

## عنوان مقاله:

Preconcentration of antimony by using of nano-adsorbent and determination by electrothermal atomic absorption spectrometry

## محل انتشار:

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## نویسندگان:

Hamid Fazelirad - *Department of Chemistry, Shahid Bahonar University of Kerman , Kerman, Iran- Department of Polymer, Science and Research Branch, Islamic Azad University, Yazd, Iran- Young Researchers Society, Shahid Bahonar University of Kerman, Kerman, Iran*

Mohammad Ali Taher - *Department of Chemistry, Shahid Bahonar University of Kerman , Kerman, Iran*

## خلاصه مقاله:

In this paper, we report a simple and sensitive solid phase extraction system for the preconcentration of Sb(III) and determination by electrothermal atomic absorption spectrometry. The ion pair consisting of  $\text{SbCl}_4^-$  anion and the benzyldimethyltetradecyl ammonium cation was formed on the surface of multi-walled carbon nanotubes, then eluted with nitric acid, and the antimony content finally quantified by ETAAS. Several chemical and flow variables were studied and optimized for a quantitative preconcentration and determination of Sb(III). At the optimized conditions, a linear calibration graph was obtained over the concentration range of 3.0-45.0 ng mL<sup>-1</sup> in final solution. The limit of detection (3 $\sigma$ ) was found to be 4.0 ng L<sup>-1</sup>. The relative standard deviation ( $n = 3$ ) at 100 ng L<sup>-1</sup> of Sb(III) is 6.5%. This method could be applied for determination of trace amounts of Sb(III) in human hair and certified reference materials with satisfactory results.

## کلمات کلیدی:

Carbon nanotubes, Antimony, Solid phase extraction

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/397352>

