

Two New Copper(II) Complexes of 1-Butyl-1H-1,2,4-triazole: Synthesis, Characterization and Electrocatalytic Activity

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Electrocatalytic activity of the 1-CPE modified electrode

The electrocatalytic activities of 1-CPE toward the reduction of hydrogen peroxide and trichloroacetic acid are presented in Figures S1 and S2. The detection limit, linear calibration range and the sensitivity are respectively $0.01 \mu\text{mol L}^{-1}$, 0.02 to $0.20 \mu\text{mol L}^{-1}$ and $84.45 \mu\text{A } \mu\text{mol L}^{-1}$ for hydrogen peroxide detection, and $0.01 \mu\text{mol L}^{-1}$, 0.02 to $0.15 \mu\text{mol L}^{-1}$ and $84.73 \mu\text{A } \mu\text{mol L}^{-1}$ for TCA detection. These results indicate that 1-CPE and 2-CPE show similar cyclic voltammetry behaviors and electrocatalytic activities.

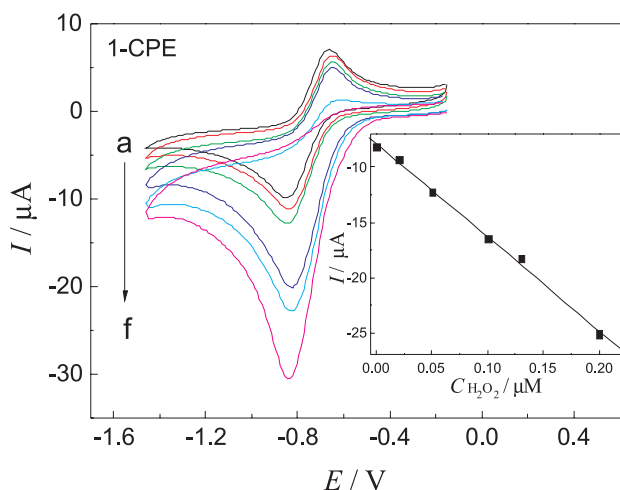


Figure S1. Cyclic voltammograms for 1-CPE in 0.1 mol L⁻¹ B-R buffer solution, pH 6.1, containing (a-f) 0, 0.02, 0.05, 0.10, 0.13 and 0.20 $\mu\text{mol L}^{-1}$ H₂O₂. Scan rate: 0.05 V s⁻¹. Inset: cathodic peak current vs. H₂O₂ concentration.

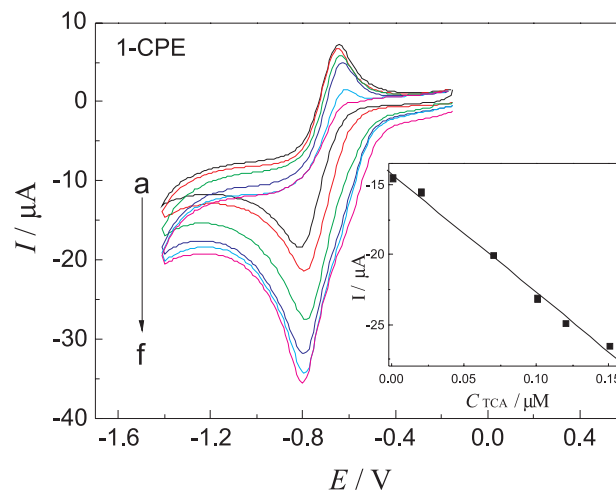


Figure S2. Cyclic voltammograms for 1-CPE in 0.1 mol L⁻¹ B-R buffer solution, pH 6.1, containing (a-f) 0, 0.02, 0.07, 0.10, 0.12 and 0.15 $\mu\text{mol L}^{-1}$ TCA. Scan rate: 0.05 V s⁻¹. Inset: cathodic peak current vs. TCA concentration.