

国际标准连续出版物号：ISSN 1007 - 1865

国内统一连续出版物号：CN44 - 1238 /TQ

半月刊 创刊于1974年

广东化工

Guangdong Chemical Industry

全国石油和化工行业优秀期刊一等奖

《中国核心期刊（遴选）数据库》全文收录期刊

中国学术期刊综合评价数据库统计源期刊

美国《化学文摘》(CA) 重点收录期刊

《中国学术期刊（光盘版）》收录期刊

广东省优秀科学技术期刊

2022
1月上半月刊

第49卷 (总第459期)

主办单位：广东省石油与精细化工研究院



ISSN 1007-1865



01>

9 771007 186226

万方数据

广东化工

Guangdong Chemical Industry

第49卷 第1期 1月上半月刊
(总第459期)

1974年创刊 (半月刊)

刊号 ISSN 1007-1865
CN 44 - 1238/TQ

- 全国石油与化工行业优秀期刊一等奖
- 高、中级化工职称资格评审认定刊物
- 中国核心期刊(遴选)数据库收录期刊

主 管：广东省科学院
主 办：广东省石油与精细化工研究院
社 长：麦裕良
出版发行：《广东化工》编辑部
发行范围：国内外公开发行
地 址：广州市越秀区越华路116号
电 话/传 真：(020) 83302517 83336009
在线投稿：<http://www.gdchem.com>
微 信：gdci200
电子邮箱：gdci200@163.com
广告经营许可证号：440000100138
印 刷：广州一龙印刷有限公司
订 购：全国各地邮局、所
邮发代号：46-211

邮局全年定价：

国内 480 元；

国外 384 美元



出版日期：2022年1月15日

公告：经广东省新闻出版局批准同意，
本刊变更为半月刊。

目 次

◆ 试验与研究

- 微生物诱导的矿化及其在油气工业的应用
郑安应, 李杨, 董浩, 等
- 反应条件对 N-炔丙基-4-溴-1,8-萘酰亚胺与水合肼反应产物的影响
于志豪, 周浪萍, 王俊俊, 等
- 针对加油站加油区火灾爆炸事故安全范围的数值模拟研究
赵美蕾, 张琨, 吴嘉仪, 等
- 基于 A/O 工艺的己内酰胺废水脱氮技术研究
李雪珺, 凌文华, 姚国栋, 等
- 基于工艺对油脂中特定脂肪酸精准控制的技术研究
袁诚, 彭万才, 唐顺之, 等
- 可渗透反应墙(PRb)在环境工程实验中的体系设计
孔庆娜
- 高性能低镍三元正极复合材料 $\text{LiNi}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}\text{O}_2/\text{V}_2\text{O}_5$ 的表面活性剂辅助水热法制备及其电化学性能研究
陈绍军, 翁少玲, 叶素美, 等
- 发泡聚丙烯材料对柴油的吸附动力学分析
沈兵兵
- 废弃 SCR 催化剂碱浸后钛渣的酸解工艺优化
王珍, 杨巧文, 唐曹, 等
- 喷雾干燥法制备钠离子电池正极材料 $\text{Na}_2\text{FePO}_4\text{F}$
唐式豹
- 碳化壳聚糖-铁组分材料催化过硫酸盐降解染料 AR73 的研究
杨群峰
- 热塑性动态硫化 BIIR/PP TPV 中 PP 的结晶行为及非等温结晶
动力学研究
陈秋芬
- 聚丙酰胺-海藻酸盐双网络水凝胶的制备与力学性能
潘高峰, 高嵩, 王雨溪, 等
- HK-1 及其受体 NK1R 在过敏性猝死中的研究进展
薛超, 刘东璞, 盛延良, 等
- BG 生物滤塔工艺与传统 MBR 工艺对比分析
刘学, 刘林宁, 刘晓鹏, 等
- 绿色合成 3-异氰酸酯基丙基三甲氧基硅烷的研究
纪秀俊, 余江, 金一丰, 等
- 烧结压力对生物医用 Ti-Nb-Zr-Mn 合金显微组织与力学性能的影响
吴疆, 郭溢, 孔清泉, 等
- 燃煤电厂旁路烟气废水蒸发系统控制优化
王先董, 张威, 潘超群, 等
- 聚酰亚胺二胺单体的合成及应用研究
刘永亮, 马彦, 黎敏, 等

