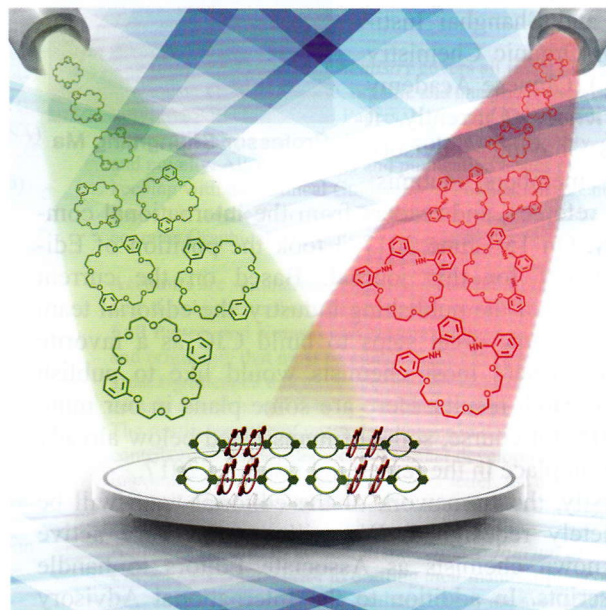


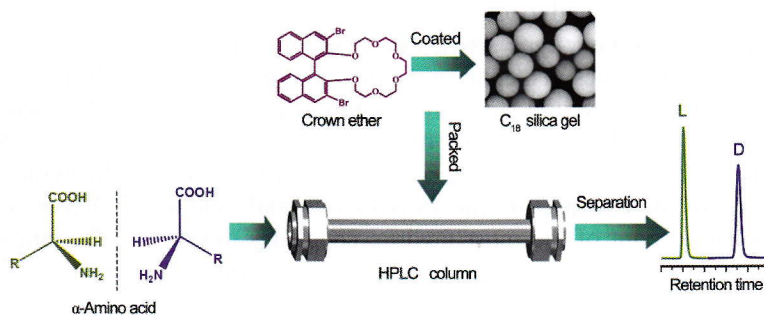
COVER PICTURE

The cover picture shows the construction of crown ether-stoppering [3]rotaxanes based on *N*-hetero crown ether host. Usually, crown ethers play the role of host macrocycles to combine with the guest molecules in the construction of rotaxanes. Based on the fact that crown ethers have large dimension, two [3]rotaxanes containing four crown ether units were designed and synthesized, of which, two *N*-hetero crown ether components were employed as the macrocyclic hosts to assemble the mechanically interlocked framework by using a template-directed clipping reaction while bis-(metaphenylene-26-crown-8) located on two sides of template diammonium acting as the stoppering groups of [3]rotaxanes. More details are discussed in the article by Yin *et al.* on page 1050—1056.



COMMUNICATION

1037

Chromatographic Resolution of α -Amino Acids by (*R*)-(3,3'-Halogen Substituted-1,1'-binaphthyl)-20-crown-6 Stationary Phase in HPLC

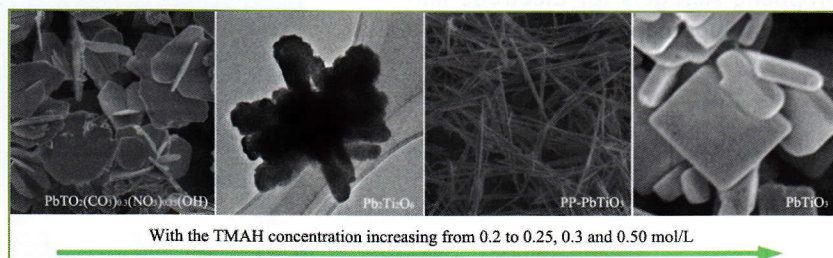
In the present study, we synthesized a series of stationary phases of (*R*)-(3,3'-halogen substituted-1,1'-binaphthyl)-20-crown-6 (halogen = Cl, Br and I). The *R*-(3,3'-dibromo-1,1'-binaphthyl)-20-crown-6 was coated on the C_{18} silica gel and **CSP-1** was prepared. **CSP-2** and **CSP-3** were prepared using the same method, as three novel stationary phase for HPLC enantioseparation of α -amino acids. The experimental results showed that **CSP-1** possesses a prominent enantioselectivity and all twenty-one α -amino acids have different degrees of separation at room temperature.

