

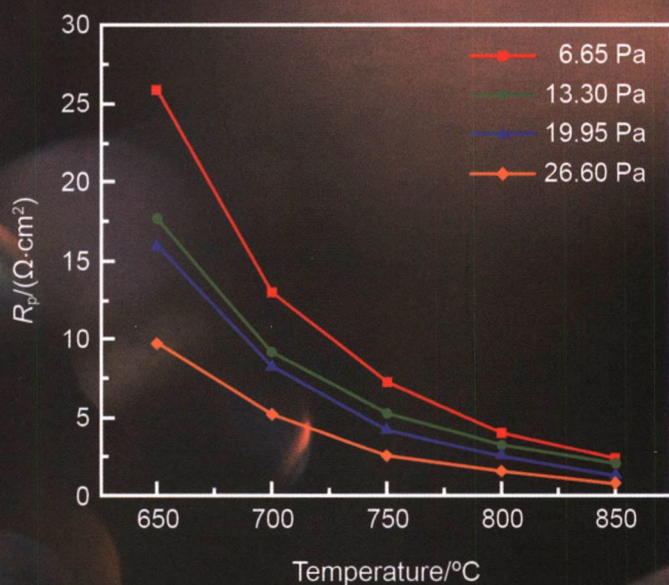
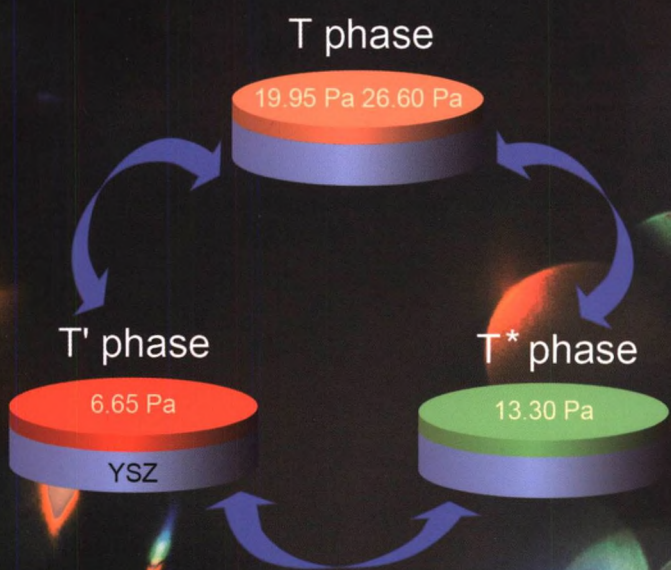
# 应用化学

2021

第38卷 第8期

Volume 38 Issue 8

CHINESE JOURNAL OF APPLIED CHEMISTRY



The effect of crystal structure of  $\text{La}_2\text{CuO}_4$  on electrochemical properties was investigated by controlling the deposition conditions of thin films. The polarization resistance can be reduced by changing the crystal structure as the subsequence of T' phase > T\* phase > T phase.

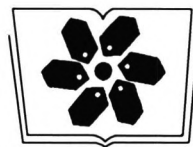




# 应用化学

(YINGYONG HUAXUE)

第38卷 第8期 2021年8月



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中文核心期刊

## 目 次

### · 封面图片 ·

La<sub>2</sub>CuO<sub>4</sub>阴极薄膜的相转变及其对电化学性能的影响

…………… 纪全增 孟君玲\* 王浩聪 安涛\* 刘孝娟 孟健

通过控制薄膜的沉积条件,研究了La<sub>2</sub>CuO<sub>4</sub>的晶体结构对其电化学性能的影响。通过改变晶体结构可以减小极化电阻,极化电阻的大小顺序为T'相>T\*相>T相。

详细描述见976~985页

### · 综合评述 ·

水相或无溶剂绿色催化合成双吡啶基甲烷研究进展

…………… 吴之强\* 韩新宁 刘阳 王刚 詹海鹏 刘万毅\* (881)

