

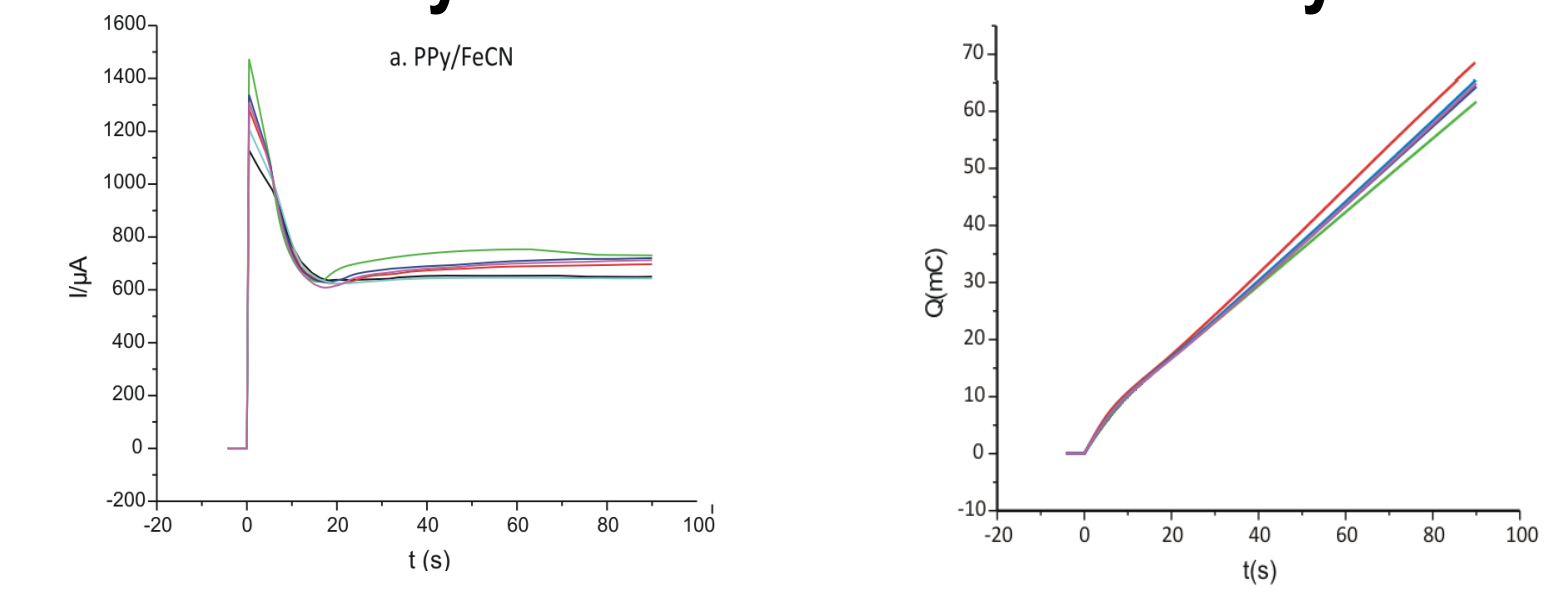
ELECTROCHEMICAL BIOSENSORS BASED ON POLYPYRROLE AND LACCASE FOR THE DETECTION OF L-TYROSINE IN PHARMACEUTICAL PRODUCTS

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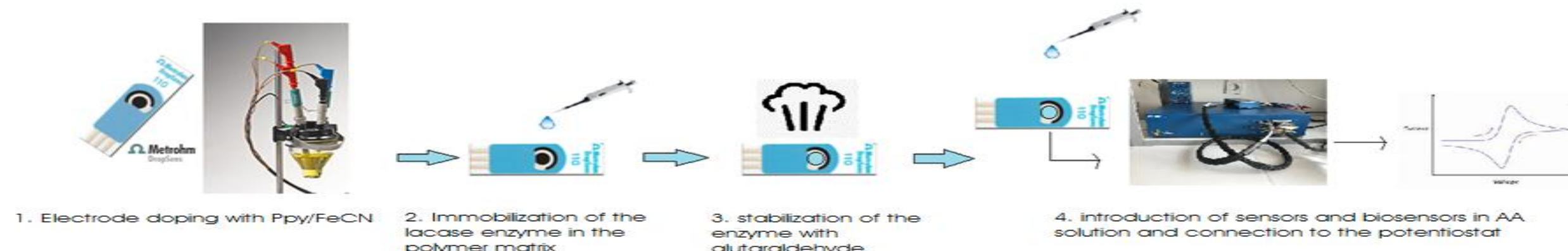
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RESULTS

