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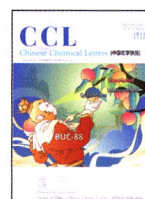
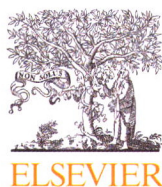


COMMUNICATION
Wendong Zhang, Fan Dong, et al.
Highly efficient photocatalytic
NO removal and *in situ* DRIFTS
investigation on SrSn(OH)₆

COMMUNICATION
Yufang Xu, Yangyang Yang, Xuhong Qian, et al.
Programmed co-assembly of DNA-peptide
hybrid microdroplets by phase separation

Chinese Chemical Society

万方数据 Institute of Materia Medica, Chinese Academy of Medical Sciences



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

Review

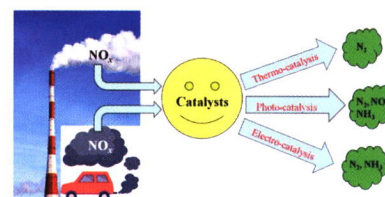
Direct catalytic nitrogen oxide removal using thermal, electrical or solar energy

Xiaohu Zhang, Lixiao Han, Hao Chen, Shengyao Wang

College of Science, Huazhong Agricultural University, Wuhan 430070, China

Removal of nitrogen oxide through catalytic technology utilizing thermal, electrical or solar energy is a hot topic in terms of increasingly concerned ecological and environmental issues.

Chinese Chemical Letters 33 (2022) 1117

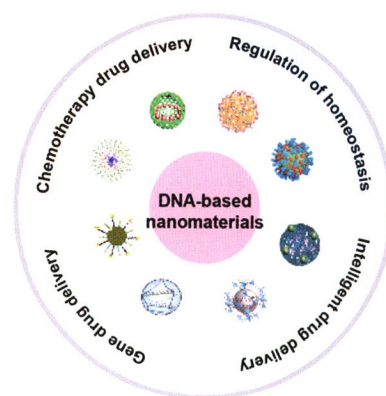
**Construction and applications of DNA-based nanomaterials in cancer therapy**

Hedong Qi, Yuwei Xu, Pin Hu, Chi Yao, Dayong Yang

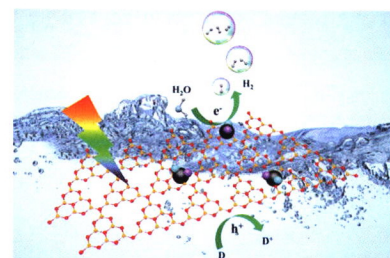
Frontiers Science Center for Synthetic Biology, Key Laboratory of Systems Bioengineering (MOE), School of Chemical Engineering and Technology, Tianjin University, Tianjin 300350, China

This review summarized recent advances in cancer therapy with precise designed DNA-based nanomaterials to enhanced nucleic acid stability and safety finally improving the therapeutic effect.

Chinese Chemical Letters 33 (2022) 1131

**Recent research progress of bimetallic phosphides-based nanomaterials as cocatalyst for photocatalytic hydrogen evolution**Chunmei Li^a, Daqiang Zhu^a, Shasha Cheng^a, Yan Zuo^a, Yun Wang^a, Changchang Ma^b, Hongjun Dong^a^aAdvanced Chemical Engineering Laboratory of Green Materials and Energy of Jiangsu Province, Institute of Green Chemistry and Chemical Technology, School of Chemistry and Chemical Engineering, Jiangsu University, Zhenjiang 212013, China^bDepartment of Chemistry, Dongguk University, Seoul 04620, Republic of KoreaBimetallic phosphides have been also caused widespread concern in H₂ evolution reaction owing to its unique Advantages. In this minireview, we concluded the latest developments of bimetallic phosphides as cocatalyst for a series of photocatalytic H₂ evolution reactions.

Chinese Chemical Letters 33 (2022) 1141



Nanostructured materials with localized surface plasmon resonance for photocatalysis

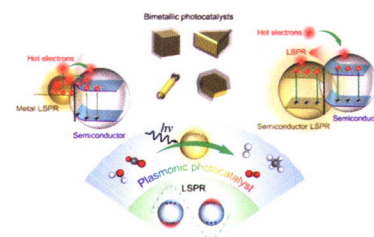
Juan Li^a, Zaizhu Lou^{a,b}, Baojun Li^a

^aInstitute of Nanophotonics, Jinan University, Guangzhou 511443, China

^bState Key Laboratory for Crystal Materials, Shandong University, Ji'nan 250100, China

This review highlights the development of nanostructured materials with localized surface plasmon resonance advancing from noble metals to nonmetallic semiconductor-based composites and their applications for photocatalysis.

Chinese Chemical Letters 33 (2022) 1154



Recent progress of Pd/zeolite as passive NO_x adsorber: Adsorption chemistry, structure-performance relationships, challenges and prospects

Ce Bian^a, Dan Li^a, Qian Liu^a, Shoute Zhang^a, Lei Pang^b, Zhu Luo^c, Yanbing Guo^c, Zhen Chen^a, Tao Li^a

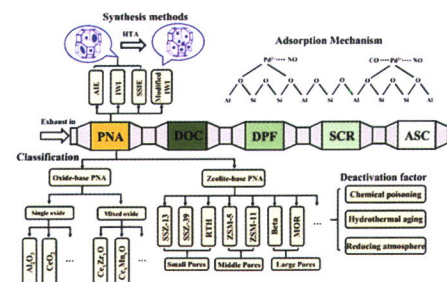
^aKey Laboratory of Material Chemistry for Energy Conversion and Storage, Ministry of Education, Hubei Key Laboratory of Material Chemistry and Service Failure, School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

^bDongFeng Trucks R&D Center, Wuhan 430056, China

^cKey Laboratory of Pesticide and Chemical Biology of Ministry of Education, Institute of Environmental and Applied Chemistry, College of Chemistry, Central China Normal University, Wuhan 430079, China

A series of PNA materials with high NO_x adsorption capacity and long-range performance constructed from Pd-zeolite, their performance, mechanism and application progress have been summarized.

Chinese Chemical Letters 33 (2022) 1169



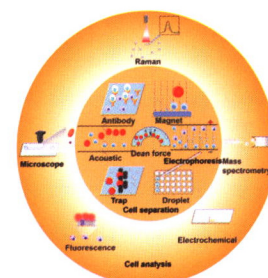
Microfluidic methods for cell separation and subsequent analysis

Tianyou Chen, Chunxia Huang, Yanran Wang, Jing Wu

School of Science, China University of Geosciences (Beijing), Beijing 100083, China

Biochemical and physical microfluidic methods have been developed for cell separation. Multiple subsequent cell analysis approaches on microfluidic chips also have been put forward.

Chinese Chemical Letters 33 (2022) 1180



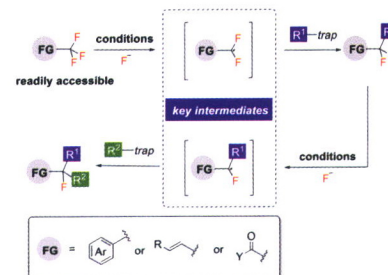
C–F bond functionalizations of trifluoromethyl groups via radical intermediates

Tesfaye Tebeka Simur, Tian Ye, You-Jie Yu, Feng-Lian Zhang, Yi-Feng Wang

Department of Chemistry, University of Science and Technology of China, Hefei 230026, China

Functionalization of C–F bonds of trifluoromethyl groups that proceed via mono- or difluoroalkyl radical intermediates has been summarized in this review.

Chinese Chemical Letters 33 (2022) 1193



C(sp³)-H bond functionalization of oximes derivatives via 1,5-hydrogen atom transfer induced by iminyl radical

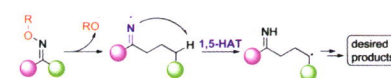
Dao-Qing Dong^a, Jing-Cheng Song^a, Shao-Hui Yang^a, Qi-Xue Qin^a, Zu-Li Wang^a, En-Xuan Zhang^b, Yuan-Yuan Sun^a, Qing-Qing Han^a, Shan Yue^a

^aCollege of Chemistry and Pharmaceutical Sciences, Qingdao Agricultural University, Qingdao 266109, China

^bAsymchem Life Science (Tianjin) Co., Ltd., Tianjin 300457, China

Oximes derivatives have been vastly used in organic synthesis. In this review, C(sp³)-H bond functionalization of oximes derivatives via iminyl radical induced 1,5-hydrogen atom transfer was discussed. According to the different type of products, this review was divided into three parts: (1) C(sp³)-H bond functionalization for C-C bond formation. (2) C(sp³)-H bond functionalization for C-N bond formation. (3) C(sp³)-H bond functionalization for C-S, C-F bond formation.

