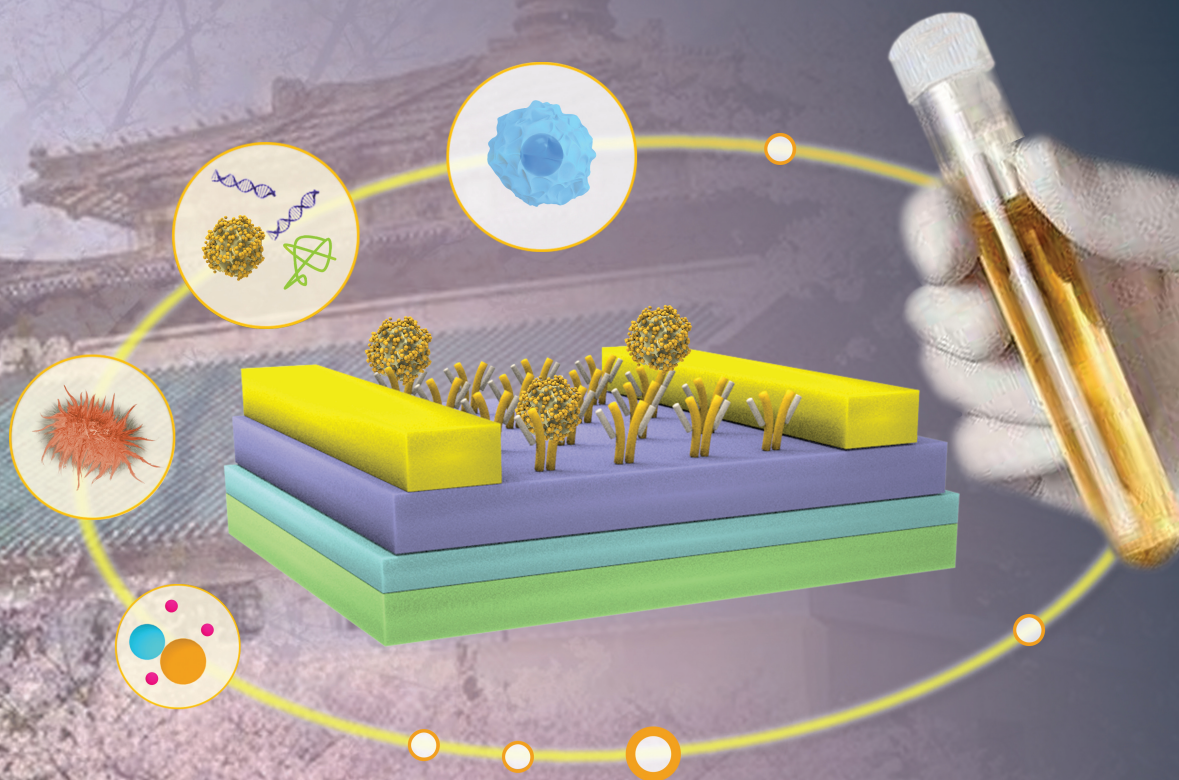


Highly stable TFT biosensor for urine detection



Provided by
Prof. Quan Yuan's group, WHU, China



ISSN 1001-8417



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Graphical Abstracts/Chin Chem Lett 31 (2020) iii–xviii

Special Column: Outstanding/Excellent Young Scholars

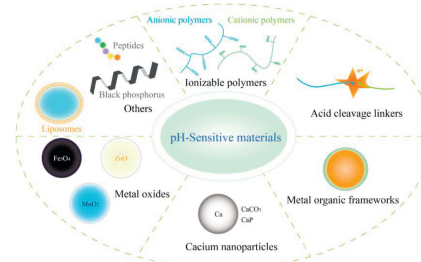
Reviews

pH-Sensitive nanoscale materials as robust drug delivery systems for cancer therapy

Zhaoqing Shi^a, Qianqian Li^a, Lin Mei^{a,b}^a School of Pharmaceutical Sciences (Shenzhen), Sun Yat-sen University, Shenzhen 518107, China^b Tsinghua Shenzhen International Graduate School, Tsinghua University, Shenzhen 518055, China

The formation progress of acidic tumor microenvironment, the mechanism of drug delivery systems and nanomaterials that responsive to acidic pH in tumor microenvironment are summarized in this review.

Chinese Chemical Letters 31 (2020) 1345



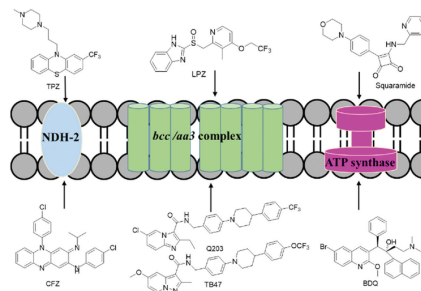
New antituberculosis drugs targeting the respiratory chain

Qian Li, Xiaoyun Lu

International Cooperative Laboratory of Traditional Chinese Medicine Modernization and Innovative Drug Development of Chinese Ministry of Education (MOE), School of Pharmacy, Ji'nan University, Guangzhou 510632, China

The respiratory chain is a promising target for the development of new antimycobacterial agents, and a growing number of compounds have been reported and have entered clinical trials. We summarize the main features and the electron transfer process of the mycobacterial respiratory chain, and the recent progress in the search for new small molecule inhibitors targeting the respiratory chain of *Mtb*.

Chinese Chemical Letters 31 (2020) 1357



Advances in aggregatable nanoparticles for tumor-targeted drug delivery

Wenqi Yu^a, Maxim Shevtsov^c, Xianchun Chen^b, Huile Gao^a

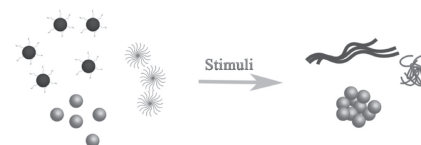
^a Key Laboratory of Drug-Targeting and Drug Delivery System of the Education Ministry, Sichuan Engineering Laboratory for Plant-Sourced Drug and Sichuan Research Center for Drug Precision Industrial Technology, West China School of Pharmacy, Sichuan University, Chengdu 610064, China

^b College of Materials Science and Engineering, Sichuan University, Chengdu 610064, China

^c Institute of Cytology of the Russian Academy of Sciences (RAS), St. Petersburg 194064, Russia

We summarize different stimuli-responsive nano-aggregations, internal and external stimuli are introduced and the nanoaggregates extraordinary enhanced nanoparticles' accumulation and penetration in tumor site.

Chinese Chemical Letters 31 (2020) 1366



The blooming intersection of transcatheter hepatic artery chemoembolization and nanomedicine

Hu Chen^a, Hongwei Cheng^{a,b}, Wenying Wu^{a,c}, Dengfeng Li^a, Jingsong Mao^{a,b}, Chengchao Chu^a, Gang Liu^a

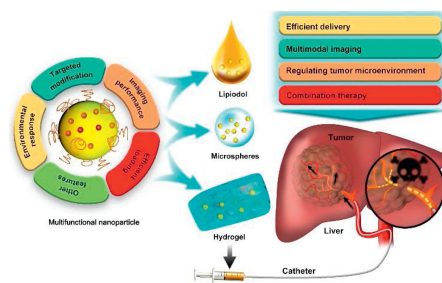
^a State Key Laboratory of Molecular Vaccinology and Molecular Diagnostics and Center for Molecular Imaging and Translational Medicine, School of Public Health, Xiamen University, Xiamen 361102, China

^b Department of Radiology, Xiang'an Hospital of Xiamen University, Xiamen 361102, China

^c Department of Radiological Intervention, The First Hospital of China Medical University, Shenyang 110001, China

The blooming intersection of TACE and nanomedicine that achieved remarkable progress in the treatment of HCC with multiple therapeutic approaches was discussed in this review. The efficient drug delivery, nanotheranostic-based real-time monitoring and combination treatment, which are the most critical aspects that affect the clinical application and efficacy of TACE was briefly summarized.

Chinese Chemical Letters 31 (2020) 1375



Communications

Tumor-homing peptide-based NIR-II probes for targeted spontaneous breast tumor imaging

Hui Zhou^{a,b}, Shanshan Li^b, Xiaodong Zeng^b, Mengxian Zhang^b, Lin Tang^b, Qianqian Li^b, Deliang Chen^d, Xianli Meng^a, Xuechuan Hong^{a,b,c}

^a Innovative Institute of Chinese Medicine and Pharmacy, Chengdu University of Traditional Chinese Medicine, Chengdu 611137, China

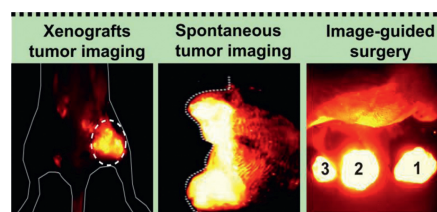
^b Key Laboratory of Combinatorial Biosynthesis and Drug Discovery (MOE), Hubei Province Engineering and Technology Research Center for Fluorinated Pharmaceuticals, Shenzhen Institute of Wuhan University, Shenzhen 518057, China

^c College of Science, Innovation Center for Traditional Tibetan Medicine Modernization and Quality Control, Medical College, Tibet University, Lasa 850000, China

^d Jiangxi Key Laboratory of Organo-Pharmaceutical Chemistry, Chemistry and Chemical Engineering College, Gannan Normal University, Ganzhou 341000, China

This report presents the first tumor-homing peptide-based NIR-II probe **CH1055-F3** to diagnose transplantable and spontaneous breast tumors by the active targeting.