Peng Wu, Yuping Wu, Junhui Zhang, Zhenyu Lu, Mei Zhang, Xuexian Chen, Liming Yuan*

FULL PAPERS

1043

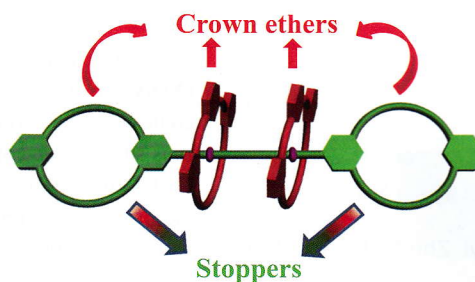
Hydrothermal Synthesis and Phase-, Morphology-Evolution Mechanism of Lead Titanate Nanostructures Assisted with Tetramethylammonium Hydroxide



Liang Bao, Junhao He, Gang Xu,*
Yangang Zhao, Xin Yang, Ge Shen,
Gaorong Han

Layered hexagonal $\text{PbTiO}_2(\text{CO}_3)_{0.3}(\text{NO}_3)_{0.35}(\text{OH})$ nanosheets, $\text{Pb}_2\text{Ti}_2\text{O}_6$ nanodendrites, PP- PbTiO_3 nanofibres and PbTiO_3 nanoplates have been realized by hydrothermal reaction route with the TMAH increasing from 0.2 to 0.25, 0.3 and 0.5 mol/L in turn.

1050

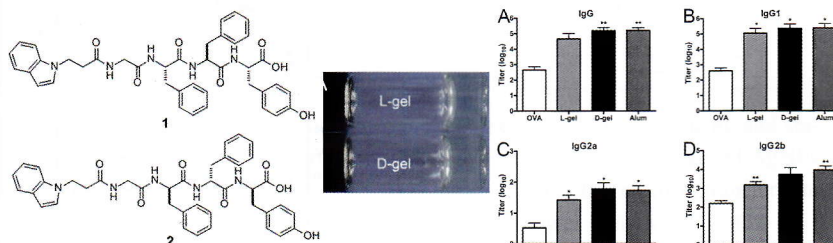
Construction of Crown Ether-Stoppering [3]Rotaxanes Based on *N*-Hetero Crown Ether Host

Xie Han, Ziyong Li, Zhiqiang Xu, Zhiyong
Zhao,* Sheng Hua Liu, Jun Yin*

In this work, crown ethers were used as stoppers in the construction of rotaxane. We designed and synthesized two [3]rotaxanes based on bis(*meta*-phenylene-26-crown-8) and dibenzo-24-crown-8. Their structures were well-characterized by the NMR, MALDI-QTOF-MS and single-crystal X-ray structural analysis.

1057

Supramolecular Hydrogels of Indole-Capped Short Peptides as Vaccine Adjuvants

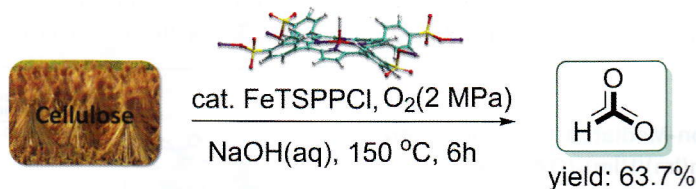


Zhongyan Wang, Yanbin Cai, Linan Yi,
Jie Gao,* Zhimou Yang*

Supramolecular hydrogels formed by short peptide-based hydrogelators with a novel aromatic capping group based on indole (Indol-GFFY and Indol- $\text{G}^{\text{D}}\text{F}^{\text{D}}\text{F}^{\text{D}}\text{Y}$) and their potential applications as vaccine adjuvants were described.

