Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 12:04 PM UTC

PDB ID	:	6S05 / pdb_00006s05
EMDB ID	:	EMD-10071
Title	:	Cryo-EM structures of Lsg1-TAP pre-60S ribosomal particles
Authors	:	Kargas, V.; Warren, A.J.
Deposited on	:	2019-06-13
Resolution	:	3.90 Å(reported)
Based on initial model	:	4V88

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

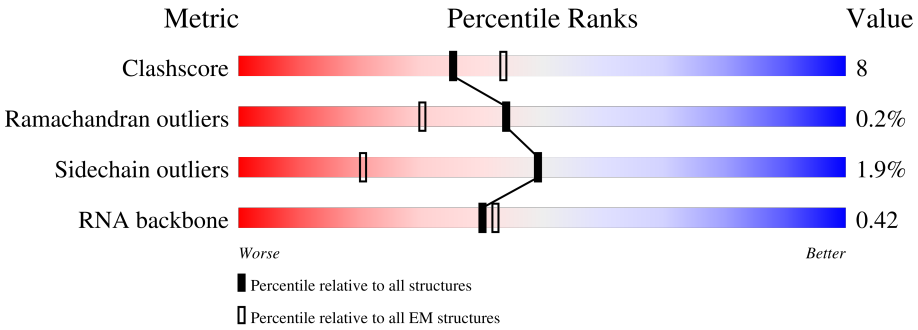
EMDB validation analysis	:	0.0.1.dev132
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh &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

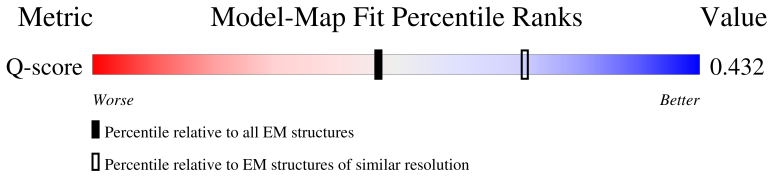
1 Overall quality at a glance

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

The reported resolution of this entry is 3.90 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	8855 (3.40 - 4.40)

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 <=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	3396	8% 51% 36% 6% 7%
2	B	254	74% 22%
3	C	387	81% 17%

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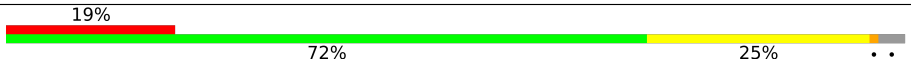
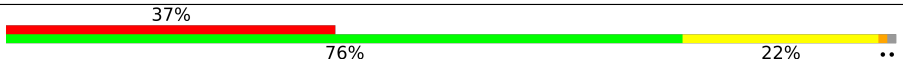
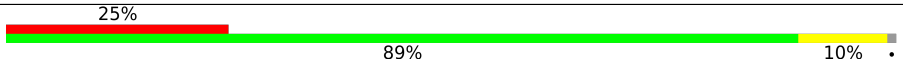
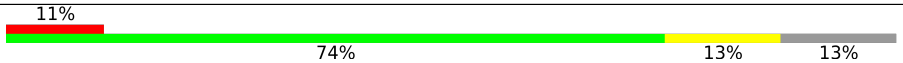
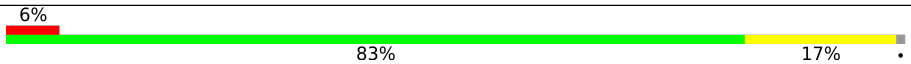
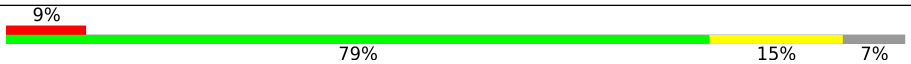
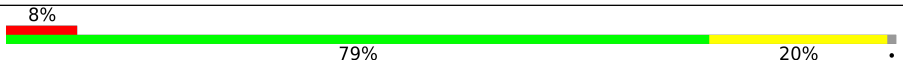
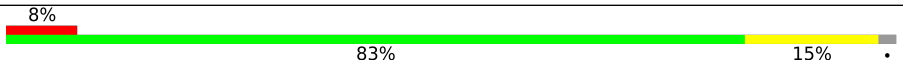
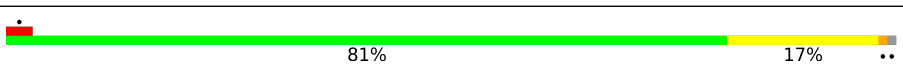
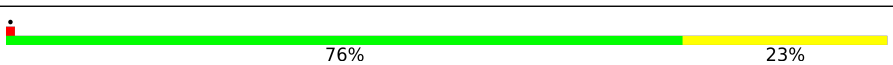
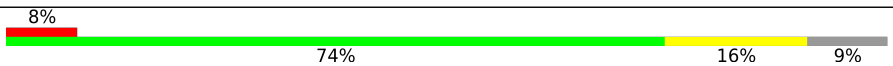
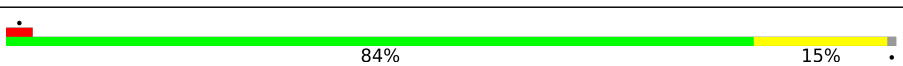
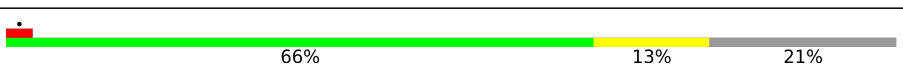
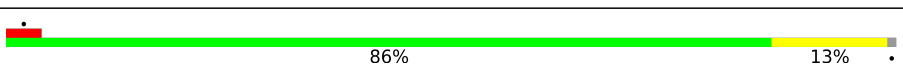
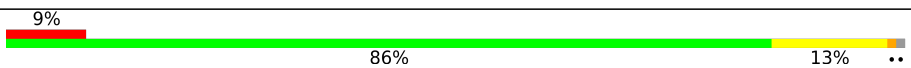
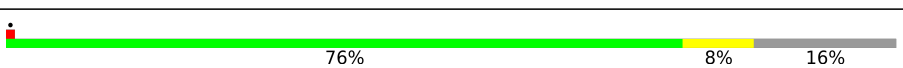
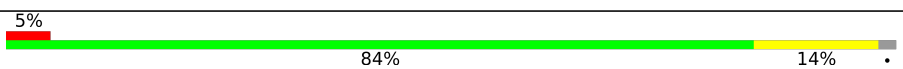
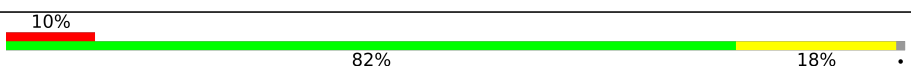
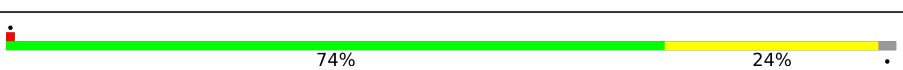
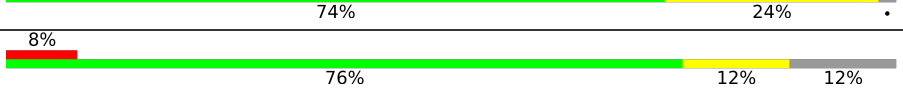
Mol	Chain	Length	Quality of chain
4	D	362	
5	E	174	
6	F	191	
7	G	176	
8	H	256	
9	J	198	
10	K	199	
11	L	137	
12	M	138	
13	N	149	
14	O	204	
15	P	297	
16	Q	186	
17	R	189	
18	S	172	
19	T	160	
20	U	184	
21	V	121	
22	W	142	
23	X	127	
24	Y	136	
25	Z	120	
26	a	59	
27	b	244	
28	c	105	

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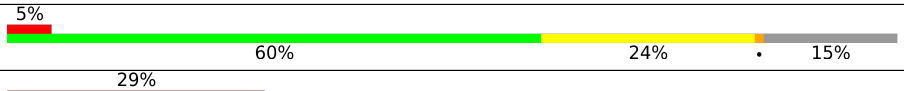
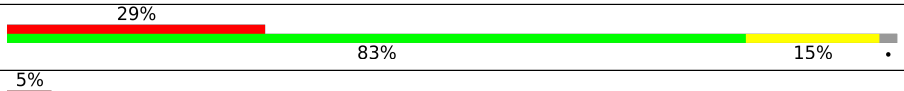
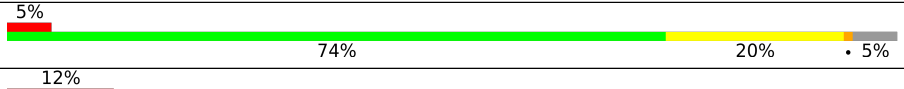
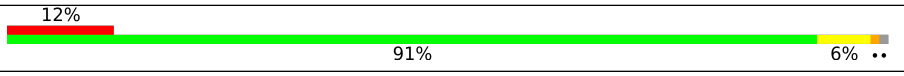
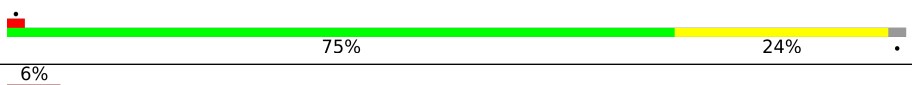
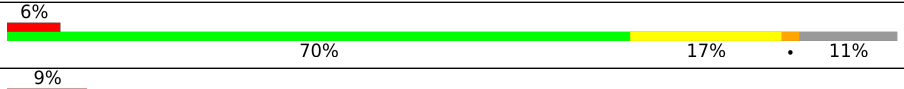
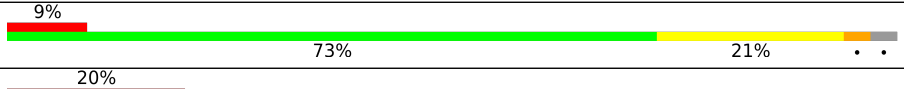
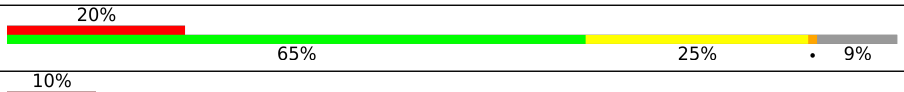
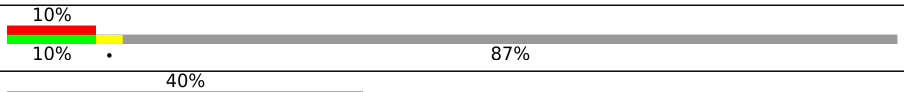
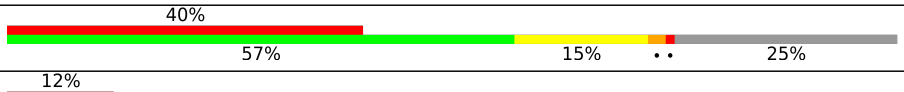
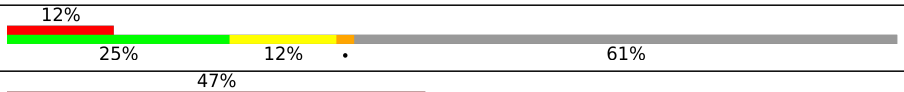
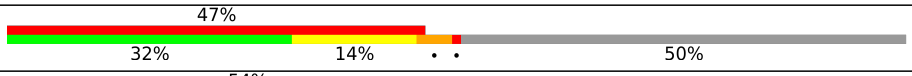
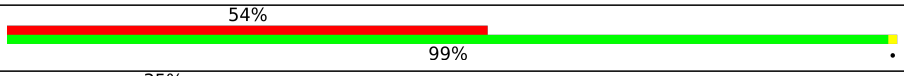
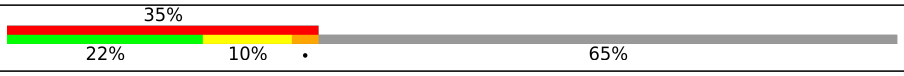
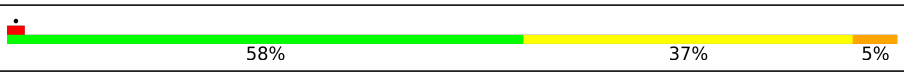
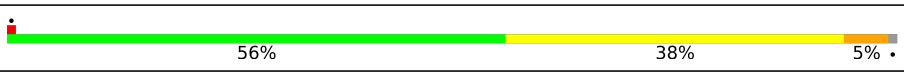
Mol	Chain	Length	Quality of chain
29	d	113	
30	e	130	
31	f	107	
32	g	121	
33	h	100	
34	i	88	
35	j	78	
36	k	51	
37	l	106	
38	m	92	
39	n	245	
40	z	432	
41	w	518	
42	v	155	
43	o	640	
44	p	210	
45	s	364	
46	x	121	
47	y	158	

2 Entry composition (i)

There are 48 unique types of molecules in this entry. The entry contains 129144 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 RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	A	3146	67292	30062	12142	21944	3144	0	0

- Molecule 2 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	247	1878	1170	381	326	1	0	0

- Molecule 3 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	381	3039	1928	577	526	8	0	0

- Molecule 4 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	361	2748	1730	522	493	3	0	0

- Molecule 5 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	169	1352	847	253	248	4	0	0

- Molecule 6 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	189	1502	953	272	273	4	0	0

- Molecule 7 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	175	Total	C	N	O	S	0	0
			1399	902	251	245	1		

- Molecule 8 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	223	Total	C	N	O	S	0	0
			1742	1117	309	313	3		

- Molecule 9 is a protein called 60S ribosomal protein L16-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	J	197	Total	C	N	O	S	0	0
			1563	1005	292	265	1		

- Molecule 10 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	K	186	Total	C	N	O	0	0
			1486	929	304	253		

- Molecule 11 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	L	136	Total	C	N	O	S	0	0
			1002	628	189	178	7		

- Molecule 12 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	135	Total	C	N	O	S	0	0
			1045	669	197	177	2		

- Molecule 13 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	N	148	Total	C	N	O	S	0	0
			1172	749	231	189	3		

- Molecule 14 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	O	203	Total	C	N	O	S	0	0
			1719	1077	361	280	1		

- Molecule 15 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	P	269	Total	C	N	O	S	0	0
			2176	1378	375	421	2		

- Molecule 16 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Q	185	Total	C	N	O	S	0	0
			1440	908	290	240	2		

- Molecule 17 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	R	150	Total	C	N	O	0	0
			1209	752	257	200		

- Molecule 18 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	S	171	Total	C	N	O	S	0	0
			1436	925	266	242	3		

- Molecule 19 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	T	159	Total	C	N	O	S	0	0
			1275	805	246	220	4		

- Molecule 20 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	U	154	Total	C	N	O	0	0
			1222	761	237	224		

- Molecule 21 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	V	99	Total	C	N	O	0	0
			786	510	129	147		

- Molecule 22 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	W	120	Total	C	N	O	S	0	0
			958	617	168	171	2		

- Molecule 23 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	X	125	Total	C	N	O	0	0
			984	620	191	173		

- Molecule 24 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	Y	135	Total	C	N	O	0	0
			1091	710	202	179		

- Molecule 25 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Z	118	Total	C	N	O	S	0	0
			963	612	185	165	1		

- Molecule 26 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
26	a	52	Total	C	N	O	0	0
			415	259	90	66		

- Molecule 27 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	b	219	Total	C	N	O	S	0	0
			1760	1138	320	301	1		

- Molecule 28 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	c	97	Total	C	N	O	S	0	0
			741	479	124	137	1		

- Molecule 29 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	d	107	Total	C	N	O	S	0	0
			872	553	165	153	1		

- Molecule 30 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	e	127	Total	C	N	O	S	0	0
			1020	646	205	167	2		

- Molecule 31 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	f	106	Total	C	N	O	S	0	0
			849	540	165	143	1		

- Molecule 32 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	g	103	Total	C	N	O	S	0	0
			812	504	167	137	4		

- Molecule 33 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	h	98	Total	C	N	O	S	0	0
			763	477	155	129	2		

- Molecule 34 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	i	84	Total	C	N	O	S	0	0
			665	405	145	110	5		

- Molecule 35 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms				AltConf	Trace
35	j	77	Total 611	C 391	N 115	O 105	0	0

- Molecule 36 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	k	50	Total 435	C 272	N 97	O 64	S 2	0	0

- Molecule 37 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	l	94	Total 756	C 476	N 153	O 122	S 5	0	0

- Molecule 38 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	m	89	Total 680	C 421	N 136	O 117	S 6	0	0

- Molecule 39 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	n	224	Total 1691	C 1051	N 293	O 340	S 7	0	0

- Molecule 40 is a protein called Cytoplasmic 60S subunit biogenesis factor REH1.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	z	58	Total 491	C 301	N 100	O 87	S 3	0	0

- Molecule 41 is a protein called 60S ribosomal export protein NMD3.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	w	389	Total 3076	C 1955	N 530	O 571	S 20	0	0

- Molecule 42 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	v	60	Total	C	N	O	S	0	0
			500	322	98	79	1		

- Molecule 43 is a protein called Large subunit GTPase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	o	322	Total	C	N	O	S	0	0
			2593	1660	449	477	7		

- Molecule 44 is a protein called uL1.

Mol	Chain	Residues	Atoms				AltConf	Trace
44	p	210	Total	C	N	O	0	0
			1050	630	210	210		

- Molecule 45 is a protein called Tyrosine-protein phosphatase YVH1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	s	128	Total	C	N	O	S	0	0
			991	625	179	179	8		

- Molecule 46 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	x	121	Total	C	N	O	P	0	0
			2576	1152	461	843	120		

- Molecule 47 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	y	156	Total	C	N	O	P	0	0
			3310	1482	582	1091	155		

- Molecule 48 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
48	g	1	Total	Zn	0
			1	1	
48	i	1	Total	Zn	0
			1	1	
48	l	1	Total	Zn	0
			1	1	

Continued on next page...

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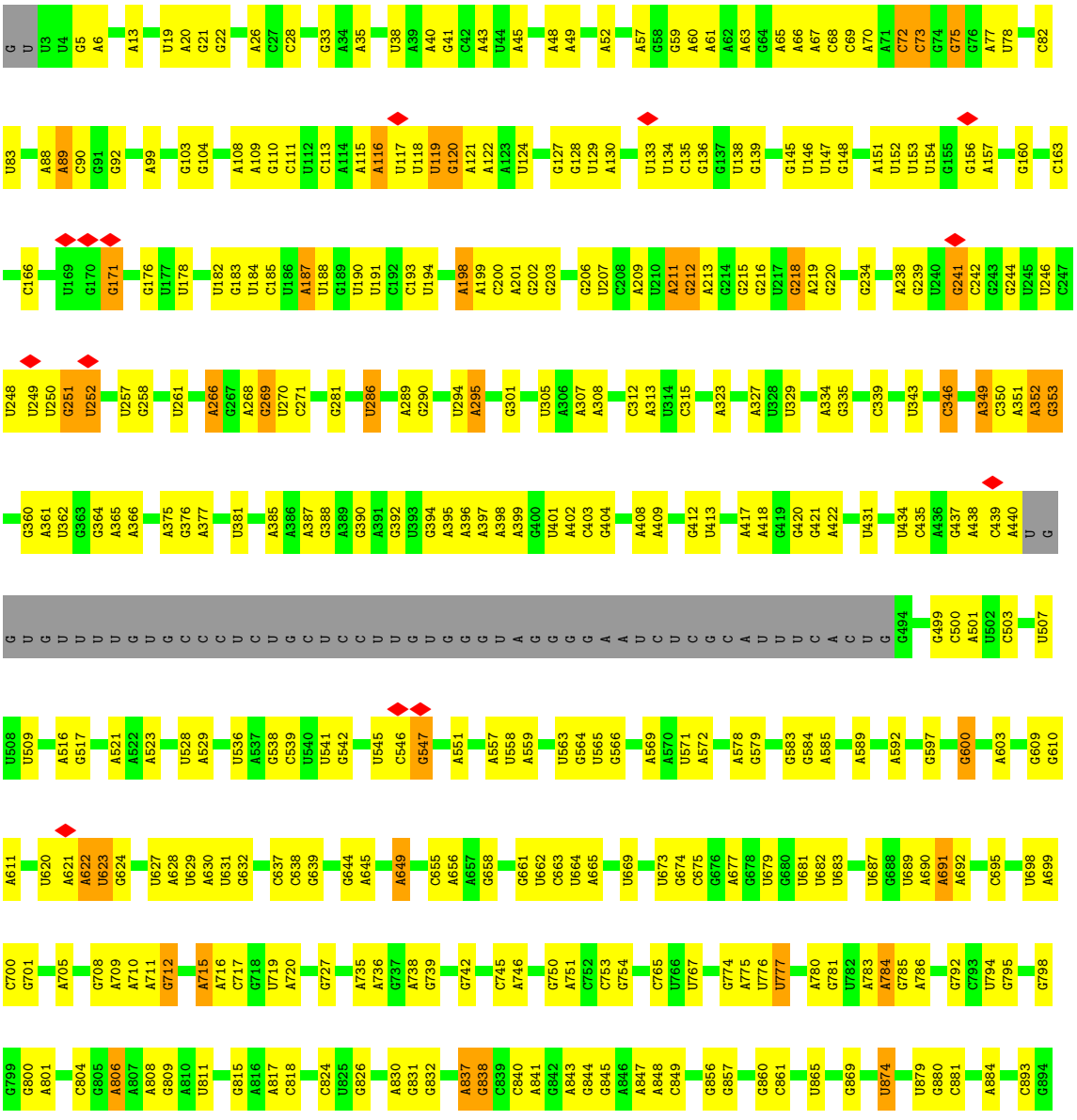
Mol	Chain	Residues	Atoms	AltConf
48	m	1	Total Zn 1 1	0
48	w	2	Total Zn 2 2	0
48	s	2	Total Zn 2 2	0

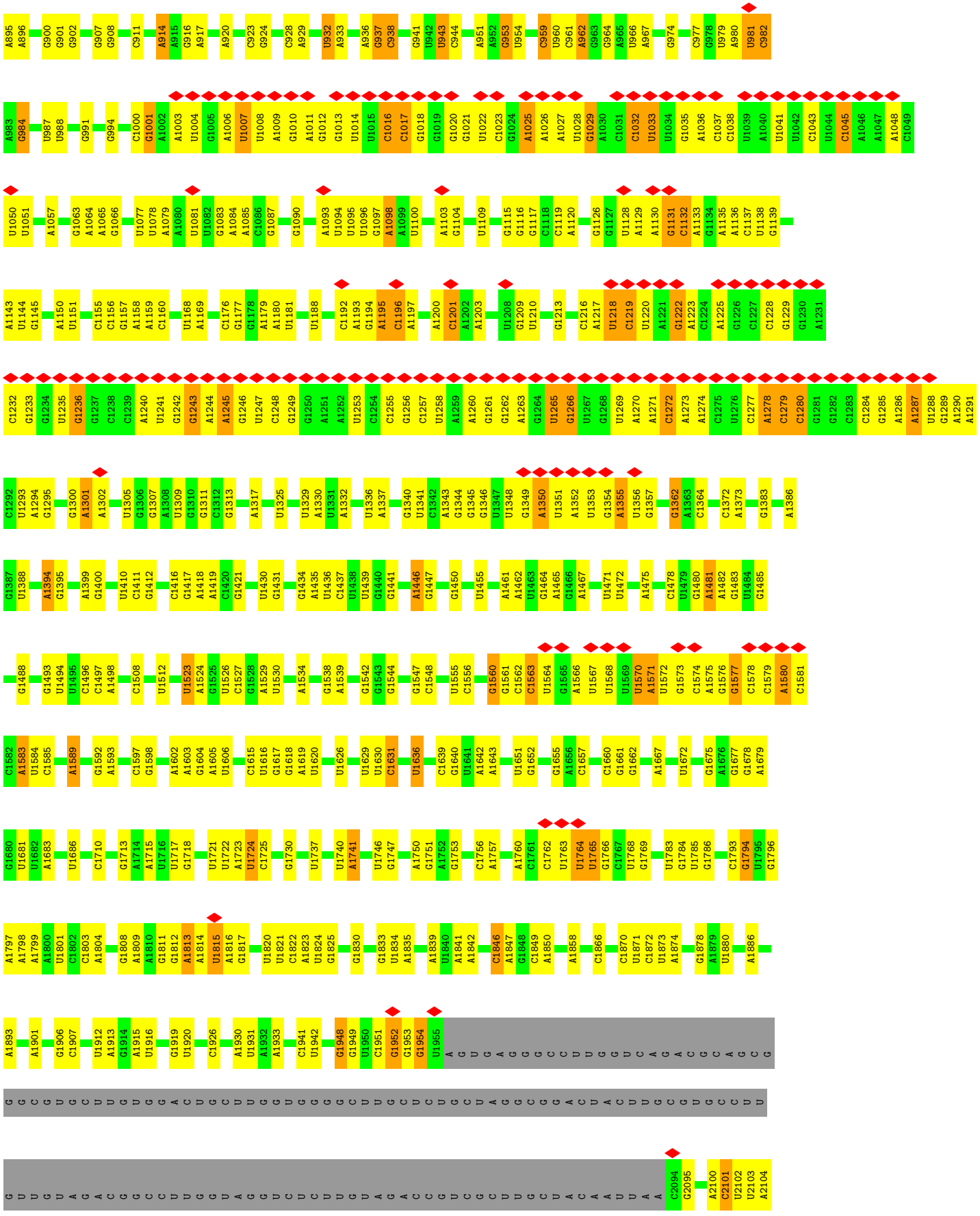
3 Residue-property plots (i)

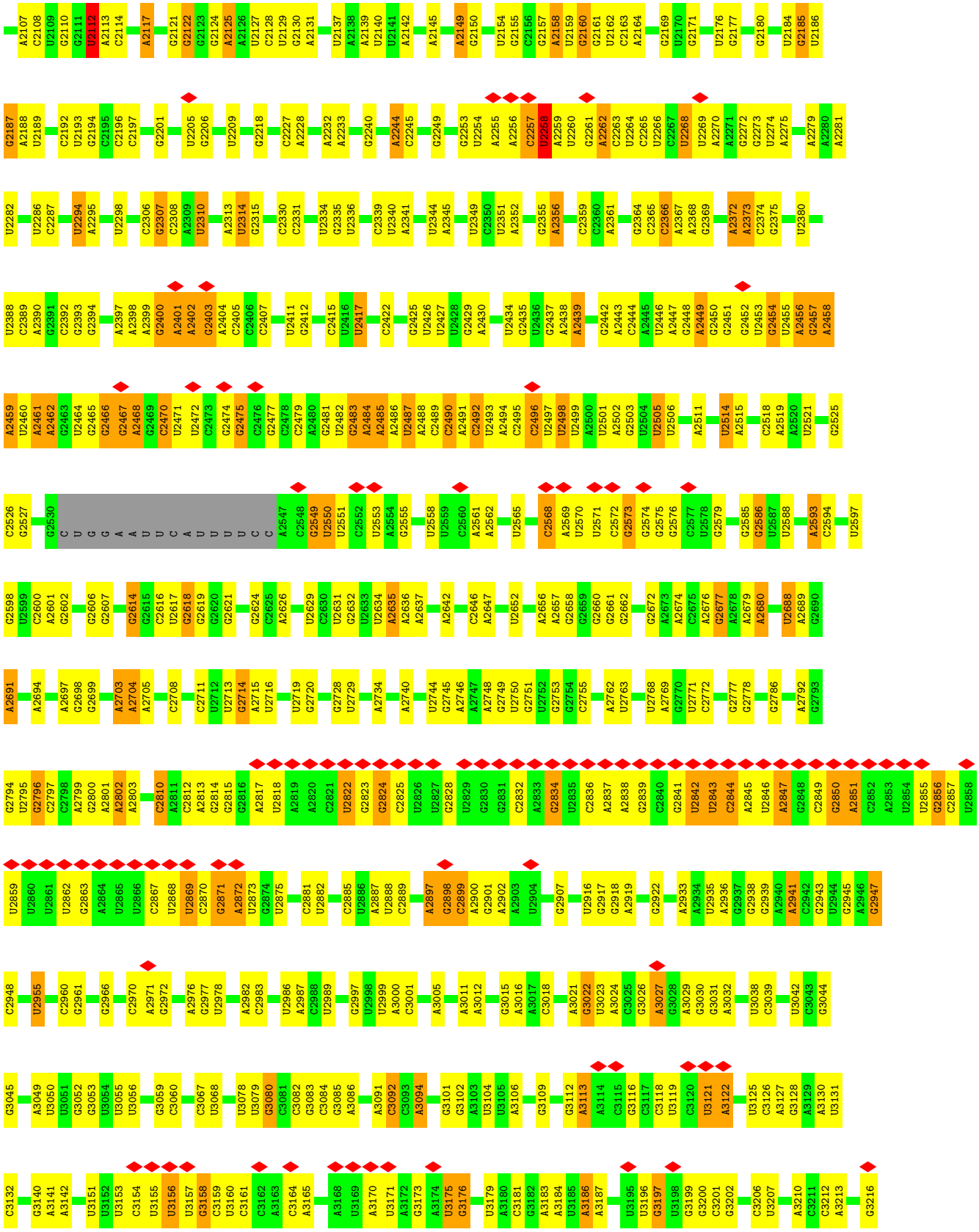
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: 25S ribosomal RNA

Chain A:



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G2187 A2188 U2189 C2192 U2193 G2194 C2195 C2196 C2197 G2201 U2205 G2206 U2209 G2218 C2227 A2228 A2232 A2233 G2240 A2244 C2245 G2249 G2253 U2254 A2255 A2256 C2257 U2258 A2259 U2260 G2261 A2262 C2263 U2264 C2265 U2266 C2267 U2268 U2269 A2270 A2271 G2272 G2273 U2274 A2275 A2279 A2280 A2281
U2282 U2286 C2287 U2294 A2295 U2298 C2306 G2307 C2308 A2309 U2310 A2313 U2314 G2315 C2330 C2331 U2334 G2335 U2336 C2339 U2340 A2341 U2344 A2345 U2349 C2350 U2351 A2352 G2355 A2356 C2359 C2360 A2361 G2364 C2365 C2366 A2367 A2368 G2369 A2372 A2373 C2374 G2375 U2380
U2388 C2389 A2390 G2391 C2392 G2393 G2394 A2397 A2398 A2399 G2400 A2401 A2402 G2403 A2404 C2405 C2406 C2407 U2411 G2412 C2415 U2416 U2417 C2422 G2425 U2426 U2427 U2428 G2429 A2430 U2434 G2435 U2436 G2437 A2438 A2439 G2442 A2443 C2444 A2445 U2446 A2447 G2448 A2449 G2450 G2451 G2452 U2453 G2454 U2455 A2456 G2457 A2458
A2459 U2460 A2461 A2462 G2463 U2464 G2465 G2466 G2467 A2468 G2469 C2470 U2471 U2472 C2473 G2474 G2475 C2476 G2477 C2478 C2479 A2480 G2481 U2482 G2483 A2484 A2485 A2486 U2487 A2488 C2489 C2490 A2491 C2492 U2493 A2494 C2495 C2496 U2497 U2498 U2499 A2500 U2501 A2502 C2503 U2504 U2505 U2506 A2511 U2514 A2515 C2518 A2519 A2520 U2521 G2525
C2526 G2527 G2530 C U G G A A U U C A U U U C C A2547 C2548 G2549 U2550 U2551 C2552 U2553 A2554 G2555 U2558 U2559 C2560 A2561 A2562 U2565 C2568 A2569 U2570 U2571 C2572 G2573 G2574 G2575 G2576 C2577 U2578 G2579 G2585 G2586 U2587 U2588 A2593 C2594 U2597
G2598 U2599 C2600 A2601 G2602 G2606 G2607 G2614 G2615 C2616 U2617 G2618 G2619 G2620 G2621 G2624 C2625 A2626 U2629 C2630 U2631 G2632 U2633 U2634 A2635 A2636 A2637 A2642 C2646 A2647 U2652 A2656 A2657 G2658 G2659 G2660 G2661 G2662 G2672 A2673 A2674 C2675 A2676 G2677 A2678 A2679 A2680 U2688 A2689 G2690
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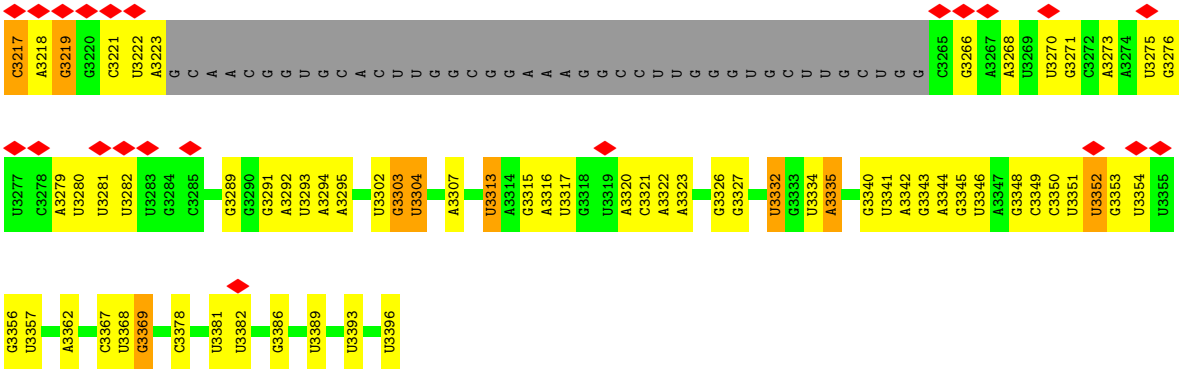
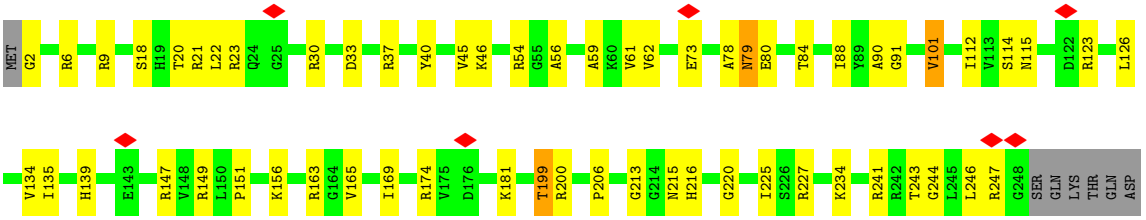
G2794 U2795 G2796 C2797 C2798 A2799 G2800 A2801 A2802 A2803 C2810 A2811 C2812 A2813 G2814 G2815 G2816 A2817 U2818 A2819 A2820 C2821 U2822 G2823 G2824 C2825 U2826 U2827 G2828 U2829 G2830 G2831 C2832 A2833 G2834 U2835 C2836 A2837 A2838 G2839 C2840 G2841 U2842 U2843 C2844 A2845 U2846 A2847 G2848 C2849 G2850 A2851 C2852 A2853 U2854 U2855 G2856 C2857 U2858
U2859 U2860 U2861 U2862 G2863 A2864 U2865 U2866 C2867 U2868 U2869 C2870 G2871 A2872 U2873 G2874 U2875 C2881 U2882 C2885 U2886 A2887 U2888 C2889 A2897 G2898 C2899 A2900 G2901 A2902 A2903 U2904 G2907 U2916 G2917 G2918 A2919 G2922 A2933 A2934 U2935 A2936 G2937 G2938 G2939 A2940 A2941 C2942 G2943 U2944 G2945 A2946 G2947
C2948 U2955 C2960 G2961 G2966 C2970 A2971 G2972 A2976 G2977 U2978 A2982 C2983 U2986 A2987 C2988 U2989 G2997 U2998 U2999 A3000 C3001 A3005 A3011 A3012 G3015 A3016 A3017 C3018 A3021 G3022 U3023 A3024 C3025 G3026 A3027 G3028 A3029 G3030 G3031 A3032 U3038 C3039 U3042 C3043 G3044
G3045 A3049 U3050 U3051 G3052 G3053 U3054 U3055 U3056 G3059 C3060 C3067 U3068 U3078 U3079 G3080 C3081 C3082 G3083 C3084 G3085 A3086 A3091 C3092 C3093 A3094 G3101 G3102 A3103 U3104 U3105 A3106 G3109 G3112 A3113 A3114 C3115 G3116 C3117 C3118 U3119 C3120 U3121 A3122 U3125 C3126 A3127 G3128 A3129 A3130 U3131
C3132 G3140 A3141 A3142 U3151 U3152 U3153 C3154 U3155 U3156 U3157 G3158 C3159 U3160 C3161 C3162 A3163 C3164 A3165 A3168 U3169 A3170 U3171 A3172 G3173 A3174 U3175 G3176 U3179 A3180 C3181 G3182 A3183 A3184 U3185 A3186 A3187 U3195 U3196 G3197 U3198 G3199 G3200 C3201 G3202 C3206 U3207 A3210 C3211 C3212 A3213 G3216



