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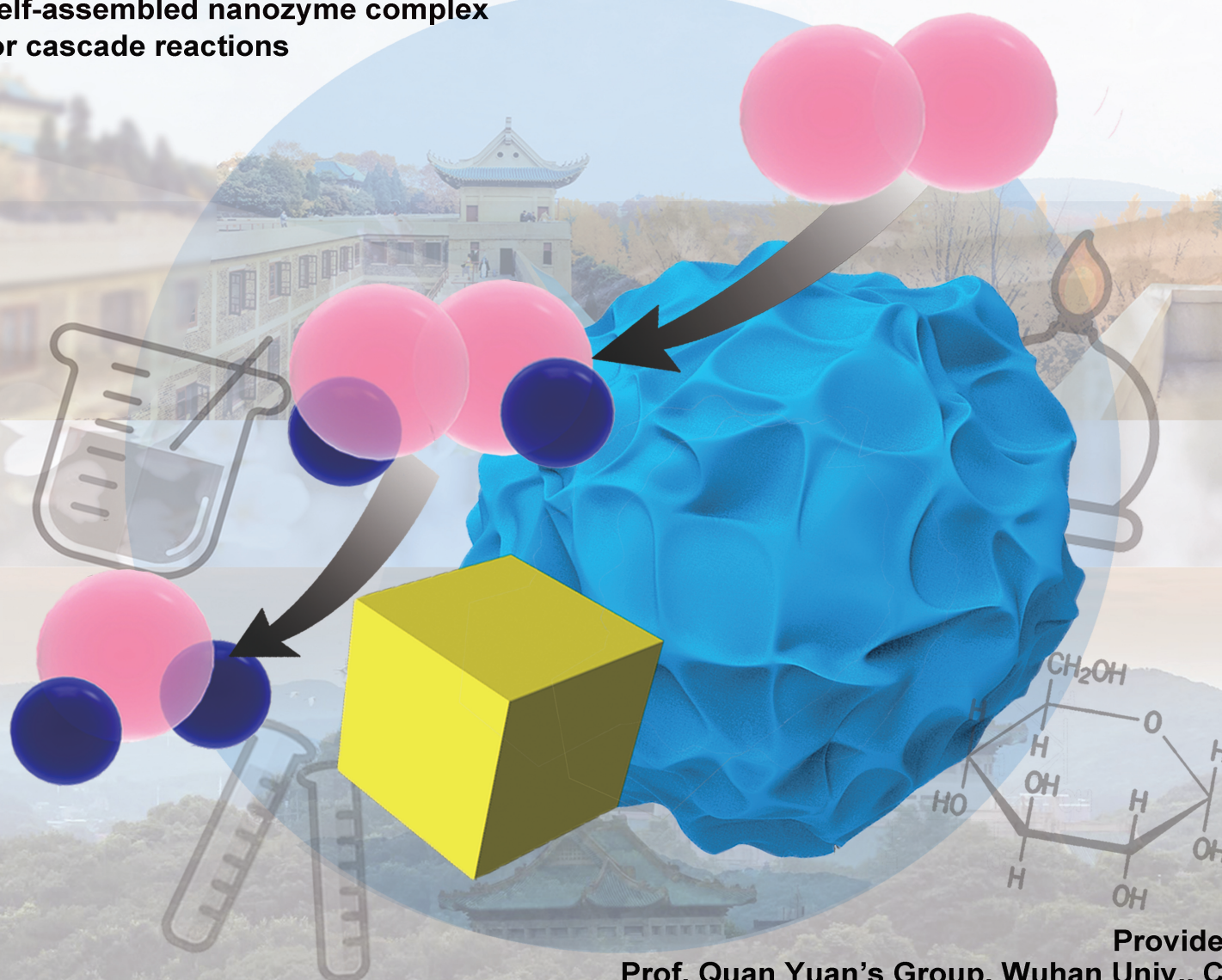


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Chinese Chemical Letters

| Volume 30 | Number 5 | MAY 2019 |

### Self-assembled nanozyme complex for cascade reactions



Provided by  
Prof. Quan Yuan's Group, Wuhan Univ., China



#### COMMUNICATION

Dan-Wei Zhang, Zhan-Ting Li et al.  
Halogen bonding-driven formation of  
supramolecular macrocycles and double helix

#### COMMUNICATION

Hongxia Wang et al.  
Flower-like  $\text{Cu}_3\text{Sn}_2\text{S}_7/\text{ZnS}$  nanocomposite for  
high performance supercapacitor

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## Graphical Abstracts/Chin Chem Lett 30 (2019) iii–xiv

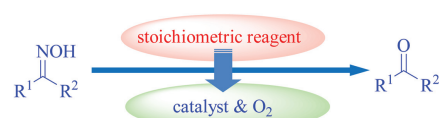
## Review

## Recent advances on deoxygenation: From stoichiometric reaction to catalytic reaction

Chinese Chemical Letters 30 (2019) 937

Yinghao Zheng<sup>a</sup>, Aiqiong Wu<sup>a</sup>, Yangyang Ke<sup>a</sup>, Hongen Cao<sup>a,b,c</sup>, Lei Yu<sup>a,c</sup><sup>a</sup> Guangling College, Yangzhou University, Yangzhou 225000, China<sup>b</sup> State Key Laboratory Breeding Base of Green Pesticide and Agricultural Bioengineering, Key Laboratory of Green Pesticide and Agricultural Bioengineering, Ministry of Education, Research and Development Center for Fine Chemicals, Guizhou University, Guiyang 550025, China<sup>c</sup> Institute of Pesticide of School of Horticulture and Plant Protection, School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 225009, China

Recent advances on the deoxygenation reactions are reviewed in this review. It was shown that catalytic deoxygenation with molecular oxygen as the mild oxidant should be the developing trend of the reaction.



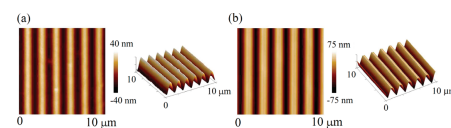
## Communications

## Epoxy-based azo molecular glasses with four-arm architecture: Preparation, characterization and holographic recording

Chinese Chemical Letters 30 (2019) 942

Chungen Hsu<sup>a</sup>, Zeda Xu<sup>b</sup>, Hao Huang<sup>a</sup>, Xinran Zhou<sup>a</sup>, Xiaogong Wang<sup>a</sup><sup>a</sup> Department of Chemical Engineering, Laboratory of Advanced Materials (MOE), Tsinghua University, Beijing 100084, China<sup>b</sup> School of Physics and Nuclear Energy Engineering, Beihang University, Beijing 100191, China

A series of epoxy-based azo molecular glasses with four-arm architecture was synthesized, characterized and applied to holographic recording.