- 66 铜酸铵溶液净化除杂制备四铜酸铵的试验研究
刘永涛, 高东星, 程瑞泉, 等
- 69 以碲化铜制食品添加剂级硫酸铜的研究
梁鉴华, 陈秋旭, 刘威, 等
- 71 湖北人群中 ACE2 蛋白与 SARS-CoV-2 互作位点的多态性分析
沈小芳, 朱配瑶, 卫紫钰, 等
- 74 桑葚汁的制备工艺和对糖尿病作用效果研究
周碧兰, 彭电, 李海刚
- 77 火麻仁油微乳凝胶面膜的制备及初步评价
牛佳, 尉广飞, 董林林
- 82 贵州不同产地黄柏内在成分对比研究
梁晴, 韦德群, 鲁丹, 等

◆ 专论与综述

- 85 碳纤维表面处理技术在超级电容器电极材料领域的研究进展
赵一博, 许抒悦, 何文静
- 88 功能 MOFs 材料在低碳烃分离领域的研究进展
夏雨沛, 张娜娜, 汪飞
- 91 含氟聚酯的制备及其应用研究进展
李瀚楼, 焦晓光, 朱欢欢, 等
- 93 生物正交试剂磷酸吡哆醛(PLP)及其类似物的研究进展
毛贤贤, 张思访, 许晨新, 等
- 96 石墨烯基功能化纳米复合材料的设计及应用进展
张伟娜, 宋锦博, 田华
- 99 丙丁二元无规共聚聚丙烯的研究进展
袁玉龙, 马金欣, 吴荣炜, 等
- 101 页岩气复杂井型井漏原因分析及预防处理措施——以威远国家级页岩气开发示范区 W202H23 平台为例
熊永立, 黄小惠, 何封, 等
- 105 关于加强化工园区灭火救援处置能力建设的思考
蒲泉旭
- 107 煤系针状焦生产技术研究进展
杨绍飞, 折喆
- 110 硫磺余热锅炉失效分析与对策
马晶晶
- 115 甘油制备碳酸甘油酯催化剂的研究进展
汪彦君, 赵剑英
- 119 SIRT1 在肝损伤中作用的研究进展
粟仑, 代立娟, 黄如, 等
- 121 纯净美妆产品的设计理念
陈尊凤, 肖雄, 黄伟健, 等
- 123 生物医药企业实验室危险化学品安全管理
赵明武, 李冬洁

◆ 环境保护

- 125 不同家庭处理措施对室内空气中甲醛去除效果的研究
朱荣华, 于雄胜, 柳勇, 等
- 128 含油污泥无害化热处理工艺研究
邵丹萍, 潘国强, 曾凡, 等
- 131 基于 EIAProA2018 模拟巴陵石化废气排放规律
黄鹏, 王强, 李欣媛, 等
- 135 基于 CNN_LSTM 模型的常州河流水质预测研
袁金, 徐宪根

本期基金项目论文 (共 41 篇)