新型吸附材料分离和富集贵金属的研究进展…………… 周雯 佟珊珊\* (897)

### · 研究论文 ·

5-氘代利巴韦林衍生物的合成…………… 杨玉萍 徐绍红 马国扬 焦黎明 孙莉萍\* 夏然\* (911)

蛇床子素酯类衍生物的合成及抗菌活性…………… 杨家强\* 吴学姣 周绪容 邓玲 杨红 (917)

压裂液用黏弹性表面活性剂的合成及性能…………… 马喜平 穆红莉\* 郭士贵 (923)

耐热高透明聚醚砜醚酮酮的合成和表征

…………… 刘勇军\* 胡梦云 王晗 刘晓玲 盛寿日 侯豪情 (933)

线形多羟基聚酯的制备及其簇聚诱导发光性能…………… 张巧凤 李果\* 江金强 刘昭铁 (938)

氨基功能化聚乙烯亚胺交联固态聚合物电解质的制备及理化性能

…………… 王旭尧 方应军 张灵芝\* (946)

高密度聚乙烯复合导热材料性能

…………… 李祎 程宏达 于彦存 韩常玉\* 陈广建 祝英男 (954)

双分布聚合物泡沫材料热性能的有限元计算…………… 张婷 丁明明 呼微\* 石彤非\* (961)

石蜡/十八酸/十八醇复合材料的制备及蓄/放热性能… 王誉程 祁影霞\* 陆熠璇 芦洋 (969)

La<sub>2</sub>CuO<sub>4</sub>阴极薄膜的相转变及其对电化学性能的影响

…………… 纪全增 孟君玲\* 王浩聪 安涛\* 刘孝娟 孟健 (976)

以喹啉酮为核心高选择高灵敏识别次氯酸根离子的荧光探针的合成及应用 ..... 张成路* 暴金迪 于丰铭 董文静 张 洋 官荣庆 张彦朋 张 璐 (986)	(986)
四氧化三铁负载石墨化碳黑磁性纳米材料的制备及其在茶叶中多种农药残留检测中的应用 ..... 薛晓康 傅 红 陈丽娟 李 捷 杨 方* (995)	(995)
气相色谱-串联质谱法测定螺旋霉素中的 <i>N</i> -亚硝基二甲胺 ... 王文华 马 君* 臧文生 张宏周 巩玉荣 戚峰立 苏济功 万剑锋 樊洪凯 (1007)	(1007)
防腐剂苯甲酸与人血清白蛋白相互作用 ..... 邓培渊 袁 伟 李长看 陈龙欣 杨莹莹* (1014)	(1014)
<b>· 研究简报 ·</b>	
一种木醋液制备环保型融雪剂的方法 ..... 高子亭 李占超 蒋 谦 高俊丽 刘星宇 汪子明* (1022)	(1022)
<b>· 技术交流 ·</b>	
超痕量六价铬分析仪快速测定海水中六价铬 ..... 何书海 周女琬 吴小龙 符式锦 颜为军* (1025)	(1025)
通知·启事 .....	(945)

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\* 通讯联系人.

# CHINESE JOURNAL OF APPLIED CHEMISTRY

Volume 38 Issue 8

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## CONTENTS

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### Cover Picture

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Phase Transformation of  $\text{La}_2\text{CuO}_4$  Cathode Film and Its Influence on Electrochemical Properties

JI Quan-Zeng, MENG Jun-Ling\*, WANG Hao-Cong, AN Tao\*, LIU Xiao-Juan, MENG Jian

The effect of crystal structure of  $\text{La}_2\text{CuO}_4$  on electrochemical properties were investigated by controlling the deposition conditions of thin films. The polarization resistance can be reduced by changing the crystal structure as the subsequence of T' phase > T\* phase > T phase.

