

CHINESE JOURNAL OF
APPLIED CHEMISTRY

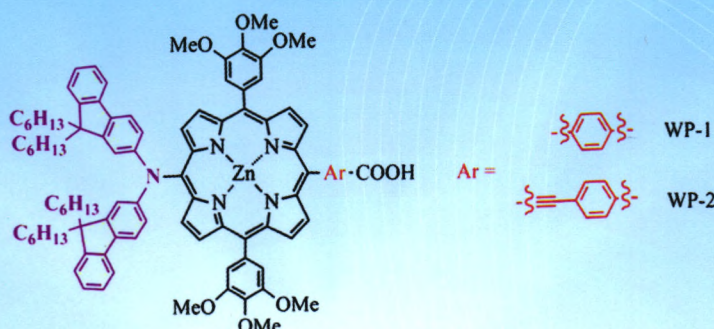
应用化学

Yingyong Huaxue

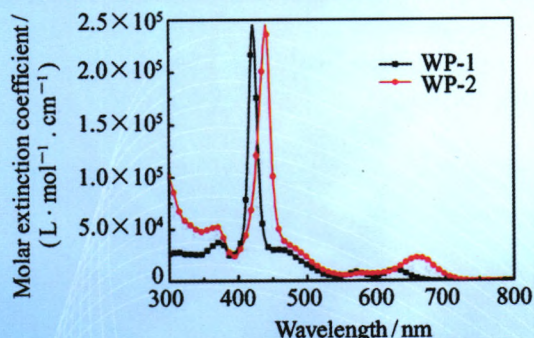
2013

Volume 30 Issue 7

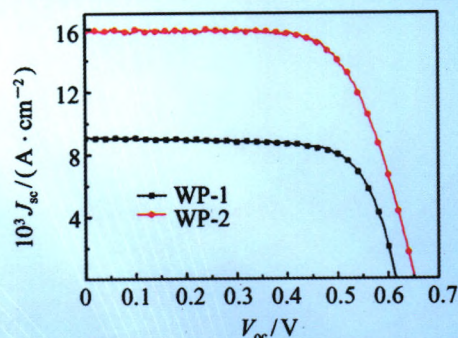
第30卷第7期



Electron push-pull structured porphyrin dyes with bis(9,9-dihexyl-9H-fluoren-2-yl)amine as electron donor



UV-Vis spectra of dyes WP-1 and WP-2 in CH_2Cl_2



J - V curves of dye-sensitized solar cells with dyes WP-1 and WP-2



中国化学会 主办
中国科学院长春应用化学研究所
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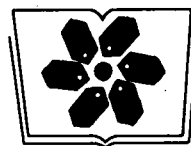
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万方数据

应用化学

(Yingyong Huaxue)

第30卷 第7期 2013年7月



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..... 王超磊 王泽清 马廷丽*

以 N,N' -二-(9,9'-二己基芴)胺作为电子供体,设计合成了2个具有推拉电子结构的卟啉染料 WP-1 和 WP-2。测试了染料的紫外-可见吸收光谱。将其应用于染料敏化太阳能电池中,在模拟太阳光($100 \times 10^{-3} \text{ W/cm}^2$)下,电池的能量转换效率分别达到了4.01%和7.07%。

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* 通讯联系人.

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Two new electron push-pull structured porphyrin dyes (WP-1 and WP-2) with bis(9,9-dihexyl-9H-fluoren-2-yl) amine as an electron donor were designed and synthesized. The UV-visible absorption spectra of two dyes were tested. Dye-sensitized solar cells with two dyes gave a high power conversion efficiency of 4.01% and 7.07% under $100 \times 10^{-3} \text{ W/cm}^2$ condition, respectively.

