Appendix A

Selection of gold leaf for fabrication as working electrode

Appendix A describes the method for selecting and preparation of gold leaves for use as working electrode of the planar electrochemical sensor. The first step is the cutting of the original 40 mm × 40 mm gold sheet, held between two layers of paper, into three rectangular 12 mm × 27 mm pieces. Each of the rectangular leaf is then carefully placed onto a PVC sticker sheet previously cut to 15 mm × 30 mm size. The mounted gold leaves are visually inspected by holding in front of a light bulb for pinholes and/or cracks (step 2 of Fig. S1). If found then the leaf is rejected. The electrical resistance of each gold leaf is then measured using a digital multimeter. Only leaves with resistance within 5-15 ohms are selected for fabrication, as described in section 2.3 and Fig. 1a of main text.

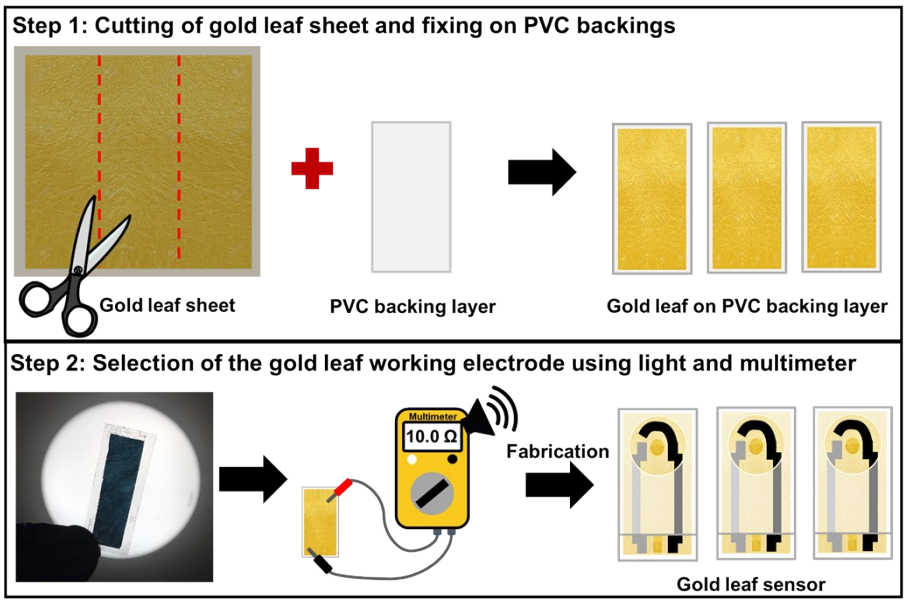

Fig. S1. Schematics of the selection and preparation of gold leaf for fabrication as working electrode.