SUPPLEMENTARY MATERIAL

Lab-made CO_2 laser-engraved electrochemical sensors for ivermectin determination

Dianderson C. M. Ferreira[a], Nélio I. G. Inoque [b], Auro Atsushi Tanaka[a], Luiza M. F. Dantas[a], Rodrigo A. A. Muñoz[b]*, Iranaldo S. da Silva[a]**

[a] Chemistry Technology Department, Federal University of Maranhão, 65080-805, São Luís, Maranhão, Brazil.

[b] Institute of Chemistry, Federal University of Uberlândia, 38408-100 Uberlândia, MG, Brazil.

Corresponding author:

e-mail: *munoz@ufu.br and ORCID: 0000-0001-8230-5825

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

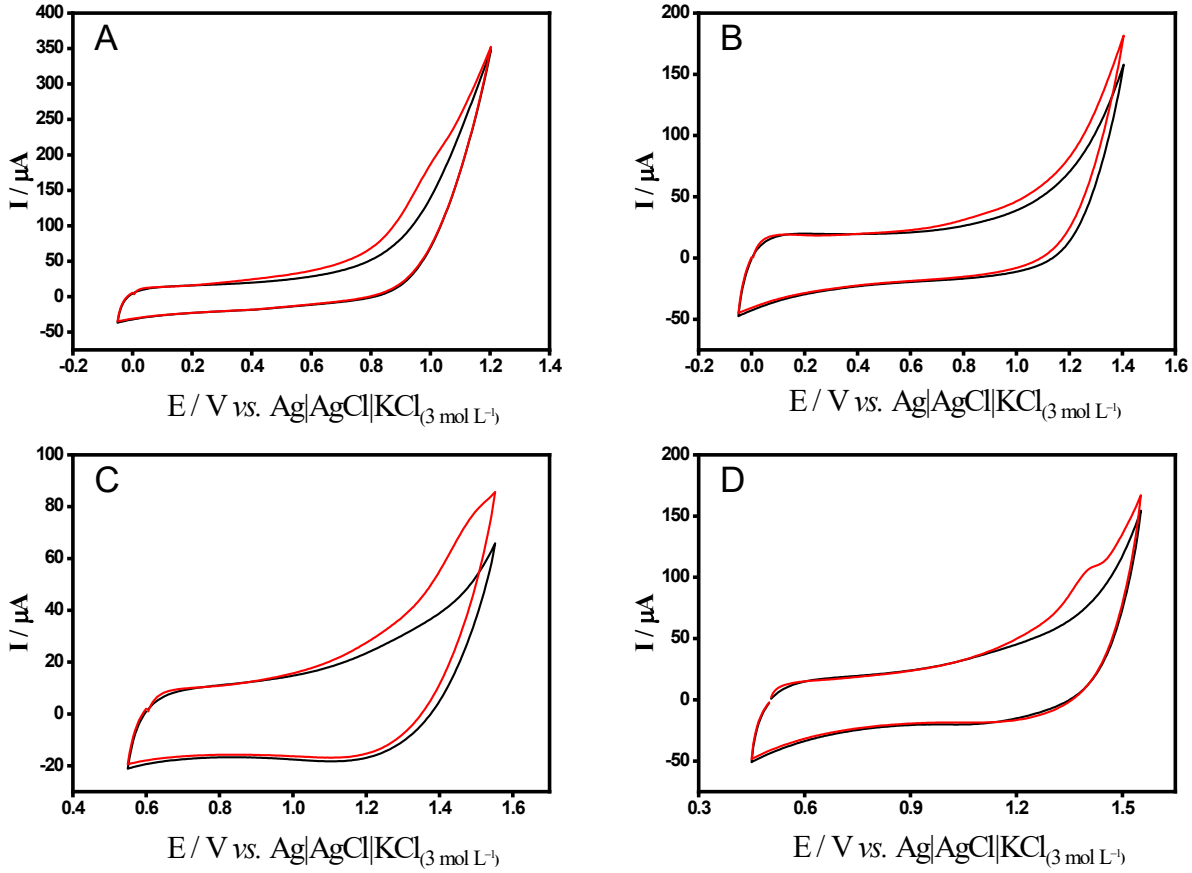

Fig. S1 Cyclic voltammograms recorded using 50 µmol L^{-1} IVM in 0.12 mol L^{-1} BR (30% ethanol), (A) pH 12.0, (B) pH 7.0, (C) pH 2.0 and (D) in 0.1 mol L^{-1} H_2SO_4 (30% ethanol) for the LIG electrode. Instrumental conditions: scan rate = 50 mV s^{-1} and step potential = 5 mV s^{-1}

