

Supporting Information

Highly sensitive voltammetric determination of hydrochlorothiazide using a glassy carbon electrode modified with super P carbon black nanoparticles

Domingos R. Santos-Neto¹, Carlos E. C. Lopes², Gabrielly P. Silva¹, Lizandra N. Castro¹,
João P. C. Silva², Dianderson C. M. Ferreira², Luiz Ricardo G. Silva², Luiza M. F. Dantas^{1,2},
Iranaldo S. da Silva^{1,2*}

¹*Chemistry Technology Department, Federal University of Maranhão, 65080-805, São Luís, Maranhão, Brazil.*

²*Postgraduate Program in Chemistry, Federal University of Maranhão, 65080-805, São Luís, Maranhão, Brazil*

Corresponding author:

e-mail: *iranaldo.ss@ufma.br ORCID: 0000-0001-6216-9141

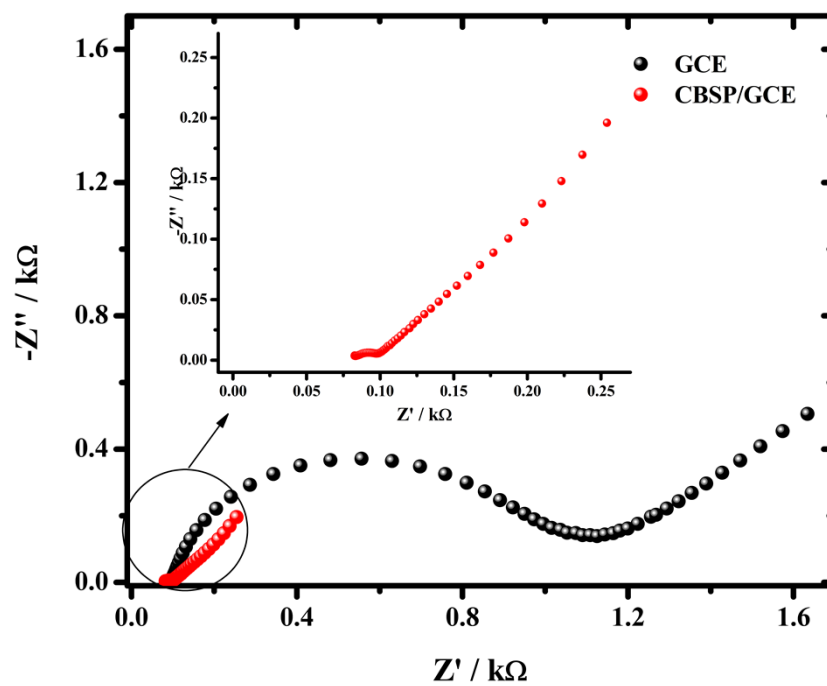


Fig. S1. Nyquist diagram for GCE and SPCB/GCE in 0.1 mol L^{-1} KCl in the presence of 5.0 mmol L^{-1} $[\text{Fe}(\text{CN})_6]^{-3}$.

