chemosensors

MDPI

Supplementary Materials

Ultrasensitive Electrochemical Sensor Based on SnO_2 Anchored 3D Porous Reduced Graphene Oxide Nanostructure Produced via Sustainable Green Protocol for Subnanomolar Determination of Anti-Diabetic Drug, Repaglinide

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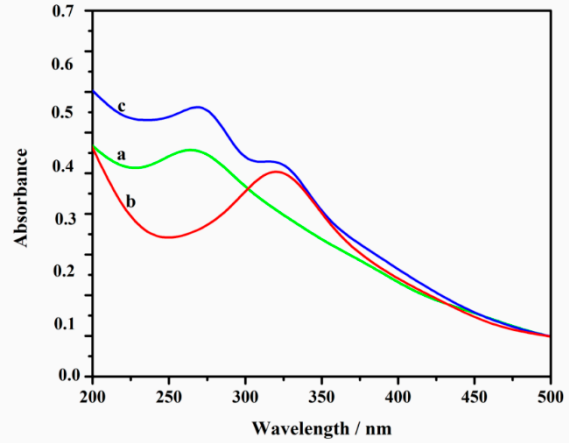


Figure S1. UV-visible absorption spectra of p-rGO (**a**), SnO_2 (**b**), and SnO_2@p-rGO (**c**).

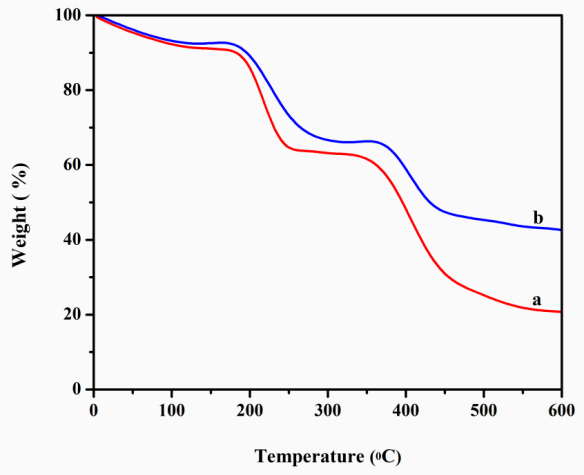


Figure S2. TGA curves for p-rGO (**a**) and SnO_2/p-rGO (**b**).