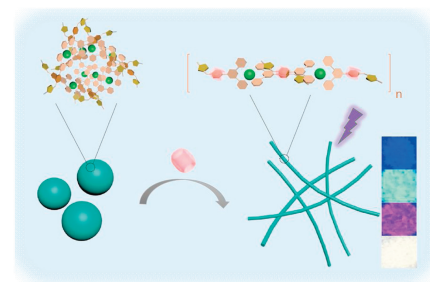


## A multi-color and white-light emissive cucurbituril/terpyridine/lanthanide supramolecular nanofiber

Chinese Chemical Letters 30 (2019) 949

Ting Zhang<sup>a,b</sup>, Yaohua Liu<sup>b</sup>, Bowen Hu<sup>a</sup>, Chunhua Zhang<sup>a</sup>, Yong Chen<sup>b,c</sup>, Yu Liu<sup>b,c</sup><sup>a</sup> MIIT Key Laboratory of Critical Materials Technology for New Energy Conversion and Storage, School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin 150001, China<sup>b</sup> College of Chemistry, State Key Laboratory of Elemento-Organic Chemistry, Nankai University, Tianjin 300071, China<sup>c</sup> Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, China

The enhanced lanthanide white-emission in solid by cucurbituril-based supramolecular assembly may provide a new strategy for smart light-emitting materials.





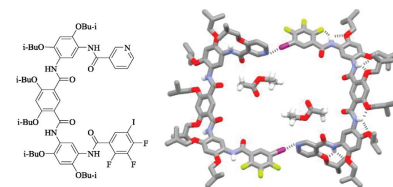
## Halogen bonding-driven formation of supramolecular macrocycles and double helix

Chuan-Zhi Liu, Satish Koppireddi, Hui Wang, Dan-Wei Zhang, Zhan-Ting Li

Department of Chemistry, Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials and Collaborative Innovation Center of Chemistry for Energy Materials (iChEM), Fudan University, Shanghai 200438, China

Halogen bonding has been used to hold two hydrogen bonded aromatic amide foldamers to form supramolecular macrocycles.

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## A pillar[5]arene-based molecular grapple of hexafluorophosphate

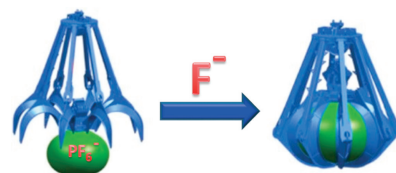
Zibin Zhang<sup>a</sup>, Kechang Sun<sup>a</sup>, Shijun Li<sup>a</sup>, Guocan Yu<sup>b</sup>

<sup>a</sup> Hangzhou Normal University, Hangzhou 310036, China

<sup>b</sup> Laboratory of Molecular Imaging and Nanomedicine, National Institute of Biomedical Imaging and Bioengineering, National Institutes of Health, Bethesda 20892, United States

A symmetric pillararene-based receptor formed 1:1 complexes instead of 1:2 with different halide anions. The cooperative multivalent hydrogen-bond interactions changed its structure from pillar to conical. By the addition of  $F^-$ , it can work like an excavator grapple selectively grasps a  $PF_6^-$  anion.

Chinese Chemical Letters 30 (2019) 957



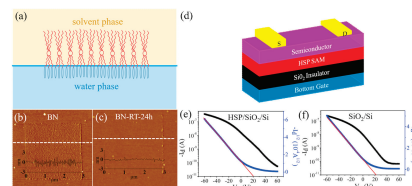
## Two-dimensional self-healing hydrogen-bond-based supramolecular polymer film

Mengnan He, Xiaosong Chen, Donghua Liu, Dacheng Wei

State Key Laboratory of Molecular Engineering of Polymers, Department of Macromolecular Science, Fudan University, Shanghai 200433, China

A monolayer hydrogen-bond-based supramolecular polymer (HSP) film has self-healing properties at the two-dimensional limit after destroyed by tip of atomic force microscopy and it can also modify the  $SiO_2$  dielectric for copper phthalocyanine field effect transistor with improved mobility.

Chinese Chemical Letters 30 (2019) 961



## Glycyrrhizic acid based self-assembled helical nanostructures as scaffolds for asymmetric Diels-Alder reaction

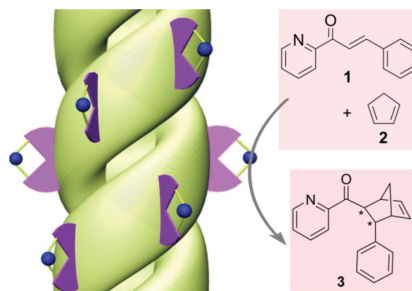
Yimeng Sun<sup>a,b</sup>, Yan Meng<sup>b</sup>, Jian Jiang<sup>b</sup>, Hui Sun<sup>b</sup>, Tiesheng Li<sup>a</sup>

<sup>a</sup> College of Chemistry and Molecular Engineering, Zhengzhou University, Zhengzhou 450001, China

<sup>b</sup> National Centre for Nanoscience and Technology, Beijing 100190, China

Glycyrrhizic acid (GA), as a traditional herbal, can self-assemble into helical nanofiber in the water. The formed helical nanostructures can be employed as scaffolds for asymmetric Diels-Alder reaction.

Chinese Chemical Letters 30 (2019) 966



## Copper-catalyzed $\alpha$ -selective C–H trifluoromethylation of acrylamides with $\text{TMSCF}_3$

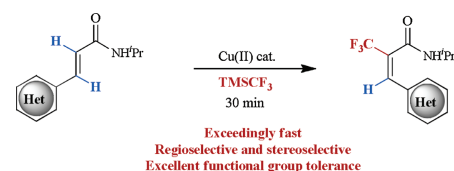
Shang-Zheng Sun<sup>b</sup>, Hui Xu<sup>a</sup>, Hui-Xiong Dai<sup>a</sup>

<sup>a</sup> Department of Medicinal Chemistry, Shanghai Institute of Materia Medica, University of Chinese Academy of Sciences, Chinese Academy of Sciences, Shanghai 201203, China

<sup>b</sup> Department of Chemistry, Innovative Drug Research Center, Shanghai University, Shanghai 200444, China

A copper-catalyzed  $\alpha$ -selective C–H trifluoromethylation of acrylamides with  $\text{TMSCF}_3$  is described. A wide range of arenes and heteroarenes at the  $\beta$ -position of acrylamides are compatible with the reaction, affording the corresponding (*E*)-trifluoromethylated products in moderate to good yields. The reaction proceeded fast and can be completed within 30 min.

