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Fernanda M. Pereira, Renata C. Zimpeck, Daniel M. Brum, Ricardo J. Cassella



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**Novel extraction induced by emulsion breaking as a tool for the  
determination of trace concentrations of Cu, Mn and Ni in biodiesel by  
electrothermal atomic absorption spectrometry**

Fernanda M. Pereira, Renata C. Zimpeck, Daniel M. Brum, Ricardo J. Cassella\*

Departamento de Química Analítica, Universidade Federal Fluminense, Outeiro de São João Batista s/n, Niterói/RJ, 24020-141, Brazil.

\* Corresponding author:  
Email address: cassella@vm.uff.br  
Tel.: +55-21-2629-2344  
Fax: + 55-21-2629-2143

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**Abstract**

This work proposes a novel method for the determination of trace concentrations of Cu, Mn and Ni in biodiesel samples by electrothermal atomic absorption spectrometry. In order to overcome problems related to the organic matrix in the direct introduction of the samples, a new extraction approach was investigated. The method was based on the extraction induced by emulsion breaking, in which metals were transferred from the biodiesel to an acid aqueous phase after formation and breaking of a water-in-oil emulsion prepared by mixing the biodiesel sample with an aqueous solution containing surfactant and nitric acid. Several parameters that could influence the performance of the system were evaluated. Quantitative extractions of the analytes were obtained when the extraction was performed

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