



ZHONGCAOYAO

Chinese Traditional and Herbal Drugs

第 54 卷 第 22 期 (总第 753 期)

2023 年 11 月 28 日出版

半月刊

1970 年 1 月创刊

主 管

天津药物研究院

主 办

天津药物研究院 ([www.tjipr.com](http://www.tjipr.com))

中国药学会 ([www.cpa.org.cn](http://www.cpa.org.cn))

编辑出版

《中草药》杂志编辑部

地址：天津市滨海高新区滨海科技园

惠仁道 306 号

邮编：300462

电话：022-27474913 23006821

网址：[www.中草药杂志社.中国](http://www.中草药杂志社.中国)

[www.tiprpress.com](http://www.tiprpress.com)

E-mail：[zcy@tiprpress.com](mailto:zcy@tiprpress.com)

国际标准连续出版物号

ISSN 0253-2670

国内统一连续出版物号

CN 12-1108/R

主 编 刘昌孝

执行主编 陈常青

## 目 次

### •“质-量”双标评价•

- 7281 中药质量评价研究现状及“质-量”双标评价方法探讨  
孟宪生, 罗 曦, 贾梦楠, 包永睿, 王 帅, 李天娇
- 7287 基于“质-量”双标的丹参质量分析方法研究  
丁昕瑶, 包永睿, 王 帅, 李天娇, 孟宪生
- 7293 基于“质-量”双标的枳壳质量分析方法研究  
罗 曦, 包永睿, 李天娇, 王 帅, 韩 凌, 韩晓妮, 孟宪生
- 7300 基于“质-量”双标的五味子质量分析方法研究  
秦 娅, 李天娇, 包永睿, 王 帅, 孟宪生
- 7306 基于“质-量”双标的甘草质量分析方法研究  
贾梦楠, 李天娇, 包永睿, 王 帅, 韩 凌, 韩晓妮, 孟宪生
- 7313 基于“质-量”双标的当归质量分析方法研究  
李晓晨, 李天娇, 包永睿, 王 帅, 孟宪生
- 7319 基于“质-量”双标的侧柏叶质量分析方法研究  
于 浩, 李天娇, 包永睿, 王 帅, 孟宪生
- 7325 基于“质-量”双标的白芍质量分析方法研究  
赵 磊, 包永睿, 王 帅, 李天娇, 韩 凌, 韩晓妮, 孟宪生

### •化学成分•

- 7331 红果櫟木叶中 1 个新的三萜类化合物  
闫慧娇, 陈雨洁, 林云良, 李恩霞, 段文娟, 耿岩玲
- 7336 丝沉香中 2 个  $\alpha$ -葡萄糖苷酶抑制活性的 2-(2-苯乙基)色酮二聚体  
韦 媛, 董文化, 李 蕊, 曾 军, 陈惠琴, 袁靖喆, 梅文莉  
戴好富, 王 昊, 郭志勇
- 7342 大苞荆芥化学成分及其抗炎活性研究  
赵鹏安, 力瓦衣丁·买合苏提, 马国需, 孙照翠, 许旭东  
石磊岭, 高兴旺
- 7351 药用昆虫凹纹胡蜂化学成分及抗炎活性研究  
刘超贺, 庞秀琴, 李成功, 许静蕾, 钱晓莉, 常雅萍, 杨志斌  
杨银河, 王家鹏, 肖 怀
- 7358 基于 UHPLC-Q-Exactive Orbitrap MS 鉴定参芪降糖胶囊在大鼠体内的  
代谢产物  
苑楠楠, 王宏进, 孙 琪, 赵 蕾, 白桦芳, 孙立新

### •药剂与工艺•

- 7374 基于 UHPLC-Q-Orbitrap HRMS 和 HPLC-DAD 法研究不同干燥方式对  
马蓝叶化学成分的影响  
苏 娟, 贺亚男, 杨 鑫, 谢慧娟, 纪奇森, 杨 明  
张定堃, 韩 丽
- 7387 基于红外光谱结合机器学习方法的牛膝不同炮制品及炮制程度的  
判别分析  
田瀚举, 杨颜容, 贾 豪, 李莹莹, 段浩瀚, 赵新梅, 张春亚  
雷敬卫, 谢彩侠, 杨春静, 龚海燕
- 7402 金属有机骨架-分子印迹复合微球的溶胶-凝胶法制备、表征及其对  
杜仲中桃叶珊瑚苷的提取分离  
李中正, 向 波, 邓 文, 杨城城, 王建霞, 王思源  
石 欣, 田 果, 李 辉
- 7412 盐酸小檗碱对芍药苷的经皮促透规律及促透机制研究  
邹 佳, 尹章洪, 郑其祥, 管咏梅, 陈丽华, 朱卫丰, 刘丽丽



