

Assembly of Gold Nanoparticles on Graphene Film via Electroless

Deposition: Spontaneous Reduction of Au³⁺ Ions by Graphene Film

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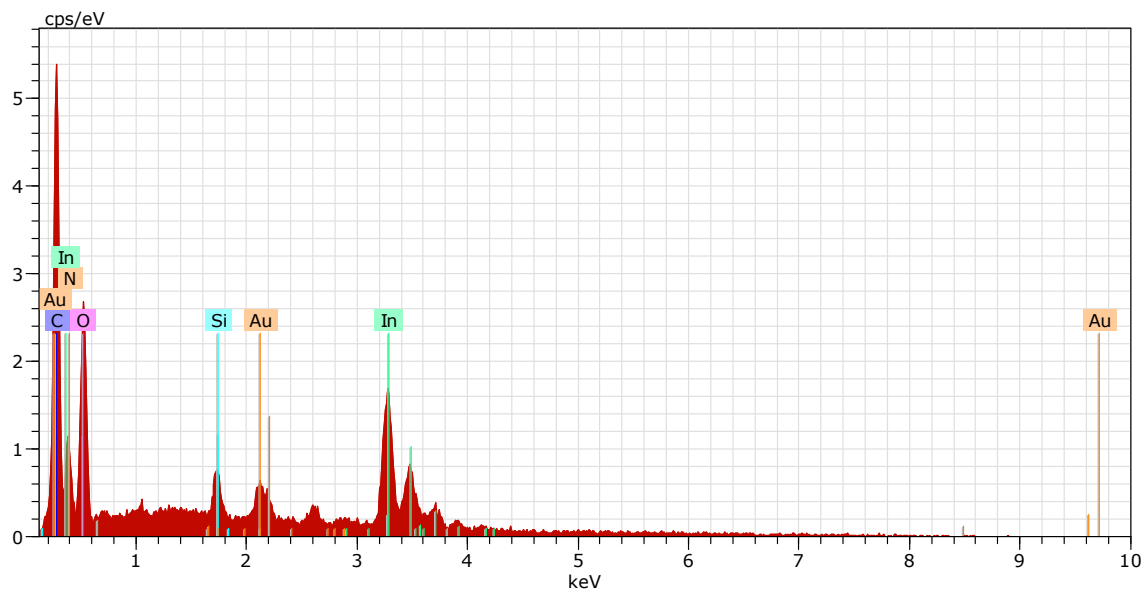


Figure S1. EDAX spectrum obtained for ERGO modified ITO substrates after immersing into a solution of HAuCl_4 solution for 30 min.

