

目 录

特 稿

- 童亭亮煤索氏萃取和超声萃取的 GC/MS 分析
..... 华宗琪,秦志宏,陈德仁,等(1)
碱性条件下甲醇阳极氧化碳载催化剂的性能
..... 韩 兵,高 军,王贤纲,等(5)
基于多金属离子合金溶液的非晶态镀层研究
..... 李晓博,周靖欣,焦体峰(8)

专论与综述

- 微波无电极紫外光源在环境污染防治中的应用
..... 杨 俊,刘 恋,王火青,等(11)
我国轨道交通环境问题研究现状 季丽英(14)
基于 SiO₂ 材料的细胞固定化研究及应用
..... 谢 浩,方晓雨(16)
氧化铝在冰晶石熔体中溶解的研究方法评述 王家伟(19)
国内褐煤的加工应用 闫玉杰,秦志宏,李瑞丰(23)
水性环氧树脂固化剂的研究进展
..... 陈火平,邹志强,甘 宇,等(26)
鱼尼丁受体抑制剂的的研究进展
..... 孟祥冰,欧阳贵平,刘 浩,等(28)
光催化氧化处理气相污染物的研究与应用
..... 徐江岑,孙 翀,韩晶晶,等(33)
乙烯焦油的研究利用进展 李艳芳,牟庆平,栾 波,等(36)
TiNi 形状记忆合金薄膜的研究现状
..... 肖 琦,王 瑞,徐 磊,等(38)
镍在有机合成反应中的应用 姚祥华,晏文武(41)
新型生物脱氮除磷技术的研究进展
..... 韩晶晶,孙 翀,徐江岑,等(44)
煤炭气化技术浅析 王 飞,朱玉芹,周 霞(47)
斑蝥素含量测定方法研究进展 胡朝阳(49)
添加生物质对煤气化的影响
..... 宋利强,雷佳莉,贺国章,等(52)

科学实验

- 2-甲氧基-5-硝基苯甲酸中硝基的还原
..... 孔祥夫,杨 松(54)

- 水蒸气活化法制备炭膜的研究 ... 李新艳,秦志宏,陈冬梅(56)
Zn(py)₂Cl₂ 的合成、晶体结构及发光性能研究
..... 霍涌前,崔华莉,杨亚平,等(60)
苯酚在介孔材料上的吸附性能的研究
..... 邵金城,许文娟,傅 伟,等(63)
微波辐射蒙脱土固定三氯化铝催化合成草酸二丁酯
..... 隆金桥,黎远成,陈华妮,等(68)
基于聚砜膜的透析进样毛细管电泳系统与性能评价
..... 孙文姣,赵文娟,孙小婷,等(70)
L-二苯甲酰酒石酸为拆分剂结晶拆分 L, D-薄荷醇
..... 苏 圳,刘小波,吴学林,等(73)
Ag/AgBr/TiO₂/AC 复合光催化剂的制备及其性能研究
..... 叶芳云,杨 露,刘 鹏(77)
纳米硫化镉的合成及其电化学催化性能测试 方婷婷(79)
几种类型纳米 TiO₂ 的制备及光催化活性研究
..... 杨 露,张 甜,叶芳云,等(82)
超临界 CO₂ 萃取柑橘精油的工艺研究 张建立,李延升(85)
MEA-TETA 复配醇胺水溶液吸收二氧化碳的实验研究
..... 费 祥,王婷芳,蔡晓彤,等(88)
阴-非离子表面活性剂的合成及界面张力研究
..... 吴雅丽,张 震(91)
原位反应法制备 NR/二氧化硅胶膜及其性能分析
..... 杨增杰,张 婧,王 伟,等(94)
月桂酸单甘酯的合成与提纯 管培庆,董殿权(98)
β-环糊精与甲基红化合物的制备及表征 陈明俊(100)
固液结合-碳热还原法制备 LiFePO₄/C 材料的研究
..... 张永霞,王二晓(102)
纳米 TiO₂ 薄膜的制备、表征及杀菌性能
..... 郑丽娜,迟 熠(105)

分析测试

- 双氧水处理活性碳修饰碳糊电极测水中 Pb(II)
..... 刘雅旋,夏会玲,刘 召,等(107)
水中氨氮测定方法比较 刘林斌(110)

