

Supplementary information

Article

In situ or *Ex situ* Synthesis for Electrochemical Detection of Hydrogen Peroxide—An Evaluation of Co₂SnO₄/RGO Nanohybrids

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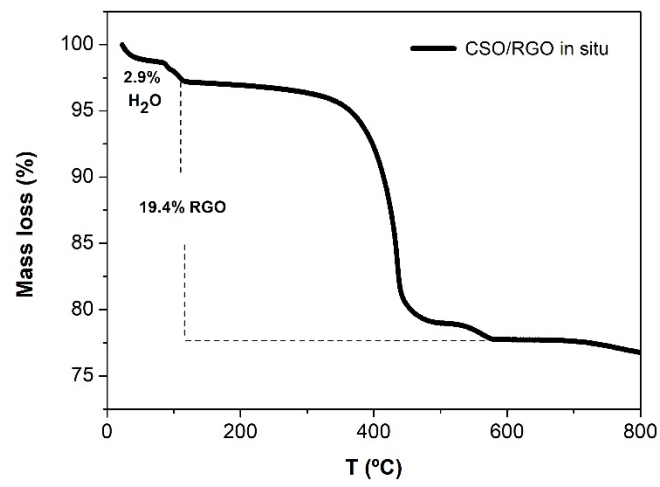


Figure S1. TGA analysis for CSO/RGO *in-situ*.

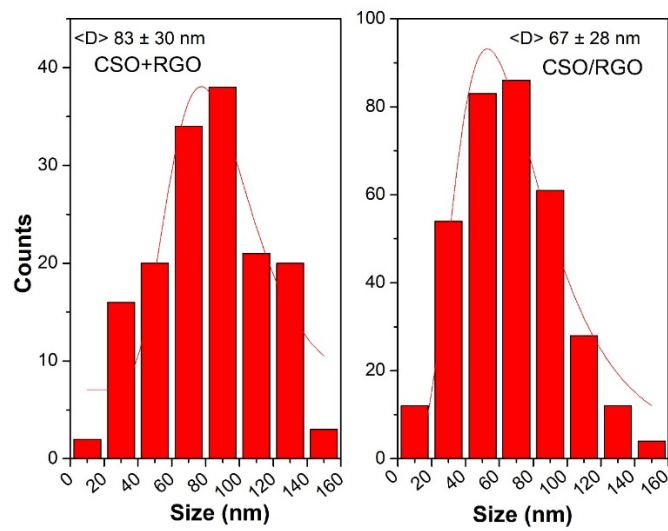


Figure S2. Particle histogram distribution.

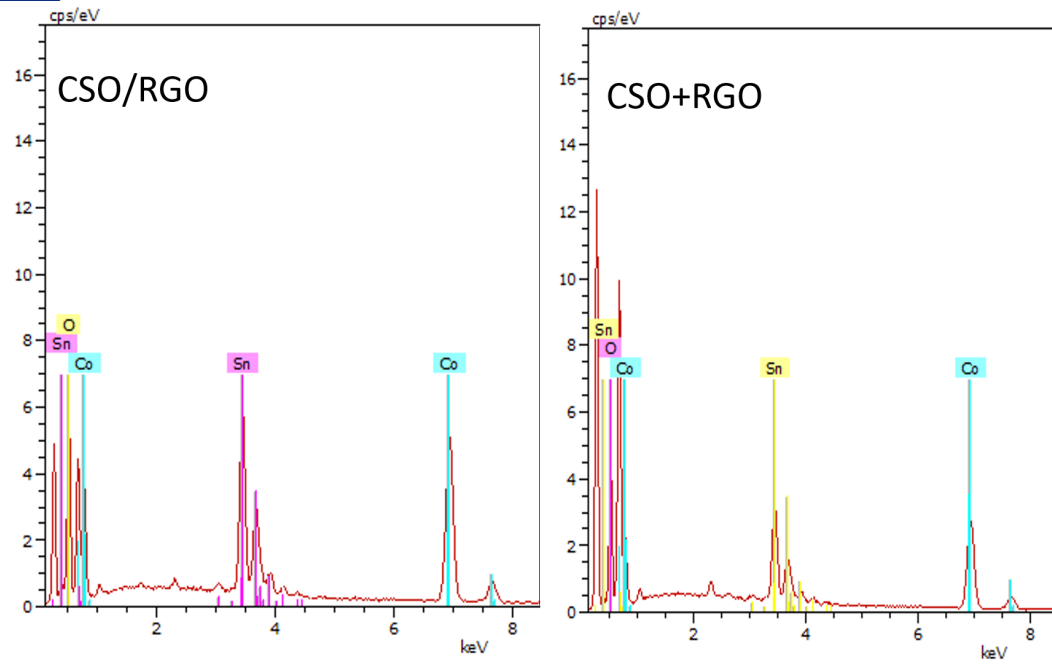


Figure S3. EDX spectrum for CSO/RGO and CSO+RGO.

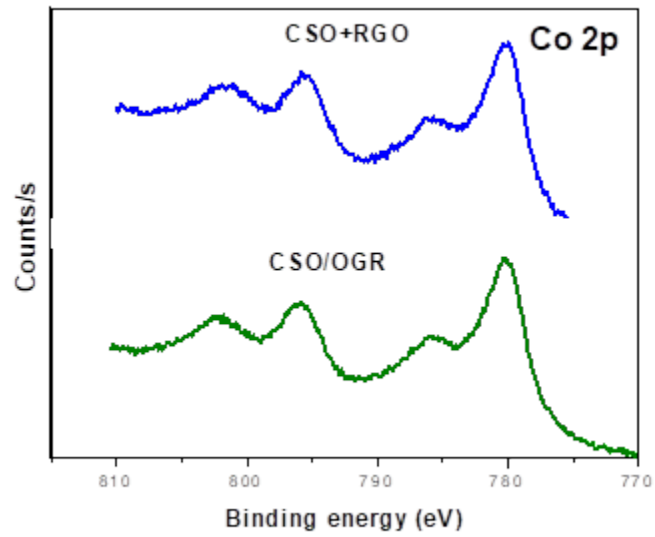


Figure S4. Co 2p X-ray photoelectron spectroscopy (XPS) spectra for CSO+RGO and CSO/OGP materials.

