

Monitoring of Diclofenac with Biomimetic Sensor in Batch and FIA Systems

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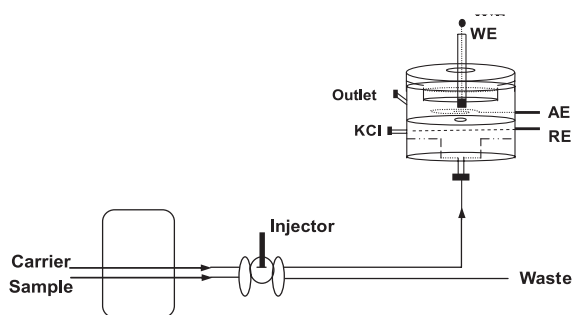


Figure S1. Schematic diagram of the flow injection system for amperometric determination of diclofenac. WE: working electrode (biomimetic sensor); AE: auxiliary electrode (platinum); RE: homemade reference electrode ($\text{Ag}|\text{AgCl}|\text{KCl}_{\text{sat}}$).

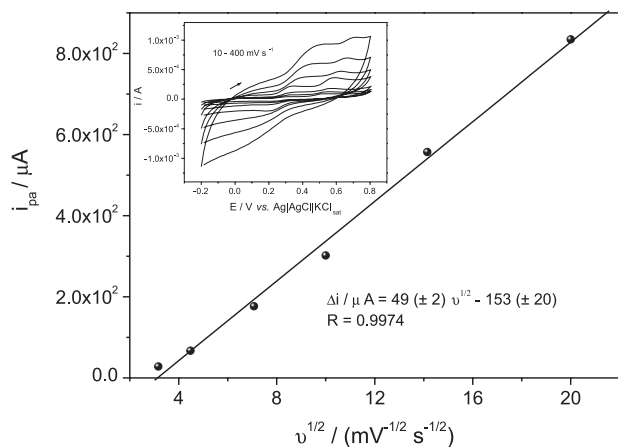


Figure S2. Linear dependence of the anodic peak current (Δi) vs. square root of the scan rate ($v^{1/2}$). Inset: study of scan rate with the proposed sensor from cyclic voltammetry in 0.1 mol L^{-1} phosphate buffer (pH 7.5) containing $1.0 \times 10^{-4} \text{ mol L}^{-1}$ of diclofenac.

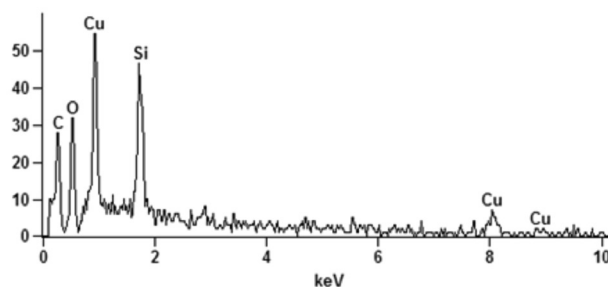


Figure S3. EDX spectrum of the copper complex and MWCNT-COOH.

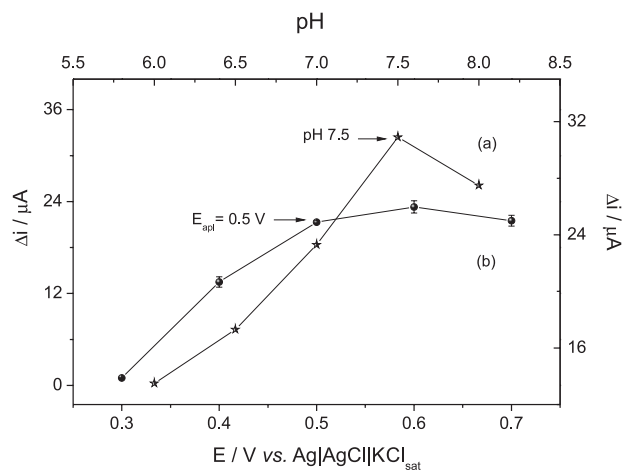


Figure S4. Influence of the parameters in the proposed FIA system: (a) effect of pH on the response to diclofenac using a flow rate of 1.2 mL min^{-1} ; (b) effect of potential on the response to diclofenac, using a sample volume (V_s) of $100 \mu\text{L}$. The experiments were carried out using a carrier of 0.1 mol L^{-1} PBS buffer at pH 7.5, and applying a potential of $500 \text{ mV vs. Ag}|\text{AgCl}|\text{KCl}_{\text{sat}}$.

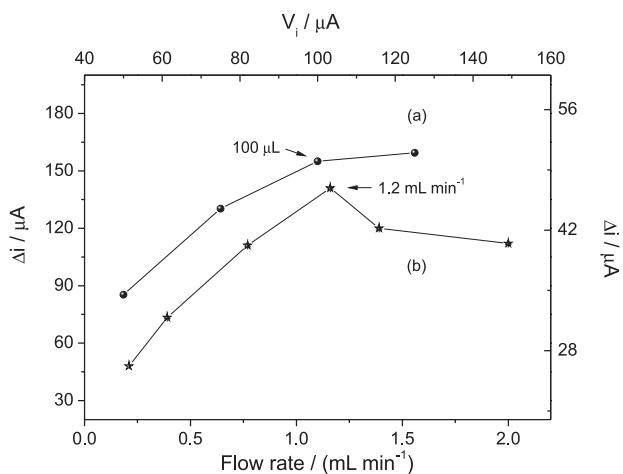


Figure S5. Influence of the parameters in the proposed FIA system: (a) effect of injected sample volume (V_i) on the response to diclofenac using a flow rate of 1.2 mL min^{-1} ; (b) effect of flow rate on the response to diclofenac, using a V_i of $100 \mu\text{L}$. The experiments were carried out using a carrier of 0.1 mol L^{-1} PBS buffer at pH 7.5, and applying a potential of $500 \text{ mV vs. Ag|AgCl|KCl}_{\text{sat}}$.

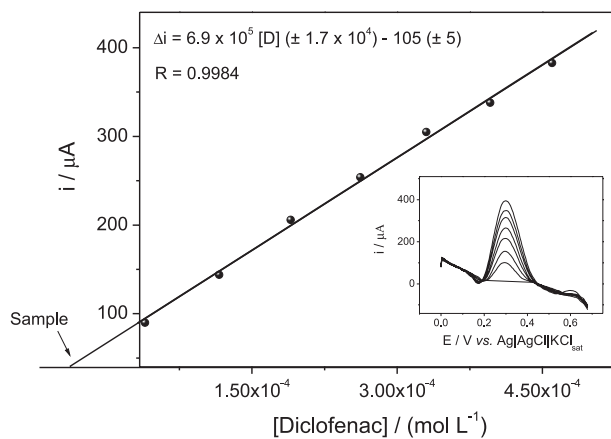


Figure S6. Result obtained in recovery experiments carried out for human serum samples using the standard addition method for samples No. 1.