

An Enzyme-Free Impedimetric Sensor Based on Flower-Like NiO/Carbon Microspheres for L-Glutamic Acid Assay

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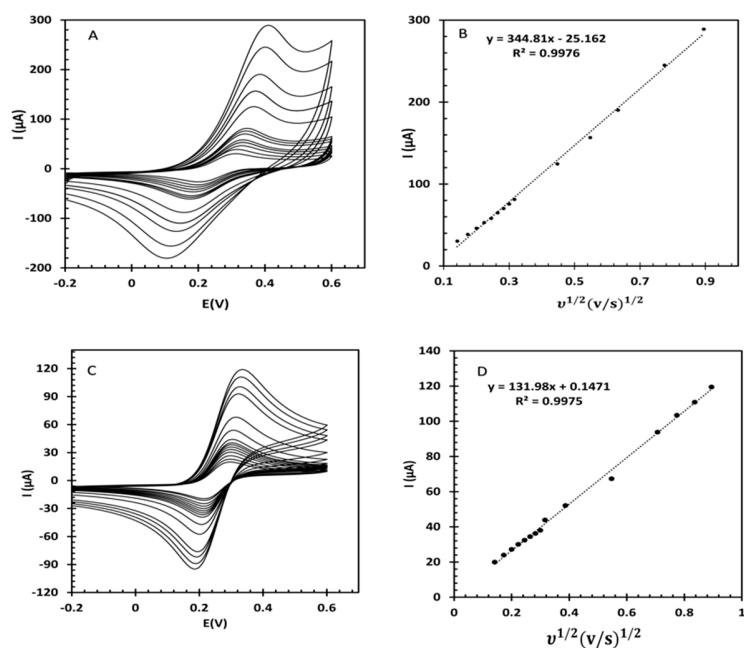


Figure S1. CVs of fl-NiO/C/GCE in 5.0 mM $[\text{Fe}(\text{CN})_6]^{3-/4-}$ in 0.1 M KCl at a scan rate of 20–800 mV/s (A) and the plot of I versus $v^{1/2}$ (B). CVs of bare GCE in 5.0 mM $[\text{Fe}(\text{CN})_6]^{3-/4-}$ in 0.1 M KCl at a scan rate of 20–800 mV/s (C) and the plot of I versus $v^{1/2}$ (D).

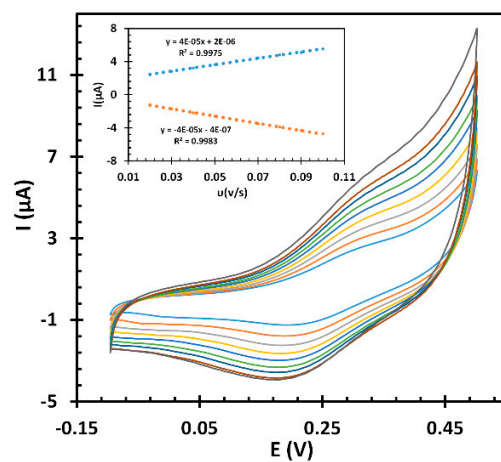


Figure S2. Cyclic voltammogram of fl-NiO/C/GCE in 1M NaOH solution at various scan rate 10–100mV/s. (Inset: Plot of I versus v)

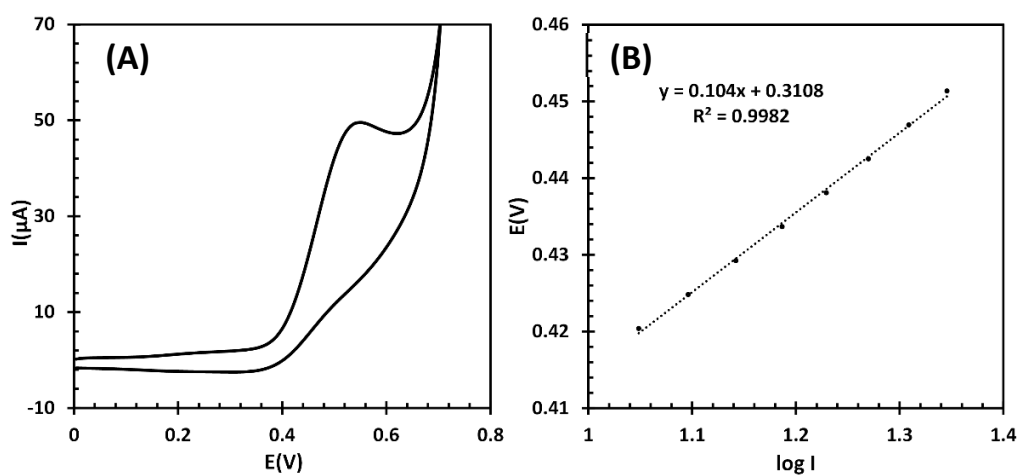


Figure S3. CVs of fl-NiO/C/GCE in 1mM LGA in 1 M NaOH at a scan rate of 10 mV/s (A). Tafel plot E vs log I (B).

