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**BOOK OF
ABSTRACTS**

POLYMER INCLUSION MEMBRANES (PIMS) AS AN ALTERNATIVE FOR ON-LINE SOLID PHASE EXTRACTION (SPE) IN FLOW ANALYSIS

Tânia C. F. Ribas¹, Charles F. Croft², Raquel B. R. Mesquita¹, M. Inês G. S. Almeida², Spas D. Kolev², António O. S. S. Rangel¹

¹*Universidade Católica Portuguesa, CBQF - Centro de Biotecnologia e Química Fina - Laboratório Associado, Escola Superior de Biotecnologia, Porto, Portugal*

²*School of Chemistry, The University of Melbourne, VIC, 3010, Australia
tpedro@porto.ucp.pt*

A membrane can be considered as a selective barrier between two phases; in recent years, membrane-based processes have been subject of high interest in many fields, namely biotechnology, wastewater treatment and others [1]. Membrane research has attracted considerable efforts in recent years to provide a better understanding of membrane-based separation and improve its efficiency. This line of investigation has led to the development of polymer inclusion membranes (PIMs) which are thin, flexible and stable polymeric films that can selectively separate chemical species of interest [2]. PIMs are fabricated by solvent casting a solution containing an extractant (the selective agent) and a base polymer that stably encapsulates the extractant. Some PIMs may also contain a plasticizer and/or chemical modifiers.

Solid phase extraction (SPE) is a widely used technique applied to the sample pre-treatment in analytical chemistry. This technique is associated to a significant number of advantages as it can selectively separate the analyte, or it could remove matrix interferences as a clean-up step in complex matrices. In certain conditions, SPE could also be a strategy for pre-concentration of a specific analyte present in low concentrations.

In this work, PIMs fabricated from 45 wt% di-(2-ethylhexyl)phosphoric acid (D2EHPA) and 55 wt% PVC are explored as an alternative sorbent material for SPE aiming for the separation and/or pre-concentration of Zn(II). This work aims to show that this novel SPE method can be used to separate and/or pre-concentrate Zn(II) from highly complex sample matrix.

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