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Boehmite nano particle modified carbon paste electrode for determination of piroxicam

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Abstract

The voltammetric oxidation of piroxicam was studied at a carbon paste (CP) and boehmite nanoparticles modified carbon paste (BNP-CP) electrodes by cyclic voltammetry and its determination was carried out by anodic stripping differential pulse voltammetry. The experimental parameters, such as electrode composition, pH, scan rate, accumulation time and accumulation potential were optimized. Under the optimal conditions at BNP-CP electrode, a linear relationship was realized between the anodic peak currents and piroxicam concentrations in the range of 0.5 to 100.0 nM, with the detection limit of 0.11 nM. The proposed method was applied to the determination of piroxicam in serum and pharmaceutical samples with the desirable results. Comparison of these results with that obtained by UV spectrophotometric method shows a good agreement between two methods.

Keywords: Piroxicam, boehmite nanoparticles modified carbon paste electrode, anodic stripping differential pulse voltammetry.

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