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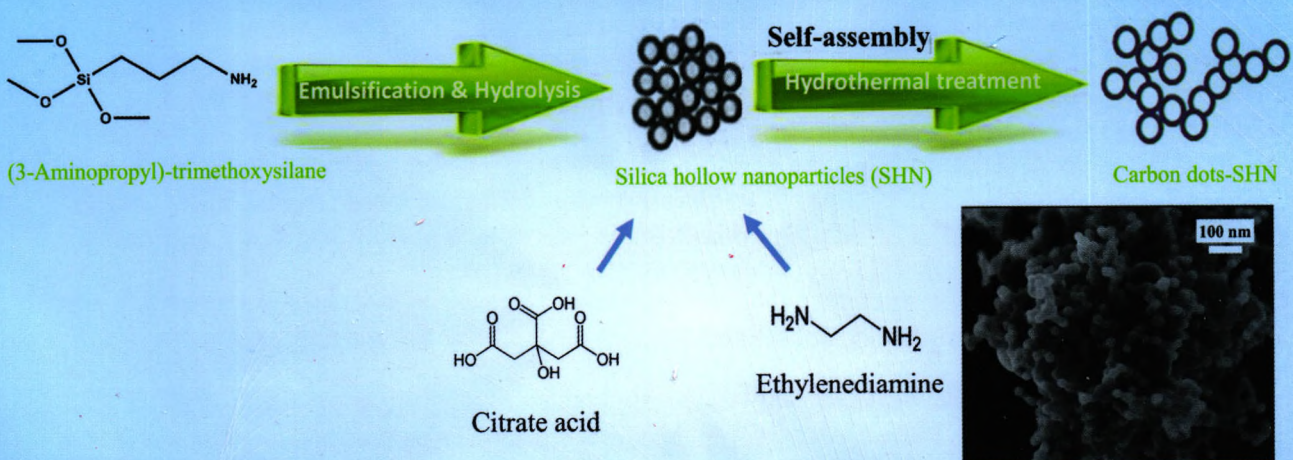
应用化学

YINGYONG HUAXUE

2016

Volume 33 Issue 4

第 33 卷 第 4 期



Sea anemone-like carbon-silica hollow nanocomposite (CD-SHN) demonstrates multicolor fluorescence and high photostability and has a potential in the field of biological imaging.



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# 应用化学

(YINGYONG HUAXUE)

第 33 卷 第 4 期 2016 年 4 月



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自组装水热合成碳点-中空氧化硅纳米粒复合材料·····

····· JATUPAIBOON Nirun 张德蒙 王贝贝 谢红国 马小军\*

利用反相微乳液体系制备出粒径均一的中空氧化硅纳米粒(SHN),以此为基础,再利用水热法通过自组装合成了碳点-中空氧化硅纳米粒复合材料(CD-SHN)。CD-SHN 既具有激发波长依赖的多色荧光发射性能,又具有良好的光稳定性,在生物造影方面具有潜在的优势。

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\* 通讯联系人.

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Self-assembled Hydrothermal Synthesis of Sea Anemone-like Carbon Dot-Silica Hollow Nanocomposite

JATUPAIBOON Nirun, ZHANG Demeng, WANG Beibei, XIE Hongguo, MA Xiaojun \*

Sea anemone-like carbon-silica hollow nanocomposite (CD-SHN) demonstrates multicolor fluorescence and high photostability and has a potential in the field of biological imaging.

For details see pp391-396

Review

Preparation and Application of High Stability Metal-Organic Framework UiO-66

HAN Yitong, LIU Min, LI Keyan, ZUO Yi, ZHANG Guoliang, ZHANG Zongchao, GUO Xinwen \*

2016,33(4):367-378

Recent Progress in the Synthesis and Catalytic Application of Polymer-Supported Nanomaterials