Chinese Chemical Letters 30 (2019) 969



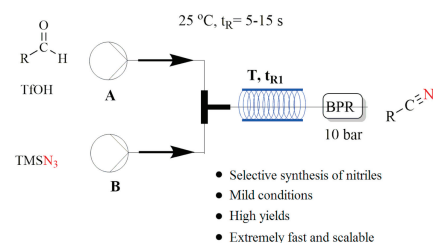
## Continuous-flow synthesis of nitriles from aldehydes via Schmidt reaction

Wei Zhan, Meng Tong, Ling Ji, Han Zhang, Zemei Ge, Xin Wang, Runtao Li

State Key Laboratory of Natural and Biomimetic Drugs, School of Pharmaceutical Sciences, Peking University, Beijing 100191, China

Using continuous-flow synthesis of nitriles by Schmidt reaction, a variety of aldehydes could be smoothly transformed into the desired nitriles in good to excellent yields. The mild reaction conditions and the flowing reaction system greatly improved the safety and make the reaction easy to scale up.

Chinese Chemical Letters 30 (2019) 973



## Naphthalimide and quinoline derivatives as inhibitors for insect *N*-acetyl- $\beta$ -D-hexosaminidase

Huibin Yang<sup>a,b</sup>, Huitang Qi<sup>c</sup>, Tian Liu<sup>c</sup>, Xusheng Shao<sup>a</sup>, Qing Yang<sup>c</sup>, Xuhong Qian<sup>a</sup>

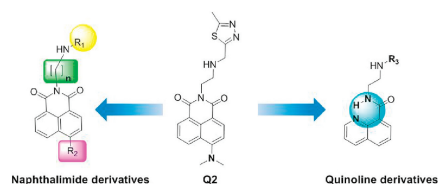
<sup>a</sup> Shanghai Key Laboratory of Chemical Biology, Institute of Pesticides and Pharmaceuticals, School of Pharmacy, East China University of Science and Technology, Shanghai 200237, China

<sup>b</sup> State Key Laboratory of the Discovery and Development of Novel Pesticide, Shenyang Sinochem Agrochemicals Research and Development Co., Ltd, Shenyang 110021, China

<sup>c</sup> School of Life Science and Biotechnology, Dalian University of Technology, Dalian 116024, China

A series of substituted naphthalimide and quinoline derivatives were designed, prepared and evaluated as potential inhibitors of *OfHex1*. Compound **3m** was the most potent inhibitor with a  $K_i$  value of 0.34  $\mu\text{mol/L}$ . Quinoline analogs with an intramolecular N–H hydrogen bond mimicked the naphthalimide configuration to maintain the inhibitory activity potency.

Chinese Chemical Letters 30 (2019) 977



## Pafuranones A and B, two dimeric polyketides from a rare marine algae-derived fungus *Paraconiothyrium* sp.

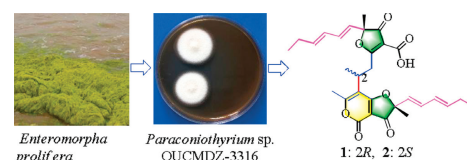
Yuqi Du<sup>a</sup>, Zhengbo Chen<sup>a</sup>, Hao Li<sup>a</sup>, Yi Wang<sup>a</sup>, Peng Fu<sup>a,b</sup>, Weiming Zhu<sup>a,b</sup>

<sup>a</sup> Key Laboratory of Marine Drugs, Ministry of Education of China, School of Medicine and Pharmacy, Ocean University of China, Qingdao 266003, China

<sup>b</sup> Laboratory for Marine Drugs and Bioproducts of Pilot National Laboratory for Marine Science and Technology, Qingdao 266003, China

A pair of dimeric polyketide epimers formed through conjugate addition and intramolecular lactonization were identified from the culture of a rare marine algae-derived fungus, *Paraconiothyrium* sp. OUCMDZ-3316.

Chinese Chemical Letters 30 (2019) 981





## Isoelectric point-controlled preferential photodeposition of platinum on Cu<sub>2</sub>O-TiO<sub>2</sub> composite surfaces

Mei Wang<sup>a</sup>, Yuanxu Liu<sup>b</sup>, Dan Li<sup>a</sup>, Junwang Tang<sup>c</sup>, Weixin Huang<sup>a</sup>

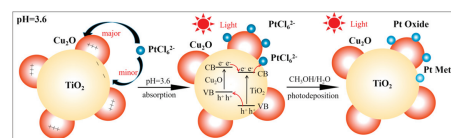
<sup>a</sup> Hefei National Laboratory for Physical Sciences at the Microscale, Key Laboratory of Surface and Interface Chemistry and Energy Catalysis of Anhui Higher Education Institutes, CAS Key Laboratory of Materials for Energy Conversion and Department of Chemical Physics, University of Science and Technology of China, Hefei 230026, China

<sup>b</sup> School of Pharmacy, Anhui University of Chinese Medicine, Anhui Academy of Chinese Medicine, Hefei 30012, China

<sup>c</sup> Department of Chemical Engineering, University College London, Torrington Place, London WC1E 7JE, UK

Isoelectric point-controlled preferential adsorption of [PtCl<sub>6</sub>]<sup>2-</sup> on Cu<sub>2</sub>O/TiO<sub>2</sub> composite surfaces is revealed to play a key role in the photodeposition process.

Chinese Chemical Letters 30 (2019) 985



## MOF/CC-derivatives with trace amount of cobalt oxides as efficient electrocatalysts for oxygen reduction reaction

Rui-Juan Wu<sup>a,b</sup>, Meng Liu<sup>c</sup>, Ye-Wang Peng<sup>a,b</sup>, Shuang Yao<sup>a,b</sup>, Xiang-Wei Guo<sup>c</sup>, Ai-Fang Geng<sup>a</sup>, Zhi-Ming Zhang<sup>c</sup>

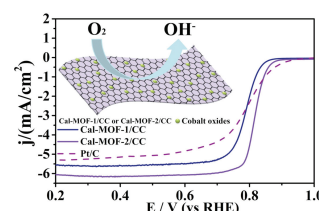
<sup>a</sup> School of Chemical and Environmental Engineering, Changchun University of Science and Technology, Changchun 130022, China

<sup>b</sup> School of Chemistry and Chemical Engineering, Tianjin University of Technology, Tianjin 300384, China

<sup>c</sup> Institute for New Energy Materials and Low Carbon Technologies, School of Materials Science and Engineering, Tianjin University of Technology, Tianjin 300384, China

Two MOF/CC-derivatives with trace amount of cobalt oxides exhibit excellent electrocatalytic activity for oxygen reduction reaction.