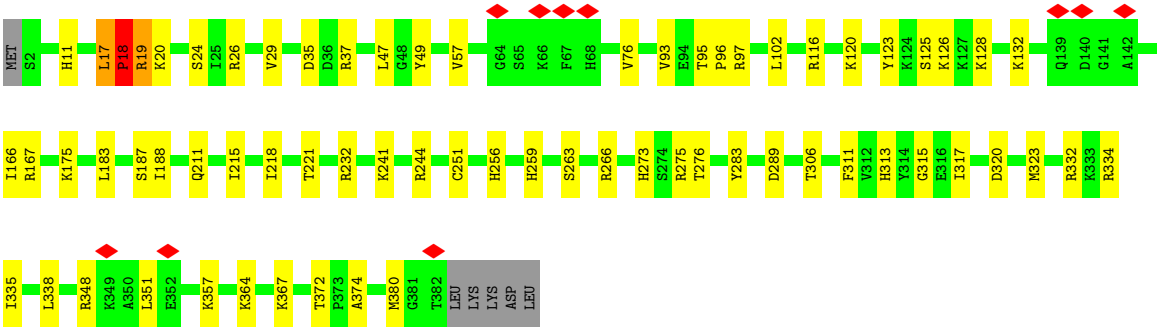
• Molecule 2: 60S ribosomal protein L2-A

Chain B:



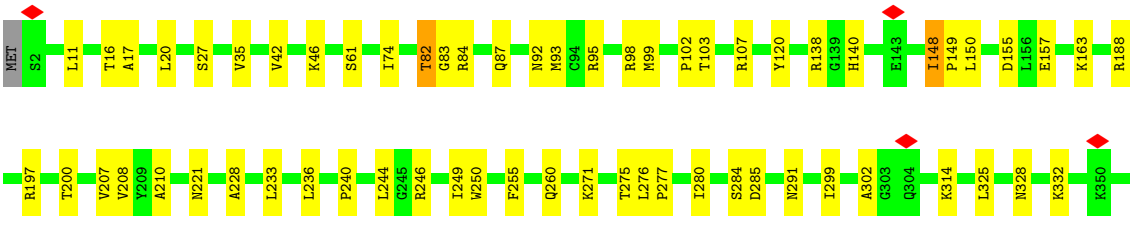
• Molecule 3: 60S ribosomal protein L3

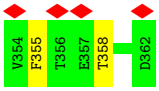
Chain C:



• Molecule 4: 60S ribosomal protein L4-A

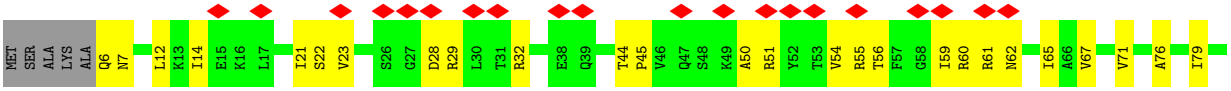
Chain D:

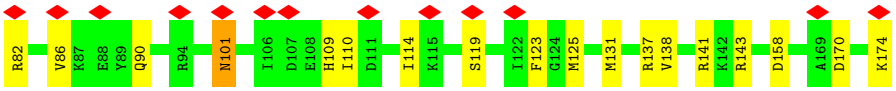




• Molecule 5: 60S ribosomal protein L11-A

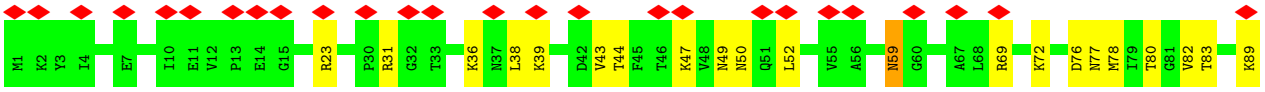
Chain E:

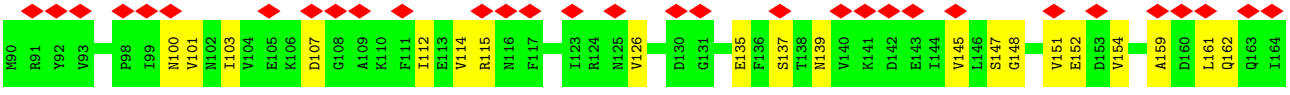


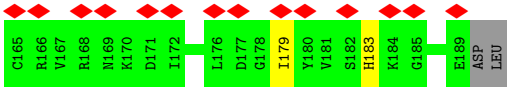


• Molecule 6: 60S ribosomal protein L9-A

Chain F:

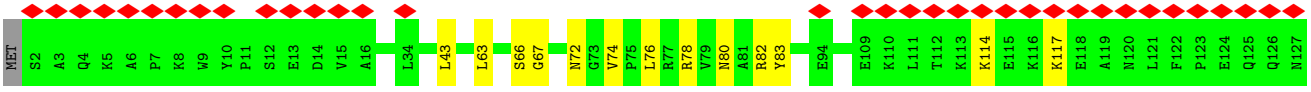


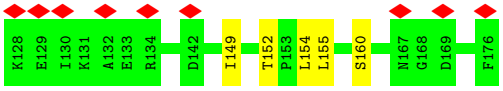




• Molecule 7: 60S ribosomal protein L6-A

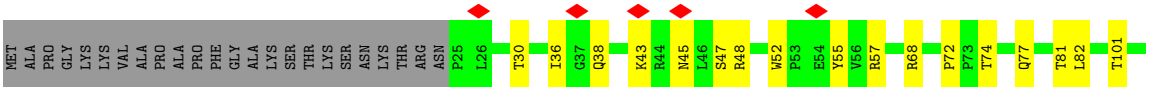
Chain G:

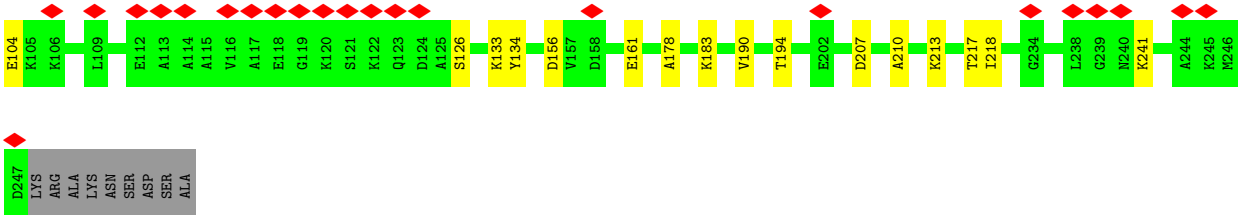




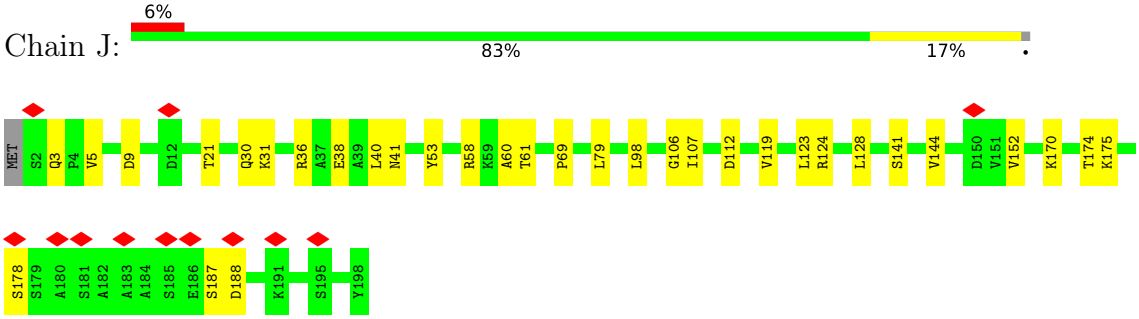
• Molecule 8: 60S ribosomal protein L8-A

Chain H:

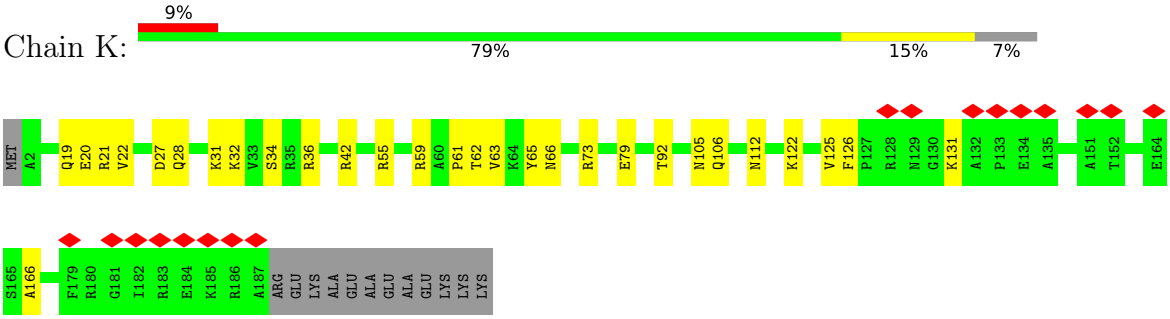




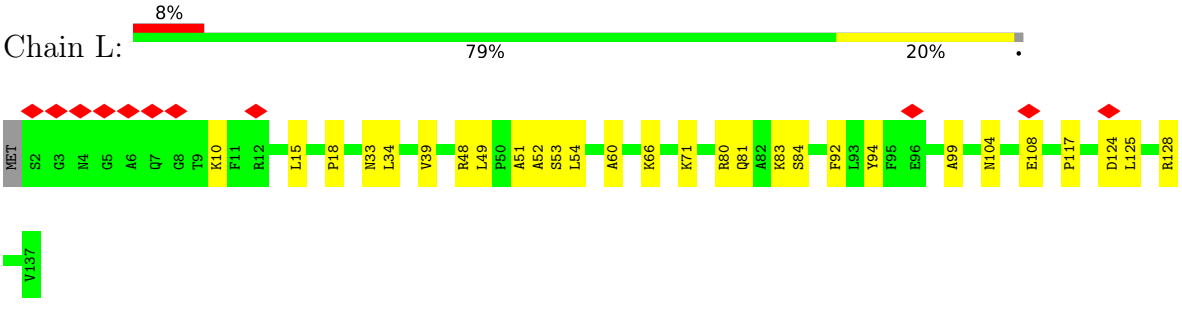
• Molecule 9: 60S ribosomal protein L16-B



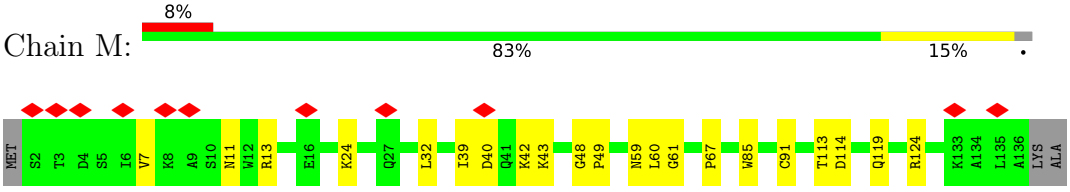
• Molecule 10: 60S ribosomal protein L13-A



• Molecule 11: 60S ribosomal protein L23-A

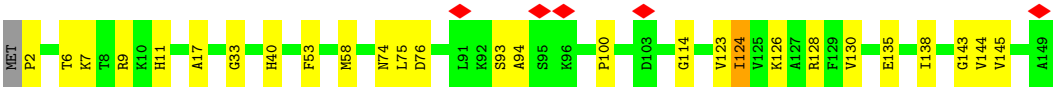


• Molecule 12: 60S ribosomal protein L14-A



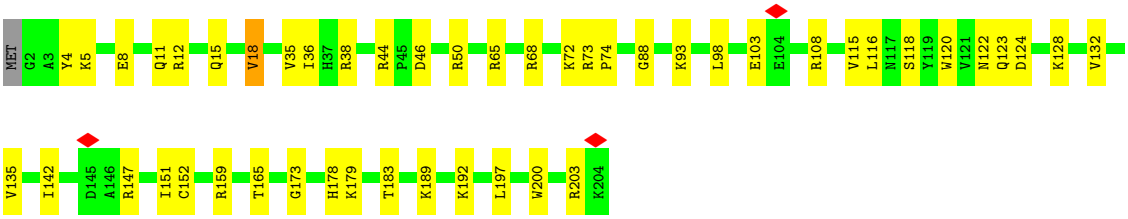
• Molecule 13: 60S ribosomal protein L28

Chain N:



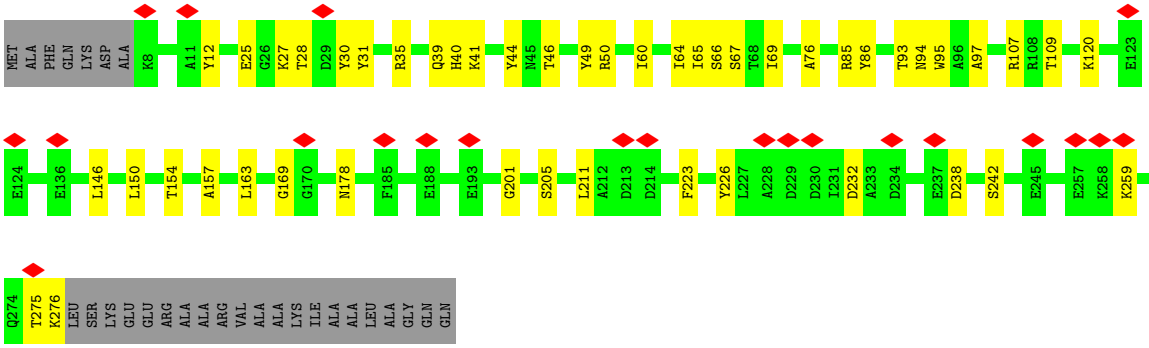
• Molecule 14: 60S ribosomal protein L15-A

Chain O:



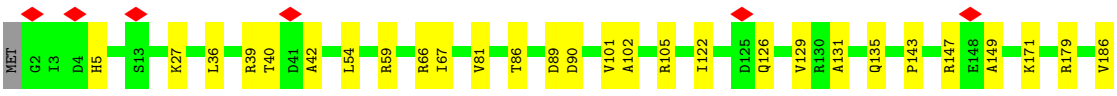
• Molecule 15: 60S ribosomal protein L5

Chain P:



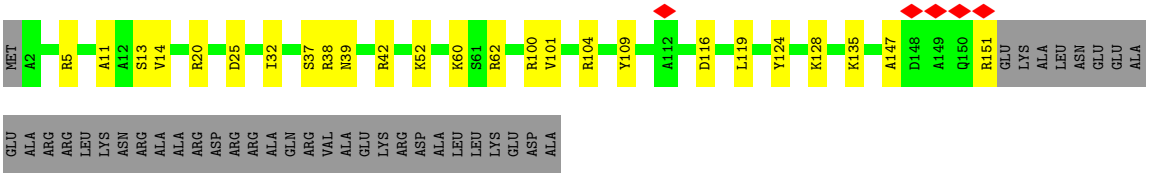
• Molecule 16: 60S ribosomal protein L18-A

Chain Q:



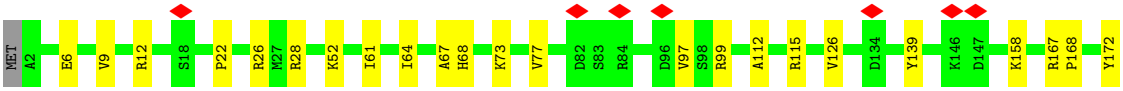
• Molecule 17: 60S ribosomal protein L19-A

Chain R:



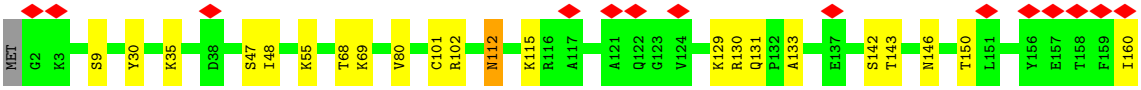
• Molecule 18: 60S ribosomal protein L20-A

Chain S:



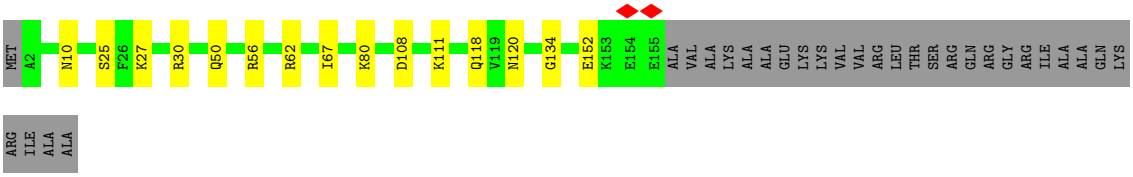
• Molecule 19: 60S ribosomal protein L21-A

Chain T:



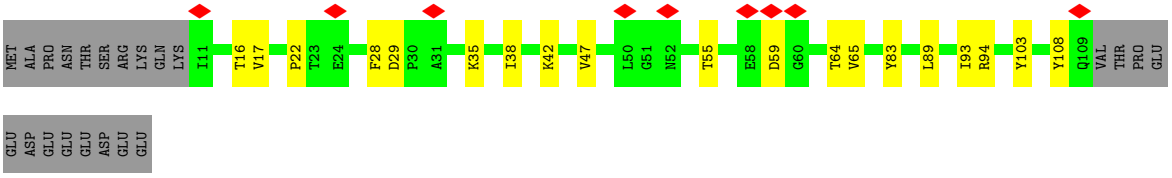
• Molecule 20: 60S ribosomal protein L17-A

Chain U:



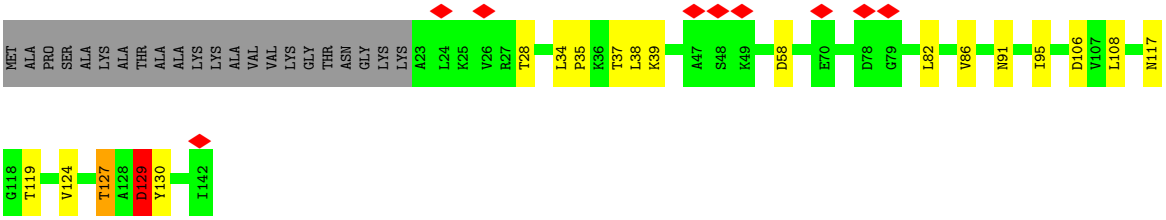
• Molecule 21: 60S ribosomal protein L22-A

Chain V:



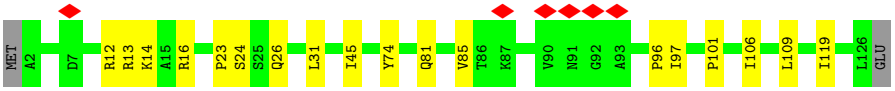
• Molecule 22: 60S ribosomal protein L25

Chain W:

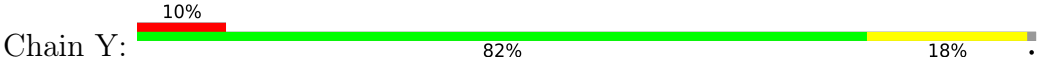


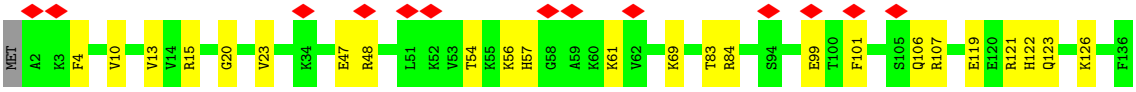
• Molecule 23: 60S ribosomal protein L26-A

Chain X:

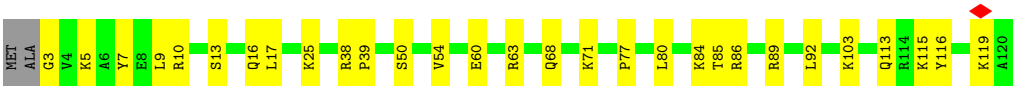


• Molecule 24: 60S ribosomal protein L27-A

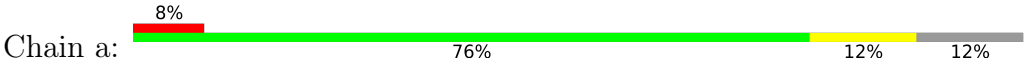


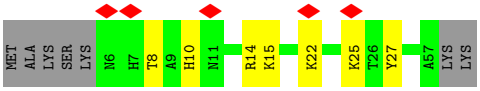


• Molecule 25: 60S ribosomal protein L35-A

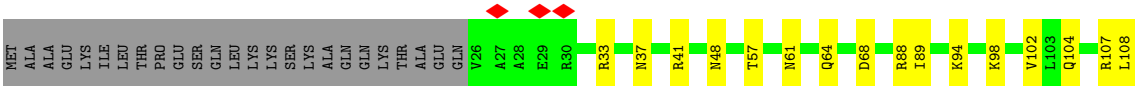


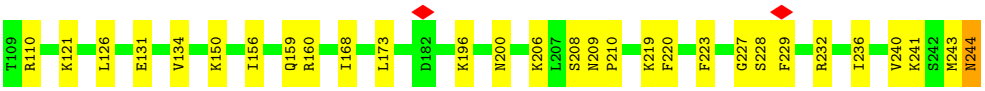
• Molecule 26: 60S ribosomal protein L29



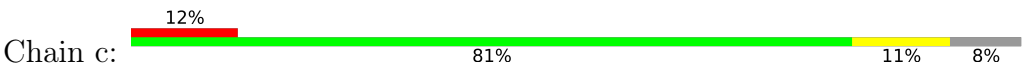


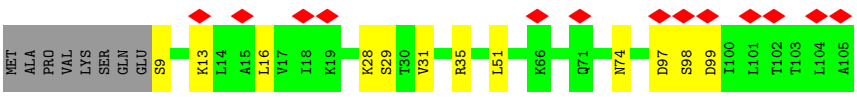
• Molecule 27: 60S ribosomal protein L7-A



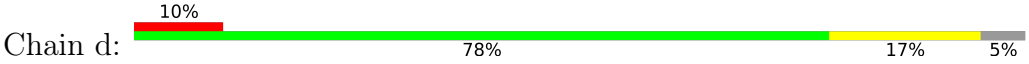


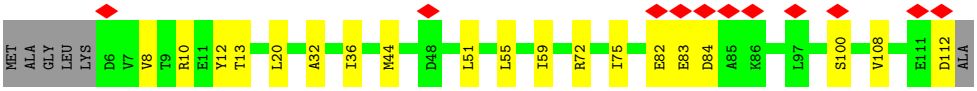
• Molecule 28: 60S ribosomal protein L30



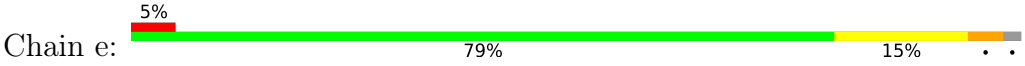


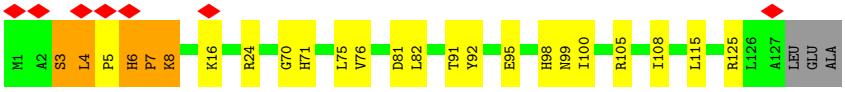
• Molecule 29: 60S ribosomal protein L31-A



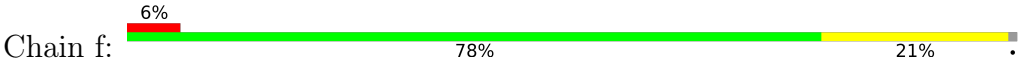


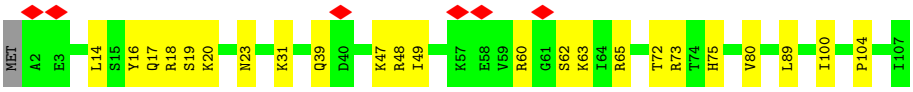
• Molecule 30: 60S ribosomal protein L32





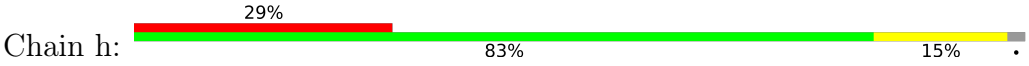
• Molecule 31: 60S ribosomal protein L33-A

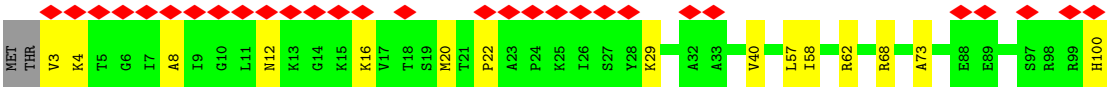




• Molecule 32: 60S ribosomal protein L34-A

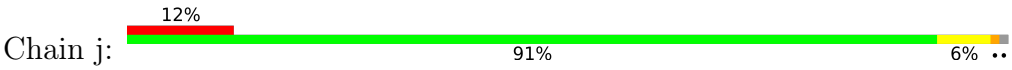
• Molecule 33: 60S ribosomal protein L36-A

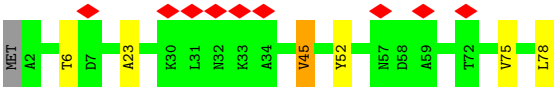




• Molecule 34: 60S ribosomal protein L37-A

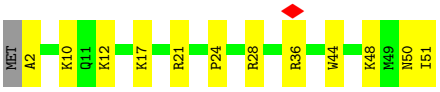
• Molecule 35: 60S ribosomal protein L38





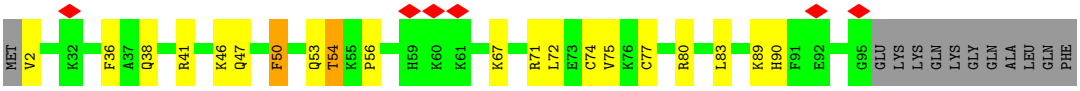
• Molecule 36: 60S ribosomal protein L39

Chain k:



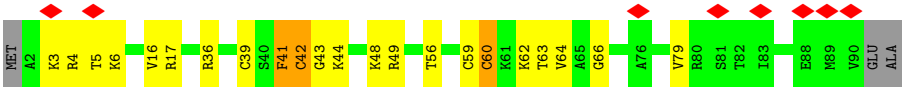
• Molecule 37: 60S ribosomal protein L42-A

Chain l:



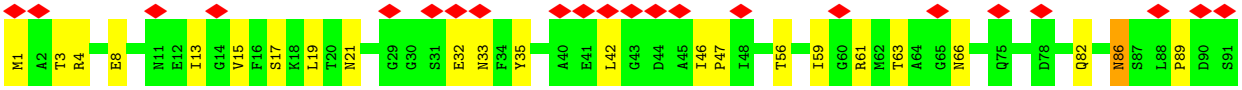
• Molecule 38: 60S ribosomal protein L43-A

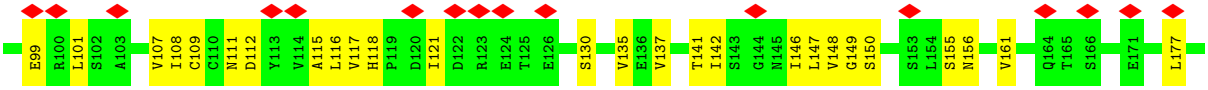
Chain m:

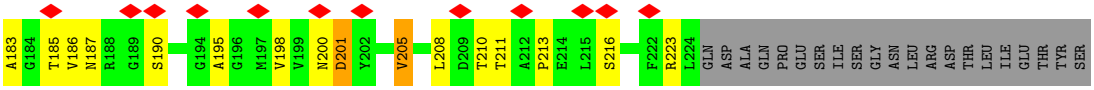


• Molecule 39: Eukaryotic translation initiation factor 6

Chain n:

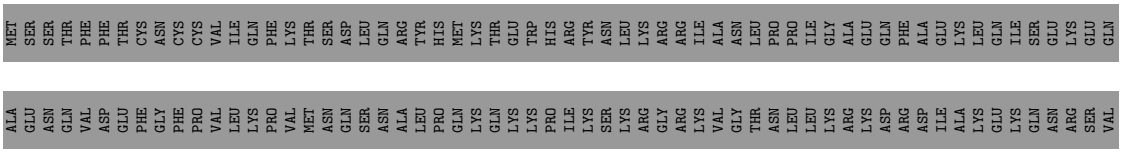


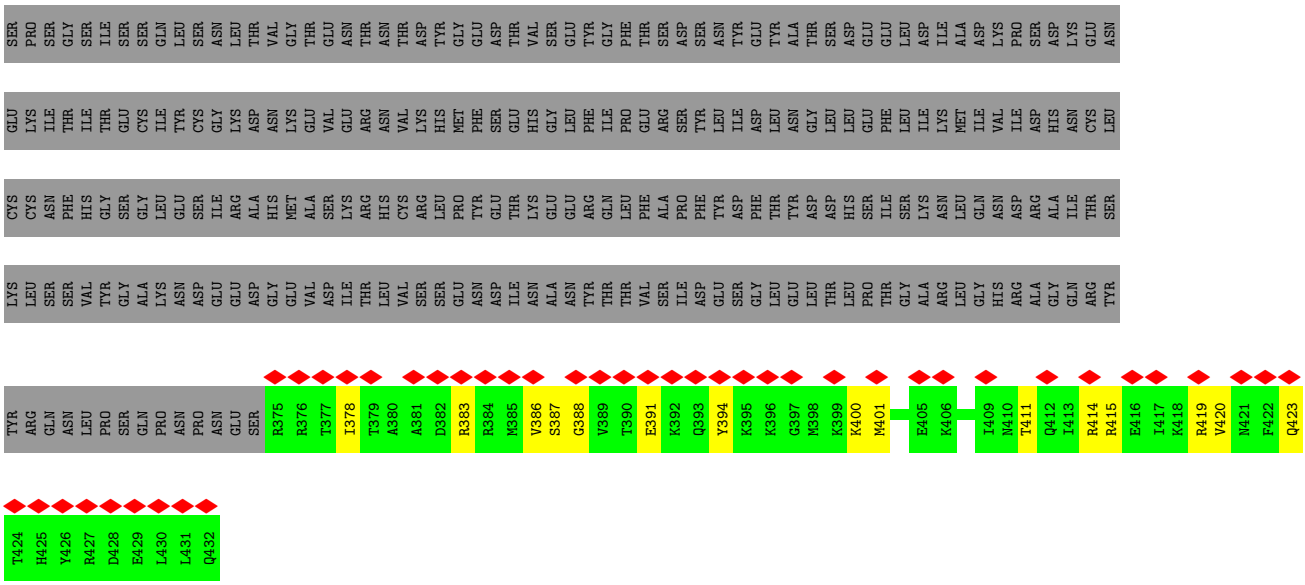




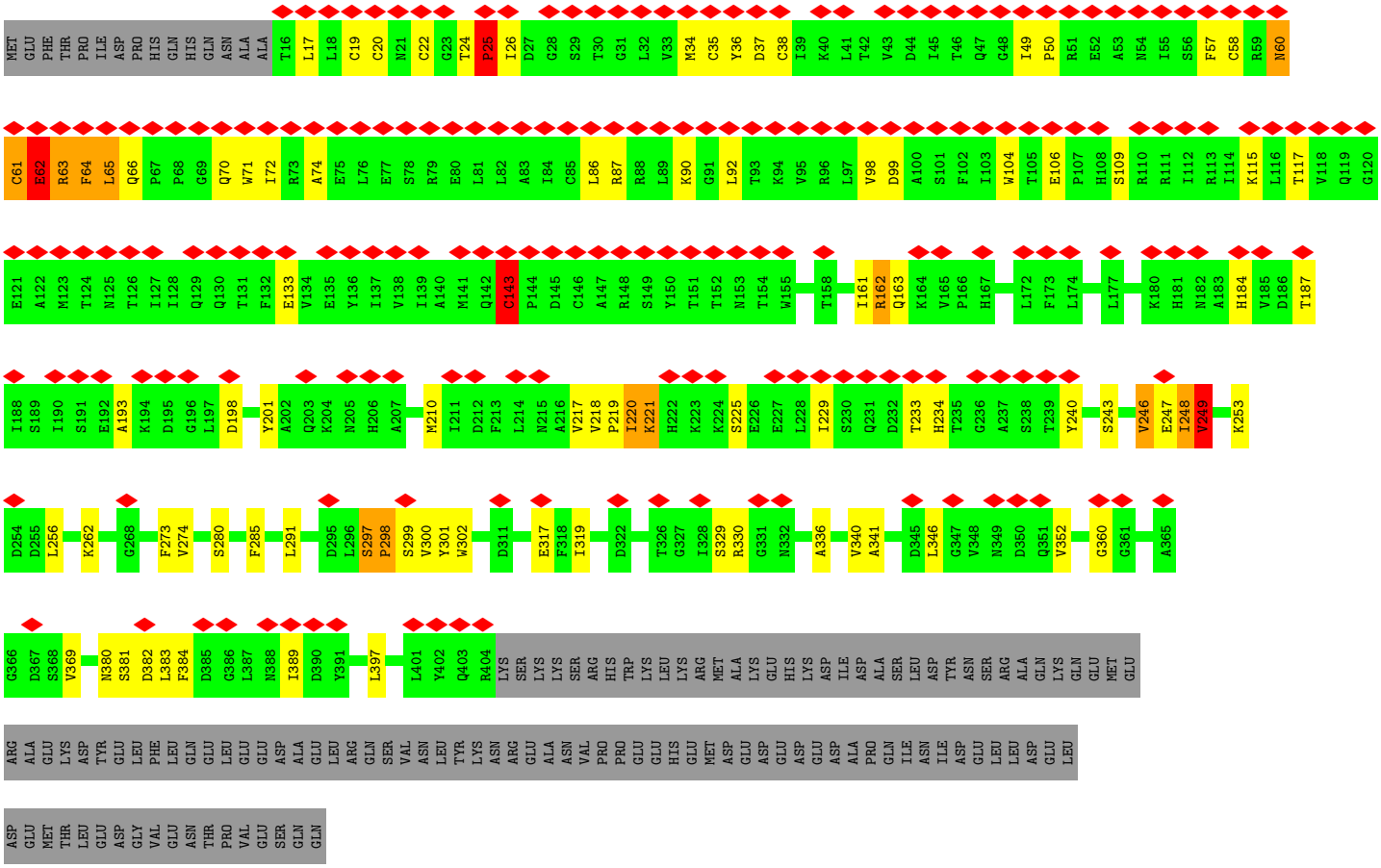
• Molecule 40: Cytoplasmic 60S subunit biogenesis factor REH1

Chain z:



