

Accepted Manuscript

Derivative synchronous spectrofluorimetry: Application to the analysis of two binary mixtures containing codeine in dosage forms



Eman I. El-Kimary, Marwa A.A. Ragab

PII: S1386-1425(18)30644-9
DOI: doi:[10.1016/j.saa.2018.06.102](https://doi.org/10.1016/j.saa.2018.06.102)
Reference: SAA 16261

To appear in: *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*

Received date: 23 April 2018
Revised date: 22 June 2018
Accepted date: 26 June 2018

Please cite this article as: Eman I. El-Kimary, Marwa A.A. Ragab , Derivative synchronous spectrofluorimetry: Application to the analysis of two binary mixtures containing codeine in dosage forms. Saa (2018), doi:[10.1016/j.saa.2018.06.102](https://doi.org/10.1016/j.saa.2018.06.102)

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.

Derivative synchronous spectrofluorimetry: Application to the analysis of two binary mixtures containing codeine in dosage forms

Eman I. El-Kimary*, Marwa A.A. Ragab

*Faculty of Pharmacy, Department of Pharmaceutical Analytical Chemistry, University of Alexandria, El-Messalah,
Alexandria 21521, Egypt*

*Tel.: +2034871317; fax: +20 3 4873273. eman_elkimary@yahoo.com

Abstract

Two binary mixtures containing codeine (COD) with either ibuprofen (IBU), mixture 1, or with phenylephrine hydrochloride (PE), mixture 2, were analyzed using three simple eco-friendly spectrofluorimetric methods without the need to a prior separation step. The first method is derivative emission spectrofluorimetry using $\lambda_{ex} = 236$ nm and 275 nm for mixtures 1 and 2, respectively. The second method is constant-wavelength synchronous spectrofluorimetry using $\Delta\lambda = 100$ nm and 60 nm for mixtures 1 and 2, respectively. The last method is constant-energy synchronous spectrofluorimetry where a wave number interval of -7000 cm^{-1} was used for the analysis of the two binary mixtures. All measurements were performed in acetate buffer pH 5 and thus no toxic volatile solvents were used increasing method greenness. High sensitivity was attained for the three studied drugs where the lower limits of quantitation of COD, IBU and PE reached 0.064, 0.512 and 0.087 $\mu\text{g/mL}$, respectively. Analysis of the two binary mixtures in their tablet and liquid dosage forms was performed with good accuracy and precision using the developed methods. The results of the proposed and reported methods were statistically

Download English Version:

<https://daneshyari.com/en/article/7667820>

Download Persian Version:

<https://daneshyari.com/article/7667820>

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