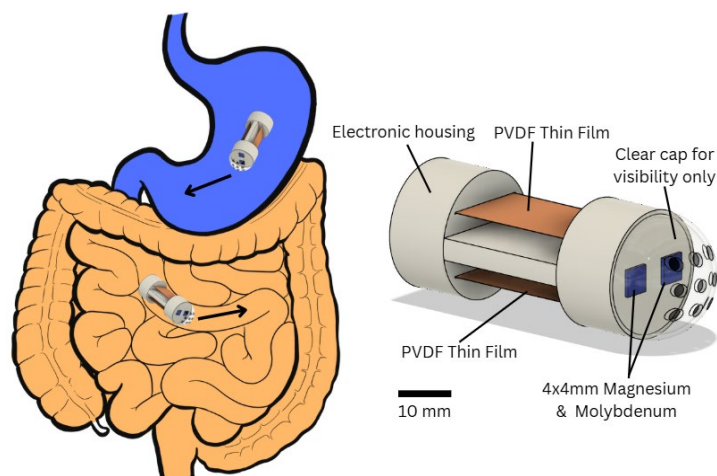
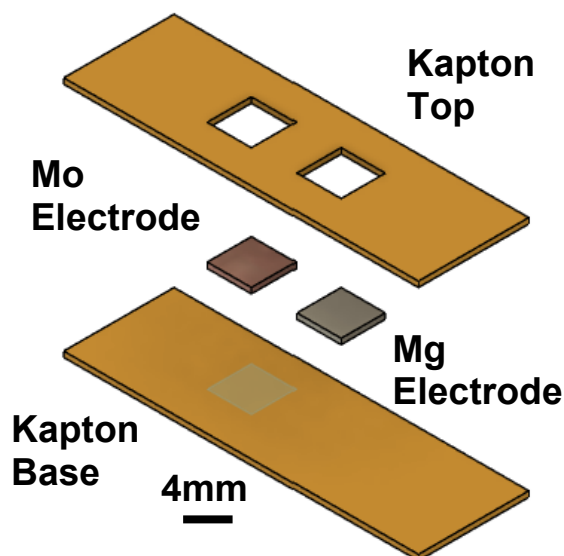




Supplemental Figure 1: Preliminary CAD model of ingestible capsule prototype fitted with the chemical energy harvester (blue) and piezoelectric energy harvester (orange).



Supplemental Figure 2: Diagram of chemical energy harvester. Mg and Mo electrodes are separated by 4 mm and are sandwiched between two Kapton sheets. The bottom sheet serves as a base and has wires applied to it. The top layer of Kapton seals the harvester but keeps the electrodes exposed.

Dimensions per electrode (mm)	Power (mW/mm, average)	Open-current electrode voltage (V ₀ , V)
4 x 2	0.2	1.57
4 x 4	0.219	1.69
4 x 6	0.2188	1.59
4 x 8	0.2182	1.6

Supplemental Table 1: Power and OCP measurements for Mg anode and Mo cathode. Dimensions of each electrode vary between 4 x 2 mm and 4 x 8 mm.