

Supplementary materials

A Laser-induced Photoelectrochemical Sensor for Natural Sweat Cu^{2+} Detection

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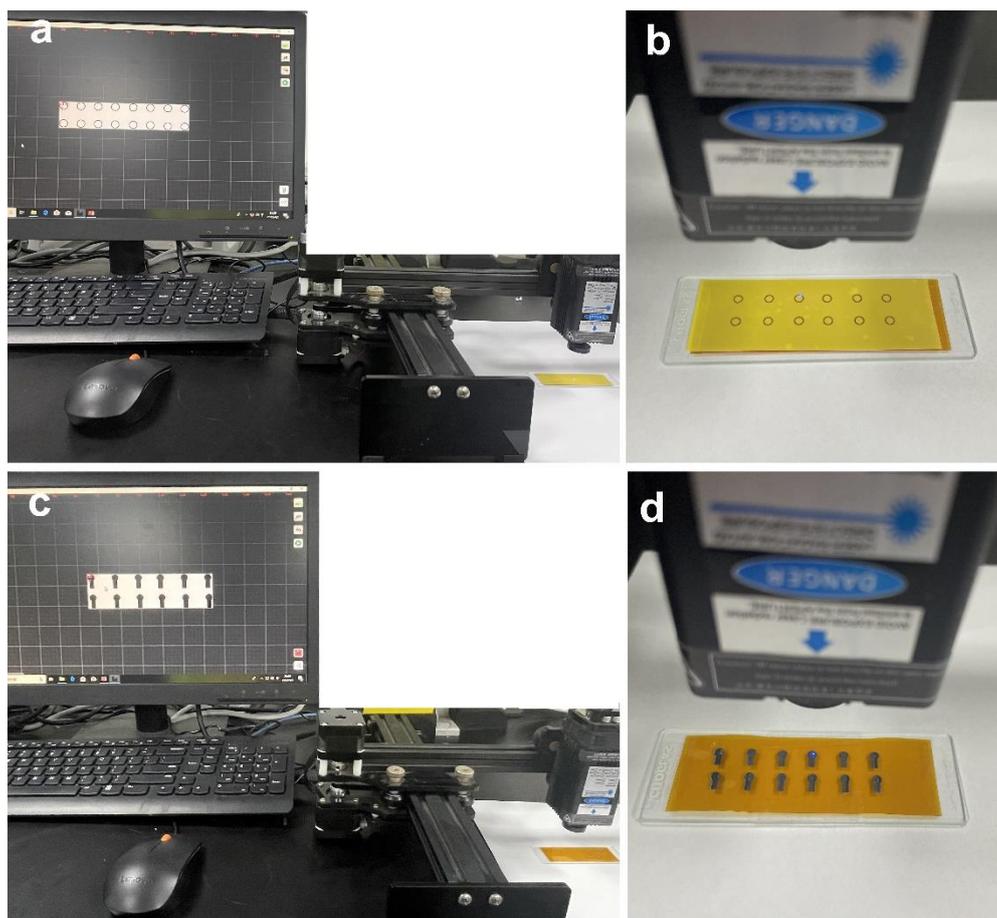


Figure S1. Photos of (a, c) the laser engraving machine with different engraving templates and the laser engraving of (b) the circular hole pattern on the PVC tape or (d) the LIG-In-CdS electrodes.

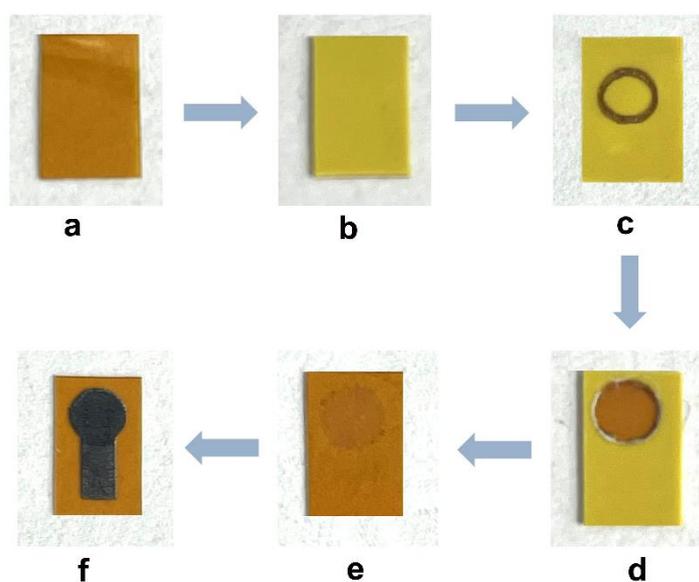


Figure S2. Photographic images of the laser engraving process for the preparation of LIG-In-CdS: (a) a PI film, (b) the PI film with a layer of PVC tape, (c) a circular hole pattern formed in the tape, (d) PI film with a Cd^{2+} , In^{3+} and Cys-containing CS membrane and then peeling the tape (e), (f) laser-induced LIG-In-CdS electrode.

