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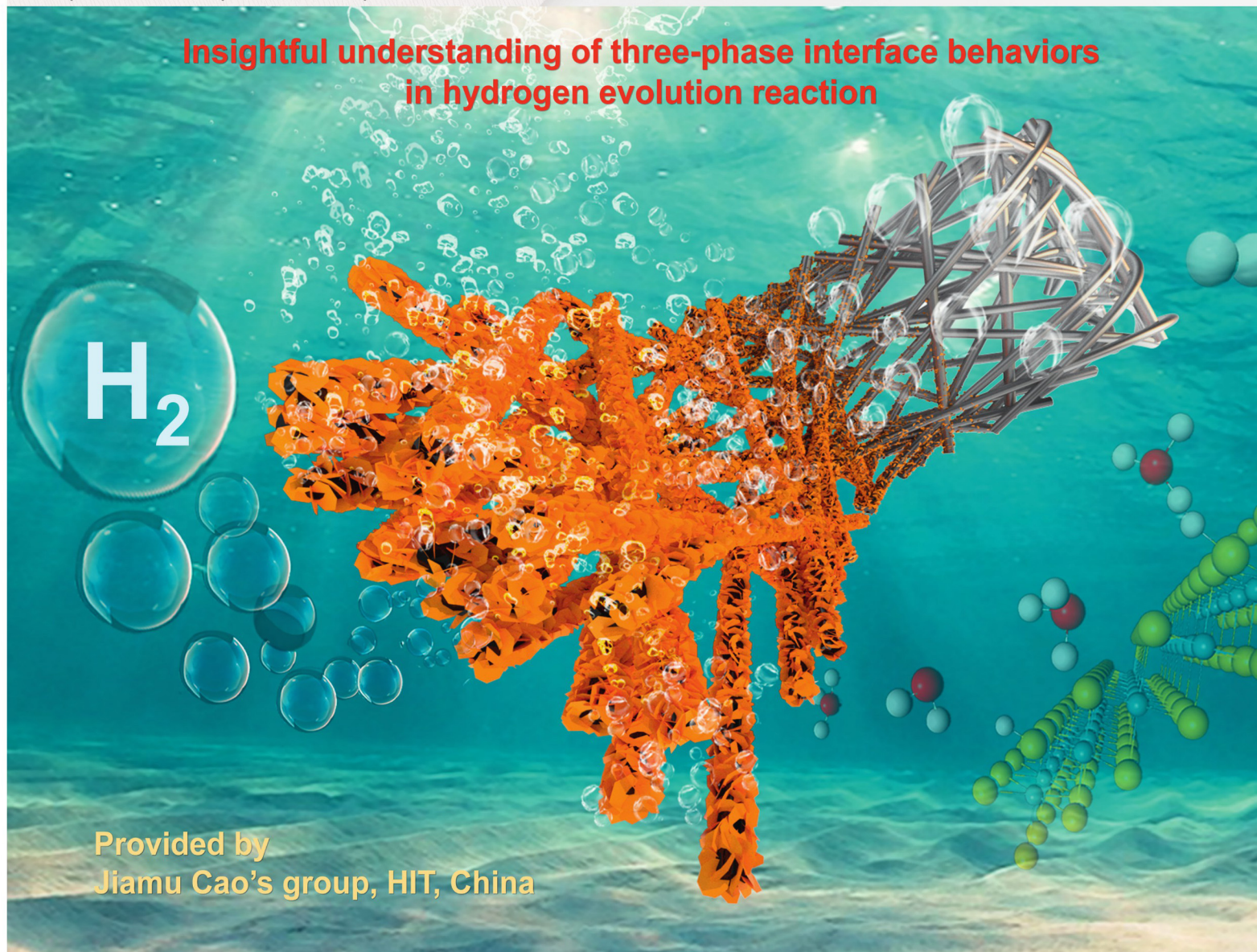
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## Chinese Chemical Letters (中国化学快报)

| Volume 33 | Number 8 | AUGUST 2022

**Insightful understanding of three-phase interface behaviors  
in hydrogen evolution reaction**



Provided by  
Jiamu Cao's group, HIT, China



#### COMMUNICATION

Junfeng Niu.  
Synchronous mineralization of three aqueous  
non-steroidal anti-inflammatory drugs in  
electrochemical advanced oxidation process

#### COMMUNICATION

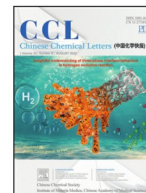
Bi-Feng Yuan.  
Comprehensive profiling and evaluation  
of the alteration of RNA modifications  
in thyroid carcinoma by liquid  
chromatography-tandem mass spectrometry

Chinese Chemical Society

Institute of Materia Medica, Chinese Academy of Medical Sciences

万方数据





## Graphical Abstracts/Chin Chem Lett 33 (2022) iii–xxvi

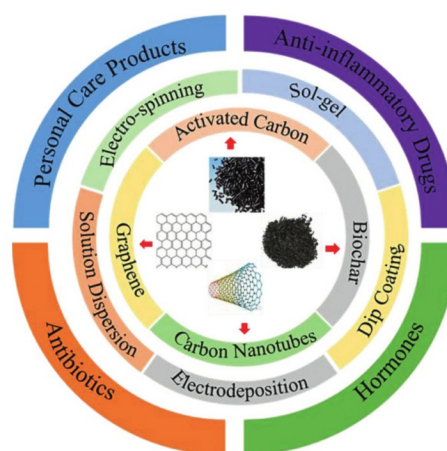
## Reviews

### Adsorptive removal of PPCPs from aqueous solution using carbon-based composites: A review

Tong Wang<sup>a</sup>, Jie He<sup>a</sup>, Jian Lu<sup>a</sup>, Yi Zhou<sup>a,b</sup>, Zhaohui Wang<sup>c</sup>, Yanbo Zhou<sup>a,b</sup><sup>a</sup>State Environmental Protection Key Laboratory of Environmental Risk Assessment and Control on Chemical Process, East China University of Science and Technology, Shanghai 200237, China<sup>b</sup>Shanghai Institute of Pollution Control and Ecological Security, Shanghai 200092, China<sup>c</sup>Shanghai Key Lab for Urban Ecological Processes and Eco-Restoration, School of Ecological and Environmental Sciences, East China Normal University, Shanghai 200241, China

This review summarized the environmental risks of PPCPs in aqueous solution and the recent progress in removing PPCPs from water using carbon-based adsorbents.

Chinese Chemical Letters 33 (2022) 3585

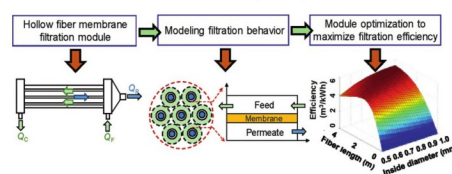


### A review on hollow fiber membrane module towards high separation efficiency: Process modeling in fouling perspective

Xianhui Li<sup>a,b</sup>, Mohammad Younas<sup>c,d</sup>, Mashallah Rezakazemi<sup>e</sup>, Quang Viet Ly<sup>c,f</sup>, Jianxin Li<sup>c</sup><sup>a</sup>Key Laboratory for City Cluster Environmental Safety and Green Development of the Ministry of Education, Institute of Environmental and Ecological Engineering, Guangdong University of Technology, Guangzhou 510006, China<sup>b</sup>Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), Guangzhou 511458, China<sup>c</sup>State Key Laboratory of Separation Membranes and Membrane Processes, National Center for International Joint Research on Membrane Science and Technology, Tiangong University, Tianjin 300387, China<sup>d</sup>Department of Chemical Engineering, University of Engineering and Technology, P.O. Box 814, Peshawar, Pakistan<sup>e</sup>Faculty of Chemical and Materials Engineering, Shahrood University of Technology, P.O. Box 3619995161, Shahrood, Iran<sup>f</sup>Institute of Research and Development, Duy Tan University, Da nang 550000, Vietnam

Here we are devoted to providing a comprehensive overview of the hollow fiber microfiltration (MF) and ultrafiltration (UF) filtration simulations for guiding the optimization of module configurations and the alleviation of membrane fouling.

Chinese Chemical Letters 33 (2022) 3594



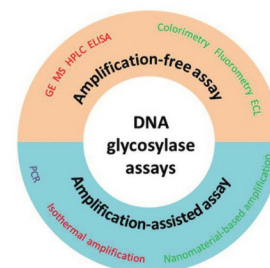
## Recent advances in DNA glycosylase assays

Lili Wang, Huige Zhang, Wei Chen, Hongli Chen, Jianxi Xiao, Xingguo Chen

State Key Laboratory of Applied Organic Chemistry, College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, China

A series of novel DNA glycosylases detection methods are summarized in this minireview. Amplification-free assay for DNA glycosylase is introduced briefly, and we emphasize on the amplification-assisted assays for DNA glycosylase.

Chinese Chemical Letters 33 (2022) 3603



## Chiral pillar[n]arenes: Conformation inversion, material preparation and applications

Chengxiang Shi<sup>a,b</sup>, Hui Li<sup>a</sup>, Xiaofeng Shi<sup>c</sup>, Liang Zhao<sup>a</sup>, Hongdeng Qiu<sup>a,d,e</sup>

<sup>a</sup> CAS Key Laboratory of Chemistry of Northwestern Plant Resources and Key Laboratory for Natural Medicine of Gansu Province, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, China

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

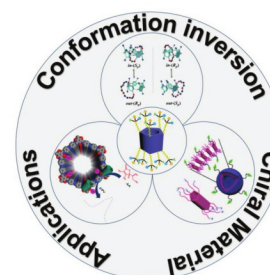
<sup>c</sup> Department of Gansu Provincial Cancer Hospital, Institute of Materia Medica, Lanzhou 730000, China

<sup>d</sup> College of Chemistry, Zhengzhou University, Zhengzhou 450001, China

<sup>e</sup> College of Chemistry and Chemical Engineering, Gannan Normal University, Ganzhou 341000, China

Conformation inversion factors of planar chiral pillar[5]arenes (*pR/pS*), such as solvents, temperature, substituent size, alkyl chains, chiral and achiral guest molecules were systematically summarized in this review. We found that planar conformation inversion plays a great potential role in construction of chiral materials. Then, we mainly introduced the chiral applications of chiral and planar chiral pillar[*n*]arenes like chiral enantiomer analysis by circular dichroism, electrochemistry or chiral fluorescence sensing. From this review we found that the inherent planar chiral conformations of chiral pillar[*n*]arenes have played a very important role in chiral field in the future.

Chinese Chemical Letters 33 (2022) 3613



## Recent progress in carbon-based materials boosting electrochemical water splitting

Ziqi Zhang<sup>a</sup>, Yin Lei<sup>a</sup>, Weimin Huang<sup>a,b,c</sup>

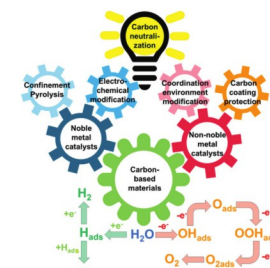
<sup>a</sup> College of Chemistry, Jilin University, Changchun 130012, China

<sup>b</sup> Key Laboratory of Physics and Technology for Advanced Batteries of Ministry of Education, Jilin University, Changchun 130012, China

<sup>c</sup> School of Pharmaceutical Sciences, Jilin University, Changchun 130012, China

This mini review introduces some recent work in carbon-based materials boosting electrochemical water splitting including noble metal catalysts and non-noble metal catalysts. And it also summarizes some strategies for synthesizing these materials.

Chinese Chemical Letters 33 (2022) 3623



## Working principle and application of photocatalytic optical fibers for the degradation and conversion of gaseous pollutants

Wenhao Xiang<sup>a</sup>, Jilin Yuan<sup>a</sup>, Yongwu Wu<sup>a</sup>, Hongyang Luo<sup>a</sup>, Chuanbao Xiao<sup>a</sup>, Nianbing Zhong<sup>a,b</sup>, Mingfu Zhao<sup>a</sup>, Dengjie Zhong<sup>c</sup>, Yuanyuan He<sup>a</sup>

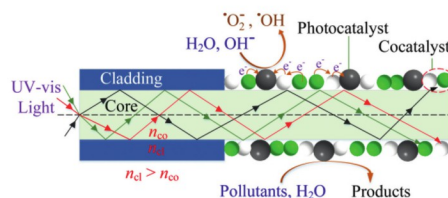
<sup>a</sup> Intelligent Fiber Sensing Technology of Chongqing Municipal Engineering Research Center of Institutions of Higher Education, Chongqing Key Laboratory of Fiber Optic Sensor and Photodetector, Chongqing University of Technology, Chongqing 400054, China

<sup>b</sup> Liangjiang International College, Chongqing University of Technology, Chongqing 400054, China

<sup>c</sup> School of Mechanical Engineering, Chongqing University of Technology, Chongqing 400054, China

Application of photocatalytic fiber for the degradation and conversion of gaseous pollutants is systematically reviewed.

Chinese Chemical Letters 33 (2022) 3632



## Crystal facet-dependent electrocatalytic performance of metallic Cu in CO<sub>2</sub> reduction reactions

Hao Zhang<sup>a</sup>, Caihong He<sup>a</sup>, Sumei Han<sup>a</sup>, Zeyang Du<sup>a</sup>, Ling Wang<sup>a</sup>, Qinbai Yun<sup>b</sup>, Wenbin Cao<sup>a</sup>, Bawei Zhang<sup>c</sup>, Ya-Hui Tian<sup>d</sup>, Qipeng Lu<sup>a</sup>

<sup>a</sup>School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China

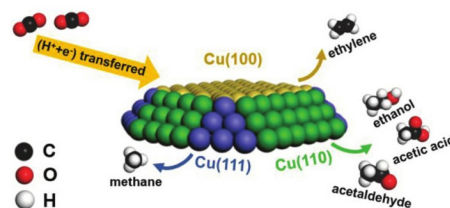
<sup>b</sup>Department of Chemistry, City University of Hong Kong, Hong Kong, China

<sup>c</sup>Institute for Advanced Materials and Technology, University of Science and Technology Beijing, Beijing 100083, China

<sup>d</sup>Institute of Acoustics, Chinese Academy of Sciences, Beijing 10019, China

In this review, we discuss the crystal facet-dependent electrocatalytic CO<sub>2</sub> reduction performance in metallic Cu catalysts, meanwhile, the detailed reaction mechanisms are systematically summarized.

Chinese Chemical Letters 33 (2022) 3641



## Photochemical effect driven fluid behavior control in microscale pores and channels

Shuli Wang<sup>c</sup>, Ruimin Zhou<sup>a</sup>, Yaqi Hou<sup>c</sup>, Miao Wang<sup>b,d</sup>, Xu Hou<sup>a,b,c,e</sup>

<sup>a</sup>Department of Physics, Research Institute for Biomimetics and Soft Matter, Fujian Provincial Key Laboratory for Soft Functional Materials Research, Jiujiang Research Institute, College of Physical Science and Technology, Xiamen University, Xiamen 361005, China

<sup>b</sup>Institute of Artificial Intelligence, Xiamen University, Xiamen 361005, China

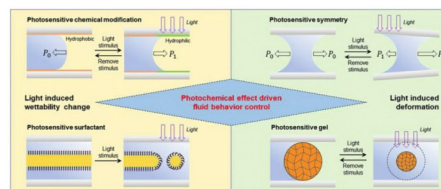
<sup>c</sup>State Key Laboratory of Physical Chemistry of Solid Surfaces, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

<sup>d</sup>College of Materials, Xiamen University, Xiamen 361005, China

<sup>e</sup>Tan Kah Kee Innovation Laboratory, Xiamen 361102, China

Manipulation of the fluid transport in the microscale pores and channels plays a paramount role in realizing the versatile functions of microfluidics, and light responsive microfluid control has attracted many researchers' attention due to the advantages of light such as non-contact stimulation, tunable excitation, high spatial and temporal resolution. In this review, the responsive mechanisms of photochemical effect driven fluid behaviors control at the microscale were discussed, and the latest research progresses in photochemical effect controlled microfluid behaviors were comprehensively reviewed.

Chinese Chemical Letters 33 (2022) 3650



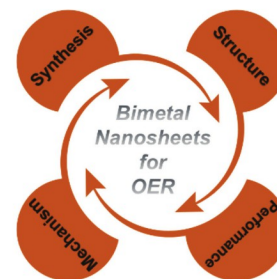
## Bimetallic two-dimensional materials for electrocatalytic oxygen evolution

Xiaojie Li, Qi Hu, Hengpan Yang, Tao Ma, Xiaoyan Chai, Chuanxin He

College of Chemistry and Environmental Engineering, Shenzhen University, Shenzhen 518060, China

This review sums up the application of bimetallic two-dimensional nanomaterials in the electrocatalytic oxygen evolution reaction (OER) from four aspects: material structure, synthesis method, electrocatalytic performance, and reaction mechanism.

