

Supplementary Material

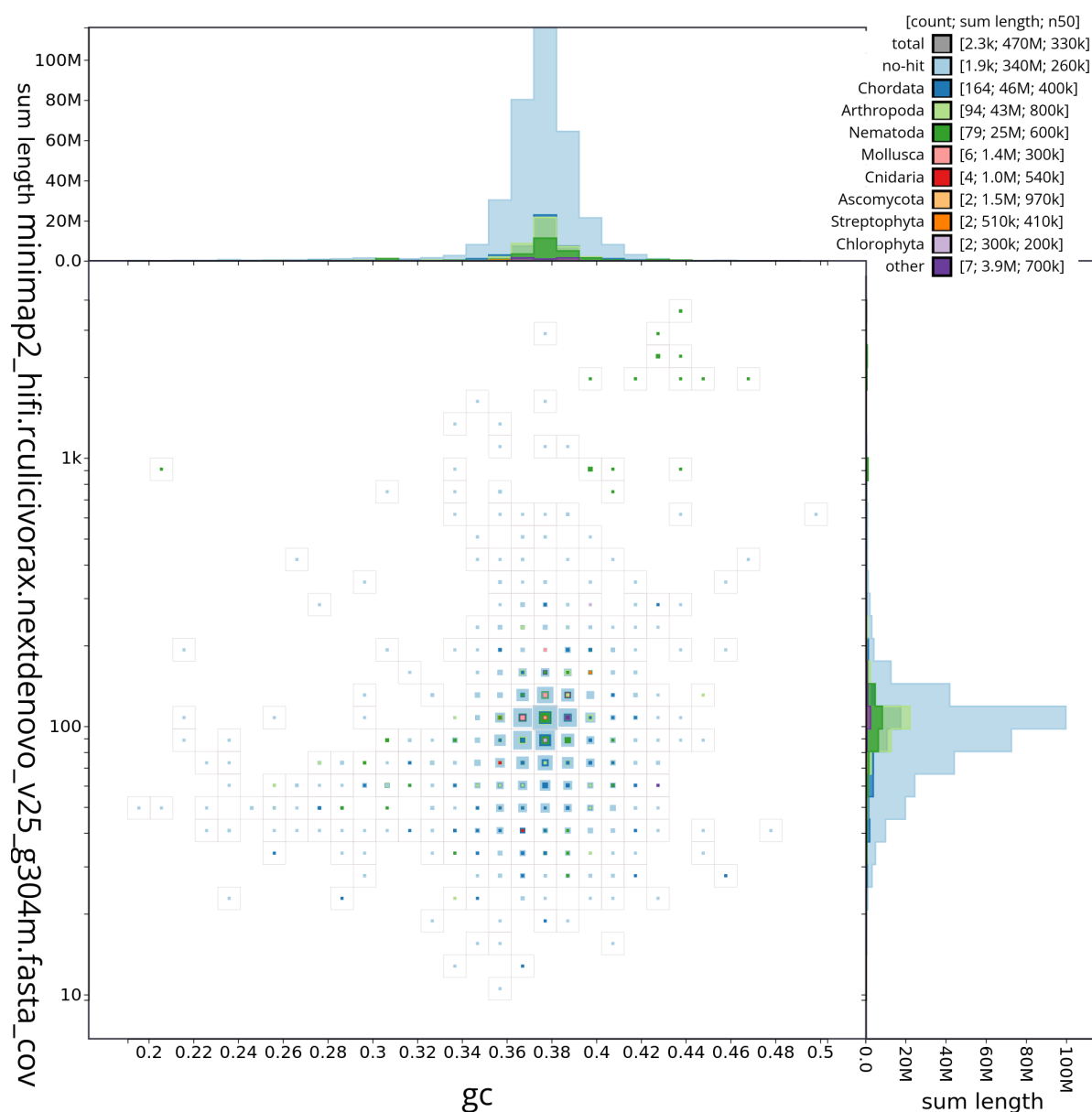


Figure S1. Example of BlobsTools analysis for the NextDenovo PacBio HiFi assembly of *Romanomermis culicivorax*.

Table S1. Statistics of the PacBio HiFi datasets.

