

Supplemental Table 1

<i>L/D</i> Ratio (y)	Isometric Scaling Exponent ( $b_0$ )	Measured Scaling Exponent (b)	Lower 95% C.I.	Upper 95% C.I.	R <sup>2</sup>
<i>L/D</i> <sub>anterior</sub>	0.000	*0.119	0.086	0.159	0.668
<i>L/D</i> <sub>middle</sub>	0.000	*0.138	0.102	0.183	0.683
<i>L/D</i> <sub>posterior</sub>	0.000	*0.140	0.088	0.206	0.526

Supplemental Table 1: **Scaling of *L/D* ratios for diameters sampled along the length of the worm** (see text for details). Length refers to body length. \* Indicates the C.I.s do not overlap with  $b_0$ . N=25

Supplemental Table 2

	Isometric Scaling Exponent ( $b_0$ )	Measured Scaling Exponent ( $b$ )	Lower 95% C.I.	Upper 95% C.I.	$R^2$
Segments/Wave	0.000	0.0607	-0.207	2.793	0.021

Supplemental Table 2: **Scaling of number of segments used in peristaltic waves during crawling as a function of body mass.** Averaged from 5 measurements per worm. N=24.