

# 中 草 药<sup>®</sup>

ZHONGCAOYAO

Chinese Traditional and Herbal Drugs

第 55 卷 第 14 期 (总第 769 期)

2024 年 7 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)

中国药学会 (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.tiprpress.com

www.中草药杂志社.中国

E-mail: 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

### · 化学成分 ·

- 4643 三七花中 1 个新的多烯炔型大环内酯  
李欣馨, 王新欣, 廖彭莹, 尚佳欢, 杨杏芝, 白雪  
朱宏涛, 张颖君
- 4650 灯盏细辛中 1 个新咖啡酰酯类化合物的分离鉴定及抗肿瘤活性研究  
陈 恒, 王春国, 饶沁玲, 黄智兴, 王钰焱, 公佳玉, 李沐轩  
刘永刚, 邓欣祺
- 4656 大叶山楝中二萜类化学成分及其抗炎活性研究  
陈彦伍, 秦天丽, 吴石丽, 蒋华夷, 何红平
- 4663 亲和超滤-液质联用技术筛选补骨脂治疗子宫内膜癌的有效成分  
蒋本贵, 陈思越, 钱文秀, 阎星旭, 李遇伯

### · 药剂与工艺 ·

- 4670 儿童友好型小儿复方鸡内金速溶散的设计与评价  
刘 惠, 仇 敏, 刘 潜, 林俊芝, 陈振彩, 郭治平  
杨 明, 张定堃
- 4679 基于 AHP-熵权 TOPSIS 法优选磁石炮制工艺及所含重金属元素的风险  
评估  
吴杨倩, 周 彤, 谢 颖, 万 毅, 毛 靖, 张 灿  
陆兔林, 赵晓莉
- 4688 Box-Behnken 设计-响应面法结合 G1-熵权法优化黄芪六一汤黄酮组  
分的提取纯化工艺  
陈方圆, 王继龙
- 4700 黄豆苷元介孔二氧化硅纳米粒缓释片制备及口服药动学研究  
唐 静, 张付利, 决利利, 王美丽, 郭娟娟, 王晓静
- 4711 一测多评、化学模式识别及加权 TOPSIS 模型相结合的润燥止痒胶  
囊质量差异性评价  
张圣苗, 杨华俊, 谢 姣, 李友佳, 袁新跃, 陈宏远
- 4722 基于特征图谱结合化学计量学和一测多评法的北刘寄奴配方颗粒质  
量评价  
张京华, 吴娜娜, 吕亚男, 曹桂云, 董晓弟, 林永强  
李金鑫, 孟兆青

### · 药理与临床 ·

- 4735 三七茎叶总皂苷促血管新生抗缺血性脑卒中的作用机制  
余慧芳, 肖海燕, 谢皓辰, 刘树森, 刘金羽, 王 敏, 孙桂波
- 4747 基于网络药理学、分子对接和动物实验探讨菟丝子醇提物抗乳腺癌  
作用机制  
宋 辉, 黄晓俏, 孙向明, 汤 静, 王玉涵, 韩栩楠, 李文兰
- 4759 黄芪多糖 APS-I、APS-II 制备及其对溃疡性结肠炎小鼠抗炎活性  
文雨薇, 李 科, 吕弯弯, 冯仕红, 秦雪梅, 杜显光, 李震宇
- 4771 何首乌苷对大脑中动脉栓塞再灌注模型大鼠皮层线粒体自噬的调控  
作用及神经保护机制  
向 韵, 黄 丹, 雷 昌, 周梓洋, 邱 峰, 刘桐赫, 施佳仪  
谭开媚, 曾红雨, 易 韬, 伍大华, 张秀丽
- 4782 基于经皮吸收成分探究中药育发凝胶对雄激素性脱发小鼠的药效物质  
基础及作用机制  
张秀君, 张明欣, 王 艳, 王柯淳, 师浩然, 郭 浩  
王旭楠, 李肖夏
- 4796 基于 NF- $\kappa$ B/CREB/RUNX2 通路探讨蒲公英水提物对肾结石大鼠肾  
脏的保护作用  
闫本纯, 李宏伟, 郭青鑫, 房小淇, 代启杨, 南锡浩, 张智慧  
邱彦橙, 田 河



ZHONGCAOYAO

Chinese Traditional and Herbal Drugs

第 55 卷 第 14 期 (总第 769 期)

