



## ICP-AES法分析硫磺熏蒸前后白芍中有害重金属、硫及主要微量元素的变化

投稿时间: 2010-12-31 责任编辑: 丁广治 [点此下载全文](#)

引用本文: 刘静,蔡皓,刘晓,马晓青,李松林,宗杜强,蔡宝昌. ICP-AES法分析硫磺熏蒸前后白芍中有害重金属、硫及主要微量元素的变化[J].中国中药杂志,2011,36(13):1790.

DOI: 10.4268/cjmm.20111321

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基金项目: 国家自然科学基金项目(30940093);江苏省自然科学基金项目(BK2009495)

中文摘要: 目的: 进行硫磺熏蒸前后白芍样品中有害重金属、硫及微量元素的分析。方法: 采用湿法消解前处理, 电感耦合等离子体发射光谱(ICP-AES)法测定。结果: 白芍经硫磺熏蒸后Cu、S元素含量增加, Zn元素含量降低, 并且在硫磺熏蒸白芍样品中检测到了重金属As、Hg残留。结论: 硫磺熏蒸可能会使白芍中残留有害重金属及大量对人体有害的硫, 同时改变部分微量元素的含量。

中文关键词: 白芍 硫磺熏蒸 有害重金属 硫 微量元素 电感耦合等离子体发射光谱

### Analysis of harmful heavy metals, sulfur and main trace elements from *Paeoniae Radix Alba* before and after sulfur-fumigated process by ICP-AES method

**Abstract:** Objective: To analyze the contents of harmful heavy metals, sulfur and trace elements from *Paeoniae Radix Alba* before and after sulfur-fumigated process. Method: Samples were pretreated by wet digestion and then subjected to elements analysis by inductively coupled plasma-atomic emission spectrometry (ICP-AES). Result: The contents of Cu and S elements were increased, while the content of Zn element was decreased in *Paeoniae Radix Alba* after sulfur-fumigated process compared with the samples dried in the sun. Moreover, heavy metallic elements, such as As and Hg, were detected in *Paeoniae Radix Alba* after sulfur-fumigated process. Conclusion: Sulfur fumigated process may cause residual of heavy metals and sulfur which are harmful to human body and change the contents of some trace elements.

**keywords:** *Paeoniae Radix Alba* sulfur-fumigated process harmful heavy metals sulfur trace elements ICP-AES

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