Chinese Chemical Letters 33 (2022) 3657



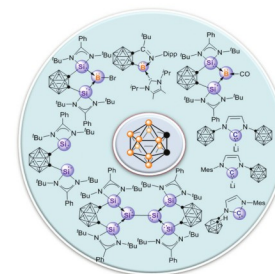
## Recent advances on carborane-based ligands in low-valent group 13 and group 14 elements chemistry

Hao Wang

School of Chemistry and Chemical Engineering, Southeast University, Nanjing 211189, China

A review of recent achievements on carborane-based ligands in low-valent group 13 and group 14 elements chemistry, mainly focus on their synthesis, structure and reactivity.

Chinese Chemical Letters 33 (2022) 3672





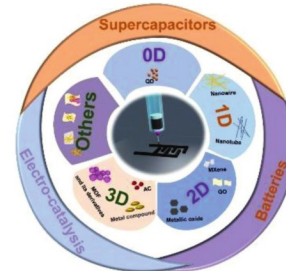
## Synthesis of 3D printing materials and their electrochemical applications

Huijie Zhou, Hui Yang, Shiyi Yao, Li Jiang, Nuochen Sun, Huan Pang

School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 225009, China

The synthesis methods, morphology of one-dimensional, two-dimensional and three-dimensional micro nano materials and their composites and their applications in electrochemical fields such as supercapacitors, batteries and electrocatalysis are further reviewed. The latest progress and breakthrough in the synthesis and application of different structural materials in 3D printing, as well as the challenges and prospects of electrochemical applications are further discussed.

Chinese Chemical Letters 33 (2022) 3681



## Dinitrogen extrusion from diazene in organic synthesis

Chunngai Hui<sup>a,c</sup>, Shiping Wang<sup>b</sup>, Chunfa Xu<sup>a</sup>

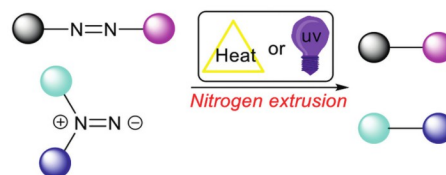
<sup>a</sup>Institute of Pharmaceutical Science and Technology, College of Chemistry, Fuzhou University, Fuzhou 350108, China

<sup>b</sup>National Engineering Research Center of Chemical Fertilizer Catalyst, College of Chemical Engineering, Fuzhou University, Fuzhou 350108, China

<sup>c</sup>Max Planck Institute of Molecular Physiology, Department of Chemical Biology, Dortmund 44227, Germany

The superior reactivity of the biradical generated from diazene via nitrogen extrusion under thermal or photochemical conditions enables various types of synthetic transformations with excellent chemoselectivity. These reactions have been widely applied to complex natural products synthesis.

Chinese Chemical Letters 33 (2022) 3695



## Communications

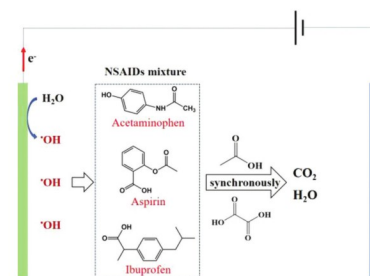
### Synchronous mineralization of three aqueous non-steroidal anti-inflammatory drugs in electrochemical advanced oxidation process

Lei Xu, Xinyue Cui, Jianbo Liao, Yufeng Liu, Baoyi Jiang, Junfeng Niu

Research Center for Eco-Environmental Engineering, Dongguan University of Technology, Dongguan 523808, China

Electrochemical advanced oxidation process could synchronously mineralize the three non-steroidal anti-inflammatory drugs mixture in aqueous solution by the produced  $\cdot\text{OH}$  at a low energy consumption.

Chinese Chemical Letters 33 (2022) 3701



### Construction of immobilized films photocatalysts with CdS clusters decorated by metal Cd and BiOCl for photocatalytic degradation of tetracycline antibiotics

Jiajia Li<sup>a,b</sup>, Ziwei Zhao<sup>c</sup>, Zhuoning Li<sup>a</sup>, Huijuan Yang<sup>d</sup>, Shijun Yue<sup>a</sup>, Yuping Tang<sup>a</sup>, Qizhao Wang<sup>b,c</sup>

<sup>a</sup>Key Laboratory of Shaanxi Administration of Traditional Chinese Medicine for TCM Compatibility, and State Key Laboratory of Research & Development of Characteristic Qin Medicine Resources (Cultivation), and Shaanxi Key Laboratory of Chinese Medicine Fundamentals and New Drugs Research, and Shaanxi Collaborative Innovation Center of Chinese Medicinal Resources Industrialization, Shaanxi University of Chinese Medicine, Xianyang 712046, China

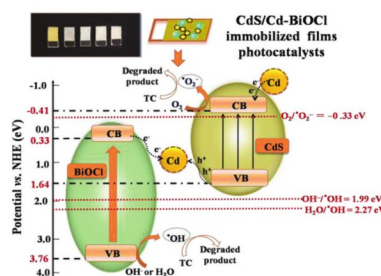
<sup>b</sup>School of Water and Environment, Chang'an University, Xi'an 710064, China

<sup>c</sup>College of Chemistry and Chemical Engineering, Northwest Normal University, Lanzhou 730070, China

<sup>d</sup>Institute of Advanced Electrochemical Energy School of Materials Science and Engineering, Xi'an University of Technology, and Shaanxi International Joint Research Centre of Surface Technology for Energy Storage Materials, Xi'an 710048, China

A ternary composite CdS/Cd-BiOCl immobilized films photocatalyst was prepared to photodegrade tetracycline (TC) antibiotics efficiently under visible light irradiation. The Z-scheme CdS/Cd-BiOCl heterojunction highly boosted the migration and separation of the electron-hole pairs and greatly enhanced the photoactivity.

Chinese Chemical Letters 33 (2022) 3705



## Facilely anchoring Cu<sub>2</sub>O nanoparticles on mesoporous TiO<sub>2</sub> nanorods for enhanced photocatalytic CO<sub>2</sub> reduction through efficient charge transfer

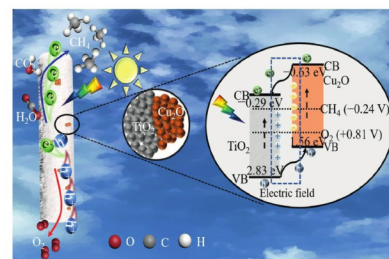
Ge Yang<sup>a</sup>, Pei Qiu<sup>a</sup>, Jinyan Xiong<sup>b</sup>, Xueting Zhu<sup>a</sup>, Gang Cheng<sup>a</sup>

<sup>a</sup>School of Chemistry and Environmental Engineering, Wuhan Institute of Technology, Donghu New & High Technology Development Zone, Wuhan 430205, China

<sup>b</sup>College of Chemistry and Chemical Engineering, Wuhan Textile University, Wuhan 430200, China

The composite of mesoporous TiO<sub>2</sub> nanorods coupled with Cu<sub>2</sub>O nanoparticles has been successfully prepared by a facile chemical reduction method. The intimate construction of Cu<sub>2</sub>O nanoparticles on TiO<sub>2</sub> nanorods with formed p-n junction could accelerate the separation of photogenerated electron-hole pairs and accordingly promote photoreduction of CO<sub>2</sub> into CH<sub>4</sub>.

Chinese Chemical Letters 33 (2022) 3709



## CoFe<sub>2</sub>O<sub>4</sub> nanoparticles anchored on waste eggshell for catalytic oxidation of florfenicol via activating peroxymonosulfate

Yingjie Gao<sup>a</sup>, Ying Han<sup>a</sup>, Bingrui Liu<sup>a</sup>, Jianfeng Gou<sup>a</sup>, Dan Feng<sup>b,c</sup>, Xiuwen Cheng<sup>a,b,c</sup>

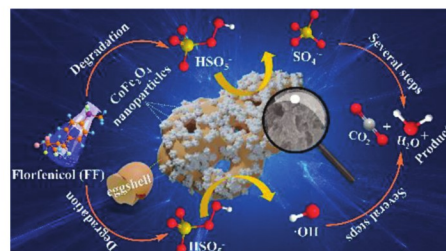
<sup>a</sup>Key Laboratory for Environmental Pollution Prediction and Control, College of Earth and Environmental Sciences, Lanzhou University, Lanzhou 730000, China

<sup>b</sup>College of Chemistry and Environmental Sciences, Yili Normal University, Yining 835000, China

<sup>c</sup>Key Laboratory of Pollutant Chemistry and Environmental Treatment, Yili Normal University, Yining 835000, China

Egg shell provides a platform for CoFe<sub>2</sub>O<sub>4</sub> nanoparticles, controls their distribution and size, and enhances their activity for PMS activation and degradation of FF.

Chinese Chemical Letters 33 (2022) 3713



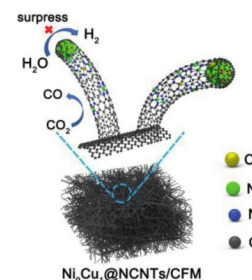
## Engineering d-band center of nickel in nickel@nitrogen-doped carbon nanotubes array for electrochemical reduction of CO<sub>2</sub> to CO and Zn-CO<sub>2</sub> batteries

Shujin Shen, Cheng Han, Bing Wang, Yingde Wang

Science and Technology on Advanced Ceramic Fibers and Composites Laboratory, College of Aerospace Science and Engineering, National University of Defense Technology, Changsha 410073, China

The competing H<sub>2</sub> evolution activity of Ni NPs was inactivated by alloying Ni with Cu atoms to alter their d-band center, which opens up a general avenue to facilely prepare self-supported SACs with unitary single-atom site for CO<sub>2</sub> utilization.

Chinese Chemical Letters 33 (2022) 3721



## Rational design of a novel two-dimensional porous metal-organic framework material for efficient benzene sensor

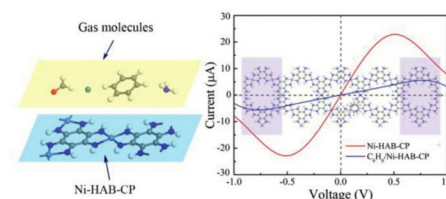
Wenxue Zhang<sup>a</sup>, Huiyu Ma<sup>a</sup>, Tongtong Li<sup>b</sup>, Cheng He<sup>b</sup>

<sup>a</sup>School of Materials Science and Engineering, Chang'an University, Xi'an 710064, China

<sup>b</sup>State Key Laboratory for Mechanical Behavior of Materials, School of Materials Science and Engineering, Xi'an Jiaotong University, Xi'an 710049, China

A suitable two-dimensional metal-organic framework material is selected as C<sub>6</sub>H<sub>6</sub> sensor, and its high selectivity is verified by ATK.

Chinese Chemical Letters 33 (2022) 3726





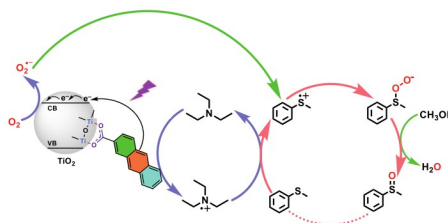
## Extending aromatic acids on TiO<sub>2</sub> for cooperative photocatalysis with triethylamine: Violet light-induced selective aerobic oxidation of sulfides

Hui Li, Xia Li, Jun Zhou, Wenlong Sheng, Xianjun Lang

Sauvage Center for Molecular Sciences, College of Chemistry and Molecular Sciences, Wuhan University, Wuhan 430072, China

Violet light-induced selective aerobic oxidation of sulfides to sulfoxides is realized by cooperative photocatalysis of 2-anthracene acid-TiO<sub>2</sub> with triethylamine.

Chinese Chemical Letters 33 (2022) 3733



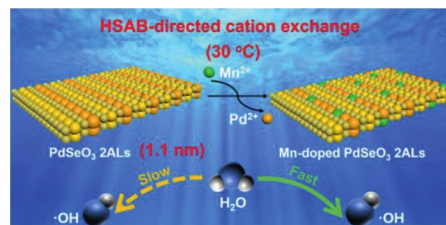
## Doping transition metal in PdSeO<sub>3</sub> atomic layers by aqueous cation exchange: A new doping protocol for a new 2D photocatalyst

Xiuming Zhang, Rongrong Pan, Tailei Hou, Shuping Zhang, Xiaodong Wan, Yuemei Li, Shan Liu, Jia Liu, Jiatao Zhang

Beijing Key Laboratory of Construction-Tailorable Advanced Functional Materials and Green Applications, Experimental Center of Advanced Materials, School of Materials Science & Engineering, Beijing Institute of Technology, Beijing 100081, China

The HSAB theory-dictated cation exchange in aqueous solution at mild temperature is utilized to realize controlled doping of Mn(II) into two atomic layers of PdSeO<sub>3</sub> as a new type of 2D photocatalyst, and this demonstrates a conceptually new protocol for engineering elemental doping confined in 2D semiconductor atomic layers to construct high performance photocatalysts.

Chinese Chemical Letters 33 (2022) 3739



## Insightful understanding of three-phase interface behaviors in 1T-2H MoS<sub>2</sub>/CFP electrode for hydrogen evolution improvement

Jiamu Cao<sup>a,b,c</sup>, Jing Zhou<sup>a</sup>, Mingxue Li<sup>a</sup>, Junyu Chen<sup>a</sup>, Yufeng Zhang<sup>a,b,c</sup>, Xiaowei Liu<sup>a,b,c</sup>

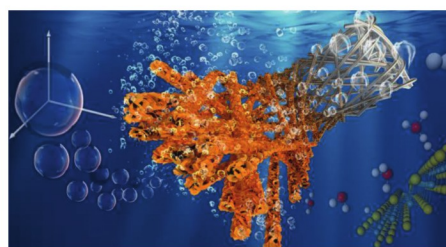
<sup>a</sup>School of Astronautics, Harbin Institute of Technology, Harbin 150001, China

<sup>b</sup>MEMS Center, Harbin Institute of Technology, Harbin 150001, China

<sup>c</sup>Key Laboratory of Micro-systems and Micro-structures Manufacturing, Ministry of Education, Harbin 150001, China

The comprehensively revealed influence and mechanisms of the electrode/electrolyte/hydrogen interface behavior provide a new perspective for highly efficient hydrogen evolution.

Chinese Chemical Letters 33 (2022) 3745



## Phase-mediated cobalt phosphide with unique core-shell architecture serving as efficient and bifunctional electrocatalyst for hydrogen evolution and oxygen reduction reaction

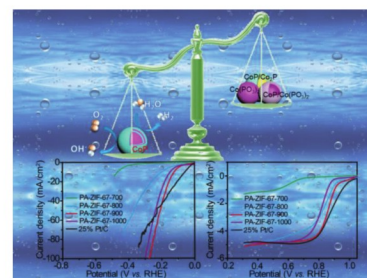
Junsheng Chen<sup>a</sup>, Jianfeng Huang<sup>a</sup>, Hai Wang<sup>a</sup>, Weihang Feng<sup>a</sup>, Tianmi Luo<sup>a</sup>, Yuzhu Hu<sup>a</sup>, Chengke Yuan<sup>a</sup>, Liyun Cao<sup>a</sup>, Yanni Jie<sup>a</sup>, Koji Kajiyoshi<sup>b</sup>, Yongqiang Feng<sup>a</sup>

<sup>a</sup>School of Material Science and Engineering, International S&T Cooperation Foundation of Shaanxi Province, Xi'an Key Laboratory of Green Manufacture of Ceramic Materials, Shaanxi University of Science and Technology, Xi'an 710021, China

<sup>b</sup>Kochi University, Research Laboratory of Hydrothermal Chemistry, Kochi 780-8520, Japan

A phase-mediated cobalt phosphide with unique core-shell architecture was synthesized which could serve as efficient and bifunctional electrocatalyst for hydrogen evolution and oxygen reduction reaction.

Chinese Chemical Letters 33 (2022) 3752



## Insight into the role of iron in platinum-based bimetallic catalysts for selective hydrogenation of cinnamaldehyde

Ying Zhang<sup>a,c</sup>, Jinfang Su<sup>a,b</sup>, Junnan Chen<sup>a,b</sup>, Chengshan Dai<sup>a,b</sup>, Bingsen Zhang<sup>a,b</sup>

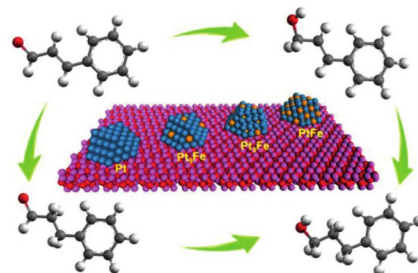
<sup>a</sup>Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang 110016, China

<sup>b</sup>School of Materials Science and Engineering, University of Science and Technology of China, Shenyang 110016, China

<sup>c</sup>School of Petrochemical Engineering, Liaoning Pertochemical University, Fushun 113001, China

The introduction of Fe significantly enhances the C=O hydrogenation selectivity in selective hydrogenation of cinnamaldehyde. The identical-location transmission electron microscopy (IL-TEM) results revealed that Pt<sub>3</sub>Fe-Al<sub>2</sub>O<sub>3</sub> catalyst was relatively stable.