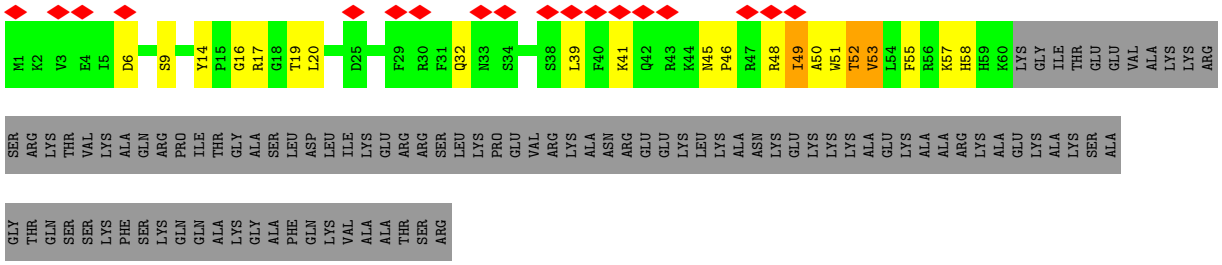


• Molecule 41: 60S ribosomal export protein NMD3



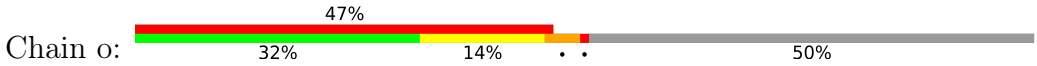
• Molecule 42: 60S ribosomal protein L24-A

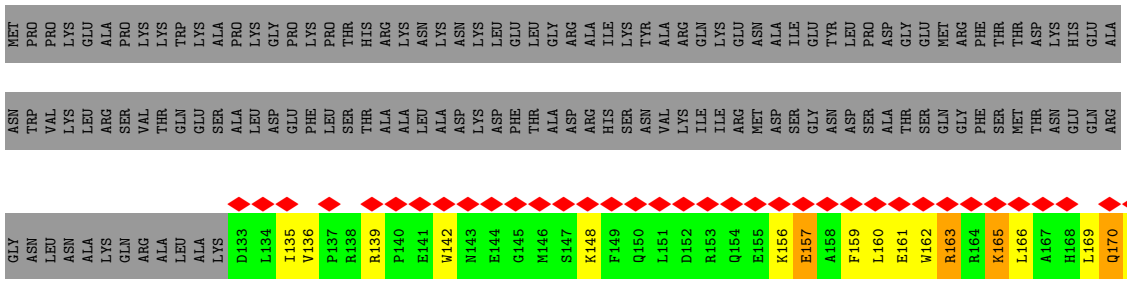
Chain v:



• Molecule 43: Large subunit GTPase 1

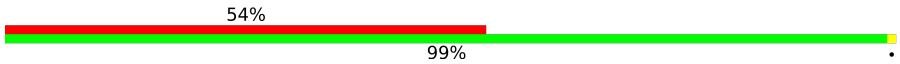
Chain o:

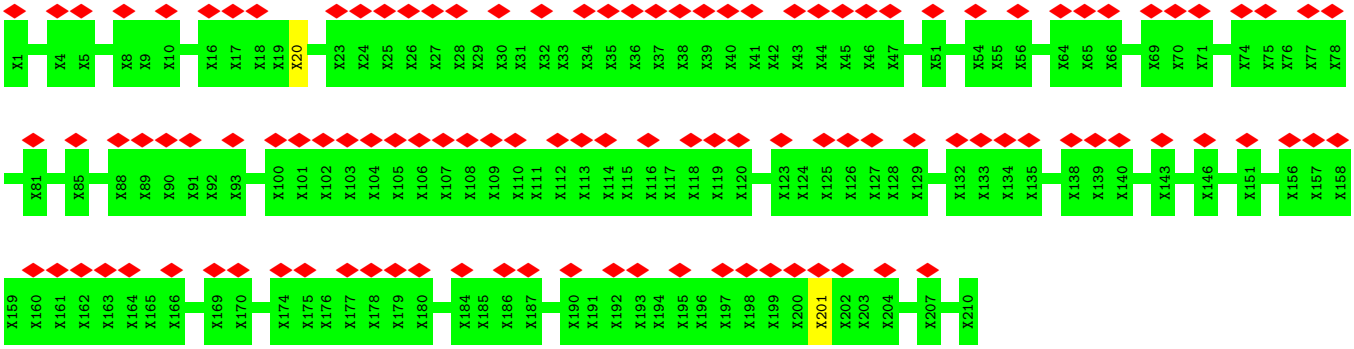




• Molecule 44: uL1

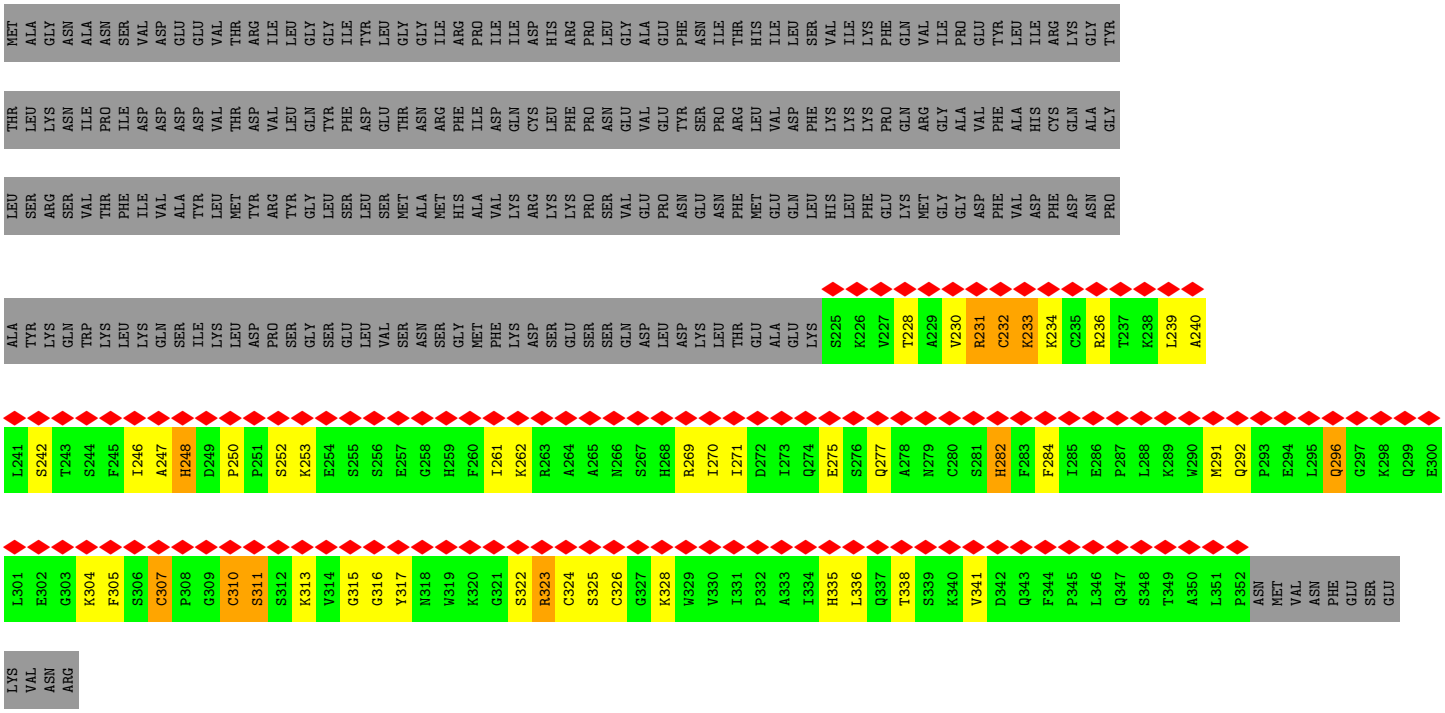
Chain p:





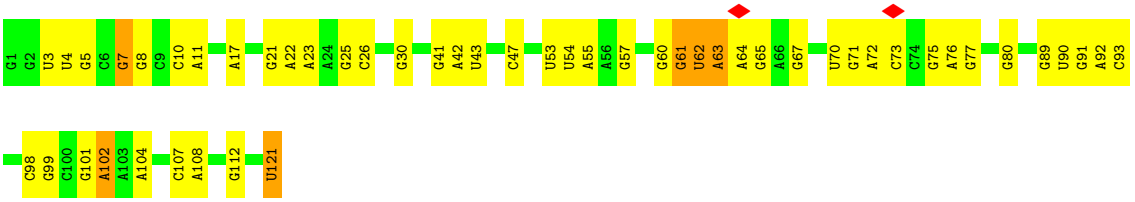
• Molecule 45: Tyrosine-protein phosphatase YVH1

Chain s:



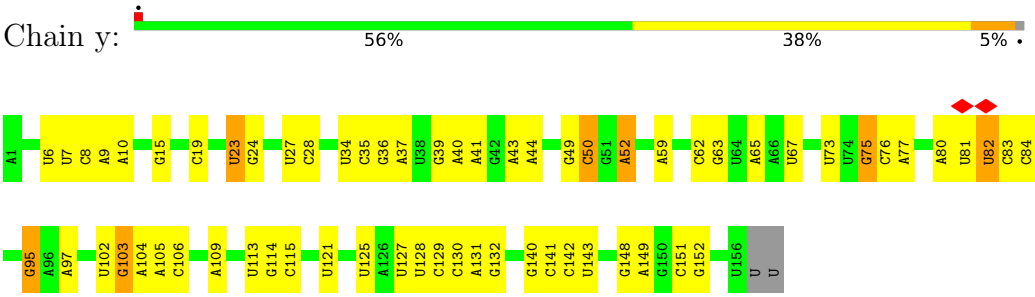
• Molecule 46: 5S ribosomal RNA

Chain x:



• Molecule 47: 5.8S ribosomal RNA

Chain y:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	35152	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	63	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.460	Depositor
Minimum map value	-0.235	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.021	Depositor
Recommended contour level	0.08	Depositor
Map size (Å)	383.40002, 383.40002, 383.40002	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.065, 1.065, 1.065	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

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	0.43	1/75327 (0.0%)	0.47	3/117440 (0.0%)
2	B	0.45	0/1912	0.61	0/2569
3	C	0.43	0/3110	0.64	5/4184 (0.1%)
4	D	0.45	0/2800	0.59	0/3791
5	E	0.28	0/1373	0.67	1/1841 (0.1%)
6	F	0.27	0/1523	0.61	0/2051
7	G	0.31	0/1423	0.54	0/1911
8	H	0.34	0/1774	0.56	0/2395
9	J	0.40	0/1593	0.57	0/2137
10	K	0.42	0/1511	0.59	0/2031
11	L	0.38	0/1017	0.65	0/1368
12	M	0.34	0/1060	0.57	0/1428
13	N	0.45	0/1203	0.62	0/1611
14	O	0.48	0/1756	0.63	1/2353 (0.0%)
15	P	0.34	0/2225	0.57	0/3004
16	Q	0.42	0/1464	0.55	0/1964
17	R	0.39	0/1226	0.53	0/1637
18	S	0.37	0/1472	0.60	0/1979
19	T	0.39	0/1299	0.55	0/1742
20	U	0.47	0/1245	0.57	0/1676
21	V	0.30	0/802	0.60	0/1087
22	W	0.41	0/973	0.70	1/1313 (0.1%)
23	X	0.41	0/995	0.57	0/1329
24	Y	0.30	0/1117	0.55	0/1496
25	Z	0.37	0/972	0.51	0/1293
26	a	0.29	0/426	0.54	0/570
27	b	0.47	0/1797	0.68	0/2419
28	c	0.31	0/749	0.51	0/1007
29	d	0.45	0/886	0.69	0/1190
30	e	0.49	0/1041	0.70	1/1393 (0.1%)
31	f	0.47	0/867	0.73	2/1167 (0.2%)
32	g	0.47	0/822	0.65	0/1099

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	h	0.33	0/770	0.53	0/1023
34	i	0.50	0/680	0.71	0/901
35	j	0.35	0/617	0.58	0/825
36	k	0.45	0/442	0.56	0/587
37	l	0.45	0/768	0.84	1/1016 (0.1%)
38	m	0.42	0/687	0.68	0/915
39	n	0.29	0/1712	0.56	0/2330
40	z	0.27	0/494	0.58	0/654
41	w	0.67	5/3135 (0.2%)	1.02	17/4255 (0.4%)
42	v	0.39	0/512	0.79	0/680
43	o	0.58	3/2647 (0.1%)	1.08	10/3582 (0.3%)
45	s	0.69	1/1016 (0.1%)	1.16	5/1368 (0.4%)
46	x	0.36	0/2880	0.39	0/4487
47	y	0.46	0/3699	0.48	0/5760
All	All	0.43	10/137819 (0.0%)	0.56	47/202858 (0.0%)

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	w	25	PRO	N-CA	18.21	1.70	1.47
41	w	298	PRO	N-CA	17.45	1.69	1.47
45	s	307	CYS	C-N	12.53	1.51	1.34
41	w	297	SER	C-N	10.51	1.45	1.34
41	w	143	CYS	C-N	7.32	1.50	1.33
41	w	249	VAL	C-N	7.30	1.50	1.33
43	o	409	LEU	C-N	7.24	1.50	1.33
43	o	367	THR	C-N	7.17	1.50	1.33
43	o	179	THR	C-N	7.11	1.50	1.33
1	A	2258	U	C1'-N1	6.23	1.57	1.48

All (47) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	w	297	SER	CA-C-N	18.57	140.09	120.04
41	w	297	SER	C-N-CA	18.57	140.09	120.04
45	s	247	ALA	N-CA-C	-15.40	83.63	108.73
43	o	367	THR	CA-C-N	14.11	137.47	119.84
43	o	367	THR	C-N-CA	14.11	137.47	119.84
43	o	409	LEU	CA-C-N	14.03	139.02	120.79
43	o	409	LEU	C-N-CA	14.03	139.02	120.79
41	w	24	THR	CA-C-N	13.53	136.75	119.84
41	w	24	THR	C-N-CA	13.53	136.75	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
43	o	179	THR	CA-C-N	13.38	136.56	119.84
43	o	179	THR	C-N-CA	13.38	136.56	119.84
45	s	307	CYS	CA-C-N	12.86	133.32	119.05
45	s	307	CYS	C-N-CA	12.86	133.32	119.05
41	w	249	VAL	CA-C-N	12.47	135.42	119.84
41	w	249	VAL	C-N-CA	12.47	135.42	119.84
45	s	247	ALA	CB-CA-C	-11.55	91.49	110.19
41	w	143	CYS	CA-C-N	11.08	133.69	119.84
41	w	143	CYS	C-N-CA	11.08	133.69	119.84
41	w	298	PRO	CA-N-CD	-9.09	99.28	112.00
45	s	248	HIS	N-CA-CB	-8.87	91.73	111.69
41	w	298	PRO	N-CA-C	-8.52	102.77	114.27
37	l	50	PHE	N-CA-C	-8.27	102.22	111.07
3	C	18	PRO	CA-N-CD	-7.78	101.11	112.00
3	C	18	PRO	CB-CA-C	7.53	123.99	111.56
43	o	305	VAL	N-CA-C	-7.37	104.67	111.67
22	W	129	ASP	CB-CA-C	-7.26	95.97	110.42
41	w	25	PRO	CA-N-CD	-7.01	102.19	112.00
3	C	167	ARG	N-CA-C	-6.92	103.92	114.16
43	o	179	THR	CA-CB-OG1	6.58	119.48	109.60
30	e	7	PRO	N-CA-CB	-6.58	96.34	103.25
43	o	194	VAL	N-CA-C	-6.18	106.75	112.43
5	E	86	VAL	N-CA-C	-5.54	106.94	113.42
3	C	18	PRO	N-CA-CB	-5.51	97.47	103.25
43	o	503	PRO	N-CA-C	5.35	123.50	112.47
14	O	142	ILE	N-CA-C	-5.33	107.22	111.81
31	f	39	GLN	CA-C-N	5.23	135.71	126.45
31	f	39	GLN	C-N-CA	5.23	135.71	126.45
3	C	256	HIS	N-CA-C	5.22	121.36	109.81
1	A	2101	C	P-O3'-C3'	5.17	127.95	120.20
41	w	64	PHE	CA-C-N	-5.16	112.83	121.75
41	w	64	PHE	C-N-CA	-5.16	112.83	121.75
41	w	22	CYS	N-CA-C	-5.15	106.08	112.93
1	A	1815	U	P-O3'-C3'	5.13	127.90	120.20
41	w	60	ASN	O-C-N	5.11	124.61	120.83
41	w	25	PRO	CA-C-N	-5.09	113.34	120.77
41	w	25	PRO	C-N-CA	-5.09	113.34	120.77
1	A	2112	U	P-O3'-C3'	5.05	127.78	120.20

There are no chirality outliers.

There are no planarity outliers.

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	67292	0	33821	648	0
2	B	1878	0	1946	45	0
3	C	3039	0	3113	54	0
4	D	2748	0	2863	59	0
5	E	1352	0	1383	29	0
6	F	1502	0	1572	31	0
7	G	1399	0	1501	11	0
8	H	1742	0	1834	25	0
9	J	1563	0	1665	20	0
10	K	1486	0	1554	28	0
11	L	1002	0	1048	21	0
12	M	1045	0	1136	14	0
13	N	1172	0	1215	22	0
14	O	1719	0	1779	39	0
15	P	2176	0	2116	32	0
16	Q	1440	0	1543	19	0
17	R	1209	0	1295	23	0
18	S	1436	0	1475	15	0
19	T	1275	0	1323	15	0
20	U	1222	0	1231	11	0
21	V	786	0	799	12	0
22	W	958	0	1023	21	0
23	X	984	0	1075	14	0
24	Y	1091	0	1155	14	0
25	Z	963	0	1073	25	0
26	a	415	0	429	6	0
27	b	1760	0	1843	41	0
28	c	741	0	797	9	0
29	d	872	0	914	12	0
30	e	1020	0	1091	23	0
31	f	849	0	880	14	0
32	g	812	0	875	19	0
33	h	763	0	842	11	0
34	i	665	0	668	15	0
35	j	611	0	682	2	0
36	k	435	0	475	12	0
37	l	756	0	817	19	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	m	680	0	725	20	0
39	n	1691	0	1687	53	0
40	z	491	0	518	16	0
41	w	3076	0	3107	137	0
42	v	500	0	524	32	0
43	o	2593	0	2625	180	0
44	p	1050	0	251	2	0
45	s	991	0	984	57	0
46	x	2576	0	1305	22	0
47	y	3310	0	1676	43	0
48	g	1	0	0	0	0
48	i	1	0	0	0	0
48	l	1	0	0	0	0
48	m	1	0	0	0	0
48	s	2	0	0	0	0
48	w	2	0	0	0	0
All	All	129144	0	94253	1688	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 8.

