

# 化学研究与应用

## 2021年(第33卷)第1期

### 目 次

#### 评论与综述

- 氯化铵催化有机合成反应的研究进展 ..... 李 霞, 黄国利 (1)
- 纳米材料在电化学分子印迹传感器中的应用进展 ..... 黄学艺, 田 颖, 杨 慧, 罗 莎, 康 德, 李润建 (17)
- 多组分反应合成杂环化合物研究进展 ..... 李晓堂, 张占辉 (24)

#### 研究论文

- 基于多元统计学的青稞 HPLC 指纹图谱研究 ..... 余倩倩, 殷钰皓, 黄小清, 熊邵文, 韩泳平 (38)
- 固体超强碱催化环戊酮的 Self-Aldol Condensation 反应研究 ..... 李修刚, 张玲钰, 杨戈坪 (47)
- 差分脉冲伏安法同时检测硝苯地平 and 尼群地平 ..... 王安亭, 卫应亮, 王 璐, 王永刚 (54)
- 模拟胃肠道消化液中小球藻类金属硫蛋白对镉离子的结合作用研究 ..... 郝春莉, 黄婧筠, 黄志勇 (62)
- 基于 QSAR 对偶氮染料光响应性及降解路径研究 ..... 奚 锐, 原金海, 罗丹丹, 周 婧, 曾 诚, 许 静, 陈双扣 (68)
- 碳点/ $\beta$ -环糊精复合物的制备及其用于尿酸检测的研究 ..... 李满秀, 曹艳蓉, 任光明, 赵三虎, 李海平 (75)
- 靶向 iNOS 的雷公藤甲素氨基酸前药的合成 ..... 何源超, 郭晓强, 何顺东, 杨淞瑞, 陈联梅, 徐孝浪, 李小红 (81)
- 热处理气氛对  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> 光阳极光电化学性能影响研究 ..... 李龙珠, 吴浩宇, 陈玉伟, 杨 蓉, 唐惠东 (90)
- N,N*-二甲氨基磺酰氯合成工艺的优化 ..... 陈 涛, 戎豪杰, 张建功, 杨翠凤, 徐泽刚, 苏天铎 (97)
- 7-(羟甲基)-8-氮杂螺[4.5]癸烷-8-羧叔丁酯的合成 ..... 王艳娇, 梁 雪, 徐小娜, 刘 斌 (103)
- 铁饼状碳酸钙的制备及性能研究 ..... 赵调彬, 孟红福, 马一童, 曾一文, 王 农 (108)
- Ni(PPh<sub>3</sub>)<sub>2</sub>Cl<sub>2</sub> 催化 2-氯嘧啶与芳基硼酸的 Suzuki-Miyaura 偶联反应 ..... 巩海鹏, 肖 雯, 胡 冰, 高 帆, 张 祯 (115)
- 革兰氏阴性细菌群体感应信号分子 AHL 结构类似物的合成及活性研究 ..... 马浩迪, 李 莹, 肖红艳, 李荣庆, 权春善, 张丽影 (123)
- 泡沫铜无溶剂催化氧化苜醇的应用研究 ..... 马佳美, 张淑华, 钟 伟, 沈忠权 (129)
- 硅烷偶联剂改性 SBA-15 固载 Keggin 型杂多酸催化合成柠檬酸三丁酯 ..... 小 梅, 王晓红, 王志强, 包 英, 王 斌, 刘宗瑞 (137)
- 5-*O*-甲基山柰酚的合成与黄酮醇的波谱特征 ..... 梅青刚, 姜立春, 游章强, 王 淳 (145)