1063

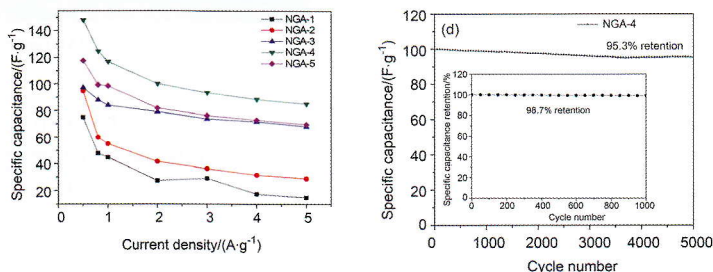
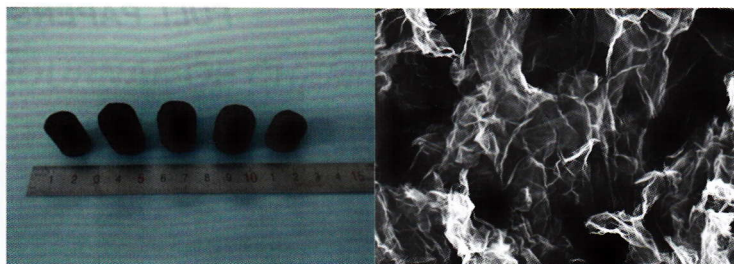
Efficient and Bio-inspired Conversion of Cellulose to Formic Acid Catalyzed by Metalloporphyrins in Alkaline Solution



Qiang Liu, Doudou Zhou, Zongxiang Li,
Weiping Luo, Cancheng Guo*

Bio-inspired approach for efficient conversion of cellulose to formic acid (FA) has been developed by using metalloporphyrins as the catalysts in an aqueous alkaline medium. The highest yield of FA reached up to 63.7% at complete conversion of cellulose by using O_2 as the oxidant. This work will provide an economic and eco-benign alternative route to efficient and selective conversion of cellulose to FA, a valuable chemical for future hydrogen storage.

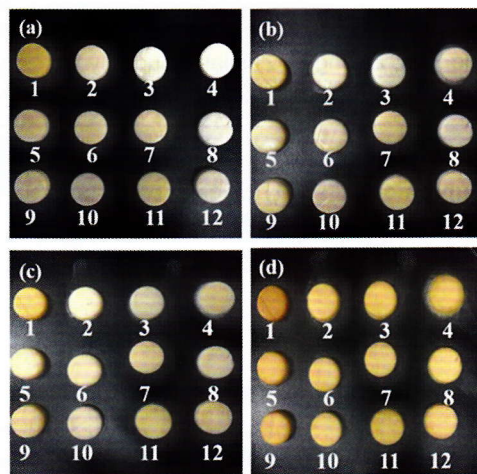
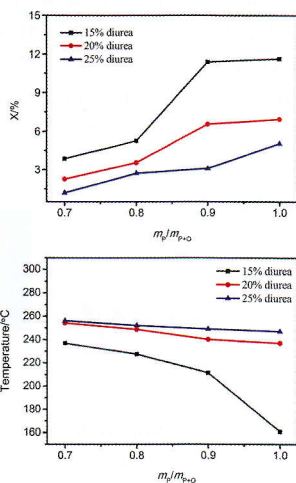
Facile Synthesis of Nitrogen-Doped Graphene Aerogels for Electrode Materials in Supercapacitors



We novelly prepared three-dimensional porous nitrogen-doped graphene aerogels (NGAs) by using GO and chitosan via an easy and rapid method. The synthesized NGAs could have the surface area as large as 635.6 m²/g. Especially, it was found that the porous structure and specific capacitance of NGAs could be adjusted by the change of the CS/GO mass ratio. The prepared NGA-4 showed a specific capacitance of 148.0 F/g at the discharge current density of 0.5 A/g and also retained 95.3% of the initial capacitance after 5000 cycles at the scan rate of 10 mV/s. It provided a possible way to obtain graphene based materials with high surface area and capacitance.

Yong Zhang, Jiayi Zhu,* Hongbo Ren, Yutie Bi, Lin Zhang*

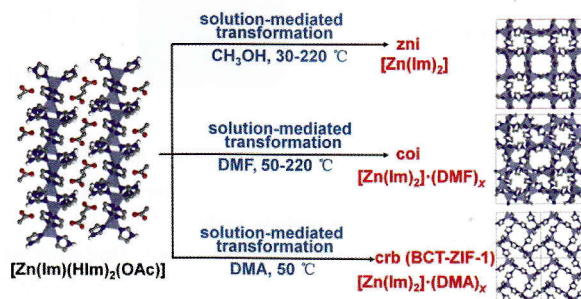
Preparation and Characterization of High-Temperature Non-Flowing Diurea/Paraffin/Oil Composites as Form-Stable Phase Change Materials



The high-temperature non-flowing diurea-FSPCMs with high dropping points and low paraffin/oil separation rates could keep shape stability even when being heated at 200 °C for 30 min without obvious paraffin/oil leakage.