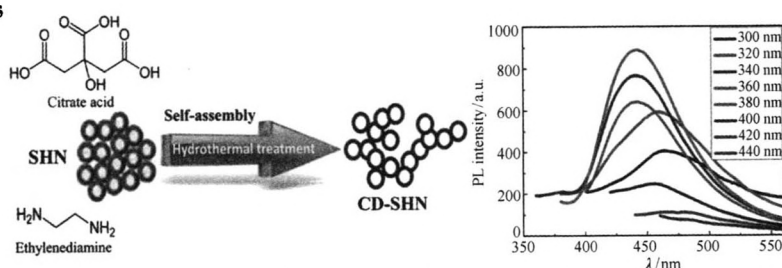
CHU Chengcan, SU Zhaohui \*

2016,33(4):379-390

Full Papers

Self-assembled Hydrothermal Synthesis of Sea Anemone-like Carbon Dot-Silica Hollow Nanocomposite

JATUPAIBOON Nirun,  
ZHANG Demeng, WANG Beibei,  
XIE Hongguo, MA Xiaojun \*

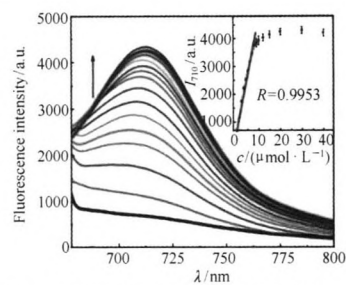
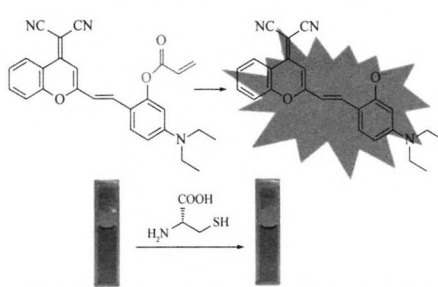


Sea anemone-like carbon-silica hollow nanocomposite(CD-SHN) demonstrates multicolor fluorescence and high photostability and has a potential application in the field of biological imaging.

2016,33(4):391-396

**A Turn-On Fluorescent Probe for Cysteine Based on Benzopyran**

YANG Tingting, GUO Zhiqian, SHAO Andong, ZHAO Ping\*, ZHU Weihong

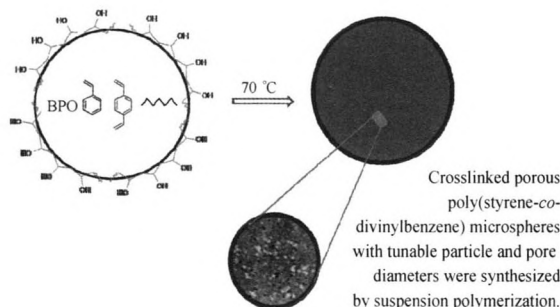


DCM-AC is a highly sensitive and selective benzopyran-based turn-on near-infrared probe for cysteine. The response units acrylate bond makes DCM-AC a naked eye probe with significant color change.

2016,33(4):397-405

**Synthesis and Characterization of Crosslinked Porous Poly(styrene-co-divinylbenzene) Microspheres with Tunable Particle and Pore Diameters**

HUANG Guangcheng, QIU Bite, LIU Yadong, ZHAO Hui, JI Shengxiang\*

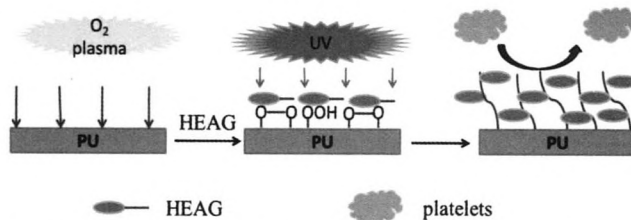


Crosslinked porous poly(styrene-co-divinylbenzene) microspheres with tunable particle and pore diameters were synthesized by suspension polymerization.