2024 年 7 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

英文责任编辑

姜 丹

本期责任编辑

时圣明

- 4803 痹祺胶囊联合针刺治疗气滞血瘀型神经根型颈椎病的疗效评价  
张 芬, 刘陆晨, 王怀泽, 刘豪华, 孙 奎, 朱俊琛  
储诚煜, 王 峰

• 数据挖掘与循证医学 •

- 4811 基于数据挖掘探讨中药复方治疗气阴两虚型 2 型糖尿病的用药规律  
吴挺超, 何茗芪, 冯皓月, 岳仁宋, 吴绍祺, 温川飙
- 4824 基于生物信息学探讨复方丹参滴丸改善阿司匹林抵抗的潜在机制  
高晟玮, 贾福运, 谷旭放, 张露丹, 钟 钰, 吕子琛, 张博文  
吕春晓, 王保和
- 4836 基于 CiteSpace 的陈皮知识图谱可视化分析  
刘晓爽, 唐占明, 李慧君, 张文生

• 药材与资源 •

- 4849 当归 AP2/ERF 转录因子家族鉴定及干旱胁迫下的表达分析  
刘天乐, 朱田田, 晋 玲, 康舒淇, 张 菁, 徐 丽  
张 帅, 杨白梅
- 4860 草珊瑚叶片转录组特征分析及活性成分合成相关基因挖掘  
蓝祖裁, 胡 营, 闫志刚, 李 刚, 韦筱媚, 韦桂丽  
马梅冰, 唐美琼
- 4871 基于指纹图谱结合化学模式识别对不同发酵程度曼地亚红豆杉曲的质量  
评价 张 帅, 郭 幸, 李雅静, 院 军, 吴亚宁, 张振凌
- 4882 基于颜色-特征成分关联分析及网络药理学的金银花质量标志物  
(Q-Marker) 研究  
刘艳萍, 王 云, 贾 哲, 张 伟, 张 村
- 4897 基于近红外光谱结合化学计量学方法的山里红产地溯源分析  
崔 萌, 段宝忠, 程 蕾, 张满常, 和福美, 周 萍
- 4907 一测多评结合化学计量学及加权逼近理想解排序法对不同产地葎草  
药材的多指标质量控制及差异评价  
廖春玲, 吴燕红, 吴月华, 王志国

• 综 述 •

- 4917 链霉菌次级代谢产物生物合成的调控研究进展  
孟俊华, 张少航, 鲁曼霞, 厉 晓, 龚 婕, 王 炜, 崔培梧
- 4930 隐丹参酮药理作用及其新型制剂技术的研究进展  
李佳莉, 张 利, 辛佳芸, 高 苑, 侯泉杰, 徐希科  
冯 玉, 祖先鹏
- 4939 半夏化学成分与药理作用研究进展及其质量标志物 (Q-Marker) 预测  
周亚丽, 杨 萍, 李喜香, 李小凤
- 4953 天然多酚纳米微粒材料研究进展及在癌症治疗中的应用  
范广宇, 黎 迎, 张倩倩, 陈星历, 董政起, 李 鑫, 陆 洋
- 4962 聚乙炔类成分纯化技术及其在人参属中的研究进展  
徐 蓓, 王洪达, 洪莉丽, 邹雅丹, 杨文志
- 4978 活血利水方药理论与应用探讨  
黄玉婵, 阎施杜, 张 帆, 谢金玲, 邓家刚, 郝二伟
- 4991 基于群体感应和免疫逃逸的铜绿假单胞菌耐药机制及中药干预策略  
研究进展  
吴娅丽, 李伟霞, 王晓艳, 陈小菲, 张明亮, 张 辉  
杨柳青, 唐进法
- 5002 丹参治疗高血压肾病的作用机制研究进展  
段晓楠, 吕 静, 杨冠琦

本刊投稿须知见《中草药》2024, 55(1): 354-356.

期刊基本参数: CN 12-1108 R \* 1970 \* sm \* A4 \* 240 \* zh \* P \* ¥ 60.00 \* 3000 \* 34 \* 2024 - 14

# CHINESE TRADITIONAL AND HERBAL DRUGS

Vol. 55 No. 14 July 2024

## Chinese Traditional and Herbal Drugs

(Semimonthly)

Founded in January, 1970

## Supervised by

Tianjin Institute of Pharmaceutical Research

## Sponsored by

Tianjin Institute of Pharmaceutical Research

(www.tjipr.com)

Chinese Pharmaceutical Association

(www.cpa.org.cn)

## Edited and Published by

Editorial Office of Chinese Traditional  
and Herbal Drugs

Address: 306<sup>#</sup> 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  
www.tiprpress.com