Chinese Chemical Letters 31 (2020) 1382



Design of high stability thin-film transistor biosensor for the diagnosis of bladder cancer

Yingxue Li^a, Bo Zeng^a, Yujie Yang^a, Huageng Liang^c, Yanbing Yang^{a,b,d}, Quan Yuan^{a,b}

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

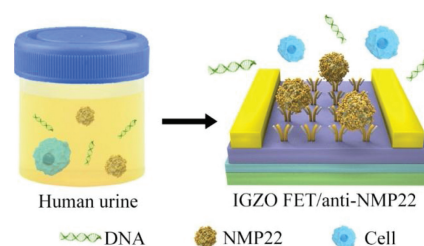
^b Institute of Chemical Biology and Nanomedicine, State Key Laboratory of Chemo/Biosensing and Chemometrics, College of Chemistry and Chemical Engineering, Hunan University, Changsha 410082, China

^c Department of Urology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430022, China

^d Key Laboratory for Micro-/Nano-Optoelectronic Devices of Ministry of Education, School of Physics and Electronics, Hunan University, Changsha 410082, China

The high stability indium gallium zinc oxide field effect transistor (IGZO-FET) biosensor was designed for efficient identification of bladder cancer biomarkers from human urine samples. This noninvasive detection approach holds great potential in the application of portable digital bladder cancer diagnosis devices.

Chinese Chemical Letters 31 (2020) 1387



In-situ conversion of Ni₂P/rGO from heterogeneous self-assembled NiO/rGO precursor with boosted pseudocapacitive performance

Ge Song^{a,b}, Zonglin Yi^c, Lijing Xie^a, Zhihong Bi^{a,b}, Qian Li^d, Jingpeng Chen^{a,b}, Qingqiang Kong^a, Chengmeng Chen^{a,e}

^a CAS Key Laboratory of Carbon Materials, Institute of Coal Chemistry, Chinese Academy of Sciences, Taiyuan 030001, China

^b University of Chinese Academy of Sciences, Beijing 100049, China

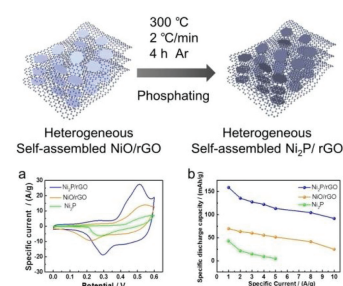
^c College of Materials Science and Engineering, Taiyuan University of Technology, Taiyuan 030024, China

^d Department of Chemical Engineering, Waterloo Institute of Nanotechnology, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada

^e Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing 100049, China

Ni₂P/rGO hybrid with 2D layered heterostructure was successfully fabricated by phosphating (PH₃) the self-assembled NiO/rGO composites. rGO not only acts as interlayer spacer to inhibit the aggregation of Ni₂P and rGO, but also as conductive network for efficient electron transport. The Ni₂P/rGO electrode exhibit more excellent electrochemical performance compared with NiO/rGO and pure Ni₂P.

Chinese Chemical Letters 31 (2020) 1392



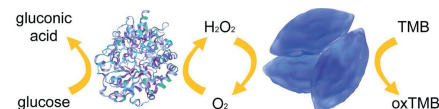
Ferriporphyrin-inspired MOFs as an artificial metalloenzyme for highly sensitive detection of H₂O₂ and glucose

Jiajia Chen, Huajian Gao, Zhihao Li, Yingxue Li, Quan Yuan

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

In this work, inspired by the active sites of ferriporphyrin-based metalloenzymes, Fe-MOFs by using ferric as the metal center and a porphyrin analog as the organic ligand were developed as an artificial metalloenzyme, offering an efficient strategy for the development of highly stable and efficient metalloenzymes, showing great potential in catalysis, energy transfer, biosensing and medical diagnosis.

Chinese Chemical Letters 31 (2020) 1398



Insights into bishemicyanines with long emission wavelengths and high sensitivity in viscous environments

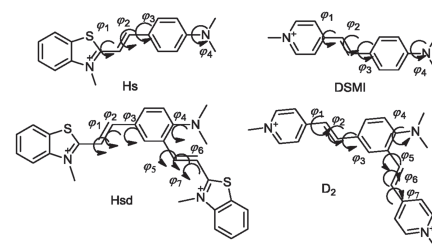
Jianfang Cao^{a,b}, Wen Sun^a, Jiangli Fan^a

^a State Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian 116024, China

^b School of Chemical and Environmental Engineering, Liaoning University of Technology, Jinzhou 121001, China

The bishemicyanine dyes displayed long emission wavelengths, large Stokes shifts, low background quantum yields in aqueous solutions and high sensitivity in viscous environments.

Chinese Chemical Letters 31 (2020) 1402



Anti-inflammatory spirobisnaphthalene natural products from a plant-derived endophytic fungus *Edenia gomezpompae*

Yingzi Tan^a, Zhikai Guo^{b,d}, Mengyue Zhu^a, Jing Shi^a, Wei Li^a, Ruihua Jiao^a, Renxiang Tan^{a,c}, Huiming Ge^a

^a State Key Laboratory of Pharmaceutical Biotechnology, Institute of Functional Biomolecules, School of Life Sciences, Nanjing University, Nanjing 210023, China

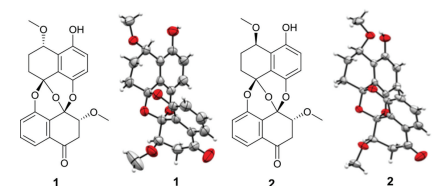
^b Hainan Key Laboratory of Tropical Microbe Resources, Institute of Tropical Bioscience and Biotechnology, Chinese Academy of Tropical Agricultural Sciences, Haikou 571101, China

^c State Key Laboratory Cultivation Base for TCM Quality and Efficacy, Nanjing University of Chinese Medicine, Nanjing 210023, China

^d Hainan Academy of Tropical Agricultural Resource, Chinese Academy of Tropical Agricultural Sciences, Haikou 571101, China

Spirobisnaphthalenes comprise a relatively rare family of natural products. Here we reported the discovery of fourteen spirobisnaphthalenes (**1-14**) including seven new ones (**1-7**) from the endophytic fungus *Edenia gomezpompae* and their potent anti-inflammatory activities.

Chinese Chemical Letters 31 (2020) 1406



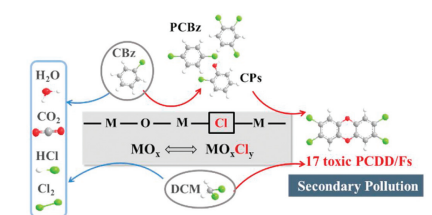
Unveiling the secondary pollution in the catalytic elimination of chlorinated organics: The formation of dioxins

Jiajia Liu, Xiaoxia Dai, Zhongbiao Wu, Xiaole Weng

Key Laboratory of Environment Remediation and Ecological Health, Ministry of Education, College of Environmental and Resource Sciences, Zhejiang University, and Zhejiang Provincial Engineering Research Center of Industrial Boiler & Furnace Flue Gas Pollution Control, Hangzhou 310058, China

Direct evidences were provided for the PCDD/F generation in the catalytic elimination of chlorinated organic pollutants over a range of industrially applied active species including Pt, Ru, V, Ce and Mn oxides.

Chinese Chemical Letters 31 (2020) 1410



Bi/Bi₂O₃ nanoparticles supported on N-doped reduced graphene oxide for highly efficient CO₂ electroreduction to formate

Junjie Sun^{a,b}, Wanzhen Zheng^{a,b}, Siliu Lyu^b, Feng He^a, Bin Yang^b, Zhongjian Li^b, Liecheng Lei^b, Yang Hou^{b,c}

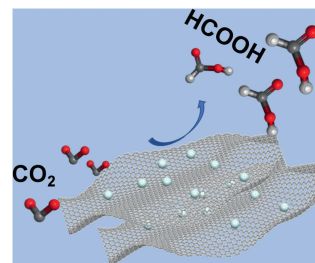
^a College of Environment, Zhejiang University of Technology, Hangzhou 310014, China

^b Key Laboratory of Biomass Chemical Engineering of Ministry of Education, College of Chemical and Biological Engineering, Zhejiang University, Hangzhou 310027, China

^c Ningbo Research Institute, Zhejiang University, Ningbo 315100, China

A hybrid CO₂ER catalyst of Bi/Bi₂O₃ nanoparticles supported on N-doped RGO nanosheets with synergistic effect was synthesized for highly selective CO₂ electroreduction for formate production.