All (1688) 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)
41:w:65:LEU:HD13	41:w:71:TRP:CD2	1.43	1.50
38:m:42:CYS:SG	38:m:44:LYS:HG3	1.57	1.42
41:w:298:PRO:N	41:w:298:PRO:CA	1.69	1.42
42:v:46:PRO:C	42:v:49:ILE:HD11	1.43	1.41
43:o:344:TYR:HB3	43:o:345:PRO:CD	1.51	1.34
43:o:163:ARG:NH1	43:o:183:ARG:O	1.64	1.30
41:w:25:PRO:N	41:w:25:PRO:CA	1.70	1.28
42:v:46:PRO:O	42:v:49:ILE:HD11	1.17	1.27
41:w:65:LEU:CB	41:w:71:TRP:HA	1.65	1.25
42:v:46:PRO:O	42:v:49:ILE:CD1	1.92	1.18
41:w:65:LEU:HB2	41:w:71:TRP:HA	1.26	1.16
43:o:344:TYR:CE1	43:o:392:VAL:HA	1.79	1.15
41:w:65:LEU:CD1	41:w:71:TRP:CD2	2.30	1.14
43:o:430:LYS:HA	43:o:433:ILE:HG22	1.28	1.14
41:w:65:LEU:HD13	41:w:71:TRP:CE2	1.83	1.13
27:b:89:ILE:CG1	27:b:229:PHE:CE1	2.11	1.13
27:b:89:ILE:HG13	27:b:229:PHE:CE1	1.83	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:o:241:LEU:HG	43:o:499:VAL:HG21	1.27	1.09
30:e:3:SER:OG	30:e:71:HIS:NE2	1.87	1.08
43:o:170:GLN:HG2	43:o:178:LEU:HB2	1.30	1.08
42:v:46:PRO:C	42:v:49:ILE:CD1	2.28	1.07
3:C:17:LEU:HB3	3:C:18:PRO:HD2	1.29	1.06
1:A:3106:A:H62	1:A:3128:G:N2	1.55	1.05
43:o:344:TYR:HB3	43:o:345:PRO:HD2	1.37	1.05
43:o:204:ILE:HD13	43:o:348:GLY:O	1.57	1.05
43:o:344:TYR:CB	43:o:345:PRO:CD	2.34	1.05
1:A:3026:G:O6	45:s:313:LYS:NZ	1.89	1.04
43:o:211:LEU:HD12	43:o:503:PRO:HG3	1.40	1.04
45:s:232:CYS:HB2	45:s:239:LEU:HD11	1.39	1.03
1:A:3106:A:N6	1:A:3128:G:H21	1.55	1.03
43:o:344:TYR:HB3	43:o:345:PRO:HD3	1.38	1.03
41:w:65:LEU:HB3	41:w:71:TRP:HA	1.41	1.01
41:w:104:TRP:CD1	43:o:163:ARG:HE	1.79	1.01
43:o:402:GLU:HG2	43:o:404:VAL:HB	1.42	1.01
43:o:170:GLN:CG	43:o:178:LEU:HB2	1.91	1.00
43:o:430:LYS:HA	43:o:433:ILE:CG2	1.92	0.99
42:v:46:PRO:CA	42:v:49:ILE:HD11	1.92	0.99
43:o:344:TYR:CB	43:o:345:PRO:HD3	1.90	0.99
38:m:42:CYS:SG	38:m:44:LYS:CG	2.51	0.98
43:o:241:LEU:CG	43:o:499:VAL:HG21	1.94	0.98
37:l:46:LYS:HD3	37:l:54:THR:OG1	1.64	0.97
4:D:150:LEU:HD23	4:D:249:ILE:HG12	1.47	0.97
45:s:284:PHE:HZ	45:s:324:CYS:SG	1.87	0.97
43:o:173:ASN:O	43:o:174:GLU:C	2.07	0.96
41:w:65:LEU:CD1	41:w:71:TRP:CE3	2.48	0.96
1:A:2402:A:N7	1:A:2872:A:C5	2.35	0.95
41:w:57:PHE:CE1	41:w:63:ARG:C	2.46	0.94
43:o:344:TYR:CE1	43:o:392:VAL:HG12	2.04	0.93
41:w:65:LEU:HD13	41:w:71:TRP:CE3	2.04	0.93
41:w:104:TRP:HD1	43:o:163:ARG:HE	1.12	0.93
45:s:232:CYS:CB	45:s:239:LEU:HD11	1.98	0.93
14:O:88:GLY:HA3	37:l:50:PHE:CE2	2.03	0.93
1:A:2467:G:H21	1:A:2488:A:N6	1.65	0.92
43:o:177:LEU:H	43:o:177:LEU:HD12	1.31	0.92
1:A:19:U:H3	47:y:140:G:H1	1.15	0.92
41:w:143:CYS:O	41:w:143:CYS:SG	2.28	0.92
43:o:344:TYR:CG	43:o:345:PRO:HD3	2.04	0.92
1:A:2258:U:O4	1:A:2259:A:N6	2.03	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:o:344:TYR:HE1	43:o:392:VAL:HA	1.18	0.90
41:w:162:ARG:HH21	41:w:162:ARG:HG3	1.35	0.90
1:A:2442:G:H1	1:A:2505:U:H3	1.16	0.90
41:w:57:PHE:HE1	41:w:63:ARG:C	1.80	0.90
43:o:169:LEU:HD13	43:o:396:PHE:CE1	2.07	0.90
1:A:1538:G:H21	1:A:1583:A:H62	1.20	0.89
41:w:220:ILE:HG12	41:w:246:VAL:HG22	1.54	0.89
34:i:54:LYS:O	34:i:58:THR:HB	1.73	0.88
1:A:3348:G:H1	1:A:3357:U:H3	1.18	0.88
42:v:39:LEU:HD23	42:v:51:TRP:HH2	1.38	0.88
37:l:46:LYS:HG2	37:l:54:THR:HG21	1.55	0.88
43:o:428:ILE:HD11	43:o:432:TYR:CD2	2.09	0.87
43:o:174:GLU:HB2	43:o:177:LEU:HD11	1.55	0.86
41:w:63:ARG:HH21	41:w:63:ARG:HG3	1.39	0.86
3:C:17:LEU:CB	3:C:18:PRO:HD2	2.06	0.86
43:o:204:ILE:CD1	43:o:348:GLY:O	2.22	0.86
1:A:2402:A:N7	1:A:2872:A:N7	2.23	0.86
43:o:430:LYS:CA	43:o:433:ILE:HG22	2.04	0.86
1:A:2400:G:H5"	1:A:2400:G:H8	1.41	0.85
30:e:3:SER:OG	30:e:71:HIS:CE1	2.30	0.84
39:n:4:ARG:HD3	45:s:233:LYS:HG3	1.56	0.84
41:w:65:LEU:O	41:w:65:LEU:HD23	1.76	0.84
38:m:60:CYS:SG	38:m:62:LYS:HB2	2.17	0.84
3:C:17:LEU:HB3	3:C:18:PRO:CD	2.08	0.83
43:o:173:ASN:O	43:o:174:GLU:O	1.96	0.83
41:w:65:LEU:CB	41:w:71:TRP:CA	2.53	0.83
42:v:39:LEU:CD2	42:v:51:TRP:HH2	1.91	0.83
41:w:57:PHE:CD1	41:w:64:PHE:HB3	2.13	0.83
43:o:163:ARG:NH1	43:o:183:ARG:C	2.37	0.83
4:D:148:ILE:O	4:D:148:ILE:HD12	1.78	0.82
41:w:65:LEU:HB3	41:w:71:TRP:CG	2.14	0.82
3:C:19:ARG:HG2	3:C:273:HIS:CE1	2.14	0.82
41:w:163:GLN:HB2	41:w:248:ILE:HG13	1.60	0.82
41:w:65:LEU:HD13	41:w:71:TRP:CG	2.13	0.81
41:w:104:TRP:CD1	43:o:163:ARG:NE	2.48	0.81
42:v:46:PRO:HA	42:v:49:ILE:HD11	1.62	0.81
41:w:162:ARG:NH1	41:w:198:ASP:OD1	2.14	0.81
42:v:45:ASN:O	42:v:49:ILE:HD12	1.81	0.81
1:A:3106:A:H62	1:A:3128:G:H21	0.81	0.80
43:o:208:ARG:O	43:o:500:ASN:ND2	2.15	0.80
27:b:219:LYS:HG2	27:b:228:SER:OG	1.81	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:o:209:ASN:O	43:o:213:PHE:CE2	2.34	0.79
41:w:65:LEU:HB3	41:w:71:TRP:CA	2.11	0.78
41:w:65:LEU:HB2	41:w:71:TRP:CA	2.11	0.78
43:o:344:TYR:HE1	43:o:392:VAL:HG12	1.47	0.78
41:w:104:TRP:HD1	43:o:163:ARG:NE	1.81	0.78
34:i:37:CYS:O	34:i:37:CYS:SG	2.42	0.78
1:A:2467:G:N2	1:A:2488:A:H62	1.81	0.77
45:s:282:HIS:CD2	45:s:335:HIS:ND1	2.53	0.77
34:i:22:CYS:SG	34:i:24:ARG:HG2	2.25	0.77
41:w:58:CYS:HB3	41:w:143:CYS:HB3	1.67	0.77
1:A:2841:G:N2	1:A:2847:A:N6	2.33	0.77
43:o:344:TYR:HE1	43:o:392:VAL:CA	1.95	0.77
22:W:108:LEU:HD22	22:W:127:THR:HA	1.66	0.76
43:o:241:LEU:HG	43:o:499:VAL:CG2	2.12	0.76
43:o:209:ASN:C	43:o:213:PHE:CE2	2.65	0.75
45:s:231:ARG:O	45:s:341:VAL:HG13	1.86	0.75
41:w:161:ILE:HA	41:w:246:VAL:HG12	1.68	0.75
43:o:163:ARG:HH12	43:o:183:ARG:C	1.90	0.75
32:g:46:ASP:HB3	32:g:84:CYS:SG	2.26	0.75
41:w:57:PHE:CE1	41:w:64:PHE:HD1	2.05	0.75
43:o:409:LEU:HD12	43:o:409:LEU:N	2.01	0.75
1:A:2400:G:H5”	1:A:2400:G:C8	2.21	0.74
43:o:170:GLN:HE21	43:o:170:GLN:HA	1.52	0.74
43:o:211:LEU:HD12	43:o:503:PRO:CG	2.16	0.74
42:v:45:ASN:O	42:v:49:ILE:CD1	2.36	0.74
41:w:65:LEU:HB2	41:w:70:GLN:O	1.88	0.74
42:v:49:ILE:HD13	42:v:49:ILE:H	1.52	0.74
43:o:430:LYS:HB3	43:o:434:GLU:OE1	1.87	0.74
37:l:46:LYS:CD	37:l:54:THR:OG1	2.35	0.73
42:v:39:LEU:CD2	42:v:51:TRP:CH2	2.71	0.73
43:o:402:GLU:OE2	43:o:402:GLU:N	2.21	0.73
1:A:2258:U:O4	1:A:2259:A:C6	2.41	0.73
1:A:2467:G:N2	1:A:2488:A:N6	2.36	0.73
43:o:428:ILE:HD11	43:o:432:TYR:HD2	1.49	0.73
41:w:219:PRO:HD3	41:w:280:SER:O	1.89	0.72
1:A:2258:U:C4	1:A:2259:A:C6	2.77	0.72
42:v:9:SER:O	42:v:53:VAL:HG12	1.90	0.72
30:e:3:SER:HG	30:e:71:HIS:CE1	2.06	0.72
41:w:63:ARG:HG3	41:w:63:ARG:NH2	1.98	0.72
41:w:25:PRO:HG2	41:w:35:CYS:HB2	1.71	0.72
41:w:57:PHE:CD1	41:w:63:ARG:C	2.68	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:g:85:VAL:O	32:g:88:ARG:N	2.14	0.71
1:A:2402:A:N6	1:A:2403:G:O6	2.22	0.71
27:b:89:ILE:HG13	27:b:229:PHE:CD1	2.25	0.71
41:w:162:ARG:HG3	41:w:162:ARG:NH2	2.01	0.71
14:O:88:GLY:HA3	37:l:50:PHE:CZ	2.26	0.71
3:C:17:LEU:CD1	3:C:18:PRO:HD2	2.20	0.71
39:n:4:ARG:HD3	45:s:233:LYS:CG	2.19	0.71
45:s:284:PHE:HZ	45:s:324:CYS:HG	0.77	0.71
43:o:344:TYR:HE1	43:o:392:VAL:CG1	2.02	0.71
43:o:209:ASN:ND2	43:o:500:ASN:OD1	2.18	0.71
42:v:46:PRO:HA	42:v:49:ILE:CD1	2.20	0.70
3:C:47:LEU:HD12	3:C:335:ILE:HD11	1.74	0.70
41:w:65:LEU:HD23	41:w:65:LEU:C	2.17	0.70
42:v:49:ILE:HD13	42:v:49:ILE:N	2.06	0.70
4:D:150:LEU:CD2	4:D:249:ILE:HG12	2.20	0.70
1:A:1020:G:H1	1:A:1032:C:H42	1.39	0.70
43:o:500:ASN:HD22	43:o:500:ASN:H	1.36	0.70
1:A:2402:A:C8	1:A:2872:A:C6	2.79	0.70
43:o:491:TYR:HD1	43:o:496:LEU:CD1	2.04	0.70
43:o:400:LYS:HE2	43:o:400:LYS:O	1.92	0.69
1:A:2451:G:N2	1:A:2462:A:N1	2.41	0.69
39:n:116:LEU:HB2	39:n:148:VAL:HG11	1.74	0.69
1:A:2193:U:H5"	1:A:2194:G:H5'	1.75	0.69
43:o:501:PRO:HB3	43:o:506:GLU:OE1	1.92	0.69
45:s:231:ARG:O	45:s:341:VAL:CG1	2.40	0.69
1:A:3112:G:H21	1:A:3122:A:H62	1.41	0.69
38:m:42:CYS:SG	38:m:44:LYS:N	2.65	0.69
37:l:47:GLN:OE1	37:l:54:THR:HG23	1.92	0.68
43:o:497:LEU:CD2	43:o:512:THR:HG22	2.23	0.68
1:A:2257:C:H5'	43:o:148:LYS:HG3	1.76	0.68
6:F:161:LEU:HB3	6:F:179:ILE:HD11	1.74	0.68
41:w:104:TRP:HZ2	43:o:160:LEU:HD21	1.58	0.68
41:w:298:PRO:N	41:w:298:PRO:C	2.52	0.68
1:A:1201:C:H42	1:A:2857:C:H5'	1.59	0.68
1:A:1538:G:N2	1:A:1583:A:H62	1.91	0.68
45:s:284:PHE:CZ	45:s:324:CYS:SG	2.74	0.68
24:Y:121:ARG:HH22	24:Y:126:LYS:HB2	1.56	0.67
43:o:163:ARG:NH1	43:o:183:ARG:CA	2.57	0.67
41:w:104:TRP:HZ2	43:o:160:LEU:CD2	2.07	0.67
5:E:60:ARG:HE	5:E:61:ARG:H	1.41	0.67
22:W:129:ASP:HB3	22:W:130:TYR:CD1	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:w:57:PHE:HE1	41:w:63:ARG:CA	2.07	0.67
41:w:221:LYS:O	41:w:221:LYS:HG2	1.92	0.67
43:o:177:LEU:HD12	43:o:177:LEU:N	2.07	0.67
41:w:57:PHE:HE1	41:w:63:ARG:N	1.92	0.67
41:w:65:LEU:HD12	41:w:71:TRP:CE3	2.28	0.67
43:o:249:TRP:CZ3	43:o:502:PRO:HA	2.30	0.67
41:w:104:TRP:CD1	43:o:163:ARG:HH21	2.13	0.67
41:w:62:GLU:CD	41:w:62:GLU:H	2.02	0.67
43:o:169:LEU:CD1	43:o:396:PHE:CE1	2.77	0.67
1:A:2850:G:N2	1:A:2851:A:N7	2.44	0.66
38:m:41:PHE:HD1	38:m:41:PHE:H	1.44	0.66
45:s:305:PHE:CZ	45:s:316:GLY:N	2.57	0.66
2:B:101:VAL:HG12	2:B:165:VAL:HG12	1.77	0.66
41:w:60:ASN:O	41:w:62:GLU:N	2.28	0.66
43:o:260:PHE:CZ	43:o:304:LYS:NZ	2.64	0.66
45:s:261:ILE:HG13	45:s:270:ILE:HD12	1.77	0.66
1:A:360:G:H21	1:A:815:G:H1'	1.60	0.66
3:C:17:LEU:HD13	3:C:18:PRO:HD2	1.76	0.66
1:A:73:C:N3	10:K:59:ARG:NH1	2.44	0.65
1:A:507:U:H3	1:A:584:G:H1	1.44	0.65
1:A:2841:G:N2	1:A:2847:A:C6	2.64	0.65
1:A:2402:A:C8	1:A:2872:A:C5	2.84	0.65
14:O:88:GLY:HA3	37:l:50:PHE:CD2	2.31	0.65
1:A:792:G:H5"	13:N:2:PRO:HG3	1.77	0.65
43:o:169:LEU:HD23	43:o:169:LEU:C	2.21	0.65
1:A:1951:C:O2	1:A:1952:G:N2	2.29	0.65
43:o:179:THR:HB	43:o:180:PRO:HD2	1.79	0.65
41:w:35:CYS:HB3	41:w:38:CYS:HB2	1.79	0.65
45:s:291:MET:HA	45:s:291:MET:HE3	1.79	0.65
38:m:36:ARG:HG2	38:m:48:LYS:HD3	1.79	0.64
39:n:210:THR:O	45:s:233:LYS:NZ	2.29	0.64
41:w:57:PHE:CE1	41:w:63:ARG:N	2.65	0.64
45:s:313:LYS:O	45:s:313:LYS:HG3	1.97	0.64
1:A:1364:C:OP1	27:b:110:ARG:NH2	2.30	0.64
42:v:46:PRO:CA	42:v:49:ILE:CD1	2.68	0.64
43:o:169:LEU:HD23	43:o:169:LEU:O	1.98	0.64
3:C:17:LEU:HD13	3:C:18:PRO:CD	2.28	0.64
1:A:1834:U:OP2	36:k:10:LYS:NZ	2.31	0.64
2:B:20:THR:HG23	2:B:23:ARG:HD2	1.79	0.64
1:A:3068:U:OP2	17:R:62:ARG:NH2	2.31	0.63
41:w:65:LEU:HD12	41:w:70:GLN:C	2.23	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1412:G:OP1	30:e:105:ARG:NH2	2.31	0.63
1:A:2482:U:H2'	1:A:2483:G:H4'	1.80	0.63
3:C:232:ARG:NH1	3:C:266:ARG:O	2.31	0.63
41:w:57:PHE:CD1	41:w:64:PHE:CB	2.81	0.63
13:N:11:HIS:HB3	13:N:17:ALA:HB1	1.80	0.63
33:h:4:LYS:HG3	33:h:12:ASN:HB2	1.80	0.63
1:A:2197:C:H42	1:A:2244:A:H62	1.45	0.63
28:c:16:LEU:HD21	28:c:97:ASP:HB3	1.79	0.63
1:A:381:U:H3	1:A:388:G:H1	1.46	0.63
39:n:66:ASN:HD21	39:n:112:ASP:HA	1.61	0.63
1:A:268:A:N7	14:O:12:ARG:NH1	2.47	0.63
22:W:129:ASP:HB3	22:W:130:TYR:HD1	1.63	0.63
33:h:58:ILE:HG22	33:h:62:ARG:HH21	1.63	0.63
1:A:2402:A:H8	1:A:2872:A:C6	2.17	0.63
41:w:63:ARG:HH21	41:w:63:ARG:CG	2.09	0.63
41:w:162:ARG:HH12	41:w:193:ALA:CB	2.12	0.63
43:o:170:GLN:HA	43:o:170:GLN:NE2	2.13	0.63
1:A:1135:A:H2'	1:A:1136:A:H8	1.63	0.63
43:o:241:LEU:CD2	43:o:499:VAL:HG21	2.29	0.63
47:y:131:A:H2'	47:y:132:G:H8	1.64	0.62
1:A:2677:G:O6	1:A:2680:A:N7	2.33	0.62
4:D:148:ILE:CG2	4:D:149:PRO:HD3	2.30	0.62
22:W:129:ASP:C	22:W:130:TYR:CD1	2.77	0.62
36:k:21:ARG:HH12	36:k:24:PRO:HG3	1.64	0.62
1:A:1243:G:N2	1:A:1244:A:N7	2.46	0.62
43:o:344:TYR:CD1	43:o:345:PRO:HD3	2.34	0.62
1:A:2349:U:O2'	1:A:3307:A:N3	2.33	0.62
13:N:138:ILE:HG22	13:N:143:GLY:HA3	1.81	0.62
1:A:804:C:OP1	4:D:98:ARG:NH2	2.33	0.62
1:A:2417:U:H1'	1:A:2966:G:H21	1.65	0.62
4:D:148:ILE:HG23	4:D:149:PRO:HD3	1.81	0.62
7:G:154:LEU:HD12	12:M:119:GLN:HG2	1.80	0.62
22:W:129:ASP:CB	22:W:130:TYR:HD1	2.12	0.62
43:o:170:GLN:CD	43:o:178:LEU:HB2	2.25	0.62
45:s:248:HIS:N	45:s:248:HIS:ND1	2.47	0.62
1:A:2449:A:N6	1:A:2496:C:O2'	2.30	0.62
1:A:2257:C:N3	43:o:197:ARG:NH2	2.47	0.62
2:B:139:HIS:O	2:B:147:ARG:NH2	2.33	0.62
6:F:49:ASN:HB3	6:F:52:LEU:H	1.63	0.62
16:Q:40:THR:HG22	16:Q:42:ALA:H	1.65	0.62
1:A:528:U:H3	1:A:564:G:H1	1.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1355:A:OP1	16:Q:27:LYS:NZ	2.33	0.61
43:o:205:VAL:HG13	43:o:213:PHE:HB2	1.81	0.61
1:A:119:U:O2'	8:H:133:LYS:NZ	2.33	0.61
1:A:244:G:N7	10:K:131:LYS:NZ	2.47	0.61
1:A:1529:A:OP2	1:A:1592:G:N2	2.32	0.61
13:N:100:PRO:HG2	13:N:123:VAL:HG12	1.82	0.61
24:Y:54:THR:HG23	24:Y:56:LYS:H	1.65	0.61
8:H:156:ASP:HB2	8:H:183:LYS:HG3	1.81	0.61
34:i:84:SER:HB3	47:y:67:U:H4'	1.82	0.61
3:C:19:ARG:HG2	3:C:273:HIS:NE2	2.15	0.61
16:Q:86:THR:HG23	16:Q:105:ARG:HB2	1.82	0.61
1:A:2841:G:C2	1:A:2847:A:N6	2.68	0.61
1:A:3350:C:N4	1:A:3352:U:O2	2.34	0.61
43:o:500:ASN:HD22	43:o:500:ASN:N	1.98	0.61
1:A:2841:G:H21	1:A:2847:A:N6	1.99	0.61
1:A:103:G:H2'	1:A:104:G:H8	1.66	0.61
1:A:2450:G:N2	1:A:2498:U:OP1	2.34	0.61
1:A:2486:A:N3	1:A:2487:U:N3	2.40	0.61
4:D:302:ALA:HB2	16:Q:39:ARG:HH22	1.66	0.61
43:o:249:TRP:CH2	43:o:502:PRO:HA	2.36	0.61
1:A:198:A:N3	1:A:218:G:O2'	2.33	0.60
1:A:2180:G:OP1	2:B:174:ARG:NH2	2.33	0.60
43:o:409:LEU:HD12	43:o:409:LEU:H	1.65	0.60
1:A:783:A:H5"	1:A:784:A:H5"	1.83	0.60
1:A:1329:U:OP1	31:f:17:GLN:NE2	2.34	0.60
1:A:2407:C:O2	1:A:2815:G:N2	2.35	0.60
17:R:100:ARG:O	17:R:104:ARG:NH1	2.35	0.60
22:W:129:ASP:C	22:W:130:TYR:HD1	2.09	0.60
39:n:1:MET:HB3	45:s:236:ARG:HE	1.66	0.60
1:A:28:C:O2'	1:A:61:A:N3	2.34	0.60
1:A:509:U:O2	1:A:583:G:C2	2.55	0.60
1:A:3060:C:H1'	1:A:3332:U:O2'	2.02	0.60
12:M:13:ARG:HH21	12:M:67:PRO:HG3	1.67	0.60
43:o:177:LEU:HB3	43:o:400:LYS:H	1.67	0.60
4:D:148:ILE:N	4:D:149:PRO:HD2	2.17	0.60
39:n:61:ARG:NH1	39:n:149:GLY:O	2.35	0.60
1:A:627:U:H2'	1:A:628:A:H8	1.67	0.59
3:C:221:THR:O	3:C:334:ARG:NH1	2.35	0.59
4:D:140:HIS:HE1	4:D:246:ARG:HD2	1.67	0.59
11:L:80:ARG:NH1	11:L:117:PRO:O	2.35	0.59
1:A:1222:G:H21	1:A:1286:A:H62	1.49	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2137:U:OP2	1:A:2142:A:N6	2.35	0.59
1:A:2812:C:H2'	1:A:2813:A:H8	1.66	0.59
7:G:114:LYS:O	7:G:117:LYS:NZ	2.34	0.59
11:L:15:LEU:HA	11:L:53:SER:HB2	1.84	0.59
1:A:2392:C:O2	3:C:266:ARG:NH2	2.34	0.59
1:A:2514:U:OP1	8:H:68:ARG:NH1	2.35	0.59
6:F:59:ASN:N	6:F:59:ASN:OD1	2.35	0.59
45:s:292:GLN:HB3	45:s:296:GLN:HE22	1.66	0.59
1:A:3084:C:O2'	1:A:3332:U:OP1	2.16	0.59
41:w:65:LEU:HB3	41:w:71:TRP:CB	2.32	0.59
43:o:241:LEU:CG	43:o:499:VAL:CG2	2.74	0.59
1:A:307:A:H2'	1:A:308:A:H8	1.67	0.59
21:V:17:VAL:HG12	21:V:103:TYR:HB2	1.83	0.59
43:o:165:LYS:HA	43:o:165:LYS:CE	2.32	0.59
1:A:269:G:OP2	14:O:44:ARG:NH2	2.33	0.59
41:w:57:PHE:CD1	41:w:63:ARG:O	2.55	0.59
43:o:163:ARG:NH1	43:o:163:ARG:HG3	2.16	0.59
1:A:171:G:H21	1:A:248:U:H3	1.49	0.59
1:A:984:G:O6	26:a:14:ARG:NH1	2.35	0.59
2:B:225:ILE:HG21	2:B:234:LYS:HA	1.83	0.59
22:W:106:ASP:O	22:W:127:THR:OG1	2.21	0.59
25:Z:9:LEU:HD21	25:Z:54:VAL:HG22	1.85	0.59
1:A:1235:U:H4'	1:A:1236:G:H5'	1.84	0.59
1:A:2483:G:N3	1:A:2486:A:N6	2.51	0.58
1:A:3196:U:OP2	1:A:3197:G:N2	2.36	0.58
5:E:12:LEU:HD21	5:E:158:ASP:HB3	1.84	0.58
27:b:220:PHE:CE1	27:b:229:PHE:CE2	2.90	0.58
46:x:89:G:N2	46:x:92:A:N7	2.51	0.58
4:D:20:LEU:HD23	4:D:255:PHE:HD2	1.69	0.58
1:A:539:C:OP2	1:A:547:G:N2	2.36	0.58
39:n:118:HIS:CD2	39:n:146:ILE:HB	2.37	0.58
41:w:72:ILE:HG23	41:w:74:ALA:H	1.69	0.58
41:w:104:TRP:CZ2	43:o:160:LEU:CD2	2.85	0.58
41:w:218:VAL:HG13	41:w:219:PRO:HD2	1.84	0.58
1:A:1636:U:H3	1:A:1710:C:HO2'	1.50	0.58
1:A:2947:G:OP1	1:A:2982:A:N6	2.36	0.58
5:E:137:ARG:NH1	46:x:43:U:OP1	2.37	0.58
25:Z:39:PRO:O	40:z:383:ARG:NH1	2.36	0.58
47:y:41:A:N6	47:y:103:G:O2'	2.36	0.58
1:A:622:A:H5"	31:f:60:ARG:HH11	1.68	0.58
1:A:1245:A:N6	1:A:1272:C:O2'	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:81:VAL:HB	16:Q:101:VAL:HG23	1.86	0.58
29:d:20:LEU:HD11	29:d:32:ALA:HB2	1.86	0.58
1:A:1493:G:O6	36:k:2:ALA:N	2.36	0.58
15:P:276:LYS:HG2	46:x:61:G:H5'	1.84	0.58
43:o:236:ASN:ND2	43:o:347:VAL:O	2.36	0.58
18:S:167:ARG:HD3	18:S:168:PRO:HD2	1.85	0.58
43:o:169:LEU:HD11	43:o:396:PHE:CD1	2.39	0.58
45:s:305:PHE:CD2	45:s:317:TYR:HD1	2.22	0.58
1:A:124:U:O4	1:A:145:G:N2	2.37	0.58
1:A:1156:C:OP2	27:b:94:LYS:NZ	2.36	0.58
1:A:1873:U:OP2	17:R:20:ARG:NH2	2.37	0.58
1:A:2526:C:N3	8:H:48:ARG:NH1	2.51	0.58
3:C:211:GLN:NE2	3:C:283:TYR:O	2.36	0.58
6:F:147:SER:OG	6:F:148:GLY:N	2.37	0.58
16:Q:66:ARG:HH12	16:Q:143:PRO:HD3	1.69	0.58
30:e:4:LEU:N	30:e:5:PRO:HD2	2.19	0.58
41:w:274:VAL:HG11	41:w:285:PHE:HB3	1.86	0.58
43:o:209:ASN:O	43:o:213:PHE:CZ	2.57	0.58
1:A:705:A:N6	13:N:74:ASN:OD1	2.31	0.57
1:A:1631:C:H5"	24:Y:48:ARG:HH12	1.67	0.57
1:A:2366:C:O5'	3:C:259:HIS:NE2	2.32	0.57
37:l:38:GLN:OE1	37:l:41:ARG:NH2	2.37	0.57
43:o:193:ARG:O	43:o:197:ARG:NH1	2.36	0.57
43:o:431:TYR:HD1	43:o:431:TYR:H	1.50	0.57
1:A:687:U:O4	10:K:32:LYS:NZ	2.36	0.57
1:A:1672:U:OP2	17:R:60:LYS:NZ	2.35	0.57
24:Y:57:HIS:HB3	24:Y:61:LYS:HB3	1.86	0.57
43:o:174:GLU:O	43:o:175:ASP:OD1	2.22	0.57
1:A:1639:C:OP2	32:g:74:ARG:NH1	2.37	0.57
1:A:3199:G:H2'	1:A:3200:G:H8	1.70	0.57
27:b:64:GLN:NE2	27:b:68:ASP:OD1	2.37	0.57
42:v:46:PRO:O	42:v:49:ILE:CG1	2.53	0.57
45:s:338:THR:HA	45:s:341:VAL:HB	1.87	0.57
1:A:1257:C:H42	1:A:1261:G:H22	1.52	0.57
1:A:2240:G:N2	2:B:241:ARG:O	2.36	0.57
1:A:3086:A:OP1	3:C:367:LYS:NZ	2.36	0.57
1:A:3217:C:H4'	1:A:3219:G:H21	1.69	0.57
4:D:107:ARG:O	14:O:203:ARG:NH2	2.37	0.57
25:Z:10:ARG:NH2	47:y:65:A:O2'	2.37	0.57
1:A:20:A:OP2	25:Z:86:ARG:NH2	2.36	0.57
5:E:14:ILE:HD12	5:E:131:MET:HB3	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:89:LYS:HG2	6:F:145:VAL:HG22	1.87	0.57
14:O:159:ARG:HH21	14:O:165:THR:HG22	1.70	0.57
24:Y:119:GLU:O	24:Y:123:GLN:NE2	2.36	0.57
41:w:57:PHE:CE1	41:w:64:PHE:CD1	2.90	0.57
19:T:133:ALA:HB3	27:b:121:LYS:HB2	1.85	0.57
28:c:51:LEU:HD13	32:g:91:ARG:HG3	1.87	0.57
1:A:712:G:N2	1:A:754:G:O3'	2.37	0.57
1:A:3042:U:OP1	11:L:48:ARG:NH1	2.37	0.57
39:n:108:ILE:HG12	39:n:117:VAL:HG22	1.85	0.57
1:A:1722:U:OP1	17:R:100:ARG:NH1	2.36	0.57
1:A:2255:A:OP1	1:A:2259:A:N6	2.38	0.57
9:J:53:TYR:HD2	9:J:144:VAL:HG21	1.70	0.57
19:T:9:SER:OG	19:T:55:LYS:NZ	2.37	0.57
25:Z:38:ARG:HD3	25:Z:39:PRO:HD2	1.86	0.57
33:h:20:MET:HE2	33:h:22:PRO:HA	1.87	0.57
2:B:112:ILE:HG13	38:m:79:VAL:HG22	1.85	0.57
5:E:51:ARG:O	5:E:61:ARG:NH2	2.37	0.57
39:n:3:THR:HB	39:n:205:VAL:HG12	1.87	0.57
43:o:430:LYS:HD2	43:o:455:PRO:HD2	1.86	0.57
47:y:40:A:OP2	47:y:103:G:N1	2.31	0.57
1:A:929:A:OP1	4:D:61:SER:OG	2.22	0.57
1:A:2948:C:OP1	3:C:244:ARG:NH2	2.38	0.57
20:U:118:GLN:NE2	20:U:120:ASN:OD1	2.38	0.57
1:A:2402:A:N7	1:A:2872:A:C8	2.72	0.56
1:A:2490:C:O2'	1:A:2491:A:N7	2.36	0.56
6:F:31:ARG:NH2	6:F:83:THR:O	2.38	0.56
41:w:104:TRP:CZ2	43:o:160:LEU:HD21	2.40	0.56
45:s:282:HIS:HD2	45:s:335:HIS:ND1	2.02	0.56
43:o:165:LYS:HA	43:o:165:LYS:HE3	1.88	0.56
1:A:77:A:OP2	10:K:73:ARG:NH1	2.38	0.56
1:A:745:C:H2'	1:A:746:A:H8	1.71	0.56
1:A:2841:G:N2	1:A:2847:A:H62	2.02	0.56
32:g:66:SER:OG	32:g:67:LYS:N	2.38	0.56
1:A:209:A:N3	4:D:221:ASN:ND2	2.53	0.56
42:v:46:PRO:O	42:v:52:THR:HG21	2.05	0.56
1:A:2373:A:N7	1:A:2867:C:O2'	2.38	0.56
15:P:146:LEU:HD11	15:P:163:LEU:HB2	1.87	0.56
29:d:12:TYR:O	29:d:72:ARG:NH2	2.38	0.56
43:o:163:ARG:HG3	43:o:163:ARG:HH11	1.70	0.56
1:A:61:A:N1	14:O:189:LYS:NZ	2.53	0.56
1:A:2945:G:OP2	1:A:2945:G:N2	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3026:G:N2	1:A:3029:A:OP2	2.37	0.56
38:m:3:LYS:HG3	38:m:4:ARG:HG3	1.88	0.56
41:w:104:TRP:CD1	43:o:163:ARG:NH2	2.73	0.56
43:o:179:THR:CB	43:o:180:PRO:HD2	2.35	0.56
45:s:305:PHE:CE2	45:s:316:GLY:C	2.83	0.56
4:D:16:THR:OG1	4:D:17:ALA:N	2.36	0.56
4:D:84:ARG:NH1	4:D:87:GLN:OE1	2.39	0.56
4:D:188:ARG:NE	4:D:200:THR:OG1	2.36	0.56
38:m:41:PHE:N	38:m:41:PHE:CD1	2.73	0.56
43:o:497:LEU:O	43:o:497:LEU:HD23	2.05	0.56
45:s:234:LYS:HG2	45:s:234:LYS:O	2.04	0.56
45:s:304:LYS:HE3	45:s:313:LYS:HE3	1.87	0.56
46:x:77:G:N2	46:x:102:A:OP2	2.35	0.56
1:A:669:U:HO2'	1:A:1109:U:HO2'	1.54	0.56
1:A:2158:A:OP2	2:B:156:LYS:NZ	2.37	0.56
1:A:3326:G:H2'	1:A:3327:G:H8	1.69	0.56
41:w:187:THR:HA	41:w:201:TYR:HE1	1.71	0.56
1:A:1025:A:N6	41:w:329:SER:OG	2.39	0.56
1:A:2588:U:OP1	8:H:241:LYS:NZ	2.38	0.56
43:o:209:ASN:HB3	43:o:213:PHE:CZ	2.41	0.56
1:A:2452:G:N2	1:A:2462:A:N7	2.54	0.56
1:A:655:C:H2'	1:A:656:A:C8	2.41	0.55
1:A:824:C:H5"	2:B:21:ARG:HD3	1.87	0.55
1:A:2525:G:OP2	2:B:37:ARG:NH1	2.39	0.55
4:D:74:ILE:HD13	4:D:93:MET:HE2	1.88	0.55
8:H:74:THR:O	8:H:77:GLN:NE2	2.39	0.55
38:m:60:CYS:SG	38:m:60:CYS:O	2.64	0.55
45:s:246:ILE:O	45:s:248:HIS:ND1	2.39	0.55
45:s:305:PHE:HE1	45:s:315:GLY:N	1.97	0.55
1:A:153:U:OP2	25:Z:103:LYS:NZ	2.38	0.55
1:A:1471:U:OP1	17:R:5:ARG:NH2	2.35	0.55
1:A:1481:A:N3	1:A:1858:A:O2'	2.39	0.55
1:A:1954:G:N2	1:A:1954:G:OP2	2.39	0.55
1:A:2401:A:OP1	1:A:2401:A:H2	1.89	0.55
1:A:3027:A:O2'	45:s:282:HIS:HE1	1.89	0.55
7:G:149:ILE:HG23	7:G:155:LEU:HB3	1.88	0.55
31:f:47:LYS:HA	31:f:104:PRO:HD2	1.88	0.55
1:A:2149:A:N6	1:A:2187:G:O2'	2.39	0.55
1:A:2568:C:O3'	1:A:2573:G:N2	2.39	0.55
22:W:106:ASP:OD1	22:W:106:ASP:N	2.38	0.55
1:A:193:C:O2	1:A:203:G:N2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:289:A:H2'	1:A:290:G:H8	1.71	0.55
9:J:60:ALA:HA	9:J:69:PRO:HD2	1.88	0.55
39:n:111:ASN:ND2	39:n:155:SER:O	2.40	0.55
1:A:216:G:OP1	23:X:16:ARG:NH1	2.40	0.55
32:g:38:LEU:O	32:g:58:ARG:NH1	2.40	0.55
5:E:28:ASP:OD1	5:E:32:ARG:NH1	2.40	0.55
6:F:100:ASN:OD1	6:F:115:ARG:NH1	2.39	0.55
37:l:36:PHE:O	37:l:41:ARG:NH1	2.37	0.55
43:o:177:LEU:H	43:o:177:LEU:CD1	1.96	0.55
46:x:26:C:O2	46:x:57:G:N2	2.39	0.55
1:A:1203:A:H1'	1:A:2856:G:H4'	1.88	0.55
10:K:62:THR:OG1	10:K:63:VAL:N	2.40	0.55
43:o:430:LYS:HB3	43:o:434:GLU:CD	2.32	0.55
1:A:644:G:N2	1:A:2372:A:O4'	2.39	0.55
1:A:964:G:OP2	1:A:1115:G:N1	2.40	0.55
1:A:2103:U:H2'	1:A:2104:A:H8	1.72	0.55
1:A:2837:A:H1'	1:A:2850:G:H22	1.72	0.55
27:b:220:PHE:CD1	27:b:229:PHE:CE2	2.95	0.55
39:n:117:VAL:HG13	39:n:121:ILE:HD12	1.89	0.55
41:w:86:LEU:HA	41:w:92:LEU:HD11	1.89	0.55
41:w:99:ASP:OD2	41:w:115:LYS:NZ	2.39	0.55
1:A:151:A:OP2	14:O:147:ARG:NH2	2.40	0.55
1:A:837:A:N6	1:A:856:G:O2'	2.39	0.55
5:E:143:ARG:NH2	46:x:5:G:OP1	2.40	0.55
41:w:58:CYS:SG	41:w:61:CYS:O	2.64	0.55
43:o:139:ARG:HB3	43:o:142:TRP:HE1	1.71	0.55
43:o:169:LEU:CD1	43:o:396:PHE:CD1	2.90	0.55
43:o:202:VAL:HG22	43:o:341:LEU:HG	1.89	0.55
1:A:943:U:N3	1:A:1431:G:OP1	2.40	0.55
1:A:2842:U:OP1	1:A:2844:C:N4	2.40	0.55
1:A:3212:C:OP2	12:M:124:ARG:NH2	2.40	0.55
1:A:500:C:H2'	1:A:501:A:H8	1.72	0.54
1:A:1222:G:O2'	1:A:1284:C:N4	2.39	0.54
1:A:2245:C:O2'	2:B:220:GLY:O	2.25	0.54
1:A:2294:U:OP2	11:L:71:LYS:NZ	2.40	0.54
1:A:2442:G:O6	1:A:2505:U:O4	2.24	0.54
3:C:95:THR:HG22	3:C:97:ARG:H	1.72	0.54
13:N:6:THR:OG1	13:N:7:LYS:N	2.39	0.54
39:n:142:ILE:HD11	39:n:148:VAL:HG13	1.88	0.54
1:A:69:C:OP1	14:O:178:HIS:ND1	2.40	0.54
1:A:3186:A:N3	6:F:44:THR:OG1	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:59:ALA:HB2	2:B:78:ALA:HB2	1.90	0.54
27:b:33:ARG:O	27:b:37:ASN:ND2	2.40	0.54
41:w:61:CYS:O	41:w:63:ARG:N	2.40	0.54
1:A:682:U:O2'	10:K:28:GLN:NE2	2.39	0.54
1:A:1388:U:O2'	30:e:99:ASN:OD1	2.25	0.54
1:A:1497:C:H2'	1:A:1498:A:H8	1.72	0.54
1:A:2373:A:N3	1:A:2824:G:O2'	2.41	0.54
3:C:276:THR:O	3:C:276:THR:OG1	2.26	0.54
10:K:22:VAL:HG12	14:O:197:LEU:HB3	1.89	0.54
15:P:41:LYS:NZ	19:T:30:TYR:O	2.40	0.54
19:T:47:SER:OG	19:T:48:ILE:N	2.39	0.54
39:n:1:MET:SD	39:n:223:ARG:NH2	2.80	0.54
1:A:1768:U:H2'	1:A:1769:G:H8	1.72	0.54
1:A:2885:C:OP1	9:J:58:ARG:NH2	2.41	0.54
1:A:3067:C:OP2	17:R:62:ARG:NH1	2.36	0.54
1:A:3343:G:O2'	1:A:3362:A:N6	2.37	0.54
3:C:348:ARG:NH1	3:C:351:LEU:O	2.40	0.54
1:A:2658:G:N2	1:A:2715:A:OP1	2.39	0.54
1:A:2340:U:H2'	1:A:2341:A:H8	1.72	0.54
1:A:2475:G:N2	1:A:2488:A:O2'	2.40	0.54
39:n:32:GLU:HA	39:n:35:TYR:HD2	1.71	0.54
1:A:3217:C:OP1	1:A:3266:G:N1	2.41	0.54
15:P:85:ARG:NH2	15:P:86:TYR:OH	2.35	0.54
30:e:82:LEU:HD11	30:e:108:ILE:HG23	1.89	0.54
43:o:204:ILE:HG23	43:o:234:LEU:HD11	1.89	0.54
14:O:46:ASP:N	14:O:46:ASP:OD1	2.40	0.54
18:S:112:ALA:O	18:S:115:ARG:NH1	2.40	0.54
2:B:79:ASN:OD1	2:B:79:ASN:N	2.33	0.54
12:M:39:ILE:HB	12:M:43:LYS:O	2.08	0.54
21:V:16:THR:HG23	21:V:64:THR:HG22	1.90	0.54
22:W:37:THR:OG1	22:W:38:LEU:N	2.40	0.54
43:o:135:ILE:HG22	43:o:136:VAL:HG13	1.90	0.54
1:A:1603:A:OP2	17:R:38:ARG:NH2	2.41	0.54
1:A:2676:A:N6	5:E:22:SER:O	2.40	0.54
11:L:80:ARG:HB2	11:L:99:ALA:HB3	1.90	0.54
40:z:411:THR:O	40:z:415:ARG:NH1	2.41	0.54
45:s:305:PHE:CZ	45:s:316:GLY:CA	2.90	0.54
1:A:1538:G:H21	1:A:1583:A:N6	1.99	0.53
1:A:2468:A:N6	1:A:2477:G:O2'	2.41	0.53
1:A:2492:C:OP1	44:p:201:UNK:N	2.41	0.53
31:f:62:SER:OG	31:f:63:LYS:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:m:56:THR:HG22	38:m:63:THR:HG23	1.90	0.53
43:o:430:LYS:C	43:o:433:ILE:HG22	2.32	0.53
45:s:305:PHE:HE1	45:s:315:GLY:H	1.54	0.53
18:S:52:LYS:NZ	46:x:101:G:OP2	2.41	0.53
41:w:298:PRO:N	41:w:299:SER:N	2.57	0.53
43:o:372:LYS:HA	43:o:389:PRO:HB3	1.90	0.53
1:A:1016:C:OP1	5:E:55:ARG:NH1	2.41	0.53
17:R:147:ALA:O	17:R:151:ARG:NH1	2.41	0.53
18:S:67:ALA:O	18:S:68:HIS:ND1	2.41	0.53
19:T:130:ARG:O	19:T:131:GLN:NE2	2.42	0.53
36:k:44:TRP:O	36:k:48:LYS:NZ	2.40	0.53
46:x:62:U:H2'	46:x:63:A:H8	1.74	0.53
1:A:1441:G:OP1	40:z:414:ARG:NH1	2.40	0.53
1:A:2841:G:N2	1:A:2847:A:C5	2.76	0.53
18:S:9:VAL:HG12	18:S:61:ILE:HD13	1.90	0.53
41:w:219:PRO:HB3	41:w:298:PRO:HG3	1.90	0.53
1:A:241:G:N2	1:A:242:C:O4'	2.42	0.53
1:A:269:G:N2	1:A:295:A:OP2	2.41	0.53
1:A:1447:G:O2'	1:A:2355:G:O6	2.23	0.53
1:A:2466:G:N1	1:A:2491:A:OP1	2.39	0.53
14:O:35:VAL:HG12	14:O:36:ILE:HG13	1.90	0.53
29:d:83:GLU:HG2	29:d:84:ASP:H	1.74	0.53
43:o:188:TRP:HA	43:o:191:LEU:HB2	1.90	0.53
