

# REPORT

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Table 1: Statistics of chm13v2.0

chr	GC%	G	C	T	A	N	G%	C%	T%	A%	N%	len (bp)
chr1	41.50	52064401	51017014	71705495	73600418	0	20.96	20.54	28.87	29.63	0.00	248387328
chr2	40.24	48914580	48742800	72614972	72424400	0	20.15	20.08	29.92	29.84	0.00	242696752
chr3	39.44	39576837	39737106	60661558	61130447	0	19.68	19.76	30.16	30.40	0.00	201105948
chr4	38.13	37006775	36805092	60069053	59694025	0	19.12	19.01	31.03	30.84	0.00	193574945
chr5	39.52	35979055	35973332	55211290	54881762	0	19.76	19.76	30.33	30.15	0.00	182045439
chr6	39.61	34148104	34034070	52011787	51932667	0	19.84	19.77	30.22	30.17	0.00	172126628
chr7	40.72	32697146	32683324	47705013	47481945	0	20.36	20.35	29.71	29.57	0.00	160567428
chr8	40.23	29464192	29380618	43699677	43714844	0	20.15	20.09	29.88	29.89	0.00	146259331
chr9	41.35	31213290	31061036	44170480	44172441	0	20.72	20.62	29.33	29.33	0.00	150617247
chr10	41.54	28062985	27914190	39425966	39354993	0	20.82	20.71	29.26	29.20	0.00	134758134
chr11	41.55	28118187	28031551	39530773	39447258	0	20.81	20.74	29.25	29.19	0.00	135127769
chr12	40.77	27117915	27244633	39435295	39526705	0	20.34	20.43	29.58	29.65	0.00	133324548
chr13	38.32	21352354	22166973	34882690	35164669	0	18.80	19.52	30.72	30.96	0.00	113566686
chr14	41.07	20793343	20750663	29904472	29713014	0	20.55	20.51	29.56	29.37	0.00	101161492
chr15	42.12	19941117	22070765	29739684	28001629	0	19.99	22.13	29.81	28.07	0.00	99753195
chr16	43.53	20578163	21357467	28260390	26134354	0	21.36	22.17	29.34	27.13	0.00	96330374
chr17	45.28	19145593	19018268	23103987	23009049	0	22.72	22.57	27.41	27.30	0.00	84276897
chr18	39.80	16165887	15890714	24309092	24176845	0	20.07	19.73	30.18	30.02	0.00	80542538
chr19	47.66	14795755	14615256	16263646	16032707	0	23.98	23.68	26.36	25.98	0.00	61707364
chr20	43.72	14655444	14290517	18636660	18627634	0	22.13	21.58	28.15	28.13	0.00	66210255
chr21	41.65	9323964	9454120	13184375	13128223	0	20.68	20.97	29.24	29.12	0.00	45090682
chr22	45.85	11782803	11749204	13839754	13953165	0	22.96	22.89	26.96	27.19	0.00	51324926
chrM	44.37	2169	5183	4093	5124	0	13.09	31.28	24.70	30.93	0.00	16569
chrX	39.51	30449071	30499835	46694728	46615932	0	19.74	19.77	30.27	30.22	0.00	154259566
chrY	36.15	13373414	9203003	17929049	21954563	0	21.41	14.73	28.70	35.15	0.00	62460029
Total	40.75	636722544	633696734	922993979	923878813	0	20.43	20.33	29.61	29.64	0.00	3117292070

Table 2: Comparison of methods for chr1

Method	Runtime(s)	Total ORFs	UniProt Matches (105066 proteins)	Match %	Chm13 Matches (87022 proteins)	Match %
BioPython	133.0787	77009	185	0.24	196	0.25
EMBOSS	10.2796	77009	185	0.24	196	0.25
Pure Python	123.6411	62496	117	0.19	127	0.20

Table 3: Comparison of methods for chrM

Method	Runtime(s)	Total ORFs	UniProt Matches (105066 proteins)	Match %	Chm13 Matches (87022 proteins)	Match %
BioPython	0.0101	11	4	36.36	0	0.00
EMBOSS	0.0322	11	3	27.27	0	0.00
Pure Python	0.0088	11	4	36.36	0	0.00