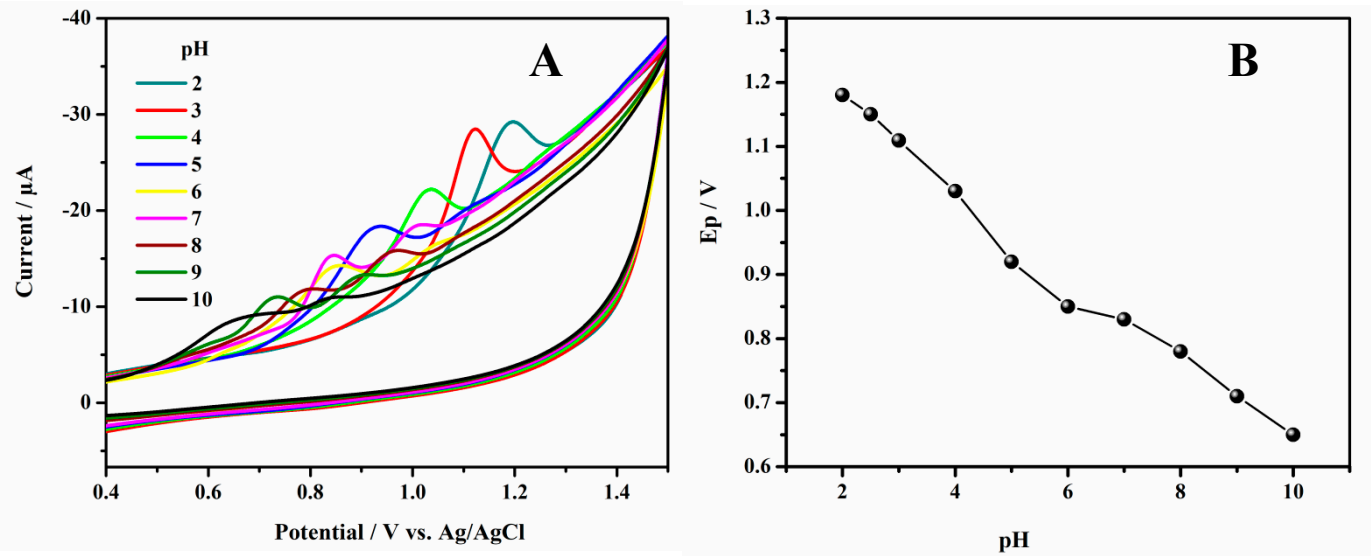


Figure S3. (**A**) Cyclic voltammograms of 10 µM RPG at different pH and (**B**) plot of E_p *vs*. pH.

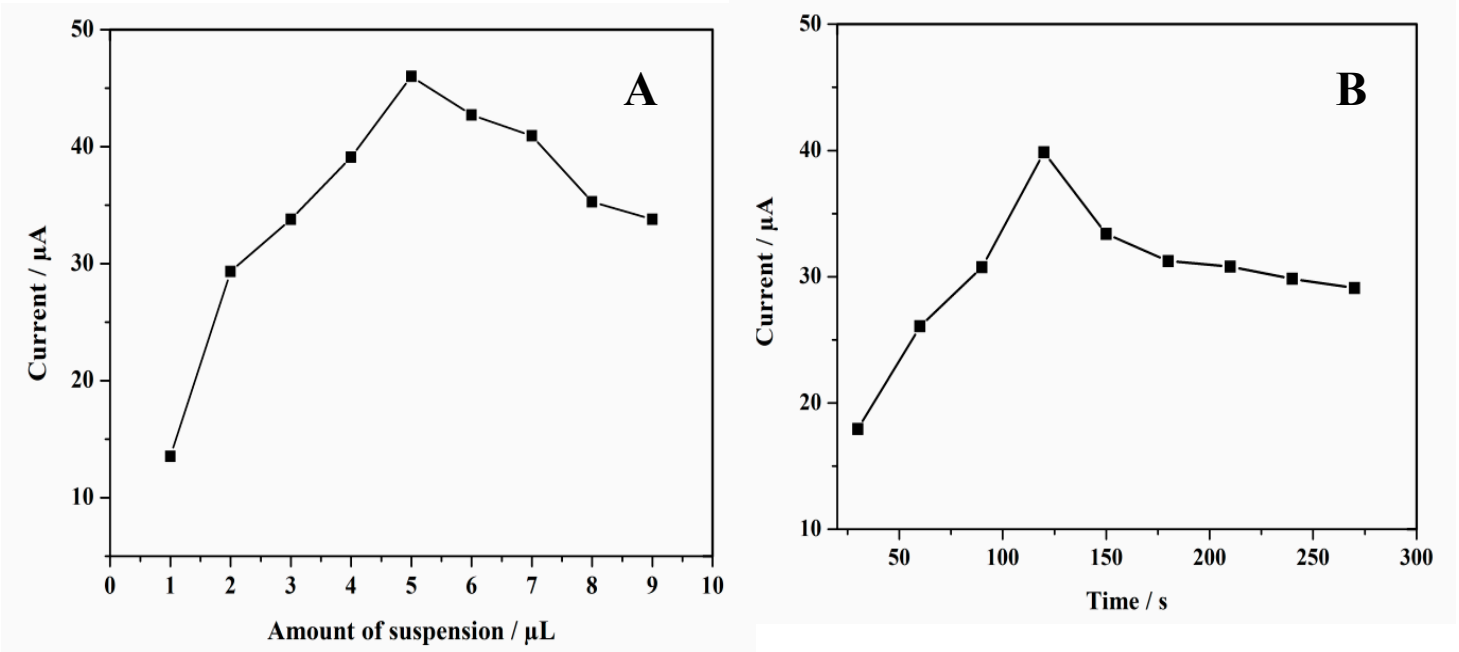
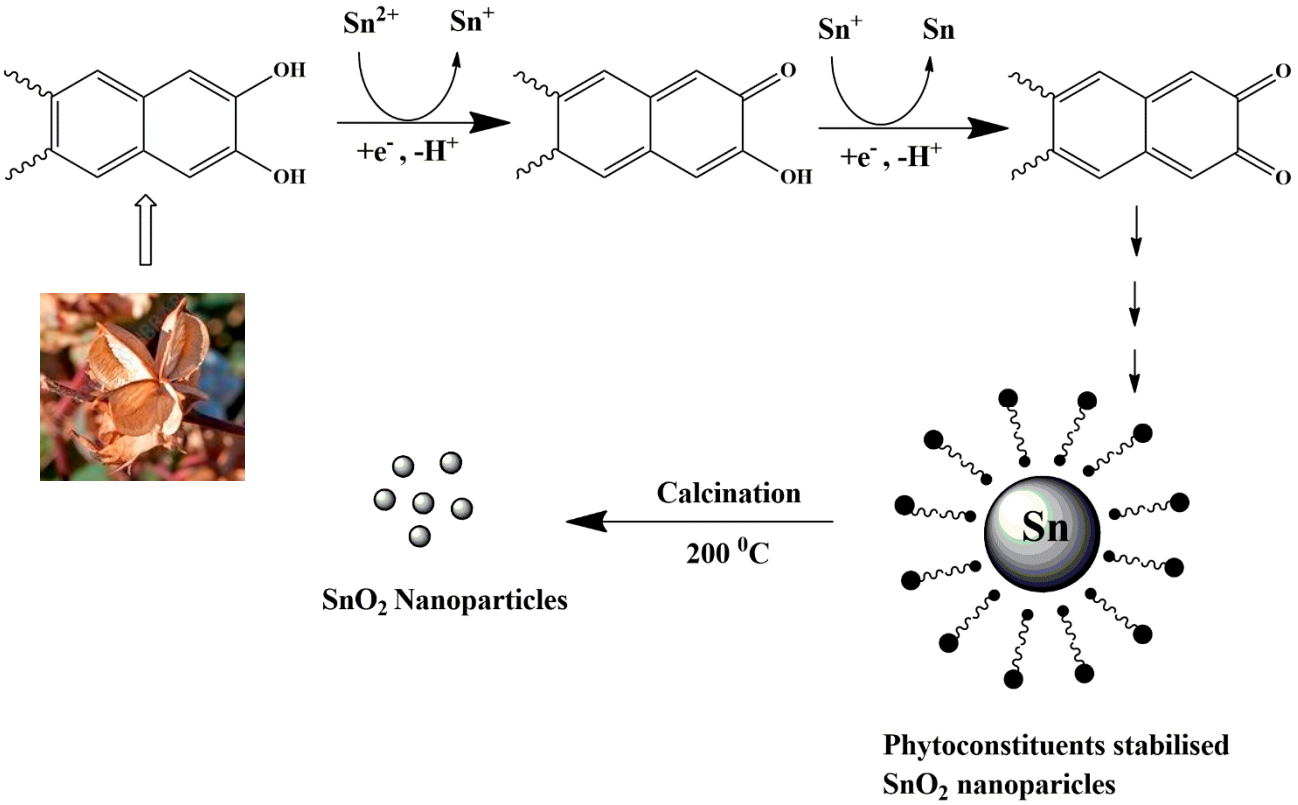


Figure S4. (**A**) Dependence of peak current on the amount of SnO_2/p-rGO suspension and (**B**) accumulation time.



Scheme S1. Plausible mechanism for the formation of SnO_2 nanoparticles by cotton boll peel extract.

Table S1. Tolerance of interferents in the determination of 2.26 μg mL^{-1} RPG using proposed sensor by SWV method.

Interfering substance	Concentration of interfering substance (μg mL^{-1})	Fold	Recovery (%)	RSD*, %
Ascorbic acid	48	21.23	97.49	2.98
Glucose	128	56.63	98.48	2.42
Uric acid	46	20.35	96.43	1.65
Lactose	200	88.49	98.79	2.12
Acacia	82	36.28	98.52	1.77
Dopamine	48	21.23	99.06	2.46
Metformin	45	19.91	97.65	2.34

*Average of 5 determinations