عنوان مقاله:

Development and validation of voltammetric method for the determination of anti breast cancer drug at different electrolytes.

محل انتشار:

کنفرانس بین المللی پژوهش های نوین در علوم و مهندسی قرن 21 (سال: 1396)

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خلاصه مقاله:

In this work, The electro-oxidative behaviour of tamoxifen (Tam) as an anti breast cancer drug was investigated at different electrolytes such as Britton-Robinson (BR) buffer, H2SO4, HNO3, CH3COOH and H3PO4 by differential-pulse adsorptive anodic stripping (DPAdAS) technique. To investigate the mechanism, we performed chronoamperometry, CV at different scan rates and differential pulse anodic voltammetry (DPAV) on tam-covered glassy carbon electrodes (GCEs). The primary experiments demonstrated that the DPAASV presents a sufficient oxidation peak current at approximately 1.03 V vs Ag/AgCl. Therefore, the effects of different parameters such as electrolytes, deposition potential and deposition time have been studied and optimized. The obtained results shown that the H2SO4 as electrolyte, -1.4 V and 30s are the optimal values, respectively. Then the calibration curve was plotted in the range of 0.5 to 80 µM and the limits of detection (LOD) and quantitation (LOQ) were calculated to be 0.12 and 0.4 µM, respectively. The mean, standard error and relative standard deviation (RSD) for 4 replicates of 15 µM were found to be 15.57 µM, 3% and 4%, respectively. To estimate the application potential of the proposed method, the extraction of Tam from tablets containing 20 mg Tam were investigated and optimized.

کلمات کلیدی:

Tamoxifen; DPAASV; Striping voltammetry; deposition

لینک ثابت مقاله در پایگاه سیویلیکا: