Journal of Analytical Methods in Chemistry

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Special Issue on

Solid Phase Microextraction in Complex Matrices: Advancements in Clinical, Environmental, and Food Applications

CALL FOR PAPERS

Although the modern analytical instrumentation has simplified the analysis and makes it more reliable, sample preparation still represents the bottleneck in many analytical methods. In particular, the determination of analytes at trace levels in complex matrices often requires the use of extensive sample preparation protocols before the instrumental analysis. These protocols often include pretreatment of the sample (e.g., protein precipitation, filtration), extraction of analytes from the matrix, clean-up, and preconcentration, which are conducted by different sample preparation approaches.

Solid-phase microextraction (SPME) is a well-established green technique for simultaneous extraction and preconcentration of the compounds from a variety of matrices. Since its introduction in the early 1990s, this technique has been experiencing a rapid development and growth in terms of the coating materials, geometries, and applications. Given the simplicity, versatility, and availability in different formats, SPME addresses several challenges associated with the traditional sample preparation techniques and a noteworthy impact on the methods of analysis is expected in the coming years.

Analysis of complex matrices imposes substantial challenges, especially when dealing with analytes present at trace level. In recent years, there has been an increased number of publications of SPME addressing topics related to the analysis in complex matrices including waste water, whole blood, and food samples. Despite the numerous advantages presented by this technique, direct analysis of complex matrices without any pretreatment (or minimizing) still remains a challenge.

The purpose of this special issue is to publish high-quality research papers as well as review articles addressing recent advances in the applications of SPME to deal with analysis in complex matrices with minimized sample pretreatment. Original, high quality contributions that are not yet published or that are not currently under review by other journals or peer-reviewed conferences are considered.

Potential topics include but are not limited to the following:

- New methods for analyte assay (e.g., bioactive compounds, pesticides, and drug residues) in complex food matrices
- New methods for the determination of pollutants in complex environmental matrices (e.g., aerosol, particulate, and wastewater)
- New methods for the determination of biomarkers or pollutants exposure in biofluids (e.g., urine, plasma, and saliva)
- Applications of *in vivo* and *ex vivo* sampling in food matrices
- Novelties in SPME in terms of geometries and coating materials
- Applications in biology and life sciences for *in vivo* studies of living systems with minimal disturbance for metabolomics and pharmacokinetics studies
- Applications of the new strategies for the direct coupling of SPME to analytical instrumentations

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/jamc/macef/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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