For details see pp976-985

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### Review

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Research Progress on Synthesis of Bis(indolyl)methanes under Aqueous or Solvent-free Catalysis

WU Zhi-Qiang\*, HAN Xin-Ning, LIU Yang, WANG Gang, ZHAN Hai-Juan, LIU Wan-Yi\*

2021, **38**(8):881-896

Research Progress on Novel Adsorbent Materials for Separation and Enrichment of Noble Metals

ZHOU Wen, TONG Shan-Shan\*

2021, **38**(8):897-910

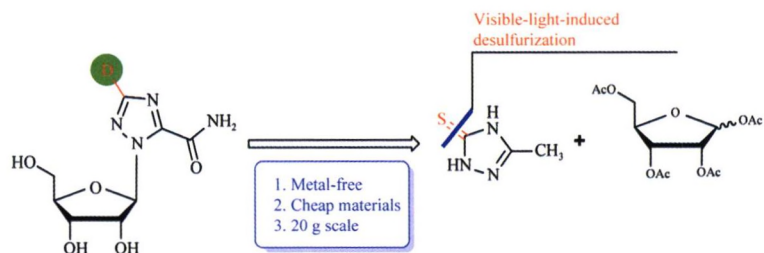
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### Full Papers

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Synthesis of 5-Deuterated Ribavirin Derivative

YANG Yu-Ping, XU Shao-Hong, MA Guo-Yang, JIAO Li-Ming, SUN Li-Ping\*, XIA Ran\*

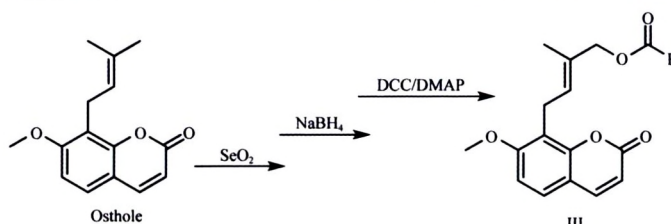


5-Deuterated Ribavirin is synthesized in 51.7% total yield by 5-step reactions from 5-deuterated-1,2,4-triazole methyl ester and 1,2,3,5-tetra-O-acetyl- $\beta$ -D-ribofuranose in the presence of 5%  $\text{CF}_3\text{SO}_3\text{H}$ . 5-Deuterium is transformed from 5-mercapto group via Eosin Y-catalyzed desulfurization.

2021, **38**(8):911-916

Synthesis and Antibacterial Activities of Osthole Ester Derivatives

YANG Jia-Qiang\*, WU Xue-Jiao,  
ZHOU Xu-Rong, DENG Ling, YANG Hong

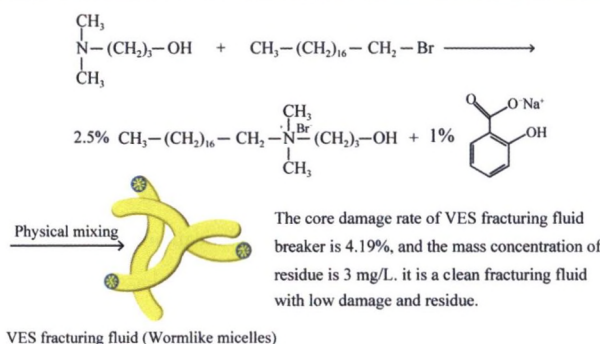


A series of osthole ester derivatives is synthesized. Compound III (R=CH=CHPh) shows better anti-MRSA activity than other derivatives.

