

## 胶束电动毛细管色谱-电喷雾质谱联用法同时测定妇宁栓中的5种有效成分

曾永芳<sup>1,2</sup>, 霍鹏<sup>1</sup>, 徐远金<sup>1,2\*</sup>

1. 广西亚热带生物资源保护利用重点实验室, 广西 南宁 530004; 2. 广西大学糖业工程技术研究中心, 广西 南宁 530004

### Simultaneous determination of berberine, palmatine, matrine, Funing Shuan by micellar electrokinetic capillary chromatography-ionization mass spectrometry

ZENG Yongfang<sup>1,2</sup>, HUO Peng<sup>1</sup>, XU Yuanjin<sup>1,2\*</sup>

1. Guangxi Key Laboratory of Subtropical Bioresource Conservation and Utilization, Nanning 530004, China; 2. Guangxi University, Nanning 530004, China

摘要	参考文献	相关文章
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**摘要** 应用胶束电动毛细管色谱-电喷雾电离质谱联用法同时测定了妇宁栓中的小檗碱、巴马汀、苦参碱、儿茶素和黄芩苷5种主要有效成分。在未涂层石英毛细管柱(80 cm×50 μm)中,以40 mmol/L月桂酸-100 mmol/L氨水溶液(含25%的乙腈,pH 9.5)为缓冲液,分25.0 kV,各组分在16 min内得到完全分离。电喷雾质谱检测时采用50%异丙醇水溶液(含3 mmol/L乙酸)为鞘液。结果表明,小檗碱、苦参碱、儿茶素、黄芩苷的线性范围分别为0.03~15、0.05~15、0.2~250、1.5~300和2.0~500 mg/L,检出限分别为0.01、0.05、0.5、0.6 mg/L。5种组分的加标回收率为94.0%~104.0%,相对标准偏差(RSD)在0.3%~3.2%之间。该法简便、快速性好,可用于妇宁栓中小檗碱、巴马汀、苦参碱、儿茶素、黄芩苷含量的同时测定。

**关键词:** 胶束电动毛细管色谱 电喷雾电离质谱 小檗碱 巴马汀 苦参碱 儿茶素 黄芩苷 妇宁栓

**Abstract:** A method for the simultaneous determination of berberine, palmatine, matrine, catechin and baicalin in Funing Shuan was established using micellar electrokinetic capillary chromatography-electrospray ionization mass spectrometry (MEKC-ESI MS). The compounds were separated on an uncoated capillary (80 cm×50 μm) with the operating voltage of 25 kV and the running buffer of 40 mmol/L lauric acid-100 mmol/L ammonia mixture containing acetonitrile (pH 9.5). The baseline separation of the five compounds was achieved within 16 min with a satisfactory repeatability and sensitivity. The solution of 50% 2-propanol/water solution (containing 3 mmol/L acetic acid) as the sheath liquid for the ESI MS analysis. The results showed that the linear ranges for berberine, palmatine, catechin and baicalin were 0.03~15, 0.05~15, 0.2~250, 1.5~300 and 2.0~500 mg/L, respectively, and the detection limits were 0.01, 0.05, 0.5 and 0.6 mg/L, respectively. The average recoveries of the five components were between 94.0%~104.0% with the relative standard deviations (RSDs) of 0.3%~3.2%. The developed method was rapid, and accurate, and it is suitable for the routine analysis of the five effective components in Funing Shuan.

**Keywords:** micellar electrokinetic capillary chromatography-electrospray ionization mass spectrometry (MEKC) berberine palmatine matrine catechin baicalin Funing Shuan

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Corresponding Authors: 徐远金

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