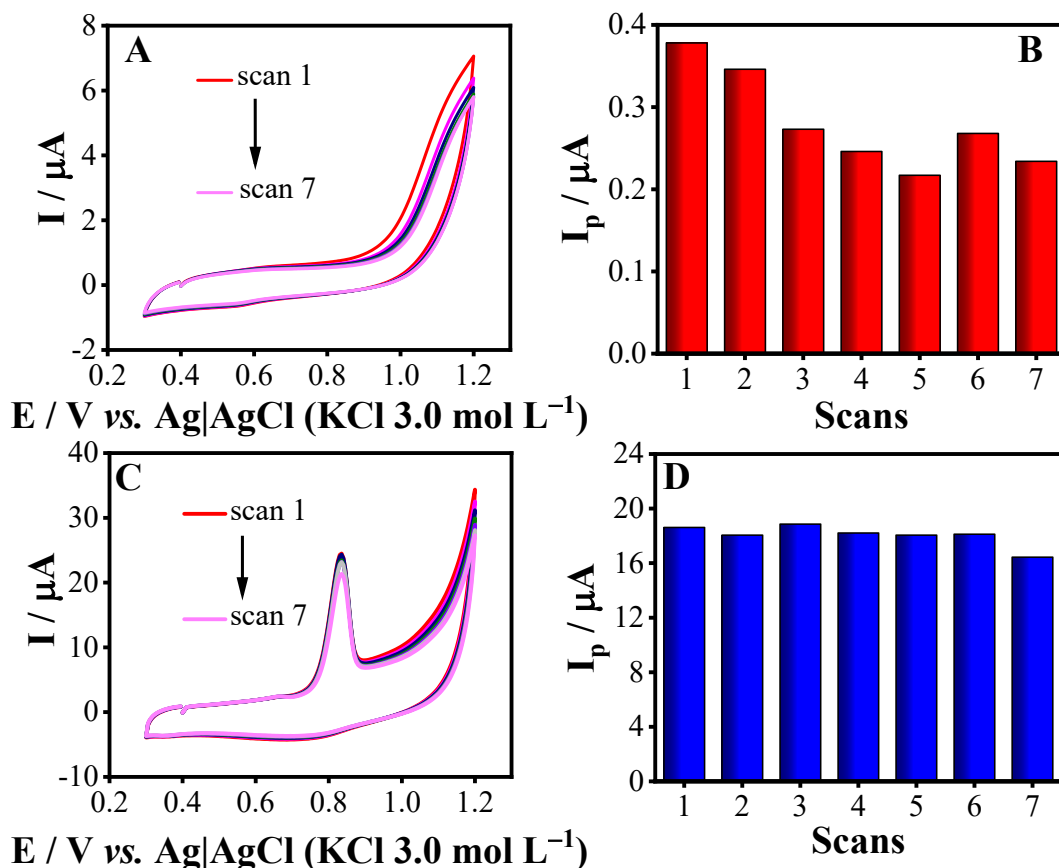


Fig. S2. Cyclic Voltammograms and peak currents obtained in the presence of HCT (0.20 mmol L⁻¹) with (A and B) GCE and (C and D) SPCB/GCE and obtained. Measurement parameters: B-R buffer pH=7.0 as supporting electrolyte. $\nu = 50 \text{ mV s}^{-1}$. $E_{\text{step}} = 5 \text{ mV}$.

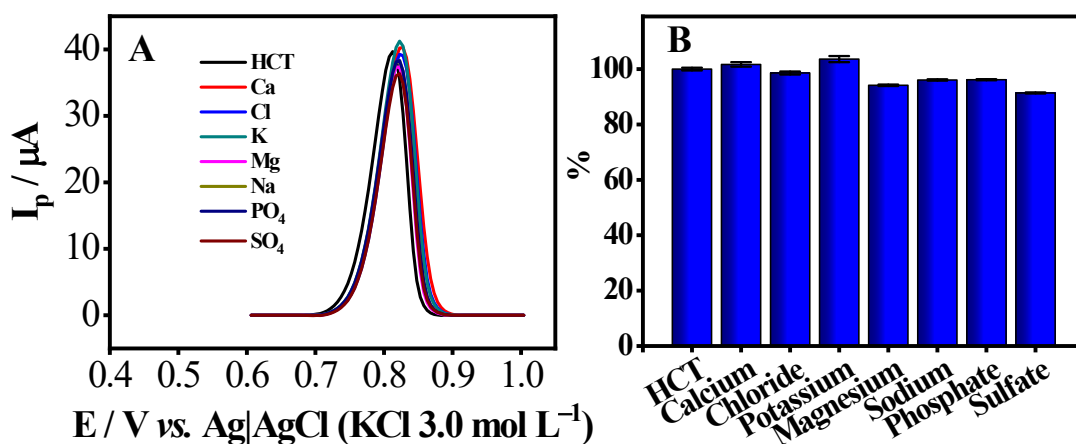


Fig. S3. (A) LSAdSVs and (B) standardized peak current values obtained during HCT measurements in the presence of a variety of possible interferents (Ca²⁺, Cl⁻, K⁺, Mg²⁺, Na⁺, PO₄²⁻, SO₄²⁻). Measurement parameters: B-R buffer pH=7.0 as supporting electrolyte. $\nu = 50 \text{ mV s}^{-1}$. $E_{\text{step}} = 5 \text{ mV}$.