广州化工 GUANGZHOU HUAGONG

《中国学术期刊综合评价数据库》统计源刊
《中国核心期刊(遴选)数据库》全文收录期刊
《中国期刊全文数据库》全文收录期刊
高、中级化工职称资格评审认定期刊

1973 年创刊(半月刊)
第 39 卷第 10 期
2011 年 5 月(下半月)

主管:广州化工集团有限公司
主办:广州化工研究设计院
广州市化工行业协会
协办:广州市化学化工学会
《广州化工》编辑部
主编:张 统
副主编:吴文莉
编辑:罗方琪 邹慧明 林珺颖
广告:茅仁旭 罗方琪

顶空固相萃取联合 GC-MS 检测水中 10 种氯苯系物 温佐钧, 赖永忠 (112)

原子荧光光度法测定水中汞及不确定度分析 ... 赵 剑 (116)

聚 ABSA 修饰电极对多巴胺、抗坏血酸、尿酸的同时测定 赵文娟, 孙文斌, 高洁玲, 等 (119)

宁夏产茵茵蒜中总黄酮含量的测定 闫乾顺, 卢宁清, 闫 欣 (123)

啤酒中有机氯及拟除虫菊酯残留检测方法研究 林茂发 (125)

日用陶瓷中铅镉溶出量的测定 ... 吴丹丹, 林 旺, 吕丽滨 (127)

气相色谱测定阳极电泳漆有机溶剂含量的探讨 常 红 (130)

高频红外吸收法测定铁矿石中的硫 胡圣平, 游小燕, 刘玉莲 (133)

花生及其它农作物中硅和铝的测定 曾宇斌, 郑淑华, 张 军, 等 (135)

石墨炉原子吸收分光光度法测定鲑鱼中硒含量 刘 辉, 吴梅珍 (137)

原子荧光光谱法测定扇贝中重金属含量 孙 引 (139)

HPLC 法测定塑料产品中烷基酚及聚氧乙烯醚 张登源, 肖时俊, 刘玉莲, 等 (141)

红外光谱法测定固化剂中 HDI 和 TDI 三聚体含量 陈雪良, 李国强, 颜显龙 (144)

环境保护

短程反硝化除硫装置中脱硫菌的富集过程 罗 智 (146)

LLDPE 装置已烷系统的环境治理改进 ... 刘 涛, 王双居 (149)

PAHs 在天然水体沉积物中的迁移转化及生态效应 王 瑾 (151)

大气污染对农业影响的经济损失分析 ... 霍书浩, 丁桑岚 (154)

化工机械

管内组合式旋向交叉转子对强化传热性能影响 赵本华, 何雪涛, 丁玉梅, 等 (157)

螺杆压缩机在连续重整装置的问题及处理 常体荣, 陈盼梯, 朱 磊 (160)

二氧化碳汽提装置尿塔液位控制阀的选择 严红燕, 袁良正 (162)

换热器的腐蚀与防护 杨胡荣 (164)

脱硫箱罐结构特点探讨及应对策略 张 轶, 张 杰, 潘文辉 (166)

生产技术

碱厂废渣在湿法烟气脱硫中的应用实例 张玉娟, 张绍训, 罗 跃 (168)

稠油降粘剂的复配降粘效果评价 马舍悦, 李春福 (171)

Uhde 先进控制在惠炼制氢工艺的应用 李 辉 (173)

教学园地

创新毕业设计, 培养合格人才 王中辉, 刘 录, 戴静君, 等 (176)

浅谈《中级无机化学》教学方法 曹 莹, 王华杰, 和明莉, 等 (178)

校企合作人才培养模式改革与创新 刘春彦, 雷旭霞, 程贵刚, 等 (180)

制药工程专业《无机及化学分析》课程的改革与探索 李 梅, 朱桂花, 李 力, 等 (182)

高职院校分析化学实验教学的思考 李 芬, 胡德声 (184)

应用科学试验原理和方法进行药物化学实验教学 赵建国, 曲伟红, 吕 璐 (186)

浅谈强化工业微生物学教学效果 杨晓娟, 章艳玲 (188)

浅谈在《胶体与界面化学》教学中的体会 赵彦宏, 王晓晶 (190)

第八届编委会成员名单

主 任: 崔英德

副主任: 叶家灿、白 莉

秘书长: 张 统

委员: (排名不分先后)