#### 研究简报

- <sup>17</sup>O-核磁共振法研究不同处理方法对液态水缔合结构的影响 ..... 廖晓祥, 武 凯, 范 羿, 林文强, 黄江华, 卢永宏, 熊开胜, 马 俊, 陶寅莹, 张立斌, 窦元春, 李 晖, 易 斌 (151)
- 2-氰基-4'-甲基联苯的合成 ..... 刘建武, 严生虎, 张 跃 (156)
- 铜氨配合物还原动力学研究——硫酸四氨合铜 ..... 王慧婕, 陈志萍, 杨晓峰, 孙振豪, 刘海清 (162)
- 锂盐及制备工艺对固态电解质 Li<sub>7</sub>La<sub>3</sub>Zr<sub>2</sub>O<sub>12</sub> 成相的影响研究 ..... 孙振豪, 杨晓峰, 陈志萍, 王慧婕, 刘海清 (168)
- 泽泻三萜类成分的提取工艺优化及活性评价 ..... 宋 丽, 张 蕊, 陈思柒, 李 羿 (175)
- 磺酸基甜菜碱共聚物的合成及其界面活性研究 ..... 刘友权, 郭延芝, 唐永帆, 孙 川, 原 励, 张 燕 (182)
- 超疏水超亲油不锈钢网的制备工艺优化及其性能研究 ..... 赵 丽, 台秀梅, 杜志平 (187)
- Ag-Co<sub>3</sub>O<sub>4</sub>@MWCNTs 纳米复合材料的合成及其在多巴胺检测中的应用 ..... 刘建波, 孙晓霞, 张歆雪, 尚永辉, 王晓玲 (194)

#### 新技术与应用

- 荧光反猝灭法测定药剂中卡托普利 ..... 戴兴德, 石 欢, 陈盈盈, 张小林 (201)
- 低共熔溶剂促进 2,4,6-三芳基吡啶的有效合成 ..... 刘光仙, 肖立伟, 冉贺欣, 孔 洁 (205)

中文目次(封2) 英文目次(封3)

期刊基本参数: CN 51-1378/O6 \* 1989 \* b \* 16 \* 208 \* zh+en \* P \* ¥10.00 \* 1250 \* 29 \* 2021-01

## Contents

### Reviews and Summary Accounts

- Recent advances in  $\text{NH}_4\text{Cl}$ -mediated organic synthesis reactions ..... *LI Xia, HUANG Guo-li* (1)
- Application progress of nano-materials to molecularly imprinted sensor .....  
 ..... *HUANG Xue-yi, TIAN Yi, YANG Hui, LUO Sha, KANG De, LI Run-jian* (17)
- Recent progress in synthesis of heterocyclic compounds via multicomponent reactions ..... *LI Xiao-tang, ZHANG Zhan-hui* (24)

### Academic Papers

- Study on HPLC fingerprint of hullless barley based on multivariate statistics .....  
 ..... *YU Qian-qian, YIN Zheng-hao, HUANG Xiao-qing, XIONG Shao-wen, HAN Yong-ping* (38)
- Study on self-Aldol condensation of cyclopentanone catalyzed by solid superbase ..... *LI Xiu-gang, ZHANG Ling-yu, YANG Ge-ping* (47)
- Simultaneous determination of nifedipine and nitrendipine by using differential pulse voltammetry .....  
 ..... *WANG An-ting, WEI Ying-liang, WANG Lu, WANG Yong-gang* (54)
- Binding effect of MT-like proteins from *Chlorella sp.* to  $\text{Cd}^{2+}$  in simulate gastrointestinal digestive juices .....  
 ..... *HAO Chun-li, HUANG Jing-yun, HUANG Zhi-yong* (62)
- Study on the photoresponse and degradation path of azo dyes based on QSAR .....  
 ..... *XI Rui, YUAN Jin-hai, LUO Dan-dan, ZHOU Jing, ZENG Cheng, XU Jing, CHEN Shuang-kou* (68)
- Preparation of carbon quantum dots/ $\beta$ -cyclodextrin complex and determination of uric acid .....  
 ..... *LI Man-xiu, CAO Yan-rong, REN Guang-ming, ZHAO San-hu, LI Hai-ping* (75)
- Synthesis of triptolide amino acid prodrugs targeting iNOS .....  
 ..... *HE Yuan-chao, GUO Xiao-qiang, HE Shun-dong, YANG Song-rui, CHEN Lian-mei, XU Xiao-lang, LI Xiao-hong* (81)
- Effects of annealing atmosphere on the photoelectrochemical performance of  $\alpha\text{-Fe}_2\text{O}_3$  photoanodes .....  
 ..... *LI Long-zhu, WU Hao-yu, CHEN Yu-wei, YANG Rong, TANG Hui-dong* (90)
- Improvement for preparation technology of dimethylsulfamoyl chloride .....  
 ..... *CHEN Tao, RONG Hao-jie, ZHANG Jian-gong, YANG Cui-feng, XU Ze-gang, SU Tian-duo* (97)
- Synthesis of tert-butyl 7-(hydroxymethyl)-8-azaspiro[4.5]decane-8-carboxylate ..... *WANG Yan-jiao, LIANG Xue, XU Xiao-na, LIU Bin* (103)
- Study on preparation and performance of discus-shaped calcium carbonate .....  
 ..... *ZHAO Tiao-bin, MENG Hong-fu, MA Yi-tong, ZENG Yi-wen, WANG Nong* (108)
- Nickel-catalyzed Suzuki-Miyaura coupling reaction of 2-chloro pyrimidines with aryl boronic acid .....  
 ..... *GONG Hai-peng, XIAO Wen, HU Bing, GAO Fan, ZHANG Zhen* (115)
- Synthesis and activity of AHL analogs in Gram-negative bacteria quorum sensing system .....  
 ..... *MA Hao-di, LI Ying, XIAO Hong-yan, LI Rong-qing, QUAN Chun-shan, ZHANG Li-ying* (123)
- Copper foam-catalyzed solvent-free aerobic oxidation of benzylic alcohol .....  
 ..... *MA Jia-mei, ZHANG Shu-hua, ZHONG Wei, SHEN Zhong-quan* (129)
- Synthesis of tributyl citrate catalyzed by silane coupling agent modified SBA-15 supported Keggin type heteropoly acid .....  
 ..... *XIAO Mei, WANG Xiao-hong, WANG Zhi-qiang, BAO Ying, WANG Bin, LIU Zong-rui* (137)
- Synthesis of 5-O-methylkaempferol and spectral characteristics of flavonols .....  
 ..... *MEI Qing-gang, JIANG Li-chun, YOU Zhang-qiang, WANG Chun* (145)

