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PII: S0026-265X(18)30261-3
DOI: doi:10.1016/j.microc.2018.03.023
Reference: MICROC 3096

To appear in: *Microchemical Journal*

Received date: 5 March 2018
Revised date: 13 March 2018
Accepted date: 13 March 2018

Please cite this article as: Madson Moreira Nascimento, Gisele Olimpio da Rocha, Jailson Bittencourt de Andrade , A rapid low-consuming solvent extraction procedure for simultaneous determination of 34 multiclass pesticides associated to respirable atmospheric particulate matter (PM2.5) by GC–MS. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Microc(2017), doi:10.1016/j.microc.2018.03.023

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ABSTRACT

A miniaturized and low-consuming solvent extraction procedure has been developed for the simultaneous determination of 34 multiclass pesticides in PM2.5 samples, using sample masses as low as 321 µg. A central composite design was applied in order to establish the optimal extraction conditions: the solid-liquid extraction was done under sonication using 500 µL of a solvent mix 70/30 acetonitrile/ethyl acetate and an extraction time of 17 minutes at 39 °C. It was followed by injection in a GC-MS system. Recoveries ranged from 72.1 % (endrin aldehyde) to 120% (sulfotep) with RSD ≤ 20 % for most of pesticides. The method accuracy was assessed by determinations of organochlorine pesticides such as 4,4'-DDT, 4,4'-DDE and 4,4'-DDD in NIST SRM 1649b. PM2.5 samples were collected in Salvador city, State