E-mail: zcy@tiprpress.com

## Standard Number

ISSN 0253-2670

CN 12-1108/R

CODEN CTYAD8

## Editor-in-chief

LIU Changxiao

## Executive Editor-in-chief

CHEN Changqing

## Contents

### · Chemical Constituents ·

- 4643 A new polyenyne macrolide from flower buds of *Panax notoginseng*  
LI Xinxin, WANG Xinxin, LIAO Pengying, SHANG Jiahuan, YANG Xingzhi,  
BAI Xue, ZHU Hongtao, ZHANG Yingjun
- 4650 Isolation, identification and antitumor activities study of a new caffeoyl ester  
compound from *Erigeron breviscapus*  
CHEN Heng, WANG Chunguo, RAO Qinling, HUANG Zhixing, WANG  
Yumiao, GONG Jiayu, LI Muxuan, LIU Yonggang, DENG Xinqi
- 4656 Diterpenoids from *Aphanamixis polystachya* and their anti-inflammatory activities  
CHEN Yanwu, QIN Tianli, WU Shili, JIANG Huayi, HE Hongping
- 4663 Screening of effective components of *Psoralea Fructus* for endometrial cancer by  
affinity ultrafiltration chromatography-mass spectrometry  
JIANG Bengui, CHEN Siyue, QIAN Wenxiu, YAN Xingxu, LI Yubo

### · Pharmaceutics and Technology ·

- 4670 Design and evaluation of children-friendly Child Compound Endothelium  
Corneum Instant Powder  
LIU Hui, QIU Min, LIU Qian, LIN Junzhi, CHEN Zhencai, GUO Zhiping,  
YANG Ming, ZHANG Dingkun
- 4679 Optimization of processing technology based on AHP-entropy weight TOPSIS  
method and risk assessment of heavy metals elements in Magnetite  
WU Yangqian, ZHOU Tong, XIE Ying, WAN Yi, MAO Jing, ZHANG Can, LU  
Tulin, ZHAO Xiaoli
- 4688 Optimization of extraction and purification process for flavonoids from Huangqi  
Liuyi Decoction based on Box-Behnken design-response surface methodology  
combined with G1-entropy method  
CHEN Fangyuan, WANG Jilong
- 4700 Preparation and oral pharmacokinetics of daidzein mesoporous silica nanoparticles  
sustained-release tablet  
TANG Jing, ZHANG Fuli, JUE Lili, WANG Meili, GUO Juanjuan, WANG  
Xiaojing
- 4711 Quality difference evaluation of Runzao Zhiyang Capsules by QAMS, chemical  
pattern recognition and weighted TOPSIS model  
ZHANG Shengmiao, YANG Huajun, XIE Jiao, LI Youjia, YUAN Xinyue,  
CHEN Hongyuan
- 4722 Quality evaluation of *Siphonostegiae Herba* formula granules based on specific  
chromatograms combined with chemometrics and quantitative analysis of  
multi-components with a single-marker  
ZHANG Jinghua, WU Nana, LYU Yanan, CAO Guiyun, DONG Xiaodi, LIN  
Yongqiang, LI Jinxin, MENG Zhaoqing

### · Pharmacological Studies and Clinical Observations ·

- 4735 Mechanism of total saponins in stems and leaves of *Panax notoginseng* on  
promoting angiogenesis and preventing ischemic stroke  
YU Hui Fang, XIAO Haiyan, XIE Haochen, LIU Shusen, LIU Jinyu, WANG Min,  
SUN Guibo
- 4747 Mechanism of alcohol extract of *Cuscuta chinensis* against breast cancer based on  
network pharmacology, molecular docking and animal experiments  
SONG Hui, HUANG Xiaoqiao, SUN Xiangming, TANG Jing, WANG Yuhan,  
HAN Xunan, LI Wenlan
- 4759 Preparation of *Astragalus* polysaccharides APS-I and APS-II and their  
anti-inflammatory activity in mice with ulcerative colitis  
WEN Yuwei, LI Ke, LYU Wanwan, FENG Shihong, QIN Xuemei, DU Yuguang,  
LI Zhenyu
- 4771 Regulation and neuroprotective mechanism of 2,3,5,4'-tetrahydroxyl  
diphenylethylene-2-O-glucoside on mitochondrial autophagy in cortex of rats  
with middle cerebral artery occlusion/reperfusion model  
XIANG Yun, HUANG Dan, LEI Chang, ZHOU Ziyang, QIU Feng, LIU Tonghe,  
SHI Jiayi, TAN Kaimei, ZENG Hongyu, YI Tao, WU Dahua, ZHANG Xiuli
- 4782 Pharmacodynamic material basis and mechanism of Yufa Gel on androgenic  
alopecia mice based on ingredients absorbed through skin  
ZHANG Xiujun, ZHANG Mingxin, WANG Yan, WANG Kechun, SHI Haoran,  
GUO Hao, WANG Xunan, LI Xiaoxia