Chinese Chemical Letters 31 (2020) 1415



Discovery of a novel sodium taurocholate cotransporting polypeptide (NTCP) inhibitor: Design, synthesis, and anti-proliferative activities

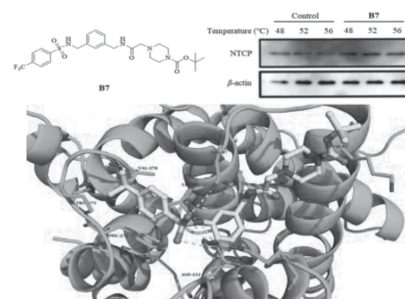
Honggang Xiang^a, Yanmei Chen^a, Jifa Zhang^a, Jin Zhang^a, Dabo Pan^b, Bo Liu^a, Liang Ouyang^a

^a State Key Laboratory of Biotherapy and Cancer Center, West China Hospital, Sichuan University, Collaborative Innovation Center for Biotherapy, Chengdu 610041, China

^b Institute of Traditional Chinese Medicine & Natural Products, Guangdong Province Key Laboratory of Pharmacodynamic Constituents of TCM and New Drugs Research, College of Pharmacy, Jinan University, Guangzhou 510632, China

We discovered a small-molecule NTCP inhibitor **B7** that was identified to bind to NTCP and induced apoptosis in HepG2 cells.

Chinese Chemical Letters 31 (2020) 1422



Preparation of poly(glutamic acid) shielding micelles self-assembled from polylysine-*b*-polyphenylalanine for gene and drug codelivery

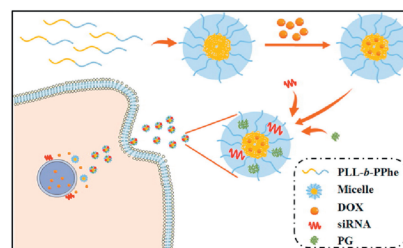
Jing Ma^{a,b}, Jingpeng Zhang^{a,b}, Lin Chia^a, Chong Liu^{a,b}, Yanhui Li^a, Huayu Tian^b

^a School of Materials Science and Engineering, Changchun University of Science and Technology, Changchun 130022, China

^b Key Laboratory of Polymer Ecomaterials, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

A novel gene and drug codelivery system based on amphiphilic cationic block copolymer polylysine-*b*-polyphenylalanine shielded with poly(glutamic acid) (PG/PLL-*b*-PPhe) was prepared to perform combinational cancer therapy.

Chinese Chemical Letters 31 (2020) 1427



Comparative study on ciprofloxacin removal in sulfur-mediated biological systems

Huiqun Zhang^{a,b}, Shiliu Song^{a,b}, Lianpeng Sun^{a,b}, Qing Zhao^c, Hui Lu^{a,b}

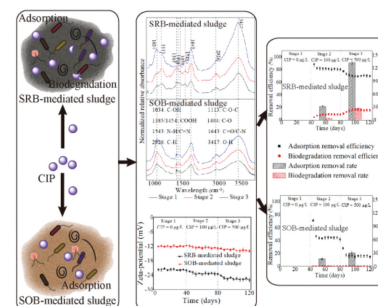
^a School of Environmental Science and Engineering, Sun Yat-sen University, Guangzhou 510275, China

^b Guangdong Provincial Key Laboratory of Environmental Pollution Control and Remediation Technology (Sun Yat-sen University), Guangzhou 510275, China

^c School of Civil Engineering, Guangzhou University, Guangzhou 510275, China

Ciprofloxacin (CIP) removal in sulfur-mediated bioprocesses, e.g., sulfate-reducing bacteria (SRB)-mediated process and sulfur-oxidizing bacteria (SOB)-mediated process, was examined for the first time. The sludge properties (compositions and structure of extracellular polymeric substances (EPS), zeta-potential and surface functional groups) affecting CIP adsorption in these two sludge systems were determined.

Chinese Chemical Letters 31 (2020) 1432



Nitrogen-doped carbon nanotube-encapsulated nickel nanoparticles assembled on graphene for efficient CO₂ electroreduction

Tingting Wang^a, Jian Yang^a, Jiayi Chen^a, Qinggang He^a, Zhongjian Li^a, Lecheng Lei^a, Jianguo Lu^c, Michael K.H. Leung^d, Bin Yang^a, Yang Hou^{a,b,e}

^a Key Laboratory of Biomass Chemical Engineering of Ministry of Education, College of Chemical and Biological Engineering, Zhejiang University, Hangzhou 310027, China

^b Institute of Zhejiang University - Quzhou, Quzhou 324000, China

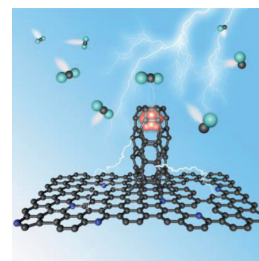
^c State Key Laboratory of Silicon Materials, School of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, China

^d Ability R&D Energy Research Centre (AERC), School of Energy and Environment, City University of Hong Kong, Hong Kong 999077, China

^e Ningbo Research Institute, Zhejiang University, Ningbo 315100, China

An N-doped 3D hybrid catalyst consisting of carbon nanotube-encapsulated Ni nanoparticles assembled on the surface of graphene is constructed to efficiently convert CO₂ into CO.

Chinese Chemical Letters 31 (2020) 1438



Reviews

Nanocomposite hydrogels based on carbon dots and polymers

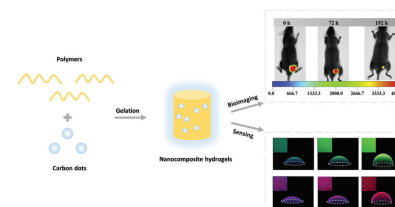
Bowen Sui^a, Yunfeng Li^a, Bai Yang^{a,b}

^a State Key Laboratory of Supramolecular Structure and Materials, College of Chemistry, Jilin University, Changchun 130012, China

^b State Key Laboratory of Applied Optics, Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, Changchun 130012, China

This review highlights recent advances in the development of nanocomposite hydrogels from CDs and polymers.

Chinese Chemical Letters 31 (2020) 1443



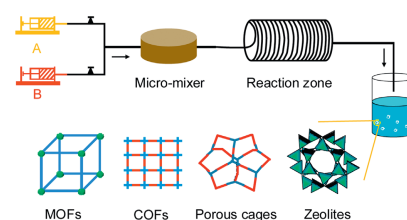
Continuous flow synthesis of porous materials

Yu Xin, Sheng Peng, Junxing Chen, Zujin Yang, Jianyong Zhang

MOE Laboratory of Polymeric Composite and Functional Materials, School of Materials Science and Engineering, Sun Yat-sen University, Guangzhou 510275, China

Continuous flow synthesis of various porous materials such as metal-organic frameworks (MOFs), covalent-organic frameworks (COFs), porous organic cages and zeolites is discussed.

Chinese Chemical Letters 31 (2020) 1448



Research progress of graphene-based nanomaterials for the environmental remediation

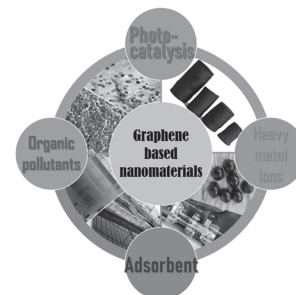
Xiaoru Pan^a, Jiahui Ji^b, Nana Zhang^a, Mingyang Xing^b

^a Department of Chemistry and Chemical Engineering, Weifang University, Weifang 261061, China

^b Key Laboratory for Advanced Materials and Institute of Fine Chemicals, East China University of Science and Technology, Shanghai 200237, China

The research progress and main achievements of graphene-based nanomaterials in the fields of photocatalytic degradation, pollutant adsorption and their mechanism of action are summarized in this review.

Chinese Chemical Letters 31 (2020) 1462



Electrode materials derived from plastic wastes and other industrial wastes for supercapacitors

Wellars Utetiwabo^{a,c}, Le Yang^a, Muhammad Khurram Tufail^a, Lei Zhou^a, Renjie Chen^b, Yimeng Lian^a, Wen Yang^a

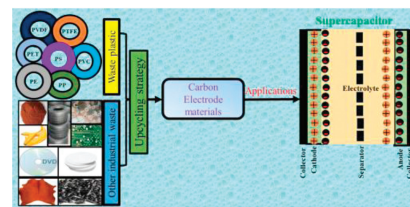
^a Key Laboratory of Cluster Science of Ministry of Education, Beijing Key Laboratory of Photoelectronic/Electrophotonic Conversion Materials, School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing 100081, China

^b School of Material Science and Engineering, Beijing Institute of Technology, Beijing 100081, China

^c School of Education, College of Education, University of Rwanda, Rwamagana, P.O. Box 55, Rwanda

In the present review, the plastic waste and other industrial waste precursors were converted into carbon materials. The different preparations methods and potentials in supercapacitors applications were highlighted as well as their future application in energy storage realm.

Chinese Chemical Letters 31 (2020) 1474



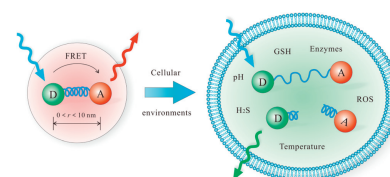
FRET-based polymer materials for detection of cellular microenvironments

Chuang Weng, Nianqing Fan, Taoran Xu, Haodong Chen, Zifen Li, Yiwen Li, Hong Tan, Qiang Fu, Mingming Ding

College of Polymer Science and Engineering State, Key Laboratory of Polymer Materials Engineering, Sichuan University, Chengdu 610065, China

This review summarizes the recent progress in FRET-based polymeric systems for exploring cellular microenvironments, highlighting the wide range of applications of FRET technology for understanding diverse biological activities and functions in cells.