Chinese Chemical Letters 33 (2022) 1199



Transition metal-catalyzed conversion of aldehydes to ketones

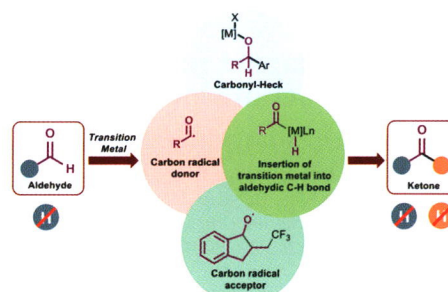
Zijuan Yan^a, Pan-Lin Shao^b, Qing Qiang^a, Feipeng Liu^a, Xuchao Wang^a, Yongjie Li^a, Zi-Qiang Rong^a

^aFrontiers Science Center for Flexible Electronics (FSCFE), Shaanxi Institute of Flexible Electronics (SIFE) & Shaanxi Institute of Biomedical Materials and Engineering (SIBME), Northwestern Polytechnical University (NPU), Xi'an 710072, China

^bCollege of Innovation and Entrepreneurship, Southern University of Science and Technology, Shenzhen 518055, China

Ketones are one of the most important classes of organic compounds. Over the past few decades, great efforts have been devoted to the construction of ketones, and transition metal-catalyzed conversion of aldehydes has been found to be a powerful method. This article summarizes related reports on the direct transformations of aldehydes to generate corresponding ketones using transition metal catalysis.

Chinese Chemical Letters 33 (2022) 1207



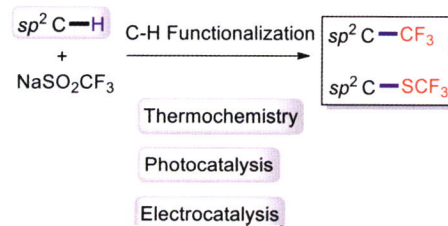
Application of Langlois' reagent (NaSO₂CF₃) in C-H functionalisation

Jiabin Shen, Jun Xu, Lei He, Chenfeng Liang, Wanmei Li

College of Material, Chemistry and Chemical Engineering, Key Laboratory of Organosilicon Chemistry and Material Technology, Ministry of Education, Hangzhou Normal University, Hangzhou 311121, China

This review focuses on recent advances within the past five years regarding C-H functionalisation, namely thermochemical C(sp²)-H (thio)trifluoromethylations, photochemical C(sp²)-H trifluoromethylations, and electrochemical C(sp²)-H trifluoromethylations, using Langlois' reagent (NaSO₂CF₃).

Chinese Chemical Letters 33 (2022) 1227



Strategies for constructing manganese-based oxide electrode materials for aqueous rechargeable zinc-ion batteries

Ying Liu^a, Xiang Wu^{a,b,c}

^aSchool of Materials Science and Engineering, Shenyang University of Technology, Shenyang 110870, China

^bState Key Laboratory of High-Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China

^cState Key Laboratory of Metastable Materials Science and Technology, Yanshan University, Qinhuangdao 066004, China

A plenty of work has focused on polymorphic Mn-based compounds due to their non-toxicity, low cost and rich crystal structure. In fact, the connection mode of MnO₆ octahedrons determines MnO₂ crystal structure, including α-, β-, γ-, λ-, R-, δ-, ε- and T-MnO₂. These structures can be mutually transformed and seriously affect their electrochemical performance.

Chinese Chemical Letters 33 (2022) 1236



Quantum dots-hydrogel composites for biomedical applications

Chinese Chemical Letters 33 (2022) 1245

Wenjie Zhou^a, Zhe Hu^a, Jinxin Wei^a, Hanqing Dai^b, Yuanyuan Chen^a, Siyu Liu^b, Zhongtao Duan^b, Fengxian Xie^a, Wanlu Zhang^a, Ruiqian Guo^{a,b,c,d}

^aInstitute for Electric Light Sources, School of Information Science and Technology, Fudan University, Shanghai 200433, China

^bInstitute of Future Lighting, Academy for Engineering and Technology, Fudan University, Shanghai 200433, China

^cZhongshan-Fudan Joint Innovation Center, Zhongshan 528437, China

^dYiwu Research Institute of Fudan University, Yiwu 322000, China

The synthesis of quantum dots-hydrogel composites and their biomedical applications in bioimaging, biosensing and drug delivery are highlighted and summarized. The challenges of design optimization, biocompatibility and bimodal applications are discussed.



Communications

Bicyclic stapled peptides based on p53 as dual inhibitors for the interactions of p53 with MDM2 and MDMX

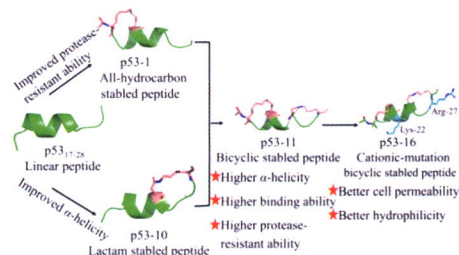
Chinese Chemical Letters 33 (2022) 1254

Hongjin Li^{a,b}, Xiangyan Chen^{a,b}, Minghao Wu^{a,b}, Panpan Song^{a,b}, Xia Zhao^{a,b}

^aKey Laboratory of Marine Drugs, Ministry of Education, School of Medicine and Pharmacy, Ocean University of China, Qingdao 266003, China

^bLaboratory for Marine Drugs and Bioproducts of Qingdao National Laboratory for Marine Science and Technology, Qingdao 266237, China

The bicyclic stapled peptides based on p53 were designed and synthesized by combining all-hydrocarbon stapling and lactam stapling strategies. p53-16 showed nanomolar binding affinity for murine double minute 2 (MDM2) and murine double minute X (MDMX), and selectively inhibited the activity of tumor cells via activating p53 pathway *in vitro*.



Highly efficient photocatalytic NO removal and *in situ* DRIFTS investigation on SrSn(OH)₆

Chinese Chemical Letters 33 (2022) 1259

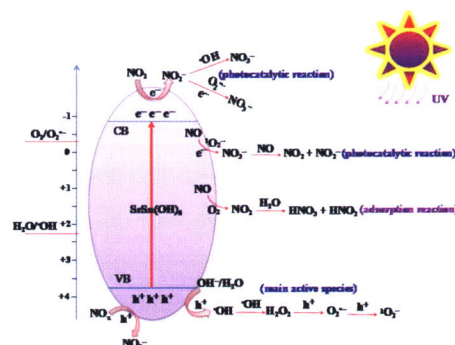
Wendong Zhang^a, Yun Wang^a, Yi Wang^a, Yi Liang^a, Fan Dong^{b,c}

^aChongqing Key Laboratory of Inorganic Functional Materials, Chongqing Key Laboratory of Green Synthesis and Application, Chongqing Normal University, Chongqing 401331, China

^bYangtze Delta Region Institute (Huzhou) & Institute of Fundamental and Frontier Sciences, University of Electronic Science and Technology of China, Huzhou 313001, China

^cState Centre for International Cooperation on Designer Low-carbon and Environmental Materials (CDLCEM), School of Materials Science and Engineering, Zhengzhou University, Zhengzhou 450001, China

The SrSn(OH)₆ demonstrated the ability to generate the main active species of O₂^{•-}, •OH and ¹O₂ and thus could oxidize NO into nitrate under UV light.



Crystallinity engineering of Au nanoparticles on graphene for *in situ* SERS monitoring of Fenton-like reaction

Chinese Chemical Letters 33 (2022) 1263

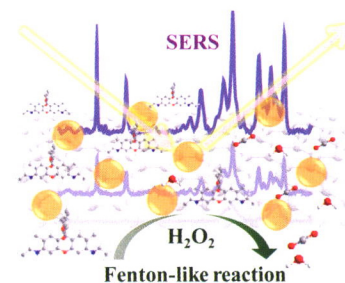
Danni Guo^{a,b}, Lixia Zhao^a, Hui Zhang^{a,c}

^aState Key Laboratory of Environmental Chemistry and Eco-toxicology, Research Center for Eco-environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China

^bCollege of Resources and Environment, University of Chinese Academy of Sciences, Beijing 100049, China

^cState Key Laboratory of Water Environment Simulation, School of Environment, Beijing Normal University, Beijing 100875, China

The unique catalytic activity and high SERS sensitivity of single crystalline Au NPs/RGO hybrid make it an ideal platform for *in situ* SERS monitoring Fenton-like reaction.