Species	Size	N50
<i>Romanomermis culicivorax</i>	37,542,673,078	12,613
<i>Panagrolaimus</i> sp. PS1159	29,159,296,422	15,797

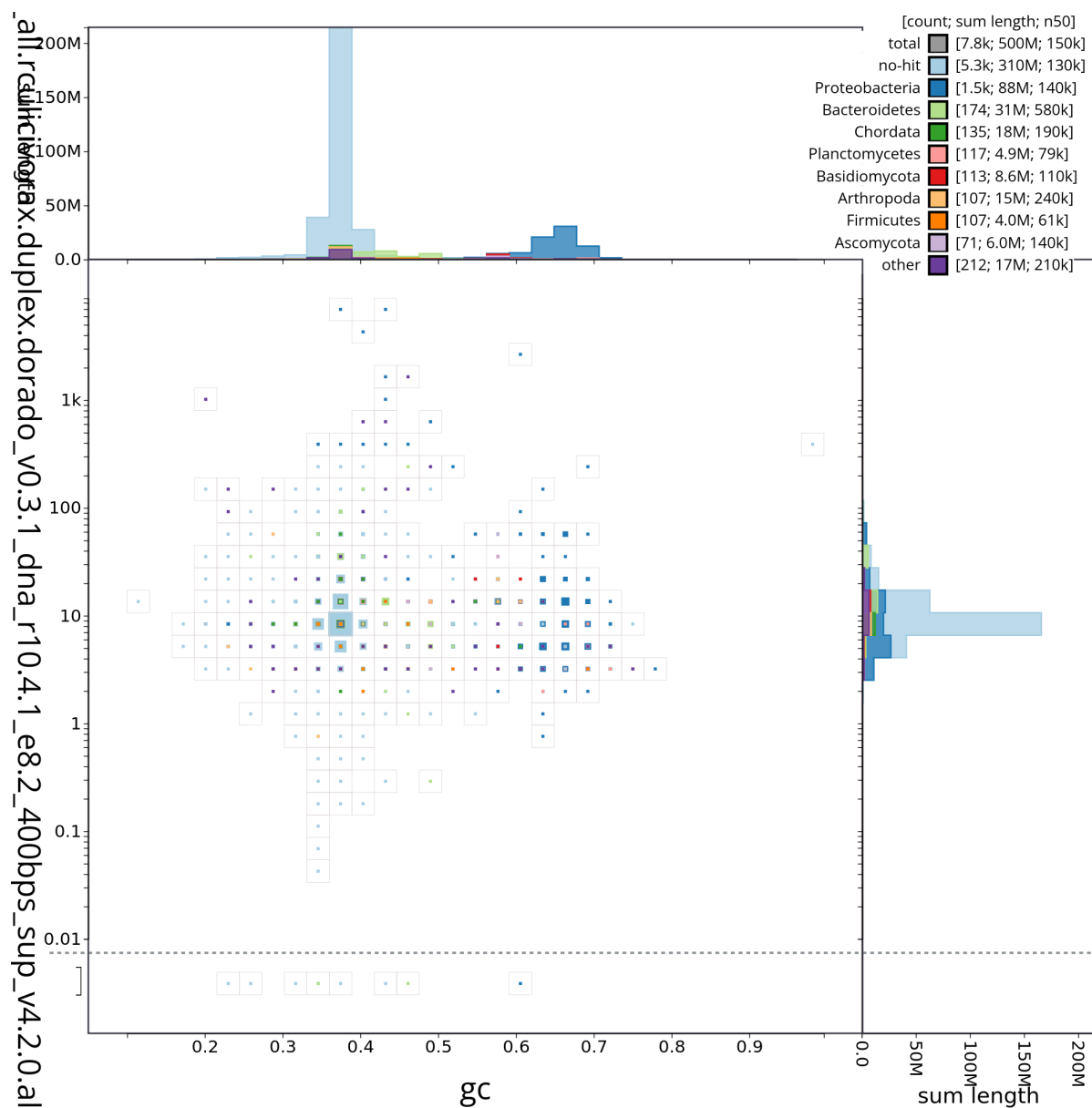


Figure S2. Example of BlobsTools analysis for the Flye Nanopore assembly of *Romanomermis culicivorax*.

