Supplementary data for article:

Đurđić, S.; Vukojević, V.; Vlahović, F.; Ognjanović, M.; Švorc; Kalcher, K.; Mutić, J.; Stanković, D. M. Application of Bismuth (III) Oxide Decorated Graphene Nanoribbons for Enzymatic Glucose Biosensing. *Journal of Electroanalytical Chemistry* **2019**, *850*.
https://doi.org/10.1016/j.jelechem.2019.113400

Application of bismuth (III) oxide decorated graphene nanoribbons for enzymatic glucose biosensing

Slađana Đurđić[1], Vesna Vukojević[2], Filip Vlahović[3], Miloš Ognjanović[4], Ľubomir Švorc[5], Kurt Kalcher[6], Jelena Mutić[1], Dalibor M. Stanković[4]

[1]Faculty of Chemistry, University of Belgrade, Studentski trg 12-16, 11000 Belgrade, Serbia

[2]Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Njegoseva 12, 11000 Belgrade, Serbia

[3]Innovation center of the Faculty of Chemistry, University of Belgrade, POB 51, 118, 11158 Belgrade, Serbia

[4]The Vinca Institute of Nuclear Sciences, University of Belgrade, POB 522, 11001 Belgrade, Serbia

[5]Institute of Analytical Chemistry, Faculty of Chemical and Food Technology, Slovak University of Technology in Bratislava, Radlinského 9, Bratislava, SK-812 37, Slovak Republic

[6]Institute of Chemistry-Analytical Chemistry, Karl-Franzens University Graz, A-8010 Graz, Austria

Supplementary material

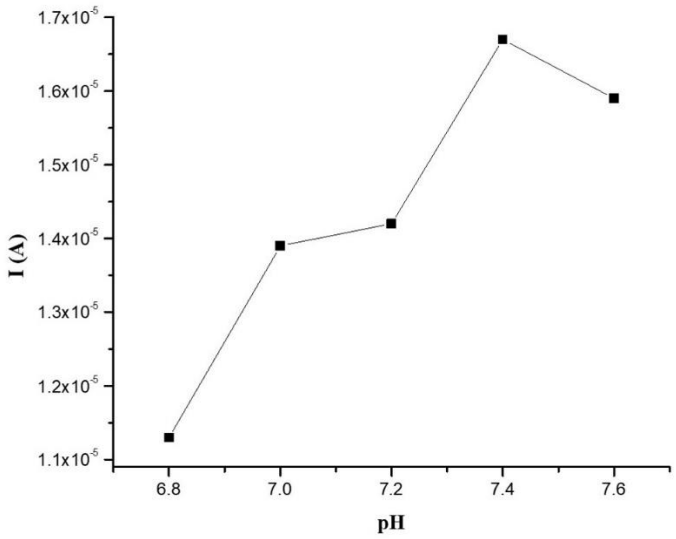

Figure S1. Effect of different pH of 0.1 M phosphate buffer

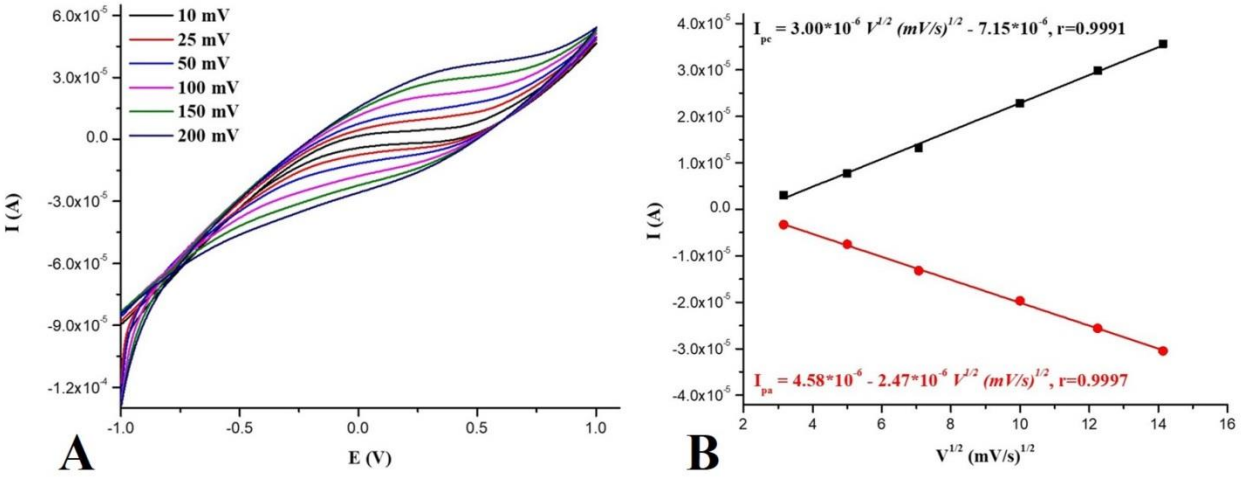

Figure S2. A) Cyclic voltammograms of SPCE/GNR/Bi_2O_3 in 0.1 M PBS (pH=7.40) containing 2.5 mM H_2O_2 at different scan rates (10 mV – 200 mV). B) Plots of the catholic (I_{pc}) and anodic (I_{pa}) peak current vs. the square root of the scan rate ($V^{1/2}$).

