

Nanocomposite of graphene based sensor for paraquat: synergetic effect of nano-gold and ionic liquids on electrocatalysis

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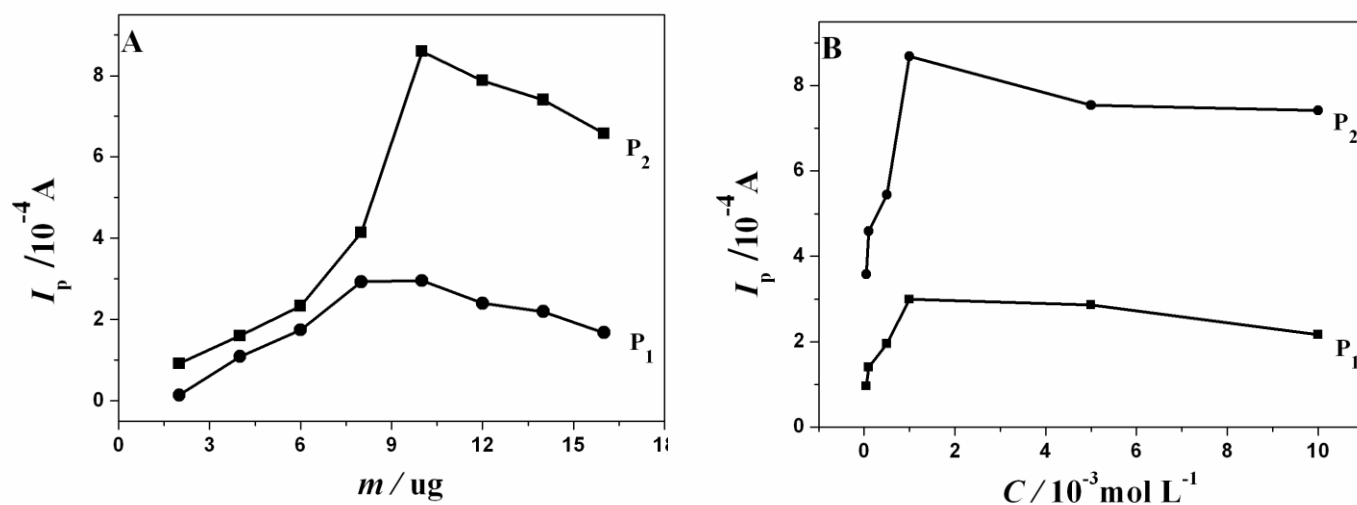


Fig. A.1 (A) The influence of amounts of modified GR/Au nanocomposites on the peak height of 1.0×10^{-4} mol L^{-1} PQ. (B) The influence of concentration of ILs on the peak height of 1.0×10^{-4} mol L^{-1} PQ.

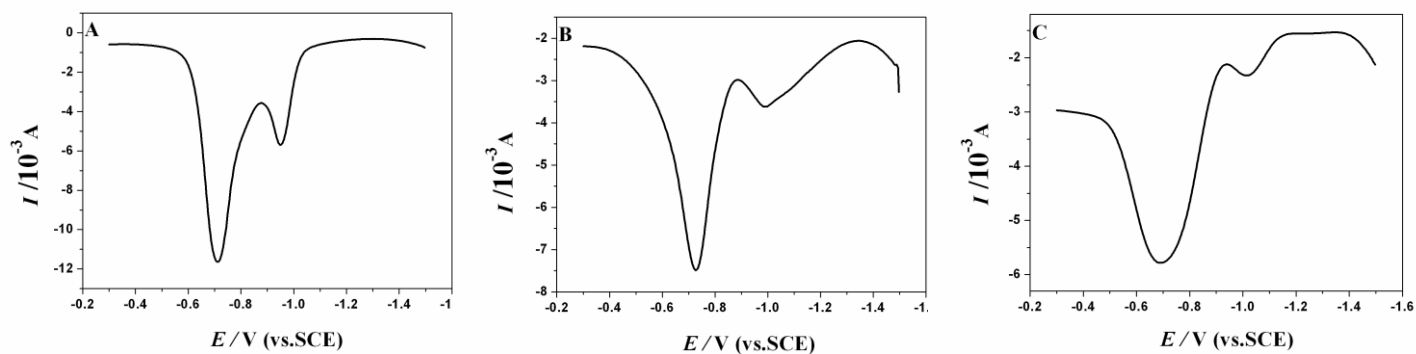


Fig. A.2 The square wave voltammetric curve of $1.0 \times 10^{-4} \text{ mol L}^{-1}$ PQ at GR/Au/ILs/GCE by using (A) PB, (B) acetate buffer and (C) potassium sulphate buffer as the supporting electrolytes.

