Short Communication

Rapid and low-cost prototyping of lab-on-a-chip devices for inertial microfluidic applications

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ABSTRACT: TThe development of new procedures for the simultaneous extraction of compounds of different nature becomes especially important when analyzing biological samples [1,2]. In this work, a new miniaturized methodology based LPME was developed for simultaneous determination of five different families of analytes and two metabolites. The device was combined with a HPLC-UV system for the separation and determination of the model analytes in the samples. Optimum μLPME conditions (0.5 μL/min of donor phase at pH 3.5, 3 μL of NPOE as SLM, and 1 μL/min of acceptor phase at pH 11.5) allowed the efficient, accurate and repeatable determination of ten drugs (amoxicillin, sulfadiazine, sulfamerazine, tiamphenicol, ethyl 4-hydroxybenzoate, flumequine, propyl 4-hydroxybenzoate, 5-hydroxyl, 3- hydroxyl and diclofenac). The downscaled method exhibited more environmental and economic advantages and enjoyed enhancement of the portability of liquid phase microextraction systems. The method was successfully applied in urine samples with efficiencies over 80% for all analytes.

Biography:-

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