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**EXTRACTION OF LEAD FROM WATER USING
HOMOGENEOUS LIQUID-LIQUID MICROEXTRACTION
VIA FLOTATION ASSISTANCE METHOD AND UV-VIS
SPECTROPHOTOMETRIC DETERMINATION**

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Homogeneous liquid-liquid microextraction via flotation assistance method was developed for extraction of lead in water. A mixture of extraction solvent (1-decanol) and disperser solvent (acetone) containing dithizone as chelating agent is injected into microextraction cell. Then an aqueous sample is injected into microextraction cell until the mixture of solvent forms initial state a homogeneous solution and then forms an emulsion consisting of fine droplets of the extraction solvent, disperser solvent and water. Using air flotation, the extraction solvent is transferred to the surface of the mixture and is collected by means of a micro-syringe. Then 25 μ l of the collected organic solvent is diluted with 800 μ l decanol and is analyzed with spectrophotometer in 520 nm wavelength. Also, the thermochemistry of complexation reactions was investigated at PM6 and B3LYP/6-31G computational level.*

Keywords: homogeneous liquid-liquid microextraction, lead, spectrophotometer, sample preparation.

Introduction

The determination of trace Pb in water sample is of great interest since it is a problematic heavy metal for human's health [1]. The trace level of lead is widely distributed in environment due to soil erosion, industrial and agricultural processes. Many nations and international organizations have kept down to an acceptable level of lead. The maximum contamination level for lead in drinking water is 15 μ g/L [2].

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