Old commercialized magnetic particles new trick: Intrinsic internal standard

Chaoqun Wang^a, Ziqiang Deng^b, Hu Zhang^c, Rui Liu^b, Yi Lv^a

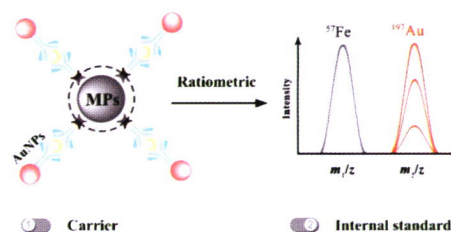
^aAnalytical & Testing Center, Sichuan University, Chengdu 610064, China

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

^cDepartment of Gastroenterology, West China Hospital, Sichuan University, Chengdu 610041, China

Inspired by commercialized magnetic particles' intrinsic Fe isotope composition, we exploited a novel function of MPs-internal standard and constructed a simple ratiometric immunoassay based on high resolution inductively coupled plasma mass spectrometry.

Chinese Chemical Letters 33 (2022) 1267



Nanoplasmonic zirconium nitride photocatalyst for direct overall water splitting

Yu Liu^{a,b}, Xiaowei Zhang^{a,b}, Lisha Lu^{a,b}, Jun Ye^{a,b}, Jianlin Wang^{a,b}, Xiaomin Li^a, Xuedong Bai^{a,b,c}, Wenlong Wang^{a,b,c}

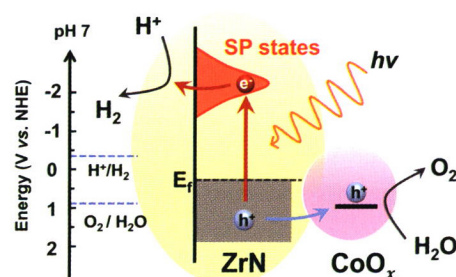
^aBeijing National Laboratory for Condensed Matter Physics and Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China

^bSchool of Physical Sciences, University of Chinese Academy of Sciences, Chinese Academy of Sciences, Beijing 100190, China

^cSongshan Lake Materials Laboratory, Dongguan 523808, China

The first use of plasmonic zirconium nitride (ZrN) nanostructures as a promising photocatalyst for water splitting was demonstrated. Without the optimal modification of a cobalt oxide (CoO_x) cocatalyst to facilitate separation of photogenerated charge carriers, the plasmonic ZrN nanoparticles can activate the overall water splitting for simultaneous H₂ and O₂ evolution.

Chinese Chemical Letters 33 (2022) 1271



Amplification effects of magnetic field on hydroxylamine-promoted ZVI/H₂O₂ near-neutral Fenton like system

Wei Xiang^{a,b}, Mingjie Huang^a, Xiaohui Wu^{a,b}, Fugang Zhang^c, Dan Li^c, Tao Zhou^a

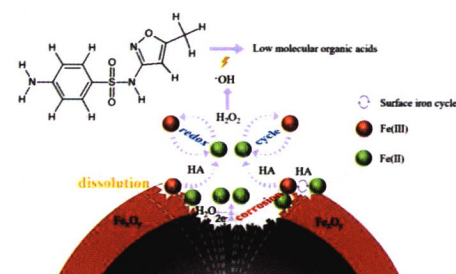
^aSchool of Environmental Science and Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

^bKey Laboratory of Water and Wastewater Treatment (HUST), MOHURD, Wuhan 430074 China

^cThree Gorges Base Development Co., Ltd, Yichang 443002, China

Mechanism for the magnetic field amplification effect was proposed involving the heterogeneous-homogenous iron cycle. The gradient magnetic field could lead to enhanced iron corrosion and formation of specific porous surface. Bounded and aqueous Fe(II) would be generated simultaneously, contributing to the generation of [•]OH and degradation of sulfamethoxazole. Hydroxylamine not only promoted the dissolution of iron oxides but also maintained the homogeneous and heterogeneous cycle of Fe(II)/Fe(III).

Chinese Chemical Letters 33 (2022) 1275



High temperature H₂S selective oxidation on a copper-substituted hexaaluminate catalyst: A facile process for treating low concentration acid gas

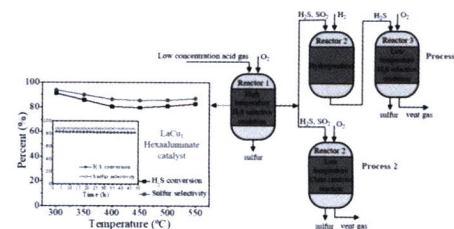
Xin Xu^{a,b}, Ganggang Li^{a,b}, Fenglian Zhang^b, Guoxia Jiang^b, Zhengping Hao^{a,b}

^aResearch Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China

^bNational Engineering Laboratory for VOCs Pollution Control Material & Technology, Research Center for Environmental Material and Pollution Control Technology, University of Chinese Academy of Sciences, Beijing 101408, China

The copper-substituted hexaaluminate catalyst (LaCu₁) exhibited excellent catalytic performance and reaction stability for the high temperature H₂S selective oxidation. And two facile deep processing paths are proposed for the complete treatment of low concentration acid gas.

Chinese Chemical Letters 33 (2022) 1279



Constructing a novel Ag nanowire@CeVO₄ heterostructure photocatalyst for promoting charge separation and sunlight driven photodegradation of organic pollutants

Yan Song^a, Ran Wang^a, Xiuyuan Li^a, Baiqi Shao^{b,c}, Hongpeng You^{b,c}, Chaozheng He^a

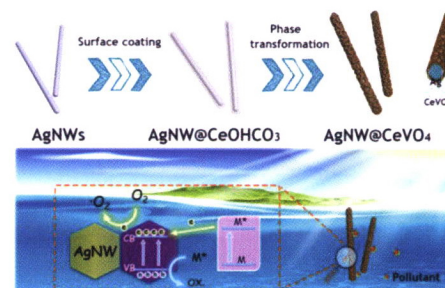
^aInstitute of Environmental and Energy Catalysis, School of Materials Science and Chemical Engineering, Xi'an Technological University, Xi'an 710021, China

^bState Key Laboratory of Rare Earth Resource Utilization, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

^cUniversity of Science and Technology of China, Hefei 230026, China

Heterostructure photocatalyst assembled by one dimensional Ag nanowire and CeVO₄ was successfully designed and constructed for sunlight-driven photocatalytic properties.

Chinese Chemical Letters 33 (2022) 1283



Embedding wasted hairs in Ti/PbO₂ anode for efficient and sustainable electrochemical oxidation of organic wastewater

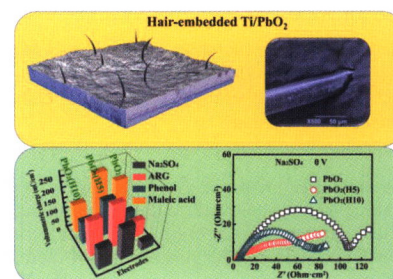
Dan Shao^a, Zekang Wang^a, Cuiping Zhang^a, Weijia Li^a, Hao Xu^b, Guoqiang Tan^a, Wei Yan^b

^aSchool of Materials Science and Engineering, Shaanxi Key Laboratory of Green Preparation and Functionalization for Inorganic Materials, Shaanxi University of Science & Technology, Xi'an 710021, China

^bDepartment of Environmental Engineering, Xi'an Jiaotong University, Xi'an 710049, China

The embedded hairs could change the morphology and crystalline structure of Ti/PbO₂, leading to the variations of electrochemical properties and electrochemical oxidation behaviors.

