FILE S2. PROTOCOL FOR THE PREPARATION OF SYNTHETIC AUXIN-CONTAINING MEDIA FOR THE *C. ELEGANS* LARVAE-SPECIFIC MICROFLUIDIC DEVICE.

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| STEP | SOLUTION | COMMENTS |
| (1) Pick single colony of *E. coli* NA22 to 1 L of LB. | N/A | N/A |
| (2) Incubate and shake at 37°C for approximately 20 hours. | N/A | N/A |
| (3) Spin for 20 minutes at 2000 x g. | N/A | N/A |
| (4) Remove the supernatant. | N/A | N/A |
| (5) Dilute the pellet in 60 mL of M9 buffer and transfer to two 50 mL conical centrifuge tubes. | N/A | Filter sterilize M9 buffer before use. |
| (6) Repeat steps 4 and 5 two more times. | N/A | N/A |
| (7) Resuspend the final pellet in each conical tube in 25 mL of 4 mM NAA or K-NAA in M9 buffer. | Dilute NAA (N1641) or K-NAA (N610) in 1X M9 buffer to a concentration of 4 mM. | Store at 4°C. |
| (8) Dilute the bacterial culture to an OD600 equal to 7. | N/A | To achieve an OD600 equal to 7, dilute 1:10 with 4 mM NAA or K-NAA in M9 buffer. |
| (9) Run media through the microfluidic device. | N/A | Store the media at 4°C for up to 2 weeks. |