2021, **38**(8):917-922

Synthesis and Performance Evaluation of Viscoelastic Surfactant for Fracturing Fluid

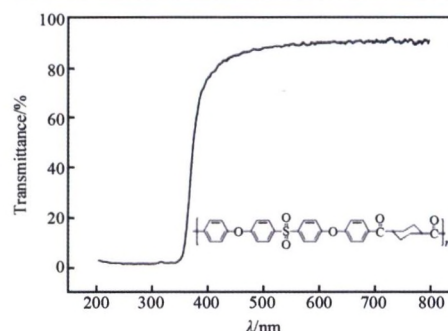
MA Xi-Ping, MU Hong-Li\*,  
GUO Shi-Gui



2021, **38**(8):923-932

Synthesis of Heat-resistant and Transparent Poly(Ether Sulfone Ether Ketone Ketone)

LIU Yong-Jun\*, HU Meng-Yun,  
WANG Han, LIU Xiao-Ling,  
SHENG Shou-Ri, HOU Hao-Qing

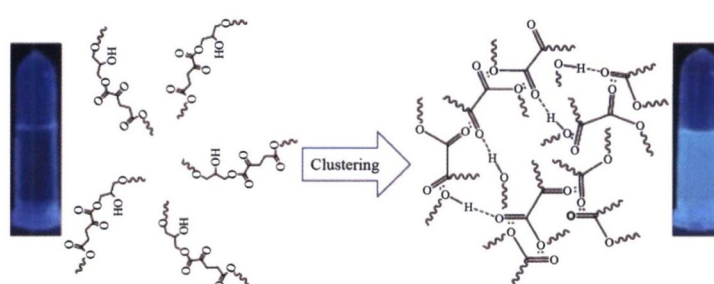


A kind of heat-resistant and transparent poly(ether sulfone ether ketone ketone) (PESEKK) containing cyclohexyl and sulfonyl is prepared by electrophilic substitution condensation polymerization

2021, **38**(8):933-937

Preparation and Luminescent Properties of Linear Multi-hydroxy Polyester

ZHANG Qiao-Feng, LI Guo\*,  
JIANG Jin-Qiang, LIU Zhao-Tie

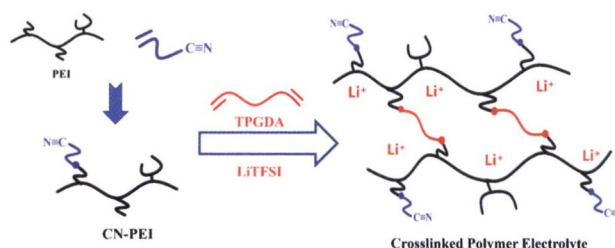


PGK is prepared by ketoglutaric acid esterification with epoxide compounds. The main factors causing its oxygen-containing groups clustering and aggregating luminescence are considered to be hydrogen-bond interaction, steric effect, and hydrophobic effect.

2021, **38**(8):938-945

Synthesis and Characterization of Cross-linked Solid Polymer Electrolyte Based on *N*-Cyanoethylated Polyethylenimine for Lithium-Ion Batteries

WANG Xu-Yao, FANG Ying-Jun,  
ZHANG Ling-Zhi\*



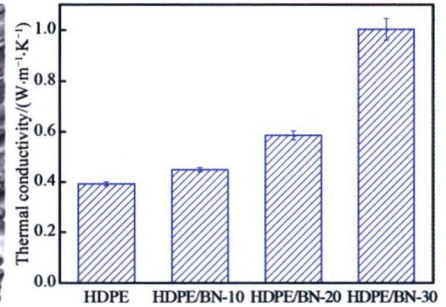
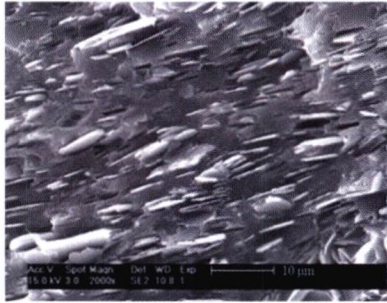
Novel crosslinked solid electrolytes based on *N*-cyanoethylated branched polyethylenimines using tripropylene glycol diacrylate as crosslinker are reported for the applications of lithium-ion batteries.

