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## EFFECT OF GRAPHENE OXIDE AND CARBON NANOTUBES ON ELECTRODEPOSITION OF POLYPYRROLE FILMS

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Oral presentation

Poster presentation

### ABSTRACT

Polypyrrole (PPy) - based films were electrodeposited by cyclic voltammetry on graphene oxide (GO) and multi-walled carbon nanotubes (CNTs) pre-treated substrate. The effect of GO and CNTs on the electrodeposition and properties of PPy films was assessed with the loading of GO and GO:CNT wt. ratio. The properties of PPy-based films were characterized by using Fourier Transform Infrared Spectroscopy, Scanning Electron Microscopy, Raman spectroscopy and electrochemical measurements. The obtained results show a marked effect of CNTs on the growth of PPy films. The electrochemical measurements indicated a pseudocapacitive behavior for the PPy films. The electrochemical performance of the PPy-based films increased with the GO:CNT wt. ratio and it is attributed to the interaction and network formed between the buffer layer of GO:CNT and the PPy matrix.