ZHONGCAOYAO

Chinese Traditional and Herbal Drugs

第 54 卷 第 22 期 (总第 753 期)

2023 年 11 月 28 日出版

#### 广告合作

中草药杂志社媒体运营部

电话: 022-23006868 23006895

#### 印 刷

天津市恒远印刷有限公司

#### 国内发行

天津市邮政局

#### 订 阅

全国各地邮政局

#### 国外发行

中国国际图书贸易集团有限公司

(100044 北京 399 信箱)

#### 国内邮发代号

6-77

#### 国外邮发代号

M221

#### 定价

每期 60.00 元 全年 1440.00 元

#### 广告发布登记号

BH 2020-01

#### 英文责任编辑

姜丹

#### 本期责任编辑

李亚楠

- 7421 中药特色临方炮制品种挖掘——胆黄连饮片的炮制工艺及质量标准研究  
王苗苗, 周雅倩, 顾清, 牟丽燕, 刘俏, 陈丹妮, 刘逊  
李伟东, 殷放宙

- 7429 基于 Box-Behnken 设计-响应面法优化化湿败毒颗粒喷雾干燥工艺  
张志鹏, 张兰兰, 施文婷, 王寿富, 陈伟媚, 汪梅, 孙冬梅

- 7436 基于广义路径追踪算法建立桂枝茯苓胶囊和天舒胶囊中间体水分的近红外光谱通用定量模型  
张永超, 徐芳芳, 李执栋, 李秀梅, 吴云, 刘洪波  
王振中, 张欣

#### • 药理与临床 •

- 7445 基于 UPLC-Q-TOF-MS 代谢组学技术研究淫羊藿-川芎对骨关节炎大鼠的调控作用  
吴恩慧, 章建华, 张琳, 李清林, 王玲, 尹华

- 7455 黄芩素-冰片抗脑缺血后内皮功能障碍的作用及机制  
贺一凡, 张行行, 唐长杰, 陈旭, 崔壮举, 周子烨, 王斌  
韩朝军, 刘继平, 史永恒

- 7466 枸杞多糖通过 TLR4/Src 通路促进巨噬细胞吞噬金黄色葡萄球菌  
张悦, 姜孟伶, 曹金丹, 彭忠禄, 刘科峰, 樊竑冶

- 7474 千金子制霜前后提取物通过调控脂筏介导 Caco-2 细胞中 TLR4 信号通路的作用机制研究  
王慧楠, 魏晓彤, 石双慧, 王梦琳, 马思媛, 胡宇峰, 姜明瑞  
张婧秋, 王英姿

- 7482 基于小鼠子宫平滑肌收缩活性测定的桂枝茯苓胶囊质量评价研究  
金祎敏, 谢燕, 王东帆, 章晨峰, 曹亮, 谢雪, 肖伟  
王振中, 吕耀中

- 7489 小儿麻龙止咳平喘颗粒对过敏性咳嗽的治疗作用  
刘全国, 盖晓红, 陈金鹏, 刘毅, 任涛, 田成旺, 陈常青

#### • 数据挖掘与循证医学 •

- 7495 发展与协同创新视角下的大黄研究热点分析及其科研数据赋能产业提质的优势探讨  
席少阳, 利明, 郭旭东, 杨莉萍, 姬捷, 黄璐琦, 晋玲

- 7511 清热利湿类中成药治疗非酒精性脂肪性肝病的网状 Meta 分析  
高风, 郭丽君, 黄萍萍, 张智博, 付双清, 马晓昌

- 7526 肝爽颗粒治疗肝硬化(肝郁脾虚证)的临床综合评价  
路振凯, 张利丹, 吕健, 谢雁鸣

#### • 综 述 •

- 7536 大黄防治肝病的研究进展  
杨天文, 周纪军, 廖玉, 吕文良

- 7545 当归活性成分生物合成与调控研究进展  
刘天乐, 朱田田, 张明惠, 张菁, 徐丽, 康舒淇, 晋玲

- 7554 从虚论治肝纤维化相关方剂的现代药理作用研究进展  
罗苒艺, 贾可欣, 张蕾, 孙蓉, 薛晓勇, 曲姣蓉, 刘闰平  
吴建芝, 李晓骄阳

- 7564 白藜芦醇对脑缺血损伤的保护作用及机制研究进展  
张文静, 徐浩群, 李冲, 韩冰冰, 张义敏

- 7577 人参皂苷 Rg3 抗肿瘤纳米给药系统研究进展  
刘晓瑞, 张坤峰, 李鑫, 王向涛

- 7588 中药毒性相关数据库的研究现状及对比研究  
聂嘉璇, 钱文秀, 王曼殊, 王佳艺, 张悦, 刘慧敏, 马宁  
宋丽丽, 李遇伯

本刊投稿须知见《中草药》2023, 54(1): 346-348.