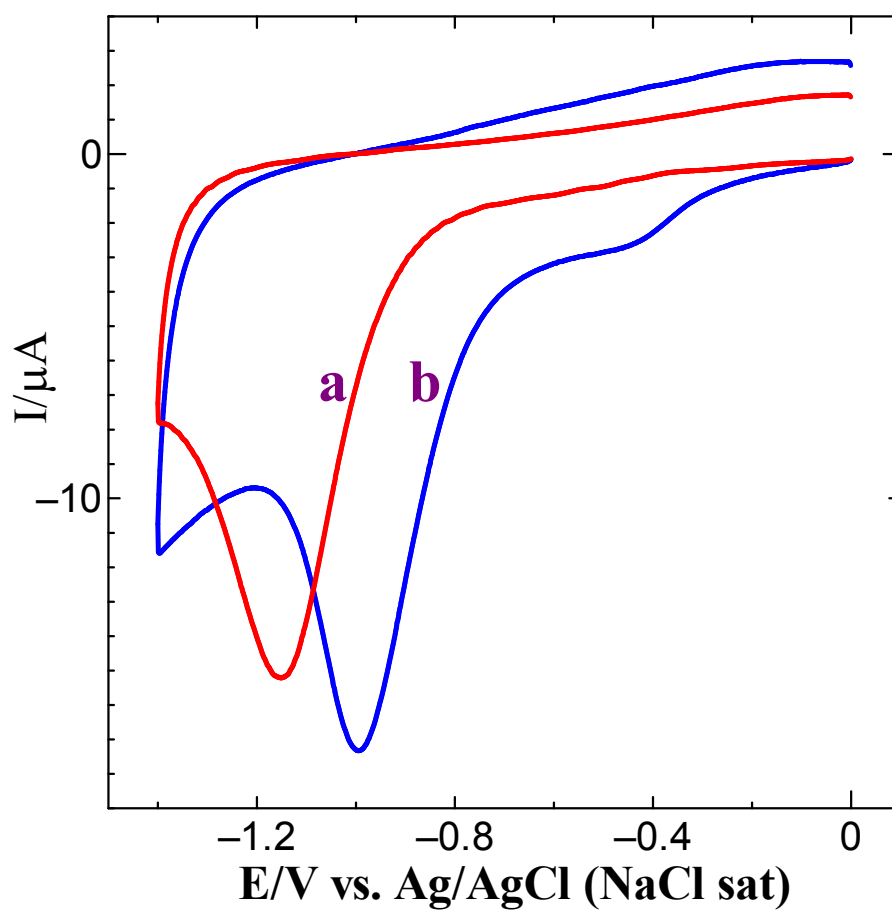


Figure S2. Electrochemical reduction of (a) GC/HDA/GO and (b) GC/HDA/GO/AuNPs electrodes (electroless deposition time = 30 min) in 0.2 M PB solution (pH 7).

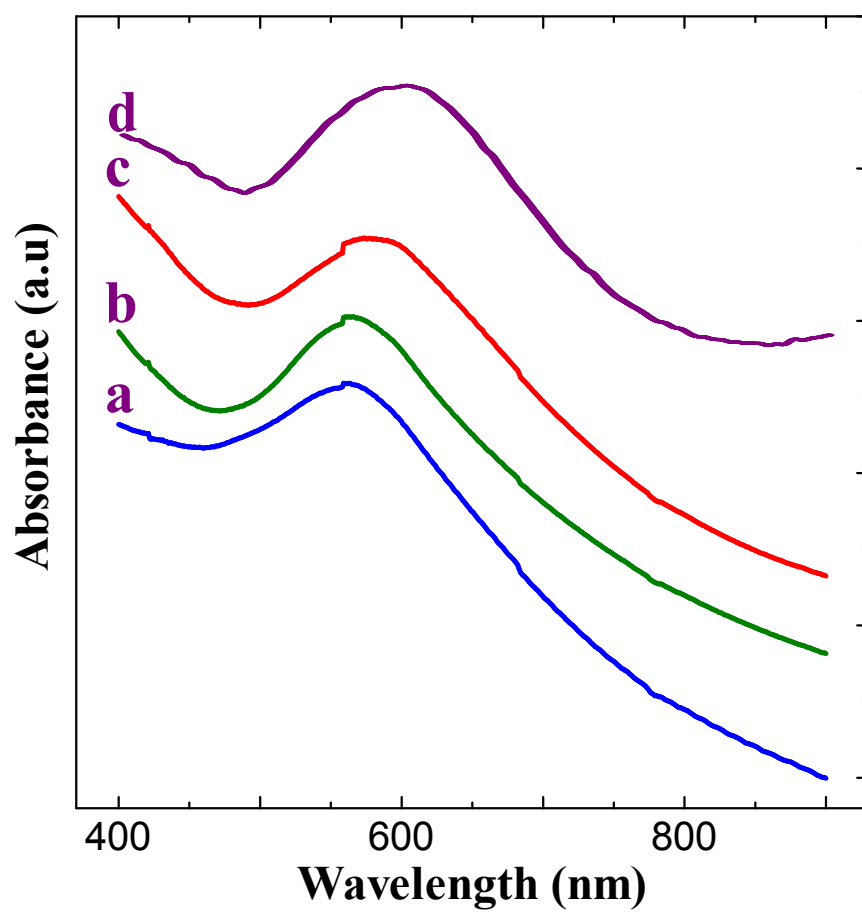


Figure S3. UV-visible spectra obtained for AuNPs deposited ERGO films prepared with (a) 30 min, (b) 1 h, (c) 2 h and (d) 3 h electroless deposition.