2016,33(4):406-411

**Preparation and Hemocompatibility of Polyurethane Films Grafted with an Unsaturated Sugar-Based Functional Monomer**

DU Shanshan, ZHAO Chunyu, CHEN Hao, LUO Shiwen, GAO Mengmeng, XIN Zhirong\*

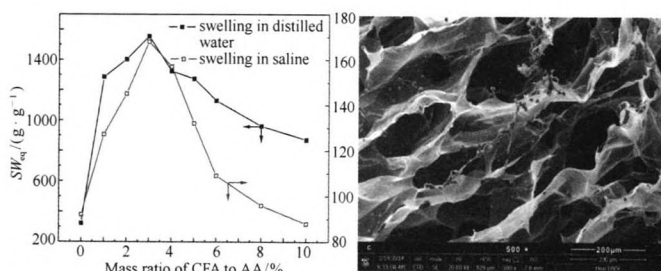


Unsaturated sugar-based monomer HEAG modified PU surface prepared via UV-induced graft polymerization shows improved hydrophilicity, which can effectively suppress the platelet adhesion and activation.

2016,33(4):412-418

**Preparation and Swelling Properties of Coal Fly Ash Composites Sodium Polyacrylate Hydrogel**

ZHANG Junqi, JIN Shuping\*, HAN Yuqi, YU Xinghai, YUE Guoren

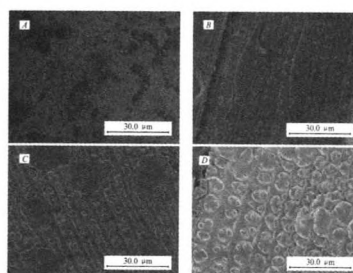


The CFAPAANA gel exhibited higher absorbing ability than PAANA attributed to the coal fly ash, which endow the gel with the large enough pore size and more hydrophilic property.

2016,33(4):419-429

**Effect of Pretreatment Methods of Rice Straw on Straw Board Properties**

JIN Xuan, LI Ying, LI Xin, YU Zhike, ZHANG Tianyu, DING Zhongyang, SHI Gang\*

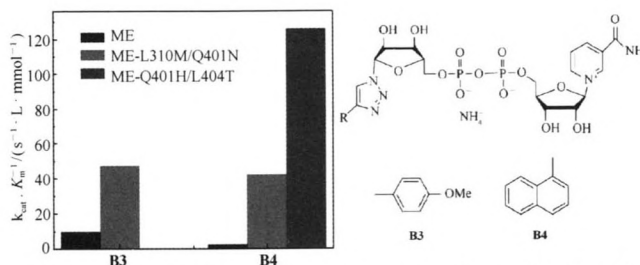


Rice straw boards prepared by KG560 as surface modification reagent show better properties than those by KG550 and untreated rice straw.

2016,33(4):430-435

Effect of Site-Directed Mutagenesis in Coenzyme-Binding Domain of Malic Enzyme on Coenzyme Activities for Nicotinamide Adenine Dinucleotide Analogs

HOU Shuhua\*, JI Debin, LIU Wujun, WANG Lei

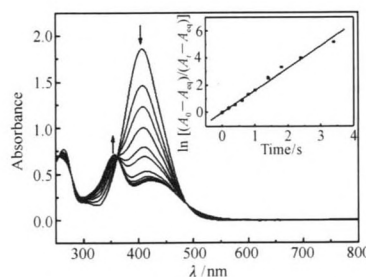


A high-throughput screen between malic enzyme mutants and NAD analogs afforded 2 different mutants capable of taking NAD<sup>+</sup> analogs as the cofactor.

2016,33(4):436-441

Synthesis, Characterization and Photoisomerization Properties of Pseudostilbene Azobenzenes

SONG Xiumei, FENG Zongcai\*, WANG Zhaoyang, CHEN Xiaoling, LIANG Zhimei, LIANG Yanyu

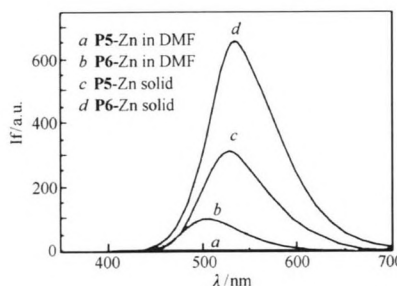


The series of novel pseudostilbene azobenzenes displayed significant reversible photoisomerization behaviors and the photoisomerization rate constants were calculated.