Chinese Chemical Letters 33 (2022) 3757



## Electrochemical deposition of uranium oxide with an electrocatalytically active electrode using double potential step technique

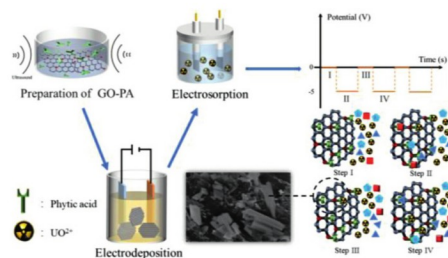
Jie Huang<sup>a</sup>, Zhirong Liu<sup>a,b</sup>, Dejuan Huang<sup>b</sup>, Tianxiang Jin<sup>a</sup>, Yong Qian<sup>a,b</sup>

<sup>a</sup>Jiangxi Province Key Laboratory of Polymer Micro/Nano Manufacturing and Devices, East China University of Technology, Nanchang 330013, China

<sup>b</sup>State Key Laboratory of Nuclear Resources and Environment, East China University of Technology, Nanchang 330013, China

A double potential step technique was applied to remove U(VI) from uranium-containing wastewater using a carbon felt electrode modified by graphene oxide/phytic acid composite. This removal system showed an excellent removal capacity and a remarkable reusability.

Chinese Chemical Letters 33 (2022) 3762



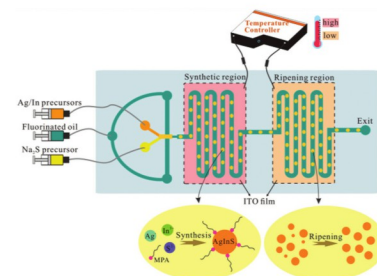
## Integrated synthesis and ripening of AgInS<sub>2</sub> QDs in droplet microreactors: An update fluorescence regulating via suitable temperature combination

Ji Wang, Hao-Tian Ma, Liang-Jun Pan, Li Zhang, Zhi-Ling Zhang

College of Chemistry and Molecular Sciences, Wuhan University, Wuhan 430072, China

We designed an integrated microfluidic chip to screen the most suitable temperature combination for on-line AgInS<sub>2</sub> QDs synthesis and ripening. With the synthesis temperature regulated from 30 °C to 70 °C, the emission peak position of the AgInS<sub>2</sub> QDs products could be adjusted from 589 nm to 720 nm. After the on-line ripening at a temperature lower than the synthesis temperature, the FI of the QDs products could be effectively enhanced. We successfully enhanced the QY of AgInS<sub>2</sub> QDs synthesized at 70 °C, from 8.8% to 10.3%, after the ripening at 50 °C.

Chinese Chemical Letters 33 (2022) 3767



## Comprehensive profiling and evaluation of the alteration of RNA modifications in thyroid carcinoma by liquid chromatography-tandem mass spectrometry

Meng-Yuan Chen<sup>a,b</sup>, Chu-Bo Qi<sup>c</sup>, Xiao-Meng Tang<sup>a,b</sup>, Jiang-Hui Ding<sup>a,b</sup>, Bi-Feng Yuan<sup>a,b</sup>, Yu-Qi Feng<sup>a,b</sup>

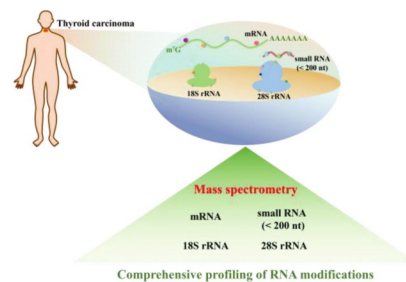
<sup>a</sup>School of Public Health, Wuhan University, Wuhan 430071, China

<sup>b</sup>Department of Chemistry, Sauvage Center for Molecular Sciences, Wuhan University, Wuhan 430072, China

<sup>c</sup>Jiangxi Provincial People's Hospital Affiliated to Nanchang University, Nanchang 330006, China

We carried out the comprehensive profiling and evaluation of the alteration of RNA modifications in thyroid carcinoma by LC-ESI-MS/MS analysis. The quantification results showed that a total of 14 RNA modification exhibited significant increase and 2 RNA modifications showed significant decrease in thyroid carcinoma tissues, which lays a foundation for diagnosis, monitoring disease evolution, and predicting response to treatment through specific RNA modification patterns.

Chinese Chemical Letters 33 (2022) 3772





## A primer-initiated strand displacement amplification strategy for sensitive detection of 5-Hydroxymethylcytosine in genomic DNA

Yunda Li<sup>a</sup>, Yanfei Zhang<sup>a</sup>, Zhenning Yu<sup>a</sup>, Yuzhi Xu<sup>c</sup>, Si-Yang Liu<sup>b</sup>, Zong Dai<sup>b</sup>, Xiaoyong Zou<sup>a</sup>

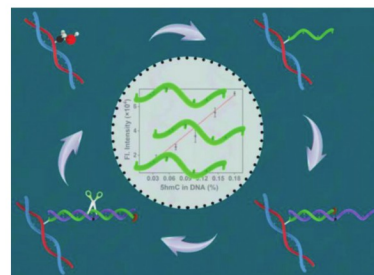
<sup>a</sup>School of Chemistry, Sun Yat-sen University, Guangzhou 510275, China

<sup>b</sup>Key Laboratory of Sensing Technology and Biomedical Instrument of Guangdong Province, School of Biomedical Engineering, Sun Yat-sen University, Shenzhen 518107, China

<sup>c</sup>Scientific Research Center, The Seventh Affiliated Hospital, Sun Yat-sen University, Shenzhen 518107, China

A primer-initiated strand displacement amplification (PISDA) strategy was developed to quantify the global 5hmC in genomic DNA from different mammalian tissues with high sensitivity (detection limit of 0.003% in DNA), low input (only 150 ng), and simple operation (amplification time within 15 min).

Chinese Chemical Letters 33 (2022) 3777



## A multifunctional upconversion nanoparticles probe for Cu<sup>2+</sup> sensing and pattern recognition of biothiols

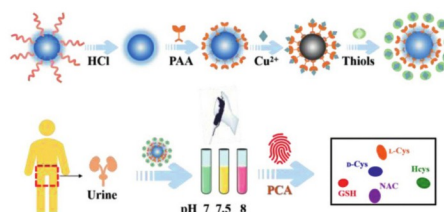
Qian-Qian Wang<sup>a</sup>, Rong Hu<sup>a</sup>, Zheng-Qi Fang<sup>a</sup>, Guoyue Shi<sup>a</sup>, Shengqiang Zhang<sup>b</sup>, Min Zhang<sup>a</sup>

<sup>a</sup>School of Chemistry and Molecular Engineering, Shanghai Key Laboratory for Urban Ecological Processes and Eco-Restoration, East China Normal University, Shanghai 200241, China

<sup>b</sup>Fujian Provincial Key Laboratory of Resources and Environment Monitoring & Sustainable Management and Utilization, College of resource and chemical engineering, Sanming University, Sanming 365004, China

Herein, we developed a multifunctional probe based on the surface engineering of core-shell structure UCNPs with PAA to versatilely recognize Cu<sup>2+</sup> and various metal ions.

Chinese Chemical Letters 33 (2022) 3782



## In situ conversion builds MIL-101@NiFe-LDH heterojunction structures to enhance the oxygen evolution reaction

Jingwei Huang<sup>a</sup>, Kai Li<sup>a</sup>, Lei Wang<sup>a</sup>, Houde She<sup>a</sup>, Qizhao Wang<sup>a,b,c</sup>

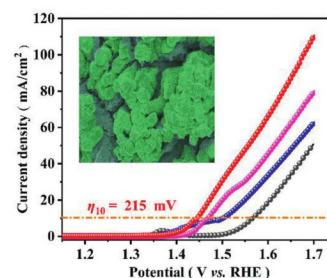
<sup>a</sup>College of Chemistry and Chemical Engineering, Gansu International Scientific and Technological Cooperation Base of Water-Retention Chemical Functional Materials, Northwest Normal University, Lanzhou 730070, China

<sup>b</sup>School of Environmental Science and Engineering, Chang'an University, Xi'an 710054, China

<sup>c</sup>Tianjin Key Laboratory of Building Green Functional Materials, Tianjin Chengjian University, Tianjin 300384, China

MIL-101@NiFe-LDH with large active reaction area is synthesized under the guideline of "MOF on MOF" concept and the following alkali treating. This material has excellent electrochemical OER properties than that of MIL-101 and NiFe-LDH.

Chinese Chemical Letters 33 (2022) 3787



## Heterojunction architecture of Nb<sub>2</sub>O<sub>5</sub>/g-C<sub>3</sub>N<sub>4</sub> for enhancing photocatalytic activity to degrade organic pollutants and deactivate bacteria in water

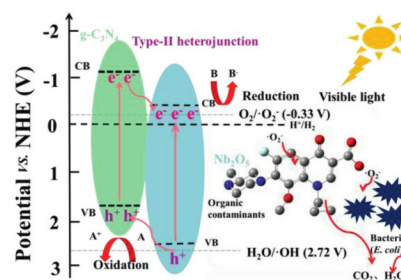
Xudong Yang<sup>a</sup>, Jun Duan<sup>b</sup>, Xian Zhang<sup>a</sup>, Hongyu Zhang<sup>a</sup>, Xinlei Liu<sup>a</sup>, Yueqi Feng<sup>a</sup>, Maosheng Zheng<sup>a</sup>

<sup>a</sup>The Key Laboratory of Resources and Environmental System Optimization, Ministry of Education, College of Environmental Science and Engineering, North China Electric Power University, Beijing 102206, China

<sup>b</sup>The Key Laboratory of Water and Sediment Science, Ministry of Education, College of Environment Science and Engineering, Peking University, Beijing 100871, China

Nb<sub>2</sub>O<sub>5</sub>/g-C<sub>3</sub>N<sub>4</sub> (NO/CN) composite was synthesized and exhibited strong photocatalytic performance for decomposition of organic pollutants, and bacteria. Better removal efficiency was achieved by the generation of type-II heterojunction between g-C<sub>3</sub>N<sub>4</sub> and Nb<sub>2</sub>O<sub>5</sub>.

Chinese Chemical Letters 33 (2022) 3792



## Fluorinated inverse opal carbon nitride combined with vanadium pentoxide as a Z-scheme photocatalyst with enhanced photocatalytic activity

Ningkai Ding<sup>a</sup>, Bin Chen<sup>a</sup>, Liang Zhou<sup>a</sup>, Lingzhi Wang<sup>c,d</sup>, Yongdi Liu<sup>a,b</sup>, Jinlong Zhang<sup>c,d</sup>, Juying Lei<sup>a,b</sup>

<sup>a</sup>State Environmental Protection Key Laboratory of Environmental Risk Assessment and Control on Chemical Process, East China University of Science and Technology, Shanghai 200237, China

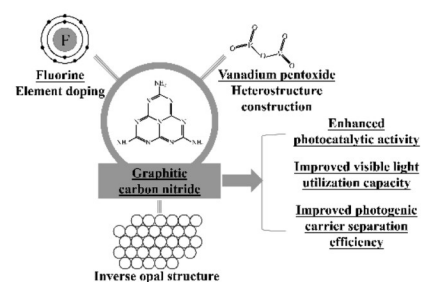
<sup>b</sup>Shanghai Institute of Pollution Control and Ecological Security, Shanghai 200092, China

<sup>c</sup>Key Laboratory for Advanced Materials and Joint International Research Laboratory of Precision Chemistry and Molecular Engineering, Feringa Nobel Prize Scientist Joint Research Center, School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

<sup>d</sup>Shanghai Engineering Research Center for Multi-media Environmental Catalysis and Resource Utilization, East China University of Science and Technology, Shanghai 200237, China

The photocatalytic activity of graphitic carbon nitride is greatly enhanced through a ternary collaborative modification process, including element doping of fluorine, Z-scheme heterostructure construction with vanadium pentoxide and inverse opal structure modification.

Chinese Chemical Letters 33 (2022) 3797



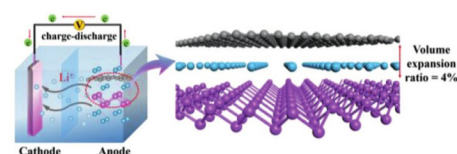
## Remarkable-cycle-performance $\beta$ -bismuthene/graphene heterostructure anode for Li-ion battery

Shouzheng Wang, Chunmei Tang, Yu Huang, Jiangfeng Gong

College of Science, Hohai University, Nanjing 210098, China

In this paper, we report that the two-dimensional  $\beta$ -bismuthene/graphene (Bi/G) heterostructure is a good anode material for Li-ion batteries. It has the advantages of small diffusion energy barrier (0.32 eV), low average open circuit voltage (0.32 V) and small volume expansion ratio (4%). Our results will support conclusive evidence to prove that the Bi/G heterostructure should be the promising LIB anode.

Chinese Chemical Letters 33 (2022) 3802



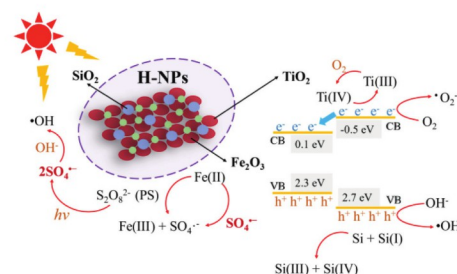
## Catalytic degradation of lomefloxacin by photo-assisted persulfate activation on natural hematite: Performance and mechanism

Ruonan Guo, Ying Chen, Bingrui Liu, Ying Han, Jianfeng Gou, Xiuwen Cheng

Key Laboratory for Environmental Pollution Prediction and Control, Gansu Province, College of Earth and Environmental Sciences, Lanzhou University, Lanzhou 730000, China

The photo-assisted hematite nanoparticles activated persulfate system was constructed and used to remove nonbiodegradable organic pollutants in water. A possible reaction mechanism of as-obtained system was proposed based on the analysis characterization and experimental results.

Chinese Chemical Letters 33 (2022) 3809



## Preparation of electrically enhanced forward osmosis (FO) membrane by two-dimensional MXenes for organic fouling mitigation

Mengsi Xu<sup>a</sup>, Pin Zhao<sup>a</sup>, Chuyang Y. Tang<sup>b</sup>, Xiawen Yi<sup>a</sup>, Xinhua Wang<sup>a,c</sup>

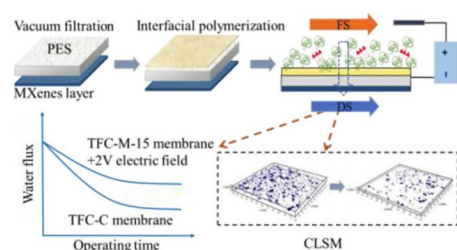
<sup>a</sup>Jiangsu Key Laboratory of Anaerobic Biotechnology, School of Environmental and Civil Engineering, Jiangnan University, Wuxi 214122, China

<sup>b</sup>Department of Civil Engineering, The University of Hong Kong, Hong Kong, China

<sup>c</sup>Jiangsu Collaborative Innovation Center of Technology and Material of Water Treatment, Suzhou University of Science and Technology, Suzhou 214122, China

In this work, a conductive thin film composite forward osmosis (TFC-FO) membrane was firstly prepared via vacuum filtering MXenes nanolayer on the outer surface of polyethersulfone (PES) membrane followed by interfacial polymerization (IP) in the other side. The novel TFC-FO membrane was proven to have a good anti-organic fouling capacity under the aid of electric field.

