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Ibrahim M.M. Kenawy, Magdi E. Khalifa, Mohamed M. Hassanien, Mohamed M. Elnagar

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Application of mixed micelle-mediated extraction for selective separation and determination of Ti(IV) in geological and water samples

Ibrahim M.M.Kenawy[a], Magdi E. Khalifa[a], Mohamed M. Hassanien[b], Mohamed M. Elnagar[a*]

[a]*Chemistry Department, Faculty of Science, Mansoura University, Mansoura, Egypt*

[b]*Chemistry Department, Industrial Education College, Beni-Suef University, Beni-Suef, Egypt*

ABSTRACT

A simple cloud point extraction (CPE) methodology based on the complexation of Ti(IV) with Alizarin Red S (ARS) and cetyltrimethylammonium bromide (CTAB) at pH 3 followed by extraction with Triton X-114 in presence of Na_2SO_4 at room temperature (25 ºC) has been developed. The enriched analyte in the surfactant rich phase was determined by visible spectrophotometry or inductively coupled plasma optical emission spectrometry (ICP-OES). The main factors affecting mixed micelle-mediated extraction efficiency were studied. At optimum conditions,