期刊基本参数: CN 12-1108 R \* 1970 \* sm \* A4 \* 240 \* zh \* P \* ¥ 60.00 \* 3000 \* 35 \* 2023 - 22

# CHINESE TRADITIONAL AND HERBAL DRUGS

Vol. 54 No. 22 Nov. 2023

## Chinese Traditional and Herbal Drugs

(Semimonthly)

Founded in January, 1970

## Supervisord by

Tianjin Institute of Pharmaceutical Research

## Sponsored by

Tianjin Institute of Pharmaceutical Research

([www.tjipr.com](http://www.tjipr.com))

Chinese Pharmaceutical Association

([www.cpa.org.cn](http://www.cpa.org.cn))

## Edited and Published by

Editorial Office of Chinese Traditional  
and Herbal Drugs

**Address:** 306# Huirendao, Binhai District,  
Tianjin, China

**Post Code:** 300462

**Tel:** +86-22-27474913

**Fax:** +86-22-23006821

**http:** // [www.中草药杂志社.中国](http://www.中草药杂志社.中国)

[www.tiprpress.com](http://www.tiprpress.com)

**E-mail:** zcy@tiprpress.com

## Standard Number

ISSN 0253-2670

CN 12-1108/R

CODEN CTYAD8

## Editor-in-chief

LIU Chang-xiao

## Executive Editor-in-chief

CHEN Chang-qing

## Contents

### • “Quality-quantity” double standard evaluation •

- 7281** Research status of quality evaluation of traditional Chinese medicine and discussion on “quality-quantity” double standard evaluation method  
MENG Xian-sheng, LUO Xi, JIA Meng-nan, BAO Yong-rui, WANG Shuai, LI Tian-jiao

- 7287** Study on quality analysis method of *Salviae Miltiorrhizae Radix et Rhizoma* based on “quality-quantity” double standard  
DING Xin-yao, BAO Yong-rui, WANG Shuai, LI Tian-jiao, MENG Xian-sheng

- 7293** Research on quality analysis method of *Aurantii Fructus* based on “quality-quantity” double standard  
LUO Xi, BAO Yong-rui, LI Tian-jiao, WANG Shuai, HAN Ling, HAN Xiao-ni, MENG Xian-sheng

- 7300** Research on quality analysis method of *Schisandrae Chinensis Fructus* based on “quality-quantity” double standard  
QIN Yan, LI Tian-jiao, BAO Yong-rui, WANG Shuai, MENG Xian-sheng

- 7306** Research on quality analysis method of *Glycyrrhiza uralensis* based on “quality-quantity” double standard  
JIA Meng-nan, LI Tian-jiao, BAO Yong-rui, WANG Shuai, HAN Ling, HAN Xiao-ni, MENG Xian-sheng

- 7313** Research on quality analysis method of *Angelica sinensis* based on “quality-quantity” double standard  
LI Xiao-chen, LI Tian-jiao, BAO Yong-rui, WANG Shuai, MENG Xian-sheng

- 7319** Research on quality analysis method of *Platycladi Cacumen* based on “quality-quantity” double standard  
YU Hao, LI Tian-jiao, BAO Yong-rui, WANG Shuai, MENG Xian-sheng

- 7325** Research on quality analysis method of *Paeoniae Radix Alba* based on “quality-quantity” double standard  
ZHAO Miao, BAO Yong-rui, WANG Shuai, LI Tian-jiao, HAN Ling, HAN Xiao-ni, MENG Xian-sheng

### • Chemical Constituents •

- 7331** A new triterpenoid from leaves of *Dysoxylum binectariferum*  
YAN Hui-jiao, CHEN Yu-jie, LIN Yun-liang, LI En-xia, DUAN Wen-juan, GENG Yan-ling