Table S2. Statistics of the Nanopore datasets.

Species	Quality threshold	Size	N50	Largest
<i>Romanomermis culicivorax</i>	0	5,697,172,871	15,936	540,992
	10	5,021,948,640	15,980	218,858
	15	3,943,100,749	15,551	218,858
	20	979,904,894	15,886	115,632
<i>Panagrolaimus</i> sp. PS1159	0	10,696,877,601	33,428	914,599
	10	9,344,589,639	33,814	205,535
	15	8,280,860,091	33,820	205,535
	20	4,718,164,203	34,667	173,662

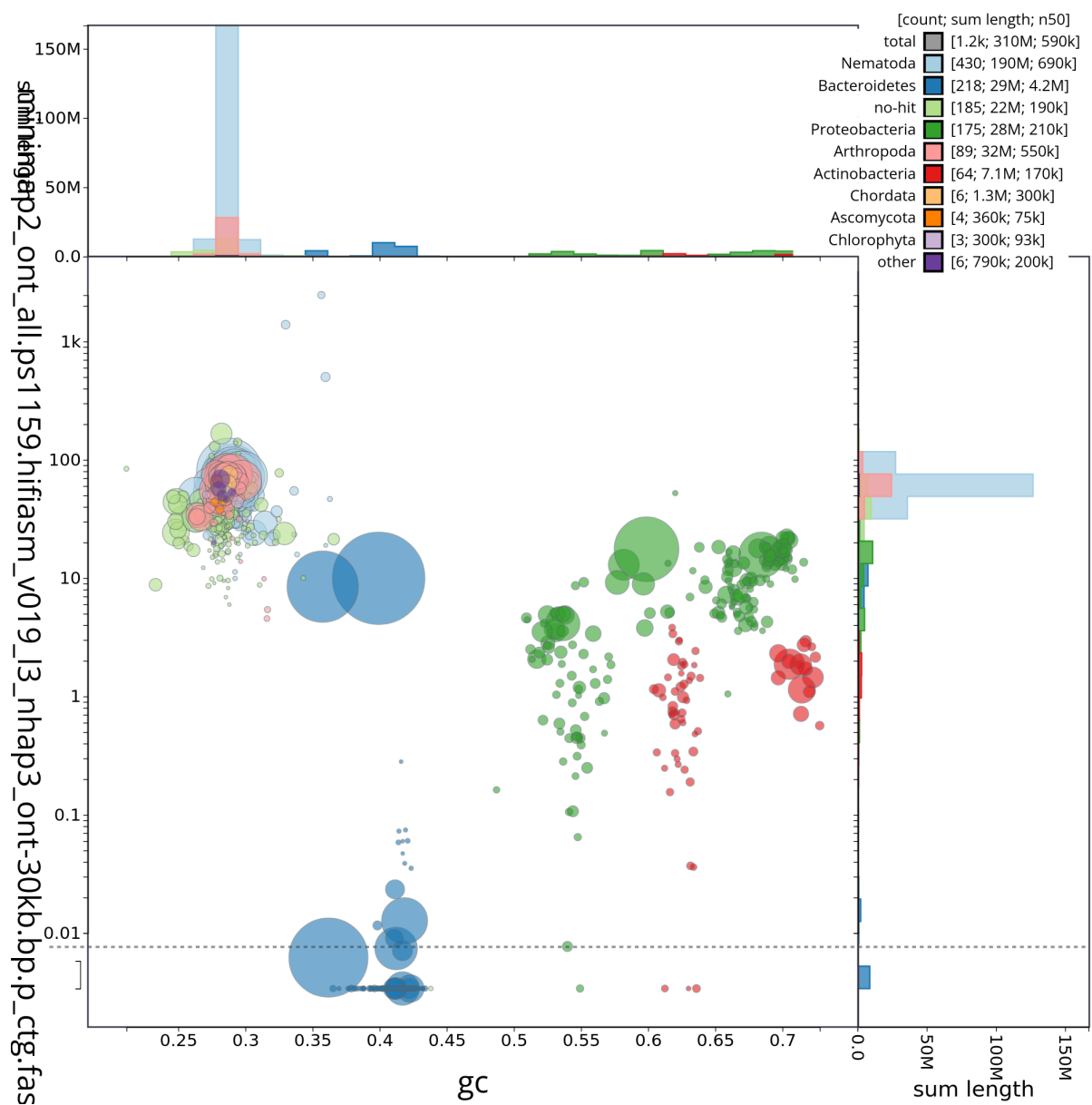


Figure S3. Example of Blobtools analysis for the hifi asm PacBio HiFi + Nanopore assembly of *Panagrolaimus* sp. PS1159.