Chinese Chemical Letters 30 (2019) 989



## Effects of various donor: acceptor blend ratios on photophysical properties in non-fullerene organic bulk heterojunctions

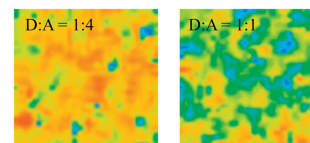
Zhenchuan Wen<sup>a</sup>, Xuejian Ma<sup>a</sup>, Xiaoyu Yang<sup>a</sup>, Pengqing Bi<sup>a</sup>, Mengsi Niu<sup>a</sup>, Kangning Zhang<sup>a</sup>, Lin Feng<sup>a</sup>, Xiaotao Hao<sup>a,b</sup>

<sup>a</sup> School of Physics, State Key Laboratory of Crystal Materials, Shandong University, Ji'nan 250100, China

<sup>b</sup> ARC Centre of Excellence in Exciton Science, School of Chemistry, The University of Melbourne, Parkville, Victoria, 3010, Australia

In this work, the donor:acceptor ratio effected photophysical properties of non-fullerene organic solar cells are comparatively investigated. Effective transportation of the photo-generated charge carriers can be obtained with the PDBD-T:ITIC ratio variation. There is no significant energy loss variation exists in the process of changing the D:A ratio.

Chinese Chemical Letters 30 (2019) 995



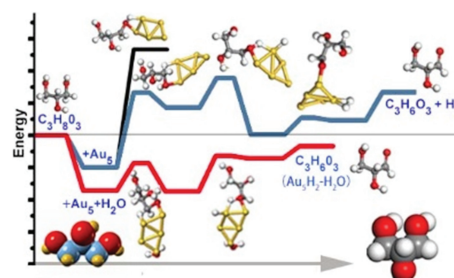
## Small gold clusters catalyzing oxidant-free dehydrogenation of glycerol initiated by methene hydrogen atom transfer

Anthony M.S. Pembere, Chaonan Cui, Haiming Wu, Zhixun Luo

State Key Laboratory for Structural Chemistry of Unstable and Stable Species, Institute of Chemistry, Chinese Academy of Sciences, University of Chinese Academy of Sciences, Beijing 100190, China

We report a finding of feasible oxidant-free dehydrogenation of glycerol over small Au clusters, with a low-energy barrier of transition state initiated by hydrogen atom transfer from methene, which differs from the general reaction mechanism based on hydroxyl.

Chinese Chemical Letters 30 (2019) 1000



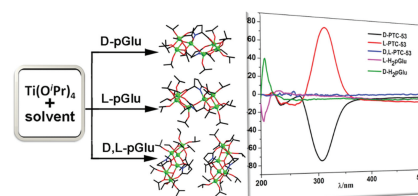
## **In situ generated pyroglutamate bridged polyoxotitaniums with strong circular dichroism signal**

Guo-Liang Dong, Wei-Hui Fang, Lei Zhang, Jian Zhang

State Key Laboratory of Structural Chemistry, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou 350002, China

A series of homochiral polyoxotitaniums from *in situ* generated pyroglutamate was prepared. In addition, they display strong circular dichroism signals.

Chinese Chemical Letters 30 (2019) 1005



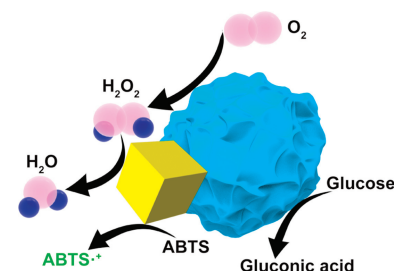
## **Self-assembled nanozyme complexes with enhanced cascade activity and high stability for colorimetric detection of glucose**

Meng Liu, Zhihao Li, Yingxue Li, Jiajia Chen, Quan Yuan

Key Laboratory of Analytical Chemistry for Biology and Medicine (Ministry of Education), College of Chemistry and Molecular Sciences, Wuhan University, Wuhan 430072, China

In this work, a hybrid multi-enzyme system, CeO<sub>2</sub>/glucose oxidase (GOx) nanocomplex was developed via self-assembly and exhibited excellent catalytic activity toward cascade reactions, offering a simple and efficient example to build spatially confined multi-enzyme systems to potentiate their applications in energy conversion, detoxification and bioanalysis.

Chinese Chemical Letters 30 (2019) 1009



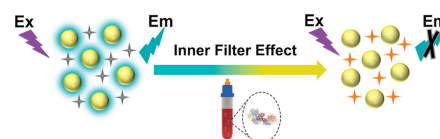
## **Direct and single-step sensing of primary ovarian cancers related glycosidases**

Dan Li, Ling Liang, Yawei Tang, Linna Fu, Shehua Xiao, Quan Yuan

Molecular Science and Biomedicine Laboratory, Institute of Chemical Biology and Nanomedicine, State Key Laboratory of Chemo/Biosensing and Chemometrics, College of Chemistry and Chemical Engineering, Hunan University, Changsha 410082, China

In the presence of  $\beta$ -galactosidase, the glycoconjugate of *p*-nitrophenol (PNP) can be rapidly hydrolyzed to the corresponding glucose and PNP. UV-vis absorption spectrum of PNP has a good overlap with the excitation and emission spectra of the exfoliated BPQDs, leading to efficient fluorescence quenching of BPQDs through the inner filter effect (IFE).

Chinese Chemical Letters 30 (2019) 1013



## **A simple aptamer molecular beacon assay for rapid detection of aflatoxin B1**

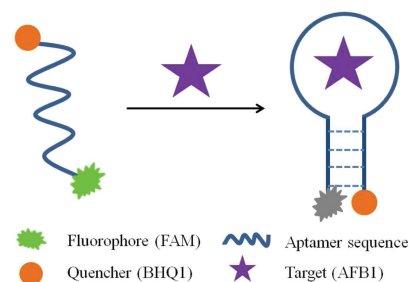
Chao Wang<sup>a,b</sup>, Linlin Sun<sup>a,b</sup>, Qiang Zhao<sup>a,b</sup>

<sup>a</sup> State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China

<sup>b</sup> University of Chinese Academy of Sciences, Beijing 100049, China

A simple aptamer molecular beacon assay for rapid detection of aflatoxin B1 (AFB1) was achieved. AFB1-binding induced formation of a hairpin structure and closeness of fluorophore label and quencher probe, causing fluorescence decrease.