钱 宇、童叶翔、余 林、王乐夫、何榕友、
杨育农、马小明、郑 成、麦堪成、彭 峰、
赵建青、尹国强、刘自力、李大光、杨定乔、
黄道平、李攻科、刘国光、陈国华、董新法、
方岩雄、刘晓国、李雪辉、陈旭东、李锡安、
梁基照、熊 亚、曾庆焕、罗国钦、余慧文

编辑出版:《广州化工》编辑部

地址:广州市白云区石井石潭路潭村桥东

邮编:510430

电话:(020)36372165

传真:(020)36372165

E-mail:gzhghjb@126.com

网址:www.gzhghjb.cn

印刷:广州市东扬彩色印刷有限公司

发行范围:国内外公开发售

国外发行:中国出版对外贸易公司(北京 782 信箱)

收款单位:广州化工研究设计院

开户银行:广州市工商银行石井支行

帐号:3602025309000823574

国内定价:13.00 元/期 全年 295.00 元

国际标准刊号:ISSN1001-9677

国内统一刊号:CN44-1228/TQ

广告经营许可证:穗工商广字 4401004002668 号

出版物经营许可证:新出发粤刊总批字第 226 号

CONTENTS

GC/MS Analysis of Clarain from Tongting Bituminous Coal Extracted Using Soxhlet Extraction and Ultrasonic Extraction	Reduction Nitro Group in 2 - methoxy - 5 - nitrobenzoic Acid
..... HUA Zong - qi, QIN Zhi - hong, CHEN De - ren, et al. (1)	..... KONG Xiang - fu, YANG Song (54)
Catalyst Performance of Electrol - catalytic Oxidation of Methanol in Alkalion Solution	Study on Preparation of Carbon Membrane by Steam Activation
..... HAN Bing, GAO Jun, WANG Xian - gang, et al. (5)	..... LI Xin - yan, QIN Zhi - hong, CHEN Dong - mei (56)
Research on Amorphous Ni - P Alloy Coatings Based on Solution of Multi - Metal Ions	Synthesis, Crystal Structures and Fluorescence Study of Zn(py) ₂ Cl ₂
..... LI Xiao - bo, ZHOU Jing - xin, JIAO Ti - feng (8)	..... HUO Yong - qian, CUI Hua - li, YANG Ya - ping, et al. (60)
The Application of Microwave Electrodeless UV Lamp in Environmental Pollution Control	Study on the Adsorption of Phenol on the Mesoporous Materials
..... YANG Jun, LIU Lian, WANG Huo - qing, et al. (11)	..... SHAO Jin - cheng, XU Wen - juan, FU Wei, et al. (63)
Research Status of Environmental Problems of Rail Transit in China	Catalytic Synthesis of Dibutyl Oxalate by AlCl ₃ Immobilized on Montmorillonite under Microwave Radiation
..... JI Li - ying (14)	..... LONG Jin - qiao, LI Yuan - cheng, CHEN Hua - ni, et al. (68)
Research and Applications of Cells Immobilisation by Silica - based Materials	Study on Capillary Electrophoresis with Dialysis Sampling Based on Polysulfone Membrane
..... XIE Hao, FANG Xiao - yu (16)	..... SUN Wen - jiao, ZHAO Wen - juan, SUN Xiao - ting, et al. (70)
The Review on Research Method of Alumina Dissolution in Cryolite Melting	Racemic Menthol Resolution by Means of Crystallization with O, O' - dibenzoyl - (2R, 3R) - tartaric Acid as Resolving Agent
..... WANG Jia - wei (19)	..... SU Zhen, LIU Xiao - bo, WU Xue - lin, et al. (73)
Processing and Application of Domestic Lignite	Preparation and Characterization of Ag/AgBr/TiO ₂ /AC Photocatalyst