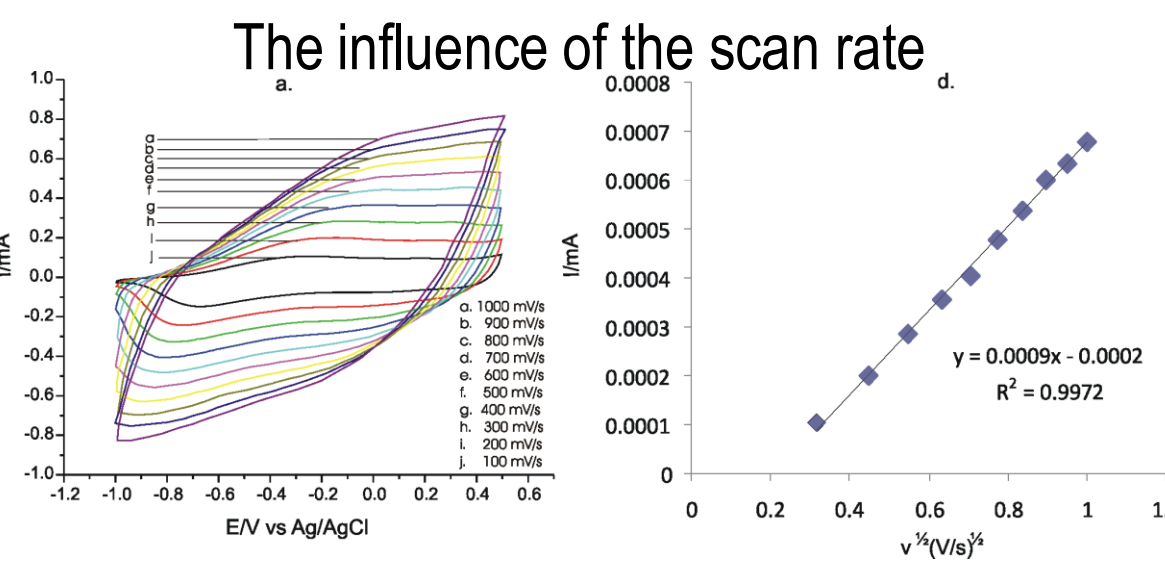
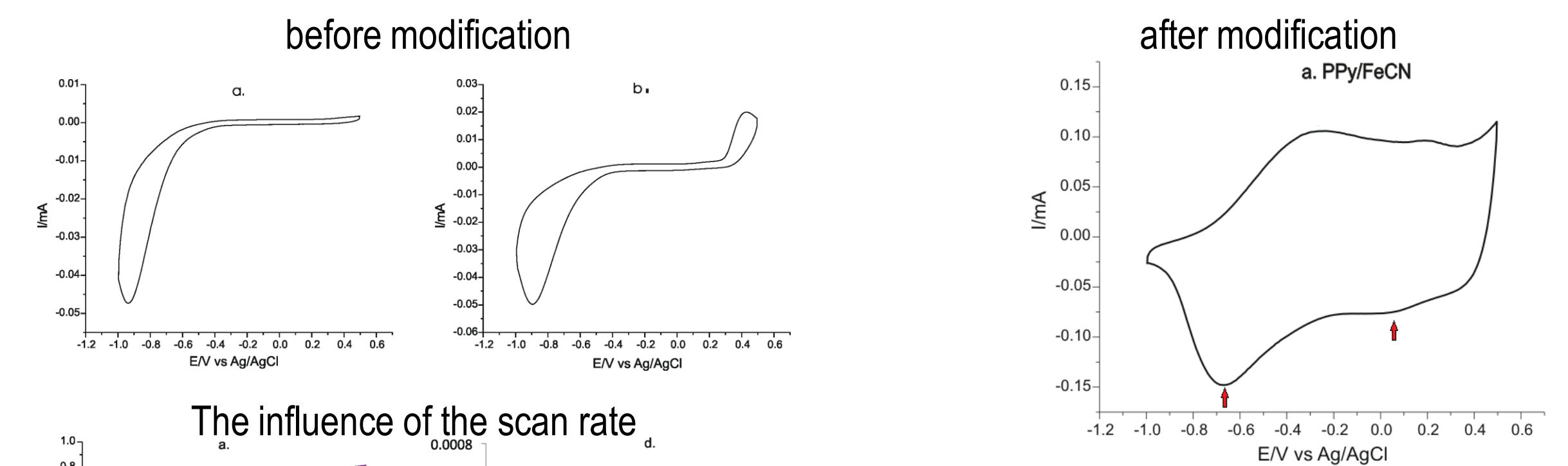
1. Deposition of the PPy on the surface of SPCEs by chronoamperometry