Chinese Chemical Letters 30 (2019) 1017



## Cesium lead halide perovskite nanocrystals for ultraviolet and blue light blocking

Guihua Huang<sup>a</sup>, Yipeng Huang<sup>b</sup>, Wei Xu<sup>b</sup>, QiuHong Yao<sup>a</sup>, Xiaofang Liu<sup>c</sup>, Caifeng Ding<sup>d</sup>, Xi Chen<sup>b</sup>

<sup>a</sup> Institute of Analytical Technology and Smart Instruments, College of Environment and Public Health, Xiamen Huaxia University, Xiamen 361024, China

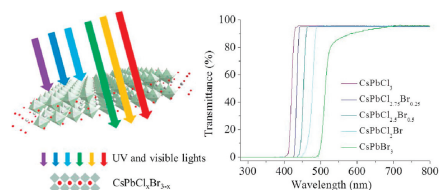
<sup>b</sup> State Key Laboratory of Marine Environmental Science, Xiamen University, Xiamen 361005, China

<sup>c</sup> Department of Anesthesiology, Xiamen Maternal and Children Hospital, Xiamen 361003, China

<sup>d</sup> Key Laboratory of Sensor Analysis of Tumor Marker, Ministry of Education, College of Chemistry and Molecular Engineering, Qingdao University of Science and Technology, Qingdao 266042, China

High efficiency UV and blue light blocking film with tunable blocking range has been achieved using ethyl cellulose-CsPb(Cl/Br)<sub>3</sub> composites.

Chinese Chemical Letters 30 (2019) 1021



## Titanium dioxide as an adsorbent to enhance the detection ability of near-infrared diffuse reflectance spectroscopy

Shuyu Wang<sup>a</sup>, Jin Zhang<sup>a</sup>, Wensheng Cai<sup>a</sup>, Xueguang Shao<sup>a,b,c,d</sup>

<sup>a</sup> Research Center for Analytical Sciences, College of Chemistry, Nankai University, Tianjin 300071, China

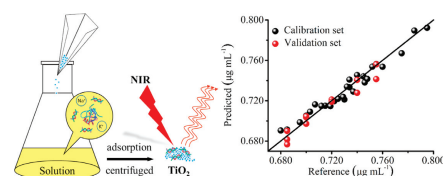
<sup>b</sup> Tianjin Key Laboratory of Biosensing and Molecular Recognition, Tianjin 300071, China

<sup>c</sup> State Key Laboratory of Medicinal Chemical Biology, Tianjin 300071, China

<sup>d</sup> Collaborative Innovation Center of Chemical Science and Engineering, Tianjin 300071, China

Titanium dioxide (TiO<sub>2</sub>) was used as an adsorbent for selective enrichment of fish sperm deoxyribonucleic acid (fsDNA). Due to the low adsorption background of TiO<sub>2</sub> in near-infrared spectra, the detection ability of near-infrared diffuse reflectance spectroscopy was enhanced.

Chinese Chemical Letters 30 (2019) 1024



## One-pot synthesis of silver colloid with body-heat for surface-enhanced Raman spectroscopy detections

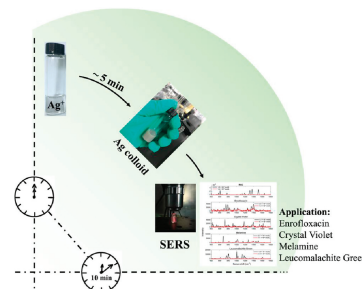
Wanchao Chen<sup>a</sup>, Yan Kang<sup>a</sup>, Han Zhang<sup>a</sup>, Tianxiong Huang<sup>a</sup>, Xin Tao<sup>b</sup>, Aiping Lu<sup>b</sup>, Yiping Du<sup>a</sup>

<sup>a</sup> Shanghai Key Laboratory of Functional Materials Chemistry, School of Chemistry & Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

<sup>b</sup> Department of Quality Assurance, Jiangsu Yangnong Chemical Group Co., Ltd., Yangzhou 225009, China

The proposed synthesis method of fresh SERS substrates is simple, rapid, green energy and cost-effective, which could serve as a great potential tool in rapid and effective detections of harmful substances.

Chinese Chemical Letters 30 (2019) 1027



## Development of a rapid and sensitivity magnetic chemiluminescence immunoassay for DNA methyltransferase 1 in human serum

Sitian He<sup>a</sup>, Leiliang He<sup>a</sup>, Beibei Liu<sup>b</sup>, Songcheng Yu<sup>a</sup>, Li'e Liu<sup>a</sup>, Yongmei Tian<sup>a</sup>, Jia Wang<sup>a</sup>, Lihua Ding<sup>a</sup>, Yilin Wang<sup>a</sup>, Lingbo Qu<sup>c</sup>, Fei Yu<sup>a</sup>, Yongjun Wu<sup>a</sup>

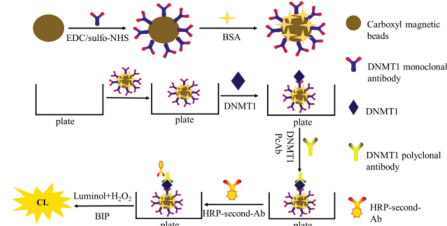
<sup>a</sup> College of Public Health, Zhengzhou University, Zhengzhou 450001, China

<sup>b</sup> College of Chemistry and Molecular Engineering, Zhengzhou University, Zhengzhou 450001, China

<sup>c</sup> Henan Joint International Research Laboratory of Green Construction of Functional Molecules and Their Bioanalytical Applications, Zhengzhou 450001, China

In this study, we developed a novel magnetic enhanced chemiluminescence enzyme immunoassay (MCLEIA) to achieve the simple, economical and easily commercialized DNMT1 quantitative analysis in serum samples for early clinical diagnosis.

Chinese Chemical Letters 30 (2019) 1031







## Synthesis of aza-BODIPY dyes bearing the naphthyl groups at 1,7-positions and application for singlet oxygen generation

Xindong Jiang<sup>a,b</sup>, Tingjiang Zhang<sup>a</sup>, Changliang Sun<sup>c</sup>, Yanqiu Meng<sup>d</sup>, Linjiu Xiao<sup>a</sup>

<sup>a</sup> College of Applied Chemistry, Key Laboratory of Rare-earth Chemistry and Applying of Liaoning Province, Shenyang University of Chemical Technology, Shenyang 110142, China

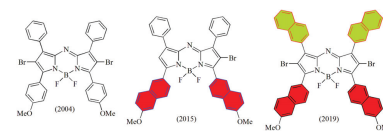
<sup>b</sup> Department of Chemistry, Graduate School of Science, Hiroshima University, Higashi-Hiroshima 739-8526, Japan

<sup>c</sup> Center of Physical and Chemistry Test, Shenyang University of Chemical Technology, Shenyang 110142, China

<sup>d</sup> College of Pharmaceutical and Biological Engineering, Shenyang University of Chemical Technology, Shenyang 110142, China

Near-infrared absorbing aza-BODIPYs with the naphthyl groups at 1,7-positions were prepared for the first time. The singlet oxygen generation of aza-BODIPY with the naphthyl groups at 1,7-positions was more effective than that of the corresponding aza-BODIPY with the phenyl groups at 1,7-positions.