Chinese Chemical Letters 33 (2022) 3818





## Effective electrocatalytic hydrodechlorination of 2,4,6-trichlorophenol by a novel Pd/MnO<sub>2</sub>/Ni foam cathode

Zi-Meng Zhang<sup>a</sup>, Rui Cheng<sup>a</sup>, Jun Nan<sup>a</sup>, Xue-Qi Chen<sup>a</sup>, Cong Huang<sup>b</sup>, Di Cao<sup>a</sup>, Cai-Hua Bai<sup>a</sup>, Jing-Long Han<sup>c</sup>, Bin Liang<sup>c</sup>, Zhi-Ling Li<sup>a</sup>, Ai-Jie Wang<sup>a,c</sup>

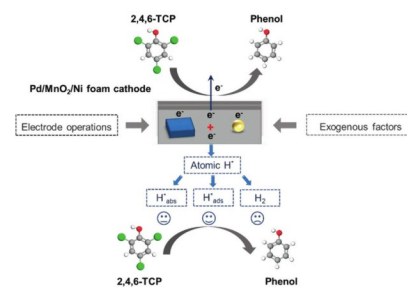
<sup>a</sup>State Key Laboratory of Urban Water Resource and Environment, School of Environment, Harbin Institute of Technology, Harbin 150090, China

<sup>b</sup>National Technology Innovation Center of Synthetic Biology, Tianjin Institute of Industrial Biotechnology, Chinese Academy of Sciences, Tianjin 300308, China

<sup>c</sup>State Key Laboratory of Urban Water Resource and Environment, School of Civil & Environmental Engineering, Harbin Institute of Technology Shenzhen, Shenzhen 518055, China

Pd/MnO<sub>2</sub>/Ni foam cathode shows excellent electrocatalytic hydrodechlorination performance. It can convert 2,4,6-trichlorophenol to phenol by direct electron transfer and H<sup>\*</sup><sub>ads</sub>.

Chinese Chemical Letters 33 (2022) 3823



## Surface sulfur vacancies enhanced electron transfer over Co-ZnS quantum dots for efficient degradation of plasticizer micropollutants by peroxymonosulfate activation

Yuting Gu<sup>a</sup>, Tingting Gao<sup>a</sup>, Fagen Zhang<sup>c</sup>, Chao Lu<sup>a</sup>, Wenrui Cao<sup>a,b</sup>, Ziwei Fu<sup>c</sup>, Chun Hu<sup>a</sup>, Lai Lyu<sup>a,d</sup>

<sup>a</sup>Key Laboratory for Water Quality and Conservation of the Pearl River Delta, Ministry of Education, Institute of Environmental Research at Greater Bay, Guangzhou University, Guangzhou 510006, China

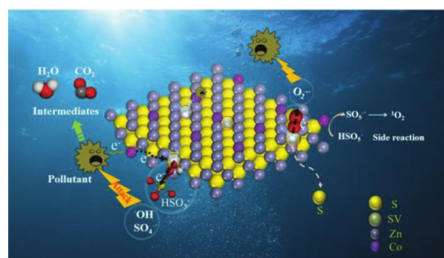
<sup>b</sup>Shandong Key Laboratory of Water Pollution Control and Resource Reuse, School of Environmental Science and Engineering, Shandong University, Qingdao 266237, China

<sup>c</sup>School of Environmental Science and Engineering, Guangzhou University, Guangzhou 510006, China

<sup>d</sup>Institute of Rural Revitalization, Guangzhou University, Guangzhou 510006, China

A new strategy is reported to generate electron-rich/poor reaction sites on the catalyst surface by constructing sulfur vacancies through Co doping into the ZnS QDs lattice. PMS and DO are captured by sulfur vacancies and reduced to reactive oxygen species, thus rapidly degrading organic pollutants.

Chinese Chemical Letters 33 (2022) 3829



## Microwave-assisted synthesis of oxygen vacancy associated TiO<sub>2</sub> for efficient photocatalytic nitrate reduction

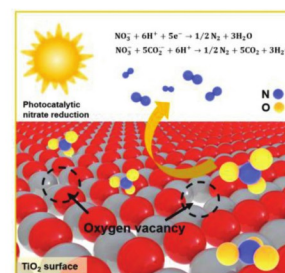
Qian Li<sup>a</sup>, Yunni Liu<sup>b</sup>, Zhe Wan<sup>a</sup>, Haiyan Cao<sup>a</sup>, Shao Zhang<sup>a</sup>, Yue Zhou<sup>a</sup>, Xingyu Ye<sup>a</sup>, Xiaoyan Liu<sup>a</sup>, Dieqing Zhang<sup>a</sup>

<sup>a</sup>The Education Ministry Key Lab of Resource Chemistry, Joint International Research Laboratory of Resource Chemistry, Ministry of Education, and Shanghai Key Laboratory of Rare Earth Functional Materials, College of Chemistry and Materials Science, Shanghai Normal University, Shanghai 200234, China

<sup>b</sup>School of Environmental and Geographical Sciences, Shanghai Normal University, Shanghai 200234, China

Anatase/rutile TiO<sub>2</sub> with oxygen vacancies and proper acid sites showed ca. 100% NO<sub>3</sub><sup>-</sup> conversion and 89% N<sub>2</sub> selectivity under UV (365 nm) irradiation within 2 h. We believed this noble metal free system was helpful for providing a promising solution for realizing the cheap, safe and efficient NO<sub>3</sub><sup>-</sup> removal route.

Chinese Chemical Letters 33 (2022) 3835



## Anisotropic black phosphorene nanotube anodes afford ultrafast kinetic rate or extra capacities for Li-ion batteries

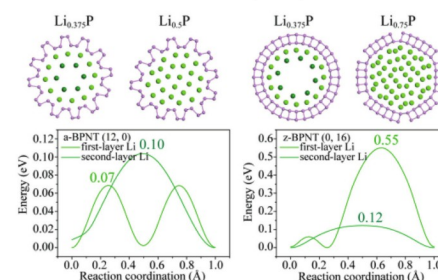
Huili Wang<sup>a</sup>, Qian Gao<sup>b</sup>, Cheng Liu<sup>a</sup>, Yu Cao<sup>a</sup>, Shuo Liu<sup>a</sup>, Baoshan Zhang<sup>a</sup>, Zhenpeng Hu<sup>b</sup>, Jie Sun<sup>a</sup>

<sup>a</sup>Key Laboratory for Green Chemical Technology of Ministry of Education, School of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China

<sup>b</sup>School of Physics, Nankai University, Tianjin 300071, China

Both a-BPNTs and z-BPNTs exhibit fast Li-ion conductivity along the c-axis direction as the Li diffusion barriers of a-BPNTs and z-BPNTs are 0.07 eV and 0.12 eV, respectively. The maximum Li-storage capacities of a-BPNT (12, 0) and z-BPNT (0, 16) are 432.7 mAh/g and 649.0 mAh/g, respectively.

Chinese Chemical Letters 33 (2022) 3842



## Porous covalent organic frameworks-improved solid phase microextraction ambient mass spectrometry for ultrasensitive analysis of tetrabromobisphenol-A analogs

Wei Gao<sup>a,b</sup>, Min Li<sup>b</sup>, Yun Fa<sup>b</sup>, Zongshan Zhao<sup>b,c</sup>, Yaqi Cai<sup>d</sup>, Xiangfeng Liang<sup>b,e</sup>, Yongliang Yu<sup>a</sup>, Guibin Jiang<sup>d</sup>

<sup>a</sup> Research Center for Analytical Sciences, Department of Chemistry, College of Sciences, Northeastern University, Shenyang 110819, China

<sup>b</sup> CAS Key Laboratory of Biobased Materials, Qingdao Institute of Bioenergy and Bioprocess Technology, Chinese Academy of Sciences, Qingdao 266101, China

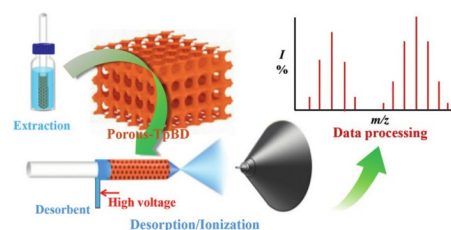
<sup>c</sup> College of Environmental Science and Engineering, Qingdao University, Qingdao 266071, China

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

<sup>e</sup> Innovation Academy for Green Manufacture, Chinese Academy of Sciences, Beijing 100190, China

Porous-TpBD-based SPME coupled with CFDI-MS method towards TBBPA analogs showed remarkably decreased time requirements and increased sensitivity.

Chinese Chemical Letters 33 (2022) 3849



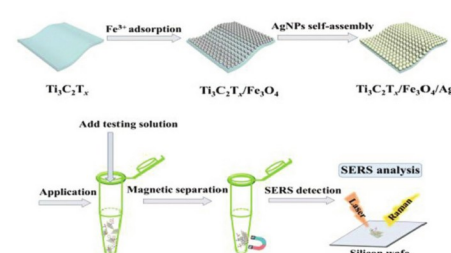
## Magnetic Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub>/Fe<sub>3</sub>O<sub>4</sub>/Ag substrate for rapid quantification of trace sulfonamides in aquatic products by surface enhanced Raman spectroscopy

Zhongning Yu, Lu Huang, Zhuomin Zhang, Gongke Li

School of Chemistry, Sun Yat-sen University, Guangzhou 510275, China

A magnetic Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub>/Fe<sub>3</sub>O<sub>4</sub>/Ag substrate was prepared for rapid SERS quantification for multiple trace sulfonamides in aquatic products.

Chinese Chemical Letters 33 (2022) 3853



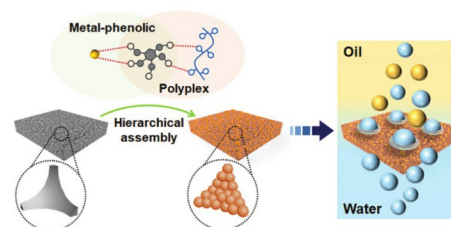
## Hierarchical metal-phenolic-polyplex assembly toward superwetting membrane for high-flux and antifouling oil-water separation

Xueting Zhao, Yuanyuan Jiang, Lijuan Cheng, Youyou Lan, Tingyuan Wang, Jiefeng Pan, Lifan Liu

College of Chemical Engineering, Zhejiang University of Technology, Hangzhou 310014, China

Catechol chemistry engineered hierarchical metal-phenolic-polyplex assembly strategy is proposed to design and prepare membrane featured with superhydrophilic and underwater superoleophobic wettability for oil/water separation.

Chinese Chemical Letters 33 (2022) 3859



## Real-time quantification of nuclear RNA export using an intracellular relocation probe

Jie Shen<sup>a</sup>, Juan Chen<sup>a</sup>, Dong Wang<sup>a</sup>, Zhengjie Liu<sup>a</sup>, Guangmei Han<sup>a</sup>, Bianhua Liu<sup>c</sup>, Mingyong Han<sup>c</sup>, Ruilong Zhang<sup>a,b</sup>, Guodong Liu<sup>d</sup>, Zhongping Zhang<sup>a,b</sup>

<sup>a</sup> School of Chemistry and Chemical Engineering, Information Materials and Intelligent Sensing Laboratory of Anhui Province, and Institute of Physical Science and Information Technology, Anhui University, Hefei 230601, China

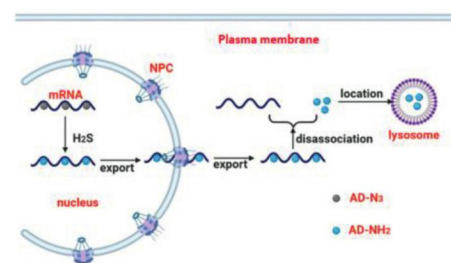
<sup>b</sup> Key Laboratory of Structure and Functional Regulation of Hybrid Materials (Anhui University), Ministry of Education, Hefei 230601, China

<sup>c</sup> Key Lab of Photovoltaic and Energy Conservation Materials, Institute of Solid State Physics, HFIPS, Chinese Academy of Sciences, Hefei 230031, China

<sup>d</sup> School of Life and Health Sciences, Anhui Science and Technology University, Chuzhou 233100, China

We report a novel molecular probe to address the lack of means for quantitative real-time imaging of nuclear RNA export, a highly useful indicator for drug screening and discovery. The probe features an affinity change from the nucleus to lysosomes upon reaction with intrinsic H<sub>2</sub>S. Similar to a hotel stay: Once the probe (guest) checks out of the nucleus (hotel), it can no longer check back in.

Chinese Chemical Letters 33 (2022) 3865





## Two-dimensional MOF Cu-BDC nanosheets/ILs@silica core-shell composites as mixed-mode stationary phase for high performance liquid chromatography

Tiantian Si<sup>a,c</sup>, Xiaofeng Lu<sup>a</sup>, Haixia Zhang<sup>b</sup>, Shuai Wang<sup>a</sup>, Xiaojing Liang<sup>a</sup>, Yong Guo<sup>a</sup>

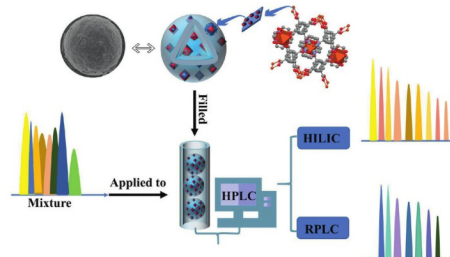
<sup>a</sup> CAS Key Laboratory of Chemistry of Northwestern Plant Resources and Key Laboratory for Natural Medicine of Gansu Province, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, China

<sup>b</sup> State Key Laboratory of Applied Organic Chemistry and College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, China

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

2D MOF Cu-BDC nanosheets/ILs@silica core-shell composites were prepared and used as mixed-mode stationary phase for chromatography separation.

Chinese Chemical Letters 33 (2022) 3869



## Engineering a cationic supramolecular charge switch for facile amino acids enantiodiscrimination based on extended-gate field effect transistors

Jing-Jing Zhang<sup>a</sup>, Si-Ying Wang<sup>a</sup>, Pan Zhang<sup>a</sup>, Shu-Chen Fan<sup>a</sup>, Hai-Tao Dai<sup>b</sup>, Yin Xiao<sup>c</sup>, Yong Wang<sup>a</sup>

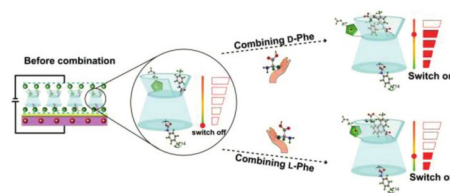
<sup>a</sup> School of Science, Tianjin Key Laboratory of Molecular Optoelectronic Science, Department of Chemistry, Collaborative Innovation Center of Chemical Science and Engineering, Tianjin University, Tianjin 300072, China

<sup>b</sup> Tianjin Key Laboratory of Low Dimensional Materials, Physics and Preparing Technology, Department of Physics, School of Science, Tianjin 300072, China

<sup>c</sup> School of Chemical Engineering and Technology, Tianjin Engineering Research Center of Functional Fine Chemicals, Tianjin University, Tianjin 300072, China

A facile and versatile chirality amplification platform based on a cationic supramolecular charge switch extended-gate field effect transistor was successfully fabricated for essential amino acids enantiodiscrimination. The novel sensing platform affords good chiral resolution of six essential amino acids with good concentration dependence, low detection limitation and enantiomeric excesses determination potential.

Chinese Chemical Letters 33 (2022) 3873



## Jigsaw-like mini-pillar platform for multi-mode biosensing

Yongchao Song<sup>b,c</sup>, Dongdong Wang<sup>a,b</sup>, Zehua Li<sup>b</sup>, Lirong Wang<sup>b,c</sup>, Chuan Fan<sup>b,c</sup>, Xuecheng He<sup>b,c</sup>, Tailin Xu<sup>b,c</sup>, Xueji Zhang<sup>b,c</sup>

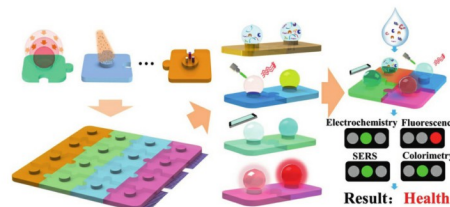
<sup>a</sup> College of Chemistry and Materials Engineering, Beijing Technology and Business University, Beijing 100048, China

<sup>b</sup> Research Center for Bioengineering and Sensing Technology, University of Science and Technology Beijing, Beijing 100083, China

<sup>c</sup> School of Biomedical Engineering, Health Science Center, Shenzhen University, Shenzhen, 518060, China

We integrate the jigsaw-like multifunctional mini-pillar platform to perform multi-mode (electrochemical, fluorescence, SERS and colorimetric) sensing in individual microdroplets and successfully realize electrochemical, fluorescence, SERS and colorimetric detection by multiple signals coupling to reduce the false positive analysis.

