

Accepted Manuscript

Title: Simultaneous determination of drugs and pesticides in postmortem blood using dispersive solid-phase extraction and large volume injection-programmed temperature vaporization-gas chromatography-mass spectrometry



Authors: Ettore Ferrari Júnior, Eloisa Dutra Caldas

PII: S0379-0738(18)30461-4
DOI: <https://doi.org/10.1016/j.forsciint.2018.07.031>
Reference: FSI 9422

To appear in: *FSI*

Received date: 8-6-2018
Revised date: 23-7-2018
Accepted date: 27-7-2018

Please cite this article as: Ettore Ferrari, Eloisa Dutra Caldas, Simultaneous determination of drugs and pesticides in postmortem blood using dispersive solid-phase extraction and large volume injection-programmed temperature vaporization-gas chromatography-mass spectrometry, *Forensic Science International* <https://doi.org/10.1016/j.forsciint.2018.07.031>

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 proof before it is published in its final 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.

Simultaneous determination of drugs and pesticides in postmortem blood using dispersive solid-phase extraction and large volume injection-programmed temperature vaporization-gas chromatography-mass spectrometry

Ettore Ferrari Júnior¹, Eloisa Dutra Caldas^{2*}

1. Forensic Analysis Laboratory, Criminalistic Institute, Police Department of the Federal District, Brasilia, Federal District, Brazil

2. Laboratory of Toxicology, Department of Pharmacy, University of Brasilia, Brasilia, Federal District, Brazil

* Corresponding author: Laboratory of Toxicology, Department of Pharmacy,

University of Brasilia, Campus Darci Ribeiro, 70910-900, Brasilia, DF, Brazil. email:

eloisa@unb.br

Highlights

- A GC-MS method was optimized for 14 chemicals in human postmortem blood
- Samples were extracted with d-SPE, LOQs were 0.02 or 0.03 µg/mL
- Ten forensic samples were analyzed, and 6 contained cocaine (0.06 to 3.1 µg/mL)
- Carbofuran was found at the highest concentration (27.3 µg/mL)

Abstract

A d-SPE protocol followed by gas chromatography-mass spectrometry (GC-MS) analysis using large volume injection-programmed temperature vaporization (LVI-PTV) was optimized for simultaneous quantification of 14 pesticides, drugs of abuse, prescription drugs and metabolites in human postmortem blood without derivatization. The validated method showed good repeatability, linearity, intermediate precision, and recovery. LOQs were 0.02 or 0.03 µg/mL. The method showed to be fast and easy-to-implement in a

Download English Version:

<https://daneshyari.com/en/article/6550777>

Download Persian Version:

<https://daneshyari.com/article/6550777>

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