Chinese Chemical Letters 30 (2019) 1055



## Preparation of pyrido[1,2-c][1,2,4]triazole-based $\pi$ -conjugated triazene as a $\text{Fe}^{3+}$ ion fluorescent sensor

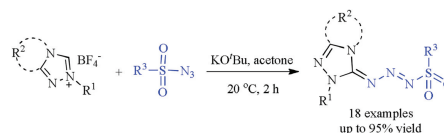
Dong Yi<sup>a</sup>, Yaping Wu<sup>a</sup>, Changyou Chen<sup>a</sup>, Li Wang<sup>a</sup>, Qin Wang<sup>a</sup>, Lin Pu<sup>a,b</sup>, Siping Wei<sup>a</sup>

<sup>a</sup> Department of Medicinal Chemistry, School of Pharmacy, Southwest Medical University, Luzhou 646000, China

<sup>b</sup> Department of Chemistry, University of Virginia, Charlottesville, Virginia 22904, United States

A highly efficient coupling reaction of pyrido[1,2-c][1,2,4]triazole carbene precursors with sulfonyl azides leading to structurally diverse  $\pi$ -conjugated triazenes has been realized under very mild conditions.

Chinese Chemical Letters 30 (2019) 1059



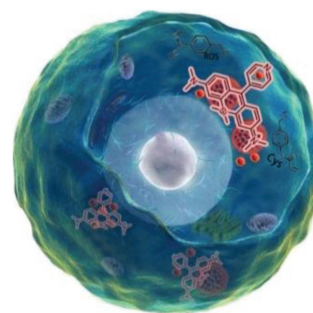
## Pyridine-Si-xanthene: A novel near-infrared fluorescent platform for biological imaging

Hong Zhang, Kun Li, Ling-Ling Li, Kang-Kang Yu, Xin-Yao Liu, Meng-Yang Li, Nan Wang, Yan-Hong Liu, Xiao-Qi Yu

Key Laboratory of Green Chemistry and Technology, Ministry of Education, College of Chemistry, Sichuan University, Chengdu 610064, China

A novel near-infrared fluorescent platform with intrinsic lysosome-targeting was reported capable of detecting cysteine in living cells and *in vivo*.

Chinese Chemical Letters 30 (2019) 1063



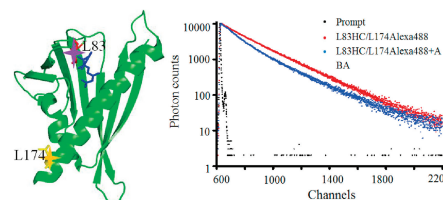
## Fluorescence lifetime based distance measurement illustrates conformation changes of PYL10-CL2 upon ABA binding in solution state

Peng Zhou, Pei Lv, Lu Yu, Sanling Liu, Longhua Zhang, Changlin Tian

High Magnetic Field Laboratory, Chinese Academy of Sciences and School of Life Sciences, University of Science and Technology of China, Hefei 230027, China

The fluorescence lifetime based FRET distance measurements using sitespecific incorporated unnatural amino acid HC and Alexa488 as FRET pair revealed the different conformations of PYL10-CL2 upon ABA binding.

Chinese Chemical Letters 30 (2019) 1067



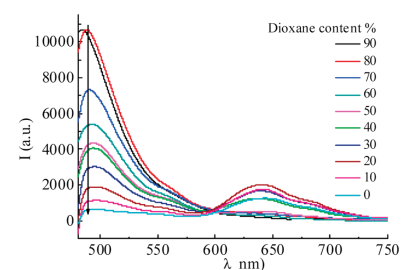
## Mitochondria-targeted ratiometric fluorescent probes for micropolarity and microviscosity and their applications

Jingjing Cui, Yuhua Yao, Cong Chen, Rui Huang, Weibing Zhang, Junhong Qian

Shanghai Key Laboratory of Functional Materials Chemistry, School of Chemistry & Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

Two fluorescent “off-on” probes YYH1 and YYH2 were used for bioimaging mitochondrial polarity and viscosity.

Chinese Chemical Letters 30 (2019) 1071



## A ratiometric fluorescent probe for the detection of hypochlorous acid in living cells and zebra fish with along wavelength emission

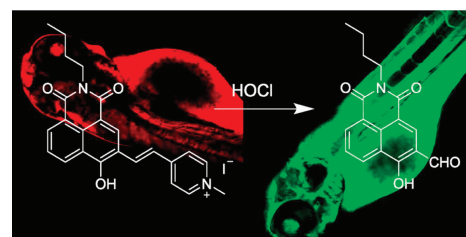
Haiqing Xiong<sup>a</sup>, Long He<sup>a</sup>, Yun Zhang<sup>a</sup>, Jingpei Wang<sup>a</sup>, Xiangzhi Song<sup>a,b</sup>, Zhaoguang Yang<sup>a,b</sup>

<sup>a</sup> College of Chemistry & Chemical Engineering, Central South University, Changsha 410083, China

<sup>b</sup> Key Laboratory of Hunan Province for Water Environment and Agriculture Product Safety, Changsha 410083, China

A highly sensitive and selective fluorescent probe, **NCIO**, was developed for ratiometric detection of HClO and had been successfully applied to detect intracellular HClO both in living cells and in zebra fish.

Chinese Chemical Letters 30 (2019) 1075



## Self-carried AIE nanoparticles for *in vitro* non-invasive long-term imaging

Yan Cui<sup>a,c</sup>, Ruowen Zhang<sup>b</sup>, Li Yang<sup>c</sup>, Shijie Lv<sup>a</sup>

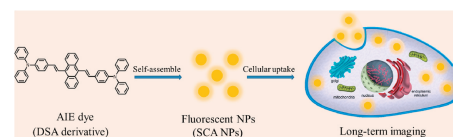
<sup>a</sup> Jilin Medical University, Jilin 132013, China

<sup>b</sup> Beihua University, Jilin 132013, China

<sup>c</sup> First Hospital of Jilin University, Changchun 130021, China

In this study, we report the synthesis of highly emissive AIEgen-based NPs as long-term cell trackers, which enjoy the advantages of high brightness, good stability, large Stokes shift, good biocompatibility, and high photostability. The SCA NPs were successfully applied for *in vitro* long-term bio-imaging of HeLa cells, indicating that the SCA NPs could be ideal fluorescent probes for non-invasive long-term cellular imaging.

