

Hydrogen Peroxide detection using modified electrochemical electrodes for the intestinal environment

Santiago Botasini, Dylan Jesner, Justin Stine, Reza Ghodssi

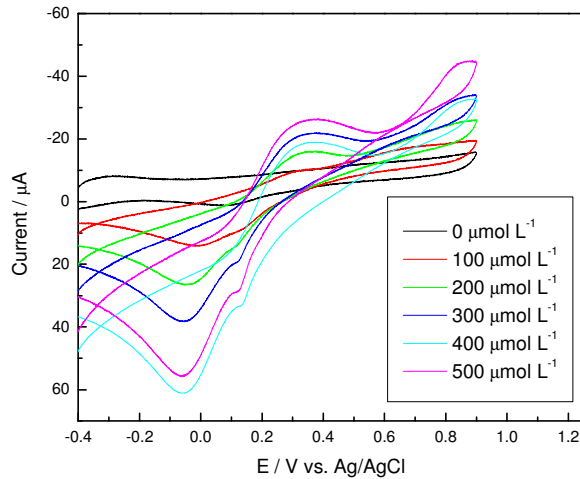


Figure 1: Cyclic voltammetry from -0.40 to 0.90 V at 0.1V s^{-1} with different concentrations of H_2O_2 from 0 to 500 $\mu\text{mol L}^{-1}$. The curve shows the increase of the maximum at 0.05V attributed to the reduction of H_2O_2 catalyzed by the platinum electrode. Ag/AgCl and glassy carbon was used as reference and counter electrode respectively.

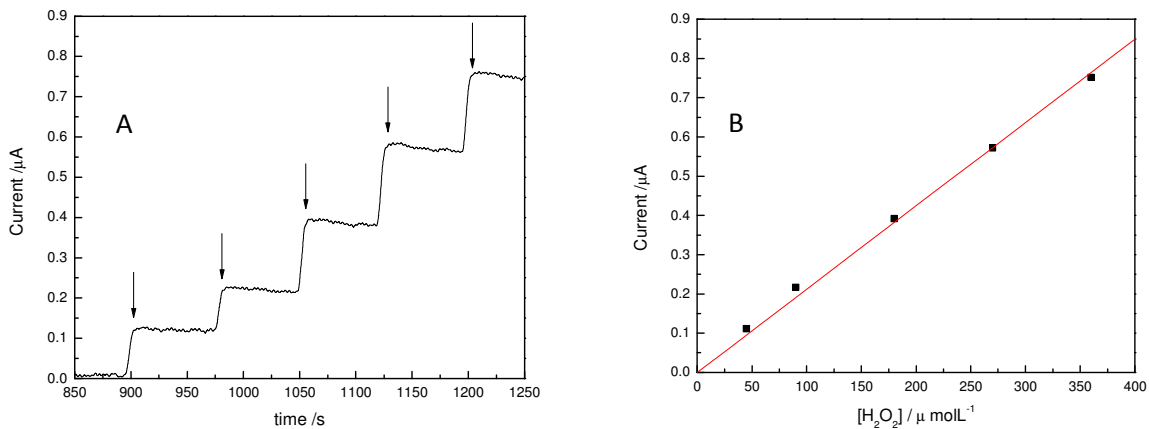


Figure 2: (A) Amperometric curve at 0.05V, and (B) its respective linearization by increasing concentrations of Hydrogen peroxide for 50, 100, 200, 300 and 40 $\mu\text{mol L}^{-1}$. Measurement were collected on a certified simulated artificial intestinal fluid on a AD5941 front-end chip. Platinum-Nafion®, glassy carbon and Ag/AgCl was used as working, counter and reference electrode respectively.