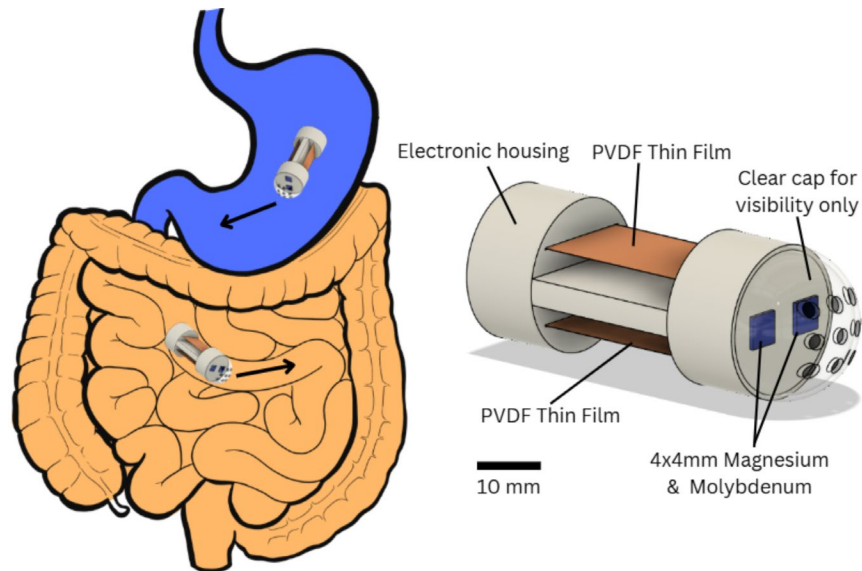
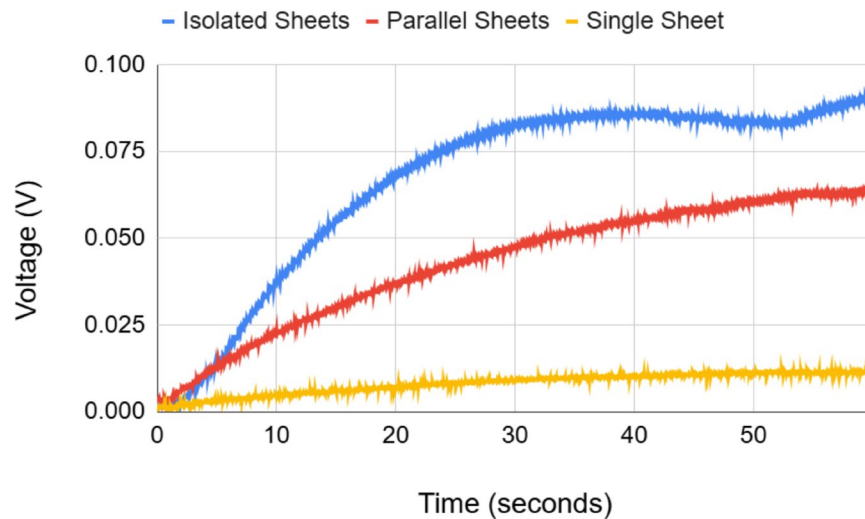
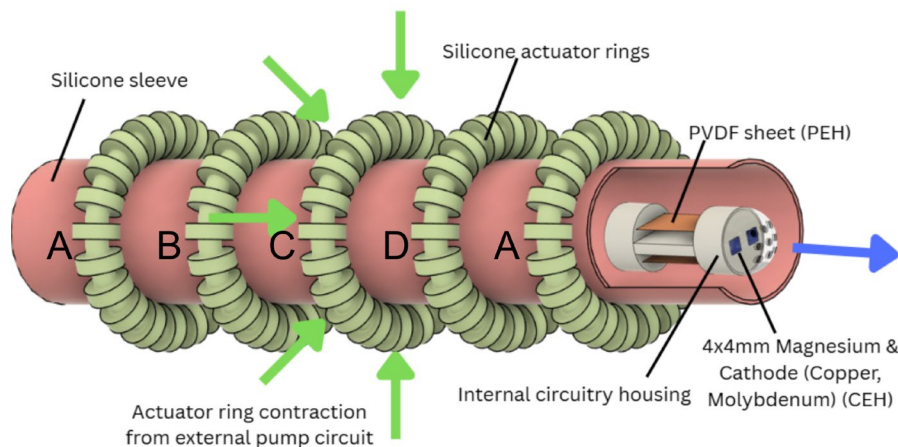




Supplemental Figure 1: Preliminary CAD model of ingestible capsule prototype fitted with the chemical energy harvester (blue) and piezoelectric energy harvester (orange).



Supplemental Figure 2: Voltage output over time of mechanically excited PVDF thin films in various H-bridge configurations. "Isolated sheets" have two thin films with individual H-bridges, "parallel sheets" use one H-bridge with two thin films in parallel, and "single sheet" is one thin film and H-bridge for comparison.



Supplemental Figure 3: Diagram of the prototype capsule traveling through the simulated small intestine model. Model to contain simulated fluid the prototype travels through. Actuator rings to contract in sequence in sets of 4 down the model to mimic peristalsis. "A" rings begin contraction, then "B", then "C", then "D", each a quarter phase apart, creating the desired sinusoidal pattern of applied pressure.