:5:2519:U:H1'	49:5:2520:C:C6	2.55	0.42
49:5:2769:U:O2'	49:5:2770:C:C6	2.73	0.42
49:5:3918:G:N1	49:5:3919:C:C2	2.88	0.42
49:5:4129:G:C2	49:5:4130:C:C2	3.07	0.42
49:5:4627:U:O2	49:5:4627:U:H2'	2.18	0.42
49:5:5028:G:C2	49:5:5029:C:N3	2.88	0.42
51:8:10:G:C2	51:8:11:C:C2	3.08	0.42
5:E:157:ARG:CD	5:E:266:TYR:CZ	3.03	0.42
8:H:54:ARG:HH11	8:H:54:ARG:CG	2.14	0.42
8:H:93:ARG:HH12	38:m:82:LEU:HG	1.85	0.42
8:H:95:VAL:HG22	38:m:82:LEU:CD2	2.50	0.42
12:M:98:ARG:CG	12:M:98:ARG:NH2	2.72	0.42
13:N:30:TYR:CZ	13:N:63:ARG:HD2	2.54	0.42
18:S:49:SER:O	50:7:75:G:H5''	2.20	0.42
49:5:22:G:C6	51:8:35:C:N4	2.88	0.42
49:5:121:A:N3	49:5:121:A:H2'	2.34	0.42
49:5:190:G:C2	49:5:252:C:O2	2.73	0.42
49:5:230:G:C2	49:5:239:C:C2	3.07	0.42
49:5:450:G:C6	49:5:1295:C:C4	3.08	0.42
49:5:664:G:N2	49:5:667:A:N1	2.68	0.42
49:5:1380:G:C2	49:5:1382:G:C4	3.08	0.42
49:5:1383:G:C6	49:5:1384:C:C4	3.08	0.42
49:5:1394:G:H2'	49:5:1395:U:C6	2.55	0.42
49:5:1419:G:H4'	49:5:1420:A:OP1	2.19	0.42
49:5:1775:A:H2'	49:5:1776:A:O4'	2.20	0.42
49:5:1991:A:C5	49:5:1992:U:N3	2.88	0.42
49:5:2396:A:N6	49:5:2814:C:N3	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2645:G:C6	49:5:2646:C:C4	3.08	0.42
49:5:2872:C:O2'	49:5:3824:A:H5'	2.20	0.42
49:5:3642:A:OP1	49:5:3644:U:OP1	2.37	0.42
49:5:4175:G:C6	49:5:4176:C:C4	3.08	0.42
49:5:4408:G:C2	49:5:4409:C:C2	3.08	0.42
49:5:4411:G:C6	49:5:4412:C:C4	3.07	0.42
49:5:4473:A:C2	49:5:4474:A:C4	3.08	0.42
49:5:4698:C:O2	49:5:4698:C:H2'	2.20	0.42
49:5:4717:A:H2'	49:5:4718:G:O4'	2.20	0.42
51:8:106:G:H2'	51:8:107:C:O5'	2.20	0.42
1:A:182:ALA:HB3	49:5:1613:A:C5	2.55	0.41
5:E:91:PRO:HA	5:E:105:LEU:HD22	2.02	0.41
5:E:170:LEU:HD11	5:E:213:PHE:CZ	2.55	0.41
6:F:67:TYR:CZ	49:5:945:U:C5	3.08	0.41
6:F:137:ILE:O	6:F:137:ILE:HG12	2.20	0.41
9:I:31:ILE:HG23	9:I:31:ILE:O	2.21	0.41
11:L:150:LEU:HD13	33:h:121:VAL:HG22	2.02	0.41
13:N:180:PHE:O	13:N:182:HIS:N	2.47	0.41
15:P:41:ILE:HD12	15:P:150:LEU:HD13	2.01	0.41
17:R:107:ARG:HB3	17:R:107:ARG:HH11	1.84	0.41
22:W:44:ARG:HD3	49:5:3615:G:H1'	2.01	0.41
29:d:28:ASN:OD1	29:d:31:LYS:HG3	2.20	0.41
33:h:94:ARG:NH2	49:5:135:G:N3	2.67	0.41
35:j:34:CYS:SG	35:j:35:GLY:N	2.93	0.41
35:j:72:ARG:NH2	51:8:94:G:OP2	2.53	0.41
48:2:56:C:O2	48:2:56:C:H2'	2.20	0.41
49:5:29:G:C6	49:5:30:C:C4	3.07	0.41
49:5:112:C:O2	49:5:330:G:C2	2.73	0.41
49:5:169:G:C2	49:5:170:C:C2	3.07	0.41
49:5:689:U:C2	49:5:690:C:C6	3.08	0.41
49:5:747:A:C2	49:5:918:G:C6	3.08	0.41
49:5:1169:G:C2	49:5:1193:C:O2	2.73	0.41
49:5:1212:G:C2	49:5:1213:G:C5	3.08	0.41
49:5:1247:U:C2	49:5:1248:C:C6	3.07	0.41
49:5:1912:G:C6	49:5:1913:C:N4	2.88	0.41
49:5:2297:G:C2	49:5:2338:C:N3	2.88	0.41
49:5:2457:G:C6	49:5:2458:C:C4	3.08	0.41
49:5:2769:U:OP1	49:5:2770:C:OP1	2.38	0.41
49:5:2779:C:O2'	51:8:112:G:OP1	2.23	0.41
49:5:3611:A:H2	49:5:5016:A:C8	2.37	0.41
49:5:4411:G:N2	49:5:4412:C:C2	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4518:A:H4'	49:5:4519:C:H5'	2.02	0.41
49:5:4966:A:H2'	49:5:4967:A:C8	2.55	0.41
50:7:110:G:C2	50:7:111:C:C2	3.08	0.41
4:D:56:THR:HG22	4:D:57:ASN:N	2.35	0.41
5:E:39:HIS:CE1	49:5:1068:G:O6	2.72	0.41
6:F:90:LYS:O	6:F:127:LEU:N	2.50	0.41
9:I:39:LYS:O	9:I:41:ALA:N	2.53	0.41
11:L:81:LEU:HD23	11:L:81:LEU:HA	1.74	0.41
13:N:41:ARG:C	13:N:61:ILE:HD11	2.45	0.41
28:c:92:CYS:O	28:c:92:CYS:SG	2.78	0.41
30:e:118:LEU:CD1	30:e:120:ILE:HD12	2.49	0.41
32:g:20:THR:HB	32:g:32:TYR:CD1	2.55	0.41
36:k:22:SER:HA	36:k:65:ALA:CB	2.49	0.41
41:r:53:PRO:HB3	41:r:117:ILE:HD12	2.02	0.41
48:2:2:G:C6	48:2:3:C:C4	3.07	0.41
49:5:52:G:C6	49:5:53:C:C4	3.09	0.41
49:5:977:C:H2'	49:5:978:G:C8	2.54	0.41
49:5:1485:C:C4	49:5:4349:C:C2	3.07	0.41
49:5:1655:C:C2'	49:5:1656:U:H5''	2.49	0.41
49:5:1855:G:C6	49:5:1856:C:C4	3.08	0.41
49:5:1970:A:H4'	49:5:2000:G:C8	2.55	0.41
49:5:2428:A:C5	49:5:2789:A:C2	3.07	0.41
49:5:2712:G:C6	49:5:2713:C:C4	3.08	0.41
49:5:2723:U:H2'	49:5:2724:G:C8	2.55	0.41
49:5:2736:G:N1	49:5:2737:C:C4	2.88	0.41
49:5:4348:A:C6	49:5:4350:C:C4	3.08	0.41
5:E:246:GLN:NE2	5:E:246:GLN:HA	2.35	0.41
6:F:39:PHE:CE2	49:5:2123:C:O3'	2.74	0.41
7:G:136:LEU:HD21	7:G:204:PHE:CE1	2.55	0.41
13:N:99:GLN:HG3	13:N:130:PHE:CD1	2.55	0.41
14:O:69:GLY:O	14:O:70:PRO:C	2.63	0.41
14:O:118:MET:HE2	18:S:169:THR:HA	2.02	0.41
18:S:30:MET:HE2	18:S:30:MET:HB3	1.91	0.41
18:S:30:MET:HE1	18:S:47:PHE:CB	2.50	0.41
19:T:14:MET:HE3	19:T:58:HIS:HB3	2.02	0.41
31:f:14:TYR:CD2	31:f:23:GLU:HA	2.56	0.41
49:5:139:G:H2'	49:5:140:G:O4'	2.20	0.41
49:5:199:G:C2	49:5:201:C:N3	2.88	0.41
49:5:451:C:N4	49:5:1295:C:H2'	2.35	0.41
49:5:457:G:C2	49:5:458:C:C6	3.09	0.41
49:5:499:G:C2	49:5:656:C:N3	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:1075:G:H2'	49:5:1076:C:H6	1.84	0.41
49:5:1499:C:C2'	49:5:1500:A:O5'	2.69	0.41
49:5:1806:G:C2	49:5:1807:C:C2	3.07	0.41
49:5:2099:G:C2	49:5:2100:A:C8	3.08	0.41
49:5:2339:G:C6	49:5:2340:C:C4	3.08	0.41
49:5:2693:G:C6	49:5:2694:G:C2	3.07	0.41
49:5:2715:G:C2	49:5:2716:C:C2	3.07	0.41
49:5:3786:U:H5'	49:5:3786:U:H6	1.86	0.41
49:5:4068:U:C2	49:5:4069:U:H1'	2.54	0.41
49:5:4408:G:C6	49:5:4409:C:C4	3.08	0.41
51:8:134:G:C2	51:8:135:C:C2	3.08	0.41
1:A:49:ILE:HG23	1:A:50:HIS:N	2.36	0.41
2:B:8:ALA:HB1	2:B:9:PRO:HD2	2.02	0.41
3:C:154:VAL:HG11	3:C:158:VAL:HG21	2.02	0.41
3:C:218:ILE:HG22	3:C:229:LEU:HG	2.02	0.41
5:E:39:HIS:O	49:5:979:C:H5''	2.20	0.41
26:a:74:ASN:ND2	26:a:114:LYS:HD3	2.35	0.41
28:c:51:ASN:C	28:c:51:ASN:HD22	2.29	0.41
30:e:103:VAL:O	30:e:128:ARG:NH2	2.43	0.41
49:5:80:C:C2	49:5:104:G:N2	2.88	0.41
49:5:654:C:O2	49:5:654:C:C2'	2.68	0.41
49:5:953:C:H2'	49:5:954:C:C6	2.56	0.41
49:5:961:G:N3	49:5:961:G:H2'	2.35	0.41
49:5:1167:C:O2	49:5:1195:G:C2	2.74	0.41
49:5:1360:G:C6	49:5:1361:G:C5	3.08	0.41
49:5:1983:A:N7	49:5:1987:C:H5'	2.35	0.41
49:5:2288:G:C2	49:5:2290:C:C4	3.08	0.41
49:5:2323:C:H2'	49:5:2324:C:O4'	2.20	0.41
49:5:2569:G:H2'	49:5:2570:U:O4'	2.20	0.41
49:5:4745:G:N2	49:5:4746:C:N4	2.68	0.41
49:5:4958:C:H2'	49:5:4959:U:OP1	2.20	0.41
51:8:2:G:H2'	51:8:2:G:N3	2.36	0.41
1:A:198:ARG:NH2	49:5:3687:A:OP2	2.53	0.41
6:F:146:TYR:CE2	6:F:239:GLU:HB3	2.54	0.41
6:F:218:PRO:HB2	6:F:248:ARG:HD3	2.01	0.41
11:L:113:ASN:HD22	11:L:113:ASN:HA	1.70	0.41
14:O:151:ALA:O	14:O:155:THR:HG23	2.21	0.41
20:U:27:HIS:N	20:U:28:PRO:HD2	2.35	0.41
24:Y:87:ARG:HH21	24:Y:87:ARG:HG3	1.86	0.41
26:a:75:LEU:HD11	26:a:133:ALA:HA	2.01	0.41
37:l:20:ASN:O	37:l:21:ARG:C	2.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:m:88:LYS:HA	38:m:92:ASP:OD2	2.21	0.41
39:o:36:GLN:HE21	39:o:36:GLN:CA	2.33	0.41
42:s:64:ALA:O	42:s:68:HIS:ND1	2.54	0.41
49:5:674:G:C2	49:5:675:C:C2	3.07	0.41
49:5:1079:C:C4	49:5:1080:C:C5	3.08	0.41
49:5:1190:C:N3	49:5:1191:C:C5	2.89	0.41
49:5:1274:A:O4'	49:5:1274:A:OP1	2.38	0.41
49:5:1427:A:O5'	49:5:1428:U:C5	2.73	0.41
49:5:2335:C:O2'	49:5:2336:G:H5'	2.20	0.41
49:5:2367:A:C8	49:5:2798:A:C5	3.08	0.41
49:5:2436:U:H4'	49:5:2437:C:OP2	2.20	0.41
49:5:4480:A:C6	49:5:4481:U:C6	3.08	0.41
49:5:4595:G:C2	49:5:4596:C:C2	3.08	0.41
51:8:68:G:H2'	51:8:69:U:O4'	2.21	0.41
3:C:86:ARG:HD3	49:5:376:A:OP1	2.20	0.41
5:E:58:MET:HG2	49:5:977:C:O5'	2.20	0.41
12:M:46:ARG:NH2	49:5:936:C:C2'	2.83	0.41
19:T:20:ARG:HH11	19:T:20:ARG:HG3	1.85	0.41
20:U:33:ILE:HD12	20:U:96:LEU:HD22	2.01	0.41
33:h:103:LYS:HB2	33:h:108:GLN:CG	2.50	0.41
49:5:2:G:C6	49:5:3:C:C4	3.08	0.41
49:5:917:A:N1	49:5:919:C:C5	2.89	0.41
49:5:1293:G:C5'	49:5:1293:G:C8	3.04	0.41
49:5:1506:G:C2	49:5:1507:C:C2	3.09	0.41
49:5:1556:C:O2'	49:5:2669:C:OP1	2.34	0.41
49:5:2076:G:C6	49:5:2077:C:C4	3.09	0.41
49:5:2468:U:C4	49:5:2473:A:C6	3.08	0.41
49:5:2639:U:H2'	49:5:2694:G:N1	2.35	0.41
49:5:2712:G:C2	49:5:2713:C:C2	3.09	0.41
49:5:3717:A:H1'	49:5:4178:A:O2'	2.20	0.41
49:5:4453:C:C6	49:5:4453:C:H3'	2.56	0.41
49:5:4627:U:C2	49:5:4628:U:C6	3.08	0.41
51:8:60:G:O6	51:8:96:C:O2'	2.29	0.41
7:G:81:ASN:OD1	7:G:238:GLY:N	2.54	0.41
7:G:141:ASN:OD1	13:N:3:ALA:HB3	2.20	0.41
7:G:167:VAL:O	7:G:167:VAL:HG12	2.21	0.41
16:Q:68:ARG:NH2	49:5:1501:C:C6	2.89	0.41
18:S:92:ASN:OD1	18:S:92:ASN:N	2.53	0.41
21:V:98:PHE:O	21:V:99:GLU:HB3	2.21	0.41
25:Z:52:LYS:O	25:Z:65:ARG:NH2	2.46	0.41
37:l:13:LEU:HD22	49:5:2407:G:H2'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:o:45:GLN:HE22	39:o:51:GLN:HG3	1.85	0.41
45:z:1644:ILE:HD11	45:z:1709:PHE:CE2	2.47	0.41
48:2:50:U:O2	48:2:50:U:H2'	2.21	0.41
49:5:258:G:N2	49:5:259:C:C2	2.89	0.41
49:5:1296:G:N2	49:5:1297:U:C2	2.89	0.41
49:5:1446:C:N3	49:5:2099:G:N2	2.69	0.41
49:5:1691:G:C6	49:5:1692:C:C4	3.08	0.41
49:5:1719:A:O2'	49:5:1720:C:C6	2.73	0.41
49:5:1725:U:O2	49:5:1725:U:H2'	2.21	0.41
49:5:2065:G:C2	49:5:2066:C:C2	3.08	0.41
49:5:2391:G:C2	49:5:2392:C:C2	3.08	0.41
49:5:2479:G:N1	49:5:2480:G:C5	2.89	0.41
49:5:2586:G:N7	49:5:2587:A:N1	2.68	0.41
49:5:2630:U:O2'	49:5:2632:U:H4'	2.21	0.41
49:5:2851:G:C4	49:5:2852:U:C6	3.08	0.41
49:5:2851:G:C5	49:5:2852:U:C5	3.09	0.41
49:5:3777:G:N2	49:5:3815:G:H2'	2.36	0.41
49:5:3782:C:C2	49:5:3811:G:C2	3.09	0.41
49:5:3800:A:C2	49:5:4496:A:O4'	2.74	0.41
49:5:4585:U:C3'	49:5:4586:G:H5''	2.50	0.41
1:A:222:PRO:HA	49:5:3749:C:O4'	2.21	0.41
2:B:117:ARG:CZ	2:B:177:LYS:HD3	2.51	0.41
3:C:61:GLN:HE21	3:C:61:GLN:HB2	1.58	0.41
4:D:33:ARG:HH11	4:D:37:VAL:HG11	1.86	0.41
18:S:90:THR:C	18:S:91:HIS:ND1	2.79	0.41
21:V:20:LEU:HD13	21:V:26:ILE:HG21	2.03	0.41
28:c:90:ARG:H	28:c:90:ARG:HG2	1.71	0.41
32:g:46:CYS:HB2	32:g:86:CYS:SG	2.60	0.41
34:i:85:ARG:HH11	34:i:85:ARG:HG3	1.85	0.41
49:5:252:C:H2'	49:5:253:G:O4'	2.21	0.41
49:5:479:G:C6	49:5:480:C:C4	3.09	0.41
49:5:744:G:C2	49:5:921:C:C2	3.09	0.41
49:5:963:G:O2'	49:5:964:A:C8	2.71	0.41
49:5:985:C:C2	49:5:1069:G:C2	3.08	0.41
49:5:2463:G:C6	49:5:2464:C:N4	2.89	0.41
49:5:2466:G:O5'	49:5:2466:G:H8	2.04	0.41
49:5:2769:U:C2	49:5:2770:C:C4	3.09	0.41
49:5:2857:A:H2'	49:5:2858:A:C8	2.55	0.41
49:5:4129:G:C6	49:5:4130:C:C4	3.08	0.41
49:5:4145:C:C2	49:5:4146:G:C8	3.09	0.41
49:5:4277:G:O2'	49:5:4282:A:N1	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4281:A:O2'	49:5:4282:A:C8	2.74	0.41
49:5:4689:U:O4	49:5:4699:U:H5	2.03	0.41
51:8:31:G:C2	51:8:32:C:C2	3.08	0.41
51:8:31:G:C6	51:8:32:C:C4	3.09	0.41
51:8:63:U:O2	51:8:63:U:H2'	2.20	0.41
51:8:152:U:H2'	51:8:153:C:O4'	2.21	0.41
1:A:41:ILE:HD12	1:A:41:ILE:HA	1.92	0.41
1:A:209:HIS:CG	1:A:210:PRO:HD2	2.56	0.41
2:B:29:VAL:HG23	2:B:346:THR:HG21	2.02	0.41
2:B:43:LEU:HD13	2:B:196:TRP:CH2	2.56	0.41
2:B:56:ILE:HG12	2:B:365:LEU:HD22	2.03	0.41
2:B:303:ALA:HB3	2:B:312:LYS:HB2	2.02	0.41
3:C:30:ALA:HB1	3:C:31:PRO:HD2	2.02	0.41
3:C:340:ILE:HG21	5:E:46:LEU:HD11	2.02	0.41
4:D:83:LEU:N	4:D:84:PRO:HD2	2.36	0.41
4:D:123:VAL:HA	4:D:248:ARG:HH21	1.86	0.41
5:E:212:TYR:C	5:E:212:TYR:HD1	2.29	0.41
6:F:155:LEU:HB3	6:F:213:PHE:HE2	1.86	0.41
9:I:9:TYR:CD2	9:I:97:ILE:HG13	2.56	0.41
9:I:9:TYR:N	9:I:9:TYR:CD1	2.89	0.41
10:J:89:VAL:HG21	10:J:115:LEU:CD2	2.51	0.41
13:N:164:LEU:O	13:N:169:ARG:NH2	2.54	0.41
13:N:190:ALA:HA	13:N:193:ARG:NE	2.35	0.41
15:P:110:ASP:OD1	15:P:110:ASP:N	2.45	0.41
16:Q:152:PHE:N	16:Q:152:PHE:CD1	2.89	0.41
19:T:41:ASP:OD1	19:T:97:LYS:HB2	2.19	0.41
25:Z:73:LYS:NZ	49:5:2581:A:OP1	2.53	0.41
26:a:2:PRO:HB2	26:a:5:LEU:HG	2.02	0.41
26:a:58:MET:SD	49:5:4352:U:H1'	2.60	0.41
29:d:36:VAL:HG11	29:d:44:ARG:HG2	2.02	0.41
33:h:28:LEU:HD22	33:h:32:ARG:HE	1.84	0.41
38:m:122:ARG:HE	49:5:4424:A:H5'	1.85	0.41
39:o:105:GLN:N	39:o:105:GLN:OE1	2.54	0.41
41:r:32:LEU:O	41:r:33:LYS:CB	2.68	0.41
41:r:98:ARG:HD3	49:5:2251:G:H22	1.86	0.41
42:s:14:PHE:O	42:s:17:ILE:HG22	2.21	0.41
44:u:101:LYS:C	44:v:310:LEU:HG	2.46	0.41
49:5:115:C:O2	49:5:115:C:O4'	2.35	0.41
49:5:211:G:H5'	49:5:234:G:O2'	2.20	0.41
49:5:448:G:C3'	49:5:449:C:H4'	2.51	0.41
49:5:463:A:N1	49:5:692:A:N1	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:517:C:C2	49:5:645:G:N2	2.89	0.41
49:5:752:G:C5	49:5:753:C:C6	3.09	0.41
49:5:931:C:O2'	49:5:932:A:P	2.79	0.41
49:5:975:C:H3'	49:5:976:G:O4'	2.21	0.41
49:5:1329:G:C2	49:5:3865:A:H1'	2.55	0.41
49:5:1384:C:O2	49:5:1505:C:H4'	2.20	0.41
49:5:1806:G:C6	49:5:1807:C:C4	3.09	0.41
49:5:1984:A:N7	49:5:2011:C:H4'	2.35	0.41
49:5:1986:U:O2	49:5:2007:G:C6	2.73	0.41
49:5:2480:G:C2	49:5:2499:C:C2	3.09	0.41
49:5:2546:G:O2'	49:5:2547:G:H5'	2.20	0.41
49:5:2576:G:C2	49:5:2577:C:C2	3.09	0.41
49:5:2623:A:C2	49:5:2624:G:C6	3.09	0.41
49:5:2669:C:O2'	49:5:2670:C:O5'	2.38	0.41
49:5:2703:G:C2	49:5:2704:C:C2	3.09	0.41
49:5:2827:G:N3	49:5:2827:G:C2'	2.82	0.41
49:5:3593:C:C4'	49:5:3594:C:OP2	2.64	0.41
49:5:3867:A:C6	49:5:3868:G:C6	3.09	0.41
49:5:3918:G:C2	49:5:3919:C:C2	3.09	0.41
49:5:4470:G:N2	49:5:4486:C:C2	2.89	0.41
49:5:4543:G:H8	49:5:4543:G:O5'	2.04	0.41
49:5:4594:U:C2	49:5:4595:G:C8	3.08	0.41
1:A:3:ARG:HB2	1:A:207:VAL:HG23	2.03	0.41
6:F:105:PRO:HB3	49:5:1724:G:N3	2.36	0.41
7:G:182:CYS:HA	7:G:226:TYR:CD2	2.56	0.41
8:H:41:ILE:CG2	8:H:43:VAL:HG22	2.51	0.41
10:J:31:ASP:OD1	10:J:35:ARG:NH2	2.54	0.41
14:O:27:VAL:HG13	14:O:98:ALA:O	2.21	0.41
14:O:42:ASN:HD21	14:O:125:LYS:HB2	1.86	0.41
22:W:13:ILE:HD11	22:W:32:LEU:N	2.36	0.41
26:a:97:ALA:O	26:a:98:ALA:HB3	2.21	0.41
35:j:70:VAL:HG11	51:8:35:C:H5'	2.02	0.41
43:t:30:PRO:O	43:t:31:LYS:C	2.64	0.41
44:u:101:LYS:CB	44:v:310:LEU:CD2	2.98	0.41
49:5:172:C:O4'	49:5:172:C:OP2	2.39	0.41
49:5:215:C:C5	49:5:219:G:C8	3.09	0.41
49:5:328:A:C6	49:5:329:A:C6	3.08	0.41
49:5:918:G:N3	49:5:918:G:C2'	2.83	0.41
49:5:1169:G:C2	49:5:1193:C:C2	3.09	0.41
49:5:1197:C:H2'	49:5:1198:G:O4'	2.21	0.41
49:5:1910:G:C6	49:5:1911:C:N4	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2314:G:H2'	49:5:2314:G:N3	2.36	0.41
49:5:2586:G:N7	49:5:2587:A:C2	2.89	0.41
49:5:2690:C:C2	49:5:2691:U:C6	3.09	0.41
49:5:2796:G:H2'	49:5:2796:G:O5'	2.21	0.41
49:5:2814:C:O2	49:5:2814:C:O2'	2.30	0.41
49:5:2826:U:H4'	49:5:2827:G:H5'	2.02	0.41
49:5:3927:U:O2	49:5:3927:U:H2'	2.21	0.41
49:5:4448:G:O2'	49:5:4449:A:OP2	2.35	0.41
49:5:4474:A:C8	49:5:4476:C:C2	3.09	0.41
49:5:4735:G:H2'	49:5:4736:C:O4'	2.21	0.41
51:8:112:G:C6	51:8:113:C:C4	3.09	0.41
1:A:130:SER:OG	49:5:3683:C:O2'	2.36	0.40
3:C:22:VAL:HG11	3:C:257:PHE:CD2	2.55	0.40
3:C:89:GLN:HA	49:5:2353:U:OP1	2.21	0.40
3:C:341:LEU:HD22	5:E:46:LEU:HD21	2.01	0.40
9:I:86:HIS:HB3	9:I:139:ARG:CG	2.51	0.40
11:L:37:LYS:NZ	49:5:1366:G:OP2	2.52	0.40
21:V:15:ARG:HB2	21:V:15:ARG:HH11	1.82	0.40
23:X:119:ILE:HA	23:X:144:TYR:CE2	2.56	0.40
29:d:124:GLU:HG2	45:z:1627:LYS:HE3	2.02	0.40
43:t:115:GLN:HE21	43:t:162:CYS:HA	1.87	0.40
49:5:168:C:C2	49:5:268:G:C2	3.09	0.40
49:5:176:G:H2'	49:5:177:G:O4'	2.21	0.40
49:5:199:G:C2	49:5:220:C:C2	3.09	0.40
49:5:457:G:C2	49:5:458:C:C5	3.09	0.40
49:5:713:C:N4	49:5:955:G:H1	2.19	0.40
49:5:1074:G:N2	49:5:1075:G:C2	2.88	0.40
49:5:1247:U:N3	49:5:1248:C:C5	2.89	0.40
49:5:1249:C:C2	49:5:1262:G:N2	2.90	0.40
49:5:1262:G:C2	49:5:1263:A:C8	3.08	0.40
49:5:1307:A:H2'	49:5:1308:C:O4'	2.21	0.40
49:5:1349:G:C6	49:5:1350:C:C4	3.09	0.40
49:5:2301:G:N2	49:5:2302:C:C2	2.90	0.40
49:5:2336:G:C2	49:5:2337:C:C2	3.09	0.40
49:5:2532:C:O2	49:5:2532:C:H2'	2.21	0.40
49:5:2612:G:H2'	49:5:2613:C:O4'	2.21	0.40
49:5:2682:G:C2	49:5:2683:C:C2	3.10	0.40
49:5:3695:U:H2'	49:5:3696:C:O4'	2.21	0.40
49:5:3909:C:O2	49:5:4396:A:N1	2.54	0.40
49:5:3912:U:C2'	49:5:3913:G:H5'	2.50	0.40
49:5:4154:G:C6	49:5:4155:C:C4	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:4591:U:H2'	49:5:4592:C:C6	2.56	0.40
49:5:4899:G:C2	49:5:4922:C:O2	2.74	0.40
50:7:11:A:N1	50:7:66:G:O2'	2.53	0.40
1:A:66:PRO:O	1:A:67:TYR:CG	2.75	0.40
3:C:193:LYS:C	3:C:195:LYS:N	2.79	0.40
9:I:26:VAL:HG21	9:I:96:VAL:HG21	2.04	0.40
21:V:107:ASN:O	21:V:110:GLY:N	2.55	0.40
28:c:29:LEU:HD22	28:c:91:VAL:HG21	2.03	0.40
30:e:78:LEU:HD21	30:e:100:ALA:HA	2.02	0.40
33:h:94:ARG:NH2	49:5:135:G:C2	2.90	0.40
35:j:8:PHE:O	49:5:2792:C:H1'	2.21	0.40
35:j:9:GLY:HA3	49:5:2800:G:C1'	2.43	0.40
43:t:107:ASP:OD1	43:t:143:VAL:HG22	2.21	0.40
49:5:212:A:H2'	49:5:213:G:C8	2.56	0.40
49:5:269:G:H2'	49:5:269:G:N3	2.35	0.40
49:5:448:G:H3'	49:5:449:C:H4'	2.02	0.40
49:5:451:C:C4	49:5:1295:C:H2'	2.56	0.40
49:5:453:G:H2'	49:5:453:G:N3	2.35	0.40
49:5:1215:C:N3	49:5:1216:C:C6	2.89	0.40
49:5:1269:G:N7	49:5:2111:G:C6	2.88	0.40
49:5:1398:A:H61	49:5:1419:G:H2'	1.86	0.40
49:5:1440:U:H2'	49:5:1441:C:C6	2.56	0.40
49:5:1479:G:O2'	49:5:1480:C:H5'	2.20	0.40
49:5:1482:G:HO2'	49:5:1483:C:P	2.43	0.40
49:5:1771:U:N3	49:5:1772:C:C5	2.89	0.40
49:5:2089:G:O2'	49:5:2090:U:OP1	2.40	0.40
49:5:2495:U:N3	49:5:2496:G:N7	2.69	0.40
49:5:2520:C:H2'	49:5:2521:G:H8	1.84	0.40
49:5:2534:C:H2'	49:5:2535:G:O4'	2.20	0.40
49:5:2606:G:C2	49:5:2607:C:C2	3.10	0.40
49:5:2618:G:C2	49:5:2720:C:C2	3.10	0.40
49:5:2750:G:H2'	49:5:2751:G:O4'	2.21	0.40
49:5:3726:A:N6	49:5:4359:U:O2'	2.54	0.40
49:5:4152:G:C2	49:5:4153:C:C2	3.10	0.40
49:5:4217:G:H2'	49:5:4218:U:O4'	2.21	0.40
49:5:4490:C:C2	49:5:4491:G:C8	3.09	0.40
49:5:4735:G:N1	49:5:4736:C:C4	2.90	0.40
1:A:37:ARG:NH1	49:5:4088:C:OP1	2.55	0.40
1:A:49:ILE:HG22	1:A:58:LEU:HB2	2.03	0.40
1:A:94:ALA:HB3	1:A:102:LEU:HD22	2.03	0.40
2:B:92:TYR:HB2	2:B:159:VAL:HB	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:133:LEU:HD22	3:C:136:LEU:HD12	2.04	0.40
5:E:171:VAL:C	5:E:172:THR:HG1	2.29	0.40
6:F:57:LYS:O	6:F:60:HIS:HB3	2.22	0.40
10:J:141:ILE:HG23	10:J:149:GLY:N	2.37	0.40
11:L:182:LEU:HA	34:i:7:MET:CE	2.52	0.40
12:M:27:ILE:HD11	12:M:55:MET:HE2	2.02	0.40
12:M:29:ASP:OD1	12:M:30:VAL:N	2.55	0.40
13:N:49:ARG:CZ	13:N:49:ARG:CB	2.99	0.40
14:O:133:ARG:NH1	49:5:1928:C:C4	2.89	0.40
16:Q:22:ASP:OD1	16:Q:22:ASP:C	2.64	0.40
16:Q:41:SER:HB3	16:Q:132:LYS:HB3	2.03	0.40
17:R:6:LEU:HD13	17:R:10:LEU:HD23	2.03	0.40
18:S:66:GLN:HG2	18:S:67:VAL:N	2.36	0.40
19:T:100:LYS:O	19:T:101:SER:C	2.65	0.40
20:U:81:ARG:NH2	49:5:2622:G:O6	2.55	0.40
33:h:78:TYR:CE1	49:5:16:G:H4'	2.56	0.40
49:5:169:G:C6	49:5:170:C:C4	3.10	0.40
49:5:199:G:C2	49:5:201:C:C4	3.09	0.40
49:5:214:G:C6	49:5:215:C:C4	3.09	0.40
49:5:292:G:O2'	49:5:293:G:H5'	2.21	0.40
49:5:1065:G:C6	49:5:1066:G:C6	3.09	0.40
49:5:1234:G:C2	49:5:1235:G:C4	3.09	0.40
49:5:1266:G:C2'	49:5:1267:C:O5'	2.70	0.40
49:5:1359:G:C6	49:5:1360:G:C6	3.09	0.40
49:5:1382:G:C2	49:5:1383:G:C5	3.09	0.40
49:5:2362:U:O2	49:5:2362:U:H2'	2.22	0.40
49:5:2463:G:C6	49:5:2464:C:C4	3.09	0.40
49:5:2542:G:C2	49:5:2775:C:C2	3.09	0.40
49:5:2547:G:N3	49:5:2547:G:H2'	2.36	0.40
49:5:2908:U:N3	49:5:2909:C:C5	2.89	0.40
49:5:3864:C:O2'	49:5:3866:C:OP2	2.36	0.40
49:5:4209:G:H2'	49:5:4210:U:O4'	2.21	0.40
49:5:4350:C:H2'	49:5:4350:C:O2	2.21	0.40
49:5:4719:G:O2'	49:5:4720:C:O5'	2.36	0.40
2:B:258:HIS:O	2:B:259:PRO:C	2.63	0.40
3:C:133:LEU:HD12	3:C:133:LEU:N	2.36	0.40
3:C:219:LYS:CG	49:5:224:U:O2	2.70	0.40
4:D:23:ARG:O	4:D:23:ARG:NE	2.54	0.40
8:H:61:TRP:HZ2	18:S:152:PHE:CD2	2.39	0.40
8:H:88:PHE:HE2	8:H:151:ILE:HD12	1.86	0.40
12:M:104:MET:HE2	14:O:199:HIS:CB	2.50	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:O:7:LEU:CD1	18:S:167:PHE:CE2	3.04	0.40
20:U:91:LEU:HD23	20:U:96:LEU:HD12	2.03	0.40
21:V:12:ALA:HB1	49:5:4617:G:H1'	2.02	0.40
25:Z:106:LEU:HD12	25:Z:106:LEU:H	1.87	0.40
30:e:77:PHE:HD1	30:e:78:LEU:N	2.20	0.40
38:m:116:GLY:O	38:m:117:HIS:C	2.64	0.40
44:v:408:MET:H	44:v:408:MET:HG2	1.69	0.40
49:5:106:A:H1'	49:5:336:A:N7	2.36	0.40
49:5:216:C:O4'	49:5:216:C:P	2.80	0.40
49:5:351:C:C2	51:8:25:G:C2	3.10	0.40
49:5:459:C:H2'	49:5:460:C:O4'	2.21	0.40
49:5:733:A:C8	49:5:734:G:C8	3.09	0.40
49:5:746:A:H4'	49:5:747:A:OP1	2.21	0.40
49:5:965:G:H2'	49:5:965:G:N3	2.35	0.40
49:5:1085:C:H2'	49:5:1086:C:O4'	2.21	0.40
49:5:1250:C:C2	49:5:1261:G:N2	2.89	0.40
49:5:1279:A:C2	49:5:1280:C:N3	2.90	0.40
49:5:1826:G:C2	49:5:1827:C:C2	3.08	0.40
49:5:2315:G:C2	49:5:2325:C:C2	3.09	0.40
49:5:2511:A:C8	49:5:2514:G:C6	3.10	0.40
49:5:2594:C:C2	49:5:2752:G:C2	3.09	0.40
49:5:4131:G:C2	49:5:4132:C:C2	3.09	0.40
49:5:4561:C:C2	49:5:4562:C:C5	3.09	0.40
49:5:4566:U:H2'	49:5:4567:G:O4'	2.21	0.40
49:5:4966:A:C2'	49:5:4967:A:O4'	2.67	0.40
49:5:5001:U:H2'	49:5:5002:U:O5'	2.22	0.40
51:8:46:G:N1	51:8:47:C:C4	2.90	0.40
51:8:81:C:H2'	51:8:82:A:O3'	2.20	0.40
1:A:82:ILE:HD11	1:A:99:GLY:HA3	2.02	0.40
5:E:39:HIS:CE1	49:5:1069:G:O6	2.66	0.40
16:Q:83:VAL:HG12	16:Q:83:VAL:O	2.22	0.40
19:T:83:LYS:HG3	19:T:85:LEU:HD21	2.03	0.40
20:U:69:LYS:HB2	20:U:69:LYS:HZ2	1.87	0.40
26:a:58:MET:HE2	49:5:1391:A:N3	2.37	0.40
31:f:46:ARG:CD	31:f:71:TRP:CE3	3.05	0.40
40:p:26:VAL:O	40:p:30:GLU:HB2	2.22	0.40
49:5:167:C:N1	49:5:269:G:N2	2.70	0.40
49:5:247:G:C6	49:5:248:C:C4	3.09	0.40
49:5:1200:G:C6	49:5:1201:U:C4	3.09	0.40
49:5:1485:C:N4	49:5:4349:C:C2	2.90	0.40
49:5:1840:G:H3'	49:5:1842:G:P	2.61	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:5:2089:G:O2'	49:5:2090:U:C2	2.67	0.40
49:5:2270:G:H2'	49:5:2271:C:O4'	2.21	0.40
49:5:2273:G:C2	49:5:2274:C:C2	3.09	0.40
49:5:2316:G:C2	49:5:2317:C:C2	3.10	0.40
49:5:2486:G:H2'	49:5:2487:G:O4'	2.22	0.40
49:5:2666:U:C2	49:5:2669:C:C4	3.10	0.40
49:5:2703:G:C6	49:5:2704:C:C4	3.09	0.40
49:5:2771:G:C5	49:5:2772:C:C5	3.09	0.40
49:5:3723:A:N1	49:5:3724:A:C6	2.90	0.40
49:5:3753:G:H1	49:5:3771:C:H5	1.70	0.40
49:5:4158:C:O2	49:5:4158:C:H2'	2.20	0.40
49:5:4614:G:C2	49:5:4615:C:C2	3.10	0.40
49:5:4890:G:C2	49:5:4930:C:O2	2.74	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	242/257 (94%)	203 (84%)	28 (12%)	11 (4%)	2	17
2	B	392/395 (99%)	342 (87%)	44 (11%)	6 (2%)	8	37
3	C	365/368 (99%)	315 (86%)	43 (12%)	7 (2%)	6	33
4	D	290/297 (98%)	266 (92%)	18 (6%)	6 (2%)	5	31
5	E	232/284 (82%)	176 (76%)	39 (17%)	17 (7%)	1	10
6	F	223/250 (89%)	203 (91%)	16 (7%)	4 (2%)	6	34
7	G	239/266 (90%)	196 (82%)	36 (15%)	7 (3%)	3	26
8	H	188/192 (98%)	164 (87%)	17 (9%)	7 (4%)	2	21
9	I	200/214 (94%)	171 (86%)	22 (11%)	7 (4%)	3	23
10	J	168/178 (94%)	143 (85%)	17 (10%)	8 (5%)	2	16