Chinese Chemical Letters 33 (2022) 1288



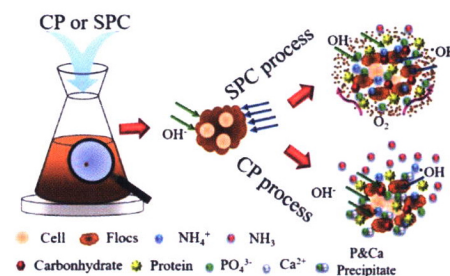
Compared effects of "solid-based" hydrogen peroxide pretreatment on disintegration and properties of waste activated sludge

Hai-Chao Luo, Wan-Qian Guo, Qi Zhao, Hua-Zhe Wang, Nan-Qi Ren

State Key Laboratory of Urban Water Resource and Environment, Harbin Institute of Technology, Harbin 150090, China

Both oxidants achieved efficient WAS disintegration for the synergistic effect of alkaline and oxidation. However, there were obviously differences in ammonia leakage, phosphorus dissolving, alkalinity, dominant oxidizing species during WAS disintegration processes.

Chinese Chemical Letters 33 (2022) 1293



In-situ synthesis of N, S co-doped hollow carbon microspheres for efficient catalytic oxidation of organic contaminants

Yongbing Xie^{a,b}, Ya Liu^{c,d}, Yujie Yao^{b,e}, Yanchun Shi^b, Binran Zhao^e, Yuxian Wang^c

^aState Key Laboratory of Vanadium and Titanium Resources Comprehensive Utilization, Panzhihua 617000, China

^bCAS Key Laboratory of Green Process & Engineering, Beijing Engineering Research Center of Process Pollution Control, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100190, China

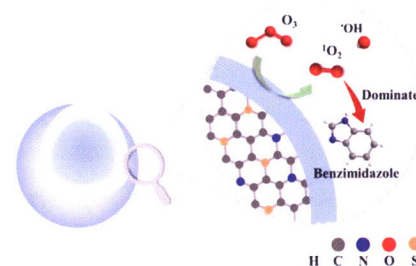
^cState Key Laboratory of Heavy Oil Processing, State Key Laboratory of Petroleum Pollution Control, China University of Petroleum-Beijing, Beijing 102249, China

^dSchool of Chemical Engineering and Advanced Materials, The University of Adelaide, Adelaide, SA 5005, Australia

^eSchool of Chemical Engineering, Northwest University, Xi'an 710069, China

N, S co-doped hollow carbon microspheres (NSCs) were synthesized by the persulfate wet air oxidation of benzothiazole, which can effectively activate ozone for benzimidazole degradation. The graphitic N and thiophene S synergistically contributed to the excellent activities of N₂-annealed NSCs, and singlet oxygen (¹O₂) is the dominant reactive oxygen species.

Chinese Chemical Letters 33 (2022) 1298



Enhanced photocatalytic hydrogen production under visible light of an organic-inorganic hybrid material based on enzo[1,2-b:4,5-b']dithiophene polymer and TiO₂

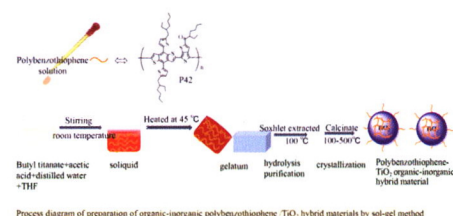
Fang Jing^a, Yanmeng Guo^a, Bo Li^a, Yi-Fan Chen^a, Chunman Jia^a, Jianwei Li^{a,b}

^aHainan Provincial Key Laboratory of Fine Chemicals, Advanced Materials of Tropical Island Resources of Ministry of Education, School of Chemical Engineering and Technology, Hainan University, Haikou 570228, China

^bMediCity Research Laboratory, University of Turku, Tykistökatu 6, Turku 20520, Finland

A polythiophene, benzo[1,2-b:4,5-b']dithiophene polythiophene (P42), could be used to enhance the photocatalytic hydrogen production of TiO₂ under visible light due to the broadened absorption range and narrowed band gap.

Chinese Chemical Letters 33 (2022) 1303



Microfluidics embedded with microelectrodes for electrostimulation of neural stem cells proliferation

Qian Li^{a,b}, Bodong Kang^{a,b}, Libin Wang^{a,b}, Tao Chen^{a,b}, Yu Zhao^{a,b}, Shilun Feng^c, Rongjing Li^{a,b}, Hongtian Zhang^d

^aInstitute of Advanced Photonics Technology, Faculty of Materials and Manufacturing, Beijing University of Technology, Beijing 100124, China

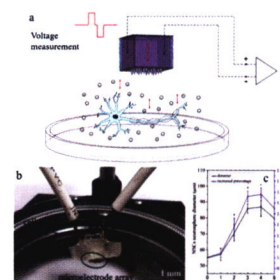
^bKey Laboratory of Trans-scale Laser Manufacturing Technology (Beijing University of Technology), Ministry of Education, Beijing 100124, China

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

^dDepartment of Neurosurgery, The 7th Medical Center, General Hospital of the Chinese People's Liberation Army, Beijing 100700, China

Here a novel microfluidic/microelectrode composite microdevice was developed by embedding the microelectrodes to the microfluidic platform, in which microfluidics provided a controlled cell culture platform, and electrical stimulation (ES) promoted the neural stem cells (NSCs) proliferation.

Chinese Chemical Letters 33 (2022) 1308



Achieving simultaneous Cu particles anchoring in meso-porous TiO₂ nanofabrication for enhancing photo-catalytic CO₂ reduction through rapid charge separation

Jinyan Xiong^a, Mengmeng Zhang^b, Mengjie Lu^a, Kai Zhao^c, Chao Han^d, Gang Cheng^b, Zhipan Wen^b

^aCollege of Chemistry and Chemical Engineering, Hubei Key Laboratory of Biomass Fibers and Ecodyeing & Finishing, Wuhan Textile University, Wuhan 430200, China

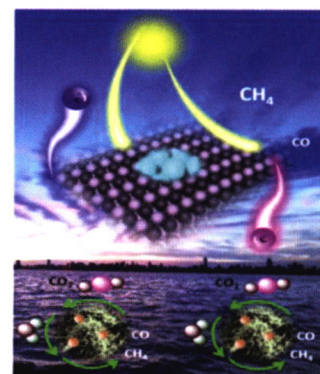
^bSchool of Chemistry and Environmental Engineering, Wuhan Institute of Technology, Wuhan 430205, China

^cSchool of Materials Science and Energy Engineering, Foshan University, Foshan 528000, China

^dAustralia School of Civil and Environmental Engineering, Faculty of Engineering and Information Technology, University of Technology Sydney, Sydney, NSW 2007, Australia

The hybrid of titanium oxide nano-aggregates coupled with copper particles displaying superior conversion of CO₂ photo-reduction was successfully prepared by a facile solvo-thermal approach. The impact of copper loading contribution to an efficient separation of photo-generated charges for solar-driven CO₂ photo-reduction was also studied.

Chinese Chemical Letters 33 (2022) 1313



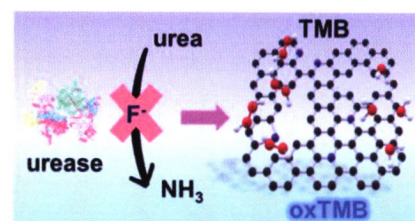
Defect-rich and ultrathin nitrogen-doped carbon nanosheets with enhanced peroxidase-like activity for the detection of urease activity and fluoride ion

Yu Zhang, Lei Jiao, Weiqing Xu, Yifeng Chen, Yu Wu, Hongye Yan, Wenling Gu, Chengzhou Zhu

Key Laboratory of Pesticide and Chemical Biology of Ministry of Education, International Joint Research Center for Intelligent Biosensing Technology and Health, College of Chemistry, Central China Normal University, Wuhan 430079, China

The colorimetric sensing platform based on defect-rich and ultrathin nanozymes was constructed for the detection of urease activity and fluoride ion.

