

Supplementary material for the article:

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Supplementary material

RuO₂/graphene nanoribbon composite supported on screen printed electrode with enhanced electrocatalytic performances toward ethanol and NADH biosensing

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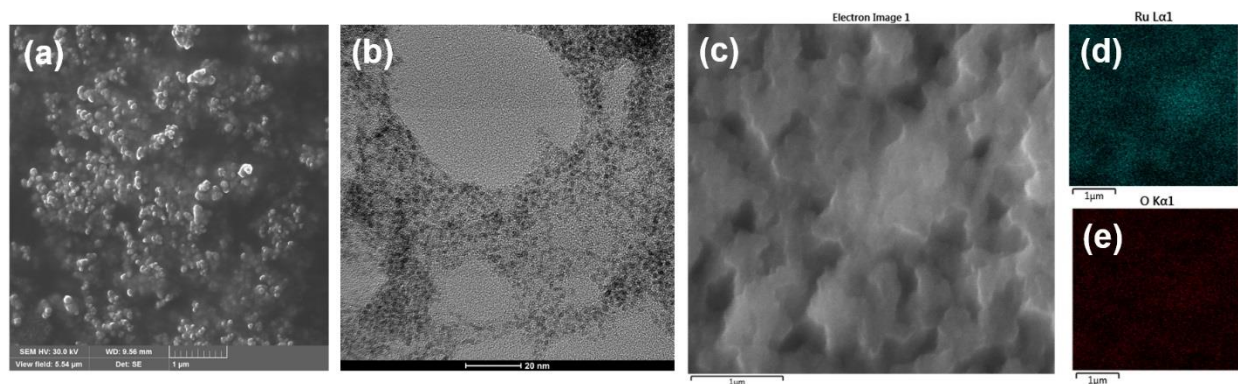


Figure S1. (a) FE-SEM micrograph of RuO_2 ; (b) TEM micrograph of RuO_2/GNR composite; (c) FE-SEM micrographs of RuO_2/GNR nanocomposite; (d) EDS map of ruthenium atom and (e) EDS map of oxygen atom.

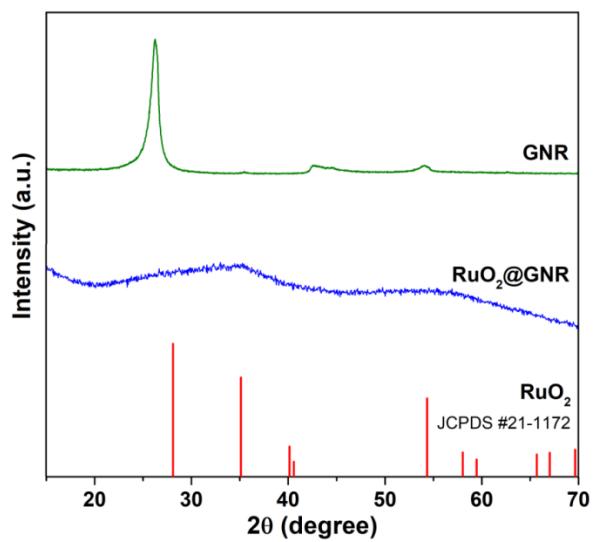


Figure S2. XRD patterns of GNR and RuO_2/GNR composite.