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	L	208/211 (99%)	174 (84%)	22 (11%)	12 (6%)	1	13
12	M	136/213 (64%)	118 (87%)	16 (12%)	2 (2%)	8	37
13	N	201/204 (98%)	172 (86%)	28 (14%)	1 (0%)	24	57
14	O	197/204 (97%)	173 (88%)	23 (12%)	1 (0%)	24	57
15	P	151/184 (82%)	133 (88%)	17 (11%)	1 (1%)	18	51
16	Q	185/188 (98%)	161 (87%)	22 (12%)	2 (1%)	11	43
17	R	178/196 (91%)	160 (90%)	14 (8%)	4 (2%)	5	30
18	S	173/224 (77%)	153 (88%)	16 (9%)	4 (2%)	5	30
19	T	157/160 (98%)	136 (87%)	19 (12%)	2 (1%)	9	39
20	U	97/128 (76%)	84 (87%)	9 (9%)	4 (4%)	2	19
21	V	129/140 (92%)	112 (87%)	16 (12%)	1 (1%)	16	49
22	W	61/157 (39%)	55 (90%)	5 (8%)	1 (2%)	7	36
23	X	117/156 (75%)	105 (90%)	11 (9%)	1 (1%)	14	46
24	Y	132/145 (91%)	121 (92%)	9 (7%)	2 (2%)	8	37
25	Z	133/136 (98%)	115 (86%)	13 (10%)	5 (4%)	2	21
26	a	145/148 (98%)	118 (81%)	20 (14%)	7 (5%)	2	16
27	b	73/160 (46%)	68 (93%)	4 (6%)	1 (1%)	9	38
28	c	92/115 (80%)	86 (94%)	5 (5%)	1 (1%)	11	43
29	d	105/125 (84%)	93 (89%)	9 (9%)	3 (3%)	3	26
30	e	126/135 (93%)	113 (90%)	11 (9%)	2 (2%)	7	36
31	f	107/110 (97%)	93 (87%)	10 (9%)	4 (4%)	2	21
32	g	112/117 (96%)	98 (88%)	12 (11%)	2 (2%)	6	34
33	h	120/123 (98%)	103 (86%)	16 (13%)	1 (1%)	16	49
34	i	100/105 (95%)	92 (92%)	5 (5%)	3 (3%)	3	25
35	j	84/97 (87%)	70 (83%)	12 (14%)	2 (2%)	4	29
36	k	67/70 (96%)	56 (84%)	8 (12%)	3 (4%)	2	17
37	l	48/51 (94%)	38 (79%)	8 (17%)	2 (4%)	2	19
38	m	50/128 (39%)	45 (90%)	3 (6%)	2 (4%)	2	20
39	o	102/106 (96%)	88 (86%)	11 (11%)	3 (3%)	3	26
40	p	89/92 (97%)	74 (83%)	13 (15%)	2 (2%)	5	30
41	r	123/137 (90%)	102 (83%)	18 (15%)	3 (2%)	4	29