- 1 微生物诱导的矿化及其在油气工业的应用
- 4 反应条件对 N-炔丙基-4-溴-1,8-萘酰亚胺与水合肼反应产物的影响
- 7 针对加油站加油区火灾爆炸事故安全范围的数值模拟研究
- 12 基于 A/O 工艺的己内酰胺废水脱氮技术研究
- 16 基于工艺对油脂中特定脂肪酸精准控制的技术研究
- 20 可渗透反应墙(PRB)在环境工程实验中的体系设计
- 23 高性能低镍三元正极复合材料 $\text{LiNi}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}\text{O}_2/\text{V}_2\text{O}_5$ 的表面活性剂辅助水热法制备及其电化学性能研究
- 71 湖北人群中 ACE2 蛋白与 SARS-CoV-2 互作位点的多态性分析
- 74 桑葚汁的制备工艺和对糖尿病作用效果研究
- 77 火麻仁油微乳凝胶面膜的制备及初步评价
- 82 贵州不同产地黄柏内在成分对比研究
- 85 碳纤维表面处理技术在超级电容器电极材料领域的研究进展
- 88 功能 MOFs 材料在低碳烃分离领域的研究进展
- 91 含氟聚酯的制备及其应用研究进展
- 93 生物正交试剂磷酸吡哆醛(PLP)及其类似物的研究进展
- 96 石墨烯基功能化纳米复合材料的设计及应用进展
- 99 丙丁二元无规共聚聚丙烯的研究进展
- 107 煤系针状焦生产技术研究进展
- 125 不同家庭处理措施对室内空气中甲醛去除效果的研究
- 128 含油污泥无害化热处理工艺研究
- 131 基于 EIAProA 2018 模拟巴陵石化废气排放规律
- 135 基于 CNN LSTM 模型的常州河流水质预测研究
- 164 波长色散-X 射线荧光光谱法测定地质样品中卤族元素
- 184 1,4-萘二甲酸镉金属有机框架合成及其吸附性能的大学教学综合设计实验
- 187 浅谈无机化学元素部分教学中“思政元素”的初探
- 190 理论与实践相结合的“大气污染控制工程”多元化教学改革研究
- 192 环境专业实践环节改革与考评机制的构建
- 195 应用型大学药物分析课程与实践教学改革研究
- 197 生物相关专业亲核取代反应的实验课程设计
- 199 从中医药文化渗透浅谈中药药剂学课程思政建设
- 201 JoVE 实验视频期刊在波谱解析教学中的应用
- 203 地方应用型高校化工专业学生工程实践能力培养模式探索
- 205 高职药学类专业实践教学课程思政的探索实践
- 208 疫情防控常态化背景下新工科院校《物理化学》课程教学改革实践与思考
- 210 以学生为中心及应用型人才培养为导向相结合的基础化学开放性实验教学模式研究
- 212 “材料表征与测试”课程思政建设的探索
- 215 课程思政背景下生物技术制药的教学设计与实现路径探索
- 218 课程思政视野下的《分析化学》教学研究
- 220 药物化学课程思政教育教学初探
- 228 前沿科研成果融入物理化学实验教学——金-聚丙烯酸铵双面神纳米粒子的合成
- 231 基于创新创业能力培养的《中药分析学》课程改革研究

- 138 典型海岛城市重金属空间分布与管控策略 吴遵义, 陈林健, 章晶晓, 等
141 铁路废油棉丝减量无害化处置技术适用 张国华
144 过氧乙酸高级氧化技术降解水中有机污染物研究进展 邓杰文
147 改性活性炭吸附处理含铅废水的研究 李玉, 刘俊, 陆英, 等
150 O₃催化氧化技术深度处理工业园区印染废水 耿翠玉, 周俊强, 赵爱雪, 等
154 生态环境监测仪器设备的期间核查 李佩贤, 陈鉴祥

◆ 设计与装备

- 157 污油膜强化传质净化处理装置自动控制系统的开发与应用 卢志斌, 罗刚
160 锥形封头的应力分析 牛小翠

◆ 分析测试

- 164 波长色散-X射线荧光光谱法测定地质样品中卤族元素 张兵兵, 张锦涛, 吕胜男, 等
167 N-乙氧基羰基-N,N',N'-三甲基脲高效液相色谱分析方法研究 徐韶康, 欧阳素珍, 庄志强
169 一种耐水型室内腻子的耐水渗透性测定方法探讨 陈志聪, 甘振杰, 蔡志贤, 等
171 气相色谱法测定凝胶洗手液中乙醇含量 兰茶香, 娄艳萍
173 总磷总氮水质在线分析仪不确定度评定 郝勇敢, 尚圆圆
177 葛根提取液 HPLC 指纹图谱及多指标成分定量分析 石豪, 李先芝, 毛琼丽, 等
180 HPCL 法测定左亚叶酸钠的异构体 邱文, 姜威