Chinese Chemical Letters 33 (2022) 1317



Molybdenum phosphide (MoP) with dual active sites for the degradation of diclofenac in Fenton-like system

Xiuying Li^a, Shuangqiu Huang^a, Huaihao Xu^a, Yuepeng Deng^a, Zhu Wang^{a,c}, Zhao-Qing Liu^b

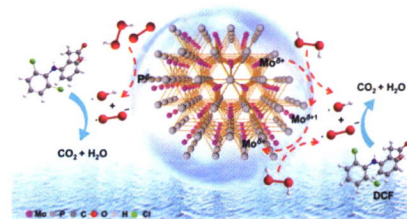
^aKey Laboratory for Water Quality and Conservation of the Pearl River Delta, Ministry of Education, Guangzhou Key Laboratory for Clean Energy and Materials, Institute of Environmental Research at Greater Bay, Guangzhou University, Guangzhou 510006, China

^bSchool of Chemistry and Chemical Engineering, Institute of Clean Energy and Materials, Guangzhou Key Laboratory for Clean Energy and Materials, Key Laboratory for Water Quality and Conservation of the Pearl River Delta, Ministry of Education, Guangzhou University, Guangzhou 510006, China

^cState Key Laboratory of Pollution Control and Resource Reuse, School of the Environment, Nanjing University, Nanjing 210023, China

Molybdenum phosphide (MoP) with dual active sites is synthesized for improving H₂O₂ activation, which results in high degradation efficiency of diclofenac (DCF).

Chinese Chemical Letters 33 (2022) 1320



Silicotungstic acid-derived WO₃ composited with ZrO₂ supported on SBA-15 as a highly efficient mesoporous solid acid catalyst for the alkenylation of *p*-xylene with phenylacetylene

Xueting Bai, Yongle Guo, Zhongkui Zhao

State Key Laboratory of Fine Chemicals, Department of Catalysis Chemistry and Engineering, School of Chemical Engineering, Dalian University of Technology, Dalian 116024, China

An ordered mesoporous solid acid catalyst was prepared by incipient wetness impregnation method with a subsequent calcination process, which is composed of highly dispersed WO₃ and ZrO₂ supported on SBA-15, and the obtained catalyst presents excellent catalytic performance for the alkenylation of *p*-xylene with phenylacetylene.

Chinese Chemical Letters 33 (2022) 1325



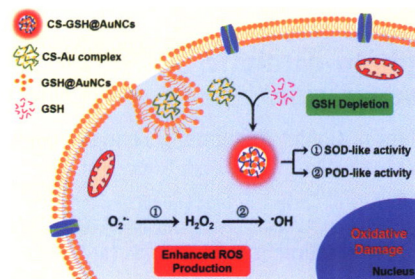
In situ synthesis of red fluorescent gold nanoclusters with enzyme-like activity for oxidative stress amplification in chemodynamic therapy

Wenyong Mi, Shuang Tang, Shaoshi Guo, Hejing Li, Na Shao

College of Chemistry, Beijing Normal University, Beijing 100875, China

The *in situ* synthesis of red fluorescent gold nanoclusters were realized in HeLa cells using endogenous GSH as template, and their application as chemodynamic therapy agent via application of oxidative stress was investigated.

Chinese Chemical Letters 33 (2022) 1331



Degradation of tetracycline hydrochloride by ultrafine TiO₂ nanoparticles modified g-C₃N₄ heterojunction photocatalyst: Influencing factors, products and mechanism insight

Bin Zhang^{a,b}, Xu He^b, Chengze Yu^a, Guocheng Liu^a, Dong Ma^a, Chunyue Cui^a, Qinghua Yan^a, Yingjie Zhang^c, Guangshan Zhang^a, Jun Ma^{a,b}, Yanjun Xin^a

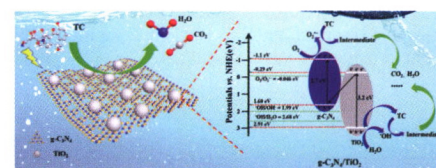
^aQingdao Engineering Research Center for Rural Environment, Water Resources Protection and Utilization Center for Rural Areas, Qingdao Agricultural University, Qingdao 266109, China

^bState Key Laboratory of Urban Water Resource and Environment, Harbin Institute of Technology, Harbin 150090, China

^cSchool of Marine Science and Technology, Sino-Europe Membrane Technology Research Institute Harbin Institute of Technology, Weihai 264209, China

A novel unique heterojunction photocatalyst of ultrafine TiO₂ nanoparticles modified g-C₃N₄ (g-C₃N₄/TiO₂) exhibited excellent photocatalytic degradation performance of TC under simulated sunlight irradiation.

Chinese Chemical Letters 33 (2022) 1337



Fractionation-free negative enriching for in-depth C-terminome analysis

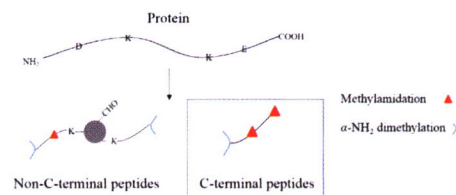
Jingtian Lu^a, Ting Wang^a, Huimin Bao^a, Haojie Lu^{a,b}

^a Department of Chemistry and Shanghai Cancer Center, Fudan University, Shanghai 200438, China

^b Institutes of Biomedical Sciences and NHC Key Laboratory of Glycoconjugates Research, Fudan University, Shanghai 200032, China

A fractionation-free negative enrichment method based on aldehyde resin for in-depth C-terminome analysis was developed.

Chinese Chemical Letters 33 (2022) 1343



Fe doped aluminoborate PKU-1 catalysts for the ketalization of glycerol to solketal: Unveiling the effects of iron composition and boron

Weilu Wang^a, Xiangke Zeng^a, Yanliu Dang^b, Ping Ouyang^a, Haidong Zhang^a, Guangming Jiang^a, Fan Dong^{a,c}, Tao Yang^d, Steven L. Suib^b, Yang He^e

^a Engineering Research Center for Waste Oil Recovery Technology and Equipment, Ministry of Education, Chongqing Technology and Business University, Chongqing 400067, China

^b Institute of Materials Science, University of Connecticut, Storrs, CT 06269, United States

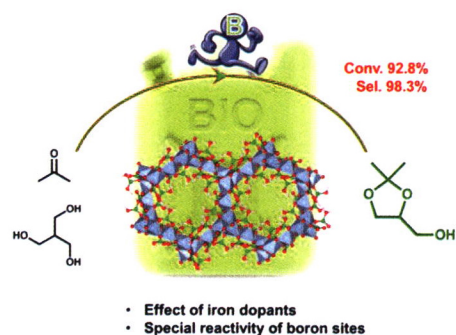
^c Yangtze Delta Region Institute (Huzhou) & Institute of Fundamental and Frontier Sciences, University of Electronic Science and Technology of China, Huzhou 313001, China

^d College of Chemistry and Chemical Engineering, Chongqing University, Chongqing 401331, China

^e Department of Chemical, Biological and Materials Engineering, University of South Florida, Tampa, FL 33620, United States

Here our study indicates that the surface B sites exhibited an aggressive reactivity towards acetone instead of being spectators in catalytic process. This novel finding was quite significant for the greater community where the C–O activation can be promoted when the non-metal elements participate in the reaction.

Chinese Chemical Letters 33 (2022) 1346



A new Eu-MOF for ratiometrically fluorescent detection toward quinolone antibiotics and selective detection toward tetracycline antibiotics

Chao-Yang Wang^a, Chong-Chen Wang^a, Xiu-Wu Zhang^a, Xue-Ying Ren^a, Baoyi Yu^b, Peng Wang^a, Zi-Xuan Zhao^a, Huifen Fu^a

^a Beijing Key Laboratory of Functional Materials for Building Structure and Environment Remediation/Beijing Energy Conservation & Sustainable Urban and Rural Development Provincial and Ministry Co-construction Collaboration Innovation Center, Beijing University of Civil Engineering and Architecture, Beijing 100044, China

^b Key Laboratory of Urban Agriculture (North China), Ministry of Agriculture, College of Biological Sciences Engineering, Beijing University of Agriculture, Beijing 102206, China

A new 3D Eu-MOF (**BUC-88**) was used as fluorescence sensor to detect quinolone antibiotics and tetracycline antibiotics in aqueous solution. The mechanism of fluorescent sensing toward quinolone antibiotics and tetracycline antibiotics was proposed and verified.