For details see pp757-763

Review

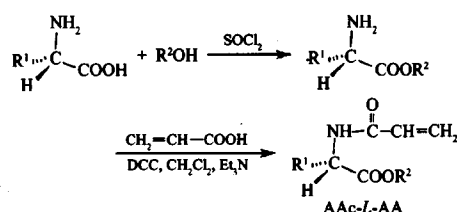
Research Progress of Highly Adhesive Superhydrophobic Surfaces

LIU Jinqiu, BAI Chong, XU Wenhua, ZHANG Xian, LIU Yingkai, YAO Jinshui, LIU Weiliang *

2013, 30(7):733-738

Full Papers

Synthesis of Chiral Functional Monomers Containing L-Amino Acid Groups and Their Copolymers with N-Isopropylacrylamide

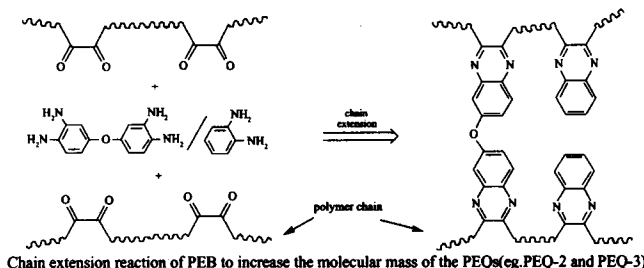


SHI Dongxin, CHEN Jiaojiao *, DU Xianli, WANG Lele, JIANG Yi, REN Rongrong

Copolymers of chiral functional monomer and N-isopropylacrylamide show the chiral thermo-sensitivity, which suggests that these chiral monomers can be applied to the preparation of chiral polymers.

2013, 30(7):740-744

Synthesis of Three Novel Poly(aryl ether quinoxaline)s



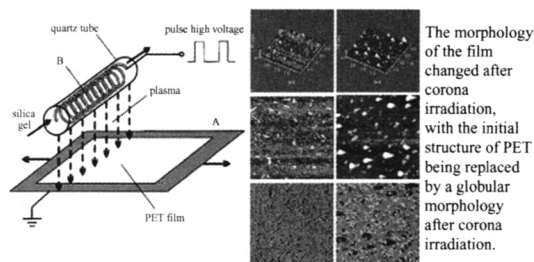
ZHAO Qiantang *, CHEN Hui, HUA Hui

2013, 30(7):745-749

Effect of Air Corona Discharge Irradiation on the Surface Composition and Morphology of the Polyester Film

LIU Xiangdong, SHENG Dekun, GAO Xiumei, YANG Yuming*

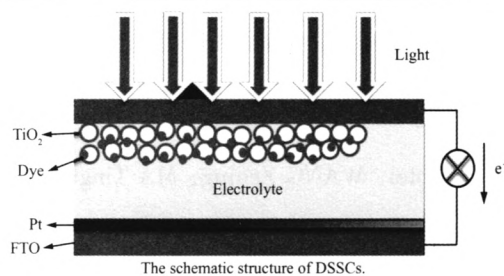
2013, **30**(7) :750-756



Synthesis of Porphyrin Dyes with Electron Donate-withdraw Structure and Their Applications in Dye-sensitized Solar Cells

WANG Chaolei, WANG Zeqing, MA Tingli*

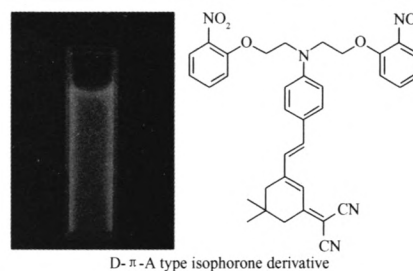
2013, **30**(7) :757-763



Synthesis and Properties of a New D- π -A Type Isophorone Derivative

REN Jun, YANG Peng, DING Aixiang, WANG Shaomin, YANG Jiexiang*

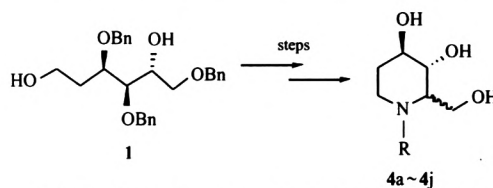
2013, **30**(7) :764-768



Synthesis of Piperidine Derivatives from 1,5-Diols

JAING Fuxiang, LIU Qiaozhen, WANG Guo, CHEN Heru*

2013, **30**(7) :769-775

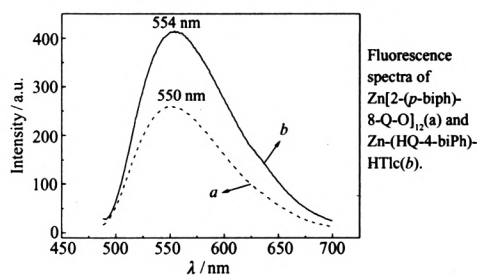


Piperidine derivatives have been synthesized through the cyclization of 1,5-diols with high yields.