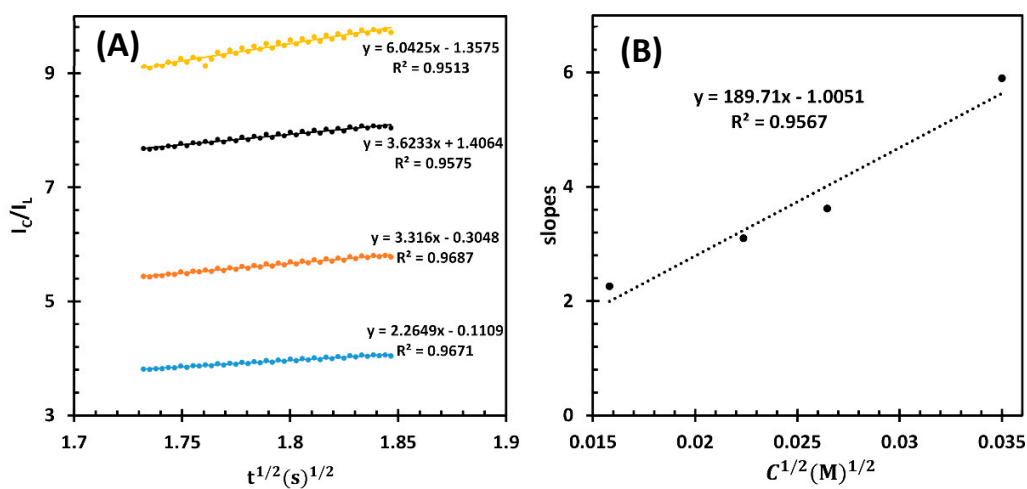


Figure S4. The I_c/I_L vs. $t^{1/2}$ plot at different concentrations of LGA (250, 500, 700, and 1000 μM) (A). The plot of the slope of the (I_c/I_L vs. $t^{1/2}$) vs. $C^{1/2}$ (B).

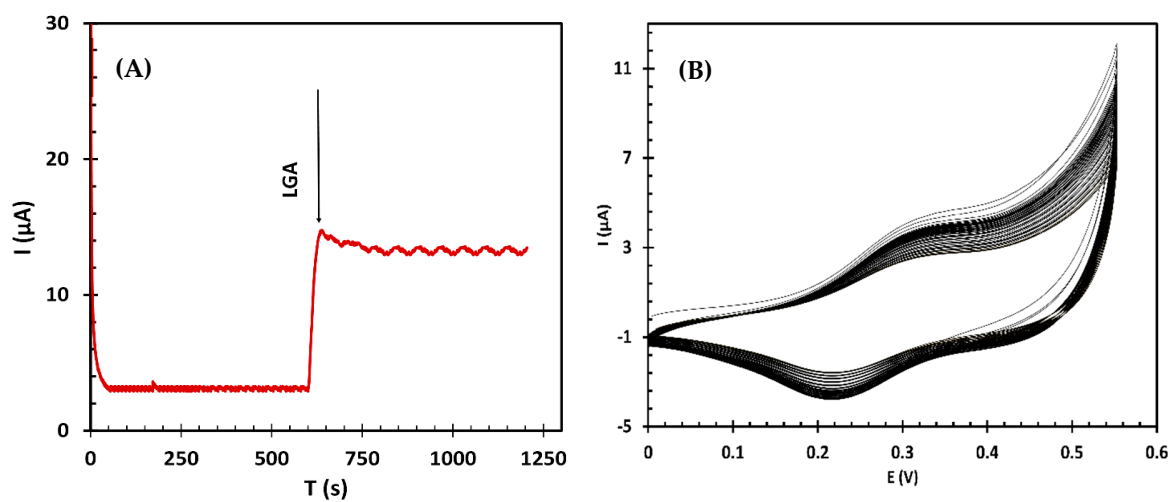


Figure S5. Amperometric response of fl-NiO/C/GCE 600 second before and after injection of 200 μL LGA (A). CVs of fl-NiO/C/GCE in 1 M NaOH without LGA for 100 cycles, scan rate 50 mv/s (B).

