

Author's Accepted Manuscript

Liquid-phase extraction coupled with metal-organic frameworks-based dispersive solid phase extraction of Herbicides in peanuts

Na Li, Zhibing Wang, Liyuan Zhang, Li Nian, Lei Lei, Xiao Yang, Hanqi Zhang, Aimin Yu



www.elsevier.com/locate/talanta

PII: S0039-9140(14)00362-2
DOI: <http://dx.doi.org/10.1016/j.talanta.2014.04.084>
Reference: TAL14756

To appear in: *Talanta*

Received date: 17 February 2014
Revised date: 23 April 2014
Accepted date: 29 April 2014

Cite this article as: Na Li, Zhibing Wang, Liyuan Zhang, Li Nian, Lei Lei, Xiao Yang, Hanqi Zhang, Aimin Yu, Liquid-phase extraction coupled with metal-organic frameworks-based dispersive solid phase extraction of Herbicides in peanuts, *Talanta*, <http://dx.doi.org/10.1016/j.talanta.2014.04.084>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Liquid-phase Extraction Coupled with Metal-Organic Frameworks-based Dispersive Solid Phase Extraction of Herbicides in Peanuts

Na Li^a, Zhibing Wang^b, Liyuan Zhang^c, Li Nian^d, Lei Lei^a, Xiao Yang^a, Hanqi Zhang^a, Aimin Yu^{a*}

^aCollege of Chemistry, Jilin University, Qianjin Street 2699, Changchun 130012, P.R. China

^bCollege of Chemistry and Life Science, Changchun University of Technology, Yanan Street 2055, Changchun 130012, P.R. China

^cCollege of Food, Heilongjiang Bayi Agricultural University, Xinfeng Lu 5, Daqing 163319, P.R. China

^dInstitute of Polymer Optoelectronic Materials and Devices, State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou 510640, P.R. China

Corresponding author. Tel.: +86 431 85168399; fax: +86 431 85112355.

E-mail address: analchem@jlu.edu.cn (A. Yu)

Abstract: Liquid-phase extraction coupled with metal-organic frameworks-based dispersive solid phase extraction was developed and applied to the extraction of pesticides in high fatty matrices. The herbicides were ultrasonically extracted from peanut using ethyl acetate as extraction solvent. The separation of the analytes from a large amount of co-extractive fat was achieved by dispersive solid-phase extraction using MIL-101(Cr) as sorbent. In this step, the analytes were adsorbed on MIL-101(Cr) and the fat was remained in bulk. The herbicides were separated and determined by high-performance liquid chromatography. The experimental parameters, including type and volume of extraction solvent, ultrasonication time, volume of hexane and eluting solvent, amount of MIL-101(Cr) and dispersive solid phase extraction time, were optimized. The limits of detection for herbicides range from 0.98 to 1.9 $\mu\text{g}/\text{kg}$. The recoveries of the herbicides are in the range of

Download English Version:

<https://daneshyari.com/en/article/7680270>

Download Persian Version:

<https://daneshyari.com/article/7680270>

[Daneshyari.com](https://daneshyari.com)