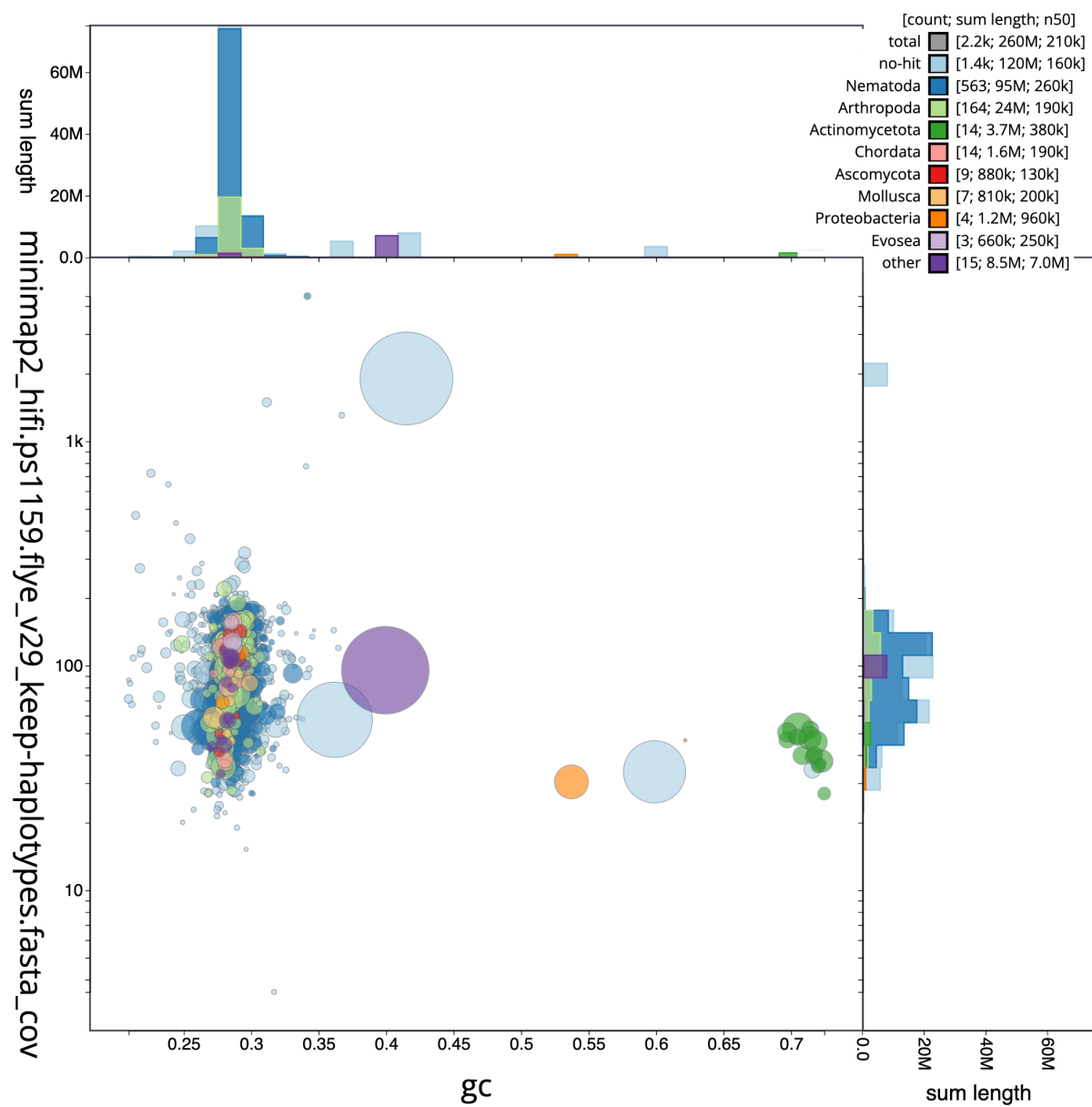


Figure S4. Example of BlobsTools analysis for the Flye Nanopore assembly of *Panagrolaimus* sp. PS1159.