◆ 教学教改

- 184 1,4-萘二甲酸镉金属有机框架合成及其吸附性能的大学教学综合设计实验 王丽英, 金莫涵, 王亚琦
187 浅谈无机化学元素部分教学中“思政元素”的初探 徐梦姣, 刘浪
190 理论与实践相结合的“大气污染控制工程”多元化教学改革研究 刘建明, 邓林
192 环境专业实践环节改革与考评机制的构建 王淑勤, 张永胜, 郭天祥, 等
195 应用型大学药物分析课程与实践教学改革研究 李周敏
197 生物相关专业亲核取代反应的实验课程设计 徐守萍, 王江江, 黄钟全
199 从中医药文化渗透浅谈中药药剂学课程思政建设 王芳, 时军, 陈求芳, 等
201 JoVE 实验视频期刊在波谱解析教学中的应用 刘辉
203 地方应用型高校化工专业学生工程实践能力培养模式探索 张德谨, 谢永, 史洪伟, 等
205 高职药学类专业实践教学课程思政的探索实践 尚金燕, 李庆亮, 孙建设, 等
208 疫情防控常态化背景下新工科院校《物理化学》课程教学改革实践与思考 肖丹, 高倩倩, 彭响方, 等
210 以学生为中心及应用型人才培养为导向相结合的基础化学开放性实验教学模式研究 杨菁, 冯靖, 龙毅, 等
212 “材料表征与测试”课程思政建设的探索 孙蓉, 孙海亚
215 课程思政背景下生物技术制药的教学设计与实现路径探索 马格非, 尹登科, 徐伟芳, 等
218 课程思政视野下的《分析化学》教学研究 朱晓琳, 袁星, 张冬梅, 等
220 药物化学课程思政教育教学初探 吴仲元, 邱银生, 刘宇, 等
222 产教融合背景下高职轻化工类专业立体化教学改革探讨 杨焕磊
224 在药物化学教学中激发学生的专业自豪感 吕君江, 何东贤, 曾雪
226 PBL 教学法在药用高分子材料学教学中的应用 任丽, 陈灵, 王森
228 前沿科研成果融入物理化学实验教学——金-聚丙烯酸铵双面神纳米粒子的合成 张凌宇, 李鹿
231 基于创新创业能力培养的《中药分析学》课程改革研究 梁洁, 刘星辰, 柳贤福, 等
233 依托生物化学与分子生物学课程构建合成生物学竞教平台 朱梦梅, 李琨, 王梁华, 等

本刊已许可中国学术期刊（光盘版）电子杂志社在中国知网及其系列数据库产品中以数字化方式复制、汇编、发行、信息网络传播本刊全文。作者向本刊提交文章发表的行为即视为同意我社上述声明。

Guangdong Chemical Industry

Vol.49 No.1

(Series No.459)