Chinese Chemical Letters 31 (2020) 1490



Communications

Facile scalable one-step wet-spinning of surgical sutures with shape memory function and antibacterial activity for wound healing

Xinghan Chen^a, Pengfei Tan^b, Ya Wen^b, Wencheng Zhou^a, Ying Cen^a, Chao You^c, Lin Tan^{b,d}, Meng Tian^{a,c}

^a Department of Burns and Plastic Surgery, and Neurosurgery Research Laboratory, West China Hospital, Sichuan University, Chengdu 610041, China

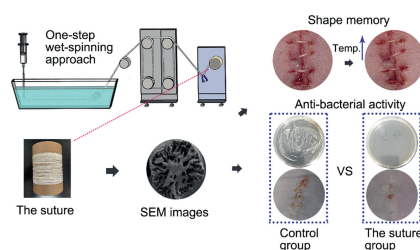
^b College of Biomass Science and Engineering, Sichuan University, Chengdu 610065, China

^c Department of Neurosurgery, West China Hospital, Sichuan University, Chengdu 610041, China

^d Key Laboratory of Leather Chemistry and Engineering of Ministry of Education, Sichuan University, Chengdu 610065, China

Surgical suture with shape memory function and antibacterial activity was fabricated by a facile scalable one-step wet-spinning approach.

Chinese Chemical Letters 31 (2020) 1499



Fluorescence detection of *Escherichia coli* on mannose modified ZnTe quantum dots

Dudu Wu^a, Dongming Wang^a, Xiaomei Ye^a, Kangrui Yuan^a, Yuling Xie^a, Baohong Li^a, Chaobo Huang^b, Tairong Kuang^c, Zhiqiang Yu^{d,e}, Zhi Chen^a

^a School of Pharmacy, Guangdong Medical University, Dongguan 523808, China

^b College of Chemical Engineering Nanjing Forestry University, Nanjing 210037, China

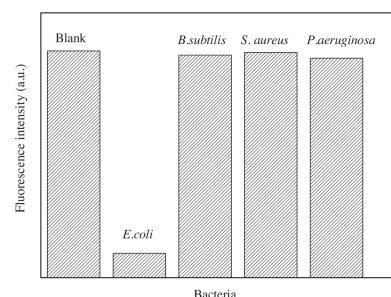
^c College of Materials Science and Engineering, Zhejiang University of Technology, Hangzhou 310014, China

^d School of Pharmaceutical Sciences, Guangdong Provincial Key Laboratory of New Drug Screening, Southern Medical University, Guangzhou 510515, China

^e State Key Laboratory of Polymer Materials Engineering, Sichuan University, Chengdu 610065, China

Fluorescence intensity of MAN-ZnTe QDs was strongly quenched by *E. coli* in the PBS buffer solution.

Chinese Chemical Letters 31 (2020) 1504



A ratiometric merocyanine-based fluorescent probe for detecting hydrazine in living cells and zebra fish

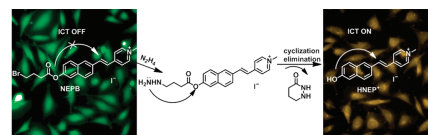
Jinliang Han^a, Xiuxiu Yue^a, Jingpei Wang^a, Yun Zhang^a, Benhua Wang^a, Xiangzhi Song^{a,b}

^a College of Chemistry & Chemical Engineering, Central South University, Changsha 410083, China

^b Key Laboratory of Hunan Province for Water Environment and Agriculture Product Safety, Changsha 410083, China

We have developed a novel ratiometric fluorescent probe NEPB with large Stokes shift and long emission wavelength for detecting hydrazine in living cells and zebra fish.

Chinese Chemical Letters 31 (2020) 1508



Efficient antimicrobial properties of layered double hydroxide assembled with transition metals *via* a facile preparation method

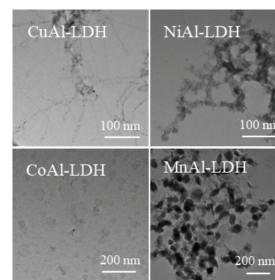
Mengxue Li^a, Li Li^b, Sijie Lin^a

^a College of Environmental Science and Engineering, Shanghai Institute of Pollution Control and Ecological Security, Key Laboratory of Yangtze River Water Environment, Tongji University, Shanghai 200092, China

^b Australian Institute of Bioengineering and Nanotechnology, The University of Queensland, Brisbane, QLD 4072, Australia

MAI-layered double hydroxides (M: Mg²⁺, Cu²⁺, Ni²⁺, Co²⁺ and Mn²⁺) nanoparticles were synthesized as antimicrobial agents *via* a facile method. CuAl-LDH, NiAl-LDH, CoAl-LDH, and MnAl-LDH had effective antibacterial activity in broth dilution tests, while CuAl-LDH, CoAl-LDH, and MnAl-LDH were effective in disk diffusion tests.

Chinese Chemical Letters 31 (2020) 1511



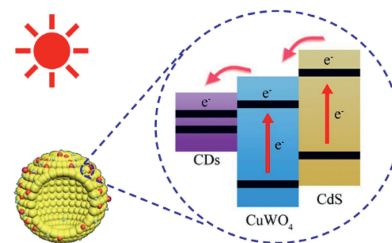
Cascaded electron transition in CuWO₄/CdS/CdS heterostructure accelerating charge separation towards enhanced photocatalytic activity

Yibo Chen, Jing-Feng Li, Pei-Yu Liao, Ying-Shan Zeng, Zhu Wang, Zhao-Qing Liu

School of Chemistry and Chemical Engineering, Guangzhou Key Laboratory for Clean Energy and Materials, Guangzhou University, Guangzhou 510006, China

A cascaded electron transition pathway was presented in a ternary heterostructure consisting of CdS quantum dots, carbon dots (CDs) and CuWO₄ hollow spheres, which greatly facilitates the photogenerated electron-hole separation and eventually boosts the degradation efficiency of phenol and congo red by 100% and 46% compared to bare CuWO₄.

Chinese Chemical Letters 31 (2020) 1516



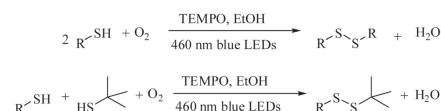
TEMPO visible light photocatalysis: The selective aerobic oxidation of thiols to disulfides

Hui Xu, Yu-Fei Zhang, Xianjun Lang

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

Disulfides were obtained in a facile and efficient manner with very high isolated yields by TEMPO visible light photocatalysis in ethanol. A complex formed between TEMPO and thiols during the reaction course underpins the visible light activity.

Chinese Chemical Letters 31 (2020) 1520



New strategy for production of primary alcohols from aliphatic olefins by tandem cross-metathesis/hydrogenation

Ruilong Jia^{a,b}, Zhijun Zuo^c, Xu Li^a, Lei Liu^a, Jinxiang Dong^{a,d}

^a College of Chemistry and Chemical Engineering, Taiyuan University of Technology, Taiyuan 030024, China

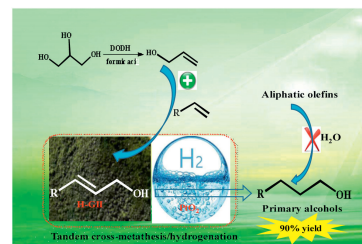
^b Shanxi University of Traditional Chinese Medicine, Jinzhong 030619, China

^c Key Laboratory of Coal Science and Technology of Ministry of Education and Shanxi Province, Taiyuan University of Technology, Taiyuan 030024, China

^d School of Chemical Engineering and Light Industry, Guangdong University of Technology, Guangzhou 510006, China

A new synthetic methodology to produce primary alcohols by tandem cross-metathesis/hydrogenation from terminal aliphatic olefins and biomass-derived allyl alcohol is developed.

Chinese Chemical Letters 31 (2020) 1525



Promotion of photocatalytic steam reforming of methane over Ag⁰/Ag⁺-SrTiO₃

Bingqing Tan^{a,b}, Yinghao Ye^{a,b}, Zeai Huang^{a,b}, Liqun Ye^c, Minzhi Ma^{a,b}, Ying Zhou^{a,b}

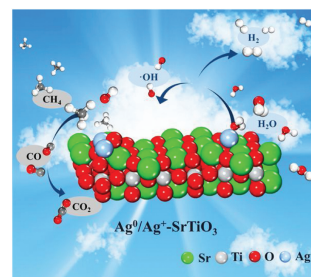
^a State Key Laboratory of Oil and Gas Reservoir Geology and Exploitation, Southwest Petroleum University, Chengdu 610500, China

^b The Center of New Energy Materials and Technology, School of Materials Science and Engineering, Southwest Petroleum University, Chengdu 610500, China

^c Engineering Technology Research Center of Henan Province for Solar Catalysis, Collaborative Innovation Center of Water Security for Water Source Region of Mid-Line of South-to-North Diversion Project of Henan Province, Nanyang Normal University, Nanyang 473061, China

The synergistic effect of Ag⁰/Ag⁺ is achieved to improve the photocatalytic performance. The Ag⁰ can be regarded as the reduction reaction sites and significantly promote the adsorption of H₂O to produce more ·OH radicals. While the Ag⁺ species can enhance the adsorption of CH₄ and be regarded as the oxidation reaction sites.