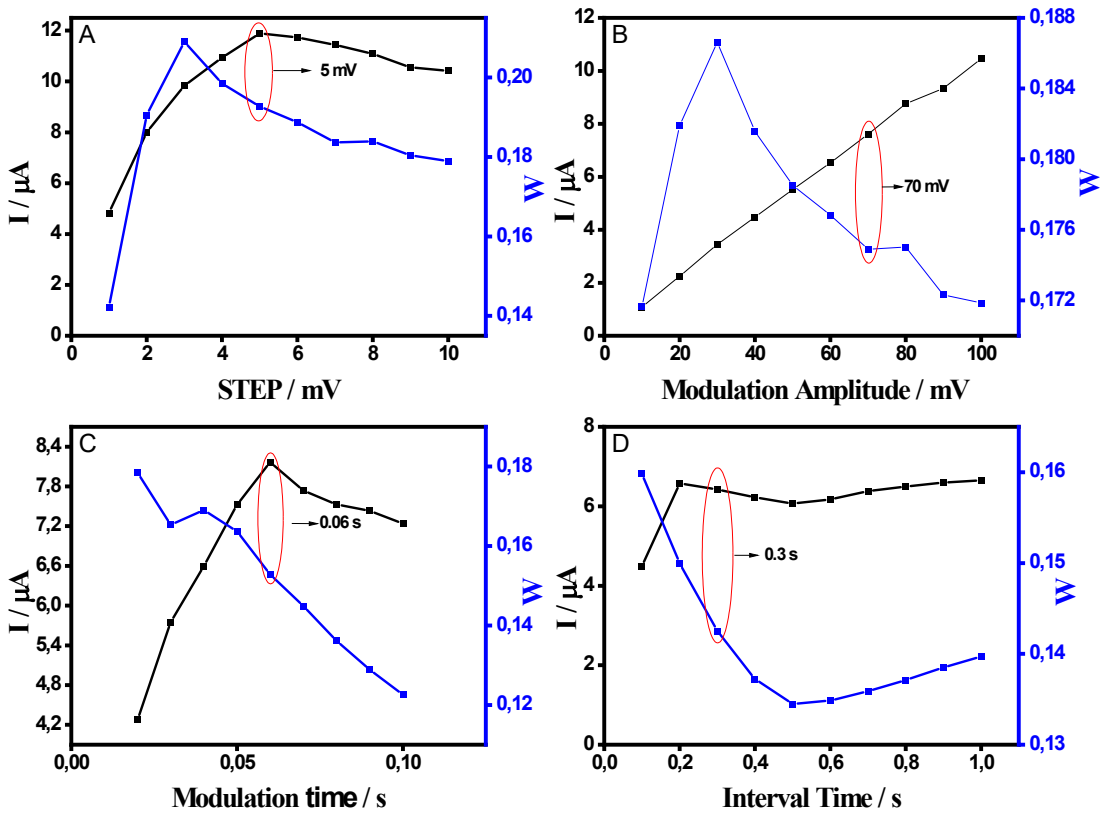

Fig. S2 Optimization of the DPV parameters: (A) Potential Step (1.0 to 10.0 mV), (B) Modulation Amplitude (10.0 to 100.0 mV), (C) Modulation Time (0.02 to 0.10 s), and (D) Interval Time (0.10 to 1.00 s), recorded using 50 µmol L^{-1} IVM in 0.1 mol L^{-1} H_2SO_4 (30% ethanol), for the LIG electrode.

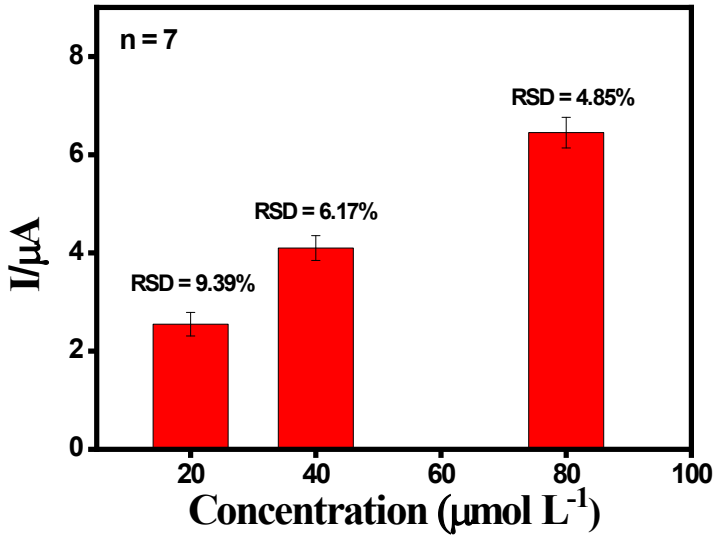

Fig. S3 Repeatability study with consecutive measurements (n = 7) at different concentrations of IVM (20, 40, and 80 μmol L^{-1}). DPV conditions: Potential step: 0.5 mV, modulation amplitude: 70 mV, modulation time: 0.06 s, and interval time: 0.3 s, supporting electrolyte: 0.1 mol L^{-1} H_2SO_4 solution (30% ethanol, v/v).

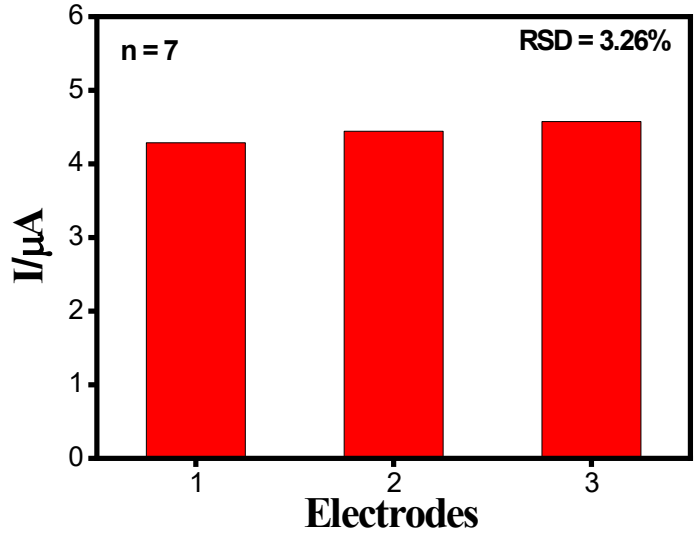

Fig. S4 Reproducibility study with consecutive measurements (n = 7) at different electrodes, recorded using 40 μmol L^{-1} IVM. DPV conditions: Potential step: 0.5 mV, modulation amplitude: 70 mV, modulation time: 0.06 s, and interval time: 0.3 s, supporting electrolyte: 0.1 mol L^{-1} H_2SO_4 solution (30% ethanol, v/v).