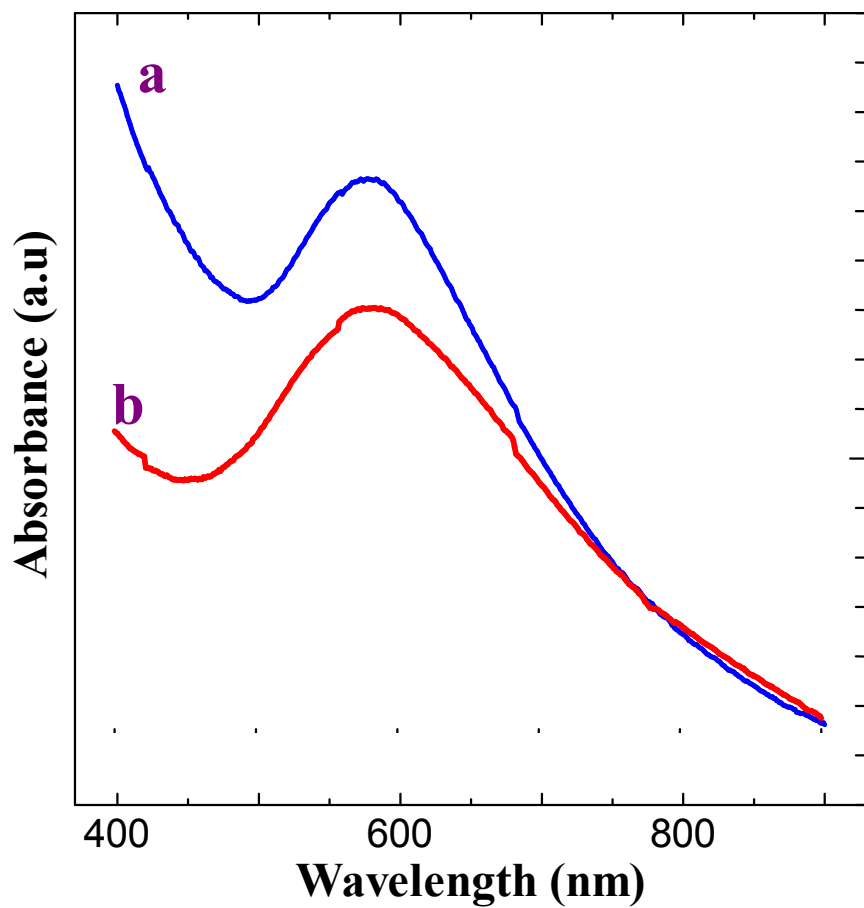


Figure S4. UV-visible spectra obtained for AuNPs deposited on GO modified ITO substrate prepared with an electroless deposition time of 1 h (a) before and (b) after electrochemical reduction in 0.2 M PB solution (pH 7.2).

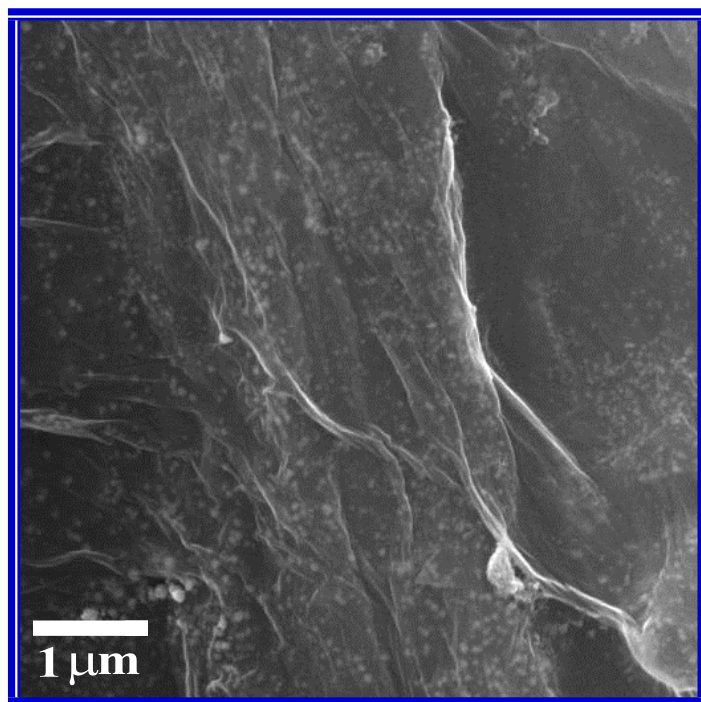


Figure S5. SEM image obtained for AuNPs deposited GO modified ITO substrate after electrochemical reduction.

