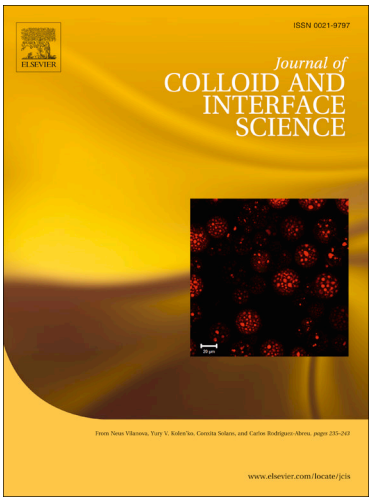

Regular Article

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Abstract: In this paper, plasmonic photoelectroncatalyst of gold/copper iodide (Au/CuI) was synthesized and fully characterized. Compared to traditional electrocatalytic procedure under dark condition, the photoelectrocatalytic (PEC) activities of Au/CuI towards ethanol oxidation and organic pollutant degradation were distinctly enhanced under visible light irradiation. The advantages of the PEC process were investigated by photocurrent responses, linear sweep voltammetry, chronoamperometric and chronopotentiometry curves, and electrochemical impedance spectroscopy spectra. Finally, the mechanism of plasmon enhanced PEC performance in ethanol oxidation and organic contaminant degradation under visible