..... YAN Yu - jie, QIN Zhi - hong, LI Rui - feng (23)	..... YE Fang - yun, YANG Lu, LIU Peng (77)
Research Progress of Waterborne Curing Agents for Epoxy Resins	Synthesis and Electro - catalytic Performance of CdS Nanomaterials
..... CHEN Huo - ping, ZOU Zhi - qiang, GAN Yu, et al. (26)	..... FANG Ting - ting (79)
Advances in Research of Ryanodines Receptor Insecticide	The Preparation of Different Kinds of Nano TiO ₂ and Photo Catalytic
..... MENG Xiang - bing, OUYANG Gui - ping, LIU Hao, et al. (28)	..... YANG Lu, ZHANG Tian, YE Fang - yun, et al. (82)
Research and Application in Gas - phase Pollutant Treatment by Photocatalysis	Study on Optimization of Technology for Extracting Orange Oil by Supercritical CO ₂ Extraction
..... XU Jiang - cen, SUN Chong, HAN Jing - jing, et al. (33)	..... ZHANG Jian - li, LI Yan - sheng (85)
Progress of Studying on Ethylene Tar	Experiments for CO ₂ Absorption in MEA - TETA Aqueous Solutions
..... LI Yan - fang, MU Qing - ping, LUAN Bo, et al. (36)	..... FEI Xiang, WANG Ting - fang, CAI Xiao - tong, et al. (88)
Recent Developments of TiNi Shape Memory Alloy Thin Film	New Anionic - Nonionic Surfactant Synthesis and Dynamic Interfacial Tension
..... XIAO Qi, WANG Rui, XU Lei, et al. (38)	..... WU Ya - li, ZHANG Zhen (91)
Application of Organic Nickel Complex in Organic Synthesis	Preparation of NR/Silica Film with Situ Reaction and its Performance Analysis
..... YAO Xiang - hua, YAN Wen - wu (41)	..... YANG Zeng - jie, ZHANG Jing, WANG Wei, et al. (94)
The Advances in Investigation of New Technology on Biological Nitrogen and Phosphorus Removal	The Synthesis of Glycerol Monolaurate
..... HAN Jing - jing, SUN Chong, XU Jiang - cen, et al. (44)	..... GUAN Pei - qing, DONG Dian - quan (98)
Superficial View on Coal Gasification Technology	Preparation, Characterization of Inclusion between β - Cyclodextrin and Methyl Red
..... WANG Fei, ZHU Yu - qin, ZHOU Xia (47)	..... CHEN Ming - jun (100)
Research Progress on the Quantitative Determination of Cantharidin	Study of LiFePO ₄ /C Cathode Materials Prepared by Solid - liquid and Carbothermal Reduction Method
..... HU Chao - yang (49)	..... ZHANG Yong - xia, WANG Er - xiao (102)
The Effect of Additional Biomass on Coal Gasification	Preparation, Characterization and Photo Activities of Nano - TiO ₂ Thin Film
..... SONG Li - qiang, LEI Jia - li, HE Guo - zhang, et al. (52)	..... ZHENG Li - na, CHI Yi (105)