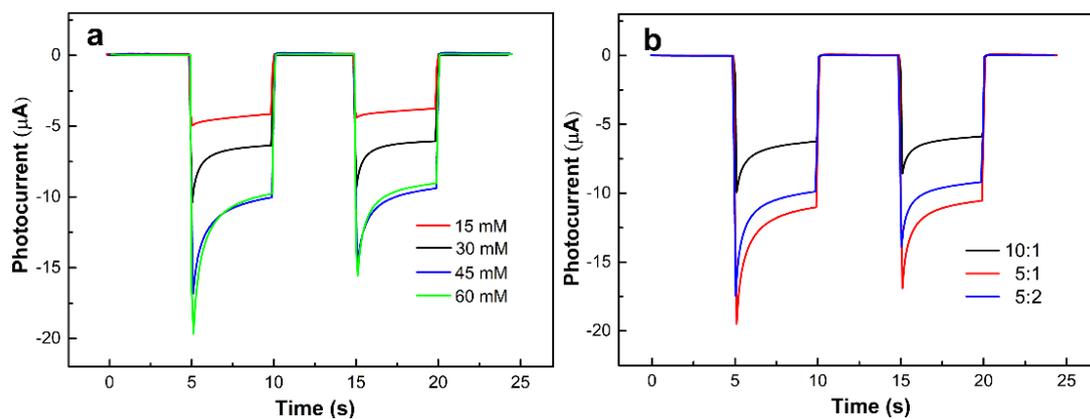


Figure S3. Optimization of the Cys concentration for laser-induced CdS photoelectrodes (CS as the polymer). Optimization of the concentration ratio of Cd and In for laser-induced In-CdS photoelectrodes (CS as the polymer, Cys as the sulfur source).

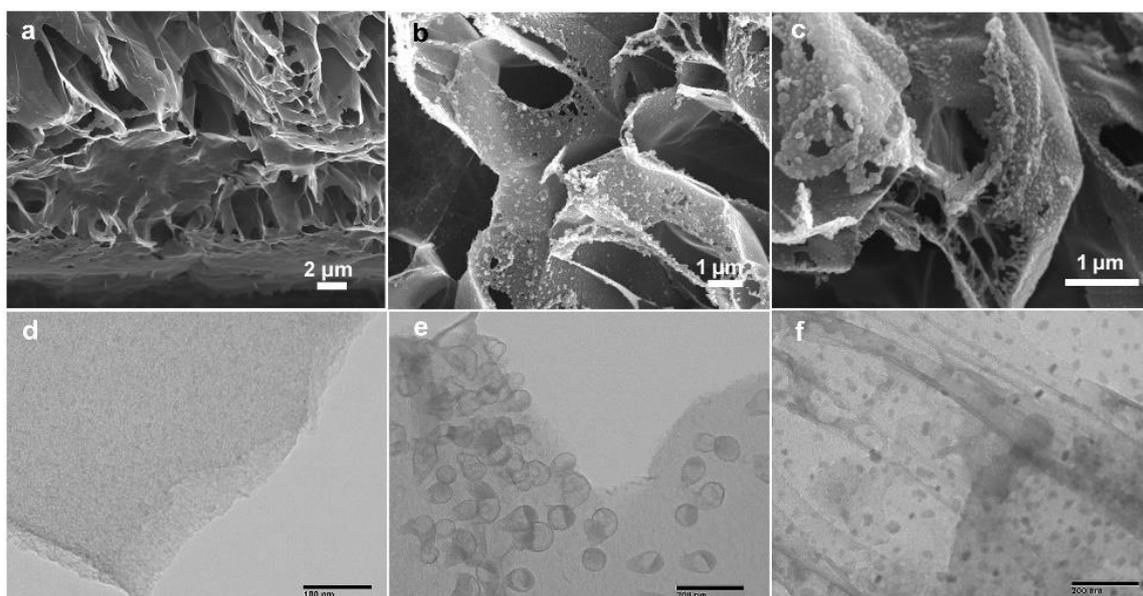


Figure S4. SEM images of (a) LIG, (b) LIG-In, and (c) LIG-CdS. TEM images of (d) LIG, (e) LIG-In, and (f) LIG-CdS.

