

عنوان مقاله:

Electroanalytical Determination of Gemifloxacin Mesylate in Bulk, Tablets and Human Urine Using Gold Nanoparticles Modified Carbon Paste Electrode

محل انتشار:

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نویسندگان:

(Ali Attia - National Organization for Drug Control and Research (NODCAR

Mona Abd-Elmoety - National Organization for Drug Control and Research

Amr Badawy - Analytical Chemistry Department, Faculty of Pharmacy, Cairo University

Abd-Elaziz Abd-Elaleem - Analytical Chemistry Department, Faculty of Pharmacy, Cairo University

Samar Abd-Elhamid - National Organization for Drug Control and Research

خلاصه مقاله:

A simple, precise, inexpensive and sensitive voltammetric method has been developed for the determination of gemifloxacin mesylate (GEM) in the presence of tween ۸۰ in the bulk, farmaceutical 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 ۲ to ۹. 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 ۸.۰×۱۰^{-۷} to ۲.۸×۱۰^{-۵} M. The limits of detection and quantification were ۷.۳۲×۱۰^{-۸} M and ۲.۴۴×۱۰^{-۷} M, respectively. The relative standard deviations and the percentage recoveries were found in the following ranges: ۰.۵۸-۱.۳۵% and ۹۹.۳۷-۱۰۱.۷۶%, respectively.

کلمات کلیدی:

Gemifloxacin, Gold Nanoparticles, Voltammetry, Tween ۸۰, Urine

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