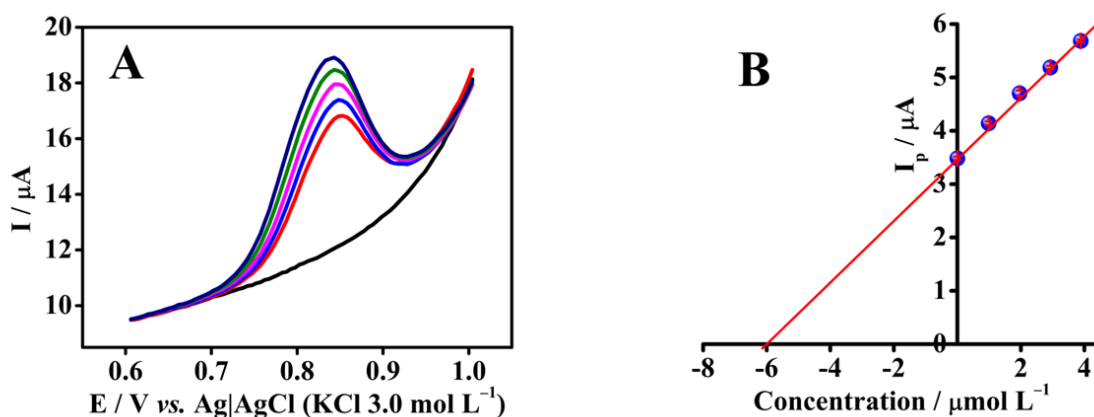


Fig. S4. (A) Linear Sweep Voltammograms obtained with SPCB/GCE during consecutive additions of HCT (1.0; 2.0; 3.0; 4.0 $\mu\text{mol L}^{-1}$) in the tablet A analysis. (B) Relationship between peak current in function of the concentration.

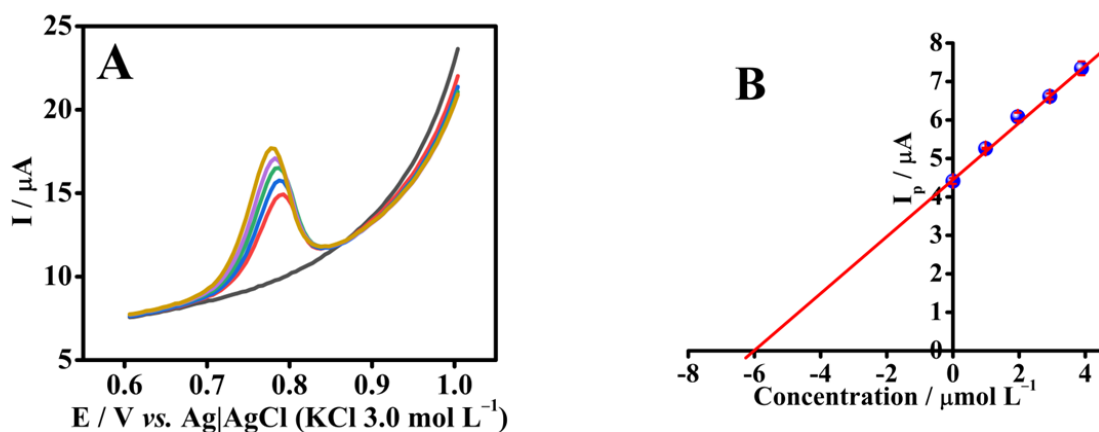


Fig. S5. (A) Linear Sweep Voltammograms obtained with SPCB/GCE during consecutive additions of HCT (1.0; 2.0; 3.0; 4.0 $\mu\text{mol L}^{-1}$) in the tablet B analysis. (B) Relationship between peak current in function of the concentration.