GUANGZHOU CHEMICAL INDUSTRY

Open Publishing

Established in 1973 (Semimonthly)

Vol. 39 No. 10

May, 2011

Chief Editor: ZHANG Tong

Editor :

The "GUANGZHOU CHEMICAL INDUSTRY"

Editorial Office:

(Address: Bridge (E.) Shitan Road, Shijing,
Baiyun District, Guangzhou, China)

- Determination of Lead (II) Using H_2O_2 - oxidized Activated Carbon Modified Electrode *LIU Ya - xuan, XIA Hui - ling, LIU Zhao, et al.* (107)
- Comparison of Determination Method for Ammonia - nitrogen Content in Water *LIU Lin - bin* (110)
- Determination of 10 Chlorobenzenes in Water by Head Space Solid Phase Microextraction before GC - MS Analysis *WEN zuo - jun, LAI yong - zhong* (112)
- Detection and Uncertainty Analysis of Mercury in Water with Atomic Fluorometry *ZHAO Jian* (116)
- Simultaneous Determination of Dopamine, Ascorbic Acid and Uric Acid with Poly (4 - Aminobenzene Sulfonic Acid) Modified Electrode *ZHAO Wen - juan, SUN Wen - jiao, GAO Jie - ling, et al.* (119)
- Determination of Total Flavonoids of *Ranunculus chinensis* Bunge Produced in Ningxia *YAN Qian - Shun, LU Ning - qing, YAN Xin* (123)
- Study on Determination of Organochlorines and Pyrethroids Residues in Beer *LIN Mao - fa* (125)
- Determination of Lead and Cadmium in Domestic Ceramic by AAS *WU Dan - dan, LIN Wang, LV Li - bin* (127)
- Determination of Solvent Content in Bath Composition of Anodic Electrophoresis Paint by Gas Chromatography *CHANG Hong* (130)
- Determination of S Contents in Iron Ore by High - frequency Infrared Carbon - sulphur *HU Sheng - ping, YOU Xiao - yan, LIU Yu - lian* (133)
- Determination of the Silicon and the Aluminum in Peanuts and Other Crops *ZENG Yu - bin, ZHENG Shu - hua, ZHANG Jun, et al.* (135)
- Determination of Selenium Content in Squid by Graphite Furnace Atomic Absorption Spectrometry *LIU Hui, WU Mei - zhen* (137)
- Determination of Heavy Metals in Testacean Production with Atomic Fluorescence Spectrometry *SUN Yin* (139)
- Determination of Alkylphenols and Alkylphenol Polyethoxylates in Plastic Products with HPLC *ZHANG Deng - yuan, XIAO Shi - jun, LIU Yu - lian, et al.* (141)
- Determination of the Content of HDI and TDI Tripolymer in Curing Agent by Infrared Spectroscopy *CHEN Xue - liang, LI Guo - qiang, YAN Xian - long* (144)
- The Enrichment of the Denitrification and Desulfurize Organisms *LUO Zhi* (146)
- Environmental Governance Improvement of Hexane System of LLDPE *LIU Tao, WANG Shuang - ju* (149)
- Migration Transformation and Ecological Effects of PAHs in the Natural Sediments *WANG Jin* (151)
- Analysis of Agriculture Economic Loss Caused by Air Pollution *HUO Shu - hao, DING Sang - lan* (154)
- Heat Transfer Effect of the Strand - Rotors with Cross Hands' Vases in the Shell and Tube Heat Exchanger *ZHAO Ben - hua, HE Xue - tao, DINY Yu - mei, et al.* (157)
- The Problem and Handling of Helical - lobe Compressor in CCR Unit *CHANG Ti - rong, CHEN Pan - di, ZHU Lei* (160)
- Selection of Valve Controlling Liquid for Urea Converter in CO_2 Stripping Device *YAN Hong - yan, YUAN Liang - zheng* (162)
- Corrosion and Protection of Heat Exchangers *YANG Hu - rong* (164)
- Research of Desulfurization Tank Structure Features and Solutions *ZHANG Yi, ZHANG Jie, PAN Wen - hui* (166)
- Example of Alkali Residue of Soda Plants Applied in Wet - flue Gas Desulfurization *ZHANG Yu - juan, ZHANG Shao - xun, LUO Yue* (168)
- Compounding Viscosity Reducer for Crude Oil and Evaluating Effect *MA Han - yue, LI Chun - fu* (171)
- Uhde Advanced Control System of Huizhou Refining in the Use of Hydrogen Production Processes *LI Hui* (173)
- Graduate Design Innovation, Training of Qualified Personnel *WANG Zhong - hui, LIU Lu, DAI Jing - jun, et al.* (176)
- Teaching Methods about Medium Inorganic Chemistry *CAO Ying, WANG Hua - jie, HE Ming - li, et al.* (178)
- Reform and Innovation on Talent Fosters Mode for Cooperation between Colleges and Enterprises *LIU Chun - yan, LEI Xu - xia, CHENG Gui - gang, et al.* (180)
- Innovation and Exploration of Inorganic and Analytical Chemistry Course in Pharmacy Engineering Specialty *LI Mei, ZHU Gui - hua, LI Li, et al.* (182)
- Reflections on Analytical Chemistry Experiment Teaching in Higher Vocational Colleges *LI Fen, HU De - sheng* (184)
- Practice of Medicinal Chemistry Experiment Teaching Using Scientific Experimental Principles and Methods *ZHAO Jian - guo, QU Wei - hong, LV Lu* (186)
- Discussion on the Effect of Industrial Microbiology Teaching *YANG Xiao - juan, ZHANG Yan - ling* (188)
- Teaching Experience of Colloid and Interface *ZHAO Yan - hong, WANG Xiao - jing* (190)

Guangzhou Research & Design Institute of
Chemical Industry
Postcode: 510430
Tel: (020) 36372165 Fax: (020) 36372165
E - mail: gzhgbjb@126.com
www.gzhgbjb.cn

Publisher :

Guangzhou Research & Design Institute of
Chemical Industry

Guangzhou Society of Chemistry
and Chemical Engineering
Guangzhou Chemical Industry Association

Journal Code ISSN 1001 - 9677
CN 44 - 1228/TQ