- 7336** Two 2-(2-phenylethyl) chromone dimers with  $\alpha$ -glucosidase inhibitory activity from agarwood of *Aquilaria filaria*  
WEI Yuan, DONG Wen-hua, LI Wei, ZENG Jun, CHEN Hui-qin, YUAN Jing-zhe, MEI Wen-li, DAI Hao-fu, WANG Hao, GUO Zhi-yong

- 7342** Chemical constituents of *Nepeta bracteata* and its anti-inflammatory activities  
ZHAO Peng-an, LIVARIDING Mahesuti, MA Guo-xu, SUN Zhao-cui, XU Xu-dong, SHI Lei-ling, GAO Xing-wang

- 7351** Chemical constituents of medicinal insect *Vespa velutina auraria* and its anti-inflammatory activities  
LIU Chao-he, PANG Xiu-qin, LI Cheng-gong, XU Jing-lei, QIAN Xiao-li, CHANG Ya-ping, YANG Zhi-bin, YANG Yin-he, WANG Jia-peng, XIAO Huai

- 7358** Identification of metabolites of *Shenqi Jiangtang Capsules* in rats based on UHPLC-Q-Exactive Orbitrap MS  
YUAN Nan-nan, WANG Hong-jin, SUN Qi, ZHAO Lei, BAI Hua-fang, SUN Li-xin

### • Pharmaceutics and Technology •

- 7374** Effects of different drying methods on chemical composition of *Baphicacanthus cusia* leaves based on UHPLC-Q-Orbitrap HRMS and HPLC-DAD methods  
SU Juan, HE Ya-nan, YANG Xin, XIE Hui-juan, JI Qi-sen, YANG Ming, ZHANG Ding-kun, HAN Li

- 7387** Discrimination analysis of different processed products and processing degree of *Achyranthis Bidentatae Radix* based on infrared spectroscopy combined with machine learning methods  
TIAN Han-ju, YANG Yan-rong, JIA Hao, LI Ying-ying, DUAN Hao-han, ZHAO Xin-mei, ZHANG Chun-ya, LEI Jing-wei, XIE Cai-xia, YANG Chun-jing, GONG Hai-yan

- 7402** Preparation of metal-organic frameworks-based molecularly imprinted polymer microsphere by a sol-gel technique and its application in extraction and separation of aucubin from *Eucommia ulmoides*  
LI Zhong-zheng, XIANG Bo, DENG Wen, YANG Cheng-cheng, WANG Jian-xia, WANG Si-yuan, SHI Xin, TIAN Guo, LI Hui

- 7412** Transdermal permeation law and permeation mechanism of paeoniflorin by berberine hydrochloride  
ZOU Jia, YAO Zhang-hong, ZHENG Qi-xiang, GUAN Yong-me, CHEN Li-hua, ZHU Wei-feng, LIU Li-li

**Chinese Traditional and Herbal Drugs**

(Semimonthly)

Founded in January, 1970

**Advertising cooperation**Department of Media Operations, Tianjin  
Press of Chinese Herbal Medicines

Tel: (022)23006868 23006895

**Printed by**

Tianjin Hengyuan Printing Co., Ltd.