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
42	s	196/317 (62%)	159 (81%)	22 (11%)	15 (8%)	1	9
43	t	161/165 (98%)	93 (58%)	39 (24%)	29 (18%)	0	1
44	u	128/501 (26%)	88 (69%)	30 (23%)	10 (8%)	1	8
44	v	130/501 (26%)	125 (96%)	3 (2%)	2 (2%)	8	37
45	o	34/1766 (2%)	29 (85%)	3 (9%)	2 (6%)	1	13
45	w	13/1766 (1%)	13 (100%)	0	0	100	100
45	z	120/1766 (7%)	106 (88%)	10 (8%)	4 (3%)	3	24
47	l	13/104 (12%)	9 (69%)	1 (8%)	3 (23%)	0	0
All	All	7132/14052 (51%)	6110 (86%)	793 (11%)	229 (3%)	5	24

All (229) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	34	PHE
1	A	195	CYS
2	B	18	PRO
3	C	273	LEU
5	E	91	PRO
5	E	92	VAL
5	E	123	SER
5	E	174	PRO
5	E	175	LEU
5	E	221	PRO
7	G	128	VAL
7	G	161	VAL
8	H	40	HIS
8	H	105	ILE
8	H	110	SER
9	I	12	CYS
9	I	99	ILE
9	I	204	GLY
10	J	155	HIS
11	L	64	VAL
11	L	67	HIS
11	L	134	PRO
18	S	88	SER
18	S	165	PRO
23	X	131	ASP
25	Z	33	THR

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Mol	Chain	Res	Type
25	Z	34	SER
25	Z	84	ARG
26	a	52	TYR
26	a	92	LYS
28	c	19	GLN
29	d	94	GLU
30	e	92	ASN
31	f	80	ASN
31	f	107	PRO
32	g	69	LYS
32	g	84	ALA
35	j	36	LYS
36	k	61	PRO
39	o	32	SER
41	r	107	ARG
42	s	69	LEU
42	s	111	ALA
42	s	201	PRO
43	t	5	PHE
43	t	9	GLU
43	t	30	PRO
43	t	31	LYS
43	t	39	PRO
43	t	53	TRP
43	t	89	PRO
43	t	106	PHE
43	t	147	HIS
43	t	148	PRO
44	u	78	PRO
44	u	90	ILE
44	u	100	PRO
44	u	101	LYS
44	u	105	PRO
44	u	132	ILE
44	v	404	ASN
45	z	1638	THR
45	z	1643	ASP
45	0	1743	SER
45	0	1762	ARG
47	1	13	ARG
47	1	14	PHE
1	A	20	VAL

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Mol	Chain	Res	Type
3	C	16	GLU
3	C	73	VAL
3	C	194	GLY
3	C	195	LYS
3	C	275	SER
4	D	125	VAL
4	D	129	GLU
4	D	187	SER
5	E	95	ASP
5	E	118	PRO
5	E	151	GLY
5	E	234	GLU
6	F	148	ASN
7	G	45	ILE
9	I	187	LYS
10	J	124	GLY
10	J	152	GLY
11	L	47	ALA
11	L	143	GLU
12	M	89	THR
16	Q	14	ARG
17	R	19	LYS
17	R	130	ASN
19	T	44	GLY
20	U	97	ARG
20	U	98	ASP
26	a	4	ARG
29	d	58	GLY
29	d	116	ASN
31	f	79	GLY
33	h	10	ARG
34	i	9	VAL
36	k	22	SER
41	r	67	ARG
41	r	86	ALA
42	s	63	LYS
42	s	105	ASN
42	s	108	PRO
42	s	109	ALA
43	t	2	PRO
43	t	10	ILE
43	t	40	LYS

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Mol	Chain	Res	Type
43	t	58	ILE
43	t	118	HIS
43	t	122	ALA
43	t	144	ASP
44	u	63	VAL
44	u	118	SER
45	z	1653	PRO
1	A	14	SER
1	A	67	TYR
1	A	130	SER
1	A	226	ARG
2	B	257	TRP
2	B	329	ASP
4	D	260	GLU
4	D	293	ARG
5	E	85	LEU
5	E	96	LYS
5	E	232	GLU
8	H	104	VAL
9	I	47	PRO
9	I	177	ASN
10	J	11	PRO
10	J	141	ILE
11	L	5	ARG
11	L	52	SER
11	L	176	PHE
17	R	36	ASN
20	U	67	LYS
22	W	43	LYS
24	Y	93	THR
35	j	21	ARG
37	l	49	LEU
38	m	107	ALA
40	p	41	PHE
42	s	34	ASN
42	s	57	LYS
42	s	93	GLU
42	s	185	PHE
43	t	54	LYS
43	t	119	ARG
1	A	127	ALA
1	A	180	LEU

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Mol	Chain	Res	Type
2	B	123	HIS
3	C	309	ILE
5	E	115	GLU
5	E	218	LEU
5	E	224	GLN
5	E	229	PHE
7	G	125	LYS
8	H	22	GLY
8	H	108	ASN
8	H	140	GLN
10	J	150	CYS
11	L	172	GLU
16	Q	41	SER
18	S	155	PRO
24	Y	63	LYS
25	Z	55	ALA
26	a	91	ALA
30	e	127	ALA
34	i	3	LEU
34	i	11	LEU
37	l	47	THR
39	o	99	ARG
40	p	8	VAL
42	s	73	PRO
42	s	142	GLY
43	t	7	PRO
43	t	18	THR
43	t	28	LEU
43	t	105	THR
43	t	125	LEU
44	u	104	MET
44	u	140	ASP
45	z	1642	GLU
47	1	19	SER
2	B	116	ARG
6	F	105	PRO
6	F	175	ALA
7	G	123	ALA
9	I	201	PRO
11	L	63	THR
15	P	6	LEU
17	R	25	ASP

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Mol	Chain	Res	Type
25	Z	90	PRO
26	a	90	ALA
26	a	98	ALA
42	s	106	LYS
43	t	137	GLN
44	v	400	LYS
2	B	259	PRO
11	L	169	ILE
12	M	25	VAL
19	T	74	ILE
36	k	32	VAL
39	o	33	LEU
42	s	70	GLU
43	t	67	ARG
43	t	94	LYS
43	t	120	SER
1	A	212	GLY
1	A	213	GLY
7	G	186	GLY
11	L	100	PRO
13	N	137	PRO
26	a	22	ILE
31	f	64	PRO
4	D	47	PRO
10	J	174	ILE
20	U	27	HIS
6	F	230	VAL
7	G	238	GLY
14	O	30	GLY
21	V	22	VAL
10	J	176	PRO
27	b	21	ILE
43	t	3	PRO
18	S	172	PRO
38	m	78	ILE

5.3.2 Protein sidechains ⓘ

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

The Analysed column shows the number of residues for which the sidechain conformation was

analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	187/199 (94%)	145 (78%)	42 (22%)	1	6
2	B	335/336 (100%)	277 (83%)	58 (17%)	2	12
3	C	305/306 (100%)	244 (80%)	61 (20%)	1	8
4	D	247/250 (99%)	205 (83%)	42 (17%)	2	13
5	E	209/246 (85%)	170 (81%)	39 (19%)	1	10
6	F	194/217 (89%)	154 (79%)	40 (21%)	1	8
7	G	208/226 (92%)	167 (80%)	41 (20%)	1	8
8	H	169/171 (99%)	129 (76%)	40 (24%)	1	5
9	I	174/181 (96%)	141 (81%)	33 (19%)	1	9
10	J	143/149 (96%)	125 (87%)	18 (13%)	4	22
11	L	176/177 (99%)	136 (77%)	40 (23%)	1	6
12	M	116/160 (72%)	89 (77%)	27 (23%)	1	5
13	N	171/172 (99%)	138 (81%)	33 (19%)	1	9
14	O	171/174 (98%)	144 (84%)	27 (16%)	2	15
15	P	134/163 (82%)	109 (81%)	25 (19%)	1	10
16	Q	163/164 (99%)	135 (83%)	28 (17%)	2	12
17	R	159/175 (91%)	122 (77%)	37 (23%)	1	5
18	S	156/192 (81%)	127 (81%)	29 (19%)	1	10
19	T	139/140 (99%)	110 (79%)	29 (21%)	1	7
20	U	89/114 (78%)	74 (83%)	15 (17%)	2	13
21	V	101/107 (94%)	79 (78%)	22 (22%)	1	7
22	W	55/126 (44%)	45 (82%)	10 (18%)	2	11
23	X	107/133 (80%)	91 (85%)	16 (15%)	3	17
24	Y	124/135 (92%)	107 (86%)	17 (14%)	3	20
25	Z	117/118 (99%)	98 (84%)	19 (16%)	2	15
26	a	119/120 (99%)	101 (85%)	18 (15%)	3	17
27	b	63/123 (51%)	54 (86%)	9 (14%)	3	19
28	c	79/97 (81%)	67 (85%)	12 (15%)	3	17
29	d	98/110 (89%)	75 (76%)	23 (24%)	1	5
30	e	114/121 (94%)	79 (69%)	35 (31%)	0	2
31	f	88/89 (99%)	68 (77%)	20 (23%)	1	6

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
32	g	98/100 (98%)	74 (76%)	24 (24%)	1	4
33	h	109/110 (99%)	91 (84%)	18 (16%)	2	14
34	i	86/89 (97%)	74 (86%)	12 (14%)	3	19
35	j	73/80 (91%)	57 (78%)	16 (22%)	1	6
36	k	64/65 (98%)	53 (83%)	11 (17%)	2	12
37	l	47/48 (98%)	39 (83%)	8 (17%)	2	13
38	m	48/116 (41%)	37 (77%)	11 (23%)	1	6
39	o	92/94 (98%)	70 (76%)	22 (24%)	1	5
40	p	74/75 (99%)	57 (77%)	17 (23%)	1	6
41	r	109/121 (90%)	83 (76%)	26 (24%)	1	5
42	s	166/258 (64%)	147 (89%)	19 (11%)	5	26
43	t	136/137 (99%)	117 (86%)	19 (14%)	3	19
44	v	116/445 (26%)	96 (83%)	20 (17%)	2	12
45	0	34/1611 (2%)	31 (91%)	3 (9%)	9	33
45	w	11/1611 (1%)	9 (82%)	2 (18%)	2	11
45	z	119/1611 (7%)	102 (86%)	17 (14%)	3	19
47	1	13/79 (16%)	11 (85%)	2 (15%)	2	16
All	All	6105/11841 (52%)	4953 (81%)	1152 (19%)	3	9

All (1152) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	3	ARG
1	A	4	VAL
1	A	5	ILE
1	A	28	ARG
1	A	64	ARG
1	A	70	LYS
1	A	75	LEU
1	A	77	ILE
1	A	82	ILE
1	A	96	LEU
1	A	97	ASN
1	A	98	ILE
1	A	101	VAL
1	A	102	LEU

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Mol	Chain	Res	Type
1	A	104	VAL
1	A	116	LEU
1	A	122	ASP
1	A	123	ARG
1	A	128	ARG
1	A	130	SER
1	A	142	GLU
1	A	147	ARG
1	A	148	VAL
1	A	149	LYS
1	A	158	ILE
1	A	162	ASN
1	A	163	ARG
1	A	165	VAL
1	A	175	ILE
1	A	188	LYS
1	A	192	LYS
1	A	193	ARG
1	A	200	ARG
1	A	205	ASN
1	A	207	VAL
1	A	218	HIS
1	A	221	LYS
1	A	226	ARG
1	A	227	ARG
1	A	233	ARG
1	A	237	LEU
1	A	245	ARG
2	B	10	ARG
2	B	28	LYS
2	B	39	LYS
2	B	41	VAL
2	B	53	MET
2	B	56	ILE
2	B	60	VAL
2	B	66	LYS
2	B	67	VAL
2	B	73	VAL
2	B	89	ILE
2	B	94	GLU
2	B	95	THR
2	B	99	LEU

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Mol	Chain	Res	Type
2	B	101	THR
2	B	103	LYS
2	B	116	ARG
2	B	120	LYS
2	B	128	LYS
2	B	135	LYS
2	B	167	GLN
2	B	175	GLN
2	B	181	MET
2	B	201	LEU
2	B	203	GLN
2	B	207	VAL
2	B	213	GLN
2	B	223	THR
2	B	231	VAL
2	B	233	SER
2	B	234	ARG
2	B	237	THR
2	B	240	LEU
2	B	248	LEU
2	B	249	ARG
2	B	258	HIS
2	B	261	ARG
2	B	262	VAL
2	B	268	ARG
2	B	279	GLU
2	B	293	ILE
2	B	294	LYS
2	B	299	ILE
2	B	305	THR
2	B	312	LYS
2	B	314	ILE
2	B	328	ASN
2	B	329	ASP
2	B	344	VAL
2	B	349	LYS
2	B	351	LEU
2	B	352	LEU
2	B	356	LYS
2	B	357	ARG
2	B	363	ILE
2	B	366	LYS

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Mol	Chain	Res	Type
2	B	379	PHE
2	B	383	GLU
3	C	14	LYS
3	C	20	LYS
3	C	23	THR
3	C	24	LEU
3	C	29	LYS
3	C	44	LEU
3	C	48	ASN
3	C	49	ARG
3	C	55	SER
3	C	57	LEU
3	C	61	GLN
3	C	65	GLU
3	C	71	ARG
3	C	76	ILE
3	C	80	ARG
3	C	95	MET
3	C	97	ARG
3	C	101	MET
3	C	107	THR
3	C	117	THR
3	C	120	LYS
3	C	126	SER
3	C	140	LYS
3	C	144	ILE
3	C	147	VAL
3	C	150	LEU
3	C	153	VAL
3	C	155	GLU
3	C	163	LYS
3	C	165	LYS
3	C	175	LYS
3	C	182	LYS
3	C	189	MET
3	C	193	LYS
3	C	195	LYS
3	C	201	ARG
3	C	204	ARG
3	C	218	ILE
3	C	219	LYS
3	C	222	ARG

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Mol	Chain	Res	Type
3	C	232	VAL
3	C	237	ILE
3	C	261	ASP
3	C	278	ASN
3	C	281	MET
3	C	284	MET
3	C	288	ASP
3	C	289	LEU
3	C	290	SER
3	C	294	LYS
3	C	307	LYS
3	C	309	ILE
3	C	312	ARG
3	C	317	ASN
3	C	321	ASN
3	C	333	LYS
3	C	335	MET
3	C	341	LEU
3	C	342	ARG
3	C	345	ARG
3	C	353	LYS
4	D	4	VAL
4	D	19	LYS
4	D	23	ARG
4	D	33	ARG
4	D	36	LEU
4	D	37	VAL
4	D	42	ASN
4	D	50	ARG
4	D	51	MET
4	D	66	TYR
4	D	73	MET
4	D	89	LYS
4	D	94	ASN
4	D	104	LEU
4	D	110	LEU
4	D	111	ASN
4	D	118	ILE
4	D	124	GLU
4	D	144	CYS
4	D	160	PHE
4	D	179	ARG

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Mol	Chain	Res	Type
4	D	189	GLU
4	D	190	PHE
4	D	196	ARG
4	D	202	GLN
4	D	221	LYS
4	D	225	GLN
4	D	229	ASN
4	D	248	ARG
4	D	254	GLU
4	D	256	LYS
4	D	258	LYS
4	D	259	LYS
4	D	260	GLU
4	D	264	LYS
4	D	268	ARG
4	D	270	LYS
4	D	272	SER
4	D	278	ASP
4	D	284	LYS
4	D	289	ARG
4	D	293	ARG
5	E	46	LEU
5	E	52	ARG
5	E	55	ARG
5	E	101	ARG
5	E	102	VAL
5	E	105	LEU
5	E	108	MET
5	E	115	GLU
5	E	120	LYS
5	E	136	LEU
5	E	137	ARG
5	E	144	THR
5	E	148	ILE
5	E	158	VAL
5	E	162	LYS
5	E	163	GLN
5	E	171	VAL
5	E	179	ARG
5	E	186	HIS
5	E	190	VAL
5	E	206	LYS