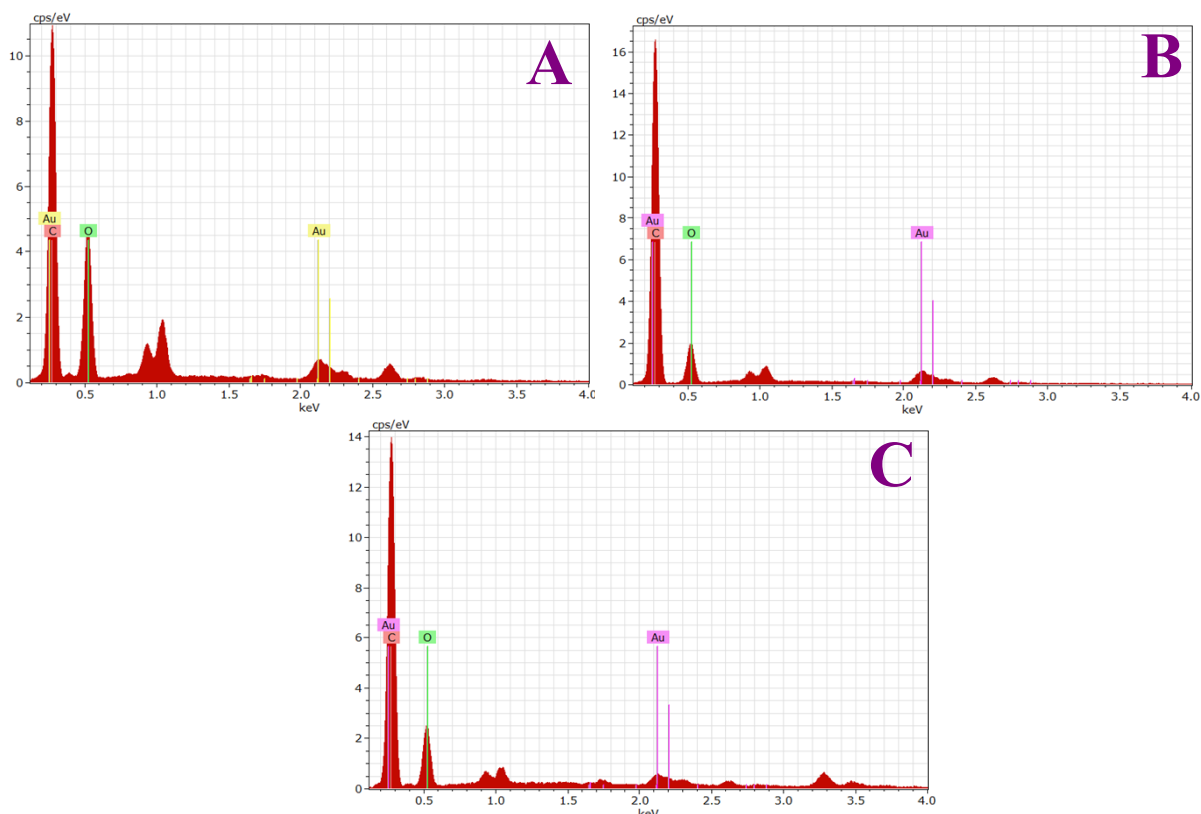


Figure S6. EDX spectra obtained for (A) ITO/HDA/GO/AuNPs, (B) ITO/HDA/GO-ERGO/AuNPs and (C) ITO/HDA/ERGO/AuNPs substrates prepared with an electroless deposition time of 1 h.