1:A:1564:U:H3	1:A:1575:A:H2	1.57	0.53
1:A:1721:U:OP2	17:R:124:TYR:OH	2.24	0.53
1:A:1949:G:OP2	17:R:135:LYS:NZ	2.38	0.53
43:o:305:VAL:HG13	43:o:306:LYS:H	1.73	0.53
1:A:63:A:N3	1:A:78:U:O2'	2.35	0.53
2:B:30:ARG:O	2:B:163:ARG:NH2	2.41	0.53
29:d:10:ARG:NH1	29:d:12:TYR:OH	2.41	0.53
41:w:17:LEU:H	41:w:26:ILE:HG23	1.73	0.53
1:A:1737:U:O2	32:g:52:GLN:NE2	2.41	0.53
1:A:1794:G:O2'	1:A:1796:G:N2	2.42	0.53
1:A:2882:U:HO2'	3:C:263:SER:HG	1.54	0.53
46:x:75:G:O2'	46:x:104:A:N6	2.42	0.53
1:A:1523:U:OP2	1:A:1604:G:O2'	2.27	0.53
1:A:1824:U:H2'	1:A:1825:G:H8	1.74	0.53
1:A:2549:G:H3'	8:H:36:ILE:HB	1.89	0.53
16:Q:102:ALA:HA	16:Q:122:ILE:O	2.08	0.53
41:w:98:VAL:O	41:w:117:THR:OG1	2.25	0.53
41:w:381:SER:HB3	41:w:383:LEU:HD23	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:138:ARG:HH21	4:D:240:PRO:HD2	1.74	0.53
9:J:112:ASP:N	9:J:112:ASP:OD1	2.42	0.53
10:K:62:THR:HG23	10:K:65:TYR:H	1.73	0.53
21:V:55:THR:O	21:V:65:VAL:HA	2.09	0.53
27:b:156:ILE:HD11	27:b:168:ILE:HG23	1.90	0.53
34:i:25:ARG:NH1	36:k:50:ASN:OD1	2.42	0.53
43:o:466:ARG:HH11	43:o:477:SER:HA	1.73	0.53
1:A:2117:A:O2'	1:A:3080:G:O2'	2.27	0.52
8:H:183:LYS:HB3	8:H:194:THR:HG23	1.91	0.52
41:w:57:PHE:CD1	41:w:64:PHE:HD1	2.26	0.52
1:A:1723:A:OP1	17:R:128:LYS:NZ	2.42	0.52
1:A:1793:C:OP2	38:m:49:ARG:NH2	2.43	0.52
16:Q:5:HIS:O	27:b:104:GLN:NE2	2.43	0.52
39:n:115:ALA:HB3	39:n:137:VAL:HG12	1.91	0.52
1:A:1655:G:N2	1:A:1801:U:O4	2.42	0.52
1:A:2482:U:H3	1:A:2486:A:H61	1.57	0.52
5:E:131:MET:N	5:E:131:MET:SD	2.82	0.52
23:X:74:TYR:OH	47:y:75:G:OP2	2.24	0.52
24:Y:122:HIS:ND1	24:Y:123:GLN:OE1	2.40	0.52
41:w:57:PHE:CG	41:w:64:PHE:HB3	2.44	0.52
41:w:65:LEU:CD1	41:w:71:TRP:CE2	2.73	0.52
1:A:874:U:OP2	3:C:241:LYS:NZ	2.43	0.52
1:A:1667:A:O2'	32:g:21:LYS:NZ	2.42	0.52
2:B:206:PRO:HG3	2:B:213:GLY:HA3	1.92	0.52
10:K:27:ASP:HB3	10:K:31:LYS:HG2	1.91	0.52
37:l:72:LEU:HD22	37:l:83:LEU:HD13	1.91	0.52
43:o:367:THR:O	43:o:367:THR:HG22	2.10	0.52
1:A:600:G:N2	1:A:603:A:OP2	2.39	0.52
1:A:1626:U:O2	1:A:1817:G:N2	2.39	0.52
1:A:3026:G:O6	45:s:313:LYS:CE	2.57	0.52
2:B:33:ASP:OD1	2:B:33:ASP:N	2.41	0.52
3:C:218:ILE:HG23	3:C:276:THR:HG22	1.90	0.52
3:C:372:THR:HG22	3:C:374:ALA:H	1.75	0.52
6:F:31:ARG:NH1	6:F:82:VAL:O	2.42	0.52
8:H:207:ASP:HB2	8:H:210:ALA:HB3	1.91	0.52
10:K:79:GLU:OE2	10:K:112:ASN:ND2	2.37	0.52
11:L:92:PHE:O	42:v:20:LEU:N	2.41	0.52
14:O:173:GLY:O	14:O:183:THR:OG1	2.26	0.52
15:P:25:GLU:OE1	15:P:27:LYS:NZ	2.43	0.52
20:U:134:GLY:O	40:z:423:GLN:NE2	2.43	0.52
39:n:142:ILE:HG12	39:n:148:VAL:HG22	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:160:G:O6	1:A:261:U:O4	2.27	0.52
1:A:900:G:H1'	1:A:1589:A:H62	1.73	0.52
1:A:982:C:O2'	26:a:22:LYS:NZ	2.42	0.52
1:A:1461:A:H2'	1:A:1462:A:H8	1.75	0.52
1:A:1830:G:N2	47:y:115:C:OP2	2.40	0.52
2:B:40:TYR:HA	2:B:91:GLY:HA3	1.92	0.52
4:D:328:ASN:OD1	27:b:48:ASN:ND2	2.43	0.52
37:l:71:ARG:HH21	37:l:80:ARG:HG2	1.75	0.52
1:A:966:U:H2'	1:A:967:A:H8	1.74	0.52
1:A:1796:G:H5'	2:B:22:LEU:HD11	1.92	0.52
4:D:83:GLY:O	40:z:419:ARG:NH1	2.42	0.52
8:H:52:TRP:O	8:H:57:ARG:NH1	2.42	0.52
28:c:9:SER:O	28:c:13:LYS:NZ	2.43	0.52
39:n:21:ASN:ND2	39:n:200:ASN:OD1	2.34	0.52
41:w:229:ILE:HG12	41:w:240:TYR:HA	1.92	0.52
1:A:1261:G:O2'	1:A:1278:A:N6	2.41	0.52
1:A:2415:C:OP1	2:B:2:GLY:N	2.43	0.52
1:A:2677:G:C6	1:A:2680:A:N7	2.78	0.52
1:A:2862:U:H2'	1:A:2863:G:H8	1.75	0.52
6:F:36:LYS:NZ	6:F:152:GLU:OE2	2.42	0.52
24:Y:15:ARG:HH21	32:g:86:LYS:HD3	1.74	0.52
1:A:77:A:N7	10:K:73:ARG:NH2	2.57	0.52
1:A:108:A:OP1	10:K:42:ARG:NH2	2.43	0.52
1:A:655:C:H2'	1:A:656:A:H8	1.75	0.52
1:A:1001:G:O6	1:A:1045:C:N4	2.42	0.52
1:A:2162:U:OP1	2:B:227:ARG:NH1	2.43	0.52
1:A:2897:A:OP2	1:A:2899:C:N4	2.43	0.52
10:K:31:LYS:HA	10:K:34:SER:HB3	1.92	0.52
15:P:95:TRP:NE1	15:P:157:ALA:O	2.43	0.52
17:R:37:SER:OG	17:R:38:ARG:N	2.42	0.52
43:o:349:LYS:HE2	43:o:371:THR:HG23	1.92	0.52
1:A:294:U:OP2	14:O:15:GLN:NE2	2.42	0.52
1:A:499:G:OP1	31:f:48:ARG:NH1	2.43	0.52
1:A:717:C:OP1	1:A:751:A:O2'	2.24	0.52
1:A:911:C:OP2	2:B:9:ARG:NH2	2.41	0.52
1:A:1717:U:H2'	1:A:1718:G:C8	2.45	0.52
16:Q:54:LEU:O	16:Q:59:ARG:NH1	2.43	0.52
42:v:39:LEU:HD22	42:v:51:TRP:CH2	2.44	0.52
1:A:2661:G:H2'	1:A:2662:G:H8	1.74	0.51
1:A:3151:U:OP1	3:C:132:LYS:NZ	2.43	0.51
4:D:314:LYS:NZ	27:b:150:LYS:O	2.35	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:72:LYS:NZ	6:F:76:ASP:OD2	2.42	0.51
27:b:223:PHE:HA	27:b:227:GLY:HA2	1.92	0.51
39:n:155:SER:OG	39:n:156:ASN:N	2.41	0.51
43:o:139:ARG:NH2	43:o:192:TRP:O	2.43	0.51
43:o:344:TYR:CZ	43:o:392:VAL:HA	2.39	0.51
1:A:148:G:OP2	14:O:4:TYR:OH	2.27	0.51
1:A:2562:A:H62	1:A:2579:G:N2	2.09	0.51
1:A:2792:A:H5"	37:l:67:LYS:HD2	1.91	0.51
9:J:9:ASP:OD2	9:J:36:ARG:NH2	2.44	0.51
43:o:135:ILE:N	43:o:217:ASP:OD2	2.41	0.51
4:D:35:VAL:HG21	4:D:244:LEU:HD21	1.92	0.51
4:D:150:LEU:HG	4:D:150:LEU:O	2.08	0.51
19:T:68:THR:OG1	19:T:69:LYS:N	2.41	0.51
30:e:6:HIS:HB3	30:e:70:GLY:HA3	1.92	0.51
1:A:644:G:N1	1:A:2868:U:OP1	2.34	0.51
18:S:99:ARG:NH1	18:S:126:VAL:O	2.42	0.51
23:X:16:ARG:NE	47:y:23:U:OP2	2.43	0.51
28:c:51:LEU:HD11	32:g:90:ILE:HG22	1.92	0.51
36:k:12:LYS:NZ	47:y:44:A:O3'	2.42	0.51
43:o:344:TYR:H	43:o:347:VAL:HG22	1.75	0.51
1:A:2454:G:H1	1:A:2456:A:H1'	1.74	0.51
17:R:39:ASN:OD1	17:R:42:ARG:NH1	2.43	0.51
29:d:82:GLU:HG2	29:d:84:ASP:HB2	1.92	0.51
42:v:9:SER:HA	42:v:52:THR:OG1	2.11	0.51
1:A:959:C:O2	1:A:2614:G:O2'	2.28	0.51
1:A:1579:C:OP2	1:A:1580:A:N6	2.40	0.51
13:N:76:ASP:OD1	13:N:76:ASP:N	2.43	0.51
17:R:13:SER:OG	17:R:38:ARG:NH1	2.44	0.51
34:i:84:SER:OG	34:i:85:LYS:N	2.44	0.51
42:v:50:ALA:HA	42:v:55:PHE:CD2	2.44	0.51
1:A:83:U:H1'	1:A:103:G:H22	1.75	0.51
1:A:1626:U:H3	1:A:1817:G:H1	1.58	0.51
1:A:1919:G:O2'	1:A:1933:A:N6	2.42	0.51
1:A:2745:G:N2	1:A:2748:A:OP2	2.36	0.51
1:A:2818:U:O2	1:A:2870:C:N4	2.44	0.51
7:G:63:LEU:O	7:G:78:ARG:HA	2.10	0.51
14:O:120:TRP:NE1	14:O:123:GLN:OE1	2.43	0.51
1:A:2218:G:OP1	33:h:68:ARG:NH1	2.44	0.51
1:A:2677:G:H1	1:A:2680:A:H8	1.51	0.51
1:A:2941:A:H5'	1:A:2943:G:H4'	1.93	0.51
24:Y:83:THR:OG1	24:Y:84:ARG:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:708:G:N2	1:A:711:A:OP2	2.41	0.51
1:A:1020:G:H2'	1:A:1021:G:H8	1.75	0.51
16:Q:131:ALA:HB1	16:Q:135:GLN:H	1.75	0.51
23:X:85:VAL:HG12	23:X:97:ILE:HB	1.92	0.51
1:A:3092:C:O2'	1:A:3094:A:OP2	2.24	0.51
11:L:108:GLU:HA	11:L:128:ARG:HG2	1.91	0.51
30:e:4:LEU:N	30:e:5:PRO:CD	2.74	0.51
43:o:423:LEU:O	43:o:427:ARG:NH2	2.44	0.51
45:s:228:THR:H	45:s:242:SER:HB2	1.75	0.51
1:A:2565:U:O2	1:A:2576:G:N2	2.37	0.50
2:B:134:VAL:HG12	2:B:151:PRO:HD3	1.93	0.50
9:J:124:ARG:HG3	9:J:128:LEU:HD12	1.92	0.50
32:g:85:VAL:O	32:g:86:LYS:C	2.54	0.50
1:A:396:A:N7	1:A:399:A:N6	2.59	0.50
1:A:1485:G:O2'	1:A:1874:A:O2'	2.29	0.50
1:A:2768:U:H2'	1:A:2769:A:H8	1.76	0.50
1:A:3156:U:O2	1:A:3159:C:N4	2.44	0.50
5:E:71:VAL:HG13	5:E:76:ALA:HB2	1.94	0.50
25:Z:84:LYS:O	25:Z:89:ARG:NH1	2.44	0.50
43:o:193:ARG:HB3	43:o:197:ARG:HH12	1.76	0.50
43:o:305:VAL:HG13	43:o:306:LYS:N	2.26	0.50
43:o:431:TYR:N	43:o:431:TYR:CD1	2.79	0.50
1:A:860:G:O5'	2:B:181:LYS:NZ	2.44	0.50
15:P:223:PHE:HB3	15:P:226:TYR:HB2	1.94	0.50
21:V:89:LEU:HD23	21:V:93:ILE:HD13	1.94	0.50
39:n:47:PRO:HG3	39:n:89:PRO:HD3	1.92	0.50
1:A:366:A:H5"	4:D:95:ARG:HH12	1.76	0.50
1:A:1150:A:OP2	1:A:1196:C:N4	2.45	0.50
7:G:66:SER:HB2	7:G:76:LEU:HG	1.92	0.50
10:K:125:VAL:HA	25:Z:116:TYR:HB3	1.92	0.50
20:U:67:ILE:HD11	20:U:80:LYS:HB3	1.94	0.50
33:h:4:LYS:HB3	33:h:16:LYS:HB2	1.93	0.50
41:w:19:CYS:HB2	41:w:25:PRO:HB2	1.93	0.50
43:o:349:LYS:HE2	43:o:371:THR:CG2	2.41	0.50
43:o:402:GLU:CD	43:o:404:VAL:H	2.19	0.50
43:o:457:ALA:HA	43:o:460:LEU:HB3	1.94	0.50
1:A:1213:G:OP1	18:S:139:TYR:OH	2.30	0.50
1:A:1218:U:O2'	1:A:1223:A:O2'	2.26	0.50
1:A:2185:G:O2'	1:A:2314:U:OP2	2.24	0.50
1:A:2227:C:H2'	1:A:2228:A:H8	1.76	0.50
16:Q:67:ILE:HG12	16:Q:81:VAL:HG11	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:e:8:LYS:C	30:e:8:LYS:HD3	2.34	0.50
37:l:2:VAL:N	37:l:90:HIS:O	2.45	0.50
1:A:2197:C:N4	1:A:2244:A:H62	2.06	0.50
26:a:8:THR:HG22	26:a:10:HIS:H	1.76	0.50
41:w:382:ASP:OD1	41:w:382:ASP:N	2.44	0.50
43:o:169:LEU:C	43:o:169:LEU:CD2	2.85	0.50
43:o:250:ALA:HA	43:o:253:PHE:HB2	1.93	0.50
47:y:43:A:H2'	47:y:44:A:H8	1.75	0.50
1:A:52:A:N3	1:A:811:U:O2'	2.42	0.50
1:A:75:G:H1'	10:K:61:PRO:HG3	1.93	0.50
1:A:563:U:H2'	1:A:564:G:H8	1.76	0.50
1:A:1383:G:O2'	4:D:138:ARG:NH1	2.45	0.50
1:A:1410:U:O2'	30:e:95:GLU:OE1	2.29	0.50
1:A:2454:G:N2	1:A:2456:A:N3	2.60	0.50
10:K:20:GLU:OE1	10:K:21:ARG:NH1	2.44	0.50
14:O:68:ARG:NH1	14:O:124:ASP:O	2.44	0.50
15:P:31:TYR:OH	15:P:35:ARG:NH2	2.44	0.50
15:P:66:SER:OG	15:P:67:SER:N	2.42	0.50
1:A:1155:C:O2'	1:A:1197:A:N1	2.44	0.50
25:Z:85:THR:O	25:Z:89:ARG:NH1	2.45	0.50
1:A:2227:C:H2'	1:A:2228:A:C8	2.47	0.50
32:g:44:CYS:SG	32:g:45:GLY:N	2.85	0.50
39:n:59:ILE:O	39:n:63:THR:OG1	2.28	0.50
1:A:353:G:O6	34:i:55:ARG:NH2	2.44	0.49
1:A:2933:A:OP1	1:A:3015:G:O2'	2.29	0.49
1:A:3027:A:O2'	45:s:282:HIS:CE1	2.65	0.49
2:B:135:ILE:HD11	2:B:149:ARG:HE	1.77	0.49
4:D:325:LEU:O	27:b:41:ARG:NH2	2.44	0.49
15:P:50:ARG:O	15:P:64:ILE:HA	2.12	0.49
1:A:394:G:N1	1:A:397:A:OP2	2.45	0.49
1:A:2186:U:OP2	2:B:200:ARG:NH2	2.45	0.49
1:A:3302:U:N3	1:A:3303:G:O6	2.44	0.49
6:F:159:ALA:HA	6:F:162:GLN:HG2	1.93	0.49
8:H:134:TYR:HB3	8:H:190:VAL:HG11	1.93	0.49
14:O:135:VAL:HG21	14:O:151:ILE:HG21	1.94	0.49
24:Y:47:GLU:OE2	24:Y:69:LYS:NZ	2.45	0.49
36:k:28:ARG:NH1	36:k:36:ARG:O	2.46	0.49
41:w:104:TRP:CD1	43:o:163:ARG:CZ	2.96	0.49
43:o:159:PHE:CG	43:o:185:ILE:HD13	2.47	0.49
1:A:127:G:H2'	1:A:128:G:H8	1.78	0.49
1:A:1260:A:H1'	1:A:1280:C:H1'	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1630:U:O5'	1:A:1813:A:N6	2.45	0.49
8:H:72:PRO:HG2	14:O:18:VAL:HA	1.94	0.49
12:M:42:LYS:O	12:M:60:LEU:N	2.44	0.49
15:P:107:ARG:NH2	15:P:169:GLY:O	2.33	0.49
21:V:29:ASP:OD1	21:V:83:TYR:OH	2.30	0.49
43:o:170:GLN:HG2	43:o:178:LEU:CB	2.22	0.49
45:s:310:CYS:SG	45:s:311:SER:N	2.85	0.49
1:A:129:U:H2'	1:A:130:A:C8	2.48	0.49
1:A:528:U:H2'	1:A:529:A:H8	1.77	0.49
1:A:1057:A:OP1	27:b:98:LYS:NZ	2.33	0.49
2:B:79:ASN:HA	2:B:169:ILE:HA	1.94	0.49
41:w:220:ILE:HD11	41:w:246:VAL:HG13	1.93	0.49
1:A:187:A:N1	1:A:211:A:O2'	2.41	0.49
1:A:361:A:O3'	34:i:45:ARG:NH2	2.45	0.49
1:A:629:U:H2'	1:A:630:A:C8	2.48	0.49
1:A:1756:C:H2'	1:A:1757:A:H8	1.78	0.49
3:C:35:ASP:OD2	3:C:37:ARG:NH2	2.45	0.49
11:L:124:ASP:HB2	39:n:56:THR:HG23	1.93	0.49
14:O:38:ARG:NH2	47:y:143:U:OP1	2.37	0.49
36:k:28:ARG:HD2	40:z:401:MET:HE3	1.92	0.49
43:o:178:LEU:O	43:o:178:LEU:HD12	2.12	0.49
1:A:307:A:H2'	1:A:308:A:C8	2.47	0.49
2:B:18:SER:HG	2:B:20:THR:HG1	1.59	0.49
4:D:82:THR:OG1	4:D:83:GLY:N	2.46	0.49
8:H:213:LYS:O	8:H:217:THR:OG1	2.28	0.49
10:K:92:THR:O	25:Z:113:GLN:NE2	2.45	0.49
12:M:85:TRP:NE1	12:M:91:CYS:SG	2.80	0.49
15:P:178:ASN:OD1	15:P:178:ASN:N	2.44	0.49
31:f:72:THR:OG1	31:f:73:ARG:N	2.45	0.49
39:n:210:THR:O	45:s:233:LYS:CE	2.60	0.49
42:v:9:SER:O	42:v:53:VAL:CG1	2.60	0.49
47:y:81:U:H4'	47:y:82:U:H3'	1.95	0.49
1:A:215:G:OP1	23:X:12:ARG:NH1	2.45	0.49
1:A:431:U:OP1	31:f:65:ARG:NH1	2.45	0.49
1:A:1383:G:H4'	4:D:138:ARG:HH22	1.77	0.49
4:D:61:SER:OG	4:D:61:SER:O	2.31	0.49
21:V:59:ASP:N	21:V:59:ASP:OD1	2.41	0.49
24:Y:4:PHE:HE1	28:c:35:ARG:HA	1.78	0.49
41:w:104:TRP:CZ2	43:o:160:LEU:HD22	2.47	0.49
1:A:1336:U:H2'	1:A:1337:A:H8	1.77	0.49
1:A:2794:G:OP1	41:w:380:ASN:ND2	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:c:98:SER:OG	28:c:99:ASP:N	2.46	0.49
1:A:2454:G:O6	1:A:2457:G:N2	2.44	0.49
1:A:2899:C:O2'	1:A:2901:G:OP2	2.31	0.49
1:A:3160:U:H2'	1:A:3161:C:H6	1.77	0.49
41:w:297:SER:HG	41:w:300:VAL:HG23	1.78	0.49
1:A:664:U:H2'	1:A:665:A:C8	2.47	0.49
1:A:1023:C:H42	1:A:1029:G:H1	1.59	0.49
1:A:2184:U:OP2	2:B:6:ARG:NH2	2.46	0.49
1:A:2597:U:H2'	1:A:2598:G:H8	1.78	0.49
1:A:2902:A:OP1	1:A:3032:A:O2'	2.31	0.49
1:A:3109:G:H1	1:A:3125:U:H3	1.61	0.49
3:C:93:VAL:HG13	3:C:102:LEU:HB2	1.94	0.49
15:P:49:TYR:HA	15:P:65:ILE:O	2.13	0.49
22:W:129:ASP:O	22:W:130:TYR:CD1	2.66	0.49
43:o:500:ASN:ND2	43:o:500:ASN:N	2.60	0.49
1:A:627:U:H2'	1:A:628:A:C8	2.48	0.48
1:A:2307:G:O2'	1:A:2310:U:OP2	2.22	0.48
1:A:2447:A:H61	1:A:2499:U:H3	1.61	0.48
1:A:3183:A:H2'	1:A:3184:A:H8	1.77	0.48
1:A:3184:A:O3'	6:F:39:LYS:NZ	2.44	0.48
10:K:55:ARG:NH1	10:K:73:ARG:O	2.37	0.48
23:X:13:ARG:NE	47:y:24:G:OP2	2.46	0.48
25:Z:10:ARG:NH2	25:Z:60:GLU:OE2	2.46	0.48
25:Z:39:PRO:HB3	40:z:383:ARG:HA	1.95	0.48
37:l:46:LYS:HD3	37:l:54:THR:CB	2.43	0.48
38:m:5:THR:OG1	38:m:6:LYS:N	2.45	0.48
41:w:218:VAL:CG1	41:w:219:PRO:HD2	2.43	0.48
43:o:156:LYS:HD2	43:o:157:GLU:OE2	2.12	0.48
1:A:809:G:N1	1:A:932:U:O4	2.46	0.48
1:A:1362:G:H1'	27:b:159:GLN:HG2	1.95	0.48
1:A:2254:U:H5'	1:A:2255:A:H5'	1.95	0.48
1:A:2389:C:H2'	1:A:2390:A:H8	1.78	0.48
1:A:346:C:N4	1:A:349:A:OP2	2.40	0.48
1:A:509:U:C2	1:A:583:G:N1	2.80	0.48
1:A:2834:G:N2	1:A:2855:U:O2	2.46	0.48
1:A:2960:C:H2'	1:A:2961:G:C8	2.49	0.48
2:B:45:VAL:HG12	2:B:61:VAL:HG12	1.95	0.48
4:D:99:MET:HE2	4:D:102:PRO:HA	1.96	0.48
30:e:100:ILE:O	30:e:125:ARG:NH1	2.46	0.48
41:w:381:SER:HB2	41:w:384:PHE:HB3	1.94	0.48
1:A:182:U:H2'	1:A:183:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:362:U:HO2'	1:A:928:C:HO2'	1.60	0.48
1:A:571:U:H2'	1:A:572:A:H8	1.78	0.48
1:A:937:G:N2	1:A:961:C:OP1	2.46	0.48
1:A:1639:C:H2'	1:A:1640:G:H8	1.79	0.48
6:F:103:ILE:HG22	6:F:112:ILE:HG22	1.95	0.48
9:J:5:VAL:HG22	9:J:31:LYS:HD2	1.95	0.48
18:S:12:ARG:HH21	18:S:22:PRO:HD2	1.77	0.48
19:T:101:CYS:SG	19:T:102:ARG:N	2.86	0.48
1:A:312:C:H2'	1:A:313:A:H8	1.79	0.48
1:A:1394:A:N3	47:y:19:C:O2'	2.42	0.48
5:E:59:ILE:HG23	5:E:65:ILE:HG21	1.94	0.48
21:V:29:ASP:OD1	21:V:29:ASP:N	2.39	0.48
32:g:71:THR:OG1	32:g:72:VAL:N	2.47	0.48
1:A:1157:G:O2'	1:A:1169:A:N3	2.46	0.48
10:K:105:ASN:OD1	10:K:106:GLN:N	2.47	0.48
13:N:124:ILE:HG22	13:N:144:VAL:HB	1.96	0.48
14:O:35:VAL:HG22	14:O:65:ARG:HE	1.78	0.48
15:P:44:TYR:HE2	19:T:35:LYS:HA	1.78	0.48
21:V:42:LYS:HG2	21:V:47:VAL:HB	1.95	0.48
42:v:6:ASP:OD1	42:v:32:GLN:N	2.47	0.48
1:A:914:A:C8	2:B:199:THR:HG21	2.48	0.48
1:A:2150:G:O2'	1:A:2189:U:OP1	2.31	0.48
1:A:2160:G:H2'	1:A:2161:G:H8	1.78	0.48
2:B:215:ASN:O	2:B:216:HIS:ND1	2.47	0.48
3:C:96:PRO:HG3	9:J:152:VAL:HG22	1.95	0.48
4:D:11:LEU:HD21	4:D:155:ASP:HB3	1.95	0.48
5:E:29:ARG:HH22	5:E:123:PHE:HB3	1.78	0.48
14:O:5:LYS:HG3	33:h:40:VAL:HG11	1.95	0.48
41:w:87:ARG:NH2	41:w:87:ARG:O	2.44	0.48
43:o:163:ARG:HH11	43:o:163:ARG:CG	2.26	0.48
3:C:215:ILE:HD12	3:C:338:LEU:HB3	1.96	0.48
1:A:901:G:H2'	1:A:902:G:H8	1.79	0.48
1:A:1023:C:OP2	41:w:253:LYS:NZ	2.36	0.48
1:A:1395:G:H22	1:A:1416:C:H1'	1.78	0.48
1:A:1661:G:H2'	1:A:1662:G:C8	2.49	0.48
1:A:2815:G:H21	1:A:2818:U:H3	1.60	0.48
20:U:108:ASP:OD1	20:U:108:ASP:N	2.46	0.48
31:f:14:LEU:HD11	31:f:31:LYS:HB2	1.96	0.48
9:J:21:THR:HG21	9:J:119:VAL:HG11	1.96	0.48
12:M:59:ASN:HB3	12:M:61:GLY:H	1.78	0.48
1:A:19:U:O2	47:y:140:G:N2	2.36	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2802:A:H5'	37:l:56:PRO:HB2	1.96	0.47
1:A:3082:C:H2'	1:A:3083:G:H8	1.79	0.47
12:M:11:ASN:OD1	12:M:11:ASN:N	2.46	0.47
41:w:50:PRO:HD2	41:w:90:LYS:HD2	1.95	0.47
1:A:2468:A:O2'	1:A:2477:G:N2	2.47	0.47
1:A:3335:A:OP2	1:A:3368:U:N3	2.42	0.47
6:F:135:GLU:HG2	6:F:145:VAL:HB	1.97	0.47
15:P:39:GLN:OE1	15:P:46:THR:OG1	2.31	0.47
17:R:116:ASP:OD1	17:R:119:LEU:N	2.46	0.47
27:b:219:LYS:HG2	27:b:228:SER:CB	2.43	0.47
27:b:219:LYS:O	27:b:228:SER:HB2	2.14	0.47
30:e:6:HIS:ND1	30:e:6:HIS:N	2.60	0.47
42:v:49:ILE:CD1	42:v:49:ILE:H	2.18	0.47
45:s:305:PHE:CZ	45:s:316:GLY:C	2.92	0.47
1:A:1219:C:O2'	1:A:1287:A:N1	2.47	0.47
1:A:2843:U:H5'	45:s:269:ARG:HH22	1.79	0.47
27:b:160:ARG:HH22	27:b:206:LYS:HE2	1.79	0.47
1:A:687:U:OP2	10:K:36:ARG:NH2	2.38	0.47
1:A:1446:A:O2'	20:U:27:LYS:NZ	2.47	0.47
1:A:2989:U:HO2'	3:C:232:ARG:HH12	1.61	0.47
3:C:306:THR:HG21	3:C:317:ILE:H	1.79	0.47
4:D:148:ILE:HD12	4:D:148:ILE:C	2.35	0.47
14:O:152:CYS:HB3	25:Z:92:LEU:HD11	1.97	0.47
27:b:210:PRO:HA	27:b:243:MET:HB3	1.96	0.47
41:w:115:LYS:HB3	41:w:133:GLU:HG2	1.96	0.47
41:w:247:GLU:HG2	41:w:302:TRP:CZ2	2.49	0.47
43:o:201:VAL:HA	43:o:340:GLY:O	2.13	0.47
43:o:497:LEU:HD11	43:o:511:TYR:O	2.14	0.47
45:s:230:VAL:HG11	45:s:336:LEU:HD21	1.96	0.47
1:A:33:G:OP1	14:O:73:ARG:NH1	2.48	0.47
6:F:78:MET:HE2	6:F:78:MET:HB3	1.79	0.47
21:V:22:PRO:HB2	21:V:28:PHE:HB2	1.95	0.47
38:m:42:CYS:HG	38:m:44:LYS:H	1.59	0.47
41:w:104:TRP:HD1	43:o:163:ARG:CZ	2.27	0.47
43:o:170:GLN:NE2	43:o:170:GLN:CA	2.77	0.47
1:A:160:G:O6	1:A:261:U:C4	2.67	0.47
1:A:266:A:N6	33:h:29:LYS:O	2.48	0.47
1:A:2458:A:H5'	1:A:2459:A:H8	1.80	0.47
1:A:3049:A:H4'	3:C:364:LYS:HD2	1.96	0.47
11:L:33:ASN:OD1	11:L:33:ASN:N	2.47	0.47
29:d:51:LEU:HD13	29:d:55:LEU:HD23	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:m:42:CYS:SG	38:m:43:GLY:N	2.85	0.47
38:m:44:LYS:HD2	38:m:59:CYS:SG	2.55	0.47
41:w:57:PHE:HD1	41:w:64:PHE:CA	2.27	0.47
43:o:402:GLU:CG	43:o:404:VAL:HB	2.24	0.47
1:A:417:A:H2'	1:A:418:A:C8	2.50	0.47
1:A:631:U:H2'	1:A:632:G:H8	1.80	0.47
1:A:840:C:H2'	1:A:841:A:H8	1.80	0.47
1:A:2335:G:N2	1:A:2339:C:O2'	2.48	0.47
1:A:2359:C:H4'	1:A:2399:A:H4'	1.97	0.47
1:A:2402:A:H8	1:A:2872:A:N6	2.12	0.47
1:A:3016:A:H61	1:A:3038:U:H3	1.62	0.47
2:B:114:SER:OG	2:B:115:ASN:N	2.47	0.47
3:C:311:PHE:HB2	3:C:315:GLY:H	1.78	0.47
18:S:6:GLU:OE2	18:S:99:ARG:NH2	2.36	0.47
41:w:256:LEU:HD21	41:w:273:PHE:HE2	1.80	0.47
43:o:209:ASN:O	43:o:213:PHE:CD2	2.68	0.47
45:s:275:GLU:O	45:s:277:GLN:NE2	2.48	0.47
1:A:353:G:O2'	1:A:364:G:O6	2.31	0.47
1:A:806:A:N3	1:A:2812:C:O2'	2.42	0.47
1:A:1756:C:H2'	1:A:1757:A:C8	2.50	0.47
1:A:2124:G:H2'	1:A:2125:A:H8	1.79	0.47
1:A:2514:U:O2	1:A:2593:A:N6	2.48	0.47
1:A:2646:C:H2'	1:A:2647:A:H8	1.79	0.47
1:A:2898:G:H8	45:s:271:ILE:HB	1.80	0.47
9:J:141:SER:HA	9:J:144:VAL:HG12	1.97	0.47
32:g:65:VAL:O	32:g:70:LYS:NZ	2.48	0.47
46:x:23:A:HO2'	46:x:121:U:HO3'	1.49	0.47
1:A:824:C:O2'	1:A:1534:A:N3	2.48	0.47
1:A:2448:G:H1	1:A:2498:U:H3	1.63	0.47
8:H:55:TYR:OH	47:y:149:A:N3	2.40	0.47
9:J:123:LEU:HD13	18:S:168:PRO:HG3	1.97	0.47
41:w:50:PRO:O	41:w:90:LYS:NZ	2.39	0.47
41:w:104:TRP:HD1	43:o:163:ARG:HH21	1.61	0.47
41:w:340:VAL:HG11	41:w:397:LEU:HD11	1.95	0.47
47:y:103:G:OP2	47:y:105:A:O2'	2.33	0.47
1:A:2636:A:H5'	1:A:2637:A:H5'	1.96	0.47
1:A:2703:A:C6	15:P:150:LEU:HD11	2.50	0.47
1:A:2786:G:N2	13:N:58:MET:SD	2.84	0.47
3:C:313:HIS:CD2	3:C:332:ARG:HH21	2.34	0.47
4:D:285:ASP:OD1	4:D:285:ASP:N	2.48	0.47
24:Y:99:GLU:O	24:Y:106:GLN:NE2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:n:141:THR:OG1	39:n:142:ILE:N	2.48	0.47
43:o:226:ASP:HA	43:o:229:LYS:HE3	1.97	0.47
47:y:8:C:H2'	47:y:9:A:C8	2.50	0.47
1:A:800:G:OP1	10:K:19:GLN:NE2	2.47	0.46
1:A:3052:G:H2'	1:A:3053:G:H8	1.78	0.46
5:E:101:ASN:OD1	5:E:101:ASN:N	2.46	0.46
39:n:19:LEU:H	39:n:198:VAL:HG21	1.80	0.46
41:w:217:VAL:HG12	41:w:218:VAL:HG23	1.96	0.46
43:o:501:PRO:CB	43:o:506:GLU:OE1	2.61	0.46
1:A:631:U:H2'	1:A:632:G:C8	2.51	0.46
1:A:1548:C:O3'	34:i:43:LYS:NZ	2.48	0.46
1:A:2268:U:O4	1:A:2272:G:O6	2.32	0.46
5:E:54:VAL:HG22	5:E:56:THR:H	1.80	0.46
39:n:4:ARG:CD	45:s:233:LYS:HG3	2.37	0.46
45:s:282:HIS:NE2	45:s:335:HIS:CE1	2.82	0.46
1:A:507:U:O2	1:A:584:G:N2	2.42	0.46
1:A:843:A:H2'	1:A:844:G:H8	1.81	0.46
1:A:1597:C:H2'	1:A:1598:G:H8	1.81	0.46
1:A:3369:G:H22	3:C:380:MET:C	2.18	0.46
3:C:24:SER:OG	3:C:26:ARG:O	2.30	0.46
6:F:89:LYS:HE3	6:F:183:HIS:HB3	1.98	0.46
8:H:101:THR:OG1	8:H:104:GLU:N	2.49	0.46
15:P:275:THR:OG1	15:P:276:LYS:N	2.48	0.46
39:n:210:THR:C	45:s:233:LYS:HZ1	2.23	0.46
40:z:387:SER:OG	47:y:50:C:O2	2.33	0.46
41:w:162:ARG:HH12	41:w:193:ALA:HB2	1.81	0.46
1:A:82:C:H5'	14:O:200:TRP:HE1	1.80	0.46
1:A:286:U:O2'	14:O:179:LYS:O	2.33	0.46
14:O:8:GLU:OE1	14:O:50:ARG:NH2	2.48	0.46
27:b:208:SER:OG	27:b:209:ASN:N	2.48	0.46
41:w:225:SER:HB2	41:w:243:SER:HB2	1.96	0.46
46:x:70:U:H2'	46:x:71:G:C8	2.50	0.46
1:A:1798:A:H2'	1:A:1799:A:C8	2.51	0.46
1:A:3055:U:O2'	1:A:3085:G:N1	2.39	0.46
1:A:3321:C:H2'	1:A:3322:A:H8	1.81	0.46
28:c:74:ASN:OD1	28:c:74:ASN:N	2.48	0.46
45:s:322:SER:O	45:s:323:ARG:O	2.33	0.46
1:A:1411:C:OP1	30:e:98:HIS:N	2.46	0.46
1:A:2635:A:N6	1:A:2642:A:OP2	2.48	0.46
1:A:3045:G:O3'	3:C:275:ARG:NH2	2.49	0.46
1:A:3050:U:O2'	42:v:16:GLY:O	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:125:SER:OG	3:C:126:LYS:N	2.47	0.46
5:E:90:GLN:NE2	5:E:170:ASP:O	2.37	0.46
15:P:30:TYR:OH	46:x:8:G:OP2	2.24	0.46
15:P:201:GLY:O	15:P:205:SER:OG	2.28	0.46
18:S:26:ARG:HB3	19:T:150:THR:HA	1.98	0.46
27:b:88:ARG:NH1	27:b:108:LEU:O	2.49	0.46
31:f:19:SER:OG	31:f:20:LYS:N	2.49	0.46
32:g:11:ASN:O	32:g:18:ASN:ND2	2.48	0.46
41:w:57:PHE:CD1	41:w:64:PHE:CD1	3.03	0.46
42:v:39:LEU:HD23	42:v:51:TRP:CH2	2.29	0.46
43:o:263:TYR:CD2	43:o:265:ALA:HA	2.51	0.46
1:A:201:A:H2'	1:A:202:G:H8	1.80	0.46
1:A:500:C:H2'	1:A:501:A:C8	2.51	0.46
1:A:700:C:H2'	1:A:701:G:H8	1.81	0.46
1:A:938:C:OP1	1:A:962:A:O2'	2.32	0.46
1:A:1497:C:H2'	1:A:1498:A:C8	2.51	0.46
1:A:2697:A:H2'	1:A:2698:G:H8	1.81	0.46
2:B:84:THR:HG22	38:m:63:THR:H	1.80	0.46
5:E:21:ILE:HG12	5:E:125:MET:HG3	1.98	0.46
24:Y:13:VAL:O	24:Y:20:GLY:N	2.43	0.46
43:o:402:GLU:OE1	43:o:404:VAL:N	2.49	0.46
1:A:1547:G:OP1	14:O:108:ARG:NH2	2.49	0.46
1:A:2574:G:H2'	1:A:2575:G:C8	2.51	0.46
1:A:2600:C:OP1	14:O:93:LYS:NZ	2.35	0.46
5:E:110:ILE:HA	5:E:114:ILE:HG12	1.97	0.46
14:O:118:SER:HB2	14:O:132:VAL:HG12	1.98	0.46
30:e:91:THR:HG23	30:e:92:TYR:HD1	1.81	0.46
41:w:65:LEU:HB3	41:w:71:TRP:CD1	2.49	0.46
46:x:107:C:H2'	46:x:108:A:C8	2.51	0.46
47:y:9:A:H2'	47:y:10:A:C8	2.51	0.46
1:A:516:A:H2'	1:A:517:G:H8	1.81	0.46
1:A:1083:G:H2'	1:A:1084:A:C8	2.51	0.46
1:A:1846:C:H42	40:z:420:VAL:HG22	1.80	0.46
1:A:2351:U:H2'	1:A:2352:A:H8	1.81	0.46
1:A:3126:C:H2'	1:A:3127:A:H8	1.81	0.46
17:R:11:ALA:HA	17:R:14:VAL:HG22	1.97	0.46
20:U:50:GLN:OE1	20:U:56:ARG:NH2	2.47	0.46
27:b:219:LYS:CG	27:b:228:SER:OG	2.60	0.46
27:b:220:PHE:CE1	27:b:229:PHE:HE2	2.34	0.46
41:w:66:GLN:H	41:w:66:GLN:CD	2.22	0.46
41:w:291:LEU:HB2	41:w:330:ARG:HG3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:o:179:THR:HG23	43:o:399:ASN:CB	2.46	0.46
1:A:658:G:H21	4:D:93:MET:HB2	1.81	0.46
1:A:1083:G:H2'	1:A:1084:A:H8	1.81	0.46
1:A:1119:C:H2'	1:A:1120:A:C8	2.52	0.46
1:A:1203:A:OP2	1:A:1301:A:N6	2.31	0.46
1:A:2698:G:H2'	1:A:2699:G:H8	1.79	0.46
25:Z:5:LYS:HD2	25:Z:7:TYR:HE1	1.81	0.46
1:A:638:C:N4	1:A:639:G:O6	2.49	0.45
1:A:1563:C:N3	1:A:1577:G:N2	2.64	0.45
1:A:2711:C:O2'	1:A:2744:U:OP1	2.34	0.45
27:b:220:PHE:HE1	27:b:229:PHE:CE2	2.34	0.45
1:A:798:G:OP1	13:N:33:GLY:N	2.45	0.45
1:A:1290:A:H2'	1:A:1291:A:C8	2.52	0.45
1:A:1430:U:H2'	13:N:9:ARG:HH12	1.80	0.45
1:A:2565:U:H3	1:A:2576:G:H1	1.63	0.45
1:A:2922:G:N1	41:w:234:HIS:O	2.43	0.45
1:A:3018:C:H5"	39:n:8:GLU:HB3	1.97	0.45
32:g:81:CYS:SG	32:g:82:ALA:N	2.88	0.45
43:o:169:LEU:HD13	43:o:396:PHE:CZ	2.50	0.45
43:o:241:LEU:HD11	43:o:499:VAL:HG23	1.98	0.45
45:s:252:SER:OG	45:s:253:LYS:N	2.49	0.45
1:A:1785:U:H2'	1:A:1786:G:C8	2.50	0.45
23:X:24:SER:OG	47:y:73:U:OP1	2.34	0.45
39:n:21:ASN:ND2	39:n:201:ASP:OD1	2.49	0.45
41:w:35:CYS:SG	41:w:37:ASP:N	2.89	0.45
41:w:104:TRP:HD1	43:o:163:ARG:NH2	2.14	0.45
43:o:344:TYR:CE1	43:o:392:VAL:CG1	2.80	0.45
45:s:291:MET:HA	45:s:291:MET:CE	2.44	0.45
1:A:1941:C:H2'	1:A:1942:U:H6	1.81	0.45
1:A:3313:U:H5'	3:C:175:LYS:HD3	1.98	0.45
12:M:40:ASP:OD1	12:M:43:LYS:N	2.43	0.45
41:w:106:GLU:O	41:w:109:SER:OG	2.31	0.45
43:o:162:TRP:CH2	43:o:188:TRP:CZ2	3.05	0.45
1:A:67:A:N6	1:A:271:C:O2'	2.49	0.45
1:A:691:A:N1	47:y:28:C:O2'	2.47	0.45
1:A:1764:U:H2'	1:A:1765:U:H4'	1.98	0.45
1:A:1912:U:N3	1:A:2122:G:OP2	2.47	0.45
1:A:2163:C:H2'	1:A:2164:A:H8	1.80	0.45
1:A:2601:A:H2'	1:A:2602:G:C8	2.52	0.45
1:A:2661:G:H2'	1:A:2662:G:C8	2.51	0.45
25:Z:3:GLY:N	25:Z:50:SER:OG	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:z:388:GLY:N	47:y:76:C:O2'	2.46	0.45
41:w:49:ILE:HG12	41:w:90:LYS:HB3	1.96	0.45
1:A:412:G:OP1	20:U:62:ARG:NH1	2.50	0.45
2:B:90:ALA:HA	2:B:101:VAL:HG22	1.97	0.45
7:G:80:ASN:HD22	7:G:83:TYR:HE2	1.64	0.45
9:J:170:LYS:O	9:J:174:THR:OG1	2.32	0.45
11:L:18:PRO:HA	11:L:51:ALA:HA	1.99	0.45
11:L:84:SER:HA	11:L:94:TYR:HB3	1.97	0.45
23:X:106:ILE:HG21	23:X:109:LEU:HD13	1.98	0.45
41:w:35:CYS:SG	41:w:36:TYR:N	2.90	0.45
1:A:116:A:N6	1:A:152:U:O4	2.50	0.45
1:A:120:G:N1	8:H:126:SER:O	2.37	0.45
1:A:1660:C:H2'	1:A:1661:G:C8	2.52	0.45
1:A:2714:G:H8	1:A:2751:G:H2'	1.82	0.45
13:N:126:LYS:HB3	13:N:126:LYS:HE2	1.83	0.45
1:A:775:A:N6	1:A:777:U:O4	2.50	0.45
1:A:1020:G:H2'	1:A:1021:G:C8	2.51	0.45
1:A:1783:U:H2'	1:A:1784:G:H8	1.82	0.45
1:A:2838:A:H3'	1:A:2839:G:H8	1.82	0.45
1:A:3005:A:O2'	1:A:3140:G:N2	2.49	0.45
21:V:94:ARG:HB3	21:V:108:TYR:CZ	2.52	0.45
41:w:62:GLU:CD	41:w:62:GLU:N	2.73	0.45
41:w:298:PRO:N	41:w:299:SER:H	2.14	0.45
41:w:341:ALA:HB2	41:w:352:VAL:HG23	1.99	0.45
1:A:72:C:O2'	10:K:66:ASN:OD1	2.34	0.45
1:A:1255:C:H2'	1:A:1256:G:H8	1.81	0.45
1:A:1730:G:O6	28:c:29:SER:N	2.40	0.45
1:A:2157:G:H4'	1:A:2158:A:H5'	1.98	0.45
5:E:32:ARG:NH2	5:E:119:SER:O	2.40	0.45
9:J:175:LYS:HA	9:J:178:SER:HB3	1.99	0.45
12:M:113:THR:OG1	12:M:114:ASP:N	2.50	0.45
21:V:35:LYS:HA	21:V:38:ILE:HG22	1.99	0.45
43:o:249:TRP:NE1	43:o:500:ASN:O	2.50	0.45