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Mol	Chain	Res	Type
5	E	208	LEU
5	E	210	ASP
5	E	212	TYR
5	E	218	LEU
5	E	219	ARG
5	E	228	ILE
5	E	233	LYS
5	E	236	TYR
5	E	240	GLU
5	E	242	ARG
5	E	250	ASP
5	E	254	LEU
5	E	257	ILE
5	E	268	ARG
5	E	273	LEU
5	E	277	ILE
5	E	282	LEU
5	E	284	PHE
6	F	37	LYS
6	F	38	LYS
6	F	41	GLN
6	F	44	LEU
6	F	49	ARG
6	F	51	LEU
6	F	52	ILE
6	F	65	GLN
6	F	68	ARG
6	F	69	THR
6	F	70	GLU
6	F	72	ARG
6	F	82	ASN
6	F	90	LYS
6	F	91	LEU
6	F	98	ARG
6	F	100	ILE
6	F	101	ASN
6	F	103	VAL
6	F	104	SER
6	F	115	ARG
6	F	121	ASN
6	F	127	LEU
6	F	136	ARG

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Mol	Chain	Res	Type
6	F	137	ILE
6	F	138	VAL
6	F	154	GLU
6	F	181	LEU
6	F	189	MET
6	F	190	GLU
6	F	192	LEU
6	F	201	LYS
6	F	202	ARG
6	F	214	LYS
6	F	224	LYS
6	F	234	ASP
6	F	239	GLU
6	F	241	GLN
6	F	247	ARG
6	F	248	ARG
7	G	28	VAL
7	G	29	ASN
7	G	31	LEU
7	G	46	GLN
7	G	50	ASP
7	G	62	ARG
7	G	67	ARG
7	G	75	LYS
7	G	76	VAL
7	G	81	ASN
7	G	88	ASP
7	G	90	GLN
7	G	106	THR
7	G	108	GLN
7	G	110	LYS
7	G	112	GLN
7	G	131	LYS
7	G	144	THR
7	G	148	GLU
7	G	150	LYS
7	G	151	LYS
7	G	154	LEU
7	G	167	VAL
7	G	170	LEU
7	G	173	LEU
7	G	175	ARG

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Mol	Chain	Res	Type
7	G	176	LYS
7	G	177	MET
7	G	182	CYS
7	G	189	ARG
7	G	202	VAL
7	G	215	LEU
7	G	217	LYS
7	G	219	VAL
7	G	220	GLU
7	G	223	ARG
7	G	227	ASN
7	G	229	ARG
7	G	240	ASN
7	G	250	ILE
7	G	259	LYS
8	H	1	MET
8	H	12	ILE
8	H	19	THR
8	H	20	LEU
8	H	25	VAL
8	H	26	ILE
8	H	28	LYS
8	H	33	THR
8	H	41	ILE
8	H	42	ASN
8	H	52	LYS
8	H	54	ARG
8	H	57	VAL
8	H	59	LYS
8	H	63	ASN
8	H	65	LYS
8	H	66	GLU
8	H	67	LEU
8	H	72	THR
8	H	74	CYS
8	H	78	GLN
8	H	82	LYS
8	H	84	VAL
8	H	92	MET
8	H	104	VAL
8	H	105	ILE
8	H	106	GLN

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Mol	Chain	Res	Type
8	H	107	GLU
8	H	111	LEU
8	H	117	PHE
8	H	124	ARG
8	H	125	ARG
8	H	128	MET
8	H	129	ARG
8	H	141	LYS
8	H	162	GLN
8	H	168	LYS
8	H	173	ARG
8	H	177	ASP
8	H	188	GLN
9	I	8	CYS
9	I	13	LYS
9	I	23	CYS
9	I	36	LEU
9	I	39	LYS
9	I	40	LYS
9	I	48	LEU
9	I	61	SER
9	I	66	GLU
9	I	71	CYS
9	I	73	ASN
9	I	74	LYS
9	I	76	MET
9	I	79	SER
9	I	92	HIS
9	I	100	ASN
9	I	113	THR
9	I	116	ARG
9	I	121	LYS
9	I	125	THR
9	I	131	ILE
9	I	142	LEU
9	I	144	ASN
9	I	146	GLU
9	I	153	ARG
9	I	163	GLN
9	I	164	LYS
9	I	180	GLU
9	I	187	LYS

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Mol	Chain	Res	Type
9	I	189	CYS
9	I	190	LEU
9	I	208	LYS
9	I	212	LEU
10	J	14	GLU
10	J	15	LEU
10	J	16	ARG
10	J	23	ASN
10	J	49	VAL
10	J	52	LYS
10	J	75	ARG
10	J	81	GLU
10	J	94	LEU
10	J	96	LYS
10	J	113	ILE
10	J	147	ARG
10	J	150	CYS
10	J	151	ILE
10	J	154	LYS
10	J	164	ARG
10	J	168	GLN
10	J	171	ASP
11	L	5	ARG
11	L	11	LYS
11	L	19	GLN
11	L	32	LYS
11	L	35	ARG
11	L	36	ARG
11	L	49	ARG
11	L	59	VAL
11	L	64	VAL
11	L	65	ARG
11	L	77	SER
11	L	92	ARG
11	L	94	ILE
11	L	99	ASP
11	L	103	ARG
11	L	107	THR
11	L	111	GLN
11	L	113	ASN
11	L	115	GLN
11	L	119	GLU

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Mol	Chain	Res	Type
11	L	121	ARG
11	L	123	LYS
11	L	126	LEU
11	L	130	LYS
11	L	145	LYS
11	L	148	THR
11	L	150	LEU
11	L	154	VAL
11	L	158	ARG
11	L	162	LYS
11	L	165	LYS
11	L	172	GLU
11	L	184	MET
11	L	186	ARG
11	L	190	ARG
11	L	194	ILE
11	L	195	ARG
11	L	198	ARG
11	L	201	GLU
11	L	208	GLU
12	M	4	ARG
12	M	5	ARG
12	M	8	GLU
12	M	25	VAL
12	M	29	ASP
12	M	32	ASP
12	M	33	GLN
12	M	37	LEU
12	M	38	VAL
12	M	43	THR
12	M	47	ARG
12	M	56	GLN
12	M	57	LEU
12	M	59	ASP
12	M	61	ILE
12	M	62	LEU
12	M	71	LYS
12	M	89	THR
12	M	96	GLU
12	M	98	ARG
12	M	103	LYS
12	M	105	THR

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Mol	Chain	Res	Type
12	M	121	ARG
12	M	125	LEU
12	M	127	VAL
12	M	130	LEU
12	M	137	LYS
13	N	9	GLU
13	N	26	ARG
13	N	32	GLN
13	N	36	LEU
13	N	43	THR
13	N	44	ARG
13	N	49	ARG
13	N	61	ILE
13	N	63	ARG
13	N	64	ILE
13	N	66	VAL
13	N	72	LYS
13	N	75	VAL
13	N	77	LYS
13	N	87	HIS
13	N	89	VAL
13	N	92	LEU
13	N	100	SER
13	N	108	ARG
13	N	123	GLU
13	N	128	LYS
13	N	131	GLU
13	N	138	PHE
13	N	169	ARG
13	N	174	LEU
13	N	180	PHE
13	N	182	HIS
13	N	189	ARG
13	N	193	ARG
13	N	196	ASN
13	N	198	LEU
13	N	199	GLN
13	N	202	ARG
14	O	22	ILE
14	O	27	VAL
14	O	36	VAL
14	O	37	ARG

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Mol	Chain	Res	Type
14	O	49	ARG
14	O	58	LEU
14	O	60	LYS
14	O	67	SER
14	O	82	ARG
14	O	85	ARG
14	O	99	LEU
14	O	108	ILE
14	O	117	ARG
14	O	119	VAL
14	O	128	ARG
14	O	145	VAL
14	O	153	THR
14	O	165	LYS
14	O	170	LYS
14	O	175	MET
14	O	178	ARG
14	O	179	LYS
14	O	184	ASN
14	O	185	VAL
14	O	187	LYS
14	O	188	LYS
14	O	202	LEU
15	P	5	SER
15	P	10	ASN
15	P	18	ARG
15	P	24	VAL
15	P	25	HIS
15	P	36	ILE
15	P	41	ILE
15	P	54	GLN
15	P	64	ASN
15	P	69	ARG
15	P	80	GLN
15	P	86	LYS
15	P	95	LEU
15	P	96	LYS
15	P	99	GLU
15	P	100	SER
15	P	103	GLU
15	P	104	LEU
15	P	105	LYS

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Mol	Chain	Res	Type
15	P	110	ASP
15	P	126	ARG
15	P	127	ARG
15	P	128	ARG
15	P	144	CYS
15	P	154	GLU
16	Q	3	VAL
16	Q	5	ILE
16	Q	13	VAL
16	Q	31	LEU
16	Q	39	THR
16	Q	46	VAL
16	Q	47	VAL
16	Q	54	SER
16	Q	58	ARG
16	Q	63	LEU
16	Q	65	ARG
16	Q	68	ARG
16	Q	69	LYS
16	Q	78	LYS
16	Q	79	THR
16	Q	88	ASP
16	Q	91	ARG
16	Q	93	GLN
16	Q	103	LEU
16	Q	108	ARG
16	Q	112	ARG
16	Q	119	LYS
16	Q	120	ILE
16	Q	126	LEU
16	Q	132	LYS
16	Q	158	THR
16	Q	172	ARG
16	Q	187	LYS
17	R	6	LEU
17	R	8	LYS
17	R	10	LEU
17	R	15	LEU
17	R	37	SER
17	R	39	GLN
17	R	40	GLN
17	R	42	ARG

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Mol	Chain	Res	Type
17	R	43	LYS
17	R	46	LYS
17	R	47	ASP
17	R	50	ILE
17	R	52	ARG
17	R	59	SER
17	R	74	ARG
17	R	75	HIS
17	R	78	ILE
17	R	89	MET
17	R	93	VAL
17	R	94	THR
17	R	98	ARG
17	R	99	MET
17	R	103	ARG
17	R	105	LEU
17	R	106	LEU
17	R	107	ARG
17	R	113	LYS
17	R	120	TYR
17	R	123	LEU
17	R	127	VAL
17	R	136	ARG
17	R	137	ILE
17	R	138	LEU
17	R	168	GLU
17	R	172	ARG
17	R	177	LEU
17	R	180	LYS
18	S	2	LYS
18	S	7	LEU
18	S	9	GLU
18	S	13	VAL
18	S	17	LEU
18	S	36	ASN
18	S	39	VAL
18	S	48	VAL
18	S	67	VAL
18	S	68	PHE
18	S	70	LYS
18	S	80	ILE
18	S	82	LEU

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Mol	Chain	Res	Type
18	S	83	ARG
18	S	84	TYR
18	S	90	THR
18	S	92	ASN
18	S	95	ARG
18	S	100	LEU
18	S	102	THR
18	S	108	GLN
18	S	127	MET
18	S	128	LYS
18	S	147	ASP
18	S	149	LYS
18	S	150	ILE
18	S	156	HIS
18	S	159	LEU
18	S	174	THR
19	T	5	LYS
19	T	7	LYS
19	T	9	ARG
19	T	17	ARG
19	T	29	THR
19	T	30	TYR
19	T	31	MET
19	T	33	ILE
19	T	35	LYS
19	T	52	MET
19	T	60	LYS
19	T	61	THR
19	T	67	VAL
19	T	70	HIS
19	T	80	VAL
19	T	81	LYS
19	T	83	LYS
19	T	96	ILE
19	T	99	SER
19	T	113	ASP
19	T	115	LYS
19	T	118	GLU
19	T	121	GLU
19	T	142	ARG
19	T	143	THR
19	T	144	ASN

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Mol	Chain	Res	Type
19	T	146	LYS
19	T	154	ILE
19	T	159	MET
20	U	22	THR
20	U	23	LEU
20	U	26	THR
20	U	33	ILE
20	U	45	GLU
20	U	61	VAL
20	U	63	ILE
20	U	65	ARG
20	U	67	LYS
20	U	69	LYS
20	U	80	LYS
20	U	99	TRP
20	U	100	LEU
20	U	101	ARG
20	U	113	ARG
21	V	15	ARG
21	V	16	ILE
21	V	18	LEU
21	V	25	VAL
21	V	30	ASP
21	V	31	ASN
21	V	35	LYS
21	V	45	ILE
21	V	51	ARG
21	V	57	VAL
21	V	60	MET
21	V	61	VAL
21	V	67	LYS
21	V	69	LYS
21	V	76	VAL
21	V	82	ILE
21	V	84	GLN
21	V	91	LYS
21	V	99	GLU
21	V	109	LYS
21	V	115	SER
21	V	123	LYS
22	W	4	GLU
22	W	12	LYS

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Mol	Chain	Res	Type
22	W	13	ILE
22	W	25	ASP
22	W	27	LYS
22	W	43	LYS
22	W	44	ARG
22	W	48	GLN
22	W	50	ASN
22	W	54	LEU
23	X	39	LYS
23	X	50	LYS
23	X	52	LEU
23	X	59	LYS
23	X	63	LYS
23	X	71	LEU
23	X	94	ASN
23	X	102	VAL
23	X	111	GLN
23	X	116	LEU
23	X	119	ILE
23	X	129	ARG
23	X	145	ASP
23	X	147	LEU
23	X	149	VAL
23	X	152	LYS
24	Y	2	LYS
24	Y	3	PHE
24	Y	7	VAL
24	Y	8	THR
24	Y	28	LYS
24	Y	38	LEU
24	Y	55	VAL
24	Y	58	VAL
24	Y	59	ARG
24	Y	65	GLN
24	Y	72	GLN
24	Y	87	ARG
24	Y	104	VAL
24	Y	115	ARG
24	Y	117	LYS
24	Y	126	ARG
24	Y	130	LYS
25	Z	3	LYS

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Mol	Chain	Res	Type
25	Z	19	SER
25	Z	42	LEU
25	Z	57	MET
25	Z	59	LYS
25	Z	60	LYS
25	Z	65	ARG
25	Z	67	LYS
25	Z	72	VAL
25	Z	78	ASN
25	Z	81	MET
25	Z	83	THR
25	Z	88	ASP
25	Z	91	LEU
25	Z	93	LYS
25	Z	97	ASN
25	Z	101	PHE
25	Z	120	GLU
25	Z	121	ARG
26	a	5	LEU
26	a	7	LYS
26	a	8	THR
26	a	39	HIS
26	a	47	LYS
26	a	56	VAL
26	a	58	MET
26	a	59	ARG
26	a	72	THR
26	a	73	VAL
26	a	77	LYS
26	a	82	VAL
26	a	84	GLU
26	a	87	ARG
26	a	122	VAL
26	a	134	GLU
26	a	140	VAL
26	a	147	VAL
27	b	21	ILE
27	b	22	LYS
27	b	25	ARG
27	b	27	GLN
27	b	36	ASP
27	b	43	MET

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Mol	Chain	Res	Type
27	b	44	ARG
27	b	51	LYS
27	b	68	ARG
28	c	15	ASN
28	c	16	SER
28	c	28	VAL
28	c	37	MET
28	c	40	GLN
28	c	50	ASN
28	c	51	ASN
28	c	56	ARG
28	c	78	ASN
28	c	89	TYR
28	c	91	VAL
28	c	94	LEU
29	d	19	GLU
29	d	22	THR
29	d	23	ARG
29	d	26	THR
29	d	28	ASN
29	d	31	LYS
29	d	34	HIS
29	d	36	VAL
29	d	38	PHE
29	d	46	LEU
29	d	48	GLU
29	d	56	GLU
29	d	57	MET
29	d	75	LYS
29	d	77	ILE
29	d	78	ARG
29	d	79	ASN
29	d	84	ILE
29	d	90	ARG
29	d	94	GLU
29	d	102	LEU
29	d	107	THR
29	d	117	LEU
30	e	4	LEU
30	e	8	VAL
30	e	9	LYS
30	e	11	LYS

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Mol	Chain	Res	Type
30	e	13	VAL
30	e	16	ARG
30	e	21	ILE
30	e	22	ARG
30	e	36	ARG
30	e	46	ARG
30	e	47	ARG
30	e	48	ARG
30	e	50	LYS
30	e	58	ILE
30	e	64	LYS
30	e	76	LYS
30	e	77	PHE
30	e	78	LEU
30	e	79	VAL
30	e	81	ASN
30	e	83	LYS
30	e	85	LEU
30	e	93	LYS
30	e	102	ASN
30	e	104	SER
30	e	106	LYS
30	e	107	ASN
30	e	109	LYS
30	e	113	GLU
30	e	117	GLN
30	e	118	LEU
30	e	122	VAL
30	e	123	THR
30	e	128	ARG
30	e	129	LEU
31	f	7	SER
31	f	14	TYR
31	f	19	ARG
31	f	21	GLN
31	f	29	LYS
31	f	33	VAL
31	f	36	ARG
31	f	40	GLU
31	f	46	ARG
31	f	52	LYS
31	f	60	PRO

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Mol	Chain	Res	Type
31	f	64	PRO
31	f	66	LYS
31	f	69	VAL
31	f	84	VAL
31	f	100	ARG
31	f	101	ILE
31	f	103	VAL
31	f	106	TYR
31	f	110	ILE
32	g	3	GLN
32	g	5	LEU
32	g	8	ARG
32	g	11	LEU
32	g	14	ASN
32	g	15	THR
32	g	19	LYS
32	g	22	LEU
32	g	23	SER
32	g	43	LYS
32	g	60	ARG
32	g	64	LEU
32	g	66	ARG
32	g	74	VAL
32	g	76	ARG
32	g	82	MET
32	g	90	ARG
32	g	93	ARG
32	g	100	GLN
32	g	102	ILE
32	g	103	VAL
32	g	105	LYS
32	g	112	GLN
32	g	115	LYS
33	h	7	ARG
33	h	10	ARG
33	h	14	LYS
33	h	19	LYS
33	h	28	LEU
33	h	51	ARG
33	h	59	THR
33	h	62	ASN
33	h	65	GLN

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Mol	Chain	Res	Type
33	h	71	LYS
33	h	81	LEU
33	h	88	THR
33	h	89	ARG
33	h	97	LYS
33	h	98	HIS
33	h	117	ARG
33	h	118	LYS
33	h	121	VAL
34	i	4	ARG
34	i	18	THR
34	i	25	ARG
34	i	29	ARG
34	i	34	THR
34	i	36	HIS
34	i	66	ASP
34	i	84	LYS
34	i	85	ARG
34	i	86	LYS
34	i	87	ARG
34	i	103	LYS
35	j	3	LYS
35	j	10	LYS
35	j	15	THR
35	j	20	ARG
35	j	25	LYS
35	j	29	LEU
35	j	33	THR
35	j	42	LYS
35	j	46	LYS
35	j	61	THR
35	j	63	ARG
35	j	69	ILE
35	j	72	ARG
35	j	79	ARG
35	j	83	THR
35	j	87	LYS
36	k	11	PHE
36	k	14	THR
36	k	27	LYS
36	k	31	ASN
36	k	36	VAL

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Mol	Chain	Res	Type
36	k	37	ARG
36	k	54	GLU
36	k	56	LEU
36	k	66	VAL
36	k	69	LEU
36	k	70	LYS
37	l	4	HIS
37	l	8	ARG
37	l	16	LYS
37	l	17	GLN
37	l	33	ASN
37	l	36	ARG
37	l	46	ARG
37	l	47	THR
38	m	79	GLU
38	m	82	LEU
38	m	85	LEU
38	m	90	ASN
38	m	92	ASP
38	m	97	ARG
38	m	98	LYS
38	m	106	ARG
38	m	111	ARG
38	m	114	LYS
38	m	119	ASN
39	o	9	ARG
39	o	17	LYS
39	o	18	HIS
39	o	24	THR
39	o	26	TYR
39	o	28	LYS
39	o	33	LEU
39	o	36	GLN
39	o	40	ARG
39	o	44	LYS
39	o	55	ILE
39	o	56	PHE
39	o	57	ARG
39	o	61	LYS
39	o	63	THR
39	o	69	ARG
39	o	78	ARG

