

## عنوان مقاله:

Design a model based on wavelet transform for quantitative simultaneous determination of Methamphetamine and 3,4-methylen dioxy methamphetamine (Ecstasy) in mixtures

## محل انتشار:

دومین همایش ملی پژوهش های کاربردی در علوم شیمی، زیست شناسی و زمین شناسی (سال: 1393)

تعداد صفحات اصل مقاله: 7

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## خلاصه مقاله:

In this study a zero crossing technique based on continuous wavelet transform (CWT) as well as classical derivative spectrophotometry (CDS) is presented for simultaneous determination of Methamphetamine (MA) and 3,4-methylen dioxy methamphetamine (MDMA, ecstasy) in binary mixtures, without using prior chemical pre-treatment. Absorption spectra were recorded in the wavelength range 200–400 nm. Absorbance data were subjected to various mother wavelets from continuous wavelet transform family to find the optimum point of the Wavelet signal processing (MATLAB 7.1) bior3.3, 3.7 and 1.5 with scaling factors  $a = 60, 40$  and  $15$  while first derivative  $\Delta$  was  $10$  nm. The validation of proposed methods was investigated by several synthetic mixtures and obtained results were successfully compared among each other. Mean recovery values were found 102.9% for CWT and 98.7% for DS, for the determination of MDMA and 97.4% and 99.9% for CWT and 101.6% for DS, for the determination of MA in synthetic mixtures.

## کلمات کلیدی:

methylen dioxy methamphetamine, Methamphetamine, Continuous wavelet transforms, Simultaneous-3,4 determination

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/452407>