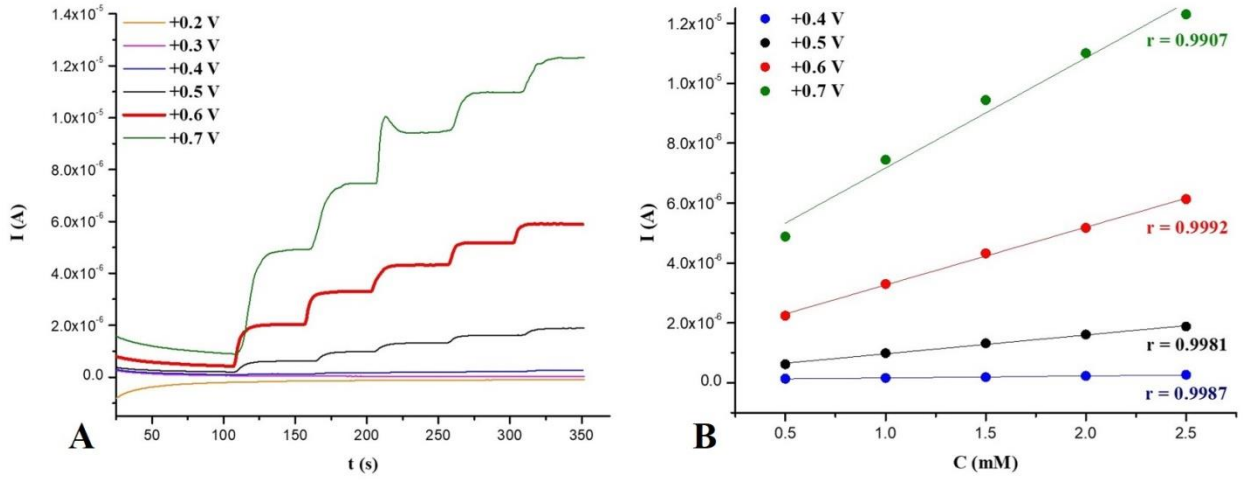

Figure S3. A) Chronoamperometric responses of SPCE/GNR/Bi_2O_3 upon successive addition of H_2O_2 in 0.1 M PBS (pH=7.40) at different working potentials (+0.2 V to +0.7 V). B) Plots of the current intensity *vs*. the concentration of H_2O_2 for working potentials +0.4 V, +0.5 V, +0.6 V and +0.7 V.

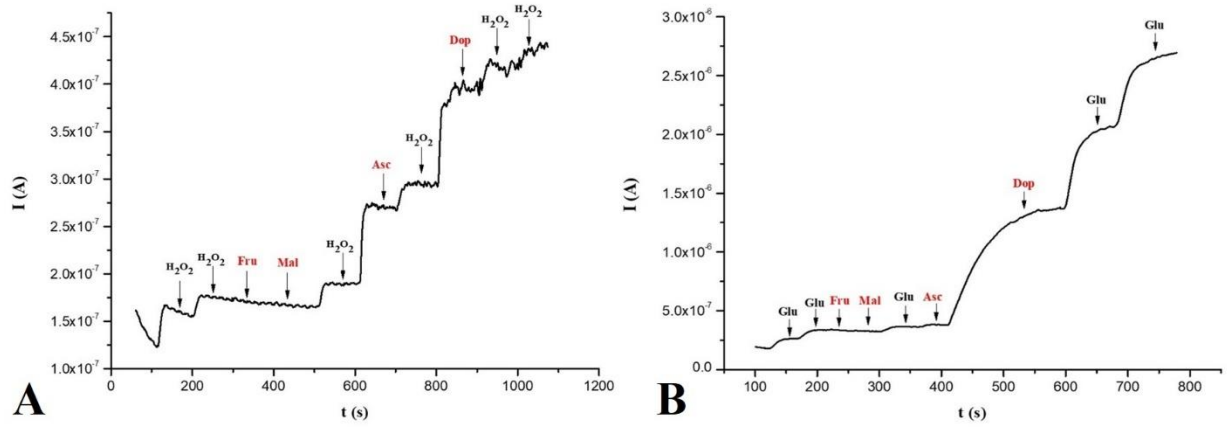

Figure S4. Influence of different interfering compounds during the quantification of H_2O_2 with SPCE/GNR/Bi_2O_3 (A) and glucose with SPCE/GNR/Bi_2O_3/GO_x/Naf/ biosensor (B).

Table S1. Glucose content obtained by analysing the different aliquots of the honey sample

Aliquot (mL)	Declared value (%)	Found value (%)	Recovery (%)
1.0	32.6	32.1	98.5
2.0	32.6	31.0	95.0
3.0	32.6	32.4	99.4
4.0	32.6	32.0	98.2
5.0	32.6	31.9	97.8

Table S2. Glucose concentration (mM) in blood serum and urine samples determined with developed biosensor

	Blood serum samples	Urine samples
Volunteer 1	3.81	<LOD*
Volunteer 2	4.23	<LOD
Volunteer 3	5.76	<LOD

**LOD – limit of detection*

Table S3. Comparison of spiked samples and obtained glucose content in urine samples with proposed method

Spiked (mM)	Found (mM)	Recovery (%)
0.32	0.30	93.8
0.48	0.46	95.8
1.04	0.99	95.2
1.68	1.70	98.8