Hongyu Li, Tianbo Zhao,* Lili Wang

Solution-Mediated Transformation of a 1D [Zn(lm)(Hlm)₂(OAc)] Precursor to Several Different 3D Zn(lm)₂ Frameworks



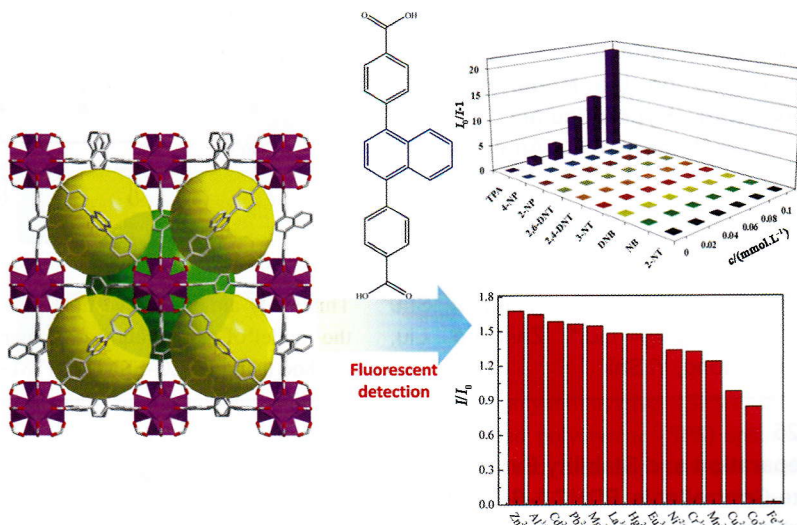
1-Dimensional (1D) chain structure [Zn(lm)(Hlm)₂(OAc)] (lm = imidazolate, Hlm = imidazole, OAc = carboxylate) is used as a single precursor/source of metal and ligand to prepare 3-dimensional (3D) [Zn(lm)₂] frameworks

Youjun Guan, Qi Shi, Jinxiang Dong*

by solution-mediated transformation.

1091

A Fluorescent Zirconium-Based Metal-Organic Framework for Selective Detection of Nitro Explosives and Metal Ions

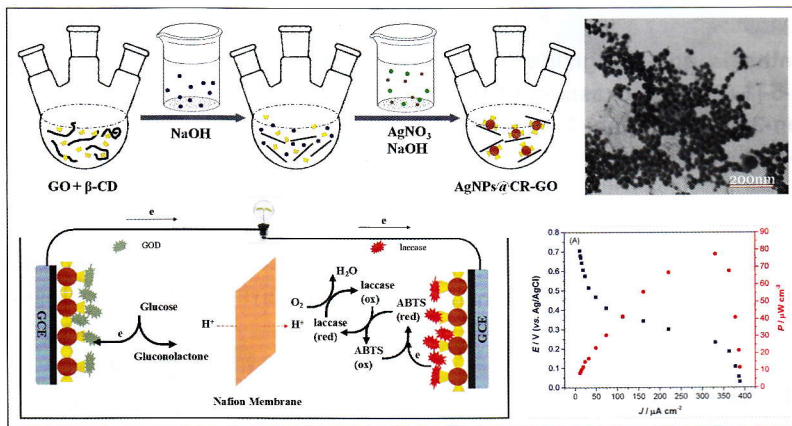


Yuanzhe Tang, Hongliang Huang,*
Yaguang Peng, Qunqun Ruan, Keke Wang, Pengda Yi, Dahuan Liu,* Chongli Zhong

A new porous Zr-based MOF with a large BET surface area was synthesized, exhibiting sensitive and selective detection for nitro explosives and metal ions.