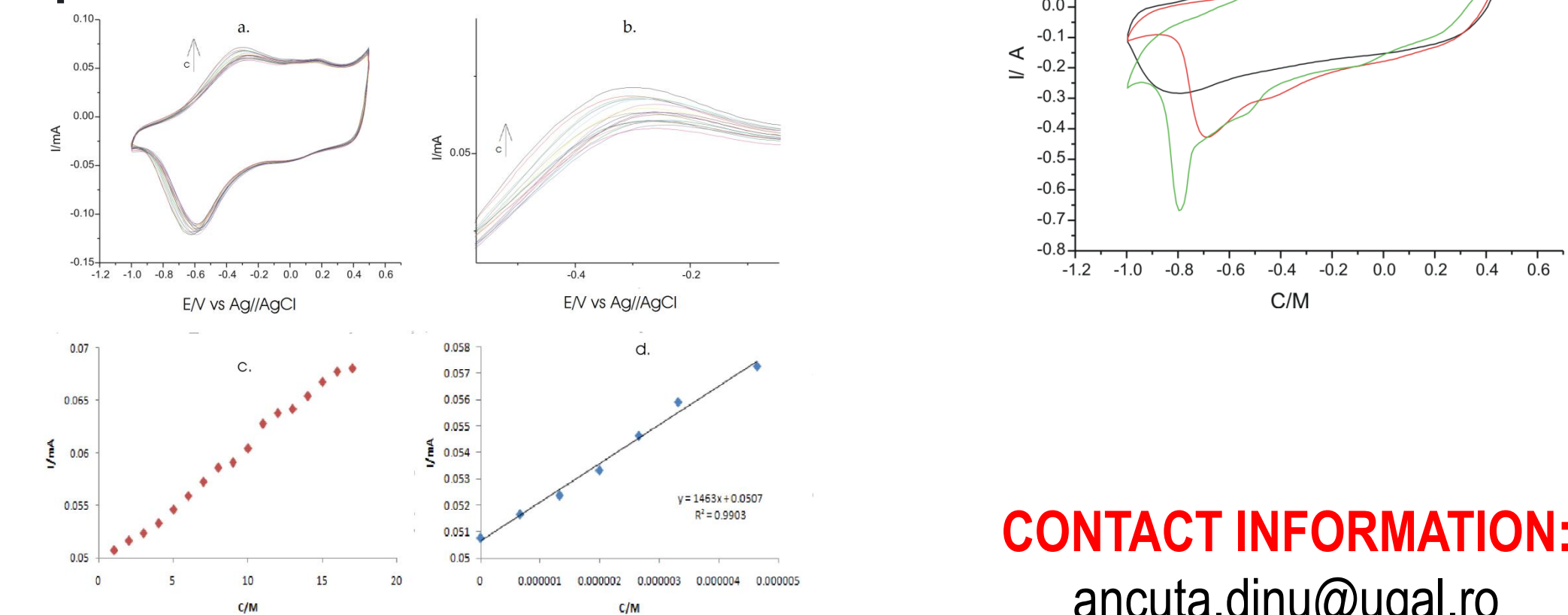
2. The process of transforming the sensor into a biosensor – immobilization of the enzyme laccase



