

**Photoelectrocatalytic Bacterial Inactivation of *Acinetobacter*
baumannii on Cu₂O/TiO₂@Cu Mesh Photoanode**

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Supporting Information

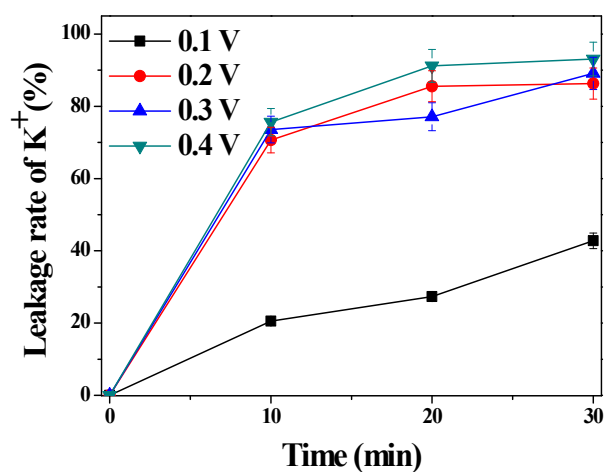
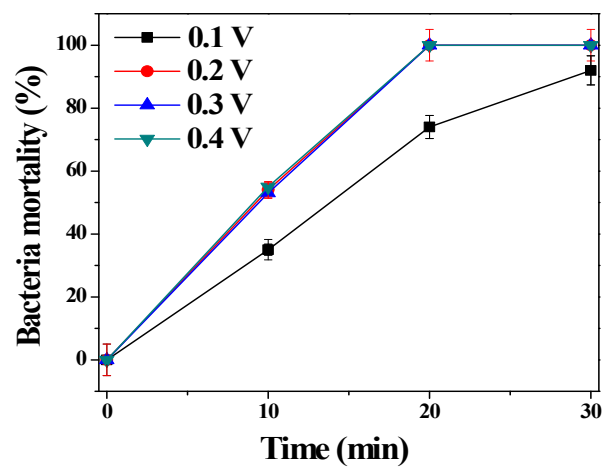


Fig. S1 (a) PEC inactivation activity of *A. baumannii* and (b) leakage of K^+ ions from *A. baumannii* under different bias potential. Test conditions: 30 mL 10^8 cfu/mL (0.5 MFC) *A. baumannii* (ATCC 19606), one Cu mesh (2.0×2.0 cm) coated with Cu_2O/TiO_2 as photoanode, Pt foil (2.0×2.0 cm) as counter electrode, one xenon lamp (300 W, $\lambda > 420$ nm), $T = 25$ °C.

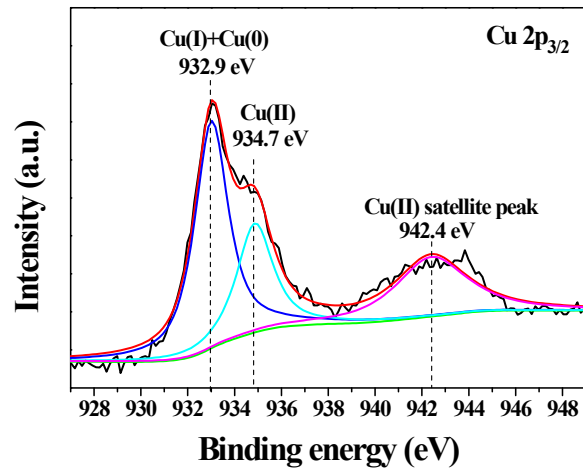


Fig. S2. XPS spectrum of Cu species in $\text{Cu}_2\text{O}/\text{TiO}_2@\text{Cu}$ meshes after PEC inactivation. Test conditions were given in Figure 3.