1098

Preparation of Close-Packed Silver Nanoparticles on Graphene to Improve the Enzyme Immobilization and Electron Transfer at Electrode in Glucose/O₂ Biofuel Cell

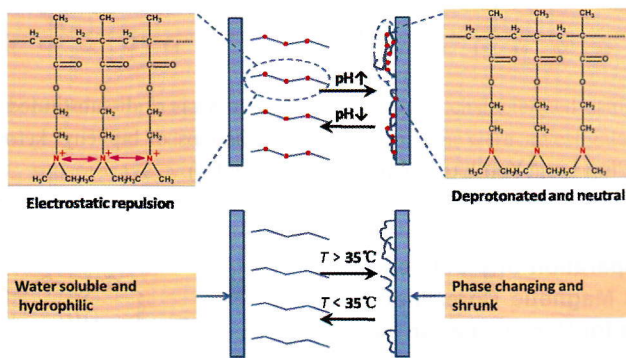


Fengjin Qu, Xiaoyan Ma,* Yuchen Hui,
Fang Chen, Yan Gao

AgNPs@CR-GO was prepared involving in β -cyclodextrin (β -CD) as reducing and stabilizing agent in alkaline aqueous solutions. The bioelectrode with close-packed AgNPs provided high enzyme loading ($\Gamma=4.80 \times 10^{-10} \text{ mol}\cdot\text{cm}^{-2}$) and fast electron transfer rate ($k_s=5.76 \text{ s}^{-1}$). The glucose biofuel cell exhibited high power density of $77.437 \mu\text{W}\cdot\text{cm}^{-2}$ and an open-circuit voltage of 0.705 V.

1109

Facile Synthesis of Cellulose Acetate Ultrafiltration Membrane with Stimuli-Responsiveness to pH and Temperature Using the Additive of F127-b-PDMAEMA



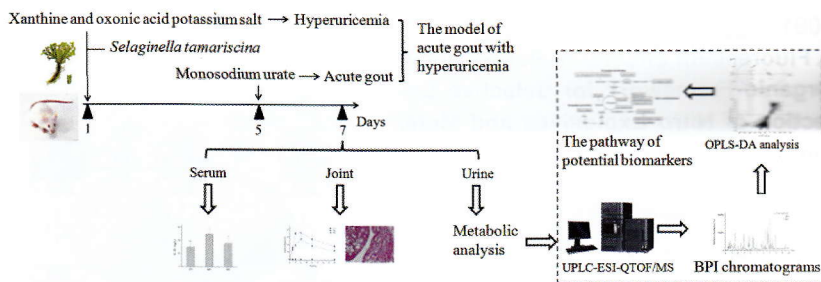
Naixu Li,* Jun Yin, Lingfei Wei, Quanhao Shen, Wei Tian, Jing Li, Yong Chen, Jing Jin, Hongcheng Teng, Jiancheng Zhou*

In this study, a pH and temperature-sensitive type cellulose acetate membrane was fabricated with F127-b-PDMAEMA as an additive and proved to be of excellent quality in separating the protein and water.

1117

Therapeutic Effects of *Selaginella tamariscina* on the Model of Acute Gout with Hyperuricemia in Rats Based on Metabolomics Analysis

Weijia Chen, Yi Wu, Rongbing Bi, Shu Liu,* Zhongying Liu,* Zhiqiang Liu, Fengrui Song, Yi Shi

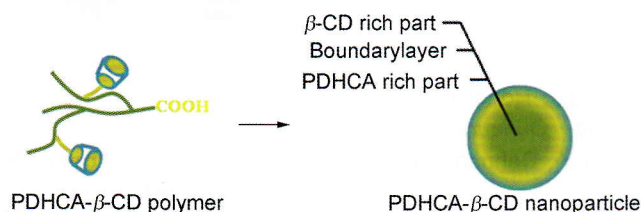


This study aimed to investigate the mechanism of *Selaginella tamariscina* for treating the model of acute gout with hyperuricemia in rats based on the urinary metabolomic method using UPLC-ESI-QTOF-MS.

1125

Preparation and Stability Evaluation of Size-Controllable PDHCA- β -CD Nanoparticles as Drug Carrier

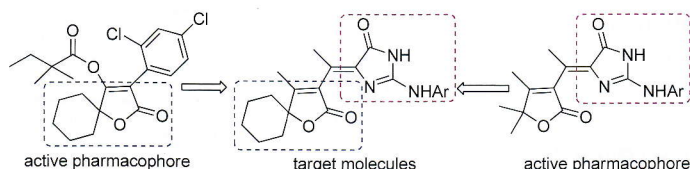
Hong Chu, Xue Zhao, Shirong Liu, Zhongbin Ni, Dongjian Shi, Mingqing Chen*



1133

Synthesis and Fungicidal Activity of (*E*)-5-[1-(2-Oxo-1-oxaspiro[4,5]dec/non-3-en-3-yl)ethylidene]-2-aminoimidazolin-4-one Derivatives