Chinese Chemical Letters 31 (2020) 1530



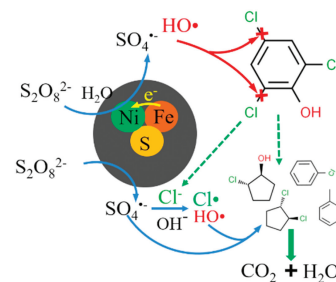
Effective removal of chlorinated organic pollutants by bimetallic iron-nickel sulfide activation of peroxydisulfate

Xuan Yan, Dongting Yue, Chao Guo, Songling Wang, Xufang Qian, Yixin Zhao

School of Environmental Science and Engineering, Shanghai Jiao Tong University, Shanghai 200242, China

Bimetallic iron-nickel sulfide can activate peroxydisulfate to produce sulfate radical and hydroxyl radicals, which play major role in the oxidative dechlorination and degradation of chlorinated organic pollutants due to their strong oxidizing property. The Cl⁻ absced from chlorinated organic pollutants during the dechlorination can turn into the chlorine radicals and enhance the degradation and cause further mineralization of intermediate products.

Chinese Chemical Letters 31 (2020) 1535



One-step synthesis of monodispersed Pt nanoparticles anchored on 3D graphene foams and its application for electrocatalytic hydrogen evolution

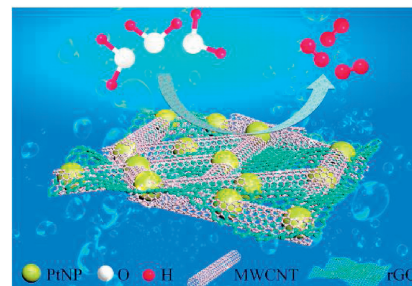
Dan Zhou^a, Bei Jiang^a, Rui Yang^a, Xiandeng Hou^b, Chengbin Zheng^a

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

^b Analytical & Testing Center, Sichuan University, Chengdu 610064, China

PtNP/rGO-MWCNT catalyst behaves as a flexible binder-free electrode for efficiently electrochemical hydrogen evolution reaction (HER) with Pt content of 3.48 wt%. This electrode just requires an overpotential of 11 mV to drive a geometrical current density of 10 mA/cm², with its catalytic activity being kept for 15 h.

Chinese Chemical Letters 31 (2020) 1540



The effectiveness of bisulfite-activated permanganate technology to enhance the coagulation efficiency of *Microcystis aeruginosa*

Yating Zhu^a, Jinfeng Ling^a, Lei Li^{a,b}, Xiaohong Guan^{a,b,c}

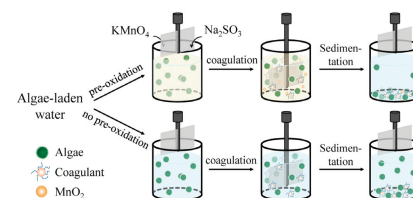
^a State Key Laboratory of Pollution Control and Resources Reuse, College of Environmental Science and Engineering, Tongji University, Shanghai 200092, China

^b Shanghai Institute of Pollution Control and Ecological Security, Shanghai 200092, China

^c International Joint Research Center for Sustainable Urban Water System, Tongji University, Shanghai 200092, China

Compared to the sole coagulation, bisulfite-activated permanganate technology (PM/BS) pretreatment could significantly improve the *Microcystis aeruginosa* removal with $\text{Al}_2(\text{SO}_4)_3$ as the coagulant.

Chinese Chemical Letters 31 (2020) 1545



Pillar[5]arene-based [3]rotaxanes: Convenient construction via multicomponent reaction and pH responsive self-assembly in water

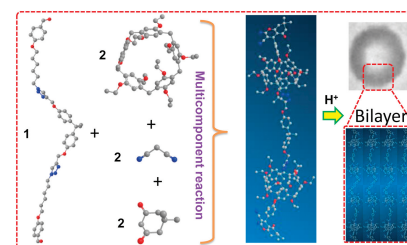
Junmei Ye^a, Runmiao Zhang^{a,b}, Wenjuan Yang^a, Ying Han^a, Hao Guo^a, Ju Xie^a, Chaoguo Yan^a, Yong Yao^b

^a School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 213300, China

^b School of Chemistry and Chemical Engineering, Nantong University, Nantong 226019, China

Four pillar[5]arene based [3]rotaxanes (**1-4**) involving two pillar[5]arene (DEP5) rings and a dumbbell-shaped component were successfully synthesized. These [3]rotaxanes can self-assemble into vesicles in water upon addition of H^+ .

Chinese Chemical Letters 31 (2020) 1550



1,3-Dipolar cycloaddition for selective synthesis of functionalized spiro [indoline-3,3'-pyrrolizines]

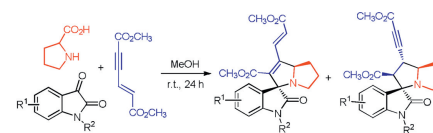
Meijun Zhu^a, Ying Han^b, Changzhou Liu^b, Weiqing Ma^b, Chao-Guo Yan^b

^a Jianghai Polytechnic College, Yangzhou 225101, China

^b College of Chemistry & Chemical Engineering, Yangzhou University, Yangzhou 225002, China

The 1,3-dipolar cycloaddition reaction of dimethyl hex-2-en-4-ynedioate with *in situ* generated azomethine ylides derived from reaction of L-proline and isatins in methanol resulted in functionalized tetrahydrospiro[indoline-3,3'-pyrrolizine]-acrylates as main products and hexahydrospiro[indoline-3,30-pyrrolizine]propiolates as minor products.

Chinese Chemical Letters 31 (2020) 1554



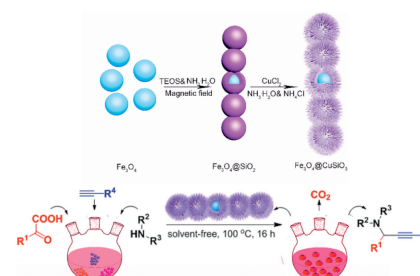
1D $\text{Fe}_3\text{O}_4@\text{CuSiO}_3$ composites catalyzed decarboxylative A^3 -coupling for propargylamine synthesis

Fang Wang, Huangdi Feng, Huiqiong Li, Teng Miao, Tiantian Cao, Min Zhang

College of Chemistry and Chemical Engineering, Shanghai University of Engineering Science, Shanghai 201620, China

1D $\text{Fe}_3\text{O}_4@\text{CuSiO}_3$ composite has been designed, synthesized and successfully used in the decarboxylative A^3 reactions for the generation of propargylamines without a solvent. Results also showed the magnetic catalyst could be readily separated and reused.

Chinese Chemical Letters 31 (2020) 1558



Et₂Zn-promoted β -*trans*-selective hydroboration of ynamide

Chinese Chemical Letters 31 (2020) 1564

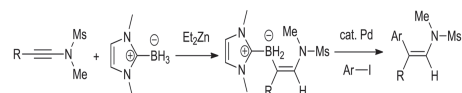
Kefeng Wang^{a,b}, Zixi Zhuang^{a,c}, Huihui Ti^a, Peishan Wu^c, Xin Zhao^c, Honggen Wang^b

^a Key Laboratory of Molecular Target & Clinical Pharmacology, State Key Laboratory of Respiratory Disease, School of Pharmaceutical Sciences & The Fifth Affiliated Hospital, Guangzhou Medical University, Guangzhou 511436, China

^b Guangdong Key Laboratory of Chiral Molecule and Drug Discovery, School of Pharmaceutical Sciences, Sun Yat-sen University, Guangzhou 510006, China

^c Guangdong Institute of Analysis (China National Analytical Center, Guangzhou), Guangzhou 510070, China

The Et₂Zn-promoted β -*trans* hydroboration of ynamides leads to a stereoselective construction of enamides bearing a valuable boryl substituent. Further transformation of the C–B bond in the product via Suzuki–Miyaura coupling provides a simple and stereospecific route to multi-substituted enamides.



Lewis base catalyzed ring-expansion of isatin with 2,2,2-trifluorodiazoethane (CF₃CHN₂): An efficient route to 3-hydroxy-4-(trifluoromethyl)quinolinones

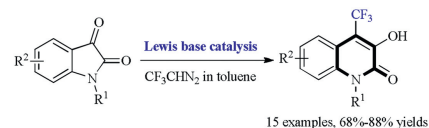
Chinese Chemical Letters 31 (2020) 1568

Shuaipeng Lv^{a,b}, Yunfang Sun^b, Yue Xu^a, Shihai Yang^a, Lei Wang^b

^a Department of Traditional Chinese Medicine, Jilin Agricultural University, Changchun 130118, China

^b Institute of Medicinal Plant Development, Chinese Academy of Medical Science & Peking Union Medical College Beijing 100193, China

A Lewis base catalyzed ring expansion of isatin with 2,2,2-trifluorodiazoethane (CF₃CHN₂) is developed. It is characterized that the merge of tetramethylethylenediamine and CF₃CHN₂ generates reactive triazene intermediates, resulting in the construction of substituted 3-hydroxy-4-(trifluoromethyl)quinolinones with high efficiency. The synthetic value of this methodology is fully illustrated by 3-trifluoromethylpyrazole fused 3-hydroxy-4-(trifluoromethyl)quinolinone synthesis.