Chinese Chemical Letters 33 (2022) 3879



## N, O co-doped porous carbon with rich pseudocapacitive groups exhibiting superior energy density in an acidic 2.4 V Li<sub>2</sub>SO<sub>4</sub> electrolyte

Xiao Wang<sup>a</sup>, Kaixiang Zou<sup>a</sup>, Weijing Wu<sup>a</sup>, Yuanfu Deng<sup>a,b</sup>, Guohua Chen<sup>c</sup>

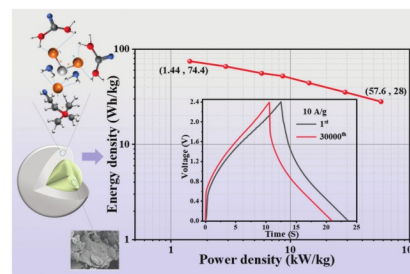
<sup>a</sup> The Key Laboratory of Fuel Cell for Guangdong Province, School of Chemistry and Chemical Engineering, South China University of Technology, Guangzhou 510640, China

<sup>b</sup> Electrochemical Energy Engineering Research Center of Guangdong Province, South China University of Technology, Guangzhou 510640, China

<sup>c</sup> Department of Mechanical Engineering, The Hong Kong Polytechnic University, Hong Kong, China

N, O co-doped porous carbon derived from a green route using a deep eutectic solvent as the activator displays outstanding energy density and stable cycle capability in an environmentally friendly Li<sub>2</sub>SO<sub>4</sub>-based acidic electrolyte.

Chinese Chemical Letters 33 (2022) 3883



## The effect of electrolyte additives on the rate performance of hard carbon anode at low temperature for lithium-ion capacitor

Jianmin Yuan<sup>a,b</sup>, Nan Qin<sup>a,b</sup>, Yanyan Lu<sup>a,b</sup>, Liming Jin<sup>a,b</sup>, Junsheng Zheng<sup>a,b</sup>, Jim P. Zheng<sup>c</sup>

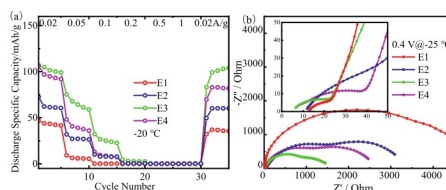
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Lithium-ion capacitor inherits the problem of serious performance degradation at low temperature of lithium-ion battery, which restricts its application scope tremendously. In this study, three electrolyte additives were utilized to improve the rate performance of hard carbon anode at low temperature, and we also studied the optimal addition amount and mechanism of additives.

Chinese Chemical Letters 33 (2022) 3889



## A composite PEO electrolyte with amide-based polymer matrix for suppressing lithium dendrite growth in all-solid-state lithium battery

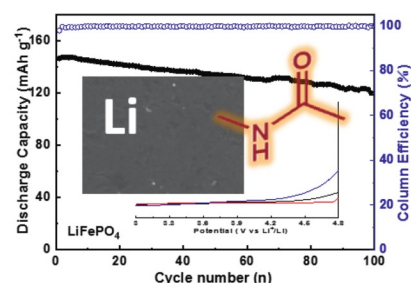
Menghan Ge<sup>a</sup>, Xiaoyu Zhou<sup>a</sup>, Yiping Qin<sup>a</sup>, Yang Liu<sup>a</sup>, Jingjing Zhou<sup>a</sup>, Xiaolei Wang<sup>b</sup>, Bingkun Guo<sup>a</sup>

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Enhancing the electrolyte's abilities of inhibiting dendrite growth and electrochemical stability by introducing amide group.

Chinese Chemical Letters 33 (2022) 3894



## Two Dawson-type U(VI)-containing selenotungstates with sandwich structure and its high-efficiency catalysis for pyrazoles

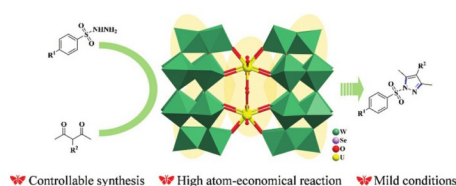
Mengyuan Cheng<sup>a</sup>, Yufeng Liu<sup>b</sup>, Weixin Du<sup>a</sup>, Jingwen Shi<sup>a</sup>, Junhua Li<sup>a</sup>, Haiying Wang<sup>a</sup>, Ke Li<sup>b</sup>, Guoping Yang<sup>b</sup>, Dongdi Zhang<sup>a</sup>

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<sup>b</sup> Jiangxi Province Key Laboratory of Synthetic Chemistry, Jiangxi Key Laboratory for Mass Spectrometry and Instrumentation, East China University of Technology, Nanchang 330013, China

Two hitherto unknown uranium-containing selenotungstates were synthesized, characterized as well as found to be an efficient catalyst for the construction of pyrazoles under moderate conditions via the condensation cyclization reaction.

Chinese Chemical Letters 33 (2022) 3899



## Fe<sub>3</sub>C coupled with Fe-N<sub>x</sub> supported on N-doped carbon as oxygen reduction catalyst for assembling Zn-air battery to drive water splitting

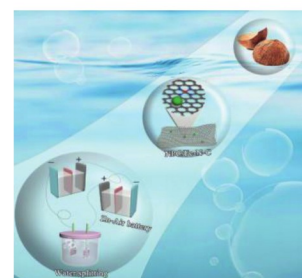
Guangying Zhang<sup>a</sup>, Xu Liu<sup>a</sup>, Peng Yu<sup>b</sup>, Di Shen<sup>a</sup>, Bowen Liu<sup>a</sup>, Qiwen Pan<sup>a</sup>, Lei Wang<sup>a</sup>, Honggang Fu<sup>a</sup>

<sup>a</sup> Key Laboratory of Functional Inorganic Material Chemistry, Ministry of Education of the People's Republic of China, Heilongjiang University, Harbin 150080, China

<sup>b</sup> Key Laboratory for Photonic and Electronic Bandgap Materials, Ministry of Education, School of Physics and Electronic Engineering, Harbin Normal University, Harbin 150025, China

N-doped graphitic porous carbon encapsulated uniform dispersed Fe<sub>3</sub>C nanoparticles coupled with atomically dispersed Fe-N<sub>x</sub> moieties derived from biomass exhibits high ORR activity, which can match with excellent OER catalyst for assembling high-efficient rechargeable Zn-air battery to drive water splitting device, contributing to energy storage and reduce carbon emissions.

Chinese Chemical Letters 33 (2022) 3903





## An integrated approach to configure rGO/VS<sub>4</sub>/S composites with improved catalysis of polysulfides for advanced lithium–sulfur batteries

Feng Li<sup>a</sup>, Lu Wang<sup>b</sup>, Guangmeng Qu<sup>a</sup>, Peiyu Hou<sup>a</sup>, Linglong Kong<sup>c</sup>, Jinzhao Huang<sup>a</sup>, Xijin Xu<sup>a</sup>

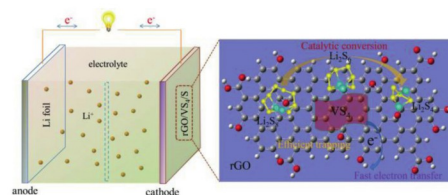
<sup>a</sup>School of Physics and Technology, University of Jinan, Ji'nan 250022, China

<sup>b</sup>College of Chemistry and Material Science, Shandong Agricultural University, Taian 271018, China

<sup>c</sup>State Forestry and Grassland Administration Key Laboratory of Silviculture in Downstream Areas of the Yellow River, School of Forestry, Shandong Agricultural University, Taian 271018, China

The rGO/VS<sub>4</sub>/S composites are directly synthesized through an *in-situ*, one-step solvothermal method by adding H<sub>2</sub>O<sub>2</sub> oxidant. The obtained hybrid structure endows the merits of conductive rGO with physical anchoring effect and polar VS<sub>4</sub> with chemical adsorption and catalysis. Thus, the utilization of sulfur species and the electrochemical stability are enhanced in Li–S batteries.

Chinese Chemical Letters 33 (2022) 3909



## Ultrathin NiFeS nanosheets as highly active electrocatalysts for oxygen evolution reaction

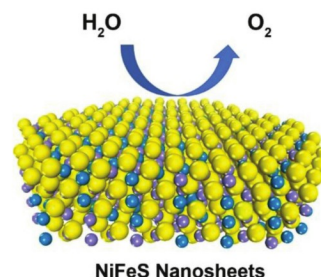
Yanrong Xue<sup>a</sup>, Mengyuan Liu<sup>a</sup>, Yangyuanxiang Qin<sup>a</sup>, Yufeng Zhang<sup>a</sup>, Xuejiang Zhang<sup>a</sup>, Jinjie Fang<sup>a</sup>, Xu Zhang<sup>a</sup>, Wei Zhu<sup>a</sup>, Zhongbin Zhuang<sup>a,b</sup>

<sup>a</sup>State Key Lab of Organic-Inorganic Composites and Beijing Advanced Innovation Center for Soft Matter Science and Engineering, Beijing University of Chemical Technology, Beijing 100029, China

<sup>b</sup>Beijing Key Laboratory of Energy Environmental Catalysis, Beijing University of Chemical Technology, Beijing 100029, China

Ultrathin nickel-iron sulfide nanosheets have been synthesized and shown high electrocatalytic performance towards oxygen evolution reaction.

Chinese Chemical Letters 33 (2022) 3916



## Interfacial synthesis of crystalline quasi-two-dimensional polyaniline thin films for high-performance flexible on-chip micro-supercapacitors

Tao Zhang<sup>a</sup>, Panpan Zhang<sup>b,c</sup>, Zhongquan Liao<sup>d</sup>, Faxing Wang<sup>b,c</sup>, Jinhui Wang<sup>e,f,h</sup>, Mingchao Wang<sup>b,c</sup>, Ehrenfried Zschech<sup>d</sup>, Xiaodong Zhuang<sup>g</sup>, Oliver G. Schmidt<sup>e,f</sup>, Xinliang Feng<sup>b,c</sup>

<sup>a</sup>Key Laboratory of Bio-based Polymeric Materials Technology and Application of Zhejiang Province, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences, Ningbo 315201, China

<sup>b</sup>Faculty of Chemistry and Food Chemistry, Technische Universität Dresden, Dresden 01062, Germany

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<sup>d</sup>Fraunhofer Institute for Ceramic Technologies and Systems (IKTS), Dresden 01109, Germany

<sup>e</sup>Material Systems for Nanoelectronics, Chemnitz University of Technology, Chemnitz 09107, Germany

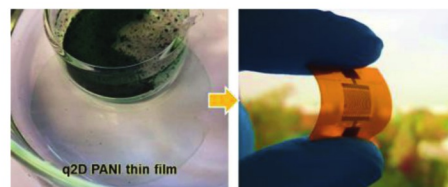
<sup>f</sup>Institute for Integrative Nanosciences, IFW Dresden, Dresden 01069, Germany

<sup>g</sup>School of Chemistry and Chemical Engineering, Frontiers Science Center for Transformative Molecules, Shanghai Jiao Tong University, Shanghai 200240, China

<sup>h</sup>Key Laboratory for Special Functional Materials of Ministry of Education, Henan University, Kaifeng 475004, China

Quasi-two-dimensional polyaniline (q2D PANI) thin film that features long-range molecular ordering and high specific surface area endow on-chip micro-supercapacitors (MSCs) with desirable volumetric specific capacitance, energy density, and flexibility.

Chinese Chemical Letters 33 (2022) 3921



## 3D multicore-shell CoSn nanoboxes encapsulated in porous carbon as anode for lithium-ion batteries

Daxu Zhang<sup>a</sup>, Gen Chen<sup>a,d</sup>, Haoji Wang<sup>a</sup>, Long Chen<sup>a</sup>, Ziwei Guo<sup>a</sup>, Zuxin Wen<sup>a</sup>, Ning Zhang<sup>a,d</sup>, Xiaohe Liu<sup>a,b,d</sup>, Renzhi Ma<sup>c</sup>

<sup>a</sup>School of Materials Science and Engineering, Central South University, Changsha 410083, China

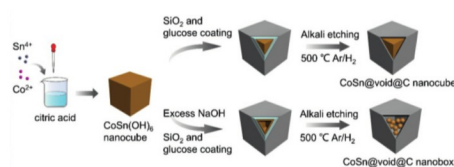
<sup>b</sup>School of Chemical Engineering and Energy, Zhengzhou University, Zhengzhou 450001, China

<sup>c</sup>International Center for Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science (NIMS), Ibaraki 305-0044, Japan

<sup>d</sup>Key Laboratory of Electronic Packaging and Advanced Functional Materials of Hunan Province, Central South University, Changsha 410083, China

Three-dimensional multicore-shell hollow CoSn@void@C nanoboxes have been successfully fabricated via a hydrothermal strategy, which exhibits the enhanced capacity and robust electrochemical stability.

Chinese Chemical Letters 33 (2022) 3925



## Design of hierarchical and mesoporous FeF<sub>3</sub>/rGO hybrids as cathodes for superior lithium-ion batteries

Jiale Lian<sup>a</sup>, Yang Wu<sup>a</sup>, Yichuan Guo<sup>a</sup>, Zhenyun Zhao<sup>a</sup>, Qinghua Zhang<sup>b</sup>, Yang Hou<sup>b</sup>, Lingxiang Chen<sup>c</sup>, Bin Lu<sup>a,d</sup>, Xinhua Pan<sup>a,d</sup>, Zhizhen Ye<sup>a,d</sup>, Jianguo Lu<sup>a,d</sup>

<sup>a</sup>State Key Laboratory of Silicon Materials, Key Laboratory for Biomedical Engineering of Ministry of Education, School of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, China

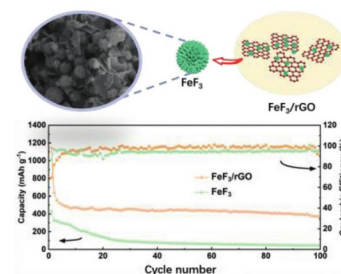
<sup>b</sup>College of Chemical and Biological Engineering, Zhejiang University, Hangzhou 310027, China

<sup>c</sup>Key Laboratory for Biomedical Engineering of Ministry of Education, College of Biomedical Engineering and Instrument Science, Zhejiang University, Hangzhou 310027, China

<sup>d</sup>Wenzhou Key Laboratory of Novel Optoelectronic and Nano Materials, Institute of Wenzhou, Zhejiang University, Wenzhou 325006, China

A strategy of hierarchical and mesoporous FeF<sub>3</sub>/rGO hybrids have been designed and synthesized by a rational non-aqueous in-situ precipitation method for LIBs, possessing a high initial discharge capacity of 553.9 mAh/g at a rate of 0.5 C with 378 mAh/g after 100 cycles and feasible high-temperature operation (320 mAh/g at 70 °C).

Chinese Chemical Letters 33 (2022) 3931



## Dendrite-free and anti-corrosion Zn metal anode enabled by an artificial layer for high-performance Zn ion capacitor

Zhuo Li<sup>a</sup>, Zhe Gong<sup>a</sup>, Xiaoyu Wu<sup>c</sup>, Ke Ye<sup>a</sup>, Jun Yan<sup>a</sup>, Guiling Wang<sup>a</sup>, Yingjin Wei<sup>c</sup>, Kai Zhu<sup>a,b</sup>, Jin Yi<sup>d</sup>, Dianxue Cao<sup>a</sup>, Guohua Chen<sup>b</sup>

<sup>a</sup>College of Materials Science and Chemical Engineering, Harbin Engineering University, Harbin 150001, China

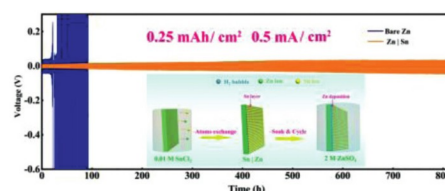
<sup>b</sup>Department of Mechanical Engineering, Research Institute for Smart Energy, The Hong Kong Polytechnic University, Hong Kong, China

<sup>c</sup>Key Laboratory of Physics and Technology for Advanced Batteries (Ministry of Education), College of Physics, Jilin University, Changchun 130012, China

<sup>d</sup>Institute for Sustainable Energy/College of Sciences, Shanghai University, Shanghai 200444, China

Sn metal layer plays a role of artificial protective layer, which inhibits the corrosion and induces a homogeneously deposition of Zn.

Chinese Chemical Letters 33 (2022) 3936



## HSH-C<sub>10</sub>: A new quasi-2D carbon allotrope with a honeycomb-star-honeycomb lattice

Qian Gao<sup>a</sup>, Lifu Zhang<sup>a</sup>, Caiyan Zheng<sup>a</sup>, Shulai Lei<sup>b</sup>, Shujuan Li<sup>b,c</sup>, Zhenpeng Hu<sup>a</sup>

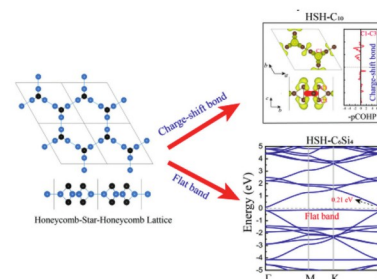
<sup>a</sup>School of Physics, Nankai University, Tianjin 300071, China

<sup>b</sup>Hubei Key Laboratory of Low Dimensional Optoelectronic Materials and Devices, Hubei University of Arts and Science, Xiangyang 441053, China

<sup>c</sup>Institute of Mathematics, Free University of Berlin, Arnimallee 6, Berlin D-14195, Germany

First-principles calculations of a new quasi-2D honeycomb-star-honeycomb (HSH) lattice (left) predict exotic quantum properties. From the chemical bonding analysis, there is an interesting charge-shift bond in compound HSH-C<sub>10</sub> (upper right). By modulating coupling strength, a flat band near the Fermi level can be obtained in compounds HSH-C<sub>6</sub>Si<sub>4</sub> (lower right). All the results indicate that HSH lattice could combine the electronic characteristics of both the honeycomb and star lattices and expand the diversity of 2D materials.