**Distribution**

Tianjin Post Office

**Subscription Domestic**

Local Post Office

**Subscription Overseas**

China International Book Trading Corporation,

PO Box 399, Beijing 100044, China

**Advertising Registration Number**

BH 2020-01

**Publication Date**

Nov. 28, 2023

**Editor in Charge of English**

JIANG Dan

**Editor in Charge of This Issue**

LI Ya-nan

- 7421** Processing technology and quality standard of bile processed *Coptidis Rhizoma* decoction pieces-excavating processing varieties of Chinese medicine characteristic clinical prescription  
WANG Miao-miao, ZHOU Ya-qian, GU Yu, MU Li-yan, LIU Qiao, CHEN Dan-ni, LIU Xun, LI Wei-dong, YIN Fang-zhou
- 7429** Optimization of spray drying process of Huashi Baidu Granules based on Box-Behnken design-response surface method  
ZHANG Zhi-peng, ZHANG Lan-lan, SHI Wen-ting, WANG Shou-fu, CHEN Wei-mei, WANG Mei, SUN Dong-mei
- 7436** Based on generalized path seeker algorithm to establish near infrared universal quantitative model of moisture content in intermediates of Guizhi Fuling Capsules and Tianshu Capsules  
ZHANG Yong-chao, XU Fang-fang, LI Zhi-dong, LI Xiu-mei, WU Yun, LIU Hong-bo, WANG Zhen-zhong, ZHANG Xin
- **Pharmacological Studies and Clinical Observations •**
- 7445** Effects of *Epimedii Folium-Chuanxiong Rhizoma* on osteoarthritic rats based on UPLC-Q-TOF-MS metabonomics  
WU En-hui, ZHANG Jian-hua, ZHANG Lin, LI Qing-lin, WANG Ling, YIN Hua
- 7455** Effect and mechanism of baicalein-borneol on endothelial dysfunction after cerebral ischemia  
HE Yi-fan, ZHANG Hang-hang, TANG Chang-jie, CHEN Xu, YA Zhuang-ju, ZHOU Zi-ye, WANG Bin, HAN Chao-jun, LIU Ji-ping, SHI Yong-heng
- 7466** *Lycium barbarum* polysaccharide promotes macrophage phagocytosis of *Staphylococcus aureus* through TLR4/Src pathway  
ZHANG Yue, JIANG Meng-ling, CHAO Jin-dan, PENG Zhong-lu, LIU Ke-feng, FAN Hong-ye
- 7474** Mechanism of extracts from *Euphorbiae Semen* before and after frosting mediating TLR4 signaling pathway in Caco-2 cells via regulating lipid rafts  
WANG Hui-nan, WEI Xiao-tong, SHI Shuang-hui, WANG Meng-lin, MA Si-yuan, HU Yu-feng, JIANG Ming-rui, ZHANG Jing-qiu, WANG Ying-zi
- 7482** Quality evaluation of Guizhi Fuling Capsules based on contractile activity assay of mouse uterine smooth muscle  
JIN Yi-min, XIE Yan, WANG Dong-fan, ZHANG Chen-feng, CAO Liang, XIE Xue, XIAO Wei, WANG Zhen-zhong, LYU Yao-zhong
- 7489** Therapeutic effect of Xiaoler Malong Zhike Pingchuan Granule on allergic cough  
LIU Quan-guo, GAI Xiao-hong, CHEN Jin-peng, LIU Yi, REN Tao, TIAN Cheng-wang, CHEN Chang-qing
- **Data Mining and Evidence-Based Medicine •**
- 7495** Research hotspot analysis of *Rhei Radix et Rhizoma* from perspective of development and collaborative innovation and discussion on advantages of scientific research data enabling industry quality improvement  
XI Shao-yang, LI Ming, GUO Xu-dong, YANG Li-ping, JI Jie, HUANG Lu-qi, JIN Ling
- 7511** Network Meta-analysis of Chinese patent medicine for clearing heat and removing dampness in treatment of non-alcoholic fatty liver disease  
GAO Feng, GUO Li-jun, HUANG Ping-ping, ZHANG Zhi-bo, FU Shuang-qing, MA Xiao-chang
- 7526** Clinical comprehensive evaluation of Ganshuang Granules in treatment of liver cirrhosis (liver depression and spleen deficiency syndrome)  
LU Zhen-kai, ZHANG Li-dan, LYU Jian, XIE Yan-ming
- **Reviews •**
- 7536** Research progress on *Rhei Radix et Rhizoma* in prevention and treatment of liver diseases  
YANG Tian-wen, ZHOU Ji-jun, LIAO Yu, LYU Wen-liang
- 7545** Advances in biosynthesis and regulation of active ingredients of *Angelicae Sinensis Radix*  
LIU Tian-le, ZHU Tian-tian, ZHANG Ming-hui, ZHANG Jing, XU Li, KANG Shu-qi, JIN Ling
- 7554** Research progress on modern pharmacological effects of prescriptions for liver fibrosis from deficiency  
LUO Ran-yi, JIA Ke-xin, ZHANG Lei, SUN Rong, XUE Xiao-yong, QU Jiao-rong, LIU Run-ping, WU Jian-zhi, LI Xiao-jiaoyang
- 7564** Research progress on protective effect and mechanism of resveratrol on cerebral ischemic injury  
ZHANG Wen-jing, XU Hao-qun, LI Chong, HAN Bing-bing, ZHANG Yi-min
- 7577** Research progress on antitumor nanoscale drug delivery system of ginsenoside Rg<sub>3</sub>  
LIU Xiao-rui, ZHANG Kun-feng, LI Xin, WANG Xiang-tao
- 7588** Research status and comparative study on toxicity related databases of traditional Chinese medicine  
NIE Jia-xuan, QIAN Wen-xiu, WANG Man-shu, WANG Jia-ji, ZHANG Yue, LIU Hiu-min, MA Ning, SONG Li-li, LI Yu-bo