

Supplementary Material

Customized in situ functionalization of Nanodiamonds with Nanoparticles for tuned (bio)sensing platforms

Raquel Montes¹, Gerard Sánchez², Jingjing Zhao³, Cristina Palet³, Julio Bastos-Arrieta^{4,*} and Mireia Baeza^{2,*}

¹GENOCOV Research Group, Department of Chemical, Biological and Environmental Engineering, School of Engineering, Universitat Autònoma de Barcelona, Carrer de les Sitges, 08193 Bellaterra (Cerdanyola del Vallès), Barcelona, Spain. Email: raquel.montes@uab.cat (R.M)

²GENOCOV Research Group, Department of Chemistry, Faculty of Science, Edifici C-Nord, Universitat Autònoma de Barcelona, Carrer dels Til·lers, 08193 Bellaterra (Cerdanyola del Vallès), Barcelona, Spain. Email: gerarg_93@hotmail.com (G.S),

³GTS-UAB Research Group, Department of Chemistry, Facultat de Ciències, Universitat Autònoma de Barcelona, Carrer dels Til·lers, 08193, Cerdanyola del Vallès, Catalunya, Spain. Email: zhaojingjing186@sina.com (J.Z.), cristina.palet@uab.cat (C.P)

⁴Physical Chemistry TU Dresden, Zellescher Weg 19, 01069 Dresden, Germany

* Correspondence: julio.bastos@tu-dresden.de (J.B-A), mariadelmar.baeza@uab.cat (M.B)

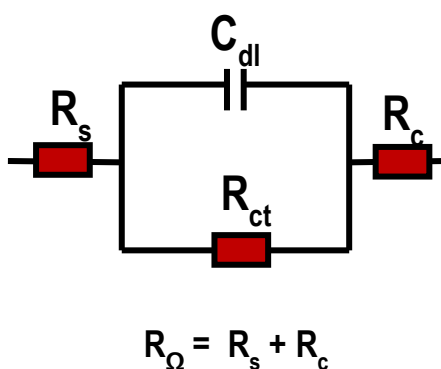


Figure S1: Scheme of the equivalent circuit used for the impedance spectra fitting (Nyquist plots) to obtain the electrochemical parameters of ohmic resistance (R_{Ω}), charge-transfer resistance (R_{ct}) and double-layer capacitance (C_{dl}).

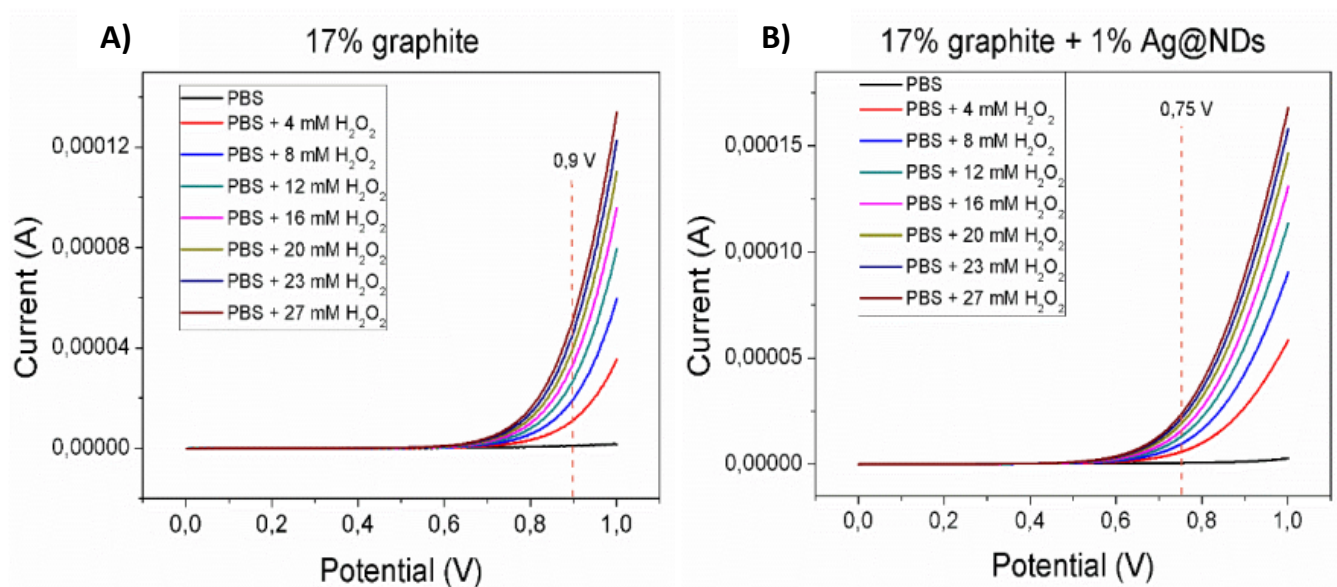


Figure S2: Linear sweep voltamperograms obtained each electrode using hydrogen peroxide as analyte in electrolytic medium KCl 0.1 M and phosphate buffer 0.1 M at pH 7.0. 17% graphite (bare electrode) (A) and 17% graphite + 1% Ag@NDs (B). The dashed lines indicate the working potential applied to each electrode.

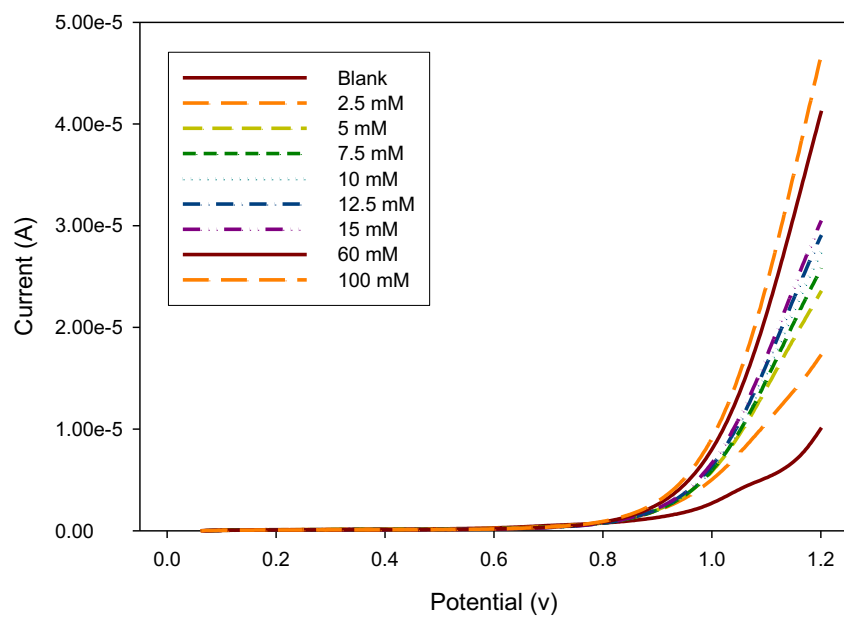


Figure S3: Linear sweep voltamperogram obtained for the 1% Ag@NDs electrode modified with GOD in presence of glucose in electrolytic medium KCl 0.1 M and phosphate buffer 0.1 M at pH = 7.0.