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Mol	Chain	Res	Type
39	o	81	ARG
39	o	82	MET
39	o	89	LYS
39	o	99	ARG
39	o	102	GLN
40	p	3	LYS
40	p	11	VAL
40	p	16	THR
40	p	22	LEU
40	p	24	LYS
40	p	30	GLU
40	p	33	GLN
40	p	48	LYS
40	p	50	ARG
40	p	52	VAL
40	p	54	ILE
40	p	60	CYS
40	p	63	THR
40	p	84	ARG
40	p	85	ARG
40	p	87	LYS
40	p	89	LEU
41	r	6	GLN
41	r	8	MET
41	r	10	VAL
41	r	12	ASN
41	r	13	CYS
41	r	14	SER
41	r	17	LEU
41	r	18	ILE
41	r	21	ASN
41	r	24	THR
41	r	26	SER
41	r	28	GLU
41	r	32	LEU
41	r	35	ARG
41	r	39	ARG
41	r	60	VAL
41	r	67	ARG
41	r	70	GLN
41	r	78	VAL
41	r	83	ASN

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Mol	Chain	Res	Type
41	r	90	LEU
41	r	93	ILE
41	r	99	LYS
41	r	105	ASP
41	r	108	MET
41	r	118	LEU
42	s	11	SER
42	s	18	ILE
42	s	38	LYS
42	s	39	GLN
42	s	50	LYS
42	s	59	THR
42	s	65	ILE
42	s	77	LYS
42	s	83	ARG
42	s	91	THR
42	s	95	LEU
42	s	107	VAL
42	s	133	GLU
42	s	146	LYS
42	s	149	ARG
42	s	174	LEU
42	s	185	PHE
42	s	189	ILE
42	s	191	GLN
43	t	1	MET
43	t	14	TYR
43	t	22	VAL
43	t	30	PRO
43	t	35	LEU
43	t	40	LYS
43	t	44	ASP
43	t	83	LYS
43	t	95	GLN
43	t	96	LYS
43	t	104	ILE
43	t	106	PHE
43	t	107	ASP
43	t	108	GLU
43	t	114	ARG
43	t	119	ARG
43	t	121	LEU

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Mol	Chain	Res	Type
43	t	123	ARG
43	t	141	CYS
44	v	310	LEU
44	v	316	GLU
44	v	324	ASP
44	v	334	LEU
44	v	337	LEU
44	v	341	GLN
44	v	342	GLU
44	v	350	LEU
44	v	355	LEU
44	v	372	GLN
44	v	373	ILE
44	v	381	ILE
44	v	383	LYS
44	v	384	GLU
44	v	396	ILE
44	v	407	THR
44	v	408	MET
44	v	409	LEU
44	v	463	VAL
44	v	465	LEU
45	w	13	LEU
45	w	25	LEU
45	z	1563	LEU
45	z	1571	THR
45	z	1582	TRP
45	z	1593	ILE
45	z	1595	ASP
45	z	1597	PHE
45	z	1602	VAL
45	z	1632	THR
45	z	1633	ARG
45	z	1649	ILE
45	z	1650	ILE
45	z	1661	ILE
45	z	1668	ARG
45	z	1681	LEU
45	z	1695	MET
45	z	1705	VAL
45	z	1709	PHE
45	0	1734	CYS

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Mol	Chain	Res	Type
45	0	1755	LYS
45	0	1765	PHE
47	1	13	ARG
47	1	24	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (94) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	22	HIS
1	A	187	HIS
2	B	25	HIS
2	B	138	GLN
2	B	289	GLN
2	B	301	ASN
2	B	322	HIS
2	B	354	GLN
2	B	376	HIS
3	C	38	ASN
3	C	48	ASN
3	C	61	GLN
3	C	94	ASN
3	C	231	ASN
3	C	317	ASN
4	D	191	ASN
4	D	225	GLN
4	D	282	GLN
5	E	39	HIS
5	E	207	HIS
5	E	246	GLN
6	F	41	GLN
6	F	82	ASN
6	F	174	ASN
6	F	241	GLN
6	F	243	ASN
10	J	23	ASN
10	J	46	GLN
10	J	98	ASN
11	L	28	GLN
11	L	40	GLN
11	L	159	ASN
12	M	56	GLN
12	M	83	ASN

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Mol	Chain	Res	Type
13	N	32	GLN
13	N	181	HIS
14	O	5	GLN
14	O	42	ASN
14	O	46	ASN
14	O	72	HIS
15	P	34	GLN
15	P	80	GLN
16	Q	44	ASN
16	Q	93	GLN
17	R	158	GLN
17	R	178	GLN
18	S	36	ASN
19	T	98	HIS
19	T	144	ASN
23	X	57	GLN
23	X	73	HIS
23	X	105	ASN
24	Y	56	GLN
24	Y	72	GLN
24	Y	86	GLN
24	Y	127	GLN
25	Z	97	ASN
27	b	11	ASN
27	b	12	GLN
27	b	17	HIS
27	b	27	GLN
28	c	40	GLN
28	c	51	ASN
28	c	72	HIS
28	c	78	ASN
29	d	18	ASN
29	d	34	HIS
29	d	100	ASN
30	e	92	ASN
30	e	117	GLN
31	f	21	GLN
31	f	56	ASN
31	f	99	HIS
33	h	20	GLN
33	h	96	ASN
33	h	108	GLN

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Mol	Chain	Res	Type
35	j	16	HIS
35	j	30	GLN
35	j	76	HIS
37	l	4	HIS
37	l	38	ASN
39	o	19	GLN
39	o	25	GLN
39	o	90	HIS
41	r	6	GLN
41	r	12	ASN
41	r	21	ASN
41	r	31	ASN
41	r	70	GLN
42	s	34	ASN
42	s	127	ASN
43	t	137	GLN
44	v	372	GLN
45	z	1615	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
48	2	73/77 (94%)	32 (43%)	2 (2%)
49	5	3650/3664 (99%)	1403 (38%)	373 (10%)
50	7	119/120 (99%)	28 (23%)	1 (0%)
51	8	155/156 (99%)	50 (32%)	9 (5%)
All	All	3997/4017 (99%)	1513 (37%)	385 (9%)

All (1513) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
48	2	3	C
48	2	5	G
48	2	7	G
48	2	11	A
48	2	13	C
48	2	16	C
48	2	19	G
48	2	20	U
48	2	21	A
48	2	26	G

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Mol	Chain	Res	Type
48	2	33	U
48	2	35	A
48	2	38	A
48	2	39	C
48	2	42	G
48	2	43	A
48	2	44	A
48	2	45	G
48	2	46	G
48	2	47	U
48	2	48	C
48	2	49	G
48	2	51	C
48	2	53	G
48	2	57	A
48	2	58	A
48	2	60	U
48	2	61	C
48	2	63	G
48	2	67	C
48	2	72	A
48	2	76	A
49	5	2	G
49	5	6	C
49	5	8	U
49	5	12	A
49	5	13	U
49	5	15	A
49	5	16	G
49	5	20	U
49	5	21	G
49	5	25	A
49	5	29	G
49	5	39	A
49	5	43	U
49	5	44	A
49	5	48	G
49	5	49	U
49	5	56	A
49	5	58	G
49	5	59	A
49	5	64	A

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Mol	Chain	Res	Type
49	5	65	A
49	5	66	A
49	5	68	U
49	5	69	A
49	5	71	C
49	5	72	C
49	5	73	A
49	5	74	G
49	5	75	G
49	5	84	A
49	5	85	G
49	5	88	A
49	5	91	G
49	5	93	G
49	5	94	A
49	5	104	G
49	5	108	A
49	5	109	G
49	5	110	C
49	5	116	G
49	5	118	C
49	5	119	G
49	5	120	A
49	5	121	A
49	5	122	U
49	5	125	C
49	5	126	C
49	5	128	C
49	5	129	C
49	5	134	G
49	5	135	G
49	5	136	C
49	5	137	G
49	5	139	G
49	5	142	G
49	5	143	C
49	5	144	G
49	5	145	G
49	5	157	U
49	5	158	A
49	5	159	C
49	5	160	G

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Mol	Chain	Res	Type
49	5	164	G
49	5	166	C
49	5	167	C
49	5	171	U
49	5	172	C
49	5	173	C
49	5	174	C
49	5	177	G
49	5	178	C
49	5	183	C
49	5	184	U
49	5	185	C
49	5	186	G
49	5	187	U
49	5	188	G
49	5	189	G
49	5	195	C
49	5	197	A
49	5	198	A
49	5	200	U
49	5	201	C
49	5	202	C
49	5	203	U
49	5	205	C
49	5	213	G
49	5	216	C
49	5	217	C
49	5	218	A
49	5	219	G
49	5	220	C
49	5	221	C
49	5	224	U
49	5	225	G
49	5	226	G
49	5	227	A
49	5	232	G
49	5	233	U
49	5	234	G
49	5	235	A
49	5	239	C
49	5	245	C
49	5	246	G

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Mol	Chain	Res	Type
49	5	255	C
49	5	256	G
49	5	257	C
49	5	262	G
49	5	265	C
49	5	266	C
49	5	267	G
49	5	272	U
49	5	275	C
49	5	276	C
49	5	277	G
49	5	278	G
49	5	280	G
49	5	281	U
49	5	292	G
49	5	293	G
49	5	294	G
49	5	296	A
49	5	297	U
49	5	300	A
49	5	306	A
49	5	309	C
49	5	315	G
49	5	316	U
49	5	319	A
49	5	321	U
49	5	322	C
49	5	323	C
49	5	329	A
49	5	330	G
49	5	331	G
49	5	334	A
49	5	336	A
49	5	337	U
49	5	340	C
49	5	344	A
49	5	347	A
49	5	350	C
49	5	352	G
49	5	353	A
49	5	357	U
49	5	360	A

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Mol	Chain	Res	Type
49	5	361	C
49	5	362	A
49	5	363	A
49	5	381	U
49	5	386	A
49	5	387	G
49	5	388	A
49	5	396	A
49	5	399	G
49	5	405	U
49	5	406	C
49	5	407	A
49	5	408	A
49	5	409	G
49	5	410	A
49	5	412	G
49	5	413	G
49	5	417	G
49	5	418	A
49	5	424	U
49	5	431	G
49	5	432	U
49	5	433	A
49	5	440	U
49	5	445	U
49	5	449	C
49	5	450	G
49	5	451	C
49	5	452	A
49	5	453	G
49	5	454	U
49	5	455	C
49	5	458	C
49	5	465	G
49	5	467	U
49	5	468	U
49	5	469	C
49	5	470	A
49	5	471	A
49	5	473	C
49	5	485	C
49	5	486	C

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Mol	Chain	Res	Type
49	5	487	G
49	5	488	G
49	5	498	C
49	5	500	G
49	5	501	C
49	5	502	C
49	5	503	C
49	5	504	G
49	5	506	C
49	5	509	A
49	5	510	U
49	5	511	C
49	5	513	U
49	5	514	U
49	5	515	C
49	5	516	C
49	5	519	C
49	5	647	G
49	5	648	G
49	5	649	A
49	5	650	C
49	5	654	C
49	5	655	C
49	5	656	C
49	5	663	G
49	5	664	G
49	5	665	C
49	5	666	G
49	5	667	A
49	5	668	C
49	5	669	C
49	5	682	G
49	5	683	C
49	5	684	G
49	5	685	C
49	5	686	A
49	5	687	U
49	5	688	U
49	5	689	U
49	5	690	C
49	5	694	C
49	5	695	G

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Mol	Chain	Res	Type
49	5	696	C
49	5	697	G
49	5	698	G
49	5	702	U
49	5	703	G
49	5	704	C
49	5	707	C
49	5	712	C
49	5	718	C
49	5	721	G
49	5	723	A
49	5	724	C
49	5	728	U
49	5	729	G
49	5	730	G
49	5	732	A
49	5	737	C
49	5	742	G
49	5	743	G
49	5	745	G
49	5	746	A
49	5	747	A
49	5	748	G
49	5	749	G
49	5	756	G
49	5	911	U
49	5	914	U
49	5	915	A
49	5	917	A
49	5	918	G
49	5	920	C
49	5	925	C
49	5	927	G
49	5	928	C
49	5	929	A
49	5	930	G
49	5	931	C
49	5	932	A
49	5	933	G
49	5	934	C
49	5	935	A
49	5	936	C

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Mol	Chain	Res	Type
49	5	937	U
49	5	938	C
49	5	939	G
49	5	940	C
49	5	942	G
49	5	943	A
49	5	944	A
49	5	945	U
49	5	946	C
49	5	952	G
49	5	956	A
49	5	957	G
49	5	958	G
49	5	959	G
49	5	960	A
49	5	961	G
49	5	962	C
49	5	963	G
49	5	964	A
49	5	965	G
49	5	966	A
49	5	967	C
49	5	968	C
49	5	969	C
49	5	971	U
49	5	972	C
49	5	974	C
49	5	976	G
49	5	977	C
49	5	978	G
49	5	979	C
49	5	982	U
49	5	983	C
49	5	989	U
49	5	990	C
49	5	1051	G
49	5	1070	G
49	5	1071	C
49	5	1072	C
49	5	1075	G
49	5	1076	C
49	5	1081	C

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Mol	Chain	Res	Type
49	5	1177	U
49	5	1181	C
49	5	1193	C
49	5	1195	G
49	5	1204	C
49	5	1209	U
49	5	1210	C
49	5	1211	G
49	5	1212	G
49	5	1214	C
49	5	1215	C
49	5	1219	G
49	5	1221	G
49	5	1222	A
49	5	1233	G
49	5	1235	G
49	5	1236	C
49	5	1237	C
49	5	1238	A
49	5	1239	C
49	5	1240	G
49	5	1242	G
49	5	1243	C
49	5	1244	G
49	5	1245	C
49	5	1255	A
49	5	1256	G
49	5	1265	G
49	5	1266	G
49	5	1267	C
49	5	1268	G
49	5	1269	G
49	5	1270	A
49	5	1271	G
49	5	1272	C
49	5	1273	G
49	5	1274	A
49	5	1275	G
49	5	1277	G
49	5	1279	A
49	5	1280	C
49	5	1281	G

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Mol	Chain	Res	Type
49	5	1284	G
49	5	1285	U
49	5	1286	C
49	5	1288	G
49	5	1292	C
49	5	1293	G
49	5	1294	A
49	5	1295	C
49	5	1296	G
49	5	1297	U
49	5	1300	G
49	5	1301	C
49	5	1304	C
49	5	1313	C
49	5	1318	C
49	5	1324	A
49	5	1325	C
49	5	1326	A
49	5	1329	G
49	5	1330	A
49	5	1337	A
49	5	1338	G
49	5	1347	G
49	5	1353	G
49	5	1354	A
49	5	1357	C
49	5	1358	G
49	5	1359	G
49	5	1360	G
49	5	1364	U
49	5	1365	C
49	5	1366	G
49	5	1367	C
49	5	1369	C
49	5	1370	G
49	5	1371	A
49	5	1372	A
49	5	1377	G
49	5	1378	C
49	5	1379	C
49	5	1380	G
49	5	1381	U

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Mol	Chain	Res	Type
49	5	1385	G
49	5	1387	A
49	5	1394	G
49	5	1397	A
49	5	1398	A
49	5	1399	G
49	5	1406	G
49	5	1407	C
49	5	1408	G
49	5	1409	C
49	5	1410	U
49	5	1411	C
49	5	1415	G
49	5	1416	G
49	5	1420	A
49	5	1421	G
49	5	1425	G
49	5	1426	G
49	5	1428	U
49	5	1429	C
49	5	1432	G
49	5	1435	G
49	5	1436	C
49	5	1439	C
49	5	1440	U
49	5	1441	C
49	5	1445	U
49	5	1446	C
49	5	1448	G
49	5	1454	G
49	5	1455	G
49	5	1456	C
49	5	1457	G
49	5	1465	G
49	5	1468	C
49	5	1474	C
49	5	1475	G
49	5	1477	C
49	5	1478	C
49	5	1480	C
49	5	1481	C
49	5	1482	G

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Mol	Chain	Res	Type
49	5	1483	C
49	5	1484	G
49	5	1485	C
49	5	1486	C
49	5	1489	G
49	5	1493	G
49	5	1497	A
49	5	1498	G
49	5	1500	A
49	5	1501	C
49	5	1502	G
49	5	1504	G
49	5	1516	G
49	5	1518	A
49	5	1523	A
49	5	1524	A
49	5	1529	G
49	5	1530	G
49	5	1533	A
49	5	1534	A
49	5	1535	C
49	5	1543	G
49	5	1547	A
49	5	1554	A
49	5	1559	G
49	5	1560	A
49	5	1563	A
49	5	1564	A
49	5	1566	C
49	5	1568	C
49	5	1569	U
49	5	1571	G
49	5	1578	U
49	5	1586	G
49	5	1591	U
49	5	1594	C
49	5	1596	U
49	5	1597	G
49	5	1601	A
49	5	1602	U
49	5	1611	C
49	5	1612	G

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Mol	Chain	Res	Type
49	5	1613	A
49	5	1624	G
49	5	1625	G
49	5	1631	A
49	5	1633	G
49	5	1634	A
49	5	1636	U
49	5	1637	A
49	5	1638	A
49	5	1641	G
49	5	1642	A
49	5	1643	A
49	5	1650	A
49	5	1654	G
49	5	1655	C
49	5	1656	U
49	5	1661	C
49	5	1670	G
49	5	1676	C
49	5	1677	U
49	5	1680	G
49	5	1684	A
49	5	1685	G
49	5	1687	U
49	5	1691	G
49	5	1692	C
49	5	1696	C
49	5	1697	G
49	5	1698	C
49	5	1699	A
49	5	1719	A
49	5	1720	C
49	5	1721	G
49	5	1724	G
49	5	1725	U
49	5	1727	U
49	5	1733	G
49	5	1734	G
49	5	1736	A
49	5	1742	A
49	5	1746	A
49	5	1750	G

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Mol	Chain	Res	Type
49	5	1753	G
49	5	1754	U
49	5	1755	C
49	5	1756	U
49	5	1757	U
49	5	1758	G
49	5	1760	G
49	5	1761	G
49	5	1764	G
49	5	1767	A
49	5	1768	C
49	5	1770	A
49	5	1772	C
49	5	1775	A
49	5	1776	A
49	5	1777	C
49	5	1778	C
49	5	1779	U
49	5	1781	U
49	5	1785	C
49	5	1787	A
49	5	1790	U
49	5	1800	U
49	5	1803	G
49	5	1804	A
49	5	1805	A
49	5	1811	G
49	5	1812	C
49	5	1815	G
49	5	1817	U
49	5	1819	G
49	5	1820	C
49	5	1821	G
49	5	1822	U
49	5	1828	C
49	5	1830	G
49	5	1832	C
49	5	1833	G
49	5	1834	U
49	5	1835	G
49	5	1836	G
49	5	1842	G

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Mol	Chain	Res	Type
49	5	1843	A
49	5	1848	C
49	5	1851	G
49	5	1855	G
49	5	1869	G
49	5	1881	C
49	5	1882	U
49	5	1890	G
49	5	1897	A
49	5	1898	C
49	5	1899	G
49	5	1900	C
49	5	1907	A
49	5	1910	G
49	5	1912	G
49	5	1913	C
49	5	1918	U
49	5	1919	G
49	5	1920	C
49	5	1921	C
49	5	1922	G
49	5	1923	A
49	5	1925	G
49	5	1928	C
49	5	1929	A
49	5	1931	C
49	5	1932	A
49	5	1936	C
49	5	1938	C
49	5	1939	A
49	5	1941	A
49	5	1945	G
49	5	1947	U
49	5	1951	G
49	5	1956	A
49	5	1959	U
49	5	1961	G
49	5	1962	A
49	5	1964	A
49	5	1966	C
49	5	1969	G
49	5	1972	G