Preparation and Characterization of a Yellow-fluorescent Hydrotalcite-like Composite

CHEN Hong, ZHANG Li, CHEN Qingsong, LING Qidan*

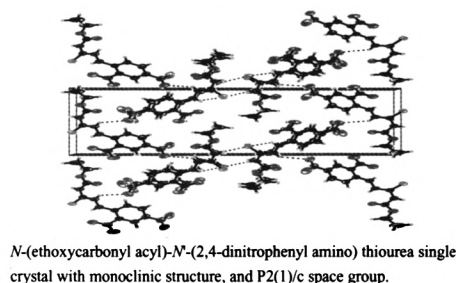
2013, **30**(7) :776-781



Synthesis, Crystal Structure, Specific Heat Capacity and Thermodynamic Properties of *N*-(Ethoxycarbonyl acyl)-*N'*-(2,4-dinitrophenyl amino) Thiourea

HE Jianyun, HUANG Jie*, SONG Jirong, ZHAO Yisha, MA Cong, XU Kangzhen

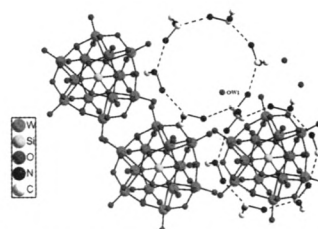
2013, **30**(7) :782-788



Hydrothermal Synthesis, Structure and Magnetism of a New Tungstosilicates Polyoxometalate

ZHENG Yongzhu, SUN Yinghua*

2013, 30(7):789-793

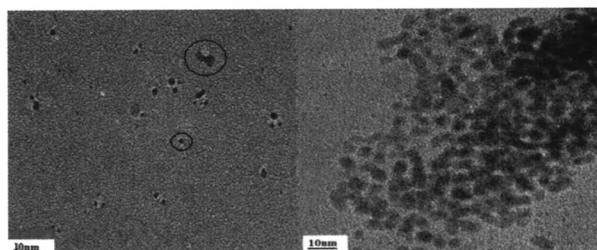


The hydrogen bonds among polyoxoanion, ethylenediamine and water molecules.

Surfactant-assisted Preparation of Mechanically Durable Superhydrophilic Antireflective Silica Nanoparticle Coatings by Acid Catalyzed Sol-Gel Process

ZHANG Zhihui, HE Junhui*, YANG Qiaowen

2013, 30(7):794-800

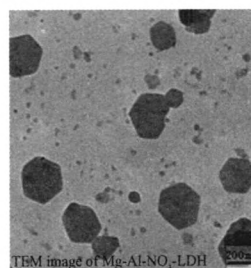


Silica nanoparticles prepared without CTAB Silica nanoparticles prepared with CTAB

Preparation of Layered Double Hydroxides with Regularly Hexagonal Morphology

QI Fenglin, ZHANG Xiaoqing, LI Shuping*

2013, 30(7):801-807

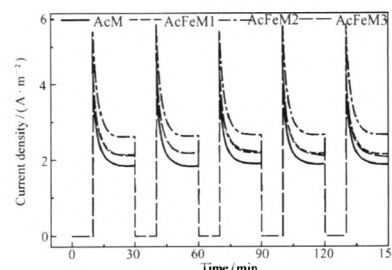


Regular and hexagonal Mg-Al-NO₃-LDHs nanoparticles were synthesized by a new method. The influence of precipitator, solvent, reaction time and the dropping speed of precipitator on the crystallinity and morphologies of LDHs was systematically studied.