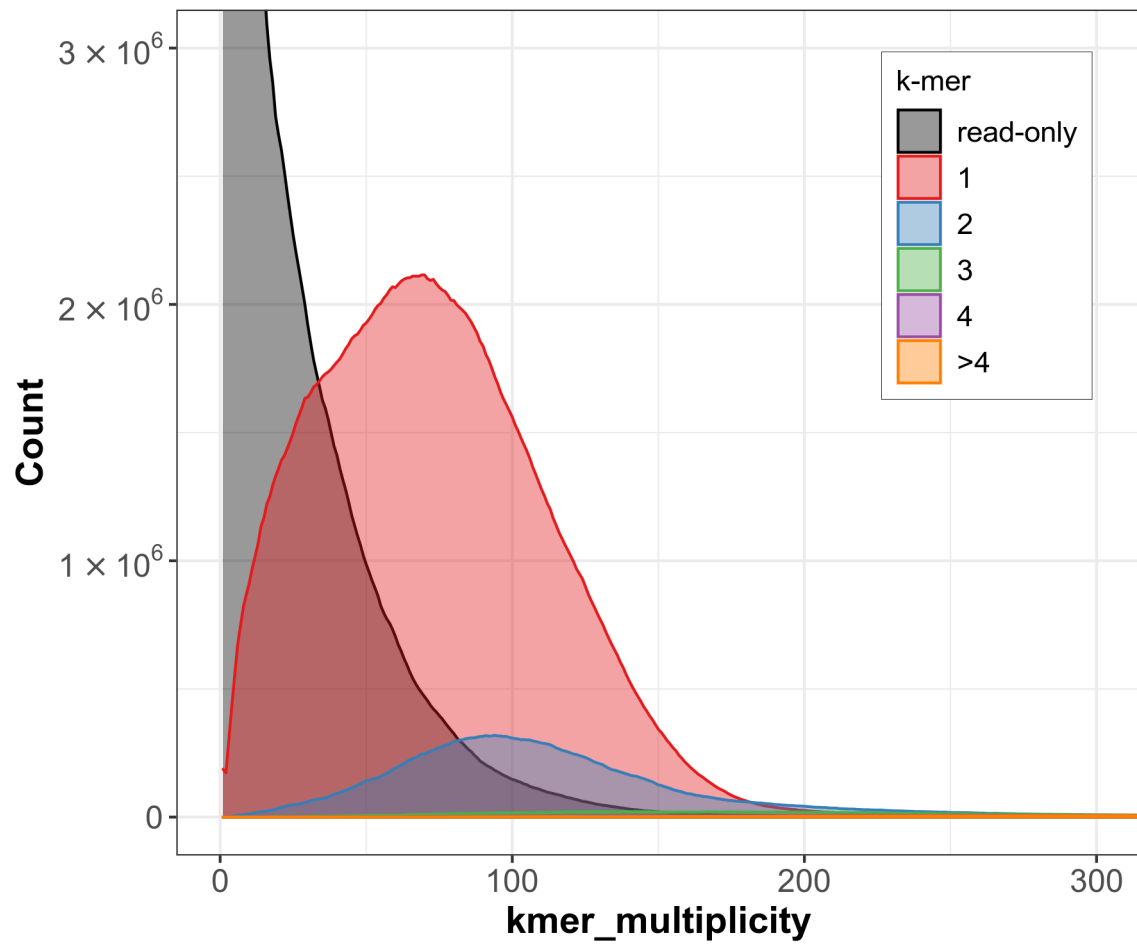


Figure S5. Mercury analysis of the final assembly of *Romanomermis culicivorax*.