Bo Tang, Aiyang Guan, Yu Zhao, Jiazhen Jiang, Mingan Wang,* Ligang Zhou*

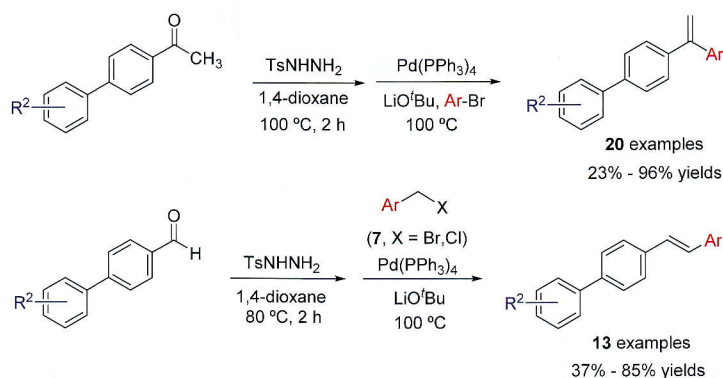


The novel fungicidal agents (*E*)-5-[1-(2-oxo-1-oxaspiro[4,5]dec/non-3-en-3-yl)-ethylidene]-2-aminoimidazolin-4-one derivatives, were designed and synthesized. Their fungicidal activities against several agricultural phytopathogen were evaluated.

1141

Pd(0)-Catalyzed Tandem One-Pot Reaction of Biphenyl Ketones/Aldehydes to the Corresponding Di-substituted Aryl Olefins

Yang Liu, Ping Liu,* Yan Liu, Yu Wei*

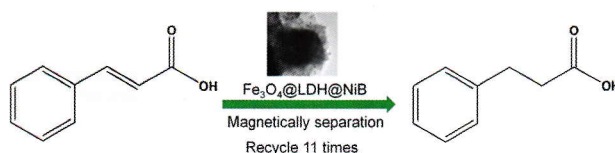


Synthesis of di-substituted aryl olefins was achieved by a Pd-catalyzed one-pot two-step reactions of biphenyl ketones/aldehydes, tosylhydrazide, and aryl bromides (or benzyl halides).

1149

Facile Preparation of a Stable Fe₃O₄@LDH@NiB Magnetic Core-Shell Nanocomposite for Hydrogenation

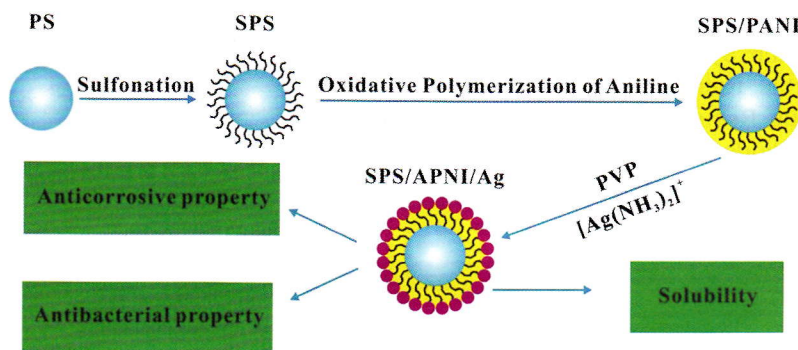
Xuejia Gao, Libo Niu, Xianliang Qiao, Wenhui Feng, Yingying Cao, Guoyi Bai*



A novel NiB deposited layered double hydroxide (LDH) coated ferroferric oxide magnetic core-shell nanocomposite was facilely prepared and exhibited good catalytic performance in the selective hydrogenation of cinnamic acid. Notably, it can be magnetically separated and effectively recycled eleven times.

1157

Soluble, Antibacterial, and Anticorrosion Studies of Sulfonated Polystyrene/Polyaniline/Silver Nanocomposites Prepared with the Sulfonated Polystyrene Template

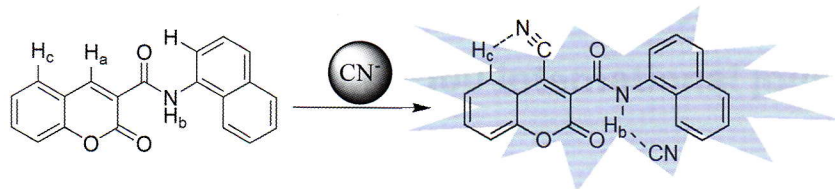


In this work, multifunctional sulfonated polystyrene/polyaniline/silver (SPS/PANI/Ag) nanocomposites are prepared through using sulfonated polystyrene (SPS) spheres as templates and utilizing polyvinylpyrrolidone (PVP) as both reducing agent and stabilizing agent. The prepared SPS/PANI/Ag nanocomposites exhibit a wide range of potential applications such as antibacterial agents, anticorrosion agents, etc.