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Mol	Chain	Res	Type
49	5	1975	G
49	5	1976	G
49	5	1977	C
49	5	1979	A
49	5	1980	U
49	5	1981	G
49	5	1983	A
49	5	1984	A
49	5	1985	G
49	5	1987	C
49	5	1988	G
49	5	1991	A
49	5	1992	U
49	5	1993	C
49	5	1995	G
49	5	1997	U
49	5	1998	A
49	5	2001	G
49	5	2002	A
49	5	2003	G
49	5	2004	U
49	5	2005	G
49	5	2007	G
49	5	2008	U
49	5	2009	A
49	5	2010	A
49	5	2011	C
49	5	2019	C
49	5	2023	C
49	5	2024	G
49	5	2025	A
49	5	2026	A
49	5	2033	A
49	5	2046	G
49	5	2047	A
49	5	2048	U
49	5	2052	G
49	5	2055	G
49	5	2056	G
49	5	2064	G
49	5	2069	A
49	5	2070	U

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Mol	Chain	Res	Type
49	5	2077	C
49	5	2078	C
49	5	2079	G
49	5	2084	C
49	5	2085	G
49	5	2088	A
49	5	2089	G
49	5	2090	U
49	5	2091	C
49	5	2092	G
49	5	2093	A
49	5	2094	G
49	5	2095	A
49	5	2096	G
49	5	2097	U
49	5	2100	A
49	5	2102	G
49	5	2105	A
49	5	2107	C
49	5	2108	G
49	5	2109	G
49	5	2110	C
49	5	2111	G
49	5	2112	G
49	5	2113	G
49	5	2114	G
49	5	2115	G
49	5	2116	C
49	5	2117	G
49	5	2118	G
49	5	2119	C
49	5	2120	G
49	5	2121	C
49	5	2122	G
49	5	2123	C
49	5	2124	G
49	5	2125	C
49	5	2126	G
49	5	2127	C
49	5	2131	C
49	5	2247	C
49	5	2248	C

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Mol	Chain	Res	Type
49	5	2250	C
49	5	2251	G
49	5	2252	G
49	5	2253	A
49	5	2254	G
49	5	2255	C
49	5	2256	C
49	5	2257	C
49	5	2258	C
49	5	2259	G
49	5	2260	C
49	5	2261	G
49	5	2263	A
49	5	2264	C
49	5	2265	G
49	5	2266	C
49	5	2267	U
49	5	2268	A
49	5	2269	C
49	5	2273	G
49	5	2275	G
49	5	2279	A
49	5	2281	U
49	5	2283	G
49	5	2289	C
49	5	2290	C
49	5	2295	C
49	5	2297	G
49	5	2298	U
49	5	2300	A
49	5	2301	G
49	5	2305	U
49	5	2306	G
49	5	2312	U
49	5	2313	A
49	5	2314	G
49	5	2315	G
49	5	2319	C
49	5	2321	G
49	5	2322	G
49	5	2331	G
49	5	2333	G

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Mol	Chain	Res	Type
49	5	2335	C
49	5	2337	C
49	5	2340	C
49	5	2342	G
49	5	2348	G
49	5	2349	A
49	5	2351	C
49	5	2357	G
49	5	2360	A
49	5	2362	U
49	5	2364	G
49	5	2369	U
49	5	2370	A
49	5	2378	G
49	5	2382	A
49	5	2389	A
49	5	2390	G
49	5	2391	G
49	5	2395	A
49	5	2396	A
49	5	2397	G
49	5	2398	U
49	5	2399	G
49	5	2401	A
49	5	2402	G
49	5	2404	A
49	5	2408	U
49	5	2417	A
49	5	2422	C
49	5	2425	U
49	5	2426	U
49	5	2428	A
49	5	2432	U
49	5	2433	G
49	5	2434	G
49	5	2440	U
49	5	2441	C
49	5	2443	G
49	5	2444	U
49	5	2445	C
49	5	2450	G
49	5	2458	C

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Mol	Chain	Res	Type
49	5	2467	U
49	5	2469	C
49	5	2471	G
49	5	2474	G
49	5	2475	G
49	5	2476	G
49	5	2488	C
49	5	2489	C
49	5	2490	U
49	5	2491	C
49	5	2503	G
49	5	2504	C
49	5	2505	C
49	5	2506	G
49	5	2507	A
49	5	2508	U
49	5	2511	A
49	5	2512	A
49	5	2513	A
49	5	2514	G
49	5	2517	A
49	5	2518	G
49	5	2526	C
49	5	2527	A
49	5	2529	A
49	5	2530	U
49	5	2537	A
49	5	2538	U
49	5	2544	G
49	5	2546	G
49	5	2547	G
49	5	2549	G
49	5	2551	A
49	5	2553	A
49	5	2554	U
49	5	2555	G
49	5	2560	C
49	5	2563	C
49	5	2566	G
49	5	2571	C
49	5	2572	C
49	5	2577	C

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Mol	Chain	Res	Type
49	5	2583	C
49	5	2586	G
49	5	2587	A
49	5	2588	C
49	5	2589	C
49	5	2601	A
49	5	2602	G
49	5	2611	A
49	5	2618	G
49	5	2620	G
49	5	2623	A
49	5	2627	C
49	5	2628	U
49	5	2630	U
49	5	2638	G
49	5	2640	G
49	5	2647	A
49	5	2661	U
49	5	2662	G
49	5	2663	G
49	5	2666	U
49	5	2670	C
49	5	2673	G
49	5	2674	A
49	5	2675	G
49	5	2684	C
49	5	2686	G
49	5	2687	U
49	5	2689	C
49	5	2695	A
49	5	2696	A
49	5	2704	C
49	5	2708	U
49	5	2710	C
49	5	2711	G
49	5	2712	G
49	5	2713	C
49	5	2714	G
49	5	2716	C
49	5	2725	A
49	5	2726	G
49	5	2737	C

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Mol	Chain	Res	Type
49	5	2740	U
49	5	2743	A
49	5	2744	A
49	5	2747	U
49	5	2752	G
49	5	2753	G
49	5	2754	G
49	5	2755	A
49	5	2756	G
49	5	2760	G
49	5	2761	U
49	5	2762	G
49	5	2764	A
49	5	2766	A
49	5	2767	U
49	5	2768	C
49	5	2769	U
49	5	2770	C
49	5	2782	U
49	5	2783	A
49	5	2787	A
49	5	2788	U
49	5	2789	A
49	5	2790	U
49	5	2793	G
49	5	2794	C
49	5	2796	G
49	5	2797	C
49	5	2798	A
49	5	2799	G
49	5	2806	A
49	5	2807	A
49	5	2813	A
49	5	2814	C
49	5	2815	A
49	5	2825	A
49	5	2826	U
49	5	2827	G
49	5	2828	U
49	5	2829	U
49	5	2833	A
49	5	2834	C

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Mol	Chain	Res	Type
49	5	2835	A
49	5	2838	G
49	5	2839	U
49	5	2841	G
49	5	2842	G
49	5	2844	A
49	5	2852	U
49	5	2854	G
49	5	2855	G
49	5	2858	A
49	5	2859	G
49	5	2860	C
49	5	2863	G
49	5	2864	A
49	5	2867	C
49	5	2869	U
49	5	2874	U
49	5	2897	G
49	5	2898	G
49	5	2900	U
49	5	2904	U
49	5	2905	C
49	5	2910	G
49	5	3591	C
49	5	3594	C
49	5	3596	A
49	5	3597	G
49	5	3604	A
49	5	3605	C
49	5	3606	U
49	5	3614	G
49	5	3615	G
49	5	3616	U
49	5	3617	G
49	5	3625	G
49	5	3626	G
49	5	3627	G
49	5	3635	A
49	5	3643	A
49	5	3644	U
49	5	3648	A
49	5	3653	A

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Mol	Chain	Res	Type
49	5	3657	U
49	5	3659	G
49	5	3660	C
49	5	3662	A
49	5	3663	A
49	5	3664	G
49	5	3667	C
49	5	3671	G
49	5	3672	G
49	5	3673	C
49	5	3674	G
49	5	3675	G
49	5	3679	U
49	5	3680	U
49	5	3681	G
49	5	3682	A
49	5	3696	C
49	5	3698	G
49	5	3701	C
49	5	3709	U
49	5	3710	G
49	5	3711	A
49	5	3712	A
49	5	3713	U
49	5	3714	G
49	5	3726	A
49	5	3727	A
49	5	3728	A
49	5	3729	U
49	5	3736	A
49	5	3738	G
49	5	3739	C
49	5	3743	G
49	5	3744	G
49	5	3745	U
49	5	3748	A
49	5	3750	G
49	5	3753	G
49	5	3756	A
49	5	3759	A
49	5	3765	G
49	5	3770	U

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Mol	Chain	Res	Type
49	5	3773	U
49	5	3774	A
49	5	3776	G
49	5	3777	G
49	5	3783	A
49	5	3784	A
49	5	3785	A
49	5	3786	U
49	5	3787	G
49	5	3791	C
49	5	3795	A
49	5	3799	A
49	5	3809	G
49	5	3810	C
49	5	3811	G
49	5	3814	U
49	5	3817	A
49	5	3819	G
49	5	3822	U
49	5	3824	A
49	5	3831	U
49	5	3838	U
49	5	3839	G
49	5	3840	U
49	5	3851	U
49	5	3859	G
49	5	3867	A
49	5	3868	G
49	5	3869	C
49	5	3870	C
49	5	3871	A
49	5	3876	A
49	5	3877	A
49	5	3878	C
49	5	3879	G
49	5	3889	G
49	5	3892	U
49	5	3897	G
49	5	3898	G
49	5	3900	G
49	5	3901	A
49	5	3905	A

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Mol	Chain	Res	Type
49	5	3906	A
49	5	3907	G
49	5	3912	U
49	5	3913	G
49	5	3914	U
49	5	3915	U
49	5	3916	G
49	5	3917	A
49	5	3923	A
49	5	3925	U
49	5	3926	C
49	5	3927	U
49	5	3932	U
49	5	3938	G
49	5	3939	G
49	5	3943	A
49	5	4069	U
49	5	4070	U
49	5	4073	A
49	5	4076	G
49	5	4084	G
49	5	4085	A
49	5	4086	G
49	5	4087	G
49	5	4088	C
49	5	4089	G
49	5	4091	G
49	5	4092	G
49	5	4093	G
49	5	4094	G
49	5	4097	G
49	5	4104	G
49	5	4105	A
49	5	4107	G
49	5	4114	C
49	5	4115	G
49	5	4116	C
49	5	4117	U
49	5	4118	U
49	5	4119	C
49	5	4120	U
49	5	4121	G

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Mol	Chain	Res	Type
49	5	4122	G
49	5	4123	C
49	5	4125	C
49	5	4126	C
49	5	4127	A
49	5	4140	C
49	5	4143	G
49	5	4144	C
49	5	4145	C
49	5	4149	C
49	5	4151	G
49	5	4161	G
49	5	4164	C
49	5	4166	G
49	5	4171	C
49	5	4180	G
49	5	4182	G
49	5	4183	G
49	5	4184	G
49	5	4191	G
49	5	4194	U
49	5	4195	G
49	5	4197	G
49	5	4203	A
49	5	4205	A
49	5	4206	C
49	5	4213	A
49	5	4214	A
49	5	4216	G
49	5	4217	G
49	5	4218	U
49	5	4219	A
49	5	4225	G
49	5	4228	G
49	5	4229	U
49	5	4232	U
49	5	4233	A
49	5	4235	G
49	5	4236	G
49	5	4237	C
49	5	4241	C
49	5	4249	G

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Mol	Chain	Res	Type
49	5	4251	A
49	5	4254	G
49	5	4255	A
49	5	4266	G
49	5	4267	G
49	5	4268	A
49	5	4271	A
49	5	4273	A
49	5	4274	A
49	5	4282	A
49	5	4286	C
49	5	4290	U
49	5	4291	G
49	5	4292	A
49	5	4297	G
49	5	4305	G
49	5	4306	U
49	5	4313	A
49	5	4314	C
49	5	4317	A
49	5	4318	C
49	5	4323	A
49	5	4329	G
49	5	4330	G
49	5	4332	C
49	5	4335	C
49	5	4336	A
49	5	4337	C
49	5	4339	A
49	5	4348	A
49	5	4349	C
49	5	4350	C
49	5	4354	U
49	5	4355	G
49	5	4359	U
49	5	4360	U
49	5	4367	G
49	5	4368	G
49	5	4374	U
49	5	4375	C
49	5	4376	A
49	5	4377	G

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Mol	Chain	Res	Type
49	5	4378	A
49	5	4379	A
49	5	4380	A
49	5	4387	C
49	5	4391	G
49	5	4394	A
49	5	4395	U
49	5	4398	C
49	5	4401	G
49	5	4419	U
49	5	4420	U
49	5	4422	A
49	5	4426	C
49	5	4433	G
49	5	4437	U
49	5	4438	U
49	5	4439	U
49	5	4441	A
49	5	4444	C
49	5	4448	G
49	5	4449	A
49	5	4450	U
49	5	4451	G
49	5	4452	U
49	5	4453	C
49	5	4463	U
49	5	4464	A
49	5	4465	U
49	5	4466	C
49	5	4467	A
49	5	4472	G
49	5	4473	A
49	5	4475	G
49	5	4476	C
49	5	4481	U
49	5	4482	U
49	5	4484	A
49	5	4487	A
49	5	4488	A
49	5	4489	G
49	5	4490	C
49	5	4491	G

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Mol	Chain	Res	Type
49	5	4497	U
49	5	4500	U
49	5	4511	A
49	5	4512	U
49	5	4513	A
49	5	4518	A
49	5	4519	C
49	5	4522	G
49	5	4523	A
49	5	4524	G
49	5	4528	G
49	5	4529	G
49	5	4530	U
49	5	4531	U
49	5	4532	U
49	5	4534	G
49	5	4537	C
49	5	4548	A
49	5	4549	G
49	5	4550	G
49	5	4552	U
49	5	4554	G
49	5	4555	U
49	5	4559	A
49	5	4560	C
49	5	4569	U
49	5	4570	G
49	5	4573	G
49	5	4575	G
49	5	4576	U
49	5	4577	U
49	5	4583	C
49	5	4584	A
49	5	4585	U
49	5	4586	G
49	5	4589	A
49	5	4590	A
49	5	4605	A
49	5	4606	G
49	5	4608	G
49	5	4617	G
49	5	4623	G

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Mol	Chain	Res	Type
49	5	4624	A
49	5	4629	U
49	5	4636	U
49	5	4637	G
49	5	4641	U
49	5	4646	U
49	5	4647	G
49	5	4648	A
49	5	4652	G
49	5	4656	A
49	5	4657	U
49	5	4661	G
49	5	4670	C
49	5	4671	C
49	5	4672	A
49	5	4677	U
49	5	4678	G
49	5	4687	A
49	5	4693	C
49	5	4694	G
49	5	4695	C
49	5	4700	A
49	5	4701	A
49	5	4703	U
49	5	4707	A
49	5	4709	U
49	5	4719	G
49	5	4720	C
49	5	4729	A
49	5	4730	C
49	5	4731	G
49	5	4732	G
49	5	4733	C
49	5	4734	A
49	5	4737	G
49	5	4741	C
49	5	4745	G
49	5	4746	C
49	5	4749	C
49	5	4750	G
49	5	4751	G
49	5	4752	U

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Mol	Chain	Res	Type
49	5	4753	U
49	5	4756	C
49	5	4757	C
49	5	4758	U
49	5	4760	G
49	5	4763	U
49	5	4764	A
49	5	4770	U
49	5	4771	C
49	5	4774	C
49	5	4860	G
49	5	4865	C
49	5	4869	U
49	5	4871	C
49	5	4872	G
49	5	4873	G
49	5	4874	A
49	5	4875	G
49	5	4876	U
49	5	4877	G
49	5	4878	C
49	5	4881	U
49	5	4882	U
49	5	4883	C
49	5	4884	G
49	5	4885	U
49	5	4886	C
49	5	4887	C
49	5	4888	U
49	5	4889	G
49	5	4890	G
49	5	4891	G
49	5	4893	A
49	5	4895	C
49	5	4896	G
49	5	4898	G
49	5	4900	C
49	5	4901	G
49	5	4903	G
49	5	4904	G
49	5	4906	C
49	5	4909	A

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Mol	Chain	Res	Type
49	5	4910	G
49	5	4911	A
49	5	4912	G
49	5	4913	G
49	5	4924	C
49	5	4926	C
49	5	4927	G
49	5	4929	C
49	5	4930	C
49	5	4932	U
49	5	4933	C
49	5	4934	A
49	5	4935	C
49	5	4936	G
49	5	4938	A
49	5	4941	G
49	5	4942	C
49	5	4944	C
49	5	4945	G
49	5	4946	U
49	5	4947	U
49	5	4948	C
49	5	4949	G
49	5	4950	U
49	5	4951	G
49	5	4952	G
49	5	4959	U
49	5	4960	G
49	5	4961	G
49	5	4964	C
49	5	4965	U
49	5	4966	A
49	5	4967	A
49	5	4975	G
49	5	4976	U
49	5	4980	C
49	5	4981	G
49	5	4985	U
49	5	4988	U
49	5	4989	U
49	5	4990	C
49	5	4991	U

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Mol	Chain	Res	Type
49	5	4992	G
49	5	4993	G
49	5	4999	G
49	5	5002	U
49	5	5004	C
49	5	5005	G
49	5	5006	U
49	5	5007	A
49	5	5011	A
49	5	5013	C
49	5	5014	A
49	5	5016	A
49	5	5017	G
49	5	5018	C
49	5	5023	C
49	5	5026	U
49	5	5027	C
49	5	5028	G
49	5	5029	C
49	5	5031	G
49	5	5033	G
49	5	5035	U
49	5	5039	U
49	5	5041	G
49	5	5042	A
49	5	5045	G
49	5	5046	U
49	5	5047	C
49	5	5050	C
49	5	5052	C
49	5	5053	U
49	5	5054	C
49	5	5056	A
49	5	5058	A
49	5	5060	A
49	5	5061	A
49	5	5062	G
49	5	5063	G
49	5	5066	U
50	7	3	C
50	7	7	G
50	7	11	A

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Mol	Chain	Res	Type
50	7	21	G
50	7	22	A
50	7	25	G
50	7	30	C
50	7	33	U
50	7	40	U
50	7	42	A
50	7	51	G
50	7	53	U
50	7	54	A
50	7	60	G
50	7	64	G
50	7	65	G
50	7	74	A
50	7	80	U
50	7	89	G
50	7	97	G
50	7	98	G
50	7	99	G
50	7	100	A
50	7	106	G
50	7	109	U
50	7	110	G
50	7	112	U
50	7	120	U
51	8	2	G
51	8	3	A
51	8	22	U
51	8	23	C
51	8	32	C
51	8	34	U
51	8	35	C
51	8	38	U
51	8	50	C
51	8	52	A
51	8	55	U
51	8	59	A
51	8	61	A
51	8	62	A
51	8	63	U
51	8	71	A
51	8	75	G

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Mol	Chain	Res	Type
51	8	80	A
51	8	81	C
51	8	82	A
51	8	83	C
51	8	84	A
51	8	85	U
51	8	86	U
51	8	87	G
51	8	94	G
51	8	95	A
51	8	103	A
51	8	104	A
51	8	105	C
51	8	107	C
51	8	109	C
51	8	110	U
51	8	111	U
51	8	112	G
51	8	113	C
51	8	114	G
51	8	116	C
51	8	120	G
51	8	121	G
51	8	122	G
51	8	123	U
51	8	124	U
51	8	125	C
51	8	126	C
51	8	127	U
51	8	137	A
51	8	150	C
51	8	153	C
51	8	156	U

All (385) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
48	2	15	G
48	2	60	U
49	5	1	C
49	5	12	A
49	5	20	U