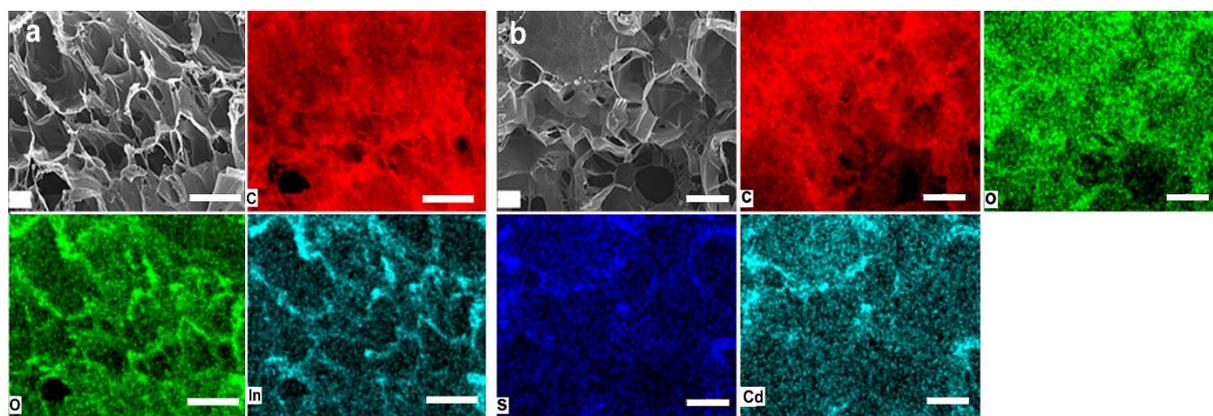


Figure S5. Elemental mapping images of (a) LIG-In and (b) LIG-CdS, scale bars: 5 μm.

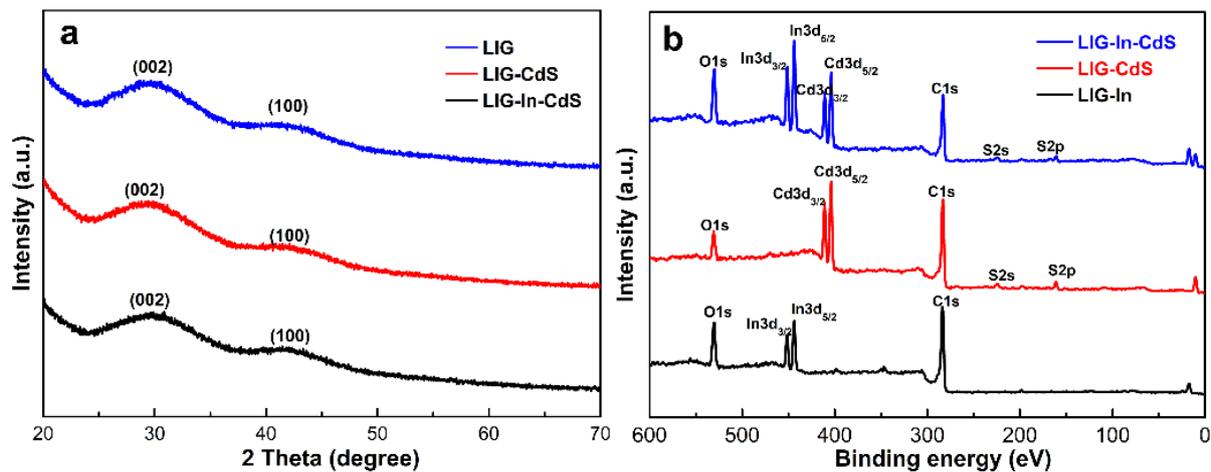


Figure S6. (a) XRD patterns of LIG, LIG-CdS, and LIG-In-CdS. (b) XPS survey spectra of LIG-In, LIG-CdS, and LIG-In-CdS.

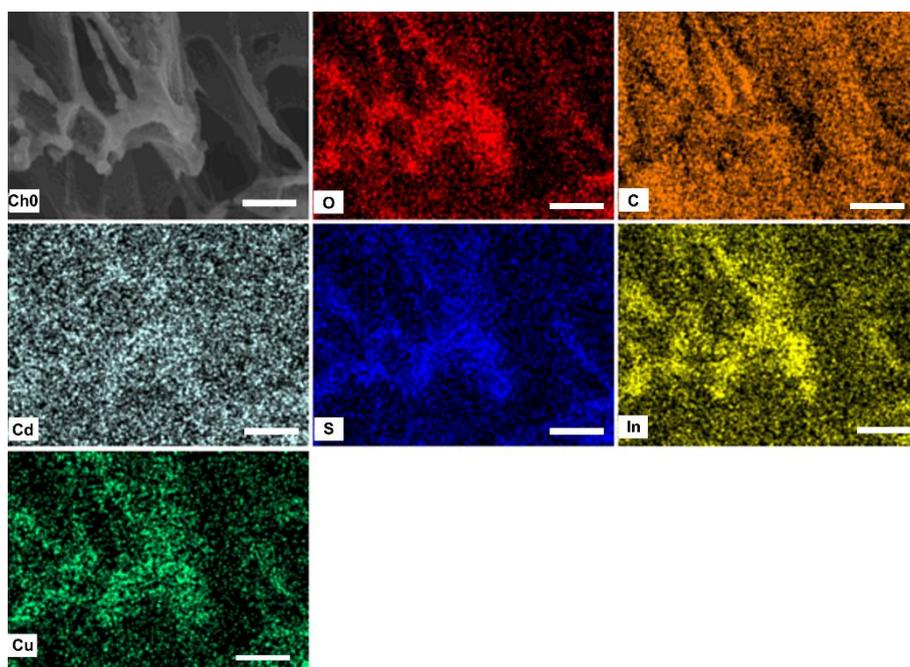


Figure S7. Elemental mapping images of LIG-In-CdS/Cu²⁺, scale bars: 1 μm.