

微波溶样ICP-MS法测定人发标样中15种稀土元素的研究

@刘虎生, 王耐芬, 王小燕, 刘明, 章京\$北京医科大学公共卫生学院中心仪器室

收稿日期 修回日期 网络版发布日期:

摘要 本文采用微波高压溶样、ICP-MS加入标准校正及分析质量控制方法,对GBW07601人发标样中15种超痕量稀土元素含量的测定进行了研究。选择了微波高压消解最佳条件和仪器测试最佳参数。选用GBW07403土壤标样作为质量控样,其分析结果表明,研究测定GBW07601人发标样中15种稀土分量具有较好的准确性。填补了原标样中仅La、Ce和Y有标准值,其余12种稀土元素无分量值的空白。

关键词 [微波溶样](#) [电感耦合等离子体质谱](#) [人发标样](#) [质量控制](#) [超痕量稀土元素](#)

分类号

Abstract Determination of 15 Rare Earth Elements of Hair Certified Reference Material by Microwave Acid Digestion ICP-MS. Liu Husheng; Wang Naifen; Wang Xiaoyan; Liu Ming; Zhang Jing (Public Health College, Beijing Medical University, Beijing 100083, China) Received Abstract: This paper describes the study on 15 ultra trace rare earth elements of hair certified reference material (CRM) by microwave acid digestion. A rapid and complete dissolution of the hair sample was achieved by using a microwave digestion procedure requiring only concentrated nitric acid and hydrogen peroxide. Fifteen ultra trace rare earth elements in hair CRM GBW07601 were determined by ICP-MS. The matrix inhibition effect was eliminated by the addition standard calibration curve. Detection limits for 15 rare earth elements are 0.007-0.026 μg/L. Using soil CRM GBW07403 as quality control, the results obtained from this work are in good agreement with the certified values and reference values without separation and enrichment procedures. Keywords: microwave acid digestion, hair, CRM, ICP-MS, quality control, ultra trace REE

Key words

DOI

通讯作者

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [\[PDF全文\]\(222KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中包含“微波溶样”的相关文章](#)
- ▶ [本文作者相关文章](#)