Effect of Nano Fe₃O₄ Content on the Performance in Microbial Fuel Cell

PENG Xinhong, YU Hongbing*, WANG Xin

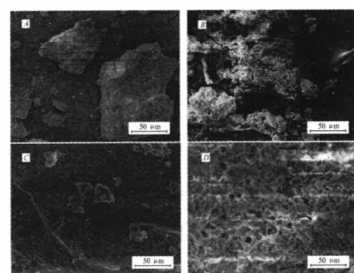
2013, 30(7):808-814



Preparation and Properties of Cross-linked Angiotensin Converting Enzyme Aggregates

ZENG Weixiu, TIAN Qingqing, ZHAO Xin, CHEN Bo*

2013, 30(7):815-820

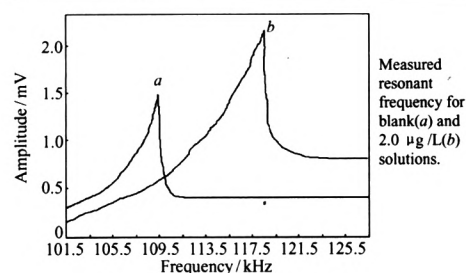


Scanning electron microscope images of free ACE(A,C) and ACE-CLEAs(B,D). Scanning electron microscopy showed that ACE-CLEAs were amorphous and porous. It's more convenient for substrate to attack the ACE-CLEAs active centre.

Determination of Trace Cadmium in Water by Wireless Magnetoelastic Immunosensor

LIU Jingjing*, HE Bo

2013, 30(7):821-825



Measured resonant frequency for blank(a) and 2.0 µg/L(b) solutions.

Preparation of Superhydrophobic Cotton and Its Application in Oil-Water Separation

DENG Xiaoqing, SHANG Jingfen, WANG Zhen, SHI Hui, ZHANG Junfang, SU Xiaoli, XIE Qingji, MA Ming*

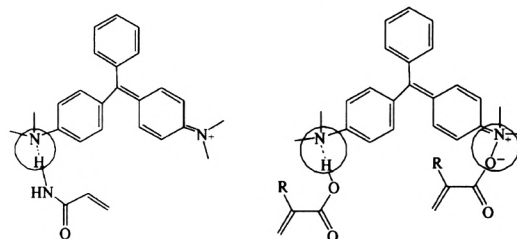


Controllable wetting behavior of the modified cotton and their selective adsorption properties to diesel oil.

2013, 30(7):826-833

Preparation and Adsorption of Molecularly Imprinting Polymer for Malachite Green

WU Quanshu, HUANG Zhiyong*, LIN Zhengzhong

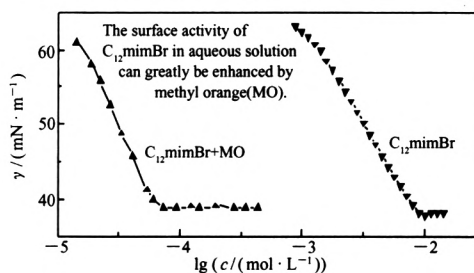


Interaction between MG and monomer (left: AM, right: MAA and AA)

2013, 30(7):834-839

Interactions Between 1-Dodecyl-3-methylimidazolium Bromine and Methyl Orange

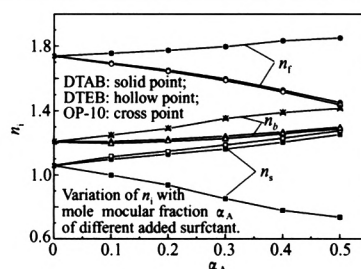
WANG Ping, GUO Xiangfeng*, JIA Lihua, MA Chunmiao, QIAN Lin



2013, 30(7):840-845

Water States in Reverse Micelle Formed from C₁₂-S₂-C₁₂·2Br Quaternary Ammonium Dimetric Surfactant Mixed System in Chloroform

LIU Jinyan*, LIAO Yongjuan

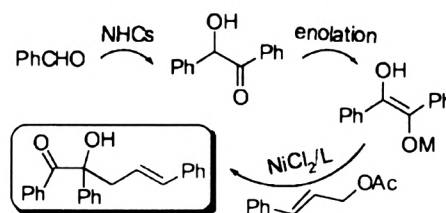


2013, 30(7):846-851

Communications

One Pot Continuous Reaction of Benzoin Condensation and Allylic Nucleophilic Substitution Using *N*-Heterocyclic Carbenes and Nickel(II) Chloride as Catalysts

HE Jinmei*, QU Mengnan, HE Zhongsen



2013, 30(7):852-854

* To whom correspondence should be addressed