2021, **38**(8):946-953



Performance of Thermal Conductive High Density Polyethylene Composite

LI Yi, CHENG Hong-Da, YU Yan-Cun, HAN Chang-Yu\*, CHEN Guang-Jian, ZHU Ying-Nan

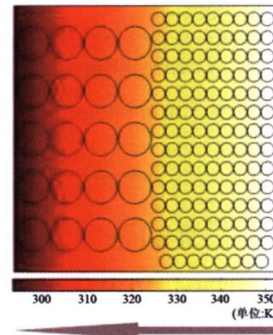


2021, 38(8):954-960

BN filler can improve the thermal conductivity of HDPE by building a thermally conductive network.

Thermal Performance of Polymer Foams with Dual-distributed Cells: A Finite Element Calculation

ZHANG Ting, DING Ming-Ming, HU Wei\*, SHI Tong-Fei\*



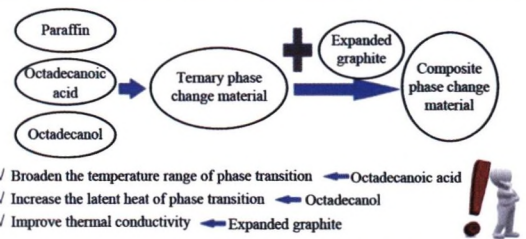
Heat transfer direction

The thermal properties of polymer foam with high porosity and double distribution are investigated by a finite element method.

2021, 38(8):961-968

Preparation and Heat Storage/Release of Paraffin/Octadecanoic Acid/Octadecanol Composite

WANG Yu-Cheng, QI Ying-Xia\*, LU Yi-Xuan, LU Yang

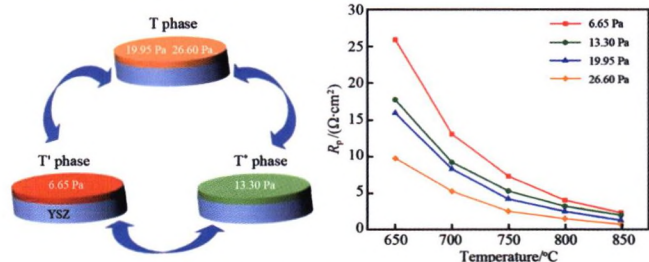


The utility model relates to a composite material with high latent heat value and high thermal conductivity for battery thermal management.

2021, 38(8):969-975

Phase Transformation of La<sub>2</sub>CuO<sub>4</sub> Cathode Film and Its Influence on Electrochemical Properties

JI Quan-Zeng, MENG Jun-Ling\*, WANG Hao-Cong, AN Tao\*, LIU Xiao-Juan, MENG Jian



The electrochemical properties of La<sub>2</sub>CuO<sub>4</sub> are investigated. The polarization resistance can be reduced by changing the crystal structure as the subsequence of T' phase > T phase > T' phase.

2021, 38(8):976-985

Synthesis and Application of a Fluorescence Probe with Quinazolinone as the Core Block for Highly Selective and Sensitive Detection of Hypochlorite Ion

ZHANG Cheng-Lu\*, BAO Jin-Di, YU Feng-Ming, DONG Wen-Jing, ZHANG Yang, GONG Rong-Qing, ZHANG Yan-Peng, ZHANG Lu

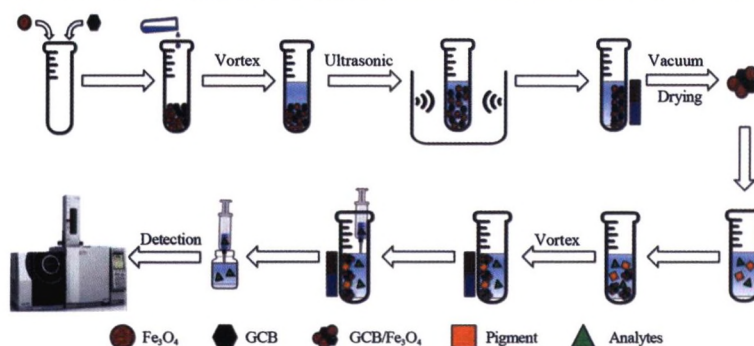


Double fluorophore fluorescent probe XJQZL exhibits highly selective and sensitive fluorescence recognition of ClO<sup>-</sup>.

