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## Supplementary Material

Supplementary Information of Innovative Observation of a 266-nm Laser Inhibiting Egg Laying in *Caenorhabditis elegans*Ray-Ling Hsiao<sup>1\*</sup>, Yu-Wei Lin<sup>2</sup> and Chiang-Yun Chen<sup>2</sup><sup>1</sup>Ph.D. Program for Cancer Biology and Drug Discovery, China Medical University and Academia Sinica, Taiwan<sup>2</sup>Genomics Research Center, Academia Sinica, Taiwan

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## ABSTRACT

Infrared laser as a heat source could induce gene expression by activating heat promoter genes in *Caenorhabditis elegans*, as previously reported. In this study, we innovatively used a 266-nm laser to irradiate *C. elegans* for only one second and observed a significant inhibition of the overall number of eggs laid ( $P < 0.0001$ ) and the first day egg laying ( $P=0.005$ ). This is the first study to establish how light with a wavelength of 266-nm can influence a life activity such as laying eggs in *C. elegans*.

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Supplementary Table 1: Effect of one second 266-nm laser irradiation on the egg-laying behaviour of *Caenorhabditis elegans*.

A	C1-1	C1-2	C1-3	C1-4	C1-5	C1-6	C1-7	C1-8	C1-9	C1-10
Day 1	8	9	51	1	56	6	3	24	24	19
Day 2	28	55	98	124	17	153	126	121	123	93
Day 3	1	67	0	0	<b>D</b>	34	22	9	0	16
Day 4	176	4	4	0		2	<b>D, 58</b>	0	0	64
Day 5	0	0	0	0		0		0	0	0
Day 6	<b>D</b>	0	0	<b>D</b>		0		0	<b>D</b>	0
Day 7		0	0			0		0		<b>D</b>
Day 8		<b>D</b>	0			0		0		
Day 9			0			0		0		
Day 10			0			<b>D</b>		<b>D</b>		
Day 11			<b>D</b>							
Survival days	5	7	<b>10</b>	5	2	9	3	9	5	6
Total	213	135	<b>153</b>	125	73	195	209	154	147	192

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<b>B</b>	<b>C2-1</b>	<b>C2-2</b>	<b>C2-3</b>	<b>C2-4</b>	<b>C2-5</b>	<b>C2-6</b>	<b>C2-7</b>	<b>C2-8</b>	<b>C2-9</b>	<b>C2-10</b>
<b>Day 1</b>	2	0	0	2	0	1	0	0	0	0
<b>Day 2</b>	48	0	10	91	9	90	0	<b>D</b>	23	7
<b>Day 3</b>	19	<b>D</b>	5	28	6	6	<b>D</b>		0	21, gone
<b>Day 4</b>	0		39	0	3	1			0	
<b>Day 5</b>	0		0	30	<b>D</b>	0			<b>D</b>	
<b>Day 6</b>	0		0	0		0				
<b>Day 7</b>	0		<b>D</b>	0		0				
<b>Day 8</b>	0			0		0				
<b>Day 9</b>	0			0		0				
<b>Day 10</b>	0			0		D				
<b>Day 11</b>	0			0						
<b>Day 12</b>	D			0						
<b>Day 13</b>				0						
<b>Day 14</b>				0						
<b>Day 15</b>				D						
<b>Survival days</b>	11	2	6	14	4	9	2	1	4	?
<b>Total</b>	69	0	44	151	18	98	0	0	23	(28)

The control group **A**) (C1-1–10) and experimental group **B**) (C2-1–10) were cultured independently, and the number of eggs laid was counted every day. The nematodes that laid eggs were moved to new dishes. “D” indicates the worms that died. C2-10 disappeared on day 3 and was therefore excluded from analysis.