Chinese Chemical Letters 33 (2022) 3941



## Multifunctional silicene/CeO<sub>2</sub> heterojunctions: Desirable electronic material and promising water-splitting photocatalyst

Liang Xu<sup>a,c</sup>, Jian Zeng<sup>a</sup>, Quan Li<sup>a,c</sup>, Xin Luo<sup>b,c</sup>, Tong Chen<sup>a,c</sup>, Jingjing Liu<sup>a</sup>, Ling-Ling Wang<sup>c</sup>

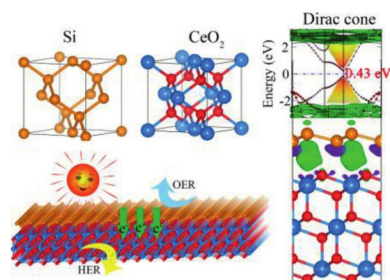
<sup>a</sup>Energy Materials Computing Center, School of Energy and Mechanical Engineering, Jiangxi University of Science and Technology, Nanchang 330013, China

<sup>b</sup>Department of Applied Physics, School of Science, East China Jiaotong University, Nanchang 330013, China

<sup>c</sup>Key Laboratory for Micro-Nano Optoelectronic Devices of Ministry of Education, School of Physics and Electronics, Hunan University, Changsha 410082, China

Silicene/CeO<sub>2</sub> with different stacking patterns of can form different types of heterojunctions, including covalently bonded (cb) heterojunction and van der Waals (vdW) heterojunction. The cb heterojunction is a promising photocatalyst for overall water splitting. And the vdW heterojunction may be an ideal material in building silicene-based electronic device.

Chinese Chemical Letters 33 (2022) 3947





## Inhibition of lithium dendrites and dead lithium by an ionic liquid additive toward safe and stable lithium metal anodes

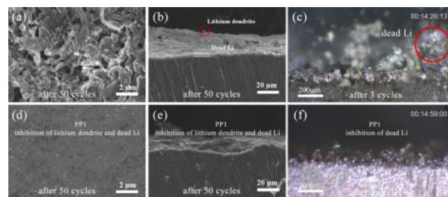
Shengjie Zhang<sup>a</sup>, Bin Cheng<sup>a</sup>, Yanxiong Fang<sup>a</sup>, Dai Dang<sup>a</sup>, Xin Shen<sup>b</sup>, Zhiqiang Li<sup>a</sup>, Ming Wu<sup>a</sup>, Yun Hong<sup>a</sup>, Quanbing Liu<sup>a</sup>

<sup>a</sup>Guangzhou Key Laboratory of Clean Transportation Energy Chemistry, Guangdong Provincial Key Laboratory of Plant Resources Biorefinery, School of Chemical Engineering and Light Industry, Guangdong University of Technology, Guangzhou 510006, China

<sup>b</sup>Department of Chemical Engineering, Beijing Key Laboratory of Green Chemical Reaction Engineering and Technology, Tsinghua University, Beijing 100084, China

Effective additive Pp<sub>13</sub>FSI was designed for electrolyte and inhibited the growth of lithium dendrites and dead lithium.

Chinese Chemical Letters 33 (2022) 3951



## A bi-component polyoxometalate-derivative cathode material showed impressive electrochemical performance for the aqueous zinc-ion batteries

Rui Huang<sup>a,b</sup>, Weiwei Wang<sup>a,c</sup>, Chi Zhang<sup>a,b</sup>, Peng He<sup>a,c</sup>, Yuyang Han<sup>a,d</sup>, Nuo Chen<sup>e</sup>, Jun Yan<sup>a,b,c,d</sup>

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

<sup>b</sup>Hunan Provincial Key Laboratory of Chemical Power Sources, Central South University, Changsha 410083, China

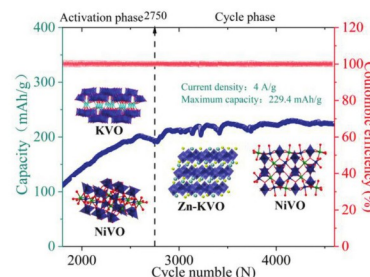
<sup>c</sup>Hunan Provincial Key Laboratory of Efficient and Clean Utilization of Manganese Resources, Central South University, Changsha 410083, China

<sup>d</sup>Hunan Provincial Key Laboratory of Micro & Nano Materials Interface Science, Central South University, Changsha 410083, China

<sup>e</sup>Changsha Changjun High School, Changsha 410002, China

A bi-component polyoxometalate-derivative is firstly demonstrated as a cathode material for aqueous ZIBs, which exhibits a high-rate capacity and long-term cyclability after activation. And, the activation phenomenon during the charge/discharge process is investigated.

Chinese Chemical Letters 33 (2022) 3955



## Hierarchical porous carbon derived from coal-based carbon foam for high-performance supercapacitors

Nuannuan Yang<sup>a,b</sup>, Lei Ji<sup>c</sup>, Haichao Fu<sup>a,b</sup>, Yanfeng Shen<sup>a,b</sup>, Meijun Wang<sup>a,b</sup>, Jinghai Liu<sup>c</sup>, Liping Chang<sup>a,b</sup>, Yongkang Lv<sup>a,b</sup>

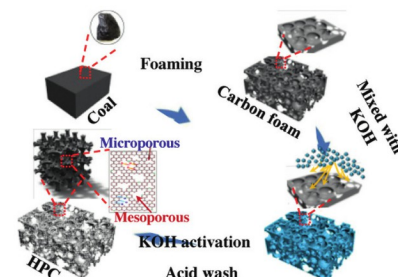
<sup>a</sup>State Key Laboratory of Clean and Efficient Coal Utilization, Taiyuan University of Technology, Taiyuan 030024, China

<sup>b</sup>Key Laboratory of Coal Science and Technology, Ministry of Education and Shanxi Province, Taiyuan University of Technology, Taiyuan 030024, China

<sup>c</sup>Inner Mongolia Key Laboratory of Carbon Nanomaterials, Nano Innovation Institute (NII), College of Chemistry and Materials Science, Inner Mongolia Minzu University, Tongliao 028000, China

Hierarchical porous carbon (HPC) derived from bituminous coal was designed and synthesized through pyrolysis foaming and KOH activation, which displayed high specific surface area, interconnected pore structure and good surface chemical properties. The optimal HPC as a supercapacitor electrode had a specific capacitance of 487 F/g, cyclic stability of 96%, and a high energy density of 10.34 Wh/kg.

Chinese Chemical Letters 33 (2022) 3961



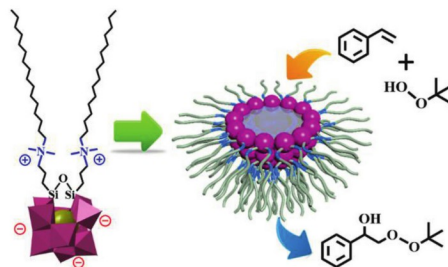
## Self-assembly of reverse micelle nanoreactors by zwitterionic polyoxometalate-based surfactants for high selective production of $\beta$ -hydroxyl peroxides

Guicong Hu, Wen Chang, Sai An, Bo Qi, Yu-Fei Song

State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing 100029, China

Construction of the polyoxometalate-based reverse micelle system was firstly achieved by self-assembling the zwitterionic POM surfactants in which two cationic tails covalently linked to the anionic POM cluster. As a nanoreactor, the POM-based reverse micelles produced an unprecedented  $\beta$ -hydroxy peroxide in the oxidation of styrene.

Chinese Chemical Letters 33 (2022) 3968



## Local high-density distributions of phospholipids induced by the nucleation and growth of smectic liquid crystals at the interface

Chenjing Yang<sup>a,b</sup>, Li Chen<sup>a,b</sup>, Rui Zhang<sup>e</sup>, Dong Chen<sup>a,b,d</sup>, Laura R. Arriaga<sup>c,d</sup>, David A. Weitz<sup>d</sup>

<sup>a</sup> College of Energy Engineering and State Key Laboratory of Fluid Power and Mechatronic Systems, Zhejiang University, Hangzhou 310027, China

<sup>b</sup> Zhejiang Key Laboratory of Smart BioMaterials and Center for Bionanoengineering, College of Chemical and Biological Engineering, Zhejiang University, Hangzhou 310027, China

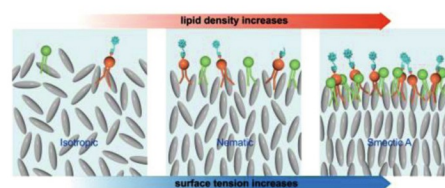
<sup>c</sup> Department of Theoretical Condensed Matter Physics, Condensed Matter Physics Center and Instituto Nicolás Cabrera, Universidad Autónoma de Madrid, Madrid 28049, Spain

<sup>d</sup> John A. Paulson School of Engineering and Applied Sciences and Department of Physics, Harvard University, Cambridge, MA 02138, United States

<sup>e</sup> Department of Physics, The Hong Kong University of Science & Technology, Hong Kong, China

In this paper, we demonstrate that the development of smectic LC ordering from isotropic at the LC/water interface could induce local high-density distributions of amphiphilic molecules, which provides an important insight into the interactions between LCs and amphiphilic molecules at the interface.

Chinese Chemical Letters 33 (2022) 3973



## The phosphorescence nanocomposite thin film with rich oxygen vacancy: Towards sensitive oxygen sensor

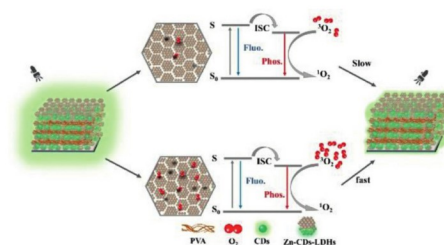
Jian Yao<sup>a</sup>, Jian Kong<sup>a</sup>, Lingwei Kong<sup>a</sup>, Xinrui Wang<sup>b</sup>, Wenying Shi<sup>a</sup>, Chao Lu<sup>a</sup>

<sup>a</sup> State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing 100029, China

<sup>b</sup> Key Laboratory of Cosmetic, China National Light Industry, Beijing Technology and Business University, Beijing 100048, China

We have constructed an ultra-long-life room temperature phosphorescent oxygen sensing film with rich oxygen vacancy, which improved the sensitivity of oxygen sensing.

Chinese Chemical Letters 33 (2022) 3977



## Co-construction of advanced sulfur host by implanting titanium carbide into *Aspergillus niger* spore carbon

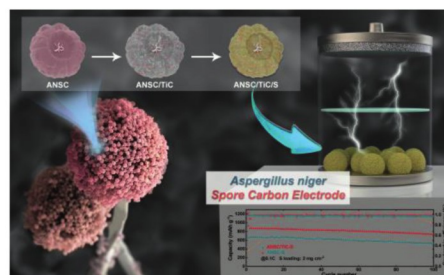
Rongfan Zhou<sup>a</sup>, Shenghui Shen<sup>a</sup>, Yu Zhong<sup>a</sup>, Ping Liu<sup>a</sup>, Yongqi Zhang<sup>b</sup>, Lingjie Zhang<sup>a</sup>, Xiuli Wang<sup>a</sup>, Xinhui Xia<sup>a,b</sup>, Jiangping Tu<sup>a</sup>

<sup>a</sup> State Key Laboratory of Silicon Materials, Key Laboratory of Advanced Materials and Applications for Batteries of Zhejiang Province, and Department of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, China

<sup>b</sup> Yangtze Delta Region Institute (Huzhou) & Institute of Fundamental and Frontier Science, University of Electronic Science and Technology of China, Huzhou 313000, China

We develop a unique hollow pumpkin-like spore carbon with rich-wrinkle microstructure, in which TiC nanoparticles are coupling as superior sulfur host. The distinctive composite structures enhance absorption ability to soluble polysulfides.

Chinese Chemical Letters 33 (2022) 3981



## Two-dimensional Pt<sub>2</sub>P<sub>3</sub> monolayer: A promising bifunctional electrocatalyst with different active sites for hydrogen evolution and CO<sub>2</sub> reduction

Yuting Sun<sup>a</sup>, Shuang Wang<sup>a</sup>, Dongxu Jiao<sup>a</sup>, Fengyu Li<sup>b</sup>, Siyao Qiu<sup>c</sup>, Zhongxu Wang<sup>a</sup>, Qinghai Cai<sup>a</sup>, Jingxiang Zhao<sup>a</sup>, Chenghua Sun<sup>d</sup>

<sup>a</sup> College of Chemistry and Chemical Engineering, Key Laboratory of Photonic and Electronic Bandgap Materials, Ministry of Education, Harbin Normal University, Harbin 150025, China

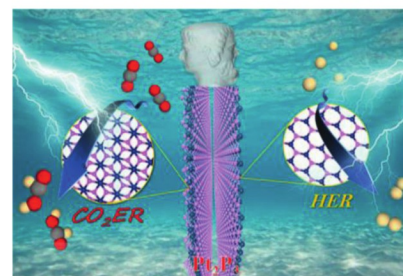
<sup>b</sup> School of Physical Science and Technology, Inner Mongolia University, Hohhot 010021, China

<sup>c</sup> School of Chemical Engineering and Energy Technology, Dongguan University of Technology, Dongguan 523808, China

<sup>d</sup> Department of Chemistry and Biotechnology, and Centre for Translational Atomaterials, Swinburne University of Technology, Hawthorn, VIC 3122, Australia

We proposed a novel Pt<sub>2</sub>P<sub>3</sub> monolayer as the bifunctional electrocatalyst for hydrogen evolution and CO<sub>2</sub> reduction.

Chinese Chemical Letters 33 (2022) 3987





## Uncovering growth species of multivariate MOFs in liquid phase by mass spectrometry

Jinli Han<sup>a,b</sup>, Suming Chen<sup>c</sup>, Xiaochun Zhou<sup>b</sup>, Hexiang Deng<sup>a,c</sup>

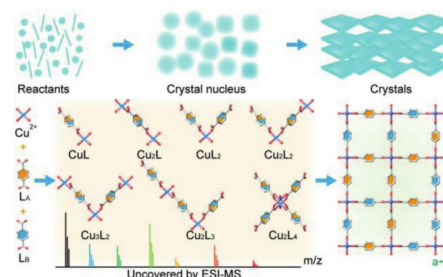
<sup>a</sup>Key Laboratory of Biomedical Polymers-Ministry of Education, College of Chemistry and Molecular Sciences, Wuhan University, Wuhan 430072, China

<sup>b</sup>Division of Advanced Nanomaterials, Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences, Suzhou 215125, China

<sup>c</sup>The Institute for Advanced Studies, Wuhan University, Wuhan 430072, China

The information of molecular species in the growth solution of MTV-MOF, critical to understand the mechanism of crystal growth, is uncovered by mass spectrometry.

Chinese Chemical Letters 33 (2022) 3993



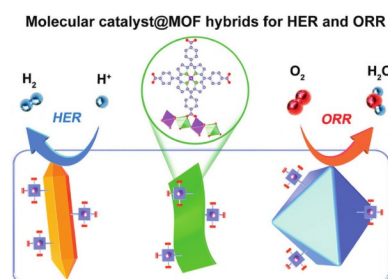
## Co porphyrin-based metal-organic framework for hydrogen evolution reaction and oxygen reduction reaction

Zuozhong Liang, Hongbo Guo, Haitao Lei, Rui Cao

Key Laboratory of Applied Surface and Colloid Chemistry, Ministry of Education, School of Chemistry and Chemical Engineering, Shaanxi Normal University, Xi'an 710119, China

A series of metal-organic framework-supported molecular catalysts were prepared for hydrogen evolution reaction and oxygen reduction reaction.

