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Application of nonionic surfactants in voltammetry of eugenol in water-organic media

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Abstract

Eugenol is oxidized in available area of potentials on glassy carbon electrode in 0.1 M $LiClO_4$ in ethanol/water (10% v/v) media at 0.65 V. Effect of nonionic surfactants on eugenol oxidation in water-organic media has been evaluated. 0.1 M surfactant solutions (*Triton X100* and *Brij® 35*) decrease eugenol oxidation current that is caused by inclusion of analyte molecule in surfactant micelles. The best form of analytical signal and its characteristics have been observed in 0.1 M *Triton X100*. Calibration graph is linear in the range of 0.02-1 мМ eugenol and limit of detection is 0.01 mM. Voltammetric method for eugenol determination in presence of *Triton X100* has been developed. Relative standard deviation does not exceed of 4%.