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Mol	Chain	Res	Type
49	5	42	A
49	5	43	U
49	5	48	G
49	5	58	G
49	5	64	A
49	5	65	A
49	5	72	C
49	5	84	A
49	5	119	G
49	5	120	A
49	5	125	C
49	5	134	G
49	5	136	C
49	5	143	C
49	5	159	C
49	5	170	C
49	5	183	C
49	5	186	G
49	5	187	U
49	5	215	C
49	5	216	C
49	5	218	A
49	5	219	G
49	5	224	U
49	5	226	G
49	5	234	G
49	5	245	C
49	5	256	G
49	5	265	C
49	5	266	C
49	5	275	C
49	5	296	A
49	5	315	G
49	5	316	U
49	5	333	U
49	5	352	G
49	5	361	C
49	5	385	A
49	5	387	G
49	5	406	C
49	5	409	G
49	5	417	G

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Mol	Chain	Res	Type
49	5	451	C
49	5	454	U
49	5	485	C
49	5	486	C
49	5	497	G
49	5	505	G
49	5	514	U
49	5	648	G
49	5	655	C
49	5	664	G
49	5	668	C
49	5	684	G
49	5	693	C
49	5	713	C
49	5	728	U
49	5	729	G
49	5	733	A
49	5	746	A
49	5	917	A
49	5	927	G
49	5	928	C
49	5	930	G
49	5	931	C
49	5	932	A
49	5	935	A
49	5	936	C
49	5	943	A
49	5	956	A
49	5	957	G
49	5	958	G
49	5	961	G
49	5	965	G
49	5	968	C
49	5	977	C
49	5	978	G
49	5	979	C
49	5	989	U
49	5	1067	G
49	5	1068	G
49	5	1070	G
49	5	1076	C
49	5	1210	C

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Mol	Chain	Res	Type
49	5	1211	G
49	5	1214	C
49	5	1216	C
49	5	1217	G
49	5	1232	G
49	5	1236	C
49	5	1238	A
49	5	1239	C
49	5	1241	C
49	5	1243	C
49	5	1264	C
49	5	1266	G
49	5	1279	A
49	5	1280	C
49	5	1292	C
49	5	1293	G
49	5	1296	G
49	5	1313	C
49	5	1324	A
49	5	1329	G
49	5	1354	A
49	5	1357	C
49	5	1358	G
49	5	1359	G
49	5	1365	C
49	5	1368	A
49	5	1370	G
49	5	1371	A
49	5	1379	C
49	5	1380	G
49	5	1387	A
49	5	1397	A
49	5	1398	A
49	5	1407	C
49	5	1409	C
49	5	1410	U
49	5	1419	G
49	5	1420	A
49	5	1435	G
49	5	1440	U
49	5	1445	U
49	5	1455	G

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Mol	Chain	Res	Type
49	5	1474	C
49	5	1477	C
49	5	1480	C
49	5	1481	C
49	5	1482	G
49	5	1485	C
49	5	1488	G
49	5	1500	A
49	5	1502	G
49	5	1523	A
49	5	1533	A
49	5	1596	U
49	5	1597	G
49	5	1601	A
49	5	1611	C
49	5	1633	G
49	5	1642	A
49	5	1650	A
49	5	1654	G
49	5	1696	C
49	5	1697	G
49	5	1724	G
49	5	1733	G
49	5	1741	G
49	5	1756	U
49	5	1775	A
49	5	1804	A
49	5	1815	G
49	5	1818	G
49	5	1819	G
49	5	1835	G
49	5	1898	C
49	5	1919	G
49	5	1920	C
49	5	1921	C
49	5	1928	C
49	5	1938	C
49	5	1960	A
49	5	1974	U
49	5	1975	G
49	5	1980	U
49	5	1983	A

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Mol	Chain	Res	Type
49	5	1990	A
49	5	2002	A
49	5	2009	A
49	5	2025	A
49	5	2046	G
49	5	2068	C
49	5	2075	G
49	5	2083	C
49	5	2084	C
49	5	2089	G
49	5	2093	A
49	5	2096	G
49	5	2107	C
49	5	2111	G
49	5	2114	G
49	5	2116	C
49	5	2119	C
49	5	2122	G
49	5	2123	C
49	5	2126	G
49	5	2246	C
49	5	2251	G
49	5	2256	C
49	5	2257	C
49	5	2260	C
49	5	2262	G
49	5	2264	C
49	5	2265	G
49	5	2266	C
49	5	2267	U
49	5	2268	A
49	5	2269	C
49	5	2272	C
49	5	2278	G
49	5	2280	G
49	5	2289	C
49	5	2300	A
49	5	2305	U
49	5	2313	A
49	5	2331	G
49	5	2347	A
49	5	2348	G

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Mol	Chain	Res	Type
49	5	2361	G
49	5	2389	A
49	5	2396	A
49	5	2398	U
49	5	2407	G
49	5	2443	G
49	5	2467	U
49	5	2468	U
49	5	2474	G
49	5	2475	G
49	5	2487	G
49	5	2490	U
49	5	2502	G
49	5	2506	G
49	5	2511	A
49	5	2512	A
49	5	2513	A
49	5	2517	A
49	5	2529	A
49	5	2546	G
49	5	2553	A
49	5	2554	U
49	5	2587	A
49	5	2588	C
49	5	2618	G
49	5	2661	U
49	5	2666	U
49	5	2673	G
49	5	2695	A
49	5	2711	G
49	5	2752	G
49	5	2754	G
49	5	2760	G
49	5	2761	U
49	5	2768	C
49	5	2769	U
49	5	2782	U
49	5	2788	U
49	5	2795	A
49	5	2796	G
49	5	2806	A
49	5	2825	A

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Mol	Chain	Res	Type
49	5	2826	U
49	5	2827	G
49	5	2833	A
49	5	2857	A
49	5	2859	G
49	5	3593	C
49	5	3615	G
49	5	3625	G
49	5	3662	A
49	5	3663	A
49	5	3672	G
49	5	3673	C
49	5	3679	U
49	5	3697	U
49	5	3712	A
49	5	3726	A
49	5	3735	G
49	5	3773	U
49	5	3776	G
49	5	3783	A
49	5	3784	A
49	5	3786	U
49	5	3790	U
49	5	3791	C
49	5	3809	G
49	5	3811	G
49	5	3839	G
49	5	3876	A
49	5	3878	C
49	5	3888	G
49	5	3904	G
49	5	3905	A
49	5	3922	G
49	5	3938	G
49	5	4069	U
49	5	4075	U
49	5	4084	G
49	5	4086	G
49	5	4115	G
49	5	4117	U
49	5	4119	C
49	5	4120	U

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Mol	Chain	Res	Type
49	5	4121	G
49	5	4124	G
49	5	4144	C
49	5	4163	U
49	5	4170	A
49	5	4183	G
49	5	4194	U
49	5	4195	G
49	5	4232	U
49	5	4254	G
49	5	4266	G
49	5	4291	G
49	5	4331	G
49	5	4348	A
49	5	4349	C
49	5	4375	C
49	5	4378	A
49	5	4379	A
49	5	4395	U
49	5	4448	G
49	5	4449	A
49	5	4453	C
49	5	4463	U
49	5	4475	G
49	5	4481	U
49	5	4488	A
49	5	4510	A
49	5	4512	U
49	5	4518	A
49	5	4519	C
49	5	4522	G
49	5	4527	G
49	5	4528	G
49	5	4548	A
49	5	4583	C
49	5	4589	A
49	5	4656	A
49	5	4670	C
49	5	4693	C
49	5	4699	U
49	5	4718	G
49	5	4719	G

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Mol	Chain	Res	Type
49	5	4730	C
49	5	4752	U
49	5	4756	C
49	5	4770	U
49	5	4870	G
49	5	4872	G
49	5	4874	A
49	5	4885	U
49	5	4887	C
49	5	4888	U
49	5	4889	G
49	5	4900	C
49	5	4909	A
49	5	4910	G
49	5	4912	G
49	5	4926	C
49	5	4935	C
49	5	4945	G
49	5	4948	C
49	5	4950	U
49	5	4951	G
49	5	4965	U
49	5	4978	G
49	5	4990	C
49	5	4991	U
49	5	5005	G
49	5	5016	A
49	5	5022	U
49	5	5026	U
49	5	5027	C
49	5	5041	G
49	5	5059	C
49	5	5060	A
49	5	5061	A
50	7	109	U
51	8	2	G
51	8	38	U
51	8	62	A
51	8	94	G
51	8	104	A
51	8	110	U
51	8	111	U

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Mol	Chain	Res	Type
51	8	124	U
51	8	125	C

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
48	5MU	2	54	48	19,22,23	1.50	4 (21%)	27,32,35	2.02	8 (29%)

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
48	5MU	2	54	48	-	2/7/25/26	0/2/2/2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	2	54	5MU	C6-C5	3.36	1.40	1.34
48	2	54	5MU	C2-N1	3.20	1.43	1.38
48	2	54	5MU	C4-C5	2.72	1.49	1.44
48	2	54	5MU	C4-N3	-2.12	1.34	1.38

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	2	54	5MU	N3-C2-N1	4.91	121.28	114.89
48	2	54	5MU	C4-N3-C2	-4.16	121.89	127.34
48	2	54	5MU	C5-C4-N3	3.79	118.62	115.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	2	54	5MU	O4-C4-C5	-3.39	121.04	124.92
48	2	54	5MU	C5M-C5-C4	2.90	121.88	118.78
48	2	54	5MU	C6-N1-C2	-2.42	118.90	121.30
48	2	54	5MU	C3'-C2'-C1'	2.17	105.58	101.46
48	2	54	5MU	O2-C2-N3	-2.08	117.65	121.49

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
48	2	54	5MU	O4'-C4'-C5'-O5'
48	2	54	5MU	C3'-C4'-C5'-O5'

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 164 ligands modelled in this entry, 164 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
46	x	14
49	5	13
46	y	12

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	x	1211:UNK	C	1300:UNK	N	25.67
1	x	608:UNK	C	700:UNK	N	22.35
1	x	1014:UNK	C	1100:UNK	N	19.48
1	x	817:UNK	C	900:UNK	N	18.97
1	y	223:UNK	C	250:UNK	N	18.15
1	5	4776:G	O3'	4859:C	P	18.06
1	5	757:G	O3'	906:C	P	17.33
1	5	519:C	O3'	642:G	P	16.68
1	x	1318:UNK	C	1400:UNK	N	16.67
1	5	2910:G	O3'	3583:U	P	16.41
1	5	2131:C	O3'	2243:C	P	14.71
1	5	3950:U	O3'	4065:G	P	14.58
1	y	116:UNK	C	150:UNK	N	14.39
1	y	62:UNK	C	100:UNK	N	14.33
1	x	713:UNK	C	800:UNK	N	13.69
1	5	997:C	O3'	1047:C	P	13.50
1	y	15:UNK	C	50:UNK	N	13.30
1	y	465:UNK	C	500:UNK	N	13.06
1	y	171:UNK	C	200:UNK	N	12.23
1	x	515:UNK	C	600:UNK	N	11.79
1	y	413:UNK	C	450:UNK	N	10.77
1	y	309:UNK	C	350:UNK	N	10.39
1	x	55:UNK	C	100:UNK	N	9.70
1	5	1051:G	O3'	1064:G	P	9.28
1	y	516:UNK	C	550:UNK	N	9.23
1	x	926:UNK	C	1000:UNK	N	8.71
1	y	266:UNK	C	300:UNK	N	8.32
1	x	111:UNK	C	200:UNK	N	6.50
1	x	1118:UNK	C	1200:UNK	N	6.08
1	x	409:UNK	C	500:UNK	N	6.02
1	x	216:UNK	C	300:UNK	N	5.93
1	x	309:UNK	C	400:UNK	N	5.87
1	5	1222:A	O3'	1232:G	P	4.65

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	y	367:UNK	C	400:UNK	N	4.13
1	5	1699:A	O3'	1718:C	P	3.82
1	5	1100:U	O3'	1167:C	P	3.77
1	y	564:UNK	C	600:UNK	N	3.18
1	5	4942:C	O3'	4944:C	P	2.75
1	5	4939:C	O3'	4941:G	P	2.65

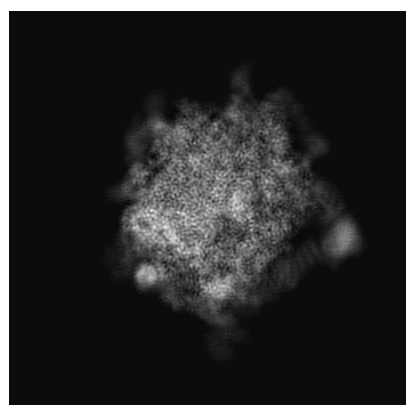
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-2832. These allow visual inspection of the internal detail of the map and identification of artifacts.

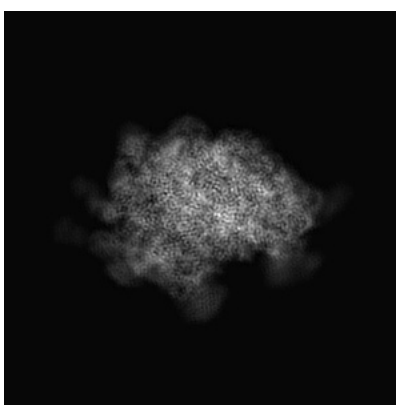
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

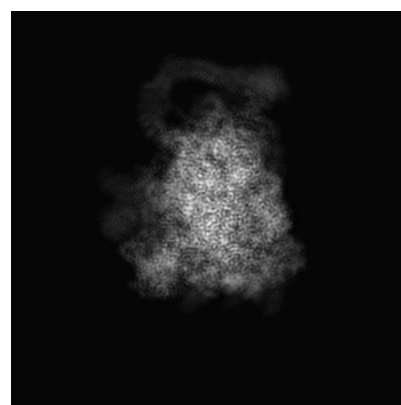
6.1.1 Primary map



X



Y

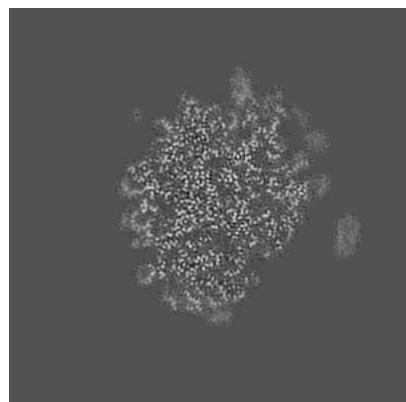


Z

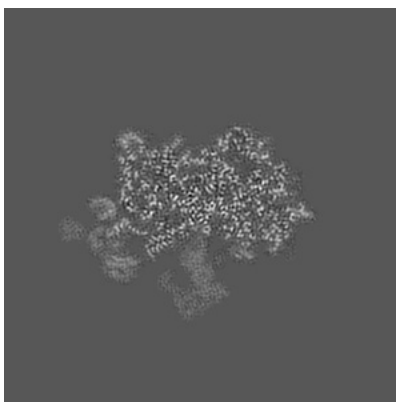
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

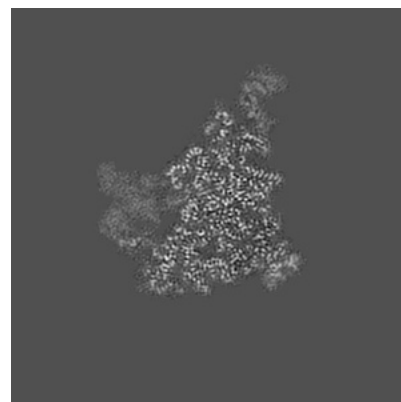
6.2.1 Primary map



X Index: 160



Y Index: 160

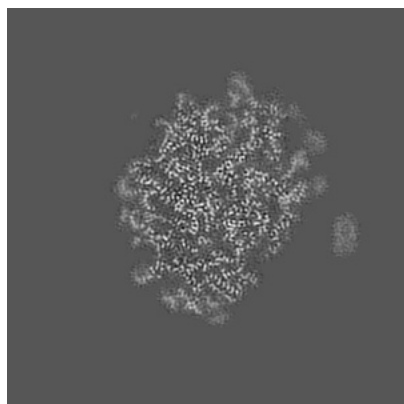


Z Index: 160

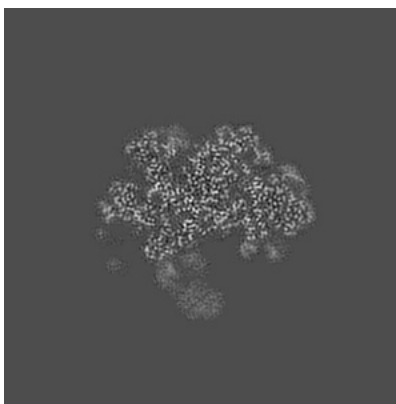
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

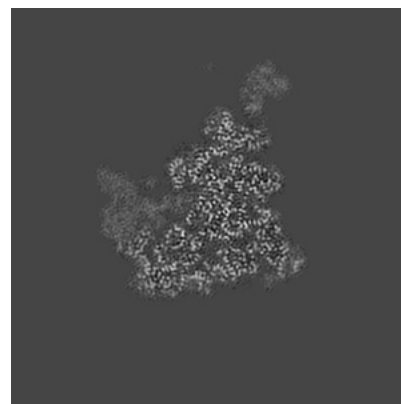
6.3.1 Primary map



X Index: 158



Y Index: 149

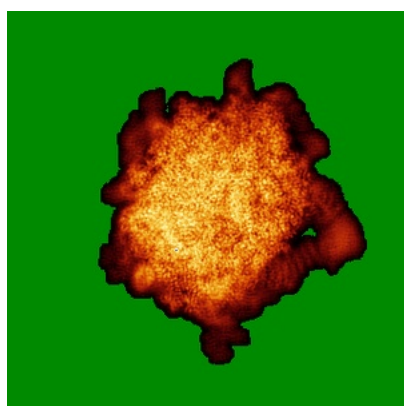


Z Index: 156

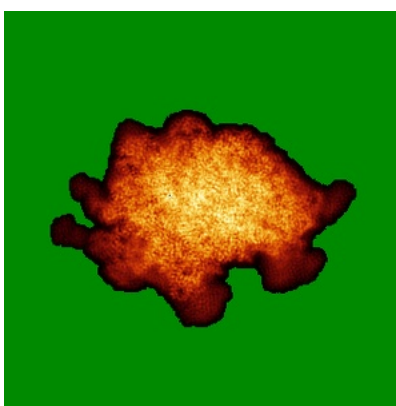
The images above show the largest variance slices of the map in three orthogonal directions.

