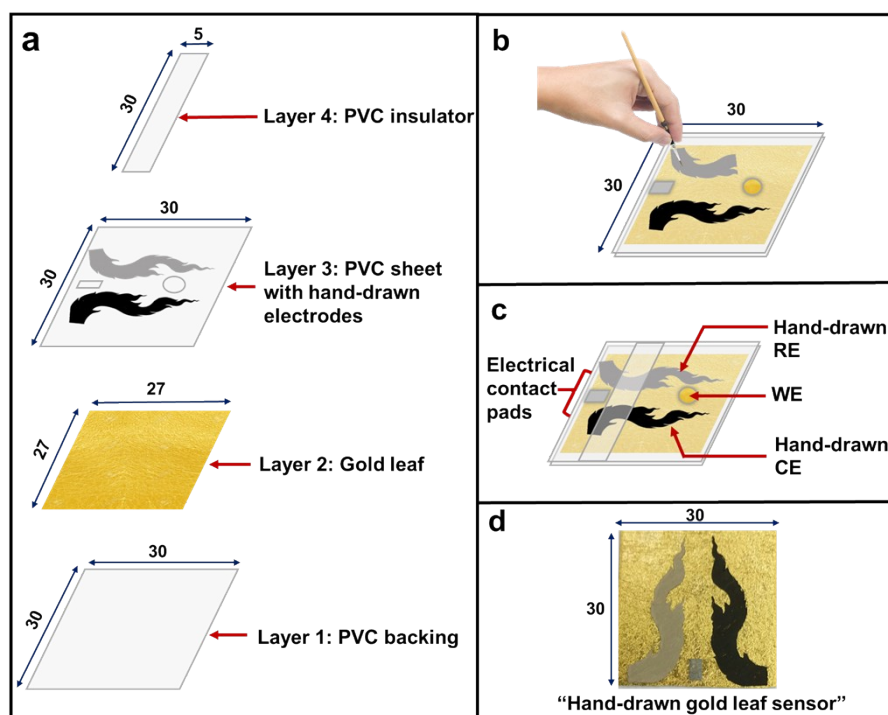


## Appendix C

### Fabrication of “hand-drawn gold leaf sensor”

Fig. S4 shows the preparation of the “hand-drawn gold leaf sensor”. Like the “planar-disc gold leaf sensor” and the “nanoband gold leaf sensor”, the hand-drawn gold leaf sensor” comprises 4 layers with 3 PVC layers and 1 gold leaf layer as shown in Fig. S4a. The “hand-drawn gold leaf sensor” shown is a relatively large size sensor (27 mm x 27 mm). Instead of producing the carbon and the silver-silver chloride electrodes on the PVC layer 3 by screen-printing, the carbon electrode (black) and the silver-silver chloride electrode (grey) are hand drawn (Fig. S4b) in a classical Thai-art pattern. Fig. S4c shows the sensor after mounting all the layers. Fig. S4d is a photograph of the “hand-drawn gold leaf sensor” produced and tested in this work.



**Fig. S4.** Fabrication of the “hand-drawn gold leaf sensor” showing (a) exploded view of the four layers, (b) hand-drawing of the silver-silver chloride electrode on the PVC layer 3, (c) schematic diagram and (d) photograph of the “hand-drawn gold leaf sensor” produced and tested in this work. Note: dimensions are in millimeter.