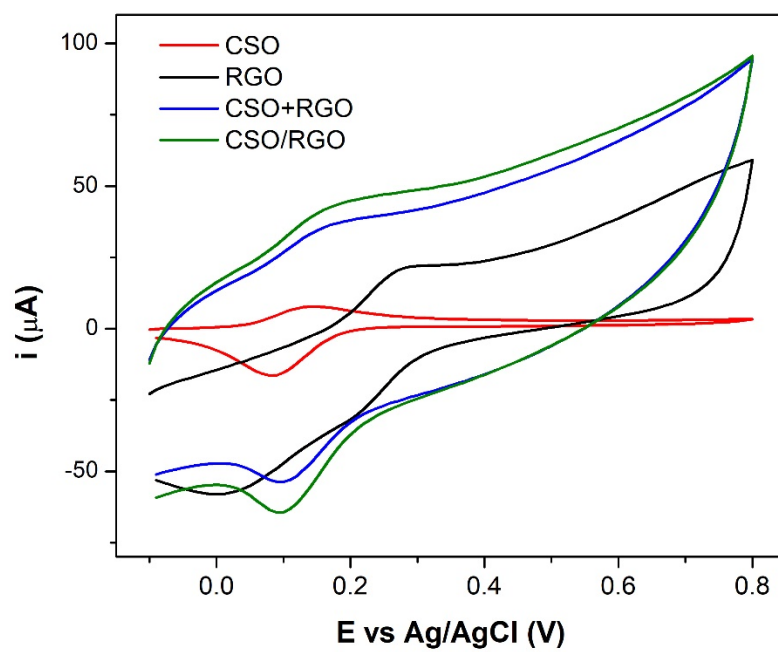


Figure S5: Cyclic voltammograms of 0.5 mM ferrocene methanol in PBS pH 7.4 using different modified electrodes.

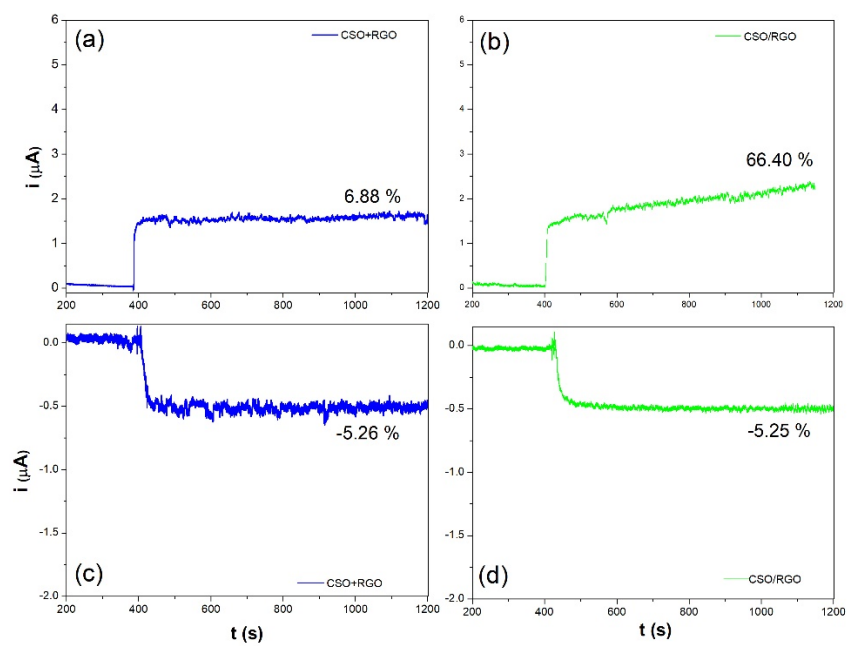


Figure S6. Stability of the oxidation response of oxidation of 0.1 mM H_2O_2 (a) CSO+RGO and (b) CSO/RGO applying 0.300 V and reduction of 0.1 mM H_2O_2 (c) CSO+RGO and (d) CSO/RGO applying -0.400 V.

Table S1: Sensing performance comparison of our systems with other sensors using RGO or metallic oxides.

Electrode	Electrolyte	Potential (V)	Sensitivity ($\mu\text{A mM}^{-1}\text{cm}^{-2}$)	LOD (μM)	Ref.
$\text{Co}_2\text{TiO}_4/\text{RGO}$	NaOH (pH12)	−0.400	106	2.1	[1]
$\text{NiCo}_2\text{S}_4/\text{RGO}$	NaOH (pH13)	−0.450	118.5	0.19	[2]
$\text{MnO}_2/\text{MWCNT}$	PBS (pH7.0)	−0.400	13.9	6.97	[3]
$\text{Ni-Fe}_3\text{O}_4@\text{RGO}$	PBS (pH7.4)	−0.650	$6 \mu\text{A M}^{-1}$	0.2	[4]
$\text{Co}_2\text{SnO}_4/\text{RGO}$	NaOH (pH12)	−0.400	74	7.4	This work
$\text{Co}_2\text{SnO}_4+\text{RGO}$	NaOH (pH12)	−0.400	80	7.7	This work

References

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