43:o:351:SER:HB2	43:o:364:VAL:HG21	1.99	0.45
43:o:430:LYS:O	43:o:433:ILE:HG22	2.17	0.45
1:A:350:C:O2'	1:A:352:A:OP1	2.34	0.45
1:A:860:G:OP1	38:m:17:ARG:NH2	2.40	0.45
1:A:1138:U:H2'	1:A:1139:G:H8	1.82	0.45
1:A:3334:U:O2	1:A:3334:U:O2'	2.24	0.45
4:D:42:VAL:HG12	4:D:236:LEU:HD21	1.98	0.45
6:F:151:VAL:HA	6:F:154:VAL:HG22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:O:98:LEU:HD12	14:O:128:LYS:HD2	1.98	0.45
39:n:42:LEU:HD22	39:n:46:ILE:HG12	1.98	0.45
39:n:116:LEU:HD11	39:n:177:LEU:HD11	1.98	0.45
43:o:466:ARG:HG2	43:o:478:ALA:HB2	1.98	0.45
43:o:489:LYS:HA	43:o:492:VAL:HG12	1.99	0.45
1:A:129:U:H2'	1:A:130:A:H8	1.82	0.44
1:A:565:U:H2'	1:A:566:G:H8	1.81	0.44
1:A:818:C:H5"	34:i:10:LYS:HB2	1.98	0.44
1:A:1578:C:OP1	8:H:43:LYS:NZ	2.41	0.44
1:A:1584:U:H2'	1:A:1585:C:H6	1.81	0.44
1:A:2389:C:H2'	1:A:2390:A:C8	2.52	0.44
1:A:2631:U:H2'	1:A:2632:G:H8	1.81	0.44
1:A:2999:U:H2'	1:A:3000:A:H8	1.82	0.44
4:D:299:ILE:HD12	16:Q:39:ARG:HE	1.82	0.44
15:P:238:ASP:O	15:P:242:SER:OG	2.32	0.44
20:U:10:ASN:OD1	20:U:10:ASN:N	2.46	0.44
23:X:45:ILE:HD11	23:X:119:ILE:HA	1.99	0.44
39:n:15:VAL:HG23	39:n:195:ALA:HB1	1.98	0.44
43:o:209:ASN:H	43:o:213:PHE:HE2	1.56	0.44
1:A:1194:G:H2'	1:A:1195:A:C8	2.53	0.44
1:A:1686:U:OP1	21:V:42:LYS:NZ	2.42	0.44
1:A:1948:G:H5'	17:R:101:VAL:HG11	2.00	0.44
1:A:2275:A:H4'	43:o:360:LYS:HE3	1.99	0.44
1:A:2449:A:H61	1:A:2496:C:HO2'	1.61	0.44
23:X:23:PRO:HD2	23:X:26:GLN:HB2	1.98	0.44
26:a:25:LYS:NZ	26:a:27:TYR:OH	2.50	0.44
43:o:307:ILE:HG21	43:o:311:ASP:HB2	2.00	0.44
1:A:13:A:H4'	22:W:39:LYS:HG3	1.99	0.44
1:A:516:A:H2'	1:A:517:G:C8	2.52	0.44
1:A:1157:G:H5"	27:b:220:PHE:HE2	1.82	0.44
4:D:92:ASN:OD1	4:D:92:ASN:N	2.49	0.44
11:L:53:SER:OG	11:L:54:LEU:N	2.47	0.44
30:e:8:LYS:C	30:e:8:LYS:CD	2.90	0.44
43:o:402:GLU:CD	43:o:402:GLU:C	2.85	0.44
1:A:138:U:H2'	1:A:139:G:C8	2.52	0.44
1:A:1188:U:OP1	1:A:1210:U:O2'	2.24	0.44
1:A:2429:G:H2'	1:A:2430:A:H8	1.83	0.44
1:A:2795:U:H5'	1:A:2796:G:H5'	1.99	0.44
7:G:82:ARG:HD2	7:G:82:ARG:HA	1.79	0.44
8:H:81:THR:OG1	8:H:82:LEU:N	2.47	0.44
8:H:161:GLU:OE1	14:O:11:GLN:NE2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:n:150:SER:O	39:n:150:SER:OG	2.34	0.44
40:z:391:GLU:HA	40:z:394:TYR:HB3	1.99	0.44
41:w:19:CYS:O	41:w:19:CYS:SG	2.75	0.44
46:x:4:U:H2'	46:x:5:G:C8	2.52	0.44
46:x:70:U:H2'	46:x:71:G:H8	1.82	0.44
1:A:188:U:O2'	1:A:207:U:O2	2.35	0.44
1:A:1439:U:H5"	4:D:87:GLN:HG2	1.99	0.44
1:A:2822:U:H2'	1:A:2823:G:C8	2.53	0.44
2:B:246:LEU:O	2:B:247:ARG:NH1	2.50	0.44
39:n:1:MET:HB3	45:s:236:ARG:NE	2.32	0.44
39:n:185:THR:OG1	39:n:190:SER:O	2.35	0.44
1:A:88:A:OP2	16:Q:171:LYS:NZ	2.40	0.44
1:A:623:U:H2'	1:A:624:G:H8	1.83	0.44
1:A:709:A:P	16:Q:179:ARG:HH22	2.41	0.44
1:A:738:A:H2'	1:A:739:G:H8	1.81	0.44
1:A:865:U:OP2	1:A:893:C:N4	2.49	0.44
9:J:187:SER:OG	9:J:188:ASP:N	2.51	0.44
11:L:81:GLN:NE2	11:L:83:LYS:HB3	2.32	0.44
15:P:28:THR:OG1	46:x:7:G:OP2	2.33	0.44
27:b:107:ARG:NH1	27:b:200:ASN:OD1	2.51	0.44
29:d:12:TYR:HD2	29:d:75:ILE:HD13	1.82	0.44
30:e:100:ILE:HG22	30:e:105:ARG:HG2	1.98	0.44
37:l:89:LYS:O	37:l:90:HIS:ND1	2.51	0.44
39:n:109:CYS:HB3	39:n:148:VAL:HG12	2.00	0.44
43:o:163:ARG:NH1	43:o:183:ARG:CB	2.80	0.44
1:A:673:U:H2'	1:A:674:G:C8	2.53	0.44
1:A:3023:U:OP2	1:A:3031:G:N1	2.40	0.44
9:J:170:LYS:HE2	9:J:170:LYS:HB3	1.88	0.44
11:L:10:LYS:HB2	11:L:10:LYS:HE2	1.85	0.44
16:Q:147:ARG:HE	16:Q:149:ALA:HB3	1.82	0.44
27:b:131:GLU:OE1	46:x:98:C:O2'	2.35	0.44
40:z:400:LYS:HA	40:z:400:LYS:HD3	1.83	0.44
1:A:178:U:H3	1:A:238:A:H61	1.65	0.44
1:A:182:U:H2'	1:A:183:G:C8	2.53	0.44
1:A:661:G:H4'	1:A:662:U:H6	1.83	0.44
1:A:1768:U:H2'	1:A:1769:G:C8	2.53	0.44
1:A:2260:U:OP2	1:A:2262:A:N6	2.50	0.44
1:A:2456:A:H62	1:A:2459:A:H3'	1.83	0.44
1:A:2688:U:OP1	15:P:12:TYR:OH	2.36	0.44
13:N:128:ARG:HB2	33:h:8:ALA:HB2	1.99	0.44
23:X:81:GLN:HB3	23:X:96:PRO:HB2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:j:23:ALA:O	35:j:75:VAL:HA	2.18	0.44
41:w:99:ASP:OD1	43:o:400:LYS:HD2	2.18	0.44
41:w:319:ILE:HD13	41:w:346:LEU:HD13	2.00	0.44
43:o:496:LEU:H	43:o:496:LEU:HG	1.56	0.44
45:s:262:LYS:HD2	45:s:262:LYS:HA	1.79	0.44
1:A:327:A:OP2	10:K:31:LYS:NZ	2.50	0.44
1:A:528:U:H2'	1:A:529:A:C8	2.52	0.44
1:A:695:C:OP1	4:D:271:LYS:NZ	2.40	0.44
1:A:1097:G:H4'	19:T:129:LYS:HE2	2.00	0.44
1:A:1138:U:H2'	1:A:1139:G:C8	2.52	0.44
1:A:2110:G:O2'	1:A:2112:U:OP2	2.36	0.44
1:A:2697:A:H2'	1:A:2698:G:C8	2.53	0.44
1:A:2769:A:O2'	37:l:80:ARG:O	2.31	0.44
6:F:101:VAL:HG22	6:F:114:VAL:HG23	2.00	0.44
39:n:161:VAL:HG23	39:n:183:ALA:HB2	2.00	0.44
1:A:1464:G:N2	1:A:1467:A:OP2	2.51	0.43
1:A:3000:A:H5"	3:C:120:LYS:HE2	2.00	0.43
1:A:3102:G:H1	1:A:3132:C:H42	1.66	0.43
2:B:62:VAL:HG12	2:B:73:GLU:HA	1.99	0.43
36:k:21:ARG:HD3	47:y:52:A:H5'	2.00	0.43
41:w:57:PHE:CD1	41:w:64:PHE:CA	3.01	0.43
47:y:27:U:H2'	47:y:28:C:H6	1.83	0.43
1:A:1822:C:H2'	1:A:1823:A:H8	1.82	0.43
1:A:2402:A:C6	1:A:2403:G:O6	2.71	0.43
1:A:2470:C:OP1	44:p:20:UNK:N	2.51	0.43
1:A:3304:U:O3'	3:C:334:ARG:NH2	2.51	0.43
3:C:29:VAL:HG22	3:C:218:ILE:HD13	2.00	0.43
3:C:128:LYS:HE2	3:C:128:LYS:HB3	1.92	0.43
4:D:148:ILE:CG2	4:D:149:PRO:CD	2.96	0.43
5:E:138:VAL:HG13	5:E:141:ARG:HE	1.82	0.43
16:Q:89:ASP:OD1	16:Q:90:ASP:N	2.51	0.43
29:d:13:THR:OG1	29:d:72:ARG:NH2	2.51	0.43
30:e:76:VAL:HG12	30:e:81:ASP:HB3	2.00	0.43
39:n:130:SER:OG	39:n:135:VAL:O	2.37	0.43
43:o:163:ARG:CZ	43:o:183:ARG:HG2	2.48	0.43
43:o:411:ILE:HB	43:o:488:LEU:HD21	2.00	0.43
47:y:128:U:OP2	47:y:129:C:N4	2.36	0.43
1:A:649:A:H4'	1:A:2869:U:H4'	2.01	0.43
1:A:1228:C:H2'	1:A:1229:G:H8	1.82	0.43
1:A:2330:C:H2'	1:A:2331:C:H6	1.83	0.43
6:F:112:ILE:HG13	6:F:126:VAL:HB	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:R:52:LYS:HB3	17:R:52:LYS:HE2	1.82	0.43
18:S:28:ARG:HD2	18:S:64:ILE:HG13	2.00	0.43
23:X:13:ARG:NH1	47:y:24:G:N7	2.67	0.43
31:f:16:TYR:OH	31:f:89:LEU:O	2.26	0.43
1:A:377:A:H1'	1:A:392:G:N2	2.33	0.43
1:A:662:U:H2'	1:A:663:C:C6	2.54	0.43
1:A:1411:C:H2'	1:A:1412:G:C8	2.53	0.43
1:A:2272:G:OP2	1:A:2272:G:N2	2.43	0.43
1:A:2881:C:OP1	3:C:11:HIS:NE2	2.47	0.43
1:A:3121:U:H1'	1:A:3122:A:H5"	2.00	0.43
3:C:289:ASP:OD1	3:C:289:ASP:N	2.50	0.43
8:H:45:ASN:OD1	8:H:47:SER:OG	2.33	0.43
13:N:93:SER:HB3	13:N:94:ALA:H	1.61	0.43
43:o:165:LYS:HE3	43:o:165:LYS:CA	2.46	0.43
1:A:1260:A:O2'	1:A:1279:C:O2'	2.31	0.43
1:A:1305:U:OP2	1:A:2939:G:N2	2.40	0.43
1:A:1560:G:N1	1:A:1561:G:O6	2.51	0.43
15:P:259:LYS:HB3	15:P:259:LYS:HE2	1.76	0.43
17:R:25:ASP:HB3	17:R:32:ILE:HD11	2.00	0.43
34:i:63:ARG:HE	34:i:63:ARG:HB3	1.48	0.43
39:n:99:GLU:HG3	39:n:101:LEU:H	1.83	0.43
41:w:161:ILE:HD11	41:w:210:MET:HE1	2.01	0.43
42:v:52:THR:CG2	42:v:55:PHE:H	2.31	0.43
42:v:57:LYS:HA	42:v:57:LYS:HD3	1.76	0.43
43:o:409:LEU:N	43:o:409:LEU:CD1	2.73	0.43
46:x:3:U:O2'	46:x:25:G:N3	2.49	0.43
1:A:35:A:OP2	1:A:48:A:N6	2.51	0.43
1:A:838:G:H21	1:A:1724:U:H5'	1.84	0.43
1:A:964:G:N2	13:N:40:HIS:O	2.40	0.43
1:A:1447:G:N2	1:A:2356:A:OP2	2.45	0.43
1:A:2438:A:H2'	1:A:2439:A:C8	2.53	0.43
1:A:3199:G:H2'	1:A:3200:G:C8	2.51	0.43
1:A:3315:G:H3'	3:C:123:TYR:HB2	2.01	0.43
2:B:88:ILE:HD13	2:B:88:ILE:HA	1.90	0.43
3:C:76:VAL:HB	3:C:323:MET:HB2	2.01	0.43
5:E:21:ILE:HB	5:E:67:VAL:HG12	2.01	0.43
12:M:24:LYS:HE3	18:S:158:LYS:HD2	2.00	0.43
27:b:57:THR:O	27:b:61:ASN:ND2	2.51	0.43
31:f:75:HIS:HB3	31:f:80:VAL:HB	1.99	0.43
39:n:187:ASN:OD1	39:n:210:THR:OG1	2.31	0.43
41:w:249:VAL:HB	41:w:301:TYR:CE2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:o:191:LEU:HD23	43:o:191:LEU:HA	1.85	0.43
43:o:409:LEU:HA	43:o:410:PRO:HD3	1.72	0.43
1:A:408:A:H2'	1:A:409:A:C8	2.54	0.43
1:A:1447:G:N7	20:U:25:SER:OG	2.51	0.43
1:A:1471:U:H2'	1:A:1472:U:H6	1.83	0.43
1:A:2646:C:H2'	1:A:2647:A:C8	2.53	0.43
10:K:166:ALA:N	13:N:135:GLU:OE2	2.44	0.43
16:Q:126:GLN:HA	16:Q:129:VAL:HG12	2.00	0.43
31:f:49:ILE:HG12	31:f:100:ILE:HG13	2.00	0.43
32:g:81:CYS:SG	32:g:83:ASN:N	2.90	0.43
39:n:201:ASP:OD1	39:n:201:ASP:N	2.50	0.43
41:w:57:PHE:CD1	41:w:64:PHE:N	2.86	0.43
46:x:60:G:H2'	46:x:61:G:C8	2.53	0.43
1:A:565:U:H2'	1:A:566:G:C8	2.54	0.43
1:A:1343:A:H2'	1:A:1344:G:H8	1.83	0.43
1:A:1485:G:HO2'	1:A:1874:A:HO2'	1.65	0.43
1:A:2901:G:O2'	1:A:3024:A:N1	2.51	0.43
7:G:67:GLY:HA3	7:G:74:VAL:HG23	2.00	0.43
8:H:207:ASP:N	8:H:207:ASP:OD1	2.52	0.43
22:W:82:LEU:HB2	22:W:124:VAL:HG13	2.01	0.43
27:b:102:VAL:HG13	27:b:126:LEU:HD22	1.99	0.43
33:h:3:VAL:HB	33:h:16:LYS:HE2	2.01	0.43
40:z:378:ILE:HD13	40:z:378:ILE:HA	1.94	0.43
41:w:297:SER:OG	41:w:300:VAL:HG23	2.18	0.43
1:A:1803:C:H2'	1:A:1804:A:C8	2.54	0.43
1:A:2154:U:H2'	1:A:2155:G:H8	1.83	0.43
1:A:3044:G:H2'	1:A:3045:G:H8	1.84	0.43
1:A:3175:U:H4'	1:A:3176:G:H5'	2.00	0.43
2:B:46:LYS:HA	2:B:46:LYS:HD2	1.71	0.43
4:D:208:VAL:HG23	4:D:250:TRP:HA	2.01	0.43
34:i:83:ALA:HA	47:y:95:G:C5	2.54	0.43
40:z:386:VAL:HG13	47:y:77:A:H4'	1.99	0.43
43:o:431:TYR:O	43:o:435:ALA:HB2	2.18	0.43
1:A:1001:G:H1	1:A:1048:A:N6	2.17	0.43
1:A:1530:U:O2'	47:y:114:G:O2'	2.34	0.43
1:A:2943:G:N2	3:C:251:CYS:SG	2.92	0.43
4:D:148:ILE:N	4:D:149:PRO:CD	2.82	0.43
4:D:276:LEU:HD23	4:D:277:PRO:HD2	2.00	0.43
6:F:126:VAL:HG21	6:F:161:LEU:HD23	2.01	0.43
8:H:178:ALA:HB2	8:H:218:ILE:HD12	1.99	0.43
11:L:94:TYR:OH	42:v:41:LYS:NZ	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:e:75:LEU:HD23	30:e:75:LEU:HA	1.85	0.43
47:y:43:A:H2'	47:y:44:A:C8	2.53	0.43
1:A:2484:A:O2'	1:A:2485:A:O5'	2.36	0.42
2:B:18:SER:OG	2:B:20:THR:OG1	2.31	0.42
4:D:208:VAL:HG12	4:D:228:ALA:HB3	2.00	0.42
6:F:107:ASP:N	6:F:107:ASP:OD1	2.52	0.42
7:G:72:ASN:HB3	7:G:160:SER:HA	2.00	0.42
15:P:232:ASP:OD1	15:P:232:ASP:N	2.51	0.42
18:S:73:LYS:NZ	18:S:97:VAL:O	2.45	0.42
1:A:499:G:H5"	31:f:48:ARG:HH12	1.83	0.42
1:A:753:C:H2'	1:A:754:G:C8	2.54	0.42
1:A:1098:A:OP2	19:T:130:ARG:NH1	2.51	0.42
1:A:2763:U:O2'	13:N:53:PHE:O	2.36	0.42
5:E:55:ARG:HD3	5:E:55:ARG:H	1.83	0.42
5:E:125:MET:HE3	5:E:125:MET:HB2	1.88	0.42
11:L:104:ASN:HD21	11:L:108:GLU:HB3	1.84	0.42
15:P:211:LEU:HA	15:P:211:LEU:HD23	1.81	0.42
16:Q:36:LEU:HD23	16:Q:36:LEU:HA	1.88	0.42
22:W:108:LEU:CD2	22:W:127:THR:HA	2.43	0.42
23:X:31:LEU:HB3	23:X:101:PRO:HG2	2.01	0.42
29:d:44:MET:HE2	29:d:44:MET:HB3	1.69	0.42
39:n:211:THR:CA	45:s:233:LYS:HZ1	2.32	0.42
41:w:65:LEU:CD1	41:w:71:TRP:CZ3	2.99	0.42
43:o:409:LEU:HD13	43:o:409:LEU:C	2.45	0.42
43:o:427:ARG:HD3	43:o:498:TYR:CZ	2.54	0.42
1:A:1017:C:OP1	5:E:55:ARG:NH1	2.52	0.42
4:D:157:GLU:OE2	4:D:210:ALA:N	2.38	0.42
9:J:40:LEU:HD11	9:J:79:LEU:HD22	2.00	0.42
9:J:98:LEU:HD23	9:J:98:LEU:HA	1.89	0.42
25:Z:13:SER:OG	25:Z:16:GLN:OE1	2.32	0.42
29:d:36:ILE:HD12	29:d:59:ILE:HD11	2.01	0.42
30:e:16:LYS:HA	30:e:16:LYS:HD2	1.84	0.42
33:h:57:LEU:HD11	33:h:73:ALA:HB2	2.02	0.42
41:w:61:CYS:O	41:w:62:GLU:C	2.61	0.42
43:o:409:LEU:CD1	43:o:409:LEU:C	2.92	0.42
1:A:251:G:O5'	1:A:252:U:N3	2.52	0.42
1:A:352:A:H61	1:A:365:A:H5"	1.85	0.42
1:A:745:C:H2'	1:A:746:A:C8	2.51	0.42
1:A:953:G:OP1	26:a:15:LYS:NZ	2.43	0.42
1:A:981:U:H2'	1:A:982:C:C6	2.54	0.42
1:A:1150:A:N6	1:A:2369:G:O2'	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1740:U:H1'	1:A:1741:A:H2	1.84	0.42
1:A:2124:G:H2'	1:A:2125:A:C8	2.55	0.42
2:B:54:ARG:HB3	2:B:56:ALA:H	1.83	0.42
6:F:23:ARG:NH1	6:F:39:LYS:O	2.52	0.42
6:F:47:LYS:HB2	12:M:7:VAL:HB	2.00	0.42
14:O:116:LEU:HD12	14:O:116:LEU:HA	1.86	0.42
31:f:18:ARG:HA	31:f:23:ASN:HA	2.01	0.42
39:n:13:ILE:O	39:n:17:SER:OG	2.35	0.42
41:w:336:ALA:HB2	41:w:360:GLY:HA3	2.00	0.42
46:x:60:G:H2'	46:x:61:G:H8	1.85	0.42
1:A:434:U:H2'	1:A:435:C:C6	2.54	0.42
1:A:1350:A:OP2	4:D:291:ASN:ND2	2.35	0.42
1:A:1678:G:H2'	1:A:1679:A:C8	2.54	0.42
1:A:2521:U:OP1	2:B:123:ARG:NH2	2.52	0.42
12:M:48:GLY:HA2	12:M:49:PRO:HD3	1.88	0.42
15:P:60:ILE:HD11	15:P:93:THR:HA	2.01	0.42
19:T:146:ASN:OD1	19:T:146:ASN:N	2.53	0.42
1:A:571:U:H2'	1:A:572:A:C8	2.54	0.42
1:A:715:A:OP2	13:N:114:GLY:N	2.52	0.42
1:A:1480:G:O4'	1:A:1483:G:N2	2.52	0.42
1:A:1570:U:O2	1:A:1571:A:N6	2.51	0.42
4:D:27:SER:O	4:D:27:SER:OG	2.32	0.42
4:D:299:ILE:HD12	16:Q:39:ARG:HH21	1.85	0.42
6:F:23:ARG:O	6:F:38:LEU:HB2	2.19	0.42
6:F:137:SER:OG	6:F:139:ASN:OD1	2.34	0.42
6:F:139:ASN:OD1	6:F:139:ASN:N	2.53	0.42
15:P:40:HIS:CE1	19:T:69:LYS:HB2	2.55	0.42
18:S:77:VAL:HG12	18:S:126:VAL:HG22	2.00	0.42
22:W:34:LEU:HA	22:W:35:PRO:HD3	1.93	0.42
30:e:8:LYS:HD3	30:e:8:LYS:HA	1.63	0.42
45:s:282:HIS:CD2	45:s:335:HIS:CE1	3.08	0.42
1:A:68:C:OP2	1:A:301:G:N2	2.49	0.42
1:A:727:G:H4'	1:A:977:C:H5'	2.01	0.42
1:A:1006:A:H2'	1:A:1007:U:H4'	2.01	0.42
1:A:1203:A:H8	1:A:1301:A:H62	1.67	0.42
1:A:1345:G:H2'	1:A:1346:G:H8	1.85	0.42
1:A:1833:G:H5"	36:k:10:LYS:HD3	2.02	0.42
1:A:2484:A:O2'	1:A:2485:A:O4'	2.36	0.42
1:A:2562:A:H62	1:A:2579:G:H21	1.67	0.42
1:A:2837:A:H1'	1:A:2850:G:H1	1.85	0.42
1:A:2918:G:H2'	1:A:2919:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:O:73:ARG:HA	14:O:74:PRO:HD3	1.84	0.42
15:P:76:ALA:HB3	15:P:109:THR:HG22	2.01	0.42
17:R:109:TYR:HD1	17:R:109:TYR:HA	1.78	0.42
22:W:117:ASN:HB2	22:W:119:THR:HG23	2.01	0.42
30:e:115:LEU:HD23	30:e:115:LEU:HA	1.89	0.42
43:o:201:VAL:HG22	43:o:340:GLY:HA3	2.01	0.42
43:o:428:ILE:O	43:o:429:PRO:C	2.62	0.42
43:o:512:THR:O	43:o:512:THR:OG1	2.34	0.42
45:s:230:VAL:HB	45:s:240:ALA:HB3	2.02	0.42
1:A:409:A:H61	47:y:15:G:H1'	1.85	0.42
1:A:629:U:H2'	1:A:630:A:H8	1.85	0.42
1:A:735:A:H2'	1:A:736:A:C8	2.54	0.42
1:A:1461:A:H2'	1:A:1462:A:C8	2.53	0.42
1:A:2344:U:H2'	1:A:2345:A:C8	2.55	0.42
1:A:2691:A:H61	1:A:2704:A:H61	1.67	0.42
1:A:2916:U:H2'	1:A:2917:G:H8	1.85	0.42
3:C:187:SER:OG	3:C:188:ILE:N	2.52	0.42
11:L:39:VAL:HG22	11:L:52:ALA:HB2	2.02	0.42
38:m:60:CYS:SG	38:m:62:LYS:CB	3.00	0.42
43:o:160:LEU:HD23	43:o:160:LEU:HA	1.84	0.42
1:A:584:G:H2'	1:A:585:A:C8	2.54	0.42
1:A:1602:A:P	17:R:37:SER:HG	2.43	0.42
1:A:2452:G:H1'	1:A:2461:A:H5'	2.02	0.42
1:A:3348:G:O6	1:A:3357:U:O4	2.38	0.42
4:D:332:LYS:HD2	4:D:332:LYS:HA	1.68	0.42
6:F:77:ASN:HA	6:F:80:THR:HG22	2.02	0.42
10:K:126:PHE:HD2	25:Z:115:LYS:HG3	1.84	0.42
24:Y:101:PHE:O	24:Y:107:ARG:NH2	2.45	0.42
25:Z:77:PRO:HD2	25:Z:80:LEU:HD12	2.01	0.42
27:b:241:LYS:HB3	27:b:241:LYS:HE2	1.82	0.42
47:y:141:C:H2'	47:y:142:C:H6	1.84	0.42
1:A:1176:C:N3	1:A:1311:G:N1	2.67	0.42
1:A:1257:C:N4	1:A:1261:G:H22	2.18	0.42
1:A:1373:A:OP2	13:N:7:LYS:NZ	2.38	0.42
1:A:1602:A:OP2	17:R:37:SER:OG	2.36	0.42
1:A:2232:A:H2'	1:A:2233:A:H8	1.84	0.42
1:A:2426:U:H2'	1:A:2427:U:C6	2.55	0.42
1:A:2449:A:N6	1:A:2497:U:OP2	2.43	0.42
3:C:17:LEU:HD22	3:C:17:LEU:HA	1.68	0.42
3:C:116:ARG:HB3	3:C:175:LYS:HB3	2.02	0.42
5:E:109:HIS:HD2	5:E:114:ILE:HD11	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:T:112:ASN:HA	19:T:115:LYS:HG2	2.02	0.42
19:T:142:SER:OG	19:T:143:THR:N	2.53	0.42
42:v:14:TYR:HB2	42:v:17:ARG:HH11	1.85	0.42
45:s:322:SER:O	45:s:322:SER:OG	2.34	0.42
46:x:4:U:H2'	46:x:5:G:H8	1.84	0.42
1:A:1300:G:HO2'	1:A:2834:G:HO2'	1.66	0.41
1:A:1941:C:H2'	1:A:1942:U:C6	2.55	0.41
1:A:2634:U:H5"	1:A:2635:A:H2'	2.02	0.41
1:A:2660:G:OP1	1:A:2750:U:O2'	2.38	0.41
1:A:2999:U:H2'	1:A:3000:A:C8	2.55	0.41
4:D:163:LYS:HE2	4:D:163:LYS:HB3	1.77	0.41
8:H:43:LYS:HD3	22:W:28:THR:HG21	2.02	0.41
28:c:28:LYS:HA	28:c:31:VAL:HG12	2.02	0.41
39:n:101:LEU:HD12	39:n:107:VAL:HG11	2.02	0.41
41:w:262:LYS:HA	41:w:262:LYS:HD3	1.79	0.41
43:o:491:TYR:CD1	43:o:496:LEU:CD1	2.95	0.41
1:A:21:G:OP2	47:y:36:G:N2	2.37	0.41
1:A:89:A:H2'	1:A:90:C:H6	1.85	0.41
1:A:1616:U:H2'	1:A:1617:G:H8	1.84	0.41
1:A:2108:C:H1'	1:A:3344:A:C8	2.55	0.41
1:A:2871:G:H5'	1:A:2872:A:H5"	2.03	0.41
13:N:130:VAL:HG11	13:N:145:VAL:HG11	2.02	0.41
15:P:95:TRP:N	46:x:47:C:OP1	2.53	0.41
15:P:154:THR:HG23	15:P:157:ALA:HB2	2.03	0.41
20:U:111:LYS:HG3	20:U:152:GLU:HB2	2.02	0.41
27:b:126:LEU:HD23	27:b:126:LEU:HA	1.93	0.41
27:b:220:PHE:HE1	27:b:229:PHE:CZ	2.37	0.41
35:j:45:VAL:HG13	35:j:52:TYR:HB2	2.02	0.41
39:n:142:ILE:HD13	39:n:142:ILE:HA	1.91	0.41
1:A:987:U:H2'	1:A:988:U:C6	2.55	0.41
1:A:1132:C:H2'	1:A:1133:A:H8	1.86	0.41
1:A:1740:U:H4'	1:A:1741:A:H5'	2.03	0.41
4:D:284:SER:O	4:D:284:SER:OG	2.32	0.41
37:l:74:CYS:SG	37:l:75:VAL:N	2.92	0.41
41:w:184:HIS:O	41:w:187:THR:OG1	2.33	0.41
41:w:317:GLU:HA	41:w:369:VAL:O	2.19	0.41
45:s:250:PRO:HA	45:s:328:LYS:HD2	2.02	0.41
1:A:184:U:H2'	1:A:185:C:C6	2.55	0.41
1:A:312:C:H2'	1:A:313:A:C8	2.56	0.41
1:A:1032:C:N4	1:A:1033:U:O2	2.53	0.41
1:A:1494:U:O2'	36:k:17:LYS:NZ	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2792:A:OP1	37:l:67:LYS:NZ	2.38	0.41
1:A:3222:U:H3'	1:A:3223:A:H3'	2.01	0.41
4:D:244:LEU:HA	4:D:244:LEU:HD23	1.83	0.41
6:F:39:LYS:HB3	6:F:39:LYS:HE3	1.88	0.41
22:W:28:THR:O	22:W:28:THR:OG1	2.36	0.41
25:Z:86:ARG:HD3	47:y:36:G:C5	2.55	0.41
39:n:1:MET:CB	45:s:236:ARG:HG3	2.50	0.41
43:o:497:LEU:HD22	43:o:512:THR:HG22	1.99	0.41
1:A:138:U:H2'	1:A:139:G:H8	1.85	0.41
1:A:212:G:O2'	4:D:221:ASN:O	2.33	0.41
1:A:364:G:N7	34:i:56:ARG:NH2	2.56	0.41
1:A:413:U:OP1	20:U:30:ARG:NH2	2.53	0.41
1:A:794:U:H2'	1:A:795:G:H8	1.85	0.41
1:A:1915:A:H2'	1:A:1916:U:C6	2.55	0.41
1:A:2157:G:N2	1:A:2177:G:O2'	2.49	0.41
1:A:3000:A:H2'	1:A:3001:C:C6	2.55	0.41
1:A:3158:G:O6	1:A:3292:A:N1	2.53	0.41
5:E:44:THR:HA	5:E:45:PRO:HD3	1.93	0.41
5:E:79:ILE:HA	5:E:82:ARG:HG2	2.02	0.41
9:J:3:GLN:O	9:J:30:GLN:NE2	2.54	0.41
9:J:38:GLU:OE1	9:J:106:GLY:N	2.49	0.41
10:K:122:LYS:O	25:Z:119:LYS:N	2.54	0.41
13:N:75:LEU:HD23	13:N:75:LEU:HA	1.87	0.41
14:O:103:GLU:HG3	14:O:115:VAL:HG11	2.02	0.41
25:Z:119:LYS:HD3	25:Z:119:LYS:HA	1.84	0.41
26:a:8:THR:HG22	26:a:10:HIS:HB2	2.03	0.41
27:b:134:VAL:O	27:b:229:PHE:HD1	2.04	0.41
27:b:240:VAL:O	27:b:244:ASN:HB3	2.21	0.41
39:n:147:LEU:HD23	39:n:147:LEU:HA	1.89	0.41
40:z:411:THR:OG1	40:z:415:ARG:NH1	2.44	0.41
43:o:166:LEU:O	43:o:169:LEU:HB3	2.20	0.41
43:o:402:GLU:HB2	43:o:403:LEU:H	1.62	0.41
45:s:231:ARG:O	45:s:341:VAL:HG12	2.20	0.41
1:A:584:G:OP1	7:G:82:ARG:NH2	2.53	0.41
1:A:1340:G:H2'	1:A:1341:U:C6	2.56	0.41
1:A:2129:U:H2'	1:A:2130:G:C8	2.56	0.41
1:A:2810:C:OP2	1:A:2955:U:O2'	2.38	0.41
1:A:3291:G:H2'	1:A:3292:A:C8	2.56	0.41
4:D:233:LEU:HD23	4:D:233:LEU:HA	1.95	0.41
5:E:6:GLN:HB3	5:E:7:ASN:H	1.63	0.41
39:n:186:VAL:O	39:n:190:SER:OG	2.31	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:n:213:PRO:HB2	41:w:20:CYS:HA	2.02	0.41
43:o:249:TRP:CZ2	43:o:500:ASN:O	2.74	0.41
43:o:361:LYS:HA	43:o:361:LYS:HD2	1.72	0.41
1:A:339:C:OP2	4:D:197:ARG:NH2	2.54	0.41
1:A:1746:U:H2'	1:A:1747:G:H8	1.85	0.41
1:A:2443:A:N6	1:A:2505:U:O4	2.54	0.41
3:C:57:VAL:HG13	3:C:357:LYS:HB2	2.03	0.41
9:J:41:ASN:HD22	9:J:124:ARG:HD3	1.85	0.41
11:L:34:LEU:HB3	11:L:60:ALA:HB1	2.02	0.41
12:M:32:LEU:HD23	12:M:32:LEU:HA	1.91	0.41
14:O:122:ASN:OD1	14:O:123:GLN:N	2.52	0.41
24:Y:10:VAL:HA	24:Y:23:VAL:O	2.20	0.41
29:d:112:ASP:OD1	29:d:112:ASP:N	2.53	0.41
40:z:387:SER:OG	47:y:76:C:O2	2.36	0.41
1:A:1811:G:H2'	1:A:1812:G:C8	2.56	0.41
1:A:2127:U:H2'	1:A:2128:C:H6	1.86	0.41
2:B:80:GLU:HG3	38:m:66:GLY:HA2	2.02	0.41
2:B:243:THR:OG1	2:B:244:GLY:N	2.52	0.41
3:C:18:PRO:O	3:C:20:LYS:N	2.54	0.41
11:L:10:LYS:HB3	11:L:125:LEU:HD22	2.02	0.41
11:L:66:LYS:HD3	11:L:66:LYS:HA	1.82	0.41
11:L:128:ARG:HD3	11:L:128:ARG:HA	1.88	0.41
47:y:6:U:H2'	47:y:7:U:H6	1.86	0.41
47:y:85:G:O2'	47:y:86:U:O5'	2.31	0.41
1:A:675:C:O2'	1:A:679:U:OP1	2.34	0.41
1:A:691:A:OP1	4:D:46:LYS:NZ	2.44	0.41
1:A:710:A:H2'	1:A:711:A:C8	2.55	0.41
1:A:1131:G:C8	1:A:2825:C:H4'	2.56	0.41
1:A:1133:A:H1'	1:A:2618:G:C6	2.56	0.41
1:A:1293:U:H2'	1:A:1294:A:C8	2.56	0.41
1:A:1616:U:H2'	1:A:1617:G:C8	2.56	0.41
1:A:2367:A:H2'	1:A:2368:A:C8	2.55	0.41
1:A:2425:G:OP1	14:O:72:LYS:NZ	2.53	0.41
1:A:3022:G:OP1	39:n:33:ASN:OD1	2.38	0.41
1:A:3113:A:H4'	6:F:69:ARG:HG3	2.02	0.41
4:D:140:HIS:CE1	4:D:246:ARG:HD2	2.53	0.41
14:O:192:LYS:HE3	14:O:192:LYS:HB3	1.92	0.41
22:W:58:ASP:OD2	25:Z:25:LYS:NZ	2.50	0.41
22:W:86:VAL:HG21	22:W:95:ILE:HD11	2.02	0.41
27:b:173:LEU:HD23	27:b:173:LEU:HA	1.89	0.41
34:i:82:SER:OG	34:i:83:ALA:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:w:57:PHE:CE1	41:w:63:ARG:O	2.72	0.41
41:w:389:ILE:HD12	41:w:389:ILE:HA	1.93	0.41
43:o:302:MET:HE3	43:o:302:MET:HB3	1.97	0.41
45:s:232:CYS:HB3	45:s:239:LEU:HD11	1.95	0.41
47:y:130:C:H2'	47:y:131:A:C8	2.56	0.41
1:A:408:A:N6	47:y:15:G:O2'	2.51	0.41
1:A:1524:A:O2'	1:A:1526:U:OP2	2.27	0.41
1:A:1651:U:H2'	1:A:1652:G:H8	1.86	0.41
3:C:183:LEU:HD23	3:C:183:LEU:HA	1.85	0.41
22:W:91:ASN:ND2	47:y:132:G:OP1	2.54	0.41
25:Z:63:ARG:NH2	47:y:97:A:OP1	2.53	0.41
27:b:232:ARG:HG3	27:b:236:ILE:HG12	2.03	0.41
1:A:1084:A:H2'	1:A:1085:A:C8	2.56	0.40
1:A:1255:C:H2'	1:A:1256:G:C8	2.56	0.40
1:A:1372:C:H2'	1:A:1373:A:C8	2.56	0.40
1:A:2586:G:O2'	1:A:2588:U:OP1	2.39	0.40
1:A:2621:G:N2	41:w:243:SER:OG	2.54	0.40
2:B:126:LEU:HD23	2:B:126:LEU:HA	1.83	0.40
3:C:49:TYR:CZ	3:C:166:ILE:HD11	2.56	0.40
8:H:30:THR:O	8:H:30:THR:OG1	2.38	0.40
15:P:94:ASN:H	15:P:97:ALA:HB3	1.85	0.40
25:Z:17:LEU:HA	25:Z:17:LEU:HD23	1.88	0.40
34:i:34:CYS:SG	34:i:35:SER:N	2.94	0.40
39:n:82:GLN:OE1	39:n:86:ASN:OD1	2.40	0.40
41:w:19:CYS:SG	41:w:35:CYS:N	2.85	0.40
1:A:335:G:OP2	23:X:14:LYS:NZ	2.41	0.40
1:A:1265:U:H2'	1:A:1266:G:C8	2.56	0.40
1:A:1615:C:H2'	1:A:1616:U:C6	2.56	0.40
2:B:225:ILE:HD12	2:B:225:ILE:HA	1.99	0.40
4:D:120:TYR:CD1	4:D:277:PRO:HG3	2.56	0.40
7:G:43:LEU:HB2	7:G:83:TYR:O	2.21	0.40
13:N:7:LYS:O	13:N:11:HIS:ND1	2.42	0.40
30:e:24:ARG:HH11	30:e:24:ARG:HD3	1.76	0.40
32:g:57:LEU:HD13	32:g:61:GLN:HG3	2.03	0.40
32:g:98:GLN:HA	32:g:101:VAL:HG12	2.02	0.40
39:n:4:ARG:HB3	39:n:208:LEU:HA	2.03	0.40
39:n:213:PRO:HA	39:n:216:SER:HB2	2.03	0.40
41:w:57:PHE:CE1	41:w:64:PHE:N	2.87	0.40
43:o:163:ARG:NH1	43:o:183:ARG:HA	2.32	0.40
1:A:987:U:H2'	1:A:988:U:H6	1.87	0.40
1:A:1597:C:H2'	1:A:1598:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1870:C:H2'	1:A:1871:U:H6	1.87	0.40
1:A:2970:C:H2'	1:A:2972:G:C8	2.56	0.40
1:A:2986:U:H2'	1:A:2987:A:H8	1.86	0.40
1:A:3201:C:H2'	1:A:3202:G:C8	2.57	0.40
6:F:49:ASN:OD1	6:F:50:ASN:N	2.55	0.40
33:h:57:LEU:HD23	33:h:57:LEU:HA	1.86	0.40
41:w:220:ILE:CD1	41:w:246:VAL:HG13	2.50	0.40
42:v:48:ARG:N	42:v:49:ILE:HD13	2.36	0.40
43:o:254:ILE:HG21	43:o:302:MET:HG2	2.01	0.40
1:A:1100:U:OP2	27:b:196:LYS:NZ	2.49	0.40
1:A:2258:U:C5	1:A:2259:A:N1	2.89	0.40
1:A:2549:G:H1'	1:A:2550:U:H4'	2.02	0.40
1:A:2549:G:O2'	8:H:38:GLN:OE1	2.39	0.40
4:D:355:PHE:HA	4:D:358:THR:HG22	2.03	0.40
10:K:59:ARG:HA	10:K:59:ARG:HD3	1.90	0.40
15:P:120:LYS:HE2	15:P:120:LYS:HB3	1.91	0.40
22:W:129:ASP:HB3	22:W:130:TYR:CE1	2.57	0.40
25:Z:68:GLN:HA	25:Z:71:LYS:HG2	2.03	0.40
43:o:179:THR:HB	43:o:180:PRO:CD	2.48	0.40
1:A:753:C:H2'	1:A:754:G:H8	1.86	0.40
1:A:1077:U:H2'	1:A:1078:U:C6	2.56	0.40
1:A:1871:U:H2'	1:A:1872:C:H6	1.85	0.40
1:A:2518:C:H2'	1:A:2519:A:C8	2.56	0.40
1:A:2616:C:H42	1:A:2624:G:H1	1.68	0.40
1:A:3321:C:H2'	1:A:3322:A:C8	2.57	0.40
5:E:50:ALA:HB3	5:E:62:ASN:H	1.85	0.40
10:K:62:THR:O	10:K:66:ASN:OD1	2.40	0.40
29:d:100:SER:O	29:d:100:SER:OG	2.36	0.40
36:k:28:ARG:H	36:k:28:ARG:HG3	1.72	0.40
41:w:65:LEU:HD12	41:w:71:TRP:N	2.37	0.40
45:s:232:CYS:HB2	45:s:239:LEU:CD1	2.28	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	
2	B	245/254 (96%)	217 (89%)	28 (11%)	0	100	100
3	C	379/387 (98%)	338 (89%)	40 (11%)	1 (0%)	36	69
4	D	359/362 (99%)	331 (92%)	28 (8%)	0	100	100
5	E	167/174 (96%)	153 (92%)	14 (8%)	0	100	100
6	F	187/191 (98%)	177 (95%)	10 (5%)	0	100	100
7	G	173/176 (98%)	153 (88%)	20 (12%)	0	100	100
8	H	221/256 (86%)	207 (94%)	14 (6%)	0	100	100
9	J	195/198 (98%)	187 (96%)	8 (4%)	0	100	100
10	K	184/199 (92%)	165 (90%)	19 (10%)	0	100	100
11	L	134/137 (98%)	124 (92%)	10 (8%)	0	100	100
12	M	133/138 (96%)	125 (94%)	8 (6%)	0	100	100
13	N	146/149 (98%)	124 (85%)	22 (15%)	0	100	100
14	O	201/204 (98%)	188 (94%)	13 (6%)	0	100	100
15	P	267/297 (90%)	251 (94%)	16 (6%)	0	100	100
16	Q	183/186 (98%)	169 (92%)	14 (8%)	0	100	100
17	R	148/189 (78%)	144 (97%)	4 (3%)	0	100	100
18	S	169/172 (98%)	161 (95%)	8 (5%)	0	100	100
19	T	157/160 (98%)	142 (90%)	15 (10%)	0	100	100
20	U	152/184 (83%)	138 (91%)	14 (9%)	0	100	100
21	V	97/121 (80%)	88 (91%)	9 (9%)	0	100	100
22	W	118/142 (83%)	106 (90%)	11 (9%)	1 (1%)	16	50
23	X	123/127 (97%)	114 (93%)	9 (7%)	0	100	100
24	Y	133/136 (98%)	121 (91%)	12 (9%)	0	100	100
25	Z	116/120 (97%)	106 (91%)	10 (9%)	0	100	100
26	a	50/59 (85%)	42 (84%)	8 (16%)	0	100	100
27	b	217/244 (89%)	197 (91%)	20 (9%)	0	100	100
28	c	95/105 (90%)	93 (98%)	2 (2%)	0	100	100
29	d	105/113 (93%)	88 (84%)	17 (16%)	0	100	100
30	e	125/130 (96%)	112 (90%)	12 (10%)	1 (1%)	16	50
31	f	104/107 (97%)	93 (89%)	11 (11%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
32	g	101/121 (84%)	87 (86%)	14 (14%)	0	100	100
33	h	96/100 (96%)	90 (94%)	6 (6%)	0	100	100
34	i	82/88 (93%)	72 (88%)	9 (11%)	1 (1%)	10	41
35	j	75/78 (96%)	73 (97%)	2 (3%)	0	100	100
36	k	48/51 (94%)	40 (83%)	8 (17%)	0	100	100
37	l	92/106 (87%)	84 (91%)	8 (9%)	0	100	100
38	m	87/92 (95%)	77 (88%)	10 (12%)	0	100	100
39	n	222/245 (91%)	195 (88%)	27 (12%)	0	100	100
40	z	56/432 (13%)	47 (84%)	9 (16%)	0	100	100
41	w	387/518 (75%)	347 (90%)	37 (10%)	3 (1%)	16	50
42	v	58/155 (37%)	57 (98%)	1 (2%)	0	100	100
43	o	316/640 (49%)	252 (80%)	58 (18%)	6 (2%)	6	33
45	s	126/364 (35%)	99 (79%)	24 (19%)	3 (2%)	4	29
All	All	6829/8407 (81%)	6174 (90%)	639 (9%)	16 (0%)	44	74