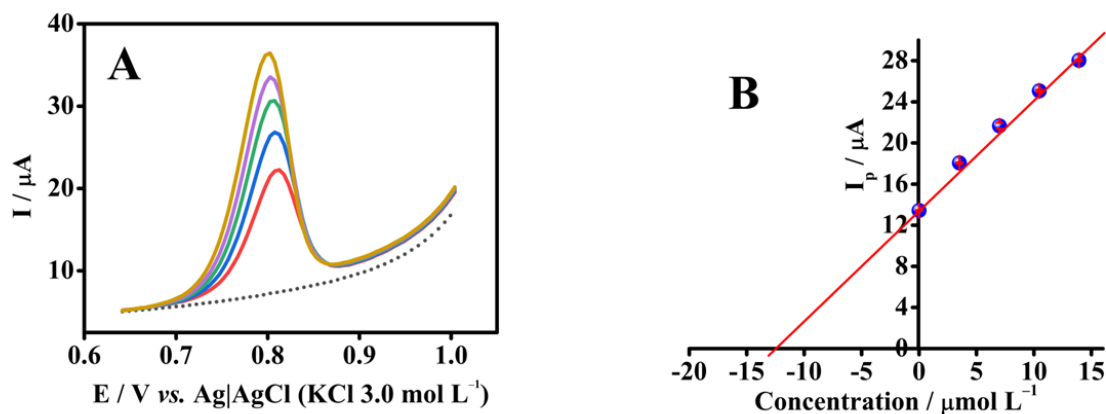


Fig. S6. (A) Linear Sweep Voltammograms obtained with SPCB/GCE during consecutive additions of HCT (5.0; 7.5; 10.0; 12.5 $\mu\text{mol L}^{-1}$) in the spiked tea A analysis. (B) Relationship between peak current in function of the concentration.

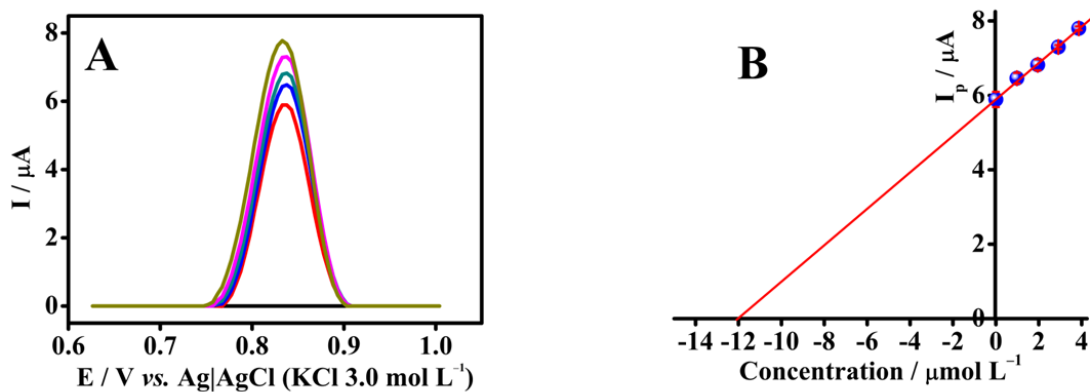


Fig. S7. (A) Linear Sweep Voltammograms obtained with SPCB/GCE during consecutive additions of HCT (1.0; 2.0; 3.0; 4.0 $\mu\text{mol L}^{-1}$) in the spiked tea B analysis. (B) Relationship between peak current in function of the concentration.