2016,33(4):442-451

Synthesis and Properties of Polyesters Containing Schiff Base Side Groups and Their Zinc Complexes

LU Yan, WU Siyu, MA Baiqing, SHI Jia, JIN Qifeng, YU Shijun\*

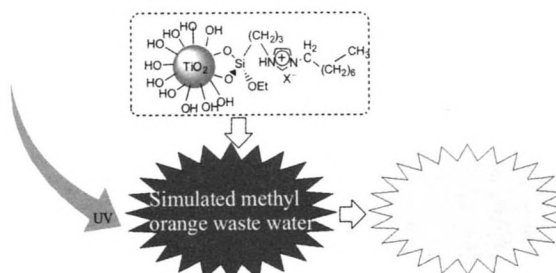


Two kinds of novel zinc complex (P5-Zn and P6-Zn), emitted strong green light in solution and in the solid.

2016,33(4):452-458

Synthesis of Ionic Liquid@TiO<sub>2</sub> Nanocomposites and Their Photocatalytic Performance

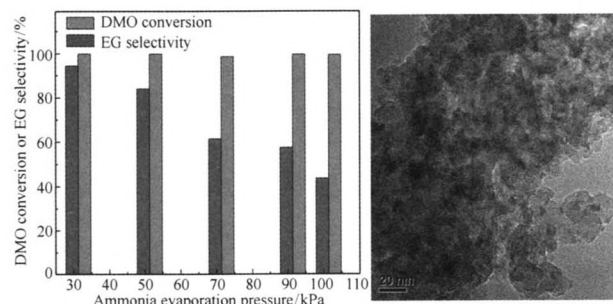
YU Zonglong, JIA Chunxiao\*, LU Xin, HAN Haigang, XIN Bingwei\*



2016,33(4):459-465

Influences of the Ammonia Evaporation Pressure on the Structure of Cu/SiO<sub>2</sub> Catalysts and Catalytic Performances for Dimethyl Oxalate Hydrogenation to Ethylene Glycol

DING Ding, WANG Qi\*, JIN Fang, CHEN Yazhong, CUI Peng, LIU Rong, SHEN Hao



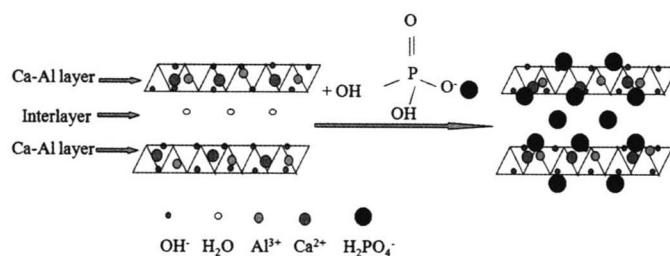
The lower the ammonia evaporation pressure, the faster and more uniform distribution of copper precursors upon the SiO<sub>2</sub> support and obtained better catalytic performance.

2016,33(4):466-472

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Pure Ca-Al- Layered Double Hydroxides as  
an Efficient Sorbent for Phosphate

XIE, Fazhi\*, WANG Xuechun, YANG  
Peipei, LI Haibin, SHENG Dandan,  
HU Tingting, XIE Zhiyong



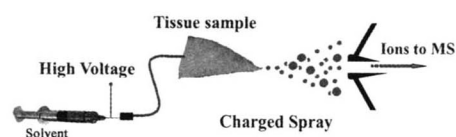
The adsorption mechanism of Ca-Al-LDH on phosphate is electrostatic attraction,  
chemisorption and anion intercalation.

2016,33(4):473-480

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Rapid Analysis of Chemical Composition in Asparagus Using  
Internal Extractive Electrospray Ionization Mass Spectrometry

LU Haiyan, ZHANG Hua, PENG Xiaoming,  
CHEN Huanwen\*



Without sample pretreatment, internal extraction electrospray ionization  
mass spectrometry(iEESI-MS) allowed rapid molecular analysis of  
phytochemicals in plant sample.

2016,33(4):481-488

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\* To whom correspondence should be addressed

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