

# Electroanalytical Determination of Gemifloxacin Mesylate in Bulk, Tablets and

*Amr Mohamed Badawy, A.K. Attia, M.M. Abd-Elmoetya, A.M. Badawy, A.E. Abd-Elaleemb and S.G. Abd-Elhamida*

*Professor of Analytical Chemistry*

## Abstract

A simple, precise, inexpensive and sensitive voltammetric method has been developed for the determination of gemifloxacin mesylate (GEM) in the presence of tween 80 in the bulk, pharmaceutical dosage forms and human urine at gold nanoparticles modified carbon paste electrode (GNCPE). The electrochemical behavior of GEM has been investigated by using cyclic voltammetry (CV) and differential pulse voltammetry (DPV) techniques. The electrochemical oxidation of GEM was an irreversible process which exhibited adsorption-diffusion controlled process behavior in Britton-Robinson (BR) buffer over the entire pH range of values from 2 to 9. The adsorptive stripping response was evaluated as a function of some variables such as pH, type of surfactant, scan rate and accumulation time. The anodic peak current varied linearly over the range from  $8.0 \times 10^{-7}$  to  $2.8 \times 10^{-5}$  M. The limits of detection and quantification were  $7.32 \times 10^{-8}$  M and  $2.44 \times 10^{-7}$  M, respectively. The relative standard deviations and the percentage recoveries were found in the following ranges: 0.58-1.35% and 99.37-101.76%, respectively

*Analytical and Bioanalytical chemical research - 2014, December*