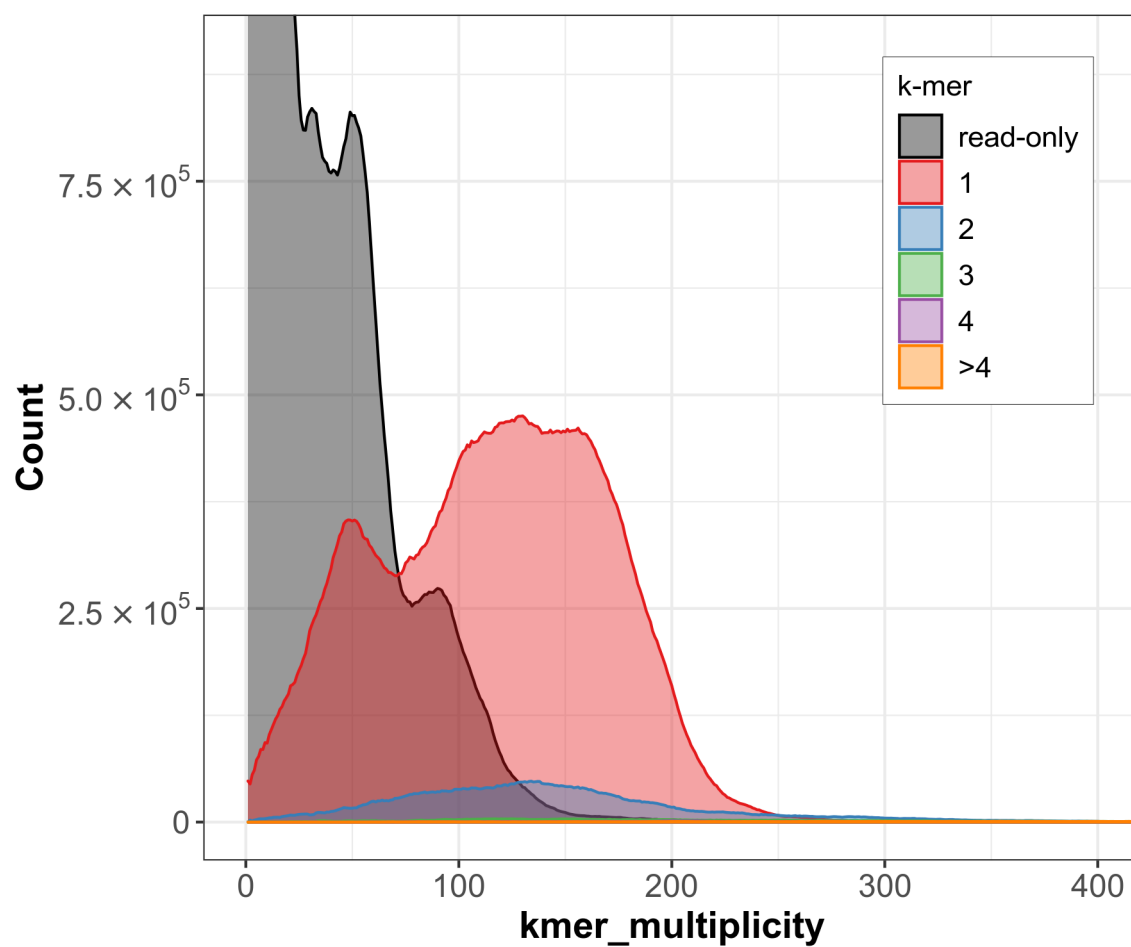


Figure S6. Mercury analysis of the final assembly of *Panagrolaimus* sp. PS1159.