Chinese Chemical Letters 33 (2022) 3999



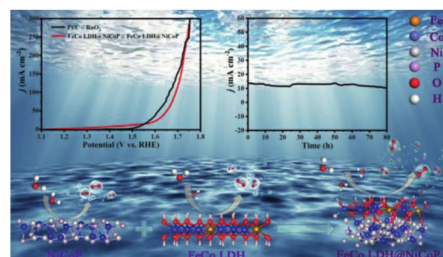
## Interface engineering of FeCo LDH@NiCoP nanowire heterostructures for highly efficient and stable overall water splitting

Yong Jiang, Yurong Li, Yimin Jiang, Xiaorui Liu, Wei Shen, Ming Li, Rongxing He

College of Chemistry and Chemical Engineering, Southwest University, Chongqing 400715, China

FeCo LDH@NiCoP/NF is designed with interface engineering strategy to improve the intrinsic electrocatalytic activity for water splitting. It requires only a cell voltage of 1.48 V at 10 mA/cm<sup>2</sup> and shows excellent stability over 80 h. The outstanding performance originates from strong electronic coupling of the interfaces.

Chinese Chemical Letters 33 (2022) 4003



## Defective TiO<sub>2</sub> hollow nanospheres as photo-electrocatalysts for photo-assisted Li-O<sub>2</sub> batteries

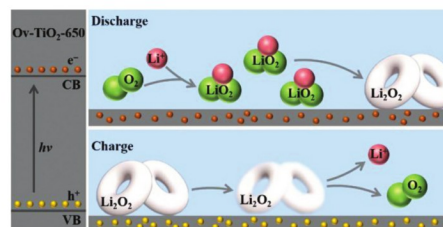
Hailiang Jiao<sup>a</sup>, Guiru Sun<sup>a</sup>, Yan Wang<sup>a</sup>, Zexu Zhang<sup>a</sup>, Zhao Wang<sup>a</sup>, Hairui Wang<sup>b</sup>, Haibo Li<sup>a</sup>, Ming Feng<sup>a</sup>

<sup>a</sup>Key Laboratory of Functional Materials Physics and Chemistry of the Ministry of Education, Jilin Normal University, Changchun 130103, China

<sup>b</sup>Key Laboratory of Preparation and Applications of Environmental Friendly Materials of the Ministry of Education, Jilin Normal University, Changchun 130103, China

Defective TiO<sub>2</sub> hollow nanospheres are prepared as photo-electrocatalysts for photo-assisted Li-O<sub>2</sub> batteries, in which photoexcited electrons and holes could facilitate the formation and decomposition of Li<sub>2</sub>O<sub>2</sub>, respectively, achieving a superior battery performance.

Chinese Chemical Letters 33 (2022) 4008



## Sandwich-like QDs/MOFs films for selective sensing and multicolor emitting

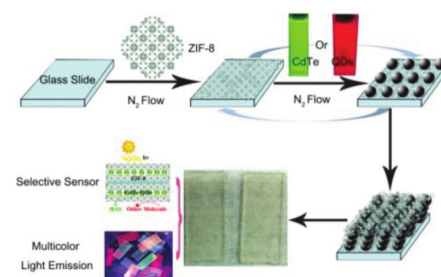
Ruding Zhang<sup>a,b</sup>, Shuiying Gao<sup>a,b</sup>, Rong Cao<sup>a,b</sup>

<sup>a</sup> State Key Laboratory of Structural Chemistry, Fujian Institute of Research on the Structure of Matter, The Chinese Academy of Sciences, Fuzhou 350002, China

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

A novel type sandwich-like composite films composed of ZIF-8 and CdTe QDs were successfully constructed through facile LBL assembly strategy.

Chinese Chemical Letters 33 (2022) 4013



## Surface engineering on segmented copper-iron nanowires arrays

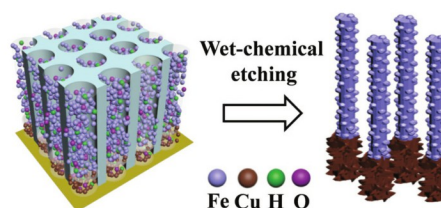
Lingling Du<sup>a</sup>, Shizheng Zheng<sup>a</sup>, Lijun Zheng<sup>a</sup>, Xiaxia Xing<sup>a</sup>, Dachi Yang<sup>a</sup>, Can Xue<sup>b</sup>

<sup>a</sup> Department of Electronics, College of Electronic Information and Optical Engineering, Nankai University, Tianjin 300350, China

<sup>b</sup> School of Materials Science and Engineering, Nanyang Technological University, Singapore 639798, Singapore

A universal surface engineering strategy toward two-segmented copper-iron nanowires arrays with high specific surface ratio, abundant chemical dangling bonds and boosted defects exposure has been developed via combined AAO template-confined electrodeposition and wet-chemical etching.

Chinese Chemical Letters 33 (2022) 4017



## Poly(thioether)-*b*-polysiloxane-*b*-poly(thioether) triblock copolymer towards homogeneous dielectric elastomer with high dielectric performance

Zhanbin Feng<sup>a,b</sup>, Jiafang Guo<sup>a</sup>, Suting Liu<sup>c</sup>, Guofei Feng<sup>a</sup>, Xing-Hong Zhang<sup>a,b</sup>

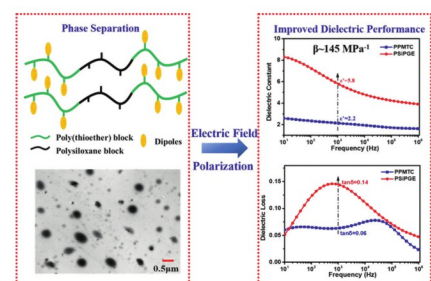
<sup>a</sup> MOE Key Laboratory of Macromolecular Synthesis and Functionalization, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou 310027, China

<sup>b</sup> Center of Chemistry for Frontier Technologies, Zhejiang University, Hangzhou 310027, China

<sup>c</sup> Department of Chemical Engineering, Weifang Vocational College, Weifang 262737, China

The improved dipole polarizations and the phase separation structure of poly(thioether)-*b*-polysiloxane-*b*-poly(thioether) triblock copolymer based homogenous DEs enable it high dielectric constant ( $\epsilon'$ , up to 5.8) and high electromechanical sensitivity ( $\beta$ ,  $\sim 145 \text{ MPa}^{-1}$ ).

Chinese Chemical Letters 33 (2022) 4021



## New flame retardant epoxy resins based on cyclophosphazene-derived curing agents

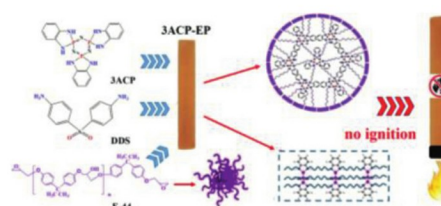
Zhenwei Miao<sup>a</sup>, Dongpeng Yan<sup>b</sup>, Xiaodong Wang<sup>a</sup>, Xinfang Zhang<sup>a</sup>, Wenqi Zhou<sup>a</sup>, Munan Qiu<sup>a</sup>, Fan Yang<sup>a</sup>, Zhanpeng Wu<sup>a</sup>

<sup>a</sup> State Key Laboratory of Organic-Inorganic Composites, Beijing University of Chemical Technology, Beijing 100029, China

<sup>b</sup> College of Chemistry, Beijing Normal University, Beijing 100875, China

Novel reactive flame retardant additive (3ACP) is used to prepare epoxy resin curing system which obtains self-extinguishing properties and elevated LOI value.

Chinese Chemical Letters 33 (2022) 4026





## Photodimerization-induced transition of helices to vesicles based on coumarin-12-crown-4

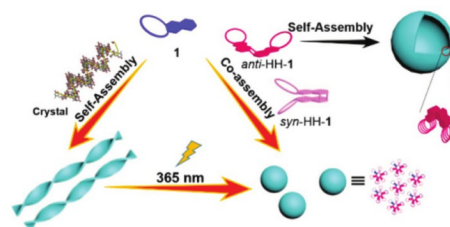
Hui-Juan Wang<sup>a</sup>, Heng-Yi Zhang<sup>a</sup>, Wen-Wen Xing<sup>a</sup>, Huang Wu<sup>b</sup>, Yong-Liang Cui<sup>a</sup>, Yu Liu<sup>a</sup>

<sup>a</sup> Department of Chemistry, State Key Laboratory of Elemento-Organic Chemistry, Nankai University, Tianjin 300071, China

<sup>b</sup> Department of Chemistry, Northwestern University, Evanston, IL 60208, United States

Superstructures can be transformed from helices to nanoballs and vesicles by the photodimerization of coumarin, consisting of photo-controlled multiple building blocks with similar structures.

Chinese Chemical Letters 33 (2022) 4033



## Novel fast lithium-ion conductor $\text{LiTa}_2\text{PO}_8$ enhances the performance of poly(ethylene oxide)-based polymer electrolytes in all-solid-state lithium metal batteries

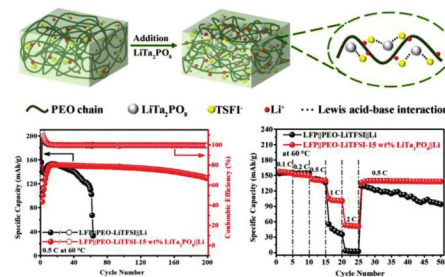
Ying Na<sup>a</sup>, Zhe Chen<sup>a</sup>, Zhongkai Xu<sup>a</sup>, Qi An<sup>a</sup>, Xi Zhang<sup>a</sup>, Xiaohong Sun<sup>a</sup>, Shu Cai<sup>a</sup>, Chunming Zheng<sup>b</sup>

<sup>a</sup> School of Materials Science and Engineering, Key Laboratory of Advanced Ceramics and Machining Technology of Ministry of Education, Tianjin University, Tianjin 300072, China

<sup>b</sup> School of Chemistry and Chemical Engineering, State Key Laboratory of Hollow-fiber Membrane Materials and Membrane Processes, Tiangong University, Tianjin 300387, China

The strong interaction between the Lewis acid center of the novel active filler  $\text{LiTa}_2\text{PO}_8$  and  $\text{TFSI}^-$  promotes the release of  $\text{Li}^+$ , thus achieving high-rate performance and stable cycling performance in all-solid-state lithium metal batteries.

Chinese Chemical Letters 33 (2022) 4037



## Study of a water-soluble supramolecular complex of curcumin and $\beta$ -cyclodextrin polymer with electrochemical property and potential anti-cancer activity

Wang Zhang<sup>a</sup>, Ping Xiao<sup>a</sup>, Liwei Lin<sup>b</sup>, Fang Guo<sup>a</sup>, Qingyue Wang<sup>c</sup>, Yuanzhe Piao<sup>b,d</sup>, Guowang Diao<sup>a</sup>

<sup>a</sup> School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 225002, China

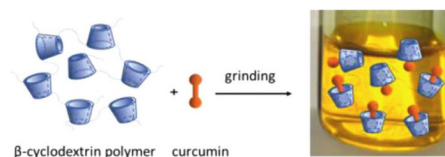
<sup>b</sup> Department of Applied Bioengineering, Graduate School of Convergence Science and Technology, Seoul National University, Suwon 443-270, Republic of Korea

<sup>c</sup> Shanghai Sumi Biotechnology Development Co., Ltd., Shanghai 201300, China

<sup>d</sup> Advanced Institutes of Convergence Technology, Suwon 443-270, Republic of Korea

This study describes the preparation and properties of a supramolecular complex of curcumin and  $\beta$ -CDP which exhibits better anti-cancer efficiency than curcumin.

Chinese Chemical Letters 33 (2022) 4043



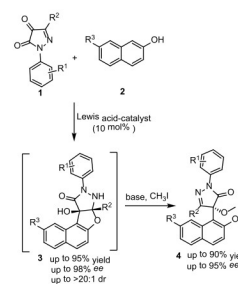
## Lewis acid-catalyzed enantioselective Friedel-Crafts reaction of pyrazole-4,5-diones with $\beta$ -naphthol

Yangmian Lu, Jindong Li, Weizhi Gu, Ning Li, Zhenggen Zha, Zhiyong Wang

Hefei National Laboratory for Physical Sciences at Microscale, Center for Excellence in Molecular Synthesis of Chinese Academy of Sciences, School of Chemistry and Materials Science, University of Science and Technology of China, Hefei 230026, China

A series of pyrazolone derivatives bearing a tetrasubstituted chiral center were prepared by virtue of a Lewis acid-catalyzed Friedel-Crafts reaction, in which a chiral copper complexes was employed as the catalyst. This reaction can be carried out smoothly under mild condition to afford the pyrazolone derivatives with high yields (up to 85%) and excellent enantioselectivities (up to 99%).

Chinese Chemical Letters 33 (2022) 4048



## Development and evaluation of a thermostatic nucleic acid testing device based on magnesium pyrophosphate precipitation for detecting *Enterocytozoon hepatopenaei*

Zhu Chen<sup>a,d</sup>, Kaixuan Zhao<sup>a</sup>, Ziyu He<sup>b</sup>, Xiaofang Luo<sup>f</sup>, Zuodong Qin<sup>f</sup>, Yimin Tan<sup>a,d</sup>, Xiangming Zheng<sup>c,d</sup>, Zuozhong Wu<sup>e</sup>, Yan Deng<sup>a</sup>, Hui Chen<sup>a</sup>, Yuan Guo<sup>b</sup>, Song Li<sup>a,d</sup>

<sup>a</sup>Hunan Key Laboratory of Biomedical Nanomaterials and Devices, Hunan University of Technology, Zhuzhou 412007, China

<sup>b</sup>Department of Cardiovascular Medicine, The Affiliated Zhuzhou Hospital Xiangya Medical College, Central South University, Zhuzhou 412000, China

<sup>c</sup>Institute of Supramolecular Structures and Micro-nano Materials, Hunan University of Technology, Zhuzhou 412007, China

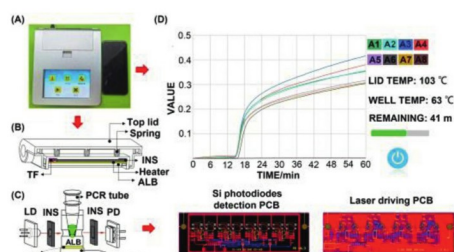
<sup>d</sup>National & Local Joint Engineering Research Center for Research and Technology of Advanced Packaging Materials, Hunan University of Technology, Zhuzhou 412007, China

<sup>e</sup>Hunan Shengzhou Biotechnology Ltd., Zhuzhou 412000, China

<sup>f</sup>College of Chemistry and Bioengineering, Hunan University of Science and Engineering, Yongzhou 425199, China

A new onsite rapid testing device for pathogen has good stability, uniformity and reliability which is integrated with light module, detector, thermal controller and human interface module, the qualitative result can accurate judgment in 30 min.

Chinese Chemical Letters 33 (2022) 4053



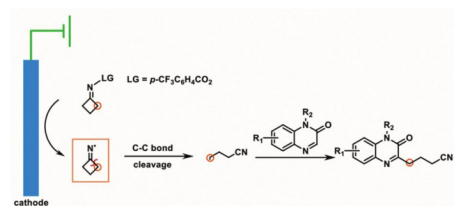
## Electro-reductive C-H cyanoalkylation of quinoxalin-2(1H)-ones

Ling Ding, Kaikai Niu, Yuxiu Liu, Qingmin Wang

State Key Laboratory of Elemento-Organic Chemistry, Research Institute of Elemento-Organic Chemistry, College of Chemistry, Frontiers Science Center for New Organic Matter, Nankai University, Tianjin 300071, China

Our work utilized electrochemical technique as an environmentally benign method to realize the electro-reductive cyanoalkylation of quinoxalin-2(1H)-ones. Under the standard reaction conditions, these mild reactions would require neither heating nor sophisticated metal catalysts.

Chinese Chemical Letters 33 (2022) 4057



## Chloro-free synthesis of LiPF<sub>6</sub> using the fluorine-oxygen exchange technique

Jian Liu<sup>a,b</sup>, Yuanli Cai<sup>a,b</sup>, Huan Pang<sup>a</sup>, Bin Cao<sup>a,b</sup>, Chengzhi Luo<sup>b</sup>, Zhenghao Hu<sup>b</sup>, Chaoqun Xiao<sup>b</sup>, Hu Zhang<sup>b</sup>, Fulu Lv<sup>b</sup>, Yitao Cao<sup>c</sup>, Lei Yu<sup>a</sup>

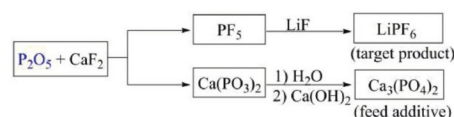
<sup>a</sup>School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 225002, China

<sup>b</sup>Tianzhu Hongfu Lithium Industry Technology Development Company Limited, Wuwei 733200, China

<sup>c</sup>Royal Holloway, University of London, Egham TW20 0QR, United Kingdom

A hydrogen fluoride-free and chloro-free method for synthesizing LiPF<sub>6</sub> was developed. The use of P<sub>2</sub>O<sub>5</sub> as phosphorus source instead of traditionally employed PCl<sub>3</sub> significantly reduced the chloro residue in product. This is a completely new technique for LiPF<sub>6</sub> production and may bring about technological revolution in the related industry.