Publication ISSN 1007 - 1865
CN 44 - 1238/TQ

Contents

◆ Experiment & research

- 1 Microbial-induced Mineralization and Its Application in the Oil and Gas Industry Zheng Anying, Li Yang, Dong Hao, He Yanlong, She Yuehui
4 Influence of Reaction Conditions on the Reaction Product between N-propargyl-4-bromo-1, 8-naphthimide and Hydrazine Hydrate Yu Zhihao, Zhou Langping, Wang Junjun, Ma Yulan, Jiang Minghao, Ren Jiaqiang, Qian Junhong
7 Numerical Simulation Study on the Safety Range of Fire and Explosion Accidents in the Refueling Area of Gas Station Zhao Fulei, Zhang Kun, Wu Jiayi, Zhu Jiyuan, Liang Yuzhao, Liu Yuhang, Yang Chen
12 Research on Denitrification Technology of Caprolactam Wastewater Based on A/O Process Li Xuejun, Ling Wenhua, Yao Guodong, Zhou Yangyuan, Zhao Jianfu
16 Accurate Control of Specific Fatty Acids in Oils based on Process Engineering Yuan Cheng, Peng Wanhai, Tang Shunzhi, Li Yao, Li Songtao, Zou Yiqing, Fu Yuping, Mu Xiaonan, Man Xingzhan, Bai Bai, Xu Wendong
20 System Design of Permeable Reaction Wall (PRB) in Environmental Engineering Experiment Kong Qingna
23 Preparation and Electrochemical Properties of $\text{LiNi}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}\text{O}_2/\text{V}_2\text{O}_5$ Ternary Cathode Composites with High Performance and Low Nickel by Surfactant-assisted Hydrothermal Method Chen Shaojun, Weng Shaoling, Ye Sumei, Zhang Yanhua, Ye Xuan
27 Analysis of the Adsorption Kinetics of the Expanded Polypropylene Material to Diesel Shen Bingbing
30 Optimization of Acidolysis Process of Titanium Slag after Alkaline Leaching of Waste SCR Catalyst Wang Zhen, Yang Qiaowen, Tang Cao, Liu Hangkai, Tan Mingjin, Wen Xin, Li Zhongnan, Wang Yaqing
32 Synthesis of $\text{Na}_2\text{FePO}_4\text{F}$ for Sodium-ion Batteries Cathodes by Spray-drying Method Tang Shibao
35 Study on the Degradation of AR73 by Persulfate Activated with Carbonized Chitosan-iron Component Materials Yang Qunfeng
38 Crystallization Behavior and Non-isothermal Crystallization Kinetics of Polypropylene as Neat and in the TPV BIIR/PP Chen Qiufen
44 Preparation and Properties of Double Network Poly (Propane Amide) Alginate Hydrogel Pan Gaofeng, Gao Song, Wang Yuxi, Zhao Fanbin, Ding Shuihui
48 Research Progress of HK-1 and its Receptor NK1R in Sudden Allergic Death Xue Chao, Liu Dongpu, Sheng Yanliang, Lv Ting, Lu Fengmei
50 Comparative Study on the Process of BG Tower and Traditional MBR Liu Xue, Liu Lining, Liu Xiaopeng, Wang Tianjiao, Wang Pengcheng, Liu Cong
53 Green Synthesis of 3-isocyanatopropyltrimethoxysilane Route Ji Xiujun, Yu Jiang, Jin Yifeng, Zhang Yuqiao
56 Effect of Sintering Pressure on Microstructure and Mechanical Properties of Biomedical Ti-Nb-Zr-Mn Alloys Wu Jiang, Guo Yi, Kong Qingquan, An Xuguang, Zhang Jing, Wu Xiaoqiang, Huang Lin, Wang Hui
59 Control Optimization of Bypass Flue Gas Wastewater Evaporation System in Power Plants Wang Xiandong, Zhang Wei, Pan Chaoqun, Yu Fengping, Ye Liming
62 Synthesis and Application of Polyimide Diamine Monomer Liu Yongliang, Ma Yan, Li Min, Luo Xiwen
66 Experimental Study on Preparation of Ammonium Tetramolybdate after Purification and Impurity Removal of Ammonium Molybdate Solution Liu Yongtao, Gao Dongxing, Cheng Ruiquan, Huo Yubao, Zhang Ping, Liu Hui
69 Study on Preparation of Food Additive Grade Copper Sulfate with Copper Telluride Liang Jianhua, Chen Qixu, Liu Wei, Mei Zhanqiang, Zhang Yajing, Wang Bo
71 Polymorphism Analysis of the Interaction Site between Novel Coronavirus and Its Receptor ACE2 Protein Shen Xiaofang, Zhu Peiyao, Wei Ziyu, Wang Xiaojun, Ren Jiaxin, Wang Xuefei, Sun Yutong, Xiao Juan, Zhai Lihong
74 Study on the Preparation Technology of Mulberry Juice and its Effect on Diabetes Zhou Bilan, Peng Dian, Li Haigang
77 Preparation and Preliminary Evaluation of Hemp Seed Oil Microemulsion Gel Mask Niu Jia, Wei Guangfei, Dong Linlin
82 Comparative Study on Quality of Phellodendri Chinensis Cortex from Different Producing Areas in Guizhou Liang Qing, Wei Dequn, Lu Dan, Liu Yingbo, Tan Huaimei, Li Min, Chen Zhizhong

◆ Summarize

- 85 Research Progress of Carbon Fiber Surface Treatment Technology in the Field of Supercapacitor Electrode Materials Zhao Yibo, Xu Shuyue, He Wenjing
88 Recent Progress towards Light Hydrocarbon Separations Using Functional MOFs Xia Yupei, Zhang Nana, Wang Fei
91 Progress in Preparation and Application of Fluorine-containing Polyester Li Hanlou, Jiao Xiaoguang, Zhu Huanhuan, Zhao Xiaohuan, Jiao Qingze, Feng Caihong, Zhao Yun
93 Research Progress of Bioorthogonal Reagent Pyridoxal-5'-phosphate (PLP) and Its Analogs Mao Xianxian, Zhang Sifang, Xu Chenxin, Liu Bei, Tang Cheng
96 Progress in Design and Application of Graphene-based Functional Nanocomposites Zhang Weina, Song Jinbo, Tian Hua
99 Research Progress of Propylene-butene Binary Random Copolymer Polypropylene Yuan Yulong, Ma Jinxin, Wu Rongwei, Li Lei
101 Analysis and Preventive Measures of Lost Circulation in Shale Gas Wells ——Take the W202H23 Platform of Weiyuan National Shale Gas Development Demonstration Zone as an Example Xiong Yongli, Huang Xiaohui, He Feng, Luo Li, Chang Jun
105 Thoughts on Strengthening the Capacity Construction of Fire Fighting and Rescue in Chemical Disasters Pu Quanxu
107 Research Progress in Production Technology of Coal-based Needle Coke Yang Shaofei, She Zhe
110 Failure Analysis and Countermeasures of Sulfur Waste Heat Boiler Ma Jingjing
115 Recent Progress of Catalyst Research in the Synthesis of Glycerol Carbonate with Glycerol Wang Yanjun, Zhao Jianying
119 Research Progress of SIRT1 in Liver Injury Su Lun, Dai Lijuan, Huang Ru, Sun Yan, Zhang Yixiao
121 Design Concept of Clean Beauty Products Chen Zunfeng, Xiao Xiong, Huang Weijian, Wu Chao, Wang Ruijin
123 Countermeasures for Safety Management of Hazardous Chemicals in Laboratories of Biomedical Enterprises Zhao Mingwu, Li Dongjie