3. Voltammetric responses of the PPy/FeCN/Lacc/SPCE in 0.1 M KCl solution and in 0.1 M KCl - 10⁻³ M L-Tyr solution



4. Development of calibration curve



5. Validation of the PPy/FeCN/Lacc/SPCE

Validation of the biosensor performance, showing a linear relationship between current and concentration.

INTRODUCTION:

many prohibitions and restrictive measures, isolation and quarantine

SARS-CoV-2 virus

depressive states, emotional disorders, anxiety and sleep

high levels of Tyrosine

new biosensor for the detection of Tyrosine

OBJECTIVE:

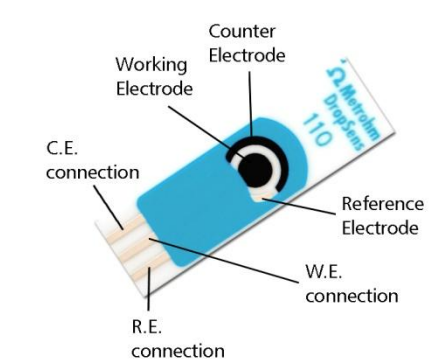
Development of a new, **efficient, sensitive and low-cost device** for the early diagnosis of appropriate pathology caused by these **Amino Acid** and the development of innovative therapeutic approaches

MATERIALS AND METHODS

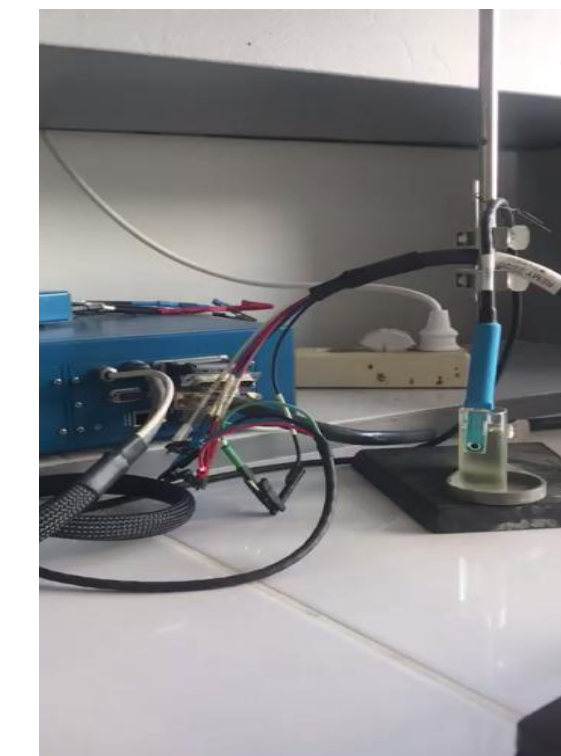
Equipment:



EG&G potentiostat/galvanostat



Screen-printed Carbon Electrode



Biologic SP 150 potentiostat/galvanostat

Methods: chronoamperometry, cyclic voltammetry, FT-IR

Chemicals and solutions: pyrrole, 0.1 M KCl, FeCN, laccase, 10⁻³ M L-Tyrosine, Cebrium, Sleep Optimizer

CONCLUSIONS

The analytical performance of the biosensor was evaluated at the detection of L-Tyr in pharmaceuticals and validated with the spectrometric method.

The results obtained with the biosensor are in good agreement with those obtained by the standard method, but the electroanalytical method is faster, easy to implement, requires small amounts of sample and few chemical reagents.

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