

Accepted Manuscript

Title: Simultaneous determination of codeine and its co-formulated drugs acetaminophen and caffeine by utilising cerium oxide nanoparticles modified screen-printed electrode

Authors: Mohamed Khairy, Bahaa G. Mahmouda, Craig E. Banks



PII: S0925-4005(17)32380-8
DOI: <https://doi.org/10.1016/j.snb.2017.12.054>
Reference: SNB 23742

To appear in: *Sensors and Actuators B*

Received date: 11-9-2017
Revised date: 5-12-2017
Accepted date: 11-12-2017

Please cite this article as: Mohamed Khairy, Bahaa G.Mahmouda, Craig E.Banks, Simultaneous determination of codeine and its co-formulated drugs acetaminophen and caffeine by utilising cerium oxide nanoparticles modified screen-printed electrode, *Sensors and Actuators B: Chemical* <https://doi.org/10.1016/j.snb.2017.12.054>

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 codeine and its co-formulated drugs
acetaminophen and caffeine by utilising cerium oxide nanoparticles
modified screen-printed electrode**

Mohamed Khairy,^{a*} Bahaa G. Mahmoud^a and Craig E. Banks^b

^a Chemistry Department, Faculty of Science, Sohag University, 82524.

^b Faculty of Science and Engineering, Manchester Metropolitan University, Chester Street,
Manchester M1 5GD, UK.

Email: mohamed.khairy@science.sohag.edu.eg;

Tel: ++(2)01092099116

Highlights

- Simultaneous determination of APAP, COD and CAF on CeO₂– SPE was explored for the first time.
- CeO₂-SPE showed high sensitivity, stability and reproducibility compared to unmodified SPE.
- Low detection limits were estimated; 0.051, 0.043 and 2.4 μM for APAP, COD and CAF, respectively.
- CeO₂-SPE was utilized for simultaneous determinations of APAP, COD and CAF in human fluids.

Graphical abstract

Download English Version:

<https://daneshyari.com/en/article/7140842>

Download Persian Version:

<https://daneshyari.com/article/7140842>

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