



ISSN 1000-8438
CN 11-1815/O6

大學化學

UNIVERSITY CHEMISTRY

第34卷 第1期

Vol.34 No.1

2019

大學化學
UNIVERSITY CHEMISTRY

第三十四卷
第一期
Vol.34 No.1

二〇一九



中华人民共和国教育部主管
北京大学、中国化学会主办
北京大学化学与分子工程学院大学化学编辑部出版



www.dhx.pku.edu.cn

万方数据

目次

今日化学

浅谈2018年诺贝尔化学奖:驾驭进化的力量 周颖,朱理源,邹鹏 (1)

教学研究与改革

GB/T19001质量管理体系用于高校教学实验室管理的初步实践 孔璇凤,奚忠华,余晓冬 (7)

有机化学实验教学资源的建设与实践 程绍玲,杨迎花,张海丽,马晓红 (14)

化学生物学综合实验教材建设 陈玉清 (18)

知识介绍

浅析氨基酸代谢在生物有机化学与化学生物学教学中的重要性 王志鹏,马新雨,颜惠娟,田杰 (24)

导致冰面极低摩擦系数的原因:研究进展及模型分析 王广振,王文亮,高欣,张树永 (33)

碳硼烷化学发展之路 赵薇佳,贺嘉俊,芦昌盛 (39)

化学实验

四苯乙烯的合成、表征及在爆炸物检测中的应用——介绍一个大学化学综合实验 何田,顾峥辉,尹守春 (48)

基于光线传感器的手机光度计设计与应用 奚忠华,孔璇凤,余晓冬,章文伟 (54)

基础实验:金纳米粒子的制备及其光学性质 南彩云,张宇,李玉峰,赵云岑 (58)

高校危险废弃物管理信息化网络建设的探索 兰景凤,马宏 (64)

师生笔谈

火锅中的科学:利用非稳态传热模型确定食物加热时间 李晓宇,刘珂,张树永 (72)

关于凝固点降低的教材编写和教学建议 乔正平,龚孟谦,巢晖 (77)

活泼氢的核磁共振氢谱 杨婕,张世平,孙伟,白银娟 (82)

萃取分配极限推导证明 吴亚东 (89)

强电解质稀溶液的依数性公式导出及实验验证 陈美婷,顾聪,姚喆,陈飞武,张恒建,熊楚强 (92)

自学之友

在移动终端上远程实时监控实验室和操作仪器 张伟庆,张建辉,余小岚 (98)

大学基础化学教学中分子间作用力与范德华力的概念辨析 花书贵,季姣,单靖舒,严珺 (104)

单取代苯环定位效应定量分析和图形可视化解释 李强根,李宣映,毛双 (108)

多重平衡标准平衡常数的计算方法及应用 刘霞 (116)

动态与信息

第十届全国微型化学实验研讨会暨第八届中学微型实验研讨会征文通知 (121)

《大学化学》征稿简则 (122)

CONTENTS

Chemistry Today

- A Brief Introduction to Nobel Prize in Chemistry 2018: Harnessing the Power of Evolution
..... ZHOU Ying, ZHU Liyuan, ZOU Peng (1)

Study and Reform of Chemical Education

- Application of GB/T19001 Quality Management System in Management of Teaching Laboratory in Universities
..... KONG Xuanfeng, XI Zhonghua, YU Xiaodong (7)
- Construction and Practice of Teaching Resources of Organic Chemistry Laboratory
..... CHENG Shaoling, YANG Yinghua, ZHANG Haili, MA Xiaohong (14)
- Construction of Chemical Biology Comprehensive Laboratory Teaching Material CHEN Yuqing (18)

Survey of Chemistry

- Discussion on Introducing Amino Acid Metabolism into Bioorganic Chemistry and Chemical Biology Education
..... WANG Zhipeng A., MA Xinyu, YAN Huijuan, TIAN Jie (24)
- Reasons for the Low Frictional Coefficient of Ice Surface: Progress and Model Analysis
..... WANG Guangzhen, WANG Wenliang, GAO Xin, ZHANG Shuyong (33)
- Development of Carborane Chemistry ZHAO Weijia, HE Jiajun, LU Changsheng (39)

Chemistry Laboratory

- Synthesis and Characterization of Tetraphenylethylene and Its Application for Explosive Detection: An Introduction of a
Comprehensive Chemical Experiment HE Tian, GU Zhengye, YIN Shouchun (48)
- Design and Application of Mobile-Phone Photometer Based on Light Sensor
..... XI Zhonghua, KONG Xuanfeng, YU Xiaodong, ZHANG Wenwei (54)
- Preparation of Gold Nanoparticles and Their Optical Properties
..... NAN Caiyun, ZHANG Yu, LI Yufeng, ZHAO Yunling (58)
- Exploration on the Construction of Information Network of Hazardous Waste Management in Colleges and Universities
..... LAN Jingfeng, MA Hong (64)

Between Teacher and Student

- Science in Hot Pot: Determining the Heat-Up Duration Using Model of Unsteady Heat Transfer
..... LI Xiaoyu, LIU Ke, ZHANG Shuyong (72)
- Suggestions on Description of Freezing Point Depression in College Chemistry Textbooks and Teaching Methodology
..... QIAO Zhengping, GONG Menglian, CHAO Hui (77)
- Proton Nuclear Magnetic Resonance Spectroscopy of Active Hydrogen
..... YANG Jie, ZHANG Shiping, SUN Wei, BAI Yinjuan (82)
- A Discussion about Extraction Limit WU Yadong (89)
- Derivation and Experimental Verification of Colligative Equations of Dilute Strong Electrolyte Solution
..... CHEN Meiting, GU Cong, YAO Zhe, CHEN Feiwu, ZHANG Hengjian, XIONG Chuqiang (92)

Self Studies

- Remote Control and Monitoring of Laboratory Equipment and Operation Using Mobile Devices
..... ZHANG Weiqing, ZHANG Jianhui, YU Xiaolan (98)
- Analysis on the Concept of Intermolecular Interactions and van der Waals Force in the Teaching of University Chemistry
..... HUA Shugui, JI Jiao, SHAN Jingshu, YAN Jun (104)
- Quantitative Analysis and Graphical Visualization Interpretation of Mono-substituted Benzene Ring Localization Effect
..... LI Qianggen, LI Xuanying, MAO Shuang (108)
- Calculation Method and Application of Multi-Equilibrium Standard Equilibrium Constant LIU Xia (116)