2021, 38(8):986-994

Preparation of Ferroferric Oxide Loaded Graphitized Carbon Black Magnetic Nanomaterials and Application in Detection of Pesticide Residues in Tea

XUE Xiao-Kang, FU Hong,  
CHEN Li-Juan, LI Jie, YANG Fang\*



A magnetic composite material has been synthesized for pigment adsorption in high-throughput detection of pesticide residues

2021, **38**(8):995-1006

Determination of *N*-Nitrosodimethylamine in Spiramycin by Gas Chromatography-Tandem Mass Spectrometry

WANG Wen-Hua, MA Jun\*, ZANG Wen-Sheng,  
ZHANG Hong-Zhou, GONG Yu-Rong, QI Feng-Li,  
SU Ji-Gong, WAN Jian-Feng, FAN Hong-Kai

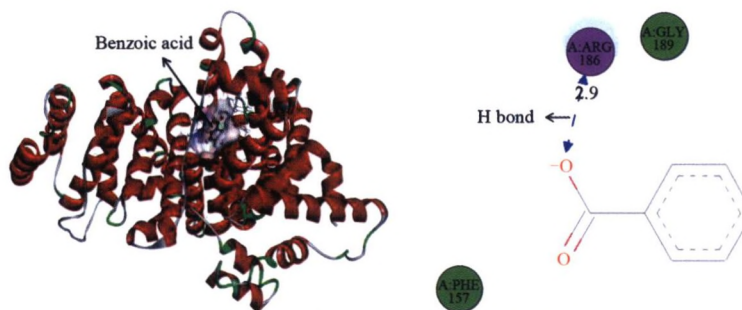


For the first time, the gas chromatography-tandem mass spectrometry (GC-MS/MS) was employed to detect *N*-nitrosodimethylamine (NDMA) in spiramycin. This method has high sensitivity and great repeatability, all the results are in accord with the demands.

2021, **38**(8):1007-1013

Interaction Between Preservative Benzoic Acid and Human Serum Albumin

DENG Pei-Yuan, YUAN Wei,  
LI Chang-Kan, CHEN Long-Xin,  
YANG Ying-Ying\*



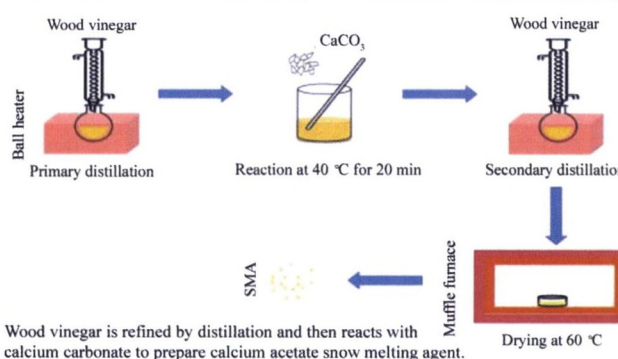
The binding mechanism of benzoic acid and human serum albumin was revealed using fluorescence spectroscopy and molecular dynamics simulation methods.

2021, **38**(8):1014-1021

Communications

A Method for Preparing Environment-friendly Snow-melting Agent from Wood Vinegar

GAO Zi-Ting, LI Zhan-Chao, JIANG Qian,  
GAO Jun-Li, LIU Xing-Yu, WANG Zi-Ming\*



Wood vinegar is refined by distillation and then reacts with calcium carbonate to prepare calcium acetate snow melting agent.

2021, **38**(8):1022-1024

( Executive Editor: SUN Zhi-Quan; Editing by ZHANG Yu-Hua)

\* To whom correspondence should be addressed

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