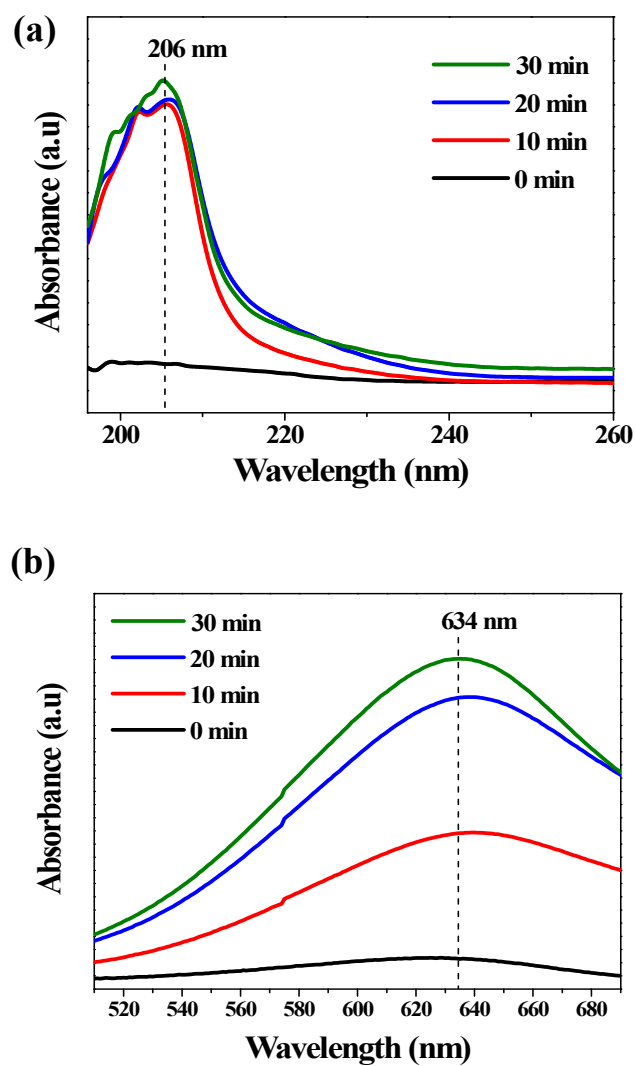


Fig. S3. Time resolved UV-vis absorption of (a) NO_3^- and (b) NH_4^+ ions in the bacterial solution during PEC inactivation process on $\text{Cu}_2\text{O}/\text{TiO}_2/\text{Cu}$ mesh. Test conditions were given in Figure 3.

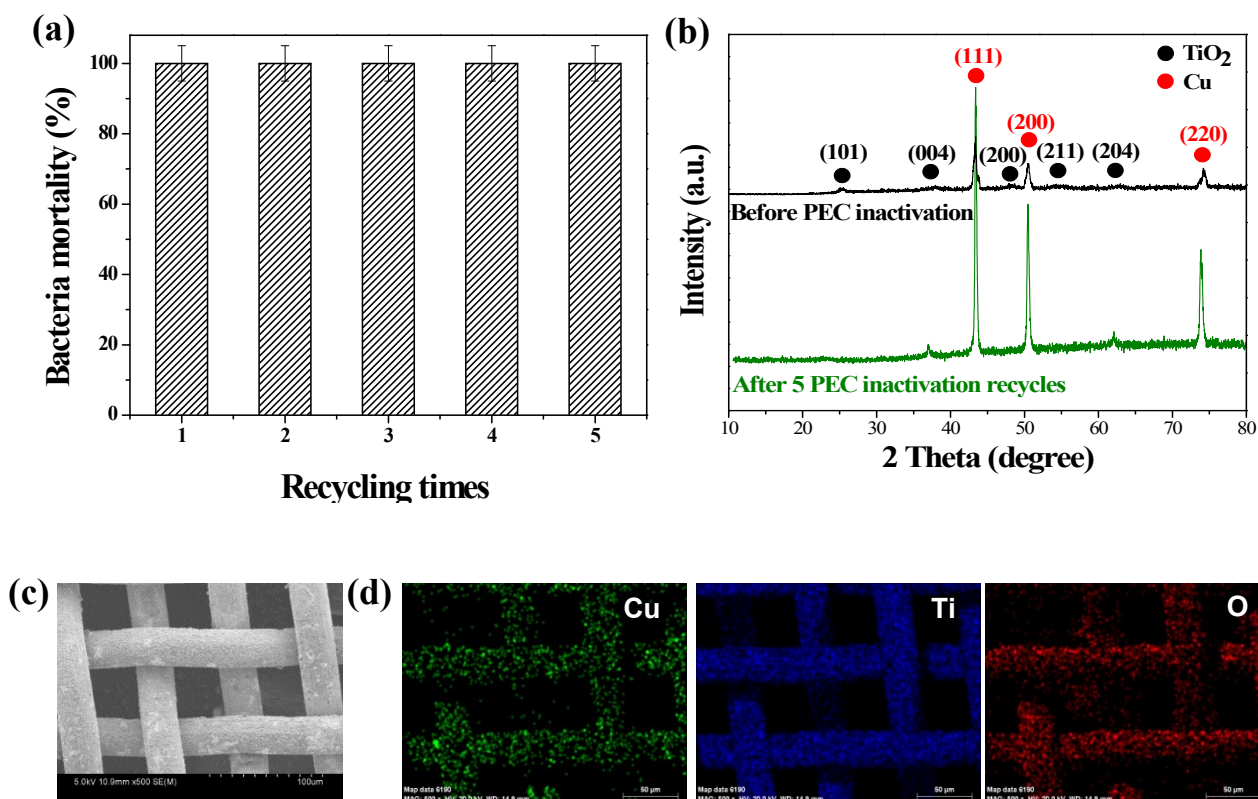


Fig. S4. (a) Recycling PEC inactivation activity of *A. baumannii* on Cu₂O/TiO₂@Cu mesh, (b) XRD patterns of Cu₂O/TiO₂@Cu mesh before and after the recycling test, (c) FESEM image of Cu₂O/TiO₂@Cu mesh, and (d) chemical mapping of Cu, Ti and O elements after the recycling test. Test conditions: 30 mL 10⁸ cfu/mL (0.5 MFC) *A. baumannii* (ATCC 19606), one Cu mesh (2.0 × 2.0 cm) coated with Cu₂O/TiO₂ as photoanode, Pt foil (2.0 × 2.0 cm) as counter electrode, one xenon lamp (300 W, λ > 420 nm), t = 30 min, T = 25 °C.