Chinese Chemical Letters 33 (2022) 1353



Development of environmentally friendly biological algicide and biochemical analysis of inhibitory effect of diatom *Skeletonema costatum*

Jie Yang^{a,b,c}, Qingzheng Zhu^{a,b}, Jinlong Chai^{a,b}, Feng Xu^{a,b}, Yunfei Ding^{a,b}, Qiang Zhu^{a,b,c}, Zhaoxin Lu^e, Kuan Shiong Khoo^f, Xiaoying Bian^d, Shujun Wang^{a,b,c}, Pau Loke Show^f

^a Jiangsu Key Laboratory of Marine Bioresources and Environment/Jiangsu Key Laboratory of Marine Biotechnology, Jiangsu Ocean University, Lianyungang 222005, China

^b Jiangsu Marine Resources Development Research Institute, Lianyungang 222005, China

^c Co-Innovation Center of Jiangsu Marine Bio-industry Technology, Jiangsu Ocean University, Lianyungang 222005, China

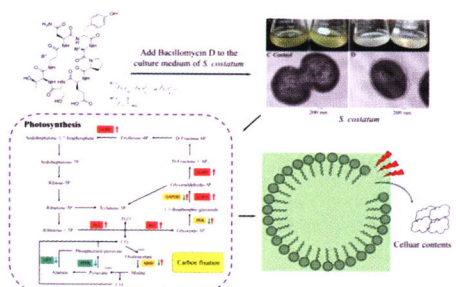
^d Helmholtz Institute of Biotechnology, State Key Laboratory of Microbial Technology, Shandong University, Qingdao 266237, China

^e College of Food Science and Technology, Nanjing Agricultural University, Nanjing 210095, China

^f Department of Chemical and Environmental Engineering, Faculty of Science and Engineering, University of Nottingham Malaysia, Jalan Broga, 43500 Semenyih, Malaysia

As an environmentally friendly algae inhibitor, Bacillomycin D disrupts the cell structure and inhibits the photosynthesis process, which could efficiently inhibit the growth of *S. costatum*.

Chinese Chemical Letters 33 (2022) 1358



“Small amount for multiple times” of H₂O₂ feeding way in MoS₂-Fe_x heterogeneous fenton for enhancing sulfadiazine degradation

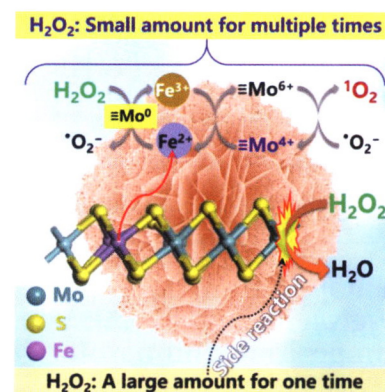
Zhuan Chen^{a,b}, Cheng Lian^a, Kai Huang^a, Jiahui Ji^{a,b}, Qingyun Yan^{a,b}, Jinlong Zhang^{a,b}, Mingyang Xing^{a,b}

^aKey Laboratory for Advanced Materials and Joint International Research Laboratory of Precision Chemistry and Molecular Engineering, Feringa Nobel Prize Scientist Joint Research Center, Frontiers Science Center for Materiobiology and Dynamic Chemistry, Institute of Fine Chemicals, School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

^bShanghai Engineering Research Center for Multi-media Environmental Catalysis and Resource Utilization, East China University of Science and Technology, Shanghai 200237, China

In this work, we successfully prepared highly dispersed iron on MoS₂ by a simple reduction method which can effectively degrade sulfadiazine and other pollutants when the initial pH is 10. Meanwhile, we further studied the interaction between MoS₂ and H₂O₂ and proposed “small amount for multiple times” feeding way of H₂O₂.

Chinese Chemical Letters 33 (2022) 1365



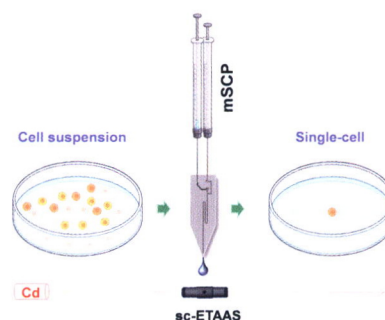
A modular single-cell pipette microfluidic chip coupling to ETAAS and ICP-MS for single cell analysis

Xing Wei, Meng Yang, Ze Jiang, Jinhui Liu, Xuan Zhang, Mingli Chen, Jianhua Wang

Research Center for Analytical Sciences, Department of Chemistry, College of Sciences, Northeastern University, Shenyang 110819, China

A modular single-cell pipette microchip (mSCP) used to capture single-cells into nanoliter droplets was employed in single-cell ETAAS (sc-ETAAS) analysis for the first time.

Chinese Chemical Letters 33 (2022) 1373



Di-4-ANEPPDHQ probes the response of lipid packing to the membrane tension change in living cells

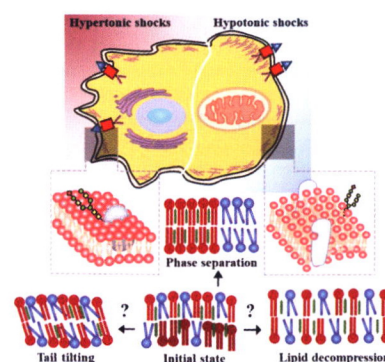
Nan Li^a, Weifei Zhang^b, Haifeng Lin^a, Jin-Ming Lin^a

^aBeijing Key Laboratory of Microanalytical Methods and Instrumentation, MOE Key Laboratory of Bioorganic Phosphorus Chemistry & Chemical Biology, Department of Chemistry, Tsinghua University, Beijing 100084, China

^bDivision of Chemical Metrology and Analytical Science, National Institute of Metrology, Beijing 100029, China

The possible response mechanism of lipid packing to the change of membrane tension was investigated, in which lipid packing was visualized by di-4-ANEPPDHQ probe and membrane tension was regulated by different osmotic shocks.

Chinese Chemical Letters 33 (2022) 1377



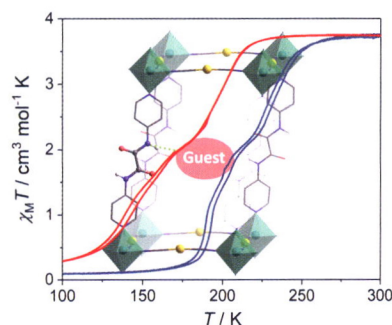
Four-step spin-crossover in an oxamide-decorated metal-organic framework

Siguo Wu, Sukhen Bala, Zeyu Ruan, Guozhang Huang, Zhaoping Ni, Mingliang Tong

Key Laboratory of Bioinorganic and Synthetic Chemistry of Ministry of Education, School of Chemistry, Sun Yat-sen University, Guangzhou 510275, China

Four-step spin-crossover behaviors with two new sequences were explored by tuning the hydrogen-bonding interactions in an oxamide-decorated metal-organic framework.

Chinese Chemical Letters 33 (2022) 1381



Tuning band structure of graphitic carbon nitride for efficient degradation of sulfamethazine: Atmospheric condition and theoretical calculation

Yue Liu^a, Long Chen^b, Xiaona Liu^a, Tianwei Qian^a, Meng Yao^a, Wen Liu^{b,c}, Haodong Ji^{b,c}

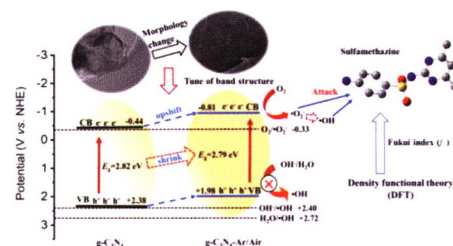
^a College of Environmental Science and Engineering, Taiyuan University of Technology, Jinzhong 030600, China

^b The Key Laboratory of Water and Sediment Science, Ministry of Education; College of Environment Science and Engineering, Peking University, Beijing 100871, China

^c State Environmental Protection Key Laboratory of All Material Fluxes in River Ecosystems, Peking University, Beijing 100871, China

Modified graphitic carbon nitride (g-C₃N₄-Ar/Air) was synthesized via a facial post-calcination method and exhibited efficiently photocatalytic activity for SMT removal due to the tune of band structure.