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	18	PRO
22	W	129	ASP
30	e	7	PRO
41	w	61	CYS
41	w	62	GLU
43	o	174	GLU
43	o	344	TYR
43	o	503	PRO
45	s	323	ARG
43	o	345	PRO
45	s	310	CYS
45	s	311	SER
34	i	37	CYS
41	w	25	PRO
43	o	381	ASP
43	o	428	ILE

5.3.2 Protein sidechains (i)

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	
2	B	189/196 (96%)	186 (98%)	3 (2%)	55	69
3	C	317/323 (98%)	313 (99%)	4 (1%)	61	71
4	D	288/289 (100%)	281 (98%)	7 (2%)	43	63
5	E	147/150 (98%)	144 (98%)	3 (2%)	48	65
6	F	169/171 (99%)	167 (99%)	2 (1%)	63	72
7	G	152/153 (99%)	151 (99%)	1 (1%)	76	78
8	H	183/208 (88%)	183 (100%)	0	100	100
9	J	163/164 (99%)	161 (99%)	2 (1%)	63	72
10	K	149/159 (94%)	149 (100%)	0	100	100
11	L	104/105 (99%)	103 (99%)	1 (1%)	68	75
12	M	107/109 (98%)	107 (100%)	0	100	100
13	N	118/119 (99%)	117 (99%)	1 (1%)	73	77
14	O	175/176 (99%)	174 (99%)	1 (1%)	78	80
15	P	227/245 (93%)	226 (100%)	1 (0%)	84	83
16	Q	150/151 (99%)	149 (99%)	1 (1%)	76	78
17	R	124/154 (80%)	124 (100%)	0	100	100
18	S	155/156 (99%)	154 (99%)	1 (1%)	78	80
19	T	136/137 (99%)	133 (98%)	3 (2%)	45	64
20	U	125/146 (86%)	125 (100%)	0	100	100
21	V	86/107 (80%)	86 (100%)	0	100	100
22	W	104/118 (88%)	103 (99%)	1 (1%)	68	75
23	X	108/110 (98%)	108 (100%)	0	100	100
24	Y	115/116 (99%)	115 (100%)	0	100	100
25	Z	104/105 (99%)	104 (100%)	0	100	100
26	a	41/47 (87%)	41 (100%)	0	100	100
27	b	184/205 (90%)	183 (100%)	1 (0%)	81	82

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
28	c	81/88 (92%)	81 (100%)	0	100 100
29	d	94/97 (97%)	92 (98%)	2 (2%)	47 65
30	e	109/111 (98%)	105 (96%)	4 (4%)	30 53
31	f	90/91 (99%)	90 (100%)	0	100 100
32	g	88/103 (85%)	86 (98%)	2 (2%)	44 63
33	h	80/82 (98%)	79 (99%)	1 (1%)	61 71
34	i	69/71 (97%)	68 (99%)	1 (1%)	59 71
35	j	68/69 (99%)	65 (96%)	3 (4%)	25 49
36	k	45/46 (98%)	44 (98%)	1 (2%)	45 64
37	l	81/91 (89%)	78 (96%)	3 (4%)	30 53
38	m	70/72 (97%)	64 (91%)	6 (9%)	10 33
39	n	192/211 (91%)	189 (98%)	3 (2%)	55 69
40	z	53/392 (14%)	53 (100%)	0	100 100
41	w	348/467 (74%)	336 (97%)	12 (3%)	32 55
42	v	53/129 (41%)	48 (91%)	5 (9%)	8 29
43	o	284/555 (51%)	256 (90%)	28 (10%)	7 28
45	s	110/323 (34%)	102 (93%)	8 (7%)	13 39
All	All	5835/7117 (82%)	5723 (98%)	112 (2%)	49 66

All (112) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	79	ASN
2	B	101	VAL
2	B	199	THR
3	C	17	LEU
3	C	18	PRO
3	C	19	ARG
3	C	320	ASP
4	D	82	THR
4	D	103	THR
4	D	148	ILE
4	D	207	VAL
4	D	260	GLN
4	D	275	THR
4	D	280	ILE

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Mol	Chain	Res	Type
5	E	23	VAL
5	E	101	ASN
5	E	174	LYS
6	F	43	VAL
6	F	59	ASN
7	G	152	THR
9	J	61	THR
9	J	107	ILE
11	L	49	LEU
13	N	124	ILE
14	O	18	VAL
15	P	69	ILE
16	Q	186	VAL
18	S	172	TYR
19	T	80	VAL
19	T	112	ASN
19	T	160	ILE
22	W	127	THR
27	b	244	ASN
29	d	8	VAL
29	d	108	VAL
30	e	3	SER
30	e	4	LEU
30	e	6	HIS
30	e	8	LYS
32	g	47	CYS
32	g	81	CYS
33	h	100	HIS
34	i	36	SER
35	j	6	THR
35	j	45	VAL
35	j	78	LEU
36	k	51	ILE
37	l	53	GLN
37	l	54	THR
37	l	77	CYS
38	m	16	VAL
38	m	39	CYS
38	m	41	PHE
38	m	42	CYS
38	m	60	CYS
38	m	64	VAL

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Mol	Chain	Res	Type
39	n	86	ASN
39	n	201	ASP
39	n	205	VAL
41	w	34	MET
41	w	62	GLU
41	w	63	ARG
41	w	65	LEU
41	w	143	CYS
41	w	162	ARG
41	w	220	ILE
41	w	221	LYS
41	w	233	THR
41	w	246	VAL
41	w	248	ILE
41	w	249	VAL
42	v	19	THR
42	v	49	ILE
42	v	52	THR
42	v	53	VAL
42	v	58	HIS
43	o	157	GLU
43	o	161	GLU
43	o	163	ARG
43	o	165	LYS
43	o	170	GLN
43	o	171	GLU
43	o	173	ASN
43	o	177	LEU
43	o	178	LEU
43	o	213	PHE
43	o	242	THR
43	o	304	LYS
43	o	344	TYR
43	o	347	VAL
43	o	349	LYS
43	o	365	SER
43	o	367	THR
43	o	400	LYS
43	o	402	GLU
43	o	409	LEU
43	o	431	TYR
43	o	488	LEU

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Mol	Chain	Res	Type
43	o	495	LYS
43	o	496	LEU
43	o	497	LEU
43	o	499	VAL
43	o	500	ASN
43	o	503	PRO
45	s	231	ARG
45	s	232	CYS
45	s	233	LYS
45	s	282	HIS
45	s	296	GLN
45	s	307	CYS
45	s	325	SER
45	s	326	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (48) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	97	ASN
2	B	100	ASN
2	B	140	ASN
2	B	215	ASN
4	D	296	GLN
5	E	43	GLN
6	F	37	ASN
6	F	96	HIS
6	F	157	ASN
6	F	163	GLN
7	G	61	ASN
10	K	17	HIS
10	K	137	GLN
14	O	95	GLN
14	O	138	GLN
16	Q	152	HIS
17	R	68	GLN
18	S	74	ASN
19	T	54	HIS
19	T	90	ASN
19	T	95	HIS
19	T	103	GLN
20	U	97	ASN
23	X	91	ASN

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Mol	Chain	Res	Type
24	Y	78	ASN
26	a	19	ASN
27	b	37	ASN
27	b	172	ASN
29	d	105	GLN
30	e	98	HIS
31	f	106	ASN
36	k	38	ASN
38	m	34	HIS
39	n	66	ASN
39	n	83	HIS
40	z	402	GLN
41	w	60	ASN
41	w	130	GLN
41	w	184	HIS
41	w	376	ASN
43	o	170	GLN
43	o	395	ASN
43	o	399	ASN
43	o	451	ASN
43	o	473	GLN
45	s	282	HIS
45	s	292	GLN
45	s	296	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	3141/3396 (92%)	811 (25%)	17 (0%)
46	x	120/121 (99%)	29 (24%)	0
47	y	155/158 (98%)	32 (20%)	0
All	All	3416/3675 (92%)	872 (25%)	17 (0%)

All (872) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	5	G
1	A	6	A
1	A	22	G
1	A	26	A
1	A	38	U

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Mol	Chain	Res	Type
1	A	40	A
1	A	41	G
1	A	43	A
1	A	45	A
1	A	49	A
1	A	57	A
1	A	59	G
1	A	60	A
1	A	65	A
1	A	66	A
1	A	70	A
1	A	72	C
1	A	73	C
1	A	75	G
1	A	89	A
1	A	92	G
1	A	99	A
1	A	109	A
1	A	110	G
1	A	111	C
1	A	113	C
1	A	115	A
1	A	116	A
1	A	117	U
1	A	118	U
1	A	119	U
1	A	120	G
1	A	121	A
1	A	122	A
1	A	133	U
1	A	134	U
1	A	135	C
1	A	136	G
1	A	146	U
1	A	147	U
1	A	154	U
1	A	156	G
1	A	157	A
1	A	163	C
1	A	166	C
1	A	171	G
1	A	176	G

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Mol	Chain	Res	Type
1	A	187	A
1	A	190	U
1	A	191	U
1	A	194	U
1	A	198	A
1	A	199	A
1	A	200	C
1	A	206	G
1	A	211	A
1	A	212	G
1	A	213	A
1	A	218	G
1	A	219	A
1	A	220	G
1	A	234	G
1	A	239	G
1	A	241	G
1	A	246	U
1	A	249	U
1	A	250	U
1	A	251	G
1	A	252	U
1	A	257	U
1	A	258	G
1	A	266	A
1	A	269	G
1	A	270	U
1	A	281	G
1	A	286	U
1	A	295	A
1	A	305	U
1	A	315	C
1	A	323	A
1	A	329	U
1	A	334	A
1	A	343	U
1	A	346	C
1	A	349	A
1	A	351	A
1	A	352	A
1	A	353	G
1	A	375	A

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Mol	Chain	Res	Type
1	A	376	G
1	A	385	A
1	A	387	A
1	A	390	G
1	A	395	A
1	A	398	A
1	A	401	U
1	A	402	A
1	A	403	C
1	A	404	G
1	A	420	G
1	A	421	G
1	A	422	A
1	A	437	G
1	A	438	A
1	A	439	C
1	A	440	A
1	A	503	C
1	A	521	A
1	A	523	A
1	A	536	U
1	A	538	G
1	A	541	U
1	A	542	G
1	A	545	U
1	A	546	C
1	A	547	G
1	A	551	A
1	A	557	A
1	A	558	U
1	A	559	A
1	A	569	A
1	A	578	A
1	A	579	G
1	A	589	A
1	A	592	A
1	A	597	G
1	A	600	G
1	A	609	G
1	A	610	G
1	A	611	A
1	A	620	U

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Mol	Chain	Res	Type
1	A	621	A
1	A	622	A
1	A	623	U
1	A	637	C
1	A	645	A
1	A	649	A
1	A	677	A
1	A	681	U
1	A	683	U
1	A	689	U
1	A	690	A
1	A	691	A
1	A	692	A
1	A	698	U
1	A	699	A
1	A	712	G
1	A	715	A
1	A	716	A
1	A	719	U
1	A	720	A
1	A	742	G
1	A	750	G
1	A	765	C
1	A	767	U
1	A	774	G
1	A	776	U
1	A	777	U
1	A	780	A
1	A	781	G
1	A	784	A
1	A	785	G
1	A	786	A
1	A	801	A
1	A	806	A
1	A	808	A
1	A	817	A
1	A	826	G
1	A	830	A
1	A	831	G
1	A	832	G
1	A	837	A
1	A	838	G

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Mol	Chain	Res	Type
1	A	845	G
1	A	847	A
1	A	848	A
1	A	849	C
1	A	857	G
1	A	861	C
1	A	869	G
1	A	874	U
1	A	879	U
1	A	880	G
1	A	881	C
1	A	884	A
1	A	895	A
1	A	896	A
1	A	907	G
1	A	908	G
1	A	914	A
1	A	916	G
1	A	917	A
1	A	920	A
1	A	923	C
1	A	924	G
1	A	932	U
1	A	933	A
1	A	936	A
1	A	937	G
1	A	938	C
1	A	941	G
1	A	943	U
1	A	944	C
1	A	951	A
1	A	953	G
1	A	954	U
1	A	959	C
1	A	960	U
1	A	962	A
1	A	974	G
1	A	979	U
1	A	980	A
1	A	981	U
1	A	982	C
1	A	984	G

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Mol	Chain	Res	Type
1	A	991	G
1	A	994	G
1	A	1000	C
1	A	1001	G
1	A	1003	A
1	A	1004	U
1	A	1007	U
1	A	1008	U
1	A	1009	A
1	A	1010	G
1	A	1011	A
1	A	1012	G
1	A	1013	G
1	A	1014	U
1	A	1016	C
1	A	1017	C
1	A	1018	G
1	A	1022	U
1	A	1025	A
1	A	1026	A
1	A	1027	A
1	A	1028	U
1	A	1029	G
1	A	1032	C
1	A	1033	U
1	A	1035	G
1	A	1036	A
1	A	1037	C
1	A	1038	C
1	A	1041	U
1	A	1043	C
1	A	1045	C
1	A	1050	U
1	A	1051	U
1	A	1063	G
1	A	1064	A
1	A	1065	A
1	A	1066	G
1	A	1079	A
1	A	1081	U
1	A	1087	G
1	A	1090	G

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Mol	Chain	Res	Type
1	A	1093	A
1	A	1094	U
1	A	1095	U
1	A	1096	U
1	A	1098	A
1	A	1103	A
1	A	1104	G
1	A	1116	G
1	A	1117	G
1	A	1126	G
1	A	1128	U
1	A	1129	A
1	A	1130	A
1	A	1131	G
1	A	1132	C
1	A	1137	C
1	A	1143	A
1	A	1144	U
1	A	1145	G
1	A	1151	U
1	A	1158	A
1	A	1159	A
1	A	1160	C
1	A	1168	U
1	A	1177	G
1	A	1179	A
1	A	1180	A
1	A	1181	U
1	A	1192	C
1	A	1193	A
1	A	1195	A
1	A	1196	C
1	A	1200	A
1	A	1201	C
1	A	1209	G
1	A	1216	C
1	A	1217	A
1	A	1218	U
1	A	1219	C
1	A	1220	U
1	A	1222	G
1	A	1225	A

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Mol	Chain	Res	Type
1	A	1232	C
1	A	1233	G
1	A	1236	G
1	A	1240	A
1	A	1241	U
1	A	1242	G
1	A	1243	G
1	A	1245	A
1	A	1246	G
1	A	1247	U
1	A	1248	C
1	A	1249	G
1	A	1253	U
1	A	1258	U
1	A	1262	G
1	A	1263	A
1	A	1265	U
1	A	1266	G
1	A	1269	U
1	A	1270	A
1	A	1271	A
1	A	1272	C
1	A	1273	A
1	A	1274	A
1	A	1277	C
1	A	1278	A
1	A	1279	C
1	A	1280	C
1	A	1285	G
1	A	1288	U
1	A	1289	G
1	A	1295	G
1	A	1301	A
1	A	1302	A
1	A	1307	G
1	A	1309	U
1	A	1313	G
1	A	1317	A
1	A	1325	U
1	A	1330	A
1	A	1332	A
1	A	1348	U

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Mol	Chain	Res	Type
1	A	1349	G
1	A	1350	A
1	A	1351	U
1	A	1352	A
1	A	1353	U
1	A	1354	G
1	A	1355	A
1	A	1356	U
1	A	1357	G
1	A	1362	G
1	A	1386	A
1	A	1394	A
1	A	1399	A
1	A	1400	G
1	A	1417	G
1	A	1418	A
1	A	1419	A
1	A	1421	G
1	A	1434	G
1	A	1435	A
1	A	1436	U
1	A	1437	C
1	A	1446	A
1	A	1450	G
1	A	1455	U
1	A	1465	A
1	A	1475	A
1	A	1478	C
1	A	1481	A
1	A	1482	A
1	A	1488	G
1	A	1496	C
1	A	1508	C
1	A	1512	U
1	A	1523	U
1	A	1527	C
1	A	1539	A
1	A	1542	G
1	A	1544	G
1	A	1555	U
1	A	1556	C
1	A	1560	G

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Mol	Chain	Res	Type
1	A	1562	C
1	A	1563	C
1	A	1566	A
1	A	1567	U
1	A	1568	U
1	A	1570	U
1	A	1571	A
1	A	1572	U
1	A	1573	G
1	A	1574	C
1	A	1576	G
1	A	1577	G
1	A	1580	A
1	A	1581	C
1	A	1583	A
1	A	1589	A
1	A	1593	A
1	A	1605	A
1	A	1606	U
1	A	1618	G
1	A	1619	A
1	A	1620	U
1	A	1629	U
1	A	1631	C
1	A	1636	U
1	A	1642	A
1	A	1643	A
1	A	1657	C
1	A	1675	G
1	A	1677	G
1	A	1681	U
1	A	1683	A
1	A	1713	G
1	A	1715	A
1	A	1724	U
1	A	1725	C
1	A	1741	A
1	A	1750	A
1	A	1751	G
1	A	1753	G
1	A	1760	A
1	A	1762	C

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Mol	Chain	Res	Type
1	A	1763	U
1	A	1764	U
1	A	1765	U
1	A	1766	G
1	A	1794	G
1	A	1797	A
1	A	1808	G
1	A	1809	A
1	A	1813	A
1	A	1814	A
1	A	1816	A
1	A	1820	U
1	A	1821	U
1	A	1835	A
1	A	1839	A
1	A	1841	A
1	A	1842	A
1	A	1846	C
1	A	1847	A
1	A	1849	C
1	A	1850	A
1	A	1866	C
1	A	1878	G
1	A	1880	U
1	A	1886	A
1	A	1893	A
1	A	1901	A
1	A	1906	G
1	A	1907	C
1	A	1913	A
1	A	1920	U
1	A	1926	C
1	A	1930	A
1	A	1931	U
1	A	1948	G
1	A	1952	G
1	A	1953	G
1	A	1954	G
1	A	2095	G
1	A	2100	A
1	A	2101	C
1	A	2102	U

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Mol	Chain	Res	Type
1	A	2107	A
1	A	2112	U
1	A	2113	A
1	A	2114	C
1	A	2117	A
1	A	2121	G
1	A	2122	G
1	A	2125	A
1	A	2131	A
1	A	2139	A
1	A	2140	U
1	A	2145	A
1	A	2149	A
1	A	2158	A
1	A	2159	U
1	A	2160	G
1	A	2169	G
1	A	2171	G
1	A	2176	U
1	A	2185	G
1	A	2187	G
1	A	2188	A
1	A	2192	C
1	A	2196	C
1	A	2201	G
1	A	2205	U
1	A	2206	G
1	A	2209	U
1	A	2244	A
1	A	2249	G
1	A	2253	G
1	A	2256	A
1	A	2257	C
1	A	2258	U
1	A	2261	G
1	A	2262	A
1	A	2263	C
1	A	2264	U
1	A	2265	C
1	A	2266	U
1	A	2268	U
1	A	2269	U

