

Full Papers

Determination of Pb(II) and Cu(II) by Electrothermal Atomic Absorption Spectrometry after Preconcentration by a Schiff Base Adsorbed on Surfactant Coated Alumina

SABER TEHRANI Mohammad^{*1}, RASTEGAR Faramarz², PARCHEHBAF Ayob¹, KHATAMIAN Masoomeh³

¹ Department of Chemistry, Science and Research Campus, Islamic Azad University, Tehran, Iran

² Plate-Form Inorganic Analytical Chemistry, Louis Pasteur University, Strasbourg, France

³ Department of Inorganic Chemistry, Faculty of Chemistry, University of Tabriz, Tabriz, Iran

收稿日期 2005-4-1 修回日期 2006-2-15 网络版发布日期 接受日期

摘要 1,2-Bis(salicylidenamino)ethane loaded onto sodium dodecyl sulfate-coated alumina was used as a new chelating sorbent for the preconcentration of traces of Pb(II) and Cu(II) prior to atomic absorption spectrometric determination. The influence of pH, flow rates of sample and eluent solutions, and foreign ions on the recovery of Pb(II) and Cu(II) by this sorbent has been studied. The retained ions were eluted with 4 mol·L nitric acid and determined by electrothermal atomic absorption spectrometry (ETAAS). The data of limit of detection (3σ) for Pb(II) and Cu(II) were found to be 8.57 and 2.69 ng·L⁻¹ respectively, while the enrichment factor for both ions was 100. The proposed method was successfully applied to determination of lead and copper in different water samples.

关键词 [determination of lead and copper](#) [preconcentration](#) [1,2-bis\(salicylidenamino\)ethane](#) [ETAAS](#)

分类号

Determination of Pb(II) and Cu(II) by Electrothermal Atomic Absorption Spectrometry after Preconcentration by a Schiff Base Adsorbed on Surfactant Coated Alumina

SABER TEHRANI Mohammad^{*1}, RASTEGAR Faramarz², PARCHEHBAF Ayob¹, KHATAMIAN Masoomeh³

¹ Department of Chemistry, Science and Research Campus, Islamic Azad University, Tehran, Iran

² Plate-Form Inorganic Analytical Chemistry, Louis Pasteur University, Strasbourg, France

³ Department of Inorganic Chemistry, Faculty of Chemistry, University of Tabriz, Tabriz, Iran

Abstract 1,2-Bis(salicylidenamino)ethane loaded onto sodium dodecyl sulfate-coated alumina was used as a new chelating sorbent for the preconcentration of traces of Pb(II) and Cu(II) prior to atomic absorption spectrometric determination. The influence of pH, flow rates of sample and eluent solutions, and foreign ions on the recovery of Pb(II) and Cu(II) by this sorbent has been studied. The retained ions were eluted with 4 mol·L nitric acid and determined by electrothermal atomic absorption spectrometry (ETAAS). The data of limit of detection (3σ) for Pb(II) and Cu(II) were found to be 8.57 and 2.69 ng·L⁻¹ respectively, while the enrichment factor for both ions was 100. The proposed method was successfully applied to determination of lead and copper in different water samples.

Key words [determination of lead and copper](#) [preconcentration](#) [1,2-bis\(salicylidenamino\)ethane](#) [ETAAS](#)

DOI:

通讯作者 SABER TEHRANI Mohammad drmsabertehrani@yahoo.com

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(0KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含 “determination of lead and copper”的 相关文章](#)

▶ 本文作者相关文章

· [SABER TEHRANI Mohammad](#)

·

· [RASTEGAR Faramarz](#)

· [PARCHEHBAF Ayob](#)

· [KHATAMIAN Masoomeh](#)