Chinese Chemical Letters 33 (2022) 1385



H₂S-assisted growth of 2D MS₂ (M = Ti, Zr, Nb)

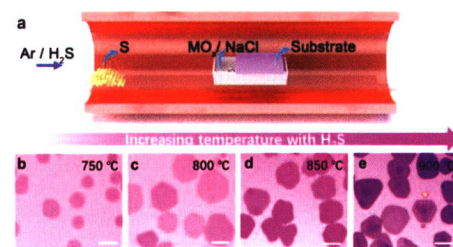
Yiwei Zhang^a, Peng Zhang^a, Tengfei Xu^b, Xingguo Wang^a, Huaning Jiang^a, Yongji Gong^a

^a School of Materials Science and Engineering, Beihang University, Beijing 100191, China

^b State Key Laboratory of Infrared Physics, Shanghai Institute of Technical Physics, Chinese Academy of Sciences, Shanghai 200083, China

High quality MS₂ (M = Ti, Nb, Zr) nanosheets grown by H₂S-assisted CVD growth method and their corresponding characterization.

Chinese Chemical Letters 33 (2022) 1390



Synthesis of Co₄S₃/Co₉S₈ nanosheets and comparison study toward the OER properties induced by different metal ion doping

Fenghua Chen^a, Zhaoqian Zhang^a, Weiwei Liang^a, Xiaoyun Qin^a, Zhen Zhang^b, Liying Jiang^c

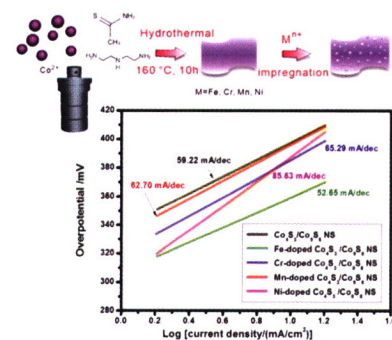
^a College of Materials and Chemical Engineering, Zhengzhou University of Light Industry, Zhengzhou 450002, China

^b Tianjin Key Laboratory of Molecular Optoelectronic Department of Chemistry, School of Science, Tianjin University, Tianjin 300072, China

^c School of Electrical and Information Engineering, Zhengzhou University of Light Industry, Zhengzhou 450002, China

Co₄S₃/Co₉S₈ nanosheets, with an ultrathin layer structure, were successfully synthesized via an efficient solvothermal process combined with ultrasonic exfoliation. Co₄S₃/Co₉S₈ NS exhibited different electrocatalytic properties caused by the doping of four different kinds of metal ions.

Chinese Chemical Letters 33 (2022) 1395



Robust hydrogen production from HCOOH over amino-modified KIT-6-confined PdIr alloy nanoparticles

Wenfang Peng^{a,b}, Shiwen Liu^b, Xiugang Li^a, Gang Feng^c, Jianhui Xia^a, Zhang-Hui Lu^a

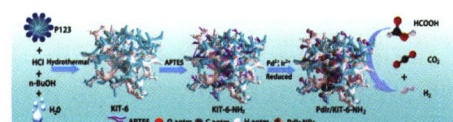
^a Key Laboratory of Functional Small Molecules for Ministry of Education, College of Chemistry and Chemical Engineering, Jiangxi Normal University, Nanchang 330022, China

^b Jiangxi Provincial Center for Disease Control and Prevention, Nanchang 330029, China

^c College of Chemistry, Nanchang University, Nanchang 330031, China

Small and well-dispersed PdIr alloy NPs confined by amino-functional 3D mesoporous silica (KIT-6) were prepared by a simple wet chemical method and used as a highly efficient catalyst for robust hydrogen production from HCOOH.

Chinese Chemical Letters 33 (2022) 1403



“Series and parallel” design of ether linkage and imidazolium cation synergistically regulated four-armed polymerized ionic liquid for all-solid-state polymer electrolyte

Zehui Xie^a, Yang Zhou^{a,b}, Canhui Ling^a, Xinlin Zhu^a, Zhao Fang^a, Xiaolong Fu^c, Wuwei Yan^d, Yong Yang^a

^aKey Laboratory of Soft Chemistry and Functional Materials, Ministry of Education, School of Chemistry and Chemical Engineering, Nanjing University of Science and Technology, Nanjing 210094, China

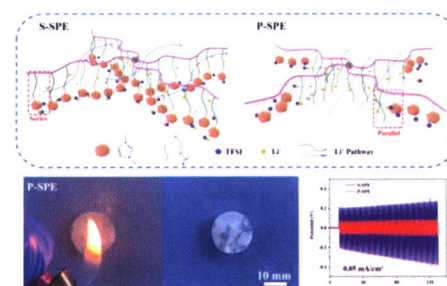
^bThe Green Aerotechnics Research Institute of Chongqing Jiaotong University, Chongqing 401120, China

^cXi'an Modern Chemistry Research Institute, Xi'an 710065, China

^dShenzhen BTR Nanotechnology Company, Ltd., Shenzhen 518106, China

Series and parallel connective mode of ether linkage ($-\text{CH}_2-\text{CH}_2-\text{O}-$)_n and ionic group are regulated in a four-armed polymeric ionic liquid scaffold to make a concerted effort to the electrochemical performances and safety of solid-state polymer electrolytes.

Chinese Chemical Letters 33 (2022) 1407



Heat treatment-induced Co³⁺ enrichment in CoFePBA to enhance OER electrocatalytic performance

Wenhui Hu^a, Mingbo Zheng^{a,b}, Huiyu Duan^a, Wei Zhu^a, Ying Wei^a, Yi Zhang^a, Kunming Pan^c, Huan Pang^a

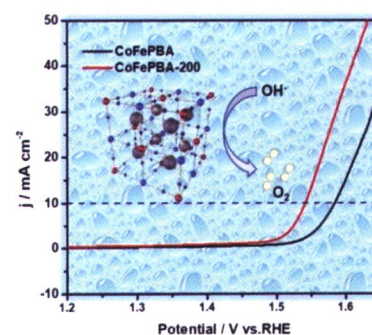
^aSchool of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 225002, China

^bCollege of Materials Science and Technology, Nanjing University of Aeronautics and Astronautics, Nanjing 210016, China

^cNational Joint Engineering Research Center for Abrasion Control and Molding of Metal Materials, and Henan Key Laboratory of High-temperature Structural and Functional Materials, Henan University of Science and Technology, Luoyang 471003, China

Appropriate low-temperature heat treatment of CoFePBA induces Co³⁺ enrichment and provides a large number of active sites for the electrocatalytic OER process. Furthermore, the sample inherits the porous framework of CoFePBA, which ensures the mass transfer inside the structure during the electrocatalytic OER process.

Chinese Chemical Letters 33 (2022) 1412



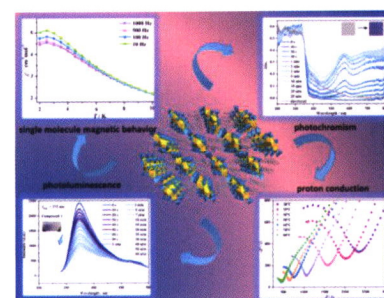
Single molecule magnetic behavior and photo-enhanced proton conductivity in a series of photochromic complexes

Qian Zhang, Jixiang Hu, Qi Li, Dongxue Feng, Zhenni Gao, Guoming Wang

College of Chemistry and Chemical Engineering, Qingdao University, Qingdao 266071, China

A series of rare earth phosphates with multiple functions were synthesized, showing reversible photochromism, fluorescence regulation, single molecule magnetic behavior and light enhanced proton conductivity.

Chinese Chemical Letters 33 (2022) 1417



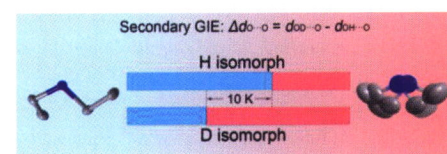
Deuteration triggered downward shift of dielectric phase transition temperature in a hydrogen-bonded molecular crystal

Bei-Dou Liang, Tong Jin, Le-Ping Miao, Chao-Yang Chai, Chang-Chun Fan, Xiang-Bin Han, Wen Zhang

Jiangsu Key Laboratory for Science and Applications of Molecular Ferroelectrics and School of Chemistry and Chemical Engineering, Southeast University, Nanjing 211189, China

A hydrogen-bonded molecular crystal is showing a downward shift of dielectric phase transition temperature after H/D exchange, owing to positive GIE of the O–H...O hydrogen bond, which reduces the internal pressure on the cations.

