

A 3D carbon black disposable electrochemical sensor modified with reduced graphene oxide used to the sensitive determination of levofloxacin

Thalles Pedrosa Lisboa^{a*}, Raylla Santos Oliveira^a, Wallace Burger Veríssimo de Oliveira^a, Cassiano Cunha de Souza^a, Guilherme Figueira Alves^a, Maria Auxiliadora Costa Matos^a, and Renato Camargo Matos^a

^a*Departamento de Química, Universidade Federal de Juiz de Fora, 36026-900, Juiz de Fora-MG, Brazil*

**Corresponding author: thallespl_jf@hotmail.com*

Supplementary Material

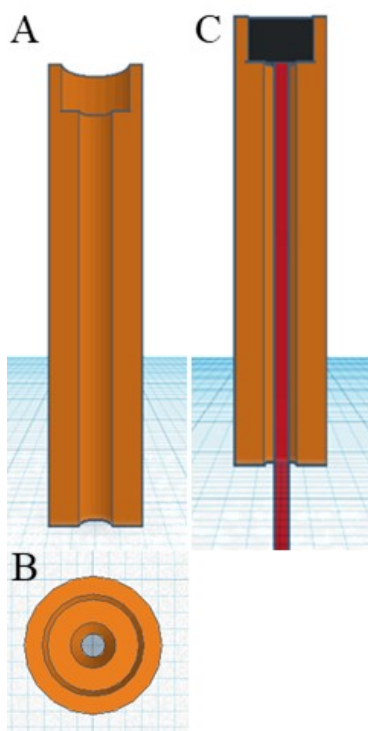


Figure S1. Schematic of the 3D-CB/PLA electrode construction showing (A) a side section with the concentric cylinder and the opening at one end; (B) top view of the support printed with the 3D printer with UV-curable acrylic resin; (C) side section of the sensor containing the 3D printed support and a copper wire in contact with the conductive CB/PLA material filled by hand with a 3D pen.

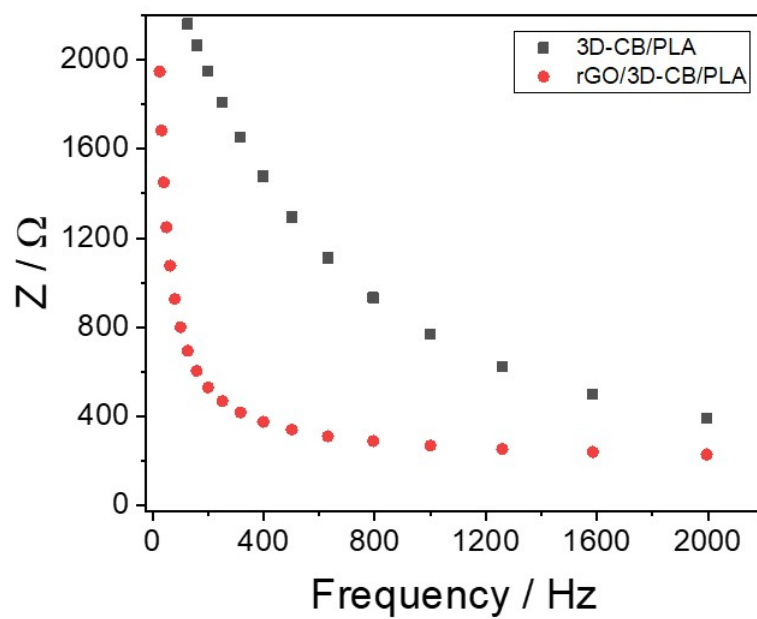


Figure S2. Impedance measurement results (Bode data) of 5 mmol L⁻¹ potassium ferricyanide in KCl medium 100 mmol L⁻¹ at +0.2 V (vs Ag/AgCl, KCl_(sat)).

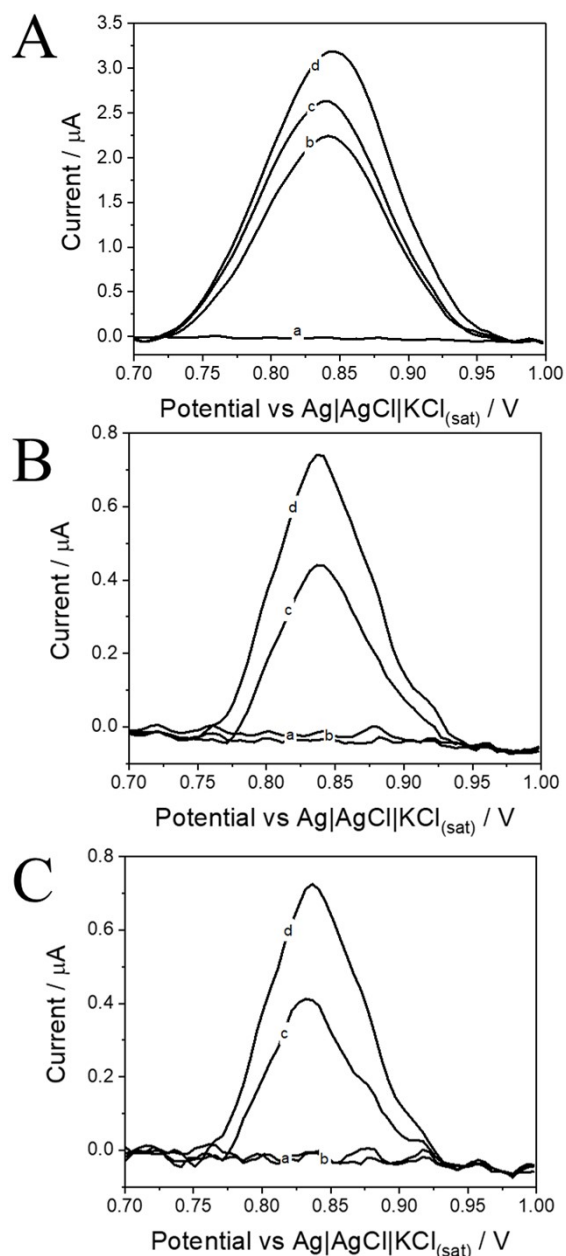


Figure S3. DPV voltammograms obtained for (A) pharmaceutical formulation sample (B) synthetic urine sample; and, (C) tap water sample. Where: (a) black, (b) sample, (c) spiked sample level 1 ($25 \mu\text{mol L}^{-1}$), and, (d) spiked sample level 2 ($35 \mu\text{mol L}^{-1}$). Conditions: reference electrode - Ag/AgCl , $\text{KCl}_{(\text{sat})}$, supporting electrolyte BR buffer (10 mmol L^{-1} , pH 6.0), pulse amplitude 90 mV, step potential 5 mV.