Chinese Chemical Letters 33 (2022) 4061



A novel chloro-free and HF-free access to high purity LiPF<sub>6</sub>!

## Ru(III)-catalyzed construction of variously substituted quinolines from 2-aminoaromatic aldehydes (ketones) and isoxazoles: Isoxazoles as cyclization reagent and cyano sources

Di Hu, Chao Pi, Wei Hu, Xiliang Han, Yangjie Wu, Xiuling Cui

Henan Key Laboratory of Chemical Biology and Organic Chemistry, Key Laboratory of Applied Chemistry of Henan Universities, Green Catalysis Center and College of Chemistry, Zhengzhou University, Zhengzhou 450052, China

A Ru(III)-catalyzed annulation reaction of 2-aminoaromatic aldehydes (ketones) and isoxazoles to afford diverse 3-cyanoquinolines has been developed. Notably, isoxazole acted as a cyclization reagent and non-toxic cyano source via N-O bond cleavage and fragmentation. Variously substituted (especially 6- or 7-substituted) quinolines could be easily afforded. This procedure features wide functional group compatibility, efficiency and avoiding toxic cyano source. Meanwhile, this protocol could be successfully applied to scale-up synthesis. Further chemical transformations of 3-cyanoquinoline could give some valuable skeletons, demonstrating its potential in synthetic application.

Chinese Chemical Letters 33 (2022) 4064



- Various-locations-substituted quinoline derivatives
- 36 examples & up to 91% yield
- Mild reaction conditions
- Isoxazoles as cyclization reagent & non-toxic cyano sources



## Structural landscape investigations on bendable plastic crystals of isonicotinamide polymorphs

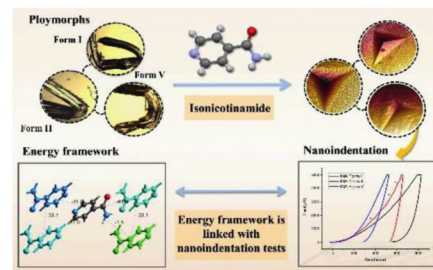
Jianting Li<sup>a</sup>, Jiaquan Li<sup>a</sup>, Hongji Liu<sup>a</sup>, Li Zhang<sup>b</sup>, Yang Lu<sup>b</sup>, Zhengzheng Zhou<sup>a</sup>

<sup>a</sup> NMPA Key Laboratory for Safety Evaluation of Cosmetics, Guangdong Provincial Key Laboratory of Tropical Disease Research, Department of Hygiene Inspection & Quarantine Science, School of Public Health, Southern Medical University, Guangzhou 510515, China

<sup>b</sup> Beijing City Key Laboratory of Polymorphic Drugs, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China

Three polymorphs (form I, II and V) of isonicotinamide (INA) exhibited super flexibility with one-dimensional (1D) plasticity. The anisotropic intermolecular interactions with weak dispersive interactions between slip planes contribute to the bending performance of INA.

Chinese Chemical Letters 33 (2022) 4069



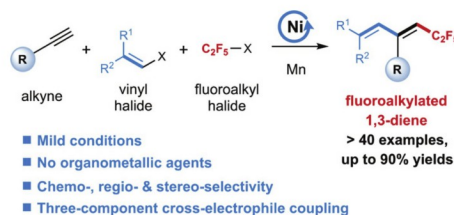
## Selective Ni-catalyzed cross-electrophile coupling of alkynes, fluoroalkyl halides, and vinyl halides

Yubei Dai, Fang Wang, Shengqing Zhu, Lingling Chu

State Key Laboratory for Modification of Chemical Fibers and Polymer Materials, Center for Advanced Low-Dimension Materials, College of Chemistry, Chemical Engineering and Biotechnology, Donghua University, Shanghai 201620, China

We report a Ni-catalyzed three-component cross-electrophile coupling of alkynes with alkenyl halides and fluoroalkyl halides, enabling the straightforward access to fluoroalkyl-incorporated 1,3-diene motifs under mild conditions.

Chinese Chemical Letters 33 (2022) 4074



## Green and controllable fabrication of nanocrystals from ionic liquids

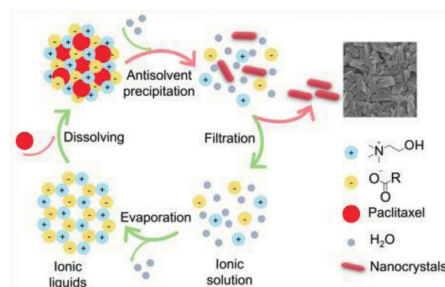
Weizi Huang<sup>a</sup>, Zhezheng Fang<sup>a</sup>, Xianzi Zheng<sup>a</sup>, Jianping Qi<sup>a</sup>, Wei Wu<sup>a,b</sup>, Yi Lu<sup>a</sup>

<sup>a</sup> Key Laboratory of Smart Drug Delivery of MOE, School of Pharmacy, Fudan University, Shanghai 201203, China

<sup>b</sup> Center for Medical Research and Innovation, Shanghai Pudong Hospital, Fudan University Pudong Medical Center, Shanghai 201399, China

Choline based ionic liquids enable green and controllable fabrication of nanocrystals via a bottom-up process. The ionic liquids can be recovered for cyclic utilization without compromise on the quality of nanocrystals.

Chinese Chemical Letters 33 (2022) 4079



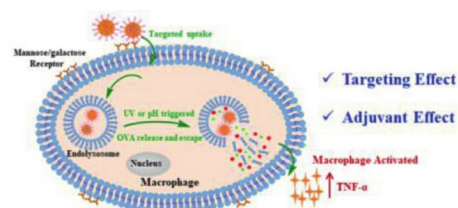
## Sugar-dependent targeting and immune adjuvant effects of hyperbranched glycosylated polypeptide nanoparticles for ovalbumin delivery

Yingying Song, Chang-Ming Dong

School of Chemistry and Chemical Engineering, Shanghai Key Laboratory of Electrical Insulation and Thermal Aging, Shanghai Jiao Tong University, Shanghai 200240, China

Sugar-dependent targeting and immune adjuvant effects of hyperbranched glycosylated polypeptide nanoparticles were disclosed for ovalbumin (OVA) delivery system. The mannose-coated polypeptide nanoparticles can induce strongest targeting and immune adjuvant effects to macrophages than those glucose/lactose-coated ones, which effectively transported OVA into cells and facilitated OVA subcellular escape from endolysosomes into cytoplasm with the assistance of UV irradiation or intracellular acidic pH. Importantly, this work opens up a new avenue for highly potent protein/antigen delivery and immunotherapy.

Chinese Chemical Letters 33 (2022) 4084



## A novel therapeutic vaccine based on graphene oxide nanocomposite for tumor immunotherapy

Liming Zhang<sup>a</sup>, Lingfeng Xu<sup>a,c</sup>, Yi Wang<sup>a</sup>, Jieyu Liu<sup>a</sup>, Guanghong Tan<sup>a</sup>, Fengying Huang<sup>a</sup>, Nongyue He<sup>b</sup>, Zhuoxuan Lu<sup>a</sup>

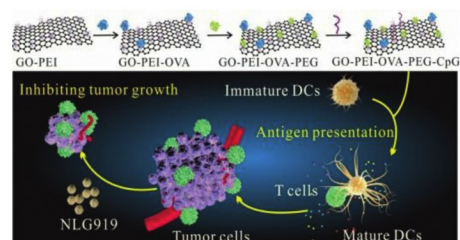
<sup>a</sup>Key Laboratory of Tropical Translational Medicine of Ministry of Education & Hainan Provincial Key Laboratory of Tropical Medicine, Hainan Medical University, Haikou 571199, China

<sup>b</sup>State Key Laboratory of Bioelectronics, School of Biological Science and Medical Engineering, Southeast University, Nanjing 210096, China

<sup>c</sup>Department of Clinical Laboratory, HwaMei Hospital, University of Chinese Academy of Sciences, Ningbo 315000, China

The GO-PEI-OVA-PEG-CpG nanovaccine actively induces an antigen-specific antitumor immune response.

Chinese Chemical Letters 33 (2022) 4089



## Development and analysis of a novel AF11–2 aptamer capable of enhancing the fluorescence of aflatoxin B1

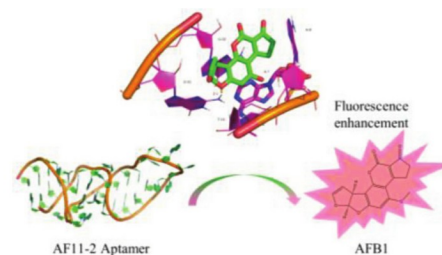
Wenjing Li<sup>a,b</sup>, Yian Pei<sup>b</sup>, Jine Wang<sup>a,b</sup>

<sup>a</sup>School of Nano-Tech and Nano-Bionics, University of Science and Technology of China, Hefei 230026, China

<sup>b</sup>CAS Key Laboratory of Nano-Bio Interface, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Suzhou 215123, China

A new type of AF11–2 aptamer that can significantly enhance the fluorescence of AFB1 was obtained by the method of SELEX, and its luminescence performance is not possessed by the most commonly cited AFB1 aptamer.

Chinese Chemical Letters 33 (2022) 4096



## Facile synthesis and *in vivo* bioimaging applications of porphyrin derivative-encapsulated polymer nanoparticles

Mengfei Hou<sup>a</sup>, Wandi Chen<sup>a</sup>, Junkai Zhao<sup>a,b</sup>, Deshen Dai<sup>a</sup>, Mo Yang<sup>c</sup>, Changqing Yi<sup>a</sup>

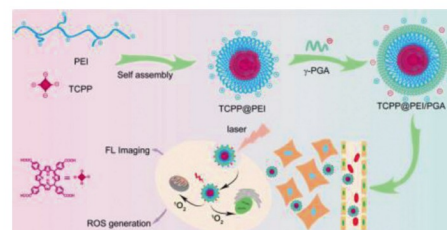
<sup>a</sup>Guangdong Provincial Engineering and Technology Center of Advanced and Portable Medical Devices, School of Biomedical Engineering, Sun Yat-sen University, Shenzhen 518107, China

<sup>b</sup>State Key Laboratory of Oncology in South China, Collaborative Innovation Center For Cancer Medicine, Sun Yat-sen University Cancer Center, Guangzhou 510060, China

<sup>c</sup>Department of Biomedical Engineering, The Hong Kong Polytechnic University, Hong Kong, China

A simple but robust synthetic route is successfully demonstrated to encapsulate TCPP into PEI-based nanotheranostic probes TCPP@PEI/PGA which exhibit excellent water-solubility and biocompatibility, as well as outstanding capabilities of *in vivo* bioimaging and <sup>1</sup>O<sub>2</sub> generation.

Chinese Chemical Letters 33 (2022) 4101



## Synthesis and evaluation of peptide–fentanyl analogue conjugates as dual $\mu/\delta$ -opioid receptor agonists for the treatment of pain

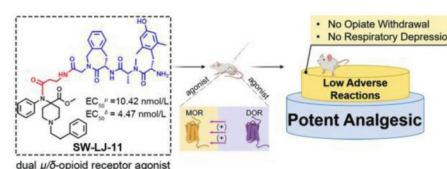
Jing Li<sup>a,b</sup>, Tao Zhang<sup>a</sup>, Jialin Sun<sup>a</sup>, Fengxia Ren<sup>a</sup>, Hongxin Jia<sup>a</sup>, Zixing Yu<sup>a</sup>, Jingchao Cheng<sup>a</sup>, Weiguo Shi<sup>a</sup>

<sup>a</sup>State Key Laboratory of Toxicology and Medical Countermeasures, Beijing Institute of Pharmacology and Toxicology, Beijing 100850, China

<sup>b</sup>School of Chemical Engineering and Technology, Tianjin University, Tianjin 300350, China

Dual  $\mu/\delta$  opioid receptors agonist SW-LJ-11, exhibited potent analgesic efficacy with no apparent physical dependence and respiratory depression.

Chinese Chemical Letters 33 (2022) 4107





## Polyetherimide functionalized carbon dots with enhanced red emission in aqueous solution for bioimaging

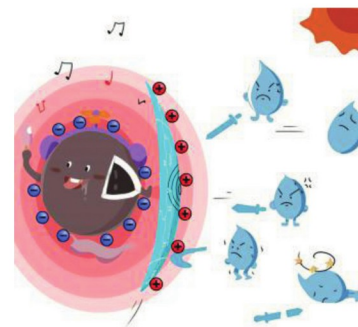
Liming Wang<sup>a</sup>, Bingzhe Wang<sup>a</sup>, Enshan Liu<sup>a</sup>, Yuyang Zhao<sup>a</sup>, Bingchen He<sup>a</sup>, Chunfei Wang<sup>b</sup>, Guichuan Xing<sup>a</sup>, Zikang Tang<sup>a</sup>, Yinning Zhou<sup>a</sup>, Songnan Qu<sup>a</sup>

<sup>a</sup>Institute of Applied Physics and Materials Engineering, University of Macau, Macau SAR, China

<sup>b</sup>Cancer Centre and Centre of Reproduction, Development and Aging, Faculty of Health Sciences, University of Macau, Macau SAR, China

In this paper, we reported a facile strategy to realize enhanced red emission of CDs in aqueous solution by surface modification with polyetherimide (PEI) via microwave heating method. A high PLQY of 25% in the red wavelength region was realized in the PEI-modified CDs in an aqueous solution, which is very meaningful for their bioimaging applications.

Chinese Chemical Letters 33 (2022) 4111



## One-pot synthesis of concentration and excitation dual-dependency truly full-color photoluminescence carbon dots

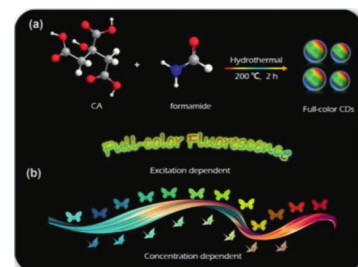
Chen Wei<sup>a</sup>, Shun Hu<sup>a</sup>, Fuxin Liang<sup>b</sup>, Zhining Song<sup>b</sup>, Xue Liu<sup>a</sup>

<sup>a</sup>Institute of Clean Energy Chemistry, Key Laboratory for Green Synthesis and Preparative Chemistry of Advanced Materials, College of Chemistry, Liaoning University, Shenyang 110036, China

<sup>b</sup>Institute of Polymer Science and Engineering, Department of Chemical Engineering, Tsinghua University, Beijing 100084, China

The paper describes a kind of truly full-color photoluminescence (PL) CDs, whose color was regulated through two means, including changing excitation wavelengths or CDs concentrations.

Chinese Chemical Letters 33 (2022) 4116



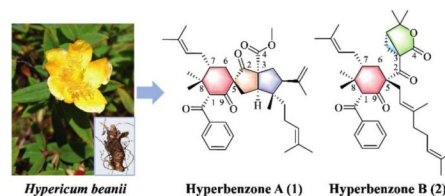
## Hyperbenzoes A and B, two 1,2-seco and rearranged polycyclic polyprenylated acylphloroglucinols from *Hypericum beanii*

Weijia Lu, Yanqiu Zhang, Yawei Li, Shengtao Ye, Jun Luo, Lingyi Kong, Wenjun Xu

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Unprecedented 1,2-seco-bicyclo[3.3.1]nonane-derived polycyclic polyprenylated acylphloroglucinol (PPAP) with a unique spiro[bicyclo[3.3.0]octane-3,1'-cyclohexane]-2,2'-dione framework, hyperbenzone A (1), along with a new congener hyperbenzone B (2), were isolated from *Hypericum beanii*.

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## Programmable endonuclease combined with isothermal polymerase amplification to selectively enrich for rare mutant allele fractions

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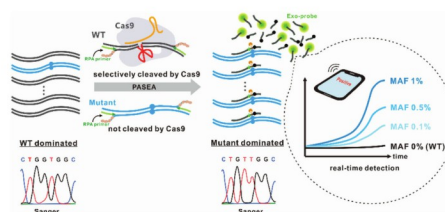
<sup>e</sup>Center for Global Health, School of Population Medicine and Public Health, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100730, China

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We devised a new assay dubbed Programmable Enzyme-Assisted Selective Exponential Amplification (PASEA) that concurrently amplifies both wild type and mutant alleles in the presence of guided endonuclease that targets only the wild type allele, enabling point-of-care genotyping and inexpensive rare mutant allele detection.

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