### Research Notes

- Effect of different treatments for water on water association by  $^{17}\text{O}$ -NMR .....  
 ..... *LIAO Xiao-xiang, WU Kai, FAN Yi, LIN Wen-qiang, HUANG Jiang-hua, LU Yong-hong, XIONG Kai-sheng, MA Jun, TAO Yin-ying, ZHANG Li-bin, DOU Yuan-chun, LI Hui, YI Bin* (151)
- Synthesis of 2-cyano-4'-methylbiphenyl ..... *LIU Jian-wu, YAN Sheng-hu, ZHANG Yue* (156)
- Reduction kinetics of copper-ammonia complex—tetraamminecopper sulfate .....  
 ..... *WANG Hui-jie, CHEN Zhi-ping, YANG Xiao-feng, SUN Zhen-hao, LIU Hai-qing* (162)
- Study on the effect of lithium salt and its preparation process on the phase formation of solid electrolyte  $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$  .....  
 ..... *SUN Zhen-hao, YANG Xiao-feng, CHEN Zhi-ping, WANG Hui-jie, LIU Hai-qing* (168)
- Optimization of extract technology and the activity evaluation of triterpenoids from *Alismatis Rhizoma* .....  
 ..... *SONG Li, ZHANG Rui, CHEN Si-qi, LI Yi* (175)
- Synthesis and interfacial properties of sulfo betaine-PEG copolymer .....  
 ..... *LIU You-quan, GUO Yan-zhi, TANG Yong-fan, SUN Chuan, YUAN Li, ZHANG Yan* (182)
- Optimization of preparation process and performance of super hydrophobic and super lipophilic stainless steel mesh .....  
 ..... *ZHAO Li, TAI Xiu-mei, DU Zhi-ping* (187)
- Synthesis of  $\text{Ag-Co}_3\text{O}_4$ @MWCNTs nanocomposite and its application for dopamine detection .....  
 ..... *LIU Jian-bo, SUN Xiao-xia, ZHANG Xin-xue, SHANG Yong-hui, WANG Xiao-ling* (194)

### New Techniques and Application

- Determination of captopril in pharmaceutical based on fluorescence inverse quenching .....  
 ..... *DAI Xing-de, SHI Huan, CHEN Ying-ying, ZHANG Xiao-lin* (201)
- An efficient synthesis of 2,4,6-triarylpyridines in deep eutectic solvent ..... *LIU Guang-xian, XIAO Li-wei, RAN He-xin, KONG Jie* (205)