Chinese Chemical Letters 30 (2019) 1078



## Histology and antitumor activity study of PTX-loaded micelle, a fluorescent drug delivery system prepared by PEG-TPP

Huilan Li<sup>a</sup>, Jieming Li<sup>a</sup>, Xinyi He<sup>b</sup>, Bo Zhang<sup>a</sup>, Chunxia Liu<sup>a</sup>, Qifei Li<sup>a</sup>, Ying Zhu<sup>b</sup>, Wenlong Huang<sup>a,c</sup>, Wei Zhang<sup>d</sup>, Hai Qian<sup>a,c</sup>, Liang Ge<sup>b</sup>

<sup>a</sup> Center of Drug Discovery, State Key Laboratory of Natural Medicines, China Pharmaceutical University, Nanjing 210009, China

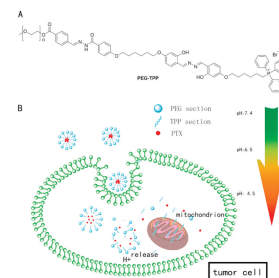
<sup>b</sup> School of Pharmacy, China Pharmaceutical University, Nanjing 210009, China

<sup>c</sup> Jiangsu Key Laboratory of Drug Discovery for Metabolic Disease, China Pharmaceutical University, Nanjing 210009, China

<sup>d</sup> Department of Biochemistry and Molecular Biology, Nanjing Medical University, Nanjing 10029, China

The PTX-loaded micelles were synthesized and characterized *in vitro* and *in vivo*. The size, appearance, stability and sensitivity to different pH were demonstrated. On benefit of suitable particle size and sensitivity to acidic environment, we proved that PTX-loaded micelles could target solid cancer after intravenously injected into tumor-bearing mice and release PTX when they entered the cells. The anticancer ability of paclitaxel was enhanced both *in vitro* and *in vivo* when it was encapsulated in micelles prepared by PEG-TTP.

Chinese Chemical Letters 30 (2019) 1083





## Uniform hierarchical silica film with perpendicular macroporous channels and accessible ordered mesopores for biomolecule separation

Xiaodan Su<sup>a</sup>, Jun Tao<sup>a</sup>, Sui Chen<sup>b</sup>, Peng Xu<sup>c</sup>, Dan Wang<sup>d</sup>, Zhaogang Teng<sup>a,b</sup>

<sup>a</sup> Key Laboratory for Organic Electronics & Information Displays and Institute of Advanced Materials, Nanjing University of Posts and Telecommunications, Nanjing 210046, China

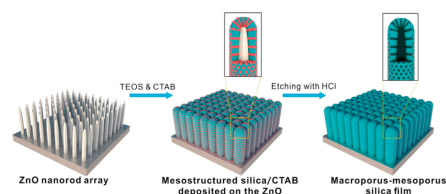
<sup>b</sup> Department of Medical Imaging, Jinling Hospital, School of Medicine, Nanjing University, Nanjing 210002, China

<sup>c</sup> College of Chemical Engineering, Nanjing Forestry University, Nanjing 210037, China

<sup>d</sup> Department of Gynecology & Obstetrics, Affiliated Changzheng Hospital, The Second Military Medical University, Shanghai 200003, China

Hierarchical macroporous-mesoporous silica films are synthesized by using zinc oxide nanorod array as macroporous template and CTAB surfactant as mesoporous template.

Chinese Chemical Letters 30 (2019) 1089



## Anisotropic Cu@Cu-BTC core-shell nanostructure for memory device

Yiqi Luo<sup>a,b</sup>, Zhengdong Liu<sup>c</sup>, Geng Wu<sup>a</sup>, Guanzhong Wang<sup>b</sup>, Tingting Chao<sup>a</sup>, Hai Li<sup>c</sup>, Juqing Liu<sup>c</sup>, Xun Hong<sup>a</sup>

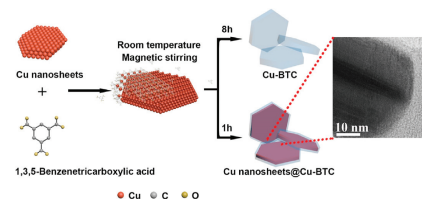
<sup>a</sup> Center of Advanced Nanocatalysis (CAN) and Department of Chemistry, University of Science and Technology of China, Hefei 230026, China

<sup>b</sup> Department of Physics, University of Science and Technology of China, Hefei 230026, China

<sup>c</sup> Key Laboratory of Flexible Electronics (KLOFE) & Institute of Advanced Materials (IAM), Jiangsu National Synergetic Innovation Center for Advanced Materials (SICAM), Nanjing Tech University, Nanjing 211816, China

Here we report the synthesis of Cu@Cu-BTC core-shell nanosheets (NSs), which could be applied as an effective material to the memory device with the write-once-read-many times (WORM) behavior.

Chinese Chemical Letters 30 (2019) 1093



## Controlled synthesis of silver nanoparticles from polyoxometalates-immobilized poly(4-vinylpyridine) brushes

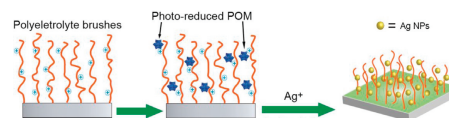
Hang Bian<sup>a</sup>, Xuejian Zhang<sup>a</sup>, Hongkai Zhao<sup>a</sup>, Ning Zhang<sup>b</sup>

<sup>a</sup> School of Material Science and Engineering, Jilin Jianzhu University, Changchun 130118, China

<sup>b</sup> Department of Chemistry, Northeast Normal University, Changchun 130024, China

We extend the application of polymer brush to the synthesis of silver nanoparticles. Polymer brushes can efficiently prevent the aggregation of the prepared nanoparticles and allow the tailored synthesis of Ag nanoparticles.

Chinese Chemical Letters 30 (2019) 1097



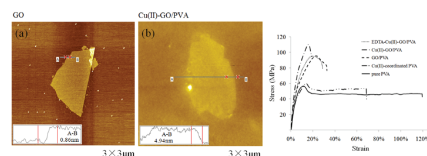
## GO/PVA nanocomposites with significantly enhanced mechanical properties through metalion coordination

Chen Lin, Yitao Liu, Xuming Xie

Key Laboratory of Advanced Materials (MOE), Department of Chemical Engineering, Tsinghua University, Beijing 100084, China

This work describes a simple and cost-effective strategy to create strong interfacial interactions through coordination bonding in GO/PVA nanocomposites. The enhanced interactions realize efficient load transfer during the tensile process and improve the mechanical properties significantly.