◆ Environmental protection

- 125 Study on Removal Effect of Formaldehyde in Indoor Air by Different Family Treatment Measures Zhu Ronghua, Yu Xiongsheng, Liu Yong, Yan Wei, Zhou Yefan, Chen Xue
128 Research on Heat Treatment of Oily Sludge Shao Daping, Pan Guoqiang, Zeng Fan, Wang Huiya, Zhang Lijuan
131 Simulation of Baling Petrochemical Exhausts Emission Law Based on EIAProA 2018 Huang Peng, Wang Qiang, Li Xinyuan, Wei Wenjing, Gao Yupei, Xu Hai

135 Research on Water Quality Prediction of Changzhou River Based on CNN LSTM Model	Yuan Jin, Xu Xianggeng
138 Spatial Distribution and Management Strategy of Heavy Metals in Typical Island Cities	
Wu Zunyi, Chen Linjian, Zhang Jingxiao, Wang Lei, Yao Yantong, Hong Hong, Xie Xiaowei	
141 Applicability Analysis of Reduction and Harmless Disposal Technology of Railway Waste Oil Cotton Yarn	Zhang Guohua
144 Research Progress on the Degradation of Organic Pollutants in Water by Advanced Oxidation Technology of Peracetic Acid	Deng Jiewen
147 Study on Adsorption of Lead-containing Wastewater by Modified Activated Carbon	Li Yu, Liu Jun, Lu Ying, Chen Yunnen
150 Advanced Treatment of Dyeing Wastewater in Industrial Parks by O ₃ Catalytic Oxidation Technology	Geng Cuiyu, Zhou Junqiang, Zhao Aixue, Shen Yu
154 Intermediate Checks of Ecological Environment Monitoring Instruments	Li Peixian, Chen Jianxiang

◆ Design & equipment

157 Development and Application of Automatic Control System for Oily Sludge Membrane Enhanced Mass Transfer and Purification Plant	Lu Zhibin, Luo Gang
160 Stress Analysis of Conical Head	Niu Xiaocui

◆ Analysis testing

164 Determination of Halogen Elements in Geological Samples by Wavelength Dispersive X-ray Fluorescence Spectrometry	Zhang Bingbing, Zhang Jintao, Lv Shengnan, Yang Yuan, Zhao Wenzhi
167 Analysis of n-ethoxycarbonyl-n,n',n'-trimethylguanidine by High Performance Liquid Chromatography	Xu Shaokang, Ouyang Suzhen, Zhuang Zhiqiang
169 Discussion on the Test Method of Resistance to Water Penetration of Water-resistant Indoor Putty	Chen Zhicong, Gan Zhenjie, Cai Zhixian, Li Laifa
171 Determination of Ethanol Content in Gel Hand Wash by Gas Chromatography	Lan Chaxiang, Yan Yanping
173 The Evaluation of Uncertainty for Water Quality On-line Analyzers of Total Phosphorus and Total Nitrogen	Hao Yonggan, Shang Yuanyuan
177 HPLC Fingerprints and Multi-components Quantitative Analysis of Pueraria Lobatae Extract	Shi Hao, Li Xianzhi, Mao Qiongli, Yan Ling, Hu Yang, Liu Yang
180 Determination of Isomers of Sodium Levofloxacin by HPCL Method	Qiu Wen, Jiang Wei

