Abstract

Voltammetric behaviour of benzophenone-3 on a diamond film electrode doped by boron was studied by difference pulse voltammetry in an anodic area in the Britton-Robinson buffer medium. The influence of supporting electrolyte pH on the determination was monitored as well as the influence of methanol and acetonitrile content in the measured sample. pH 12 was selected as the optimum value for the determination. Methanol did not have any influence on the determination up to the content of 20 % (v/v), acetonitrile up to content of 70 % (v/v). A linear calibration dependence was measured in the medium of Britton-Robinson buffer pH 12 within the benzophenone-3 concentration range from $1 \cdot 10^{-6}$ mol·L^{-1} to $1 \cdot 10^{-4}$ mol·L^{-1}. Detection limit $1.5 \cdot 10^{-6}$ mol·L^{-1} and determination limit $5.0 \cdot 10^{-6}$ mol·L^{-1} have been reached.

Key words

Benzophenone-3

Boron-doped diamond film electrode

Differential pulse voltammetry