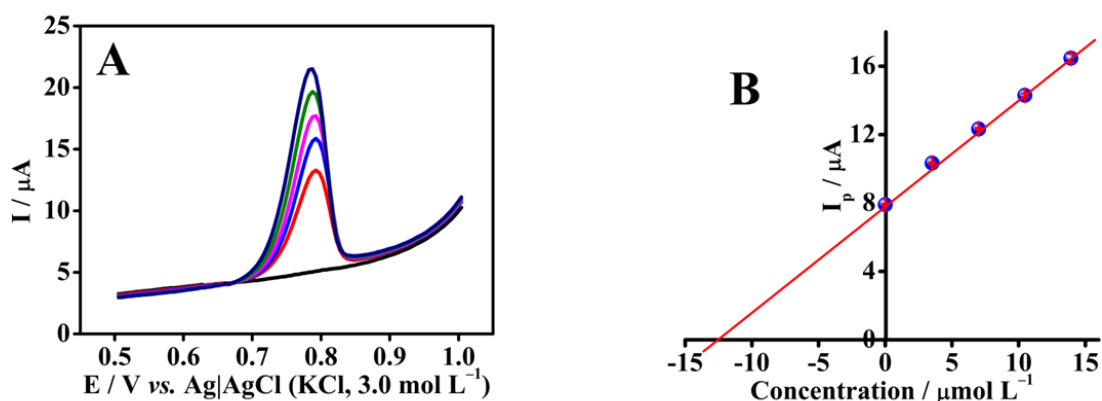


Fig. S8. (A) Linear Sweep Voltammograms obtained with SPCB/GCE during consecutive additions of HCT (5.0; 7.5; 10.0; 12.5 $\mu\text{mol L}^{-1}$) in the spiked tap water analysis. (B) Relationship between peak current in function of the concentration.

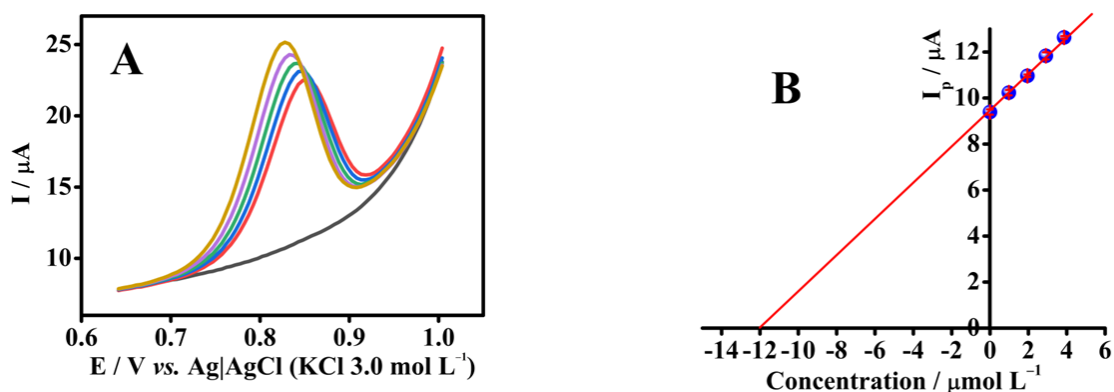


Fig. S9. (A) Linear Sweep Voltammograms obtained with SPCB/GCE during consecutive additions of HCT (1.0; 2.0; 3.0; 4.0 $\mu\text{mol L}^{-1}$) in the spiked lake water analysis. (B) Relationship between peak current in function of the concentration.

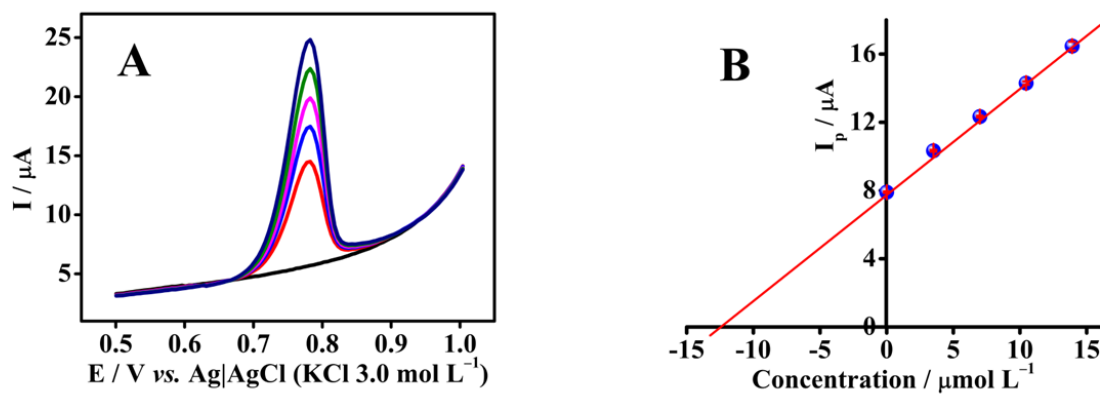


Fig. S10. (A) Linear Sweep Voltammograms obtained with SPCB/GCE during consecutive additions of HCT (5.0; 7.5; 10.0; 12.5 $\mu\text{mol L}^{-1}$) in the spiked synthetic urine analysis. (B) Relationship between peak current in function of the concentration.