Guangfu Liao, Yan Gong, Changfeng Yi, Zushun Xu*

1165

A Turn-On Fluorescence Chemosensor for Cyanide in Aqueous Media Based on a Nucleophilic Addition Reaction

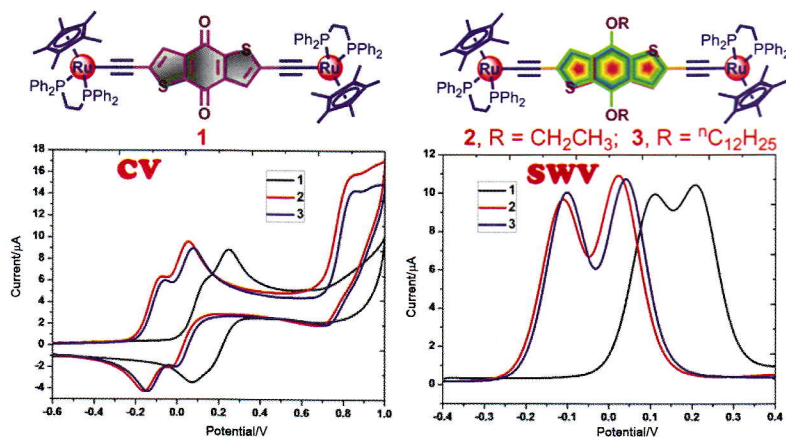


In this work, a structurally simple anion sensor (CX) for detection of cyanide anions based on a nucleophilic addition reaction was synthesized, which could be used for highly selective and sensitive fluorescence turn-on detection of cyanide in aqueous media.

Jie Chen, Wenting Li, Qiao Li, Qi Lin, Hong Yao, Youming Zhang, Taibao Wei*

1170

Binuclear Ruthenium Complexes with Benzo[1,2-b;4,5-b']dithiophene Analogues as Bridge Ligands: Syntheses, Characterization and Notable Difference on Electronic Coupling

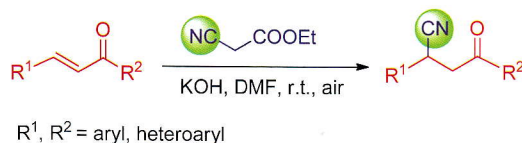


Dinuclear ruthenium complexes **1–3** were prepared and characterized using NMR and elemental analysis. Their redox and electronic properties were investigated by cyclic voltammetry, square-wave voltammograms and spectroelectrochemical methods in combined with DFT calculations.

Ya-Ping Ou,* Shunlin Tang, Aihui Wang, Junhua Li, Fuxing Zhang, Zhifeng Xu

1179

Conjugate Hydrocyanation of Chalcone Derivatives Using Ethyl Cyanoacetate as an Organic Cyanide Source

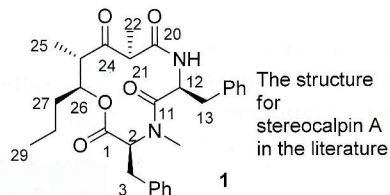


The conjugate hydrocyanation of chalcone derivatives using ethyl cyanoacetate as an organic cyanide source at room temperature under open air and transition metal-free conditions was described.

Zheng Li,* Junjun Yin

1185

**On the Synthesis of Stereocalpin A:
Partial Retraction/Correction of Pre-
vious Results and Rationalization of
the Hidden Difficulties**



A previous synthetic route to stereocalpin A (**1**) was re-examined. A substantial part of the data/results therein were found to be incompatible with the newly acquired ones and thus must be retracted/corrected. Those steps in the previous approach that were not reproduced in this work and the hidden difficulties encountered in the re-examination along with their (so far unexplained) causes were also explored.

Zhiwei Zhao, Yikang Wu,* Yan Li*