◆ Teaching reform

184 Comprehensive Chemistry Designing Experiment about Synthesis of Carboxylic Cadmium Metal Complexes and the Applications in Dye Adsorption	Wang Liying, Jin Mohan, Wang Yaqi
187 On the Exploration of "Ideological and Political Elements" in the Teaching of Inorganic Chemistry Elements	Xu Mengjiao, Liu Lang
190 Study on Diversified Teaching Reform of "Air pollution Control engineering" Combining Theory and Practice	Liu Jianming, Deng Lin
192 Reform of Practice Link of Environmental Specialty and Construction of Evaluation Mechanism	Wang Shuqin, Zhang Yongsheng, Guo Tianxiang, Yuan Chungang
195 Research on the Course Reform and Practical Teaching of Pharmaceutical Analysis in Applied Universities	Li Zhoumin
197 Experimental Course Design of Nucleophilic Substitution Reaction for Biology Majors	Xu Shouping, Wang Jiangjiang, Huang Zhongquan
199 A Brief Talk about the Ideological and Political Construction of Traditional Chinese Medicine Pharmaceutics from the Perspective of Cultural Infiltration of Traditional Chinese Medicine	Wang Fang, Shi Jun, Chen Qiufang, Zeng Xuxin, Luo Wenhui
201 Application of JoVE in Teaching Spectroscopic Analysis	Liu Hui
203 Study on the Degradation of AR73 by Persulfate Activated with Carbonized Chitosan-iron Component Materials	Yang Qunfeng
205 Exploration and Practice of Ideological and Political Thoughts in Practical Teaching Courses of Pharmacy Specialty in Higher Vocational Colleges	Shang Jinyan, Li Qingliang, Sun Jianshe, Yang Xue
208 Practice and Thoughts of Teaching Reform on "Physical Chemistry" in New Engineering Universities Under the Regular Epidemic Prevention and Control	Xiao Dan, Gao Qianqian, Peng Xiangfang, Xiao Xueqing, Chen Dinggui
210 Research on the Open Experimental Teaching Mode of Basic Chemistry Based on the Combination of Student-centered and Applied Talents Cultivation	Yang Jing, Feng Jing, Long Yi, Lu Xunhua, Shao Jinning, Yang Min, Wang Shuang, Chai Huifang
212 Exploration of Ideological and Political Construction in Course of Characterization and Analysis of Materials	Sun Rong, Sun Haiya
215 Teaching Design and Implementation Path Exploration of Biotechnology Pharmacy under the Background of Curriculum Ideology and Politics	Ma Gefei, Yin Dengke, Xu Weifang, Tan Song, Liang Juan
218 Research on the Teaching of Analytical Chemistry from the Perspective of Curriculum Ideology and Politics	Zhu Xiaolin, Yuan Xing, Zhang Dongmei, Qu Jiao
220 Primarily Exploration on the Teaching of Ideological and Political Education in Medicinal Chemistry	Wu Zhongyuan, Qiu Yinseng, Liu Yu, Ye Chun, Xiong Jianglin
222 The Stereo-teaching Reform of Light-chemical Major in Higher Vocational Colleges under the Background of Production-education Integration	Yang Huanlei
224 Stimulating the Professional Pride in the Curriculum of Medicinal Chemistry	Lv Junjiang, He Dongxian, Zeng Xue
226 Application of PBL Teaching Method in the Teaching of Medicinal Polymer Materials	Ren Li, Chen Ling, Wang Sen
228 Integrating Frontier Scientific Research into Physical Chemistry Experimental Teaching:—Synthesis of Gold-Ammonium Polyacrylate Janus Nanoparticles	Zhang Lingyu, Li Lu
231 Exploration of The Reform of Traditional Chinese Medicine Analysis Course Based on Innovation and Entrepreneurship	Liang Jie, Liu Xingchen, Liu Xianfu, Cao Yupin, Chen Kuikui
233 A Synthetic Biology Competition and Education Platform Based on Biochemistry and Molecular Biology	Zhu Mengmei, Li Kun, Wang Liang-hua, Lei Changhai

Sponsor and Publisher: Guangdong Petroleum and Fine Chemicals Institute
Editor: The Editorial Office of *Guangdong Chemical Industry*

Address: The Editorial Office of *Guangdong Chemical Industry*, 116 Yuehua Road, Guangzhou, 510030 China
Tel/Fax: 86-20-83336009, 86-20-833302517
E-mail: gdcic200@163.com <http://www.gdchem.com>