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# A novel procedure for phase separation in dispersive liquid-liquid microextraction based on solidification of the aqueous phase

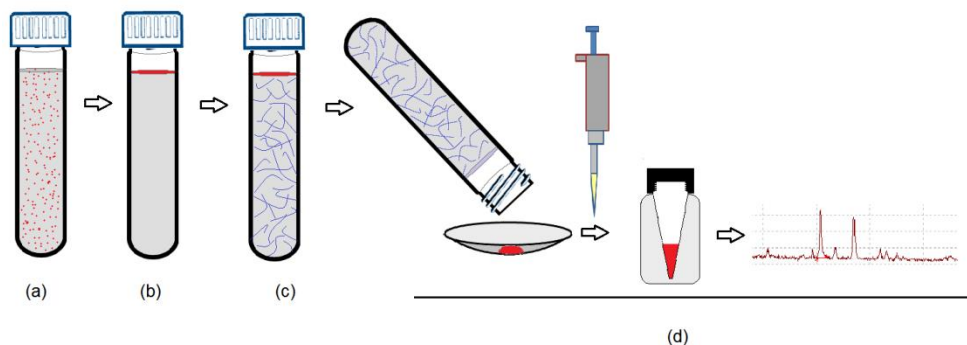
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## abstract

In this paper, an alternative for handling the organic phase after a dispersive liquid-liquid microextraction using organic solvents lighter than water is presented. It is based on solidification (at  $-18\text{ }^{\circ}\text{C}$ ) of the aqueous phase obtained after centrifugation, and the decantation, collection and analysis of the liquid organic layer. The extraction of nicotine in toluene, and its determination in eggplant samples was conducted as a proof of concept. The study has been carried out using standards prepared in water and the formation of the dispersion was assisted by sonication. The organic extract was analysed using gas chromatography coupled to mass spectrometry. Satisfactory analytical figures of merit as: limit of detection ( $0.4\text{ }\mu\text{g L}^{-1}$ ,  $2\text{ ng g}^{-1}$  wet sample), limit of quantification ( $1.2\text{ }\mu\text{g L}^{-1}$ ,  $6.5\text{ ng g}^{-1}$  wet sample), within-day precision ( $\text{RSD} = 7\%$ ), and linearity interval (up to  $384\text{ }\mu\text{g L}^{-1}$  nicotine) were achieved. It constituted a contribution to the handling of organic extracts after microextraction processes.

## Graphical abstract



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