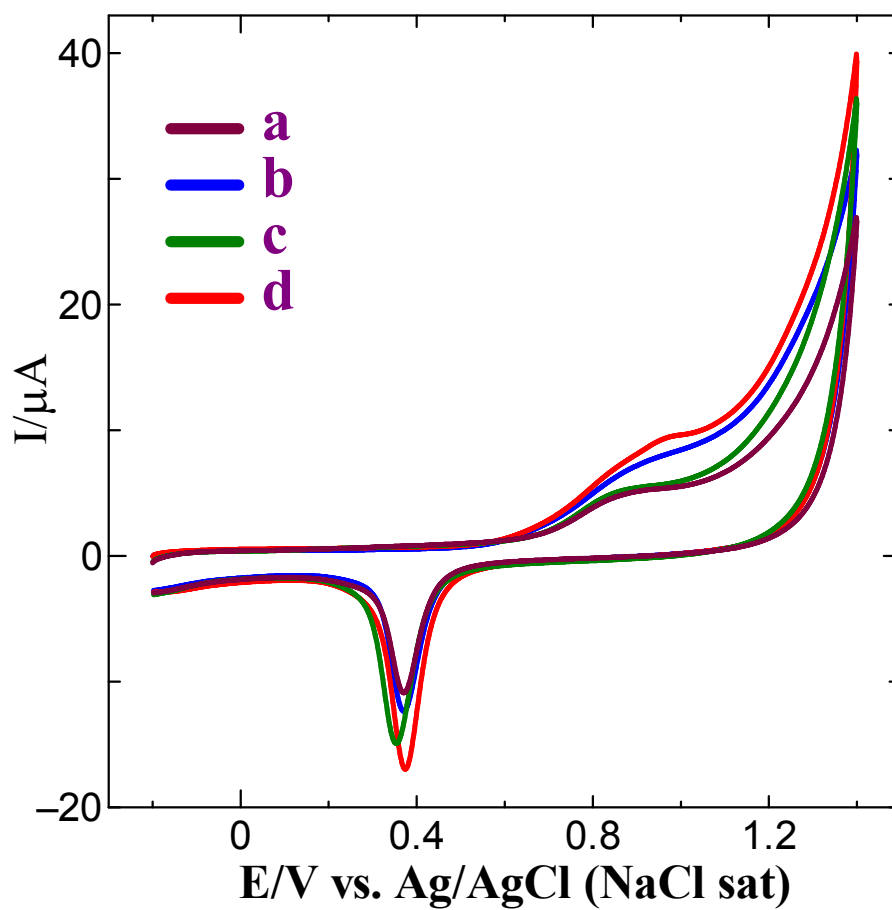


Figure S7. CVs obtained for GC/HDA/ERGO/AuNPs electrode prepared with electroless deposition time of (a) 30 min, (b) 1 h, (c) 2 h and (d) 3 h in 0.2 M PB solution (pH 7.2).

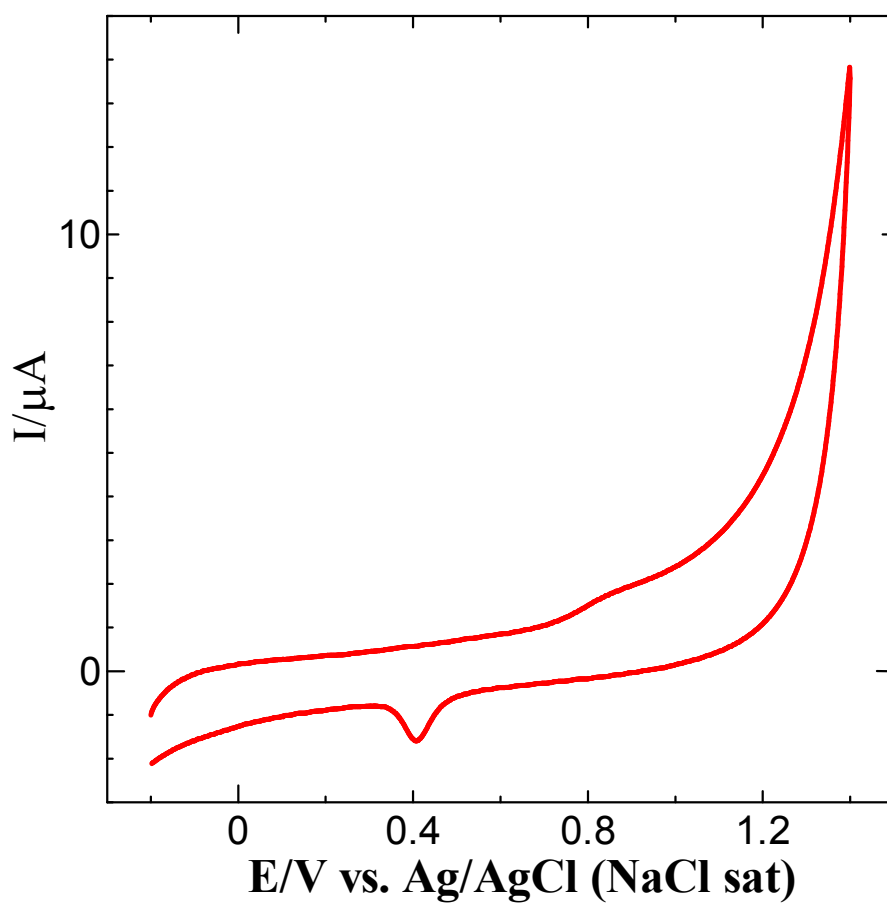


Figure S8. CV obtained for ERGO modified GCE after immersing into 0.3 mM HAuCl_4 solution for 30 min in 0.2 M PB solution.