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2009 : June 2009 - Fast Breaking Papers : Mehrorang Ghaedi

## FAST BREAKING PAPERS - 2009

June 2009



**Mehrorang Ghaedi talks with *ScienceWatch.com* and answers a few questions about this month's Fast Breaking Paper in the field of Engineering.**



**Article Title: The determination of some heavy metals in food samples by flame atomic absorption spectrometry after their separation-preconcentration on bis salicyl aldehyde, 1,3 propan diimine (BSPDI) loaded on activated carbon**

Authors: Ghaedi, M;Shokrollahi, A;Kianfar, AH;Mirsadeghi, AS;Pourfarokhi, A;Soylak, M

Journal: J HAZARD MATER, Volume: 154, Issue: 1-3, Page: 128-134,

Year: JUN 15 2008

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### SW: Why do you think your paper is highly cited?

It describes a very efficient method for preconcentration of trace quantities of heavy metals.

### SW: Would you summarize the significance of your paper in layman's terms?

This sensitive and simple method for the simultaneous preconcentration of  $\text{Cr}_3^+$ ,  $\text{Fe}_3^+$ ,  $\text{Cu}_2^+$ ,  $\text{Ni}_2^+$ ,  $\text{Co}_2^+$ , and  $\text{Zn}_2^+$  in real samples is based on the adsorption of analytes on bis salicyl aldehyde, 1,3 propan diimine (BSPDI) loaded on activated carbon. The adsorbed metals on modified activated carbon were eluted using 8 mL of 2 mol L<sup>-1</sup>  $\text{HNO}_3$  in acetone or 10 mL of 4 mol L<sup>-1</sup>  $\text{HNO}_3$ .

The influences of the analytical parameters, including pH and sample volume, were investigated. The effects of matrix ions on the retentions of analytes were also examined. The recoveries of analytes were generally quantitative. The method has been successfully applied for these metals content evaluation in some food samples.

### SW: How did you become involved in this research, and were there any problems along the way?

It was during my Ph.D. research when I began working in this field. There were some problems, such as the preparation of ligands and repeatable solid phases, which were overcome.

### SW: Where do you see your research leading in the future?

This method has been successfully applied for these metals' content evaluation in some food samples. The proposed method can be applied on a number of environmental and biological samples.

**Mehrorang Ghaedi, Ph.D.**

**Associate Professor of Analytical Chemistry**

**Department of Chemistry**

KEYWORDS: SOLID-PHASE EXTRACTION; TABLE SALT SAMPLES; BLACK-SEA REGION; SILICA-GEL;  
SELECTIVE PRECONCENTRATION; WATER SAMPLES; TRACE AMOUNTS; COPPER; NICKEL; IONS.

 PDF

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