## 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

## Publication Date

July 28, 2024

## Editor in Charge of English

JIANG Dan

## Editor in Charge of This Issue

SHI Shengming

- 4796 Protective effect of water extract of *Taraxaci Herba* on kidneys of rats with kidney stones based on NF- $\kappa$ B/CREB/RUNX2 pathway  
YAN Benchun, LI Hongwei, GUO Qingxin, FANG Xiaoqi, DAI Qiyang, NAN Xihao, ZHANG Zhihui, DI Yancheng, TIAN He
- 4803 Efficacy evaluation of Biqu Capsules combined with acupuncture in treatment of cervical spondylotic radiculopathy with *qi* stagnation and blood stasis  
ZHANG Fen, LIU Luchen, WANG Huaize, LIU Haohua, SUN Kui, ZHU Junchen, CHU Chengyu, WANG Feng
- Data Mining and Evidence-Based Medicine •
- 4811 Medication rule analysis of traditional Chinese medicine compound in treatment of type 2 diabetes mellitus with *qi* and *yin* deficiencies based on data mining  
WU Tingchao, HE Mingmin, FENG Haoyue, YUE Rensong, WU Shaoqi, WEN Chuanbiao
- 4824 Exploring potential mechanism of Compound Danshen Dropping Pills in alleviating aspirin resistance based on bioinformatics  
GAO Shengwei, JIA Fuyun, GU Xufang, ZHANG Ludan, ZHONG Yu, LYU Zichen, ZHANG Bowen, LYU Chunxiao, WANG Baohe
- 4836 Visual analysis of knowledge graph of *Citri Reticulatae Pericarpium* based on CiteSpace  
LIU Xiaoshuang, TANG Zhanming, LI Huijun, ZHANG Wensheng
- Medicinal Materials •
- 4849 Identification of AP2/ERF transcription factor family in *Angelica sinensis* and its expression analysis under drought stress  
LIU Tianle, ZHU Tiantian, JIN Ling, KANG Shuqi, ZHANG Jing, XU Li, ZHANG Shuai, YANG Baimei
- 4860 Transcriptome characteristic and discovery of related genes involved in active ingredients biosynthesis of *Sarcandra glabra* leaves  
LAN Zuzai, HU Ying, YAN Zhigang, LI gang, WEI Xiaomei, WEI Guili, MA Meibing, TANG Meiqiong
- 4871 Quality evaluation of *Taxus*  $\times$  *media* fermented materials (Mandiyahongdoushan Qu) with different fermentation degree based on fingerprint and chemical pattern recognition  
ZHANG Shuai, GUO Xing, LI Yajing, YUAN Jun, WU Yaning, ZHANG Zhenling
- 4882 Q-Marker prediction analysis of *Lonicerae Japonicae Flos* based on color-characteristic components association analysis and network pharmacology  
LIU Yanping, WANG Yun, JIA Zhe, ZHANG Wei, ZHANG Cun
- 4897 Geographical origin traceability of *Crataegus pinnatifida* var. *major* based on near-infrared spectroscopy combined with chemometrics  
CUI Meng, DUAN Baozhong, CHENG Lei, ZHANG Manchang, HE Fumei, ZHOU Ping
- 4907 Application of QAMS, chemometrics and weighted TOPSIS in multi-index quality control and difference evaluation of *Humulus scandens* from different producing areas  
LIAO Chunling, WU Yanhong, WU Yuehua, WANG Zhiguo
- Reviews •
- 4917 Research progress on regulation for biosynthesis of secondary metabolites by *Streptomyces*  
MENG Junhua, ZHANG Shaohang, LU Manxia, LI Xiao, GONG Jie, WANG Wei, CUI Peiwu
- 4930 Research progress on pharmacological effects of cryptotanshinone and its novel preparation technology  
LI Jiali, ZHANG Li, XIN Jiayun, GAO Yuan, HOU Qianjie, XU Xike, FENG Yu, ZU Xianpeng
- 4939 Research progress on chemical constituents and pharmacological effects of *Pinelliae Rhizoma* and its quality marker prediction analysis  
ZHOU Yali, YANG Ping, LI Xixiang, LI Xiaofeng
- 4953 Research progress on natural polyphenol nanoparticles and their applications in cancer therapy  
FAN Guangyu, LI Ying, ZHANG Qianqian, CHEN Xingli, DONG Zhengqi, LI Xin, LU Yang
- 4962 Purification technologies of polyacetylene components and their research progress in *Panax* plants  
XU Bei, WANG Hongda, HONG Lili, ZOU Yadan, YANG Wenzhi
- 4978 Discussion on theory and application of blood activating water relieving prescription  
HUANG Yuchan, YAN Shidu, ZHANG Fan, XIE Jinling, DENG Jiagang, HAO Erwei
- 4991 Research progress on antibiotic-resistance mechanisms of *Pseudomonas aeruginosa*-induced infection based on quorum-sensing and immune escape and intervention strategies of traditional Chinese medicine  
WU Yali, LI Weixia, WANG Xiaoyan, CHEN Xiaofei, ZHANG Mingliang, ZHANG Hui, YANG Liuqing, TANG Jinfa
- 5002 Mechanism and research progress of *Salvia miltiorrhiza* in treatment of hypertensive nephropathy  
DUAN Xiaonan, LYU Jing, YANG Guanqi