Rh(III)-catalyzed C8 arylation of quinoline N-oxides with arylboronic acids

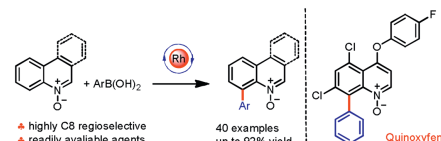
Chinese Chemical Letters 31 (2020) 1572

Yuanqiong Huang^a, Xueli Lv^a, Hongjian Song^a, Yuxiu Liu^a, Qingmin Wang^{a,b}

^a State Key Laboratory of Elemento–Organic Chemistry, Research Institute of Elemento–Organic Chemistry, College of Chemistry, Nankai University, Tianjin 300071, China

^b Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300071, China

C8 aryl substituted of quinoline N-oxides were first obtained from a Rh^{III}-catalyzed regioselective arylation of quinoline N-oxides with arylboronic acids as coupling partners.



Electrochemical synthesis of selenocyanated imidazo[1,5-a]quinolines under metal catalyst- and chemical oxidant-free conditions

Chinese Chemical Letters 31 (2020) 1576

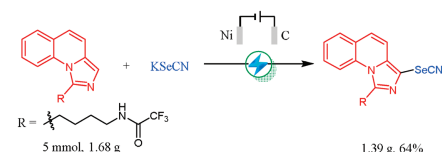
Jinjin Zhang^a, Huiqiao Wang^a, Yaru Chen^a, Haiquan Xie^a, Chenghua Ding^a, Jiajing Tan^c, Kun Xu^{a,b}

^a College of Chemistry and Pharmaceutical Engineering, Nanyang Normal University, Nanyang, Henan 473061, China

^b College of Life Science & Bioengineering, Beijing University of Technology, Beijing 100124, China

^c Department of Organic Chemistry, Faculty of Chemistry, Beijing University of Chemical Technology, Beijing 100029, China

The first example of electrochemical selenocyanation of imidazo[1,5-a]quinolines with KSeCN under metal catalyst- and chemical oxidant-free conditions was described. The synthetic utility of this electrochemical protocol was further highlighted by the gram-scale synthesis.



Dimethyl sulfoxide-aided copper(0)-catalyzed intramolecular decarbonylative rearrangement of *N*-aryl isatins leading to acridones

Hao Wu, Nana Ma, Mengxiao Song, Guisheng Zhang

Key Laboratory of Green Chemical Media and Reactions, Ministry of Education, Collaborative Innovation Center of Henan Province for Green Manufacturing of Fine Chemicals, Henan Key Laboratory of Organic Functional Molecules and Drug Innovation, School of Chemistry and Chemical Engineering, Henan Normal University, Henan 453007, China

The first example of Cu(0)-catalyzed decarbonylative cleavage of readily available isatins possessing a five-membered ring diketone structural moiety provides a rapid, atom- and step-economical synthetic approach to construct various functionally important acridone molecules.

Chinese Chemical Letters 31 (2020) 1580

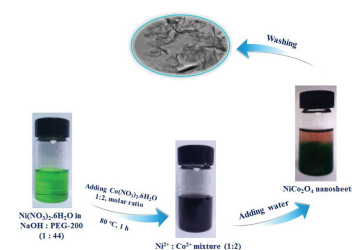


Basic deep eutectic solvents as reactant, template and solvents for ultra-fast preparation of transition metal oxide nanomaterials

Jia Chen^{a,b}, Mohammad Chand Ali^a, Ruirui Liu^c, Jean Claude Munyemana^{a,b}, Zhan Li^a, Honglin Zhai^c, Hongdeng Qiu^{a,b}

A new series of hydroxide-based basic deep eutectic solvents (DESs) was designed, and these DESs can be played three roles as reactant, template and solvents for ultra-fast preparation of transition metal oxide nanomaterials.

Chinese Chemical Letters 31 (2020) 1584



Atomic Fe-N₄ sites on electrospun hierarchical porous carbon nanofibers as an efficient electrocatalyst for oxygen reduction reaction

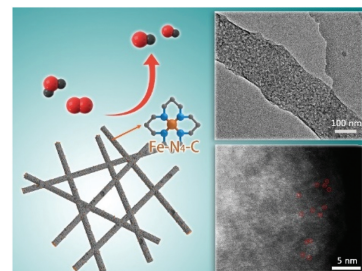
Ruiqin Zhong^a, Chenxu Zhi^a, Yingxiao Wu^b, Zibin Liang^b, Hassina Tabassum^b, Hao Zhang^b, Tianjie Qiu^b, Song Gao^b, Jinming Shi^b, Ruqiang Zou^b

^a State Key Laboratory of Heavy Oil Processing, China University of Petroleum, Beijing 102249, China

^b Beijing Key Laboratory for Theory and Technology of Advanced Battery Materials, Department of Materials Science and Engineering, College of Engineering, Peking University, Beijing 100871, China

A novel hierarchical porous nitrogen-doped carbon nanofiber with atomically dispersed Fe-N₄ sites are prepared by pyrolyzed electrospun metal-organic frameworks/polyacrylonitrile nanofibers. One-dimension structure, abundant atomically dispersed metal sites and hierarchical pore structure of carbon nanofibers facilitates the electron transfer and enlarges the electrode-electrolyte interfaces. The carbon nanofibers exhibit superb electrocatalyst performance for oxygen reduction reaction, comparable to benchmark Pt/C catalysts in alkaline media.

Chinese Chemical Letters 31 (2020) 1588



Aqueous-processed insulating polymer/nanocrystal solar cells with effective suppression of the leakage current and carrier recombination

Henan Sun^a, Nannan Chen^a, Yaohua Wang^a, Gan Jin^b, Wei Yuan^a, Haizhu Sun^a, Bai Yang^c

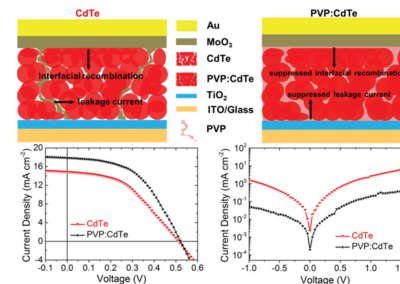
^a College of Chemistry, National & Local United Engineering Laboratory for Power Batteries, Northeast Normal University, Changchun 130024, China

^b College of Material and Chemical Engineering, Chuzhou University, Chuzhou 239000, China

^c State Key Laboratory of Supramolecular Structure and Materials, College of Chemistry, Jilin University, Changchun 130012, China

Insulating polymer PVP is combined with CdTe nanocrystals (NCs) for fabricating the hybrid solar cells. The voids among spherical CdTe NCs are effectively blocked and the interfacial contact area between CdTe and MoO₃ is reduced. As a result, a photovoltaic device with suppressed leakage current and interfacial recombination is obtained and the power conversion efficiency enhanced by 37%.

Chinese Chemical Letters 31 (2020) 1593



Stepwise construction of Pt decorated oxygen-deficient mesoporous titania microspheres with core-shell structure and magnetic separability for efficient visible-light photocatalysis

Zhijian Li^b, Yao Wang^a, Ahmed A. Elzatahry^c, Xuanyu Yang^a, Shouzhi Pu^b, Wei Luo^d, Xiaowei Cheng^a, Yonghui Deng^a

^a Department of Chemistry, State Key Laboratory of Molecular Engineering of Polymers, Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, iChEM, Fudan University, Shanghai 200433, China

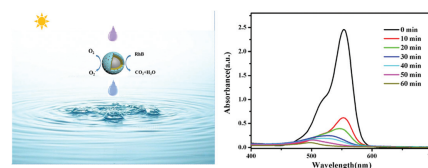
^b Jiangxi Key Laboratory of Organic Chemistry, Jiangxi Science and Technology Normal University, Nanchang 330013, China

^c Materials Science and Technology Program, College of Arts and Sciences, Qatar University, Doha PO Box 2713, Qatar

^d State Key Laboratory for Modification of Chemical Fibers and Polymer Materials, College of Materials Science and Engineering, Donghua University, Shanghai 201620, China

Magnetic core-shell oxygen-deficient $\text{Fe}_3\text{O}_4@\text{SiO}_2/\text{Pt}/\text{mTiO}_{2-x}$ microspheres, synthesized by a stepwise sol-gel coating strategy combined with wet impregnation and H_2 reduction, display highly efficient and stable photocatalysis performance for organics under visible light irradiation.

Chinese Chemical Letters 31 (2020) 1598



Regulating ambient pressure approach to graphitic carbon nitride towards dispersive layers and rich pyridinic nitrogen

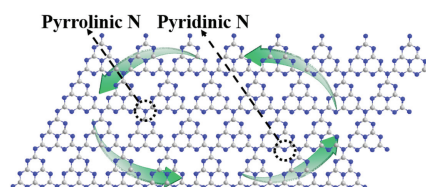
Guangchao Sun^a, Fangzhou Zhang^a, Qiusheng Xie^b, Wei Luo^a, Jianping Yang^a

^a State Key Laboratory for Modification of Chemical Fibers and Polymer Materials, College of Materials Science and Engineering, Donghua University, Shanghai 201620, China

^b Shanghai Shanshan Tech Co., Ltd., Shanghai 201209, China

An ambient pressure-induced calcination process was proposed to prepare $\text{g-C}_3\text{N}_4$ with different layer structure and N content. The obtained $\text{g-C}_3\text{N}_4$ -P exhibits superior lithium storage performance.