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

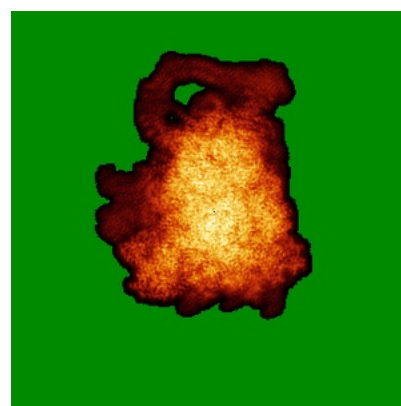
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.08. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

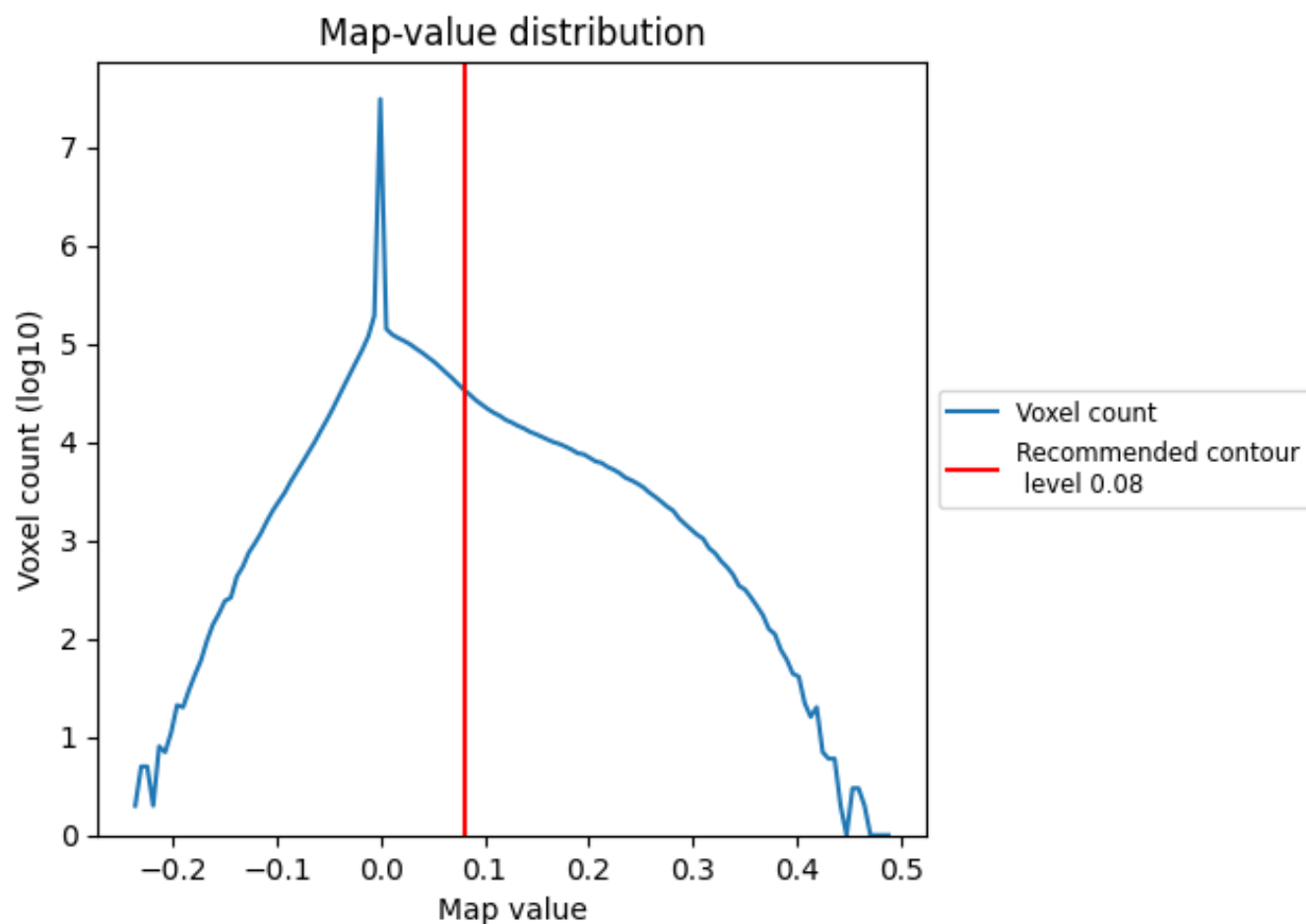
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

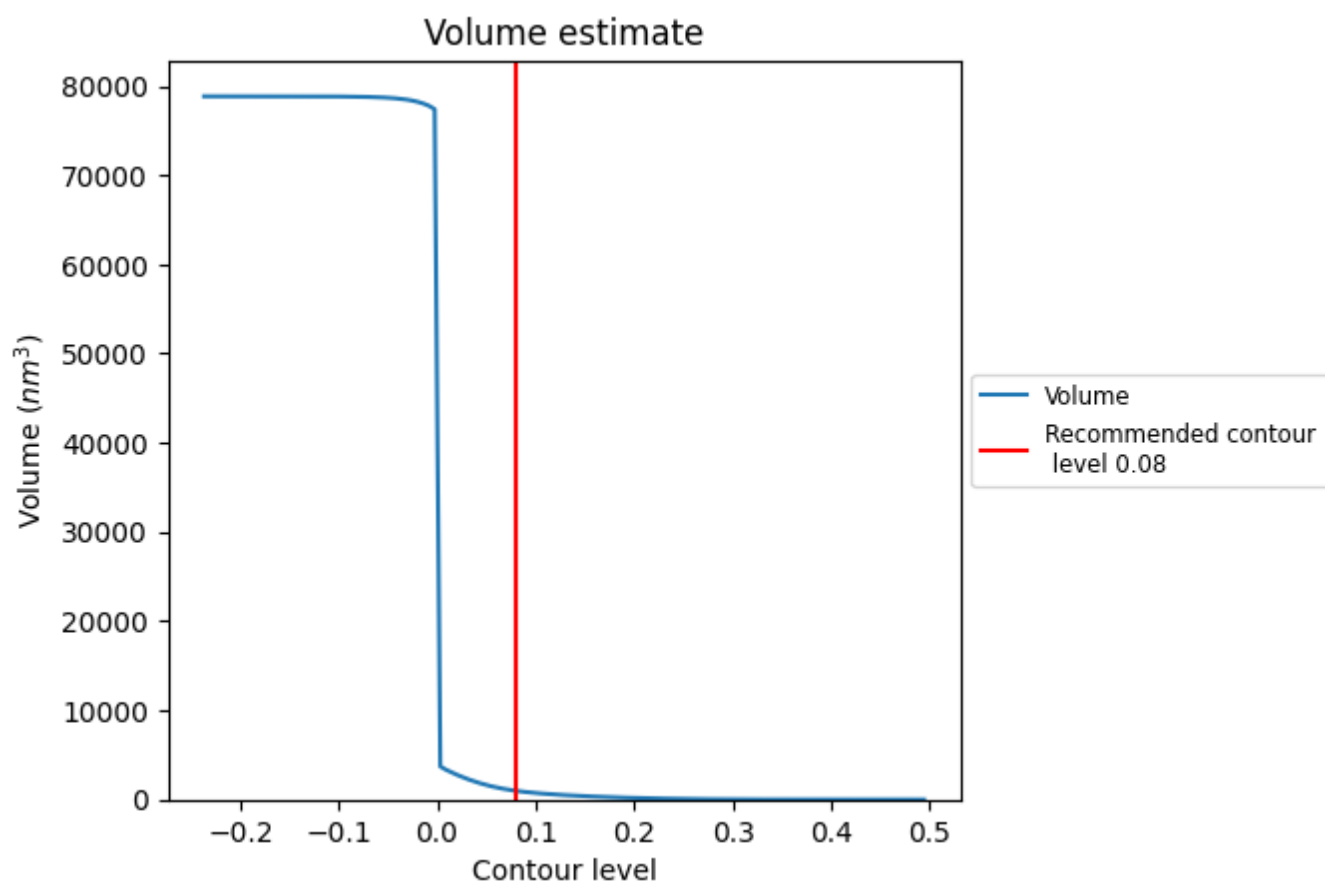
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

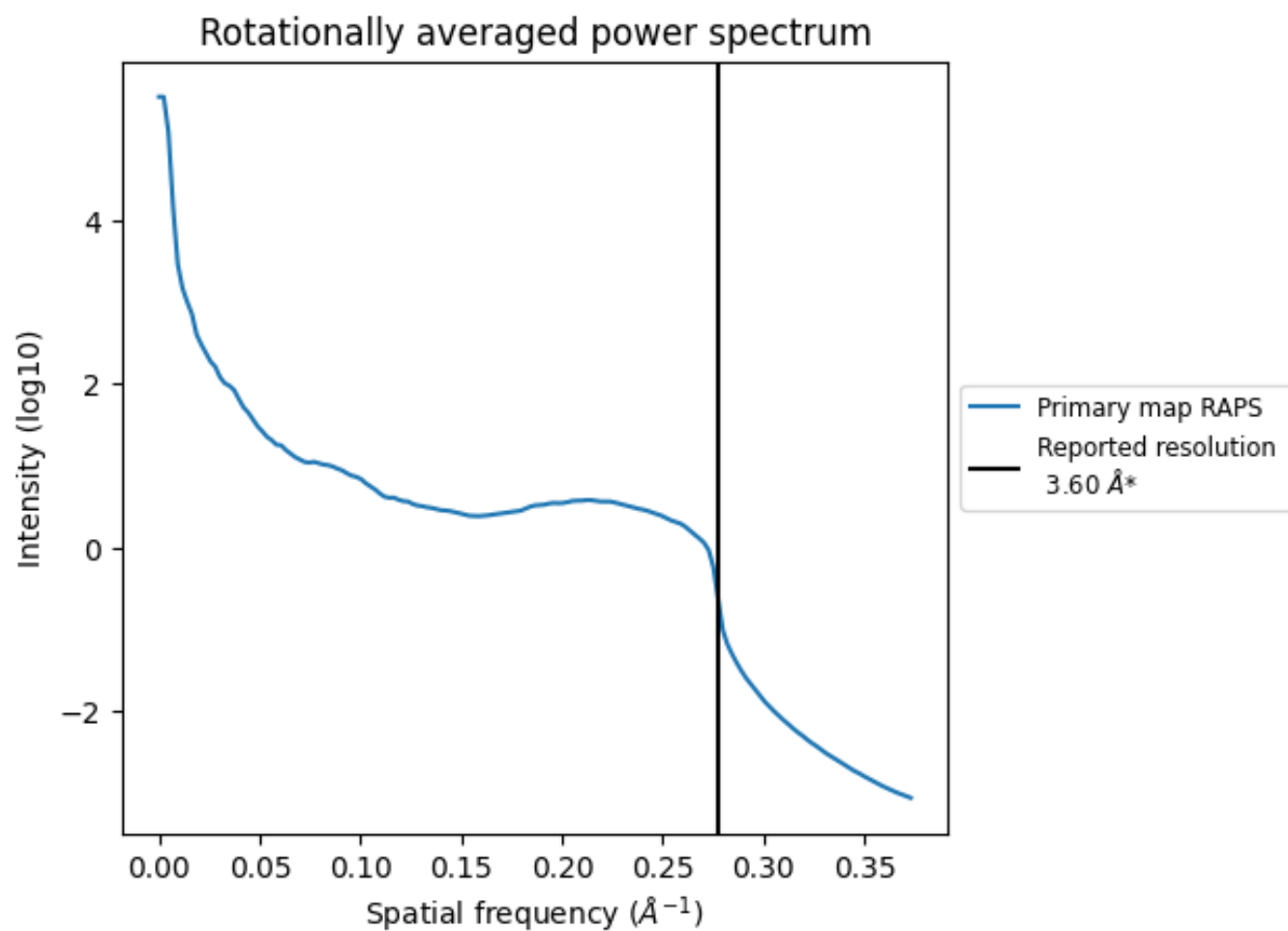
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 982 nm^3 ; this corresponds to an approximate mass of 887 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.278 $\text{\AA}^{-1}$

8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

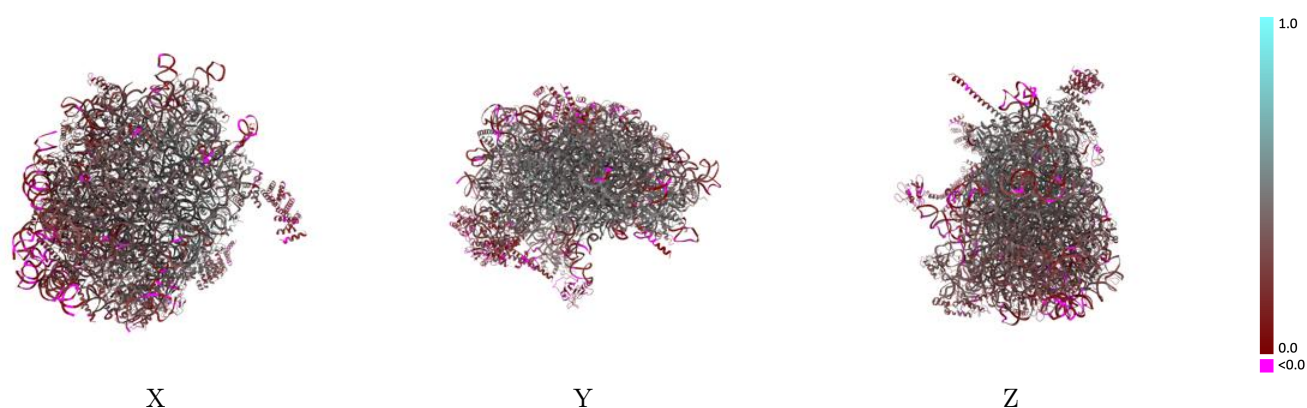
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-2832 and PDB model 3J92. Per-residue inclusion information can be found in section 3 on page 15.

9.1 Map-model overlay [i](#)

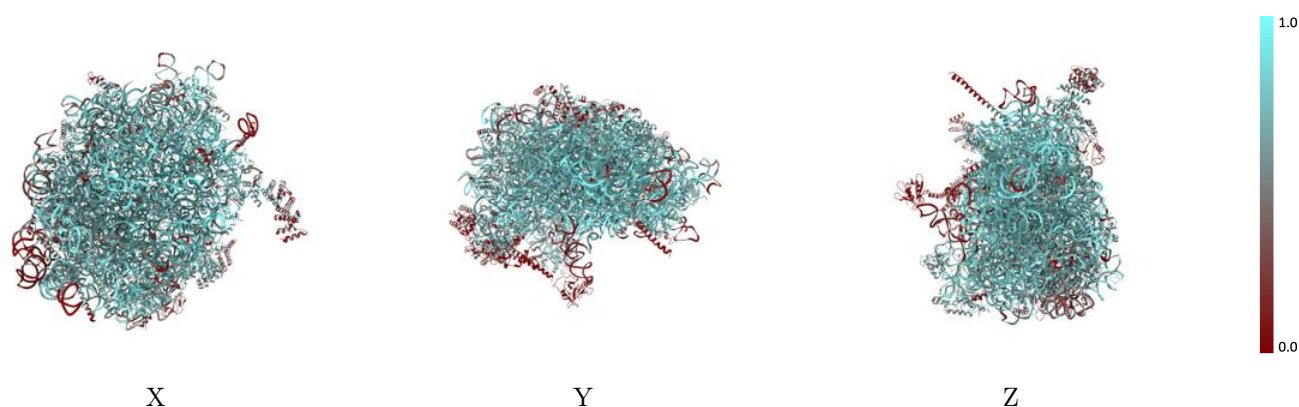
This section was not generated.

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



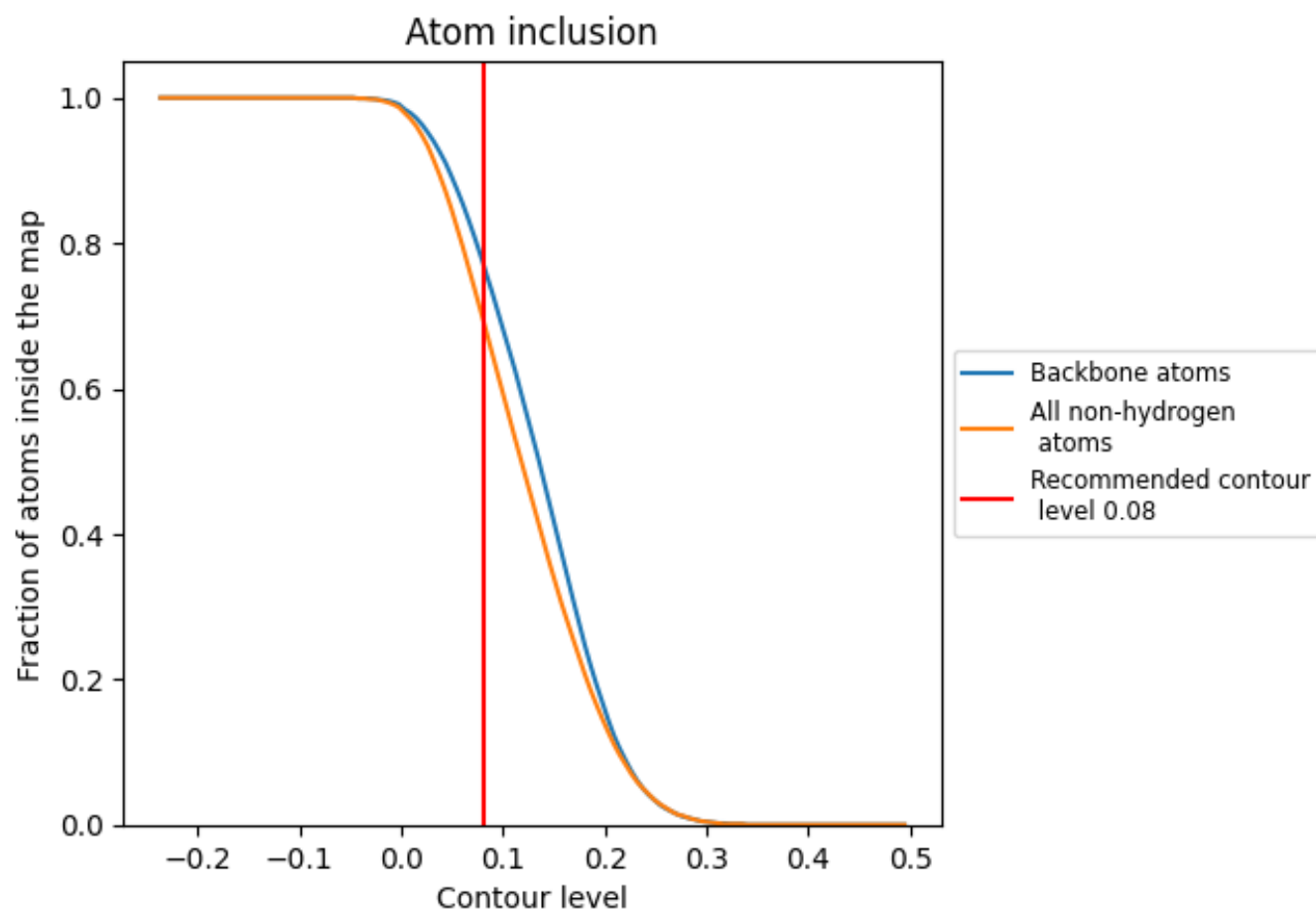
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.08).

9.4 Atom inclusion [i](#)



At the recommended contour level, 77% of all backbone atoms, 70% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.08) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6970	 0.3400
0	 0.1040	 0.1200
1	 0.4960	 0.3720
2	 0.1420	 0.1480
5	 0.7510	 0.3290
7	 0.7880	 0.3270
8	 0.7770	 0.3580
A	 0.7640	 0.4550
B	 0.7690	 0.4700
C	 0.6620	 0.3490
D	 0.6230	 0.2770
E	 0.6090	 0.3340
F	 0.6590	 0.3210
G	 0.5920	 0.3360
H	 0.6800	 0.3990
I	 0.6840	 0.3810
J	 0.6240	 0.3070
L	 0.6220	 0.3110
M	 0.6950	 0.3750
N	 0.7330	 0.3860
O	 0.7360	 0.4310
P	 0.7530	 0.4430
Q	 0.6540	 0.3320
R	 0.6340	 0.3880
S	 0.6960	 0.3580
T	 0.6470	 0.3510
U	 0.6780	 0.4340
V	 0.7530	 0.4820
W	 0.7110	 0.4620
X	 0.6830	 0.4060
Y	 0.6810	 0.3670
Z	 0.6890	 0.4210
a	 0.6950	 0.3540
b	 0.5500	 0.2830
c	 0.7260	 0.4490



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Chain	Atom inclusion	Q-score
d	 0.7000	 0.4590
e	 0.7050	 0.3930
f	 0.7390	 0.4080
g	 0.7080	 0.4350
h	 0.6490	 0.3590
i	 0.6390	 0.3470
j	 0.7490	 0.4210
k	 0.5800	 0.3760
l	 0.7020	 0.4410
m	 0.7090	 0.4040
o	 0.6480	 0.3570
p	 0.7180	 0.4660
r	 0.6770	 0.3480
s	 0.2370	 0.1680
t	 0.2130	 0.1390
u	 0.0110	 0.0690
v	 0.3540	 0.2610
w	 0.4910	 0.3660
x	 0.4690	 0.2410
y	 0.4040	 0.2100
z	 0.4930	 0.3510