

## 高速逆流色谱分离纯化蔓荆子中的活性成分

管仁军<sup>1,2</sup>, 王岱杰<sup>2</sup>, 于宗渊<sup>3</sup>, 王晓<sup>2\*</sup>, 蓝天凤<sup>1</sup>

1. 山东中医药大学, 山东 济南 250355; 2. 山东省分析测试中心, 山东省大型精密分析仪器应用技术重点实验室, 山东 济南 250014; 3. 山东省中医药研究院, 山东 济南 250014

## Preparative isolation and purification of the active components from *Vitex trifolia* Fructus by high-speed counter-current chromatography

GUAN Renjun<sup>1,2</sup>, WANG Daijie<sup>2</sup>, YU Zongyuan<sup>3</sup>, WANG Xiao<sup>2\*</sup>, LAN Tianfeng<sup>1</sup>

1. Shandong University of Traditional Chinese Medicine, Jinan 250355, China; 2. Shandong Analysis and Test Center, Key Laboratory for Applied Technology of Sophisticated Analytical Instrument of Shandong Province, Jinan 250014, China; 3. Shandong Academy of Chinese Medicine, Jinan 250014, China

摘要	参考文献	相关文章
----	------	------

Download: PDF (211KB) [HTML](#) 1KB Export: BibTeX or EndNote (RIS) Supporting Info

**摘要** 应用高速逆流色谱法(HSCCC)分离纯化蔓荆子中的活性成分。以石油醚-乙酸乙酯-甲醇-水(体积比为3:6:3.6:3)为两相溶剂体系,在转速为800 r/min、流速为1.5 mL/min、检测波长为254 nm的条件下进行分离,所得馏分经高效液相色谱法(HPLC)检测,并经电喷雾电离(ESI)质谱和核磁共振谱(NMR)鉴定化合物的结构。从250 mg蔓荆子粗提取物中一次性分离得到4个化合物,分别为23 mg对羟基苯甲酸、15 mg 3,6,7-三甲基槲皮万寿菊素、24 mg蔓荆子黄素和5 mg蒿黄素,其纯度约为93.1%、97.3%、98.7%和98.5%。该法具有简便、快速、重复性好的优点,为分离蔓荆子中的活性成分提供了新的方法。

**关键词:** 高速逆流色谱 对羟基苯甲酸 3,6,7-三甲基槲皮万寿菊素 蔓荆子黄素 蒿黄素 蔓荆子

**Abstract:** *Vitex trifolia* L. var. *simplicifolia* Cham. is widely distributed in Asia, and its fruits are used as a folk medicine for headaches, colds, migraine, eyepain, etc. In order to effectively separate high-purity active components from the seeds of *Vitex trifolia* L. var. *simplicifolia* Cham., a high-speed counter-current chromatography (HSCCC) procedure was performed to separate four components from the crude extract of the fruits. A two-phase solvent system composed of light petroleum-ethyl acetate-methanol-water (3:6:3.6:3, v/v/v/v) was used. Within 230 min, 23 mg of 4-hydroxybenzoic acid, 15 mg of 3,6,7-trimethylquercetagenin, 24 mg of casticin and 5 mg of artemetin were obtained from 250 mg of the crude extract of *Vitex trifolia* Fructus in one-step elution under the conditions of a flow rate of 1.5 mL/min, 800 r/min and the detection wavelength of 254 nm. The purities of the four fractions were 93.1%, 97.3%, 98.7% and 98.5%, respectively. The obtained fractions were analyzed by high performance liquid chromatography (HPLC), and identified by electrospray ionization mass spectrometry (ESI-MS), 1H-nuclear magnetic resonance (NMR) and 13C-NMR. The results indicate that HSCCC is a powerful technique for the purification of active components from *Vitex trifolia* Fructus.

**Keywords:** high-speed counter-current chromatography (HSCCC) 4-hydroxybenzoic acid 3,6,7-trimethylquercetagenin casticin artemetin *Vitex trifolia* Fructus

Received 2010-07-12; published 2010-11-25

Fund:

国家自然科学基金项目(No. 20872083)、山东省科技攻关项目(No. 2010GSF10287)和济南市高等院校自主创新计划项目(No. 201004010).

Corresponding Authors: 王晓,博士,研究员. Email: wxjn1998@126.com

引用本文:

管仁军<sup>1,2</sup>, 王岱杰<sup>2</sup>, 于宗渊<sup>3</sup>, 王晓<sup>2\*</sup>, 蓝天凤<sup>1</sup>.高速逆流色谱分离纯化蔓荆子中的活性成分[J] 色谱, 2010,V28(11): 1043-1047

GUAN Renjun<sup>1,2</sup>, WANG Daijie<sup>2</sup>, YU Zongyuan<sup>3</sup>, WANG Xiao<sup>2\*</sup>, LAN Tianfeng<sup>1</sup>.Preparative isolation and purification of the active components from *Vitex trifolia* Fructus by high-speed counter-current chromatography[J] Chinese Journal of Chromatography, 2010,V28(11): 1043-1047

链接本文:

<http://www.chrom-china.com/CN/> 或 <http://www.chrom-china.com/CN/Y2010/V28/I11/1043>

Service

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [Email Alert](#)
- ▶ [RSS](#)

作者相关文章

- ▶ [王晓](#)
- ▶ [管仁军](#)
- ▶ [于宗渊](#)
- ▶ [蓝天凤](#)
- ▶ [王岱杰](#)