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Cloud point extraction for simultaneous determination of 12 phenolic

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Abstract

A sensitive method based on cloud point extraction was developed for the

separation and preconcentration of 12 phenolic compounds (hydroquinone, resorcinol,

catechol, phenol, β-naphthol, bisphenol A, α-naphthol, 4-tert-butylphenol, 4-tert-

octylphenol, nonylphenol, octylphenol, and 4-n-nonylphenol) from environmental

water samples for subsequent analysis by high performance liquid chromatography. The

nonionic surfactant Tergitol 15-S-7 was chosen as the extractant. The analytes were

detected using a fluorescence detector. Gradient elution was performed with a mobile

phase mixture of acetonitrile and water at a flow rate of 1.0 mL min⁻¹. Various

experimental parameters affecting the analytical performance were optimized in detail.

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