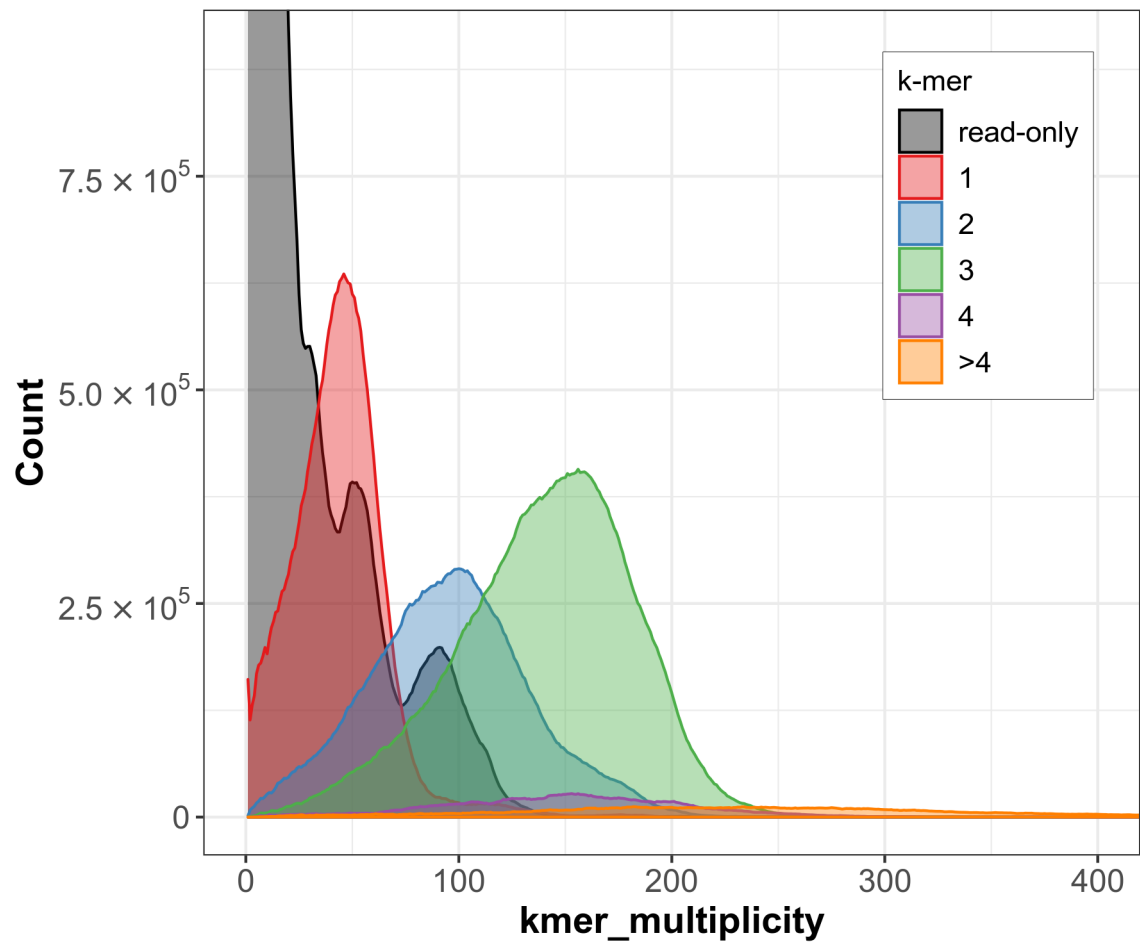


Figure S7. Mercury analysis of the phased assembly of *Panagrolaimus* sp. PS1159.

Species	Assembly	Category	Count
<i>Romanomermis culicivorax</i>	v1	Unclassified	36,611,241
		I-LTR	2,623,729
		I-DIRS	380,102
		I-Penelope	198,523
		I-LINE	987,323
		II-helitron	8,326,702
		II-polinton	444,560
		II-TIR	81,385,493
	v2	Unclassified	47,999,208
		I-LTR	103,047,244
		I-DIRS	71,775
		I-Penelope	0
		I-LINE	881,202
		II-helitron	7,860,451
		II-polinton	6,478,667
		II-TIR	123,251,468
<i>Panagrolaimus</i> sp. PS1159	v1	Unclassified	3,813,266
		I-LTR	59,899
		I-DIRS	0
		I-Penelope	0
		I-LINE	6,942
		II-helitron	5,224
		II-polinton	0
		II-TIR	475
	v2	Unclassified	7,442,799
		I-LTR	3,983,941
		I-DIRS	0
		I-Penelope	143,146
		I-LINE	44,333
		II-helitron	380,276
		II-polinton	18,632
		II-TIR	4,864,827

Table S3. Transposable elements counts.