Chinese Chemical Letters 31 (2020) 1603



Multifunctional semitransparent organic solar cells with excellent infrared photon rejection

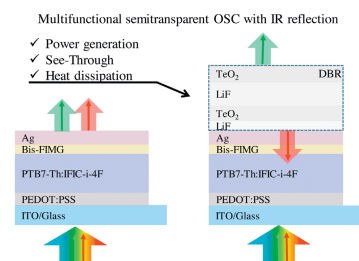
Xue Li^a, Ruoxi Xia^b, Kangrong Yan^a, Hin-Lap Yip^b, Hongzheng Chen^a, Chang-Zhi Li^a

^a State Key Laboratory of Silicon Materials, MOE Key Laboratory of Macromolecular Synthesis and Functionalization, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou 310027, China

^b State Key Laboratory of Luminescent Materials and Devices, School of Materials Science and Engineering, South China University of Technology, Guangzhou 510640, China

Multifunctional semitransparent organic solar cells are accessed with near 30% average visible transmittance (380–780 nm) and power conversion efficiency of 7.3%, as well as an outstanding infrared radiation rejection of over 93% (780–2500 nm) through careful integrating of near infrared radiation absorbers, conductive interfacial layer, ultrathin metal electrode and distributed Bragg reflector in one device.

Chinese Chemical Letters 31 (2020) 1608



Whole wheat flour coating with antioxidant property accelerates tissue remodeling for enhanced wound healing

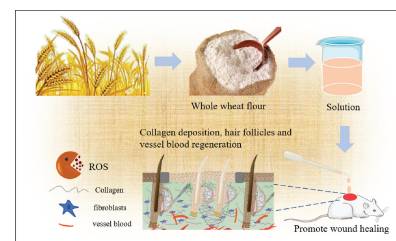
Caihong Xian^{a,b}, Zhipeng Gu^{a,b}, Guiting Liu^{a,b}, Jun Wu^{a,b}

^a School of Biomedical Engineering, Sun Yat-sen University, Guangzhou 510006, China

^b Research Institute of Sun Yat-sen University in Shenzhen, Shenzhen 518057, China

Schematic illustration of whole wheat flour solution for promoting wound healing via the scavenging of ROS and the acceleration of hair follicles and vessel blood regeneration.

Chinese Chemical Letters 31 (2020) 1612



Near infrared molybdenum oxide quantum dots with high photoluminescence and photothermal performance

Xiaoxiao Dong^a, Hong Zhao^a, Yuanyuan Mi^a, Yao Liu^b, Yida Zhang^a, Ya Liu^a, Yusheng Chen^c, Quan Xu^a

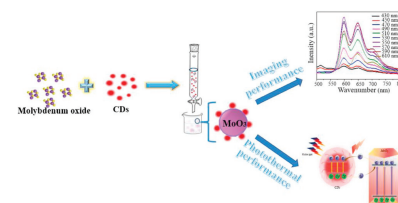
^a State Key Laboratory of Heavy Oil Processing, College of Mechanical and Transportation Engineering, China University of Petroleum-Beijing, Beijing 102249, China

^b Research Institute for New Materials Technology, Chongqing University of Arts and Science, Chongqing 402160, China

^c Department of Chemical Science, University of Akron, Akron, OH 44325, United States

The synthesized near infrared molybdenum oxide quantum dots perform excellent red fluorescence imaging performance and photothermal performance.

Chinese Chemical Letters 31 (2020) 1616



Activated carbon clothes for wide-voltage high-energy-density aqueous symmetric supercapacitors

Kwadwo Asare Owusu^a, Zhaoyang Wang^a, Longbing Qu^b, Zi'ang Liu^a, Jaafar Abdul-Aziz Mehrez^a, Qiulong Wei^c, Liang Zhou^a, Liqiang Mai^a

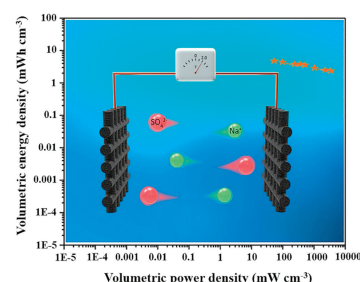
^a State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan 430070, China

^b Department of Mechanical Engineering, The University of Melbourne, Parkville, VIC 3010, Australia

^c Department of Materials Science and Engineering, University of California Los Angeles, CA 90095-1595, United States

Mild air calcination endows carbon cloth (CC) with three orders of magnitude increase in specific capacitance. A 2.0 V activated CC based symmetric supercapacitor achieves high volumetric (7.62 mWh/cm³) and gravimetric (18.2 Wh/kg) energy densities.

Chinese Chemical Letters 31 (2020) 1620



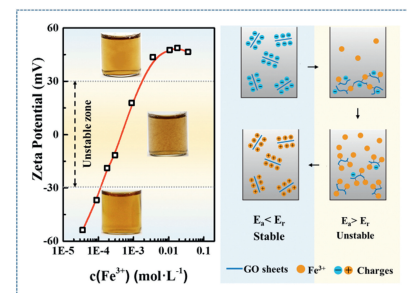
Dynamic dispersion stability of graphene oxide with metal ions

Yinghui He, Yingjun Liu, Fan Guo, Kai Pang, Bo Fang, Ya Wang, Dan Chang, Zhen Xu, Chao Gao

MOE Key Laboratory of Macromolecular Synthesis and Functionalization, Department of Polymer Science and Engineering, Key Laboratory of Adsorption and Separation Materials & Technologies of Zhejiang Province, Zhejiang University, Hangzhou 310027, China

We investigated the dynamic dispersion stability of GO with metal ions and observed a redispersion behavior in concentrated Fe³⁺ solution, other than permanent aggregation. The exchange with Fe³⁺ ions drives the reversion of zeta potential and enables the redispersion to individual GO-Fe³⁺ complex sheets, following a dynamic electric double layer mechanism.

Chinese Chemical Letters 31 (2020) 1625



Polymer hydrogel confined palladium nanoparticles as recyclable catalysts for Suzuki and Heck cross-coupling reactions

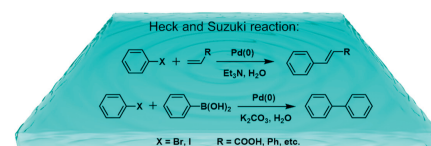
Kan Zhan^{a,b}, Ping Lu^a, Jian Dong^a, Xu Hou^b

^a School of Chemistry and Chemical Engineering, Shaoxing University, Shaoxing 312000, China

^b School of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

Suzuki and Heck coupling reactions catalyzed by Pd nanoparticles encaged in interpenetrating polymer networks can attain an optimal balance between recyclability (like a heterogeneous catalysis) and activity (like a homogeneous catalysis).

Chinese Chemical Letters 31 (2020) 1630



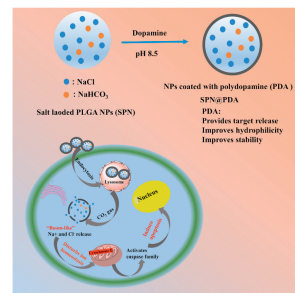
A nanocarrier based on poly(D,L-lactic-co-glycolic acid) for transporting Na^+ and Cl^- to induce apoptosis

Chen Ma, Yida Zhang, Zhijuan Jiao, Chunmeng Ma, Xiaoyan Liu, Haixia Zhang

College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, China

In an acidic environment, Na^+ and Cl^- are released, and ion equilibrium of the cells is destroyed. After that, cytochrome c is released from the mitochondria to the cytoplasm, activating caspase family to induce apoptosis ultimately.

Chinese Chemical Letters 31 (2020) 1635



Different defect morphologies in polyethylene crystal induced by surface physicochemical properties

Yaqi Hou^{a,c,d}, Yi Ye^{a,d}, Zhongjie Du^d, Chen Zhang^d, Jianguo Mi^a, Xu Hou^{b,c}

^a State Key Laboratory of Organic-Inorganic Composites, Beijing University of Chemical Technology, Beijing 100029, China

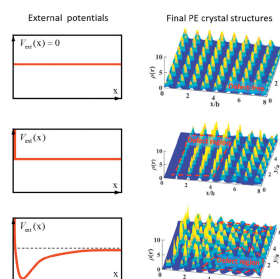
^b Research Institute for Soft Matter and Biomimetics, College of Physical Science and Technology, Xiamen University, Xiamen 361005, China

^c State Key Laboratory of Physical Chemistry of Solid Surfaces, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

^d College of Materials Science and Engineering, Beijing University of Chemical Technology, Beijing 100029, China

The dynamic density functional theory was applied to predict the defect morphologies of polyethylene crystal near the surfaces with different physicochemical properties at atomic scale. The physical and chemical properties of the external surfaces synergistically affect the morphologies in both the defect shapes and the distribution of the defect regions.

Chinese Chemical Letters 31 (2020) 1640



Peony pollen derived nitrogen-doped activated carbon for supercapacitor application

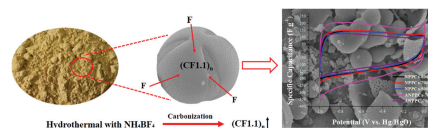
Yiming Liu^a, Zhongxun An^b, Mingxia Wu^b, Anbao Yuan^a, Hongbin Zhao^a, Jiuju Zhang^a, Jiaqiang Xu^a

^a NEST Lab, Department of Physics, Department of Chemistry, College of Sciences, Shanghai University, Shanghai 200444, China

^b National Engineering Research Center for Supercapacitor for Vehicles, Shanghai AOWEI Technology Development Co., Ltd., Shanghai 201203, China

By introducing hydrothermal reaction with NH_4BF_4 and high temperature treatment, the peony pollen can be crushed to a certain size through intercalating/de-intercalating of F atoms. The obtained carbon microspheres show excellent specific capacity of 209 F/g at a current density of 1A/g.

