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Determination of congo red bye CPE-Scanometry

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Congo red is used as an adsorption indicator in precipitation titration. This dye has biological and industrial applications and is utilized as a staining [1-3].

In this study, trace amounts of congo red was extracted, preconcentrated and determined by CPE-Scanometry [5] as simple, fast and inexpensive method. The method is based on the CPE of analyte from aqueous solution, diluting the extracted surfactant-rich phase with suitable solvent to 500 µL, transferring of proper volume of it to Plexiglas cell. The cells containing the analyte solution were scanned with a scanner and then the color of each cell was analyzed by software written in visual basic (VB 6) media to red, green and blue values. The cells were built by creating holes in the Plexiglas sheet [6]. Effective parameters on the extractioon efficiency such as pH of the system, the concentration of the dye and surfactant, equilibration temperature and time, were investigated and optimized. Under the optimal conditions, the calibration curve was linear in the range of 0.003-4.660 mgL^{-1}. In addition, the effect of some foreign species including cations, anion and dyes were investigated. The method was successfully applied to the determination of congo red in differente samples.

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