

Table S1: Base compositions and nucleotide skews for new vermetid mt genomes, existing caenogastropod mt genomes, and other select molluscs.

	T (%) ^a	C (%) ^a	A (%) ^a	G (%) ^a	N ^b	Total bp	%AT	%CG	AT Skew ^c	GC Skew ^c
<i>Dendropoma maximum</i>	5726 (36.8)	2368 (15.2)	3527 (22.6)	3953 (25.4)	4	15578	59.4	40.6	-0.238	0.251
<i>Dendropoma gregarium</i>	5575 (35.6)	2675 (17.1)	3870 (24.7)	3521 (22.5)	0	15641	60.4	39.6	-0.181	0.137
<i>Eualetes tulipa</i>	5376 (35.7)	2333 (15.5)	3990 (26.5)	3379 (22.4)	0	15078	62.1	37.9	-0.148	0.183
<i>Thylacodes squamigerus</i>	5445 (35.0)	2857 (18.4)	3986 (25.6)	3255 (20.9)	1	15544	60.7	39.3	-0.155	0.065
<i>Vermetus erectus</i> ^d	1652 (35.0)	720 (15.3)	1378 (29.2)	968 (20.5)	0	4718	64.2	35.8	-0.090	0.147
<i>Thylaeodus sp.</i> ^d	2372 (37.0)	915 (14.3)	1898 (29.6)	1230 (19.2)	0	6415	66.6	33.4	-0.111	0.147
<i>Oncomelania hupensis</i>	5669 (37.3)	2424 (16.0)	4552 (30.0)	2537 (16.7)	0	15182	67.3	32.7	-0.109	0.023
<i>Littorina saxatilis</i> ^d	2922 (36.4)	1423 (17.7)	2449 (30.5)	1228 (15.3)	0	8022	67.0	33.0	-0.088	-0.074
<i>Calyptrea chinensis</i> ^d	3607 (42.3)	968 (11.3)	2625 (30.8)	1330 (15.6)	0	8530	73.1	26.9	-0.158	0.158
<i>Cymatium parthenopeum</i>	5829 (38.2)	2279 (14.9)	4724 (30.9)	2438 (16.0)	0	15270	69.1	30.9	-0.105	0.034
<i>Thais clavigera</i>	5767 (37.7)	2479 (16.2)	4350 (28.5)	2689 (17.6)	0	15285	66.2	33.8	-0.140	0.041
<i>Rapana venosa</i>	5944 (38.9)	2267 (14.8)	4560 (29.9)	2449 (16.0)	52	15272	68.8	30.9	-0.132	0.039
<i>Ilyanassa obsoleta</i>	5925 (38.8)	2272 (14.9)	4586 (30.1)	2473 (16.2)	7	15263	68.9	31.1	-0.127	0.042
<i>Nassarius reticulatus</i>	5746 (37.6)	2388 (15.6)	4555 (29.8)	2582 (16.9)	0	15271	67.5	32.5	-0.116	0.039
<i>Bolinus brandaris</i>	5873 (38.2)	2337 (15.2)	4472 (29.1)	2698 (17.5)	0	15380	67.3	32.7	-0.135	0.072
<i>Cancellaria cancellata</i>	6964 (41.8)	1978 (11.9)	4714 (28.3)	2992 (18.0)	0	16648	70.1	29.9	-0.193	0.204
<i>Conus textile</i>	5906 (38.0)	2436 (15.7)	4239 (27.2)	2981 (19.2)	0	15562	65.2	34.8	-0.164	0.101
<i>Conus borgesii</i>	5980 (38.5)	2269 (14.6)	4453 (28.7)	2834 (18.2)	0	15536	67.2	32.8	-0.146	0.111

<i>Lophiotoma cerithiformis</i>	5852 (38.0)	2395 (15.6)	4588 (29.8)	2545 (16.6)	0	15380	67.9	32.1	-0.121	0.030
<i>Fusiturris similis</i>	5816 (37.3)	2509 (16.1)	4534 (29.1)	2736 (17.5)	0	15595	66.4	33.6	-0.124	0.043
<i>Terebra dimidiata</i>	6608 (40.0)	2084 (12.6)	4233 (25.6)	3588 (21.7)	0	16513	65.7	34.3	-0.219	0.265
<i>Cymbium olla</i>	5936 (38.6)	2166 (14.1)	4607 (30.0)	2666 (17.3)	0	15375	68.6	31.4	-0.126	0.103
<i>Haliotis rubra</i>	4150 (24.5)	4515 (26.7)	5844 (34.6)	2398 (14.2)	0	16907	59.1	40.9	0.170	-0.306
<i>Katharina tunicata</i>	5905 (38.0)	1847 (11.9)	4876 (31.4)	2891 (18.6)	13	15532	69.4	30.5	-0.095	0.220
<i>Octopus vulgaris</i>	5309 (33.7)	2764 (17.6)	6478 (41.1)	1193 (7.6)	0	15744	74.9	25.1	0.099	-0.397

^a Base compositions are reported as total numbers of each nucleotide and % of total number of nucleotides within each genome.

^b “N” refers to ambiguous nucleotides.

^c Genome-level AT and GC skews were calculated according to [44].

^d Only partial mt genomes were available.