Chinese Chemical Letters 31 (2020) 1644



Functional groups to modify g-C₃N₄ for improved photocatalytic activity of hydrogen evolution from water splitting

Fan Yu^a, Laichun Wang^a, Qiuju Xing^a, Dengke Wang^a, Xunheng Jiang^a, Guangchao Li^b, Anmin Zheng^b, Fanrong Ai^c, Jian-Ping Zou^a

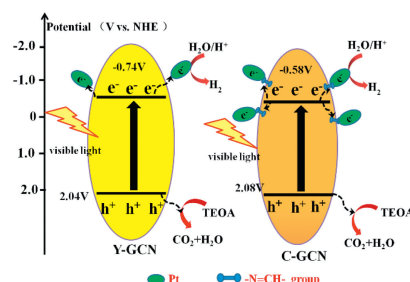
^a Key Laboratory of Jiangxi Province for Persistent Pollutants Control and Resources Recycle, Nanchang Hangkong University, Nanchang 330063, China

^b State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, National Center for Magnetic Resonance in Wuhan, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan 430071, China

^c School of Mechanical & Electronic Engineering, Nanchang University, Nanchang 330031, China

A new strategy was proposed to improve photocatalytic hydrogen evolution of g-C₃N₄ via modification of functional groups of -N=CH-.

Chinese Chemical Letters 31 (2020) 1648



Bio-safety assessment of carbon quantum dots, N-doped and folic acid modified carbon quantum dots: A systemic comparison

Shu Zhang^{a,b}, Xibo Pei^{a,b}, Yiyuan Xue^{a,b}, Jingyuan Xiong^c, Jian Wang^{a,b}

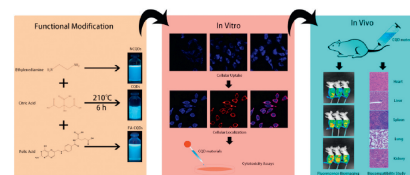
^a State Key Laboratory of Oral Diseases, National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu 610041, China

^b West China School of Stomatology, Sichuan University, Chengdu 610041, China

^c West China School of Public Health and Healthy Food Evaluation Research Center, Sichuan University, Chengdu 610041, China

Three different types of CQD nanoparticles were synthesized and their biocompatibility was evaluated *in vitro* and *in vivo*.

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Preparation of ABA triblock copolymer assemblies through “one-pot” RAFT PISA

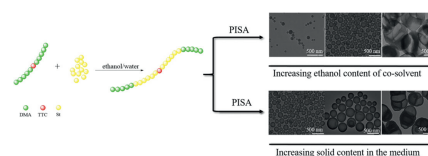
Yanling Cao^a, Yan Shi^a, Xiaohui Wu^{a,b}, Liqun Zhang^{a,b}

^a Key Laboratory of Beijing City on Preparation and Processing of Novel Polymer Materials, Beijing University of Chemical Technology, Beijing 100029, China

^b State Key Laboratory of Organic-Inorganic Composites, Beijing University of Chemical Technology, Beijing 100029, China

The morphologies and sizes of PDMAc-*b*-PSt-*b*-PDMAc amphiphilic triblock copolymers were controlled effectively by RAFT PISA with bi-functional PDMAc-TTC-PDMAc macro-CTA.

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Water permeability in MXene membranes: Process matters

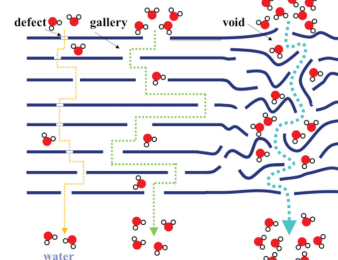
Hang Zhou^a, Yuwei Wang^b, Fuqiang Wang^a, Hao Deng^a, Yongchen Song^a, Changping Li^b, Zheng Ling^a

^a Key Laboratory of Ocean Energy Utilization and Energy Conservation of Ministry of Education, School of Energy & Power Engineering, Dalian University of Technology, Dalian 116024, China

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

The voids from less ordered stack rather than in-plane defects and interlayer galleries were confirmed to contribute to the large water permeability of membranes assembled from delaminated MXene nanoflakes. The voids can be controlled via deposit rate of MXene nanoflakes.

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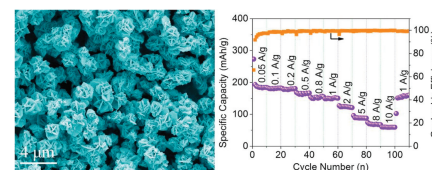
Solid-state template-free fabrication of uniform Mo₂C microflowers with lithium storage towards Li-ion batteries

Jinfeng Sun, Lingzhi Guo, Miaomiao Gao, Xuan Sun, Jinyang Zhang, Longwei Liang, Yang Liu, Linrui Hou, Changzhou Yuan

School of Material Science & Engineering, University of Jinan, Ji'nan 250022, China

Uniform Mo₂C microflowers were fabricated from low-cost precursors via industrialized solid-state template-free strategy, and highlighted as a competitive anode with robust and long-duration lithium-storage behaviors for Li-ion batteries.

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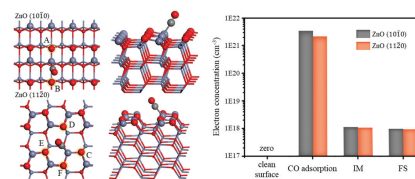
A DFT study of the CO adsorption and oxidation at ZnO surfaces and its implication for CO detection

Zibin Ni, Shenyuan Bao, Xue-Qing Gong

Key Laboratory for Advanced Materials, Centre for Computational Chemistry and Research Institute of Industrial Catalysis, School of Chemistry & Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

The calculated results show that the lattice O of ZnO(10 $\bar{1}$ 0) is more reactive than that of ZnO(11 $\bar{2}$ 0) for CO oxidation. The conductivity would increase upon CO adsorption and decrease following CO oxidation both at ZnO(10 $\bar{1}$ 0) and (11 $\bar{2}$ 0).

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Solution-phase synthesis of ordered mesoporous carbon as resonant-gravimetric sensing material for room-temperature H₂S detection

Jiawei Ni^a, Tao Zhao^a, Lei Tang^{b,c}, Pengpeng Qiu^a, Wan Jiang^a, Lianjun Wang^a, Pengcheng Xu^{b,d}, Wei Luo^a

^a State Key Laboratory for Modification of Chemical Fibers and Polymer Materials, College of Materials Science and Engineering, Institute of Functional Materials, Donghua University, Shanghai 201620, China

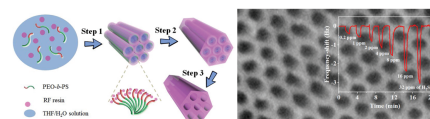
^b State Key Laboratory of Transducer Technology, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, Shanghai 200050, China

^c College of Life and Environmental Sciences, Shanghai Normal University, Shanghai 200234, China

^d University of Chinese Academy of Sciences, Beijing 100049, China

A facile solvent evaporation induced aggregating assembly (EIAA) strategy has been developed to construct ordered mesoporous carbon (OMCs) with 2D hexagonal mesostructure. Owing to the unique properties such as uniform pore size, large surface area and well-interconnected porous frameworks, the OMCs was used to fabricate a resonant cantilever gas sensor which can work at room temperature and exhibit significantly excellent H₂S gas sensing performance with fast response (14 s) and recovery (21 s), ultralow limit of detection of 0.2 ppm, as well as good selectivity.

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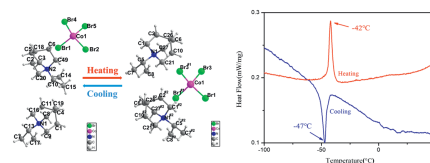
A novel ferroelectric based on quinuclidine derivatives

Siyu Deng, Junyi Li, Xiang Chen, Yunlong Hou, Lizhuang Chen

School of Environmental and Chemical Engineering, Jiangsu University of Science and Technology, Zhenjiang 212003, China

One phase transition material [(CH₃)₂CH-C₃H₁₇N][CoBr₄] was synthesized and underwent the phase transitions from space group C2/c to Cc. The structural phase transition of **1** was ascribed to the distortion of [(CH₃)₂CH-C₃H₁₇N]²⁺ cation. The change of the dielectric permittivity and the spontaneous polarization gives compound **1** greater application potential for low temperature ferroelectrics.

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A symmetric aqueous redox low battery based on viologen derivative

Shuang Liu, Meng Zhou, Ting Ma, Jian Liu, Qiu Zhang, Zhanliang Tao, Jing Liang

Key Laboratory of Advanced Energy Materials Chemistry (Ministry of Education), College of Chemistry, Nankai University, Tianjin 300071, China

A symmetric aqueous redox flow battery (SARFB) was assembled by using MV₁ as a bipolar molecule and AHA as an anion exchange membrane. The SARFB exhibited well polar-reversal performances.

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