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A portable chip for microextraction and subsequent optical detection in a single step: Determination of Norfloxacin

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In recent years, the miniaturization of new methodologies has become a dominant trend due to the advantages they present. On the one hand, microextraction techniques integrated into microfluidic devices on the chip have been able to be connected online to instrumental techniques for direct analysis. The development of new detection devices using optical fibers allows measuring new compounds more quickly and requiring less sample volume.

In this work, we present for the first time the coupling between two miniaturized systems: a microextraction microchip device based on liquid phase microextraction and an optical detection device using optical fibers (fluorescence), allowing on-line determination in a single portable device using a very low sample volume. The first step was a clean-up sample treatment and the extraction of the analyte (norfloxacin), whereas the second step was the direct determination of norfloxacin using optical fibers. The microextraction procedure was carried out at optimal extraction conditions (dihexylether as an organic solvent, pH 3 as the sample solution, pH 12 as acceptor solution and 1 µL/min as flow rate for sample and acceptor solution). Finally, the device has been successfully applied to environmental samples.

Biography

0DULD 5DPRV 3D\DQ KDV H[SHUWLVH LQ LPSURYLQJ VDP SOH SUHSDUDWLRQ WHFKQLTXHV IRFXVHG RQ PL GHYLFHV RIIHUV PRUH DGYDQWDJHV WKDQ WKH H[LVWLQJ PHWKRGORJRJLHV 0DULD KDV ZRUNHG DW GLI RI /XQG 8QLYHUVLW\ RI &RSHQKDJHQ 8QLYHUVLW\ RI 1RUWK &DUROLQD 86\$ 0LFURHOHFWURQLF 1DV &XUUHQWO\ VKH ZRUNV DW WKH 8QLYHUVLW\ RI 6HYLOOH ZLWK WKH DLP RI LPSOHPHQWLQJ RSWLFDQ

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