

A new Electrochemical Sensor based on Nano-sized Carbon Materials for the detection of Azithromycin in the Environmental and Biological Samples

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A simple and highly sensitive electrochemical sensor, for the detection of Azithromycin (AZT) in the environmental and biological samples was developed using carbon paste electrode modified with graphene nanoplatelets (GNPLs). Optimization of the amount of the modifier was done and best results are obtained with the presence of 5 % (m:m) of the modifier. With the prepared electrode, the analyte showed the oxidation peak at a working potential of 0.8 V. Cyclic voltammetry (CV) and differential pulse voltammetry (DPV) were applied as suitable electrochemical methods using Britton-Robinson buffer solution at pH 9.00. Additional, experiments will be carried out in order to find the best analytical parameters and also for testing the electrode linearity, the limit of detection, interference studies, repeatability, reproducibility before applying the sensor in real samples.

Keywords: Azithromycin, Graphene Nanoplatelets, Carbon paste electrode