

Supplementary Information

Boosting Light Harvesting and Charge Separation of WO₃ Via Coupling with Cu₂O/CuO Towards Highly Efficient Tandem Photoanode

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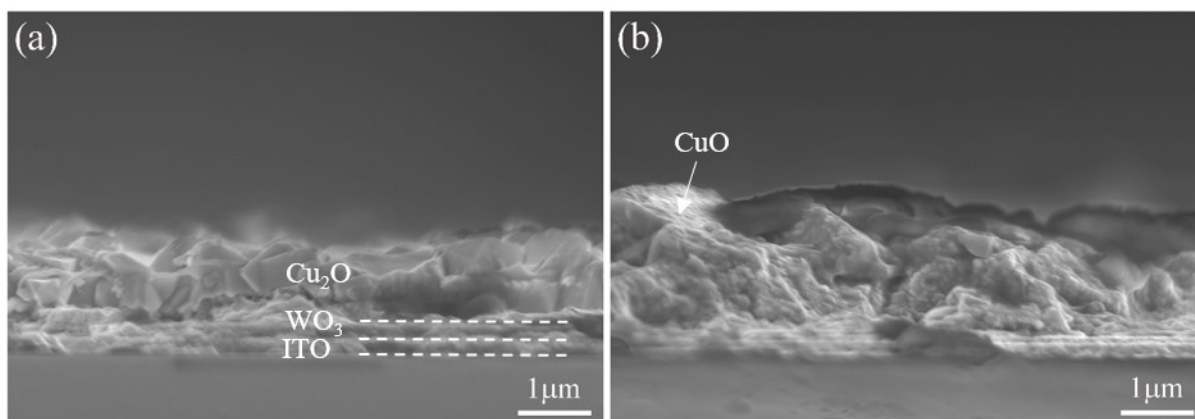


Fig. S1 Cross-section SEM images of the as-prepared ITO/WO₃/Cu₂O photoanode (a) before and (b) after annealing at 300 °C in the open air. The scale bar is 1 μm.

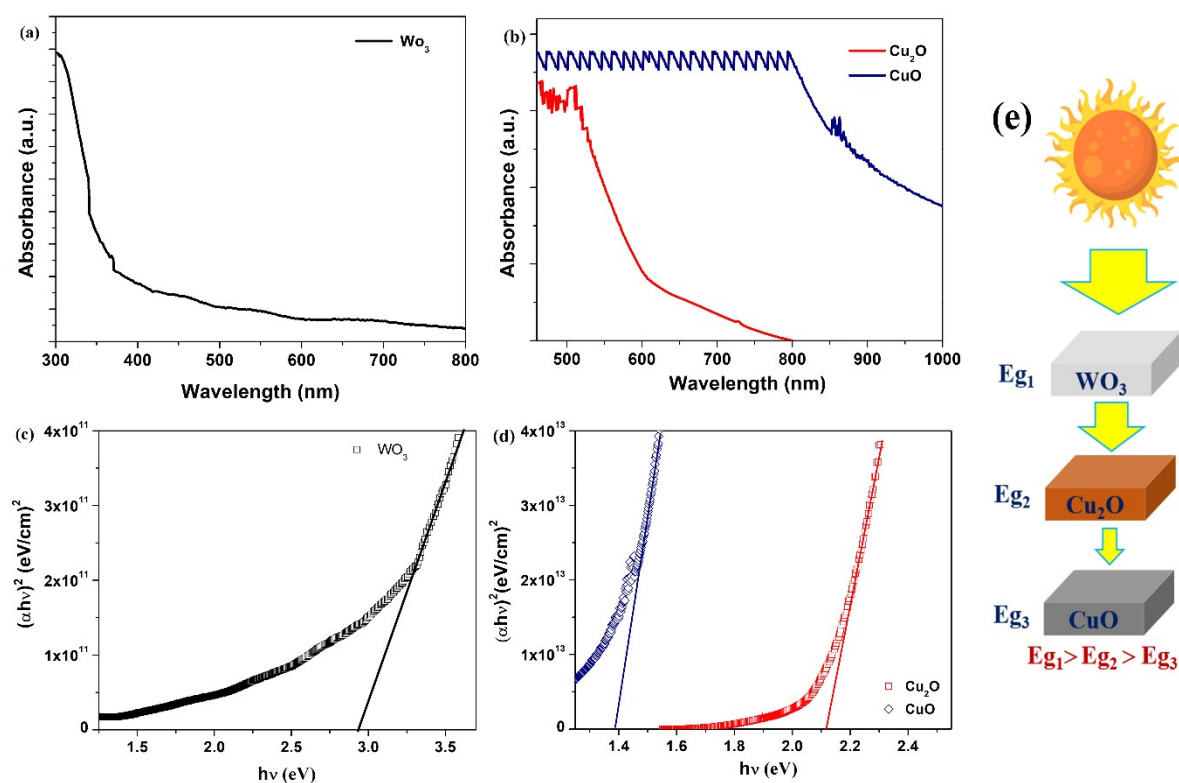


Fig. S2 The optical absorption spectra of (a) WO₃ and (b) Cu₂O and CuO thin films. Tauc plots of (c) WO₃ and (d) Cu₂O and CuO thin films. (e) Schematic diagram of the WO₃/Cu₂O/CuO tandem design. The WO₃ thin film was grown on an ITO by the hydrothermal method. The Cu₂O thin film was deposited by the electrodeposition method. The CuO thin film was prepared by the annealing of Cu₂O at 550 °C for 1hr on muffle furnace.

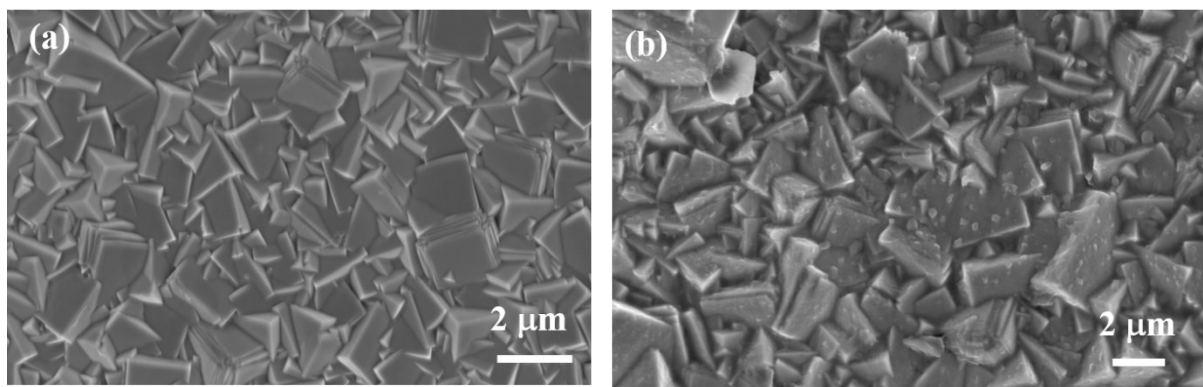


Fig. S3 SEM images of ITO/WO₃/Cu₂O photoanode at 15 min (a) before and (b) after the PEC test. The scale bar is 2μm.