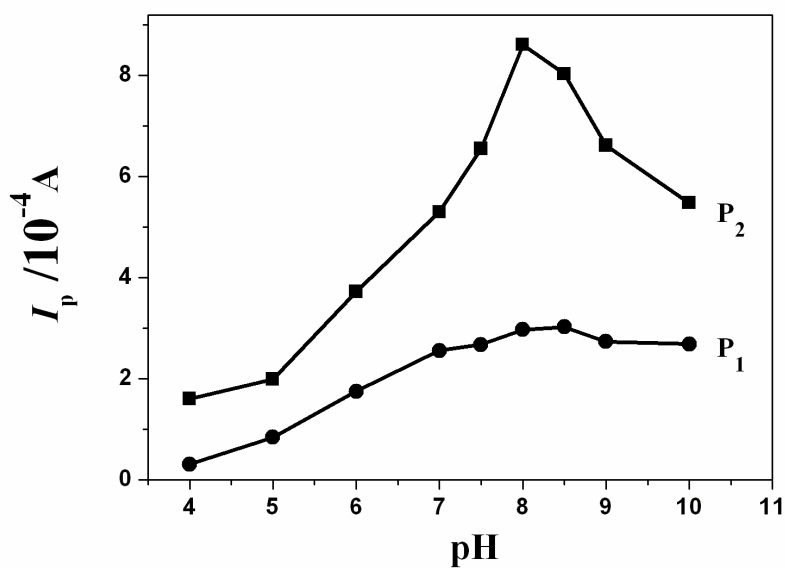


Fig. A.3 The influence of pH on the peak height of $1.0 \times 10^{-4} \text{ mol L}^{-1}$ PQ.

