

Cyclic Voltammetry of Retinol in Surfactant Media and Its Application for the Analysis of Real Samples

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Abstract

Retinol is irreversibly oxidized at 790 mV in water 0.1 M LiClO₄ that corresponds to formation of retinal. Effect of surfactant on voltammetric characteristics of retinol oxidation has been evaluated. The calibration graph was linear in the range 29.4-980 μM of retinol with detection limit of 15 μM in presence of 1.1×10⁻⁴ M of sodium dodecyl sulfate. Application of surfactant media leads to decrease of detection limit, enlargement of analytical range for retinol determination and permits analyze retinol in water media. Simple, express and reliable voltammetric approach for determination of retinol in real samples using surfactant media have been developed. © 2010 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.

<http://dx.doi.org/10.1002/elan.201000358>

Keywords

Cyclic voltammetry, Pharmaceutical and Food analysis, Retinol, Surfactants