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Mol	Chain	Res	Type
1	A	2270	A
1	A	2273	G
1	A	2274	U
1	A	2279	A
1	A	2281	A
1	A	2282	U
1	A	2286	U
1	A	2287	C
1	A	2294	U
1	A	2295	A
1	A	2298	U
1	A	2306	C
1	A	2307	G
1	A	2308	C
1	A	2310	U
1	A	2313	A
1	A	2314	U
1	A	2315	G
1	A	2334	U
1	A	2336	U
1	A	2356	A
1	A	2361	A
1	A	2364	G
1	A	2365	C
1	A	2366	C
1	A	2372	A
1	A	2373	A
1	A	2374	C
1	A	2375	G
1	A	2380	U
1	A	2388	U
1	A	2393	G
1	A	2394	G
1	A	2397	A
1	A	2398	A
1	A	2400	G
1	A	2401	A
1	A	2402	A
1	A	2403	G
1	A	2404	A
1	A	2405	C
1	A	2411	U

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Mol	Chain	Res	Type
1	A	2412	G
1	A	2417	U
1	A	2422	C
1	A	2434	U
1	A	2435	G
1	A	2437	G
1	A	2439	A
1	A	2444	C
1	A	2446	U
1	A	2449	A
1	A	2453	U
1	A	2454	G
1	A	2455	U
1	A	2456	A
1	A	2457	G
1	A	2458	A
1	A	2459	A
1	A	2460	U
1	A	2461	A
1	A	2462	A
1	A	2464	U
1	A	2465	G
1	A	2466	G
1	A	2467	G
1	A	2468	A
1	A	2470	C
1	A	2471	U
1	A	2472	U
1	A	2474	G
1	A	2475	G
1	A	2479	C
1	A	2481	G
1	A	2483	G
1	A	2484	A
1	A	2485	A
1	A	2487	U
1	A	2489	C
1	A	2490	C
1	A	2492	C
1	A	2493	U
1	A	2494	A
1	A	2495	C

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Mol	Chain	Res	Type
1	A	2496	C
1	A	2498	U
1	A	2501	U
1	A	2502	A
1	A	2503	G
1	A	2505	U
1	A	2506	U
1	A	2511	A
1	A	2514	U
1	A	2515	A
1	A	2527	G
1	A	2549	G
1	A	2550	U
1	A	2551	U
1	A	2553	U
1	A	2555	G
1	A	2558	U
1	A	2561	A
1	A	2568	C
1	A	2569	A
1	A	2570	U
1	A	2571	U
1	A	2572	C
1	A	2573	G
1	A	2585	G
1	A	2586	G
1	A	2593	A
1	A	2594	C
1	A	2606	G
1	A	2607	G
1	A	2614	G
1	A	2617	U
1	A	2618	G
1	A	2619	G
1	A	2626	A
1	A	2629	U
1	A	2635	A
1	A	2652	U
1	A	2656	A
1	A	2657	A
1	A	2672	G
1	A	2674	A

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Mol	Chain	Res	Type
1	A	2677	G
1	A	2679	A
1	A	2680	A
1	A	2688	U
1	A	2689	A
1	A	2691	A
1	A	2694	A
1	A	2703	A
1	A	2704	A
1	A	2705	A
1	A	2708	C
1	A	2713	U
1	A	2714	G
1	A	2716	U
1	A	2719	U
1	A	2720	G
1	A	2728	G
1	A	2729	U
1	A	2734	A
1	A	2740	A
1	A	2746	A
1	A	2749	G
1	A	2753	G
1	A	2755	C
1	A	2762	A
1	A	2771	U
1	A	2772	C
1	A	2777	G
1	A	2778	G
1	A	2796	G
1	A	2797	C
1	A	2799	A
1	A	2800	G
1	A	2801	A
1	A	2802	A
1	A	2803	A
1	A	2810	C
1	A	2814	G
1	A	2817	A
1	A	2822	U
1	A	2824	G
1	A	2828	G

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Mol	Chain	Res	Type
1	A	2832	C
1	A	2834	G
1	A	2836	C
1	A	2842	U
1	A	2843	U
1	A	2844	C
1	A	2845	A
1	A	2846	U
1	A	2847	A
1	A	2849	C
1	A	2850	G
1	A	2851	A
1	A	2856	G
1	A	2859	U
1	A	2869	U
1	A	2871	G
1	A	2872	A
1	A	2873	U
1	A	2875	U
1	A	2887	A
1	A	2888	U
1	A	2889	C
1	A	2897	A
1	A	2898	G
1	A	2899	C
1	A	2900	A
1	A	2907	G
1	A	2935	U
1	A	2936	A
1	A	2938	G
1	A	2941	A
1	A	2947	G
1	A	2955	U
1	A	2971	A
1	A	2976	A
1	A	2977	G
1	A	2978	U
1	A	2983	C
1	A	2997	G
1	A	3011	A
1	A	3012	A
1	A	3021	A

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Mol	Chain	Res	Type
1	A	3022	G
1	A	3027	A
1	A	3030	G
1	A	3039	C
1	A	3056	U
1	A	3059	G
1	A	3078	U
1	A	3079	U
1	A	3080	G
1	A	3091	A
1	A	3092	C
1	A	3094	A
1	A	3101	G
1	A	3104	U
1	A	3113	A
1	A	3116	G
1	A	3118	C
1	A	3119	U
1	A	3122	A
1	A	3130	A
1	A	3131	U
1	A	3141	A
1	A	3142	A
1	A	3153	U
1	A	3154	C
1	A	3155	U
1	A	3156	U
1	A	3157	U
1	A	3158	G
1	A	3164	C
1	A	3165	A
1	A	3170	A
1	A	3171	U
1	A	3173	G
1	A	3175	U
1	A	3176	G
1	A	3179	U
1	A	3181	C
1	A	3186	A
1	A	3187	A
1	A	3197	G
1	A	3206	C

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Mol	Chain	Res	Type
1	A	3207	U
1	A	3210	A
1	A	3213	A
1	A	3216	G
1	A	3217	C
1	A	3218	A
1	A	3219	G
1	A	3221	C
1	A	3268	A
1	A	3270	U
1	A	3271	G
1	A	3273	A
1	A	3275	U
1	A	3276	G
1	A	3279	A
1	A	3280	U
1	A	3281	U
1	A	3282	U
1	A	3289	G
1	A	3293	U
1	A	3294	A
1	A	3295	A
1	A	3304	U
1	A	3313	U
1	A	3316	A
1	A	3317	U
1	A	3320	A
1	A	3323	A
1	A	3332	U
1	A	3335	A
1	A	3340	G
1	A	3341	U
1	A	3342	A
1	A	3345	G
1	A	3346	U
1	A	3349	C
1	A	3351	U
1	A	3352	U
1	A	3353	G
1	A	3354	U
1	A	3356	G
1	A	3367	C

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Mol	Chain	Res	Type
1	A	3369	G
1	A	3378	C
1	A	3381	U
1	A	3382	U
1	A	3386	G
1	A	3389	U
1	A	3393	U
1	A	3396	U
46	x	7	G
46	x	10	C
46	x	11	A
46	x	17	A
46	x	21	G
46	x	22	A
46	x	30	G
46	x	41	G
46	x	42	A
46	x	53	U
46	x	54	U
46	x	55	A
46	x	61	G
46	x	62	U
46	x	63	A
46	x	64	A
46	x	65	G
46	x	67	G
46	x	72	A
46	x	73	C
46	x	76	A
46	x	80	G
46	x	90	U
46	x	91	G
46	x	93	C
46	x	99	G
46	x	102	A
46	x	112	G
46	x	121	U
47	y	23	U
47	y	34	U
47	y	35	C
47	y	37	A
47	y	39	G

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Mol	Chain	Res	Type
47	y	49	G
47	y	50	C
47	y	52	A
47	y	59	A
47	y	62	C
47	y	63	G
47	y	75	G
47	y	80	A
47	y	82	U
47	y	83	C
47	y	84	C
47	y	86	U
47	y	87	G
47	y	90	U
47	y	95	G
47	y	102	U
47	y	103	G
47	y	104	A
47	y	106	C
47	y	109	A
47	y	113	U
47	y	121	U
47	y	125	U
47	y	127	U
47	y	148	G
47	y	151	C
47	y	152	G

All (17) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	916	G
1	A	979	U
1	A	1010	G
1	A	1064	A
1	A	1217	A
1	A	1287	A
1	A	1288	U
1	A	1355	A
1	A	1815	U
1	A	2101	C
1	A	2112	U

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Mol	Chain	Res	Type
1	A	2400	G
1	A	2401	A
1	A	2404	A
1	A	3121	U
1	A	3206	C
1	A	3303	G

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 8 ligands modelled in this entry, 8 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 (i)

There are no chain breaks in this entry.

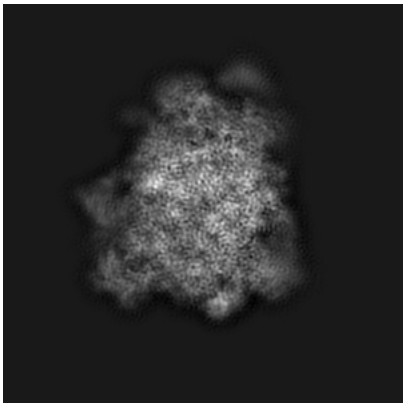
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-10071. These allow visual inspection of the internal detail of the map and identification of artifacts.

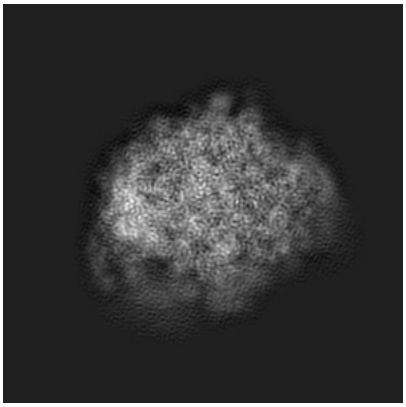
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

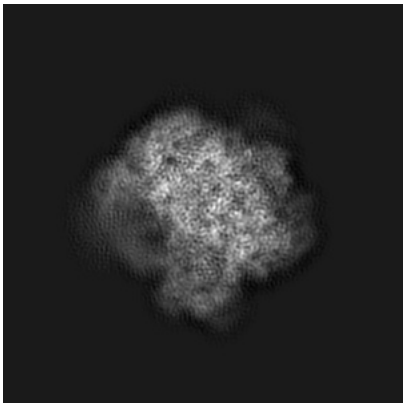
6.1.1 Primary map



X



Y

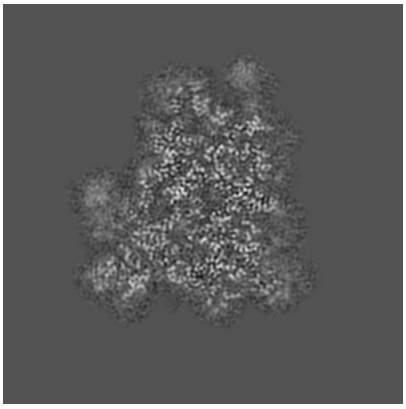


Z

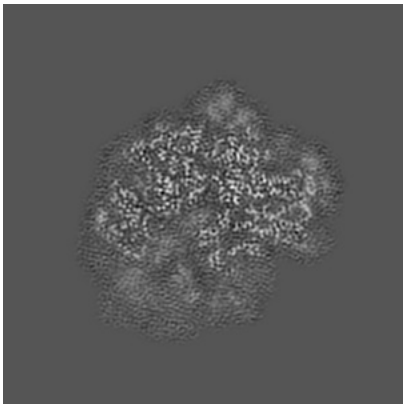
The images above show the map projected in three orthogonal directions.

6.2 Central slices

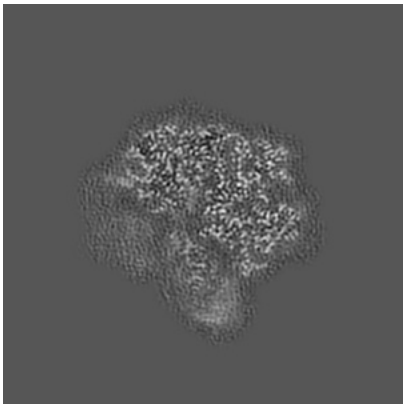
6.2.1 Primary map



X Index: 180



Y Index: 180

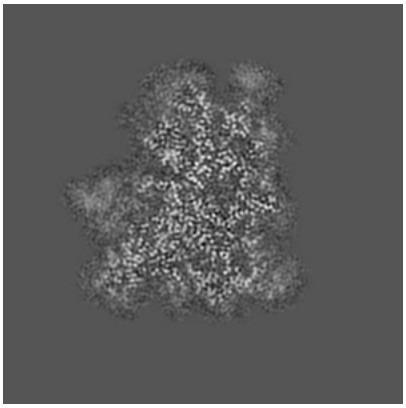


Z Index: 180

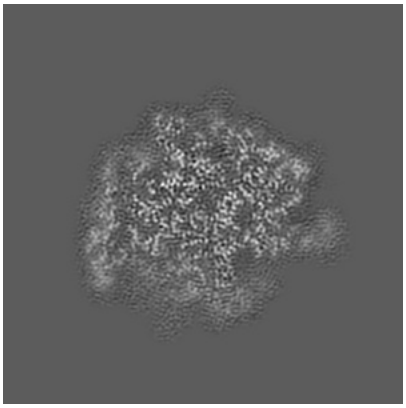
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

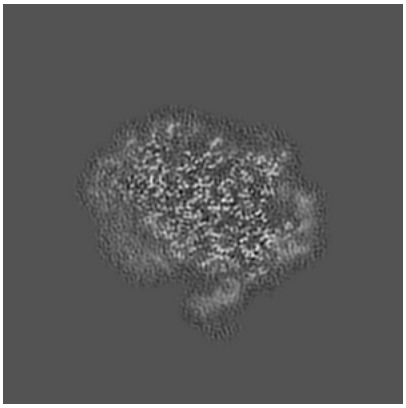
6.3.1 Primary map



X Index: 190



Y Index: 196

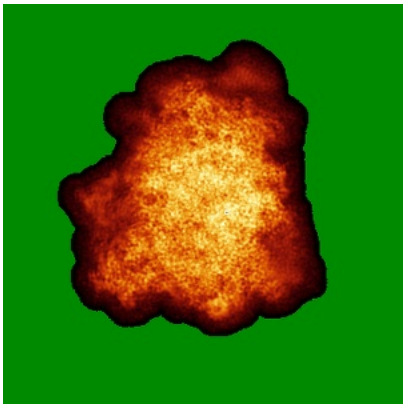


Z Index: 199

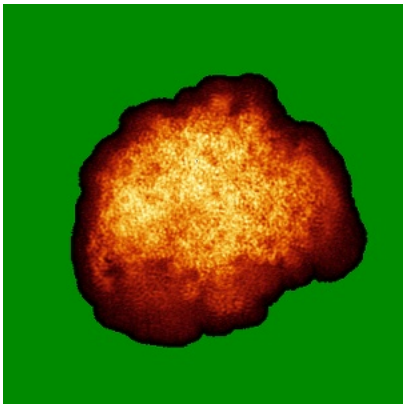
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

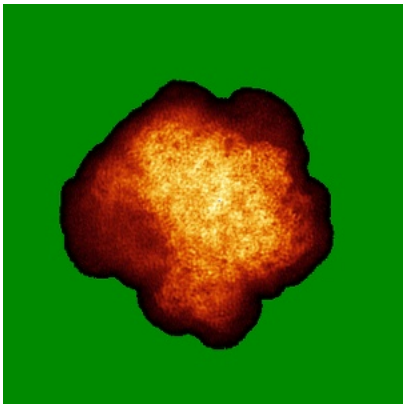
6.4.1 Primary map



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

X Y Z

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.

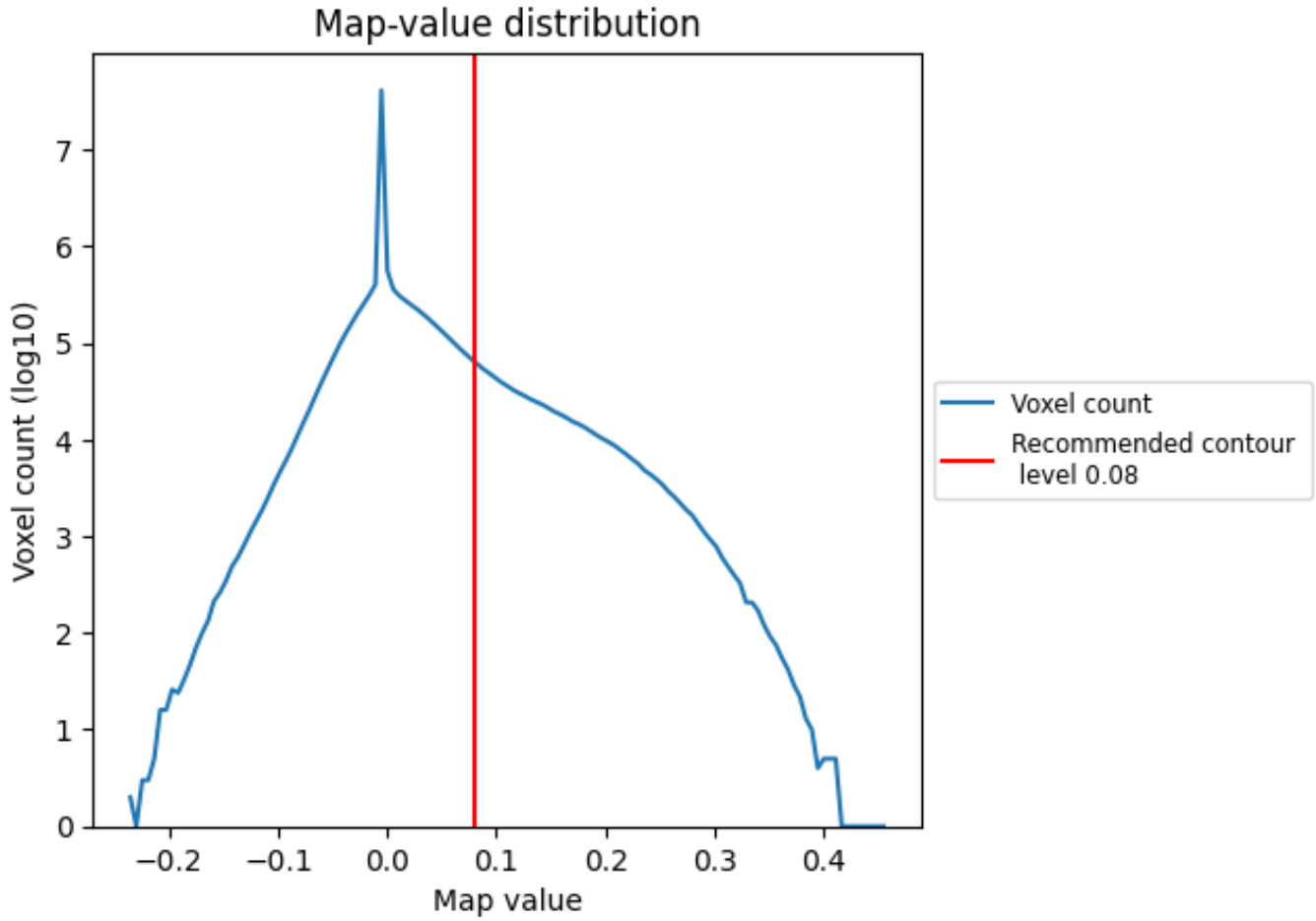
6.6 Mask visualisation (i)

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

7 Map analysis

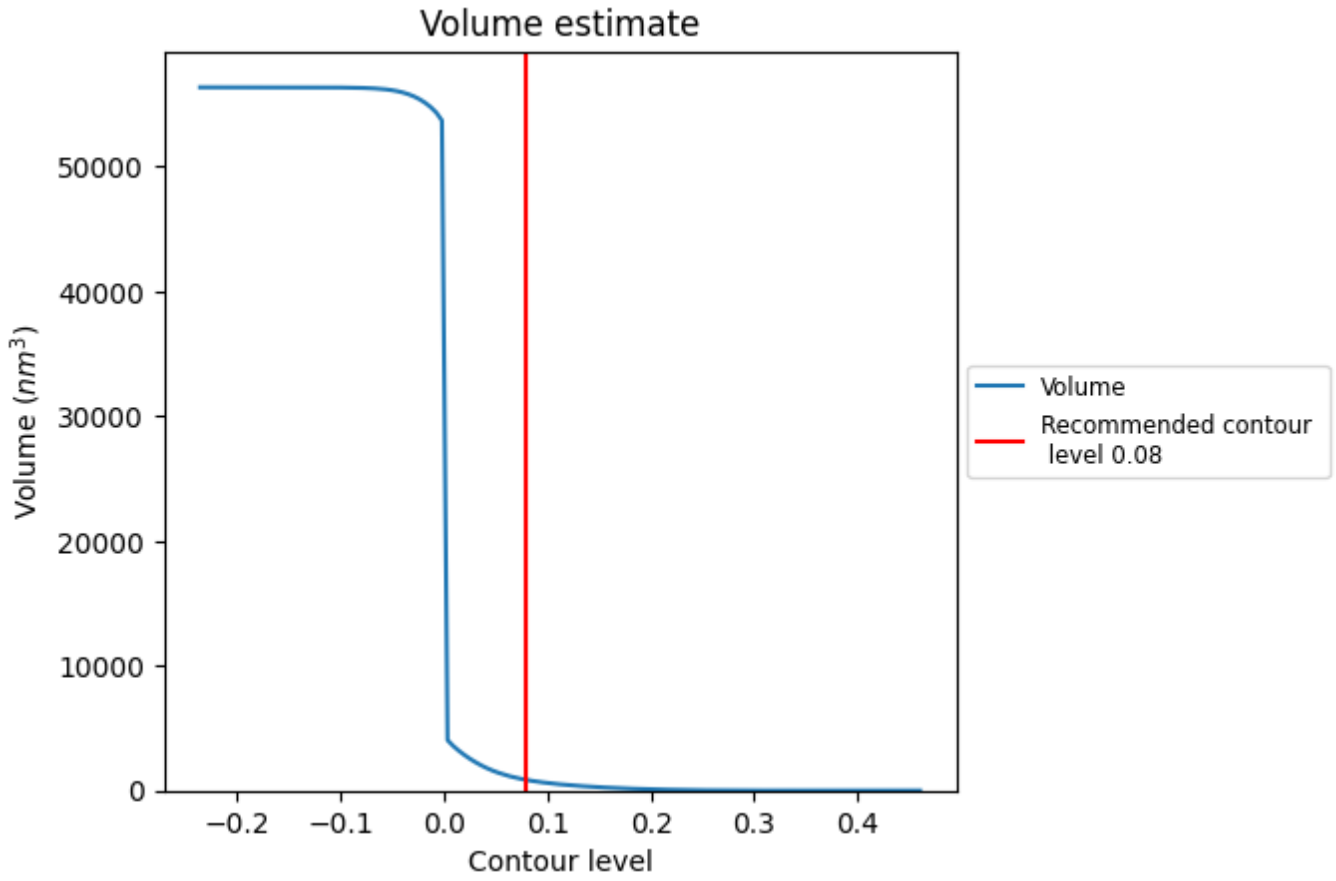
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

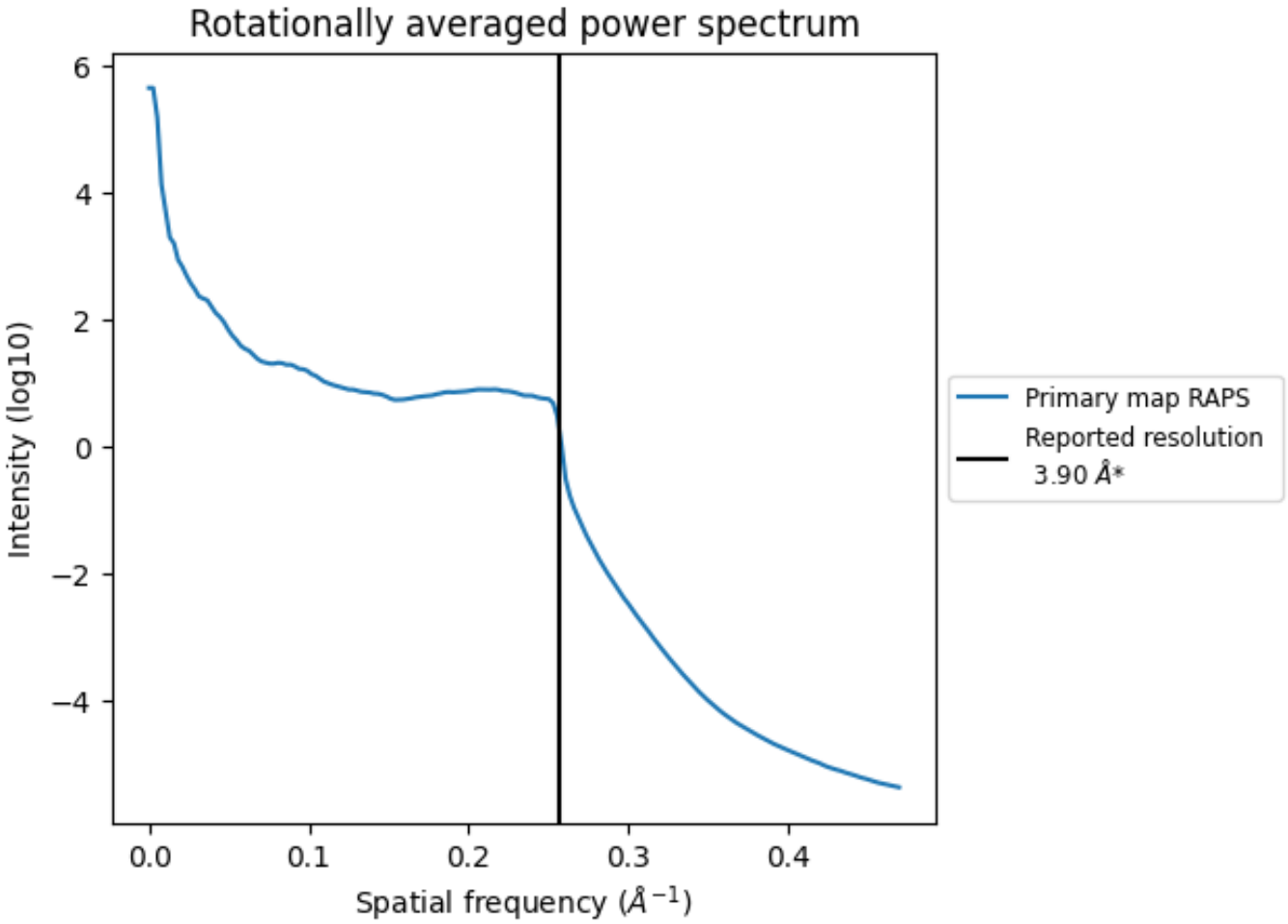
7.2 Volume estimate



The volume at the recommended contour level is 854 nm^3; this corresponds to an approximate mass of 771 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 (i)



*Reported resolution corresponds to spatial frequency of 0.256 Å^{-1}

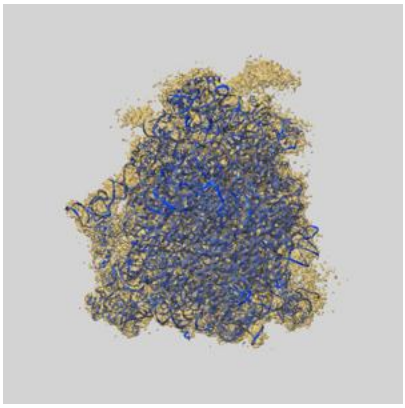
8 Fourier-Shell correlation (i)

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

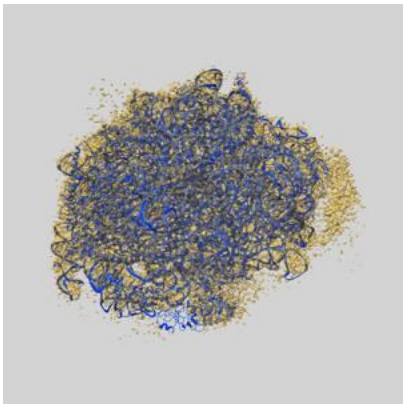
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-10071 and PDB model 6S05. Per-residue inclusion information can be found in section 3 on page 13.

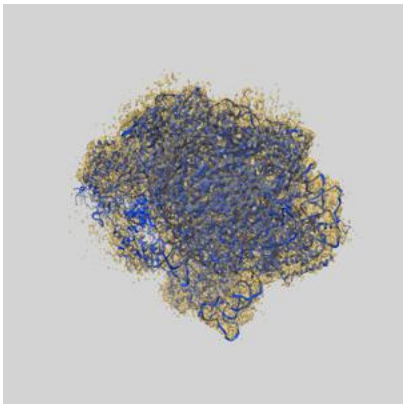
9.1 Map-model overlay



X



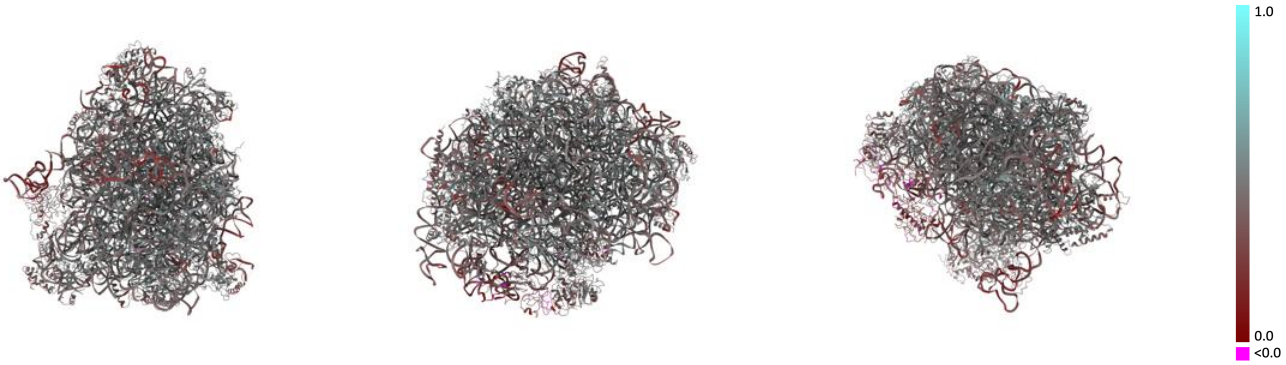
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.08 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model



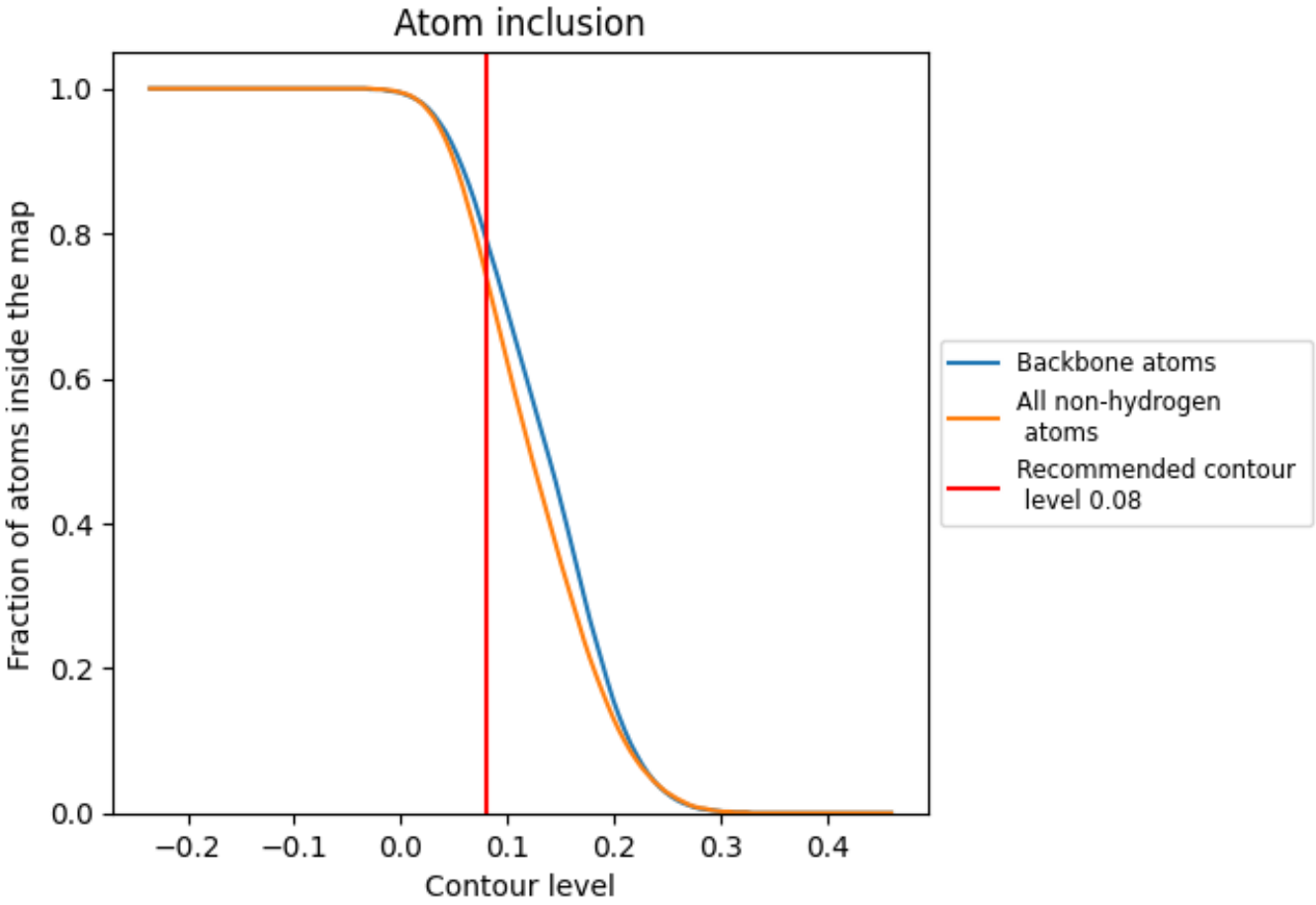
X Y Z

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

9.3 Atom inclusion mapped to coordinate model

This section was not generated.

9.4 Atom inclusion (i)



At the recommended contour level, 79% of all backbone atoms, 74% 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	0.7420	0.4320
A	0.8030	0.4180
B	0.7560	0.4960
C	0.7700	0.4860
D	0.7750	0.4980
E	0.6160	0.3770
F	0.4650	0.3880
G	0.5860	0.4140
H	0.6890	0.4450
J	0.7260	0.4850
K	0.7290	0.4740
L	0.6770	0.4880
M	0.7120	0.4610
N	0.7760	0.4970
O	0.7810	0.5080
P	0.7290	0.4370
Q	0.7860	0.5120
R	0.7740	0.4820
S	0.7250	0.4790
T	0.7190	0.4770
U	0.8030	0.5060
V	0.6850	0.4450
W	0.7270	0.4830
X	0.7880	0.4920
Y	0.6830	0.4340
Z	0.7880	0.4830
a	0.6720	0.4740
b	0.7710	0.4730
c	0.6720	0.4210
d	0.7330	0.4880
e	0.7510	0.5050
f	0.7610	0.4960
g	0.7460	0.4890
h	0.5780	0.4430
i	0.8110	0.5150

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Chain	Atom inclusion	Q-score
j	0.6540	0.4560
k	0.7490	0.5190
l	0.7370	0.4990
m	0.7200	0.4840
n	0.5690	0.4060
o	0.1270	0.2660
p	0.4740	0.3440
s	0.0150	0.1980
v	0.5290	0.4540
w	0.3740	0.3650
x	0.9090	0.4310
y	0.8960	0.4560
z	0.2580	0.4300