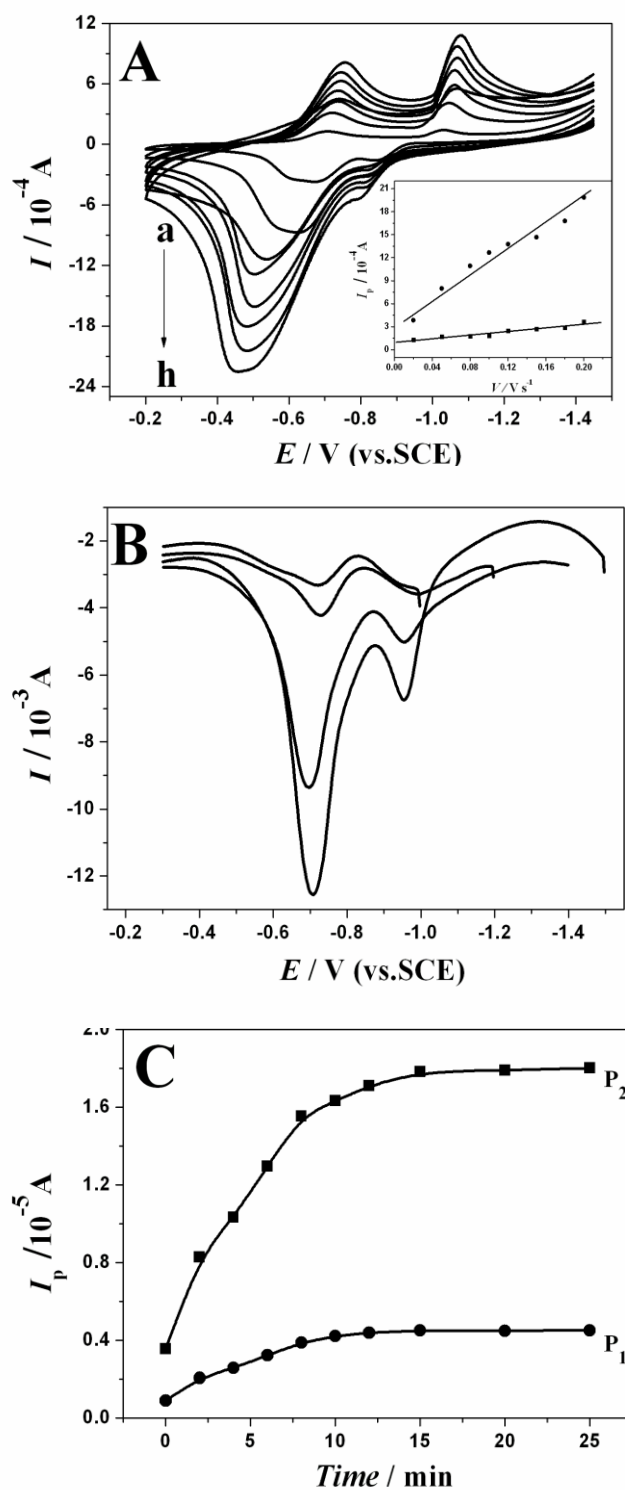


Fig. A.4 (A) CVs of GR/Au/ILs/GCE in the presence of $1.0 \times 10^{-4} \text{ mol L}^{-1}$ PQ at different scan rate (a→h): 0.02, 0.05, 0.08, 0.1, 0.12, 0.15, 0.18, 0.2 V s^{-1} . Inset: The relation between the peak heights of PQ versus the scan rate. (B) The square wave voltammetric curve of $1.0 \times 10^{-4} \text{ mol L}^{-1}$ PQ at GR/Au/ILs/GCE under the different accumulation potential. From inner to outer: -1.0 V, -1.2 V, -1.4 V, -1.5 V. (C) The influence of the accumulation time on the peak height of $5.0 \times 10^{-7} \text{ mol L}^{-1}$ PQ.

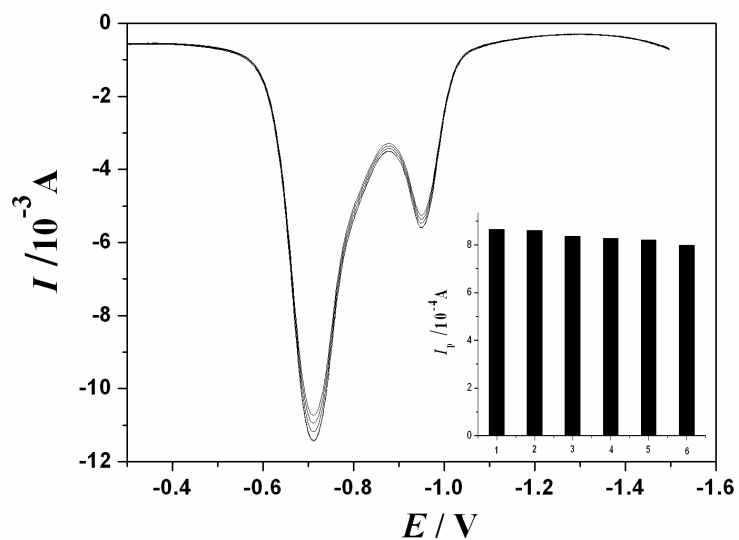


Fig. A.5 Repeated square wave voltammetric curve of 1.0×10^{-4} mol L⁻¹ PQ at GR/Au/ILs/GCE after accumulation for 10 min. Inset: the peak height of PQ from 1 to 6 cycles.

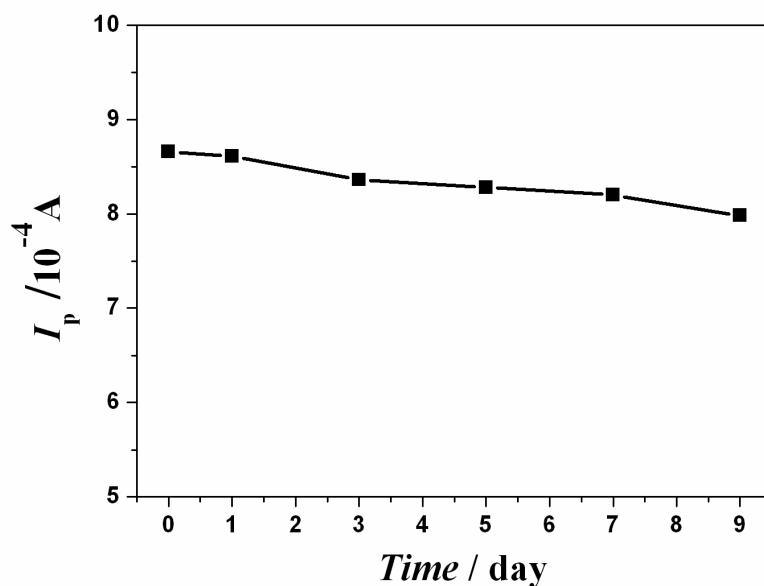


Fig. A.6 The peak height of PQ at GR/Au/ILs/GCE after storing this electrode in 4°C constant temperature over a 9-day period.