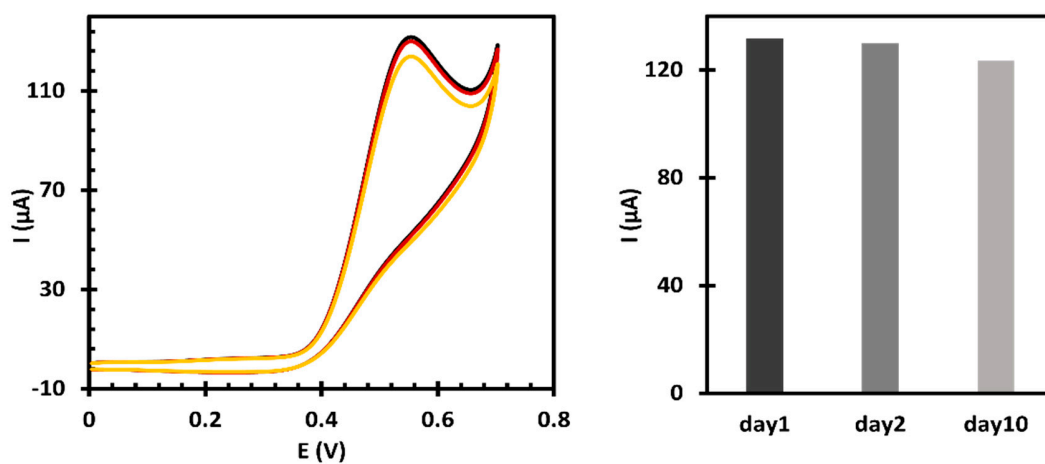


Figure S6. Stability of the fl-NiO/C/GCE during different times.

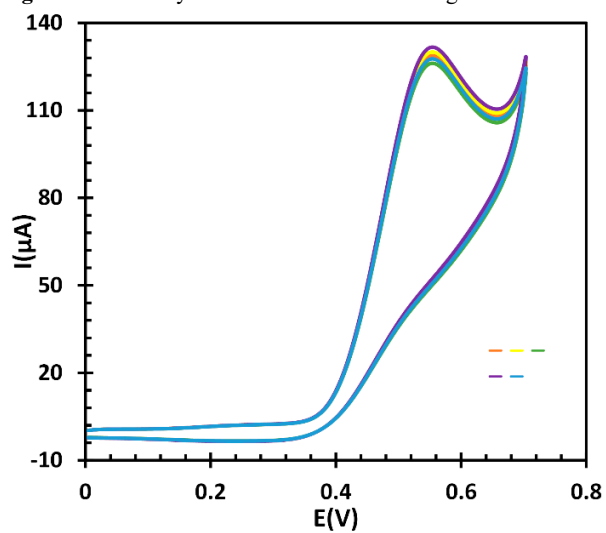


Figure S7. CVs of 5 prepared fl-NiO/C/GCE in 1mM LGA in 1 M NaOH at a scan rate of 50 mV/s.

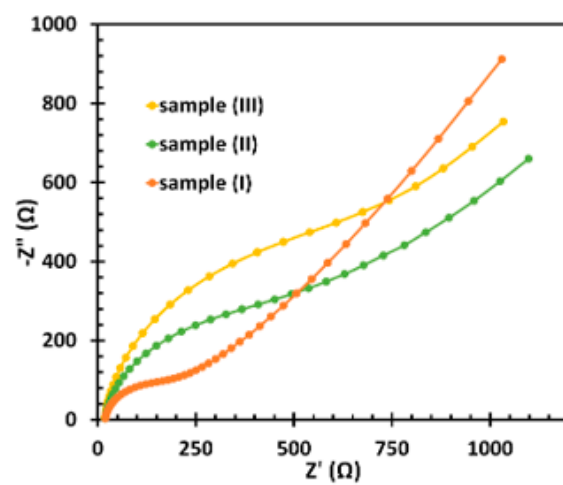


Figure S8. EIS responses of the fl-NiO/C/GCE towards sample (I–III).