Chinese Chemical Letters 30 (2019) 1100



## High performance hybrid supercapacitor based on hierarchical $\text{MoS}_2/\text{Ni}_3\text{S}_2$ metal chalcogenide

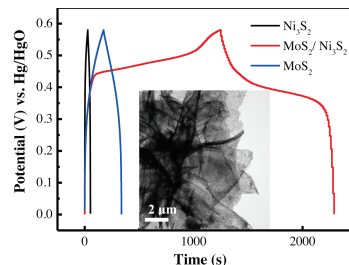
Ying Liu<sup>a</sup>, Depeng Zhao<sup>a</sup>, Hengqi Liu<sup>a</sup>, Ahmad Umar<sup>b</sup>, Xiang Wu<sup>a</sup>

<sup>a</sup> School of Materials Science and Engineering, Shenyang University of Technology, Shenyang 110870, China

<sup>b</sup> Department of Chemistry, Faculty of Science and Arts and Promising Centre for Sensors and Electronic Devices (PCSED), Najran University, Najran 11001, Saudi Arabia

Herein, we synthesized hierarchical  $\text{MoS}_2/\text{Ni}_3\text{S}_2$  structures as electrode materials grown on nickel foam by a facile hydrothermal strategy. The hierarchical  $\text{MoS}_2/\text{Ni}_3\text{S}_2$  structures show high specific capacitance.

Chinese Chemical Letters 30 (2019) 1105



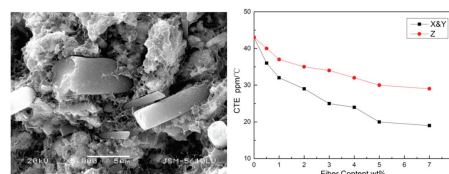
## Effects on the thermal expansion coefficient and dielectric properties of CLST/PTFE filled with modified glass fiber as microwave material

Liu Zheng, Jing Zhou, Jie Shen, Yanyuan Qi, Wen Chen

State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, School of Materials Science and Engineering, Wuhan University of Technology, Wuhan 430070, China

The CLST/PTFE/5%GF composite sharply decreases the CTE in both X&Y and Z directions, obtained a promising microwave dielectric material for microwave communication.

Chinese Chemical Letters 30 (2019) 1111



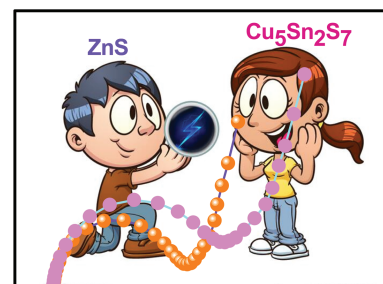
## Flower-like $\text{Cu}_5\text{Sn}_2\text{S}_7/\text{ZnS}$ nanocomposite for high performance supercapacitor

Feng Yu, Vincent Tiing Tiong, Le Pang, Rusen Zhou, Xiaoxiang Wang, Eric R. Waclawik, Kostya (Ken) Ostrikov, Hongxia Wang

School of Chemistry, Physics and Mechanical Engineering, Science and Engineering Faculty, Queensland University of Technology, Brisbane, Queensland QLD 4001, Australia

Due to the synergistic effect between ZnS and  $\text{Cu}_5\text{Sn}_2\text{S}_7$ , the ZnS can enhance electrochemical performance of pristine  $\text{Cu}_5\text{Sn}_2\text{S}_7$ .

Chinese Chemical Letters 30 (2019) 1115



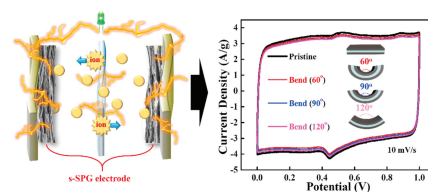
## Surface modulated hierarchical graphene film via sulfur and phosphorus dual-doping for high performance flexible supercapacitors

Xu Yu, Chengang Pei, Ligang Feng

School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 225002, China

The steam-assistant heteroatoms of sulfur and phosphorus dual-doped graphene film fabricated via an ice-template and thermal-activation approach demonstrates an excellent pseudocapacitive behavior in flexible electrochemical capacitors.

Chinese Chemical Letters 30 (2019) 1121



## The “Fingerprint” of a freshwater microalga *Scenedesmus* sp. LX1: Visualizing the composition of its soluble algal products

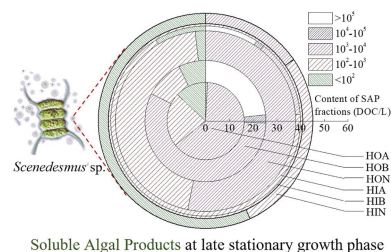
Yinhu Wu<sup>a</sup>, Yin Yu<sup>b</sup>, Hongying Hu<sup>a,c</sup>

<sup>a</sup> Environmental Simulation and Pollution Control State Key Joint Laboratory, State Environmental Protection Key Laboratory of Microorganism Application and Risk Control (SMARC), School of Environment, Tsinghua University, Beijing 100084, China

<sup>b</sup> State Key Laboratory of Environmental Criteria and Risk Assessment, Research Center of Water Pollution Control Technology, Chinese Research Academy of Environmental Sciences, Beijing 100012, China

<sup>c</sup> Shenzhen Environmental Science and New Energy Technology Engineering Laboratory, Tsinghua-Berkeley Shenzhen Institute, Shenzhen 518055, China

The composition of soluble algal products was visualized by a fingerprint analytical method.



### Degradation of *p*-nitrophenol (PNP) in aqueous solution by mFe/Cu-air-PS system

Heng Zhang<sup>a,b</sup>, Qingqing Ji<sup>a,b</sup>, Leiduo Lai<sup>a,b</sup>, Gang Yao<sup>b,c</sup>, Bo Lai<sup>a,b</sup>

<sup>a</sup> State Key Laboratory of Hydraulics and Mountain River Engineering, College of Architecture and Environment, Sichuan University, Chengdu 610065, China

<sup>b</sup> Sino-German Centre for Water and Health Research, Sichuan University, Chengdu 610065, China

<sup>c</sup> Institute of Environmental Engineering, RWTH Aachen University, Aachen, Germany

In this study, batch experiments were conducted to investigate the performance of microscale Fe/Cu bimetallic particles-air-persulfate system (mFe/Cu-air-PS) for *p*-nitrophenol (PNP) treatment in aqueous solution. The results indicate that toxic and refractory PNP in aqueous solution could be decomposed effectively and transformed into lower toxicity intermediates.