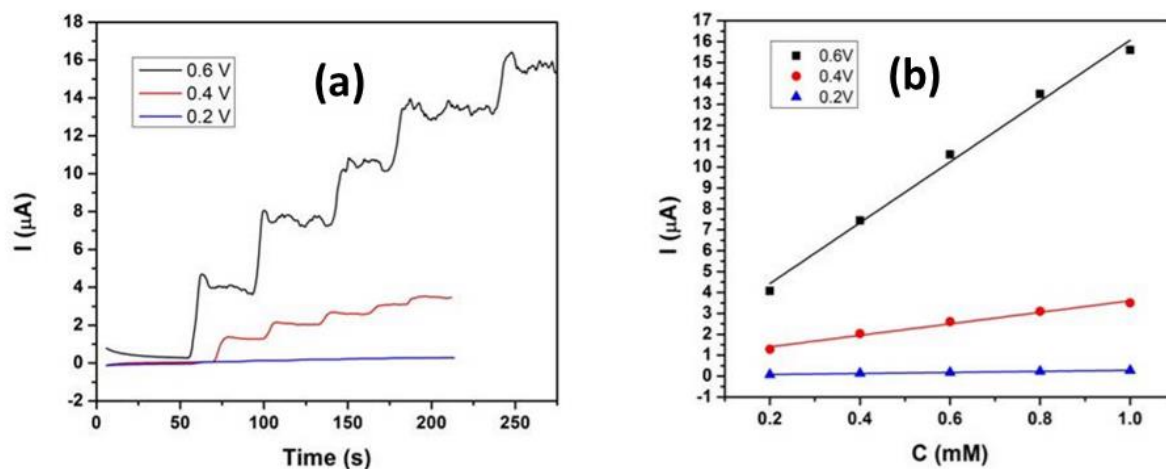


Figure S3. (a) Chronoamperometric responses of NADH at different potentials; (b) Calibration curves obtained for successive addition of 0.2 mmol NADH at different operating potential with RuO₂-GNR/SPCE working electrode.

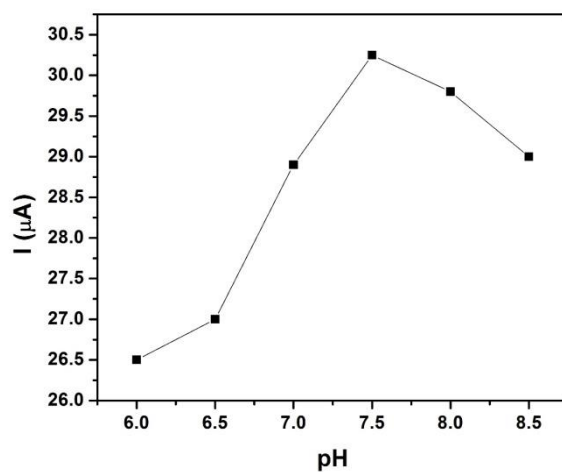


Figure S4. Effect of different pH of phosphate buffer supporting electrolyte.

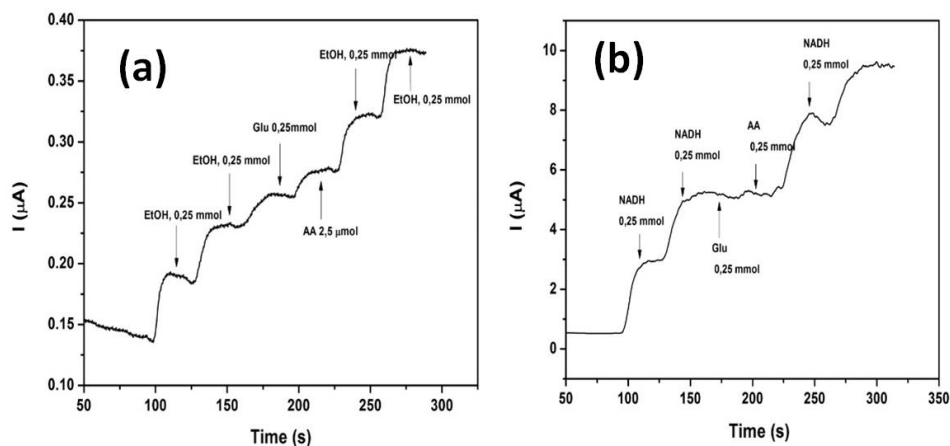


Figure S5. (a) Effect of possible interfering compounds for the detection of ethanol; (b) Effect of possible interfering compounds for the quantification of NADH. All experiments are done under previously optimized experimental conditions.

Table S1. Obtained parameters for NADH sensing at different working potentials.

Potential	Range	LOD (mmol/l)	Slope	Correlation factor
+ 0.2V	0.2 – 1 mmol	0.0964 mmol/l	0.2515	0.9965
+ 0.4V	0.2 – 1 mmol	0.1371 mmol/l	2.75	0.9929
+ 0.6 V	0.2 – 1 mmol	0.0962 mmol/l	14.54	0.9965

Table S2. Results obtained for the determination of ethanol content in the three Serbian schnapps.

Sample	Expected (%)	Found (%)	Recovery (%)
Plumb	45	45.4	101
Apricot	40	40.9	102
Pear	38	39.1	103