Chinese Chemical Letters 33 (2022) 1422



Low temperature fabrication for high-performance semitransparent CsPbI₂Br perovskite solar cells

Xiaogang Yang^a, Jiejia Han^{a,b}, Wei Ruan^c, Yanqiang Hu^{b,c,d}, Zhengyan He^b, Xiangrui Jia^b, Shufang Zhang^b, Dehua Wang^b

^a College of Environment and Safety Engineering, Qingdao University of Science & Technology, Qingdao 266042, China

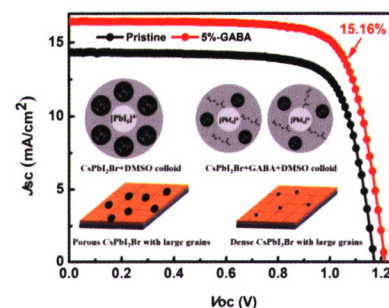
^b School of Physics and Photoelectronic Engineering, Ludong University, Yantai 264025, China

^c College of Materials Science and Engineering, Nanjing University of Science & Technology, Nanjing 210094, China

^d College of Chemistry and Chemical Engineer, Nantong University, Nantong 226001, China

By incorporating a small amount of γ -aminobutyric acid in the precursor solutions, the high-performance CsPbI₂Br solar cells with conversion efficiency of 15.16% could be prepared at low temperature.

Chinese Chemical Letters 33 (2022) 1425



Cascading V₂O₃/N-doped carbon hybrid nanosheets as high-performance cathode materials for aqueous zinc-ion batteries

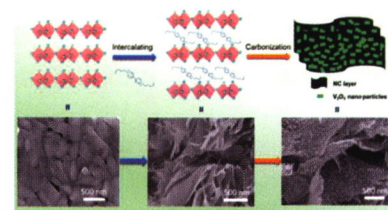
Yue Niu^{a,b}, Denghui Wang^{a,b}, Yingjie Ma^a, Linjie Zhi^a

^a CAS Key Laboratory of Nanosystem and Hierarchical Fabrication, CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology, Beijing 100190, China

^b University of Chinese Academy of Sciences, Beijing 100039, China

The cascading V₂O₃/nitrogen doped carbon hybrid nanosheets are prepared for high-performance aqueous zinc ion batteries (ZIBs) by pyrolyzing pentyl viologen dibromide (PV) intercalated V₂O₅ nanosheets. The unique structure features of V₂O₃/NC nanosheets, including thin sheet-like morphology, small crystalline V₂O₃ nanoparticles and conductive NC layers, endow V₂O₃/NC with superior performance compared to most of the reported vanadium oxide cathode materials for aqueous ZIBs.

Chinese Chemical Letters 33 (2022) 1430



Copper fluoride as a low-cost sodium-ion battery cathode with high capacity

Yiming Dai^a, Qjujie Chen^{b,c}, Chenchen Hu^a, Yangyang Huang^a, Wangyan Wu^a, Mingliang Yu^a, Dan Sun^{b,c}, Wei Luo^a

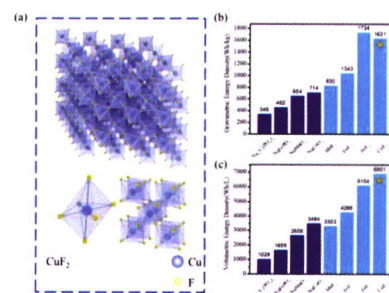
^a Institute of New Energy for Vehicles, School of Materials Science and Engineering, Tongji University, Shanghai 201804, China

^b CAS Key Laboratory of Design and Assembly of Functional Nanostructures, and Fujian Provincial Key Laboratory of Nanomaterials, Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou 350002, China

^c Haixi Institute, Xiamen Institute of Rare Earth Materials, Chinese Academy of Sciences, Xiamen 361021, China

We report a rechargeable CuF₂-based cathode for sodium-ion batteries with high capacity. Furthermore, we propose that a one-step conversion reaction occurs during discharge process, and a reconversion reaction competes with the oxidization of Cu to dissolved Cu ion during charge process.

Chinese Chemical Letters 33 (2022) 1435



Self-assembly of single metal sites embedded covalent organic frameworks into multi-dimensional nanostructures for efficient CO₂ electroreduction

Yi-Lu Yang^a, Yi-Rong Wang^a, Guang-Kuo Gao^a, Ming Liu^a, Chang Miao^a, Le-Yan Li^a, Wei Cheng^a, Zi-Yue Zhao^a, Yifa Chen^{a,b}, Zhifeng Xin^c, Shun-Li Li^a, Dong-Sheng Li^d, Ya-Qian Lan^{a,b}

^a Jiangsu Collaborative Innovation Centre of Biomedical Functional Materials, Jiangsu Key Laboratory of New Power Batteries, School of Chemistry and Materials Science, Nanjing Normal University, Nanjing 210023, China

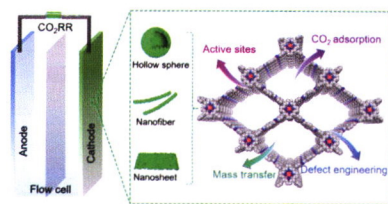
^b School of Chemistry, South China Normal University, Guangzhou 510006, China

^c Institute of Molecular Engineering and Applied Chemistry, Anhui University of Technology, Ma'anshan 243002, China

^d College of Materials and Chemical Engineering, Hubei Provincial Collaborative Innovation Center for New Energy Microgrid, Key Laboratory of Inorganic Nonmetallic Crystalline and Energy Conversion Materials, China Three Gorges University, Yichang 443002, China

Three kinds of multi-dimensional superstructures (e.g., hollow sphere, nanosheets and nanofibers) based on Cu-porphyrin COFs have been synthesized and successfully applied in efficient CO₂ electroreduction to CH₄.

Chinese Chemical Letters 33 (2022) 1439



Light-mediated CO₂-responsiveness of metallopolymer microgels

Xiaofei Wang^a, Xuezhen Lin^a, Huijuan Qiu^a, Jianda Xie^b, Zhengyu Lu^a, Yusong Wang^c, Weitai Wu^{a,d}

^aState Key Laboratory for Physical Chemistry of Solid Surfaces, Collaborative Innovation Center of Chemistry for Energy Materials, The Key Laboratory for Chemical Biology of Fujian Province, and Department of Chemistry, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

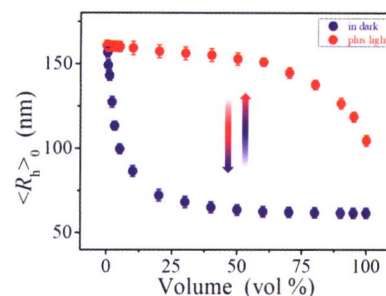
^bSchool of Materials Science and Engineering, Xiamen University of Technology, Xiamen 361024, China

^cHefei National Laboratory for Physical Sciences at the Microscale, University of Science and Technology of China, Hefei 230026, China

^dSchool of Chemistry and Chemical Engineering, Ningxia University, Yinchuan 750021, China

We report a finding on light-mediated CO₂-responsiveness, which is found on the microgels that are made of side-chain type metallopolymers containing metalla-aromatics, to satisfy the urge of achieving both high uptake capacity and low energy penalty for regeneration. For the mixed-gas containing 1-70 vol% CO₂, the microgels could effectively respond in dark, and nearly recover by simply exposing to light.

Chinese Chemical Letters 33 (2022) 1445



Strain tuned efficient heterostructure photoelectrodes

Haihong Zheng^a, Mingyang Li^b, Jinsong Chen^a, Anchang Quan^a, Kaihang Ye^c, Hang Ren^b, Sheng Hu^{a,d}, Yang Cao^{a,d}

^aState Key Laboratory of Physical Chemistry of Solid Surfaces, Collaborative Innovation Center of Chemistry for Energy Materials (iChEM), College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

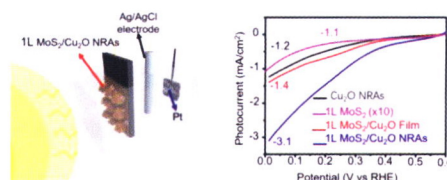
^bDepartment of Chemistry, University of Texas at Austin, Austin, TX 78712, United States

^cGuangzhou Key Laboratory of Clean Transportation Energy Chemistry, School of Chemical Engineering and Light Industry, Guangdong University of Technology, Guangzhou 510006, China

^dPen-Tung Sah Institute of Micro-Nano Science and Technology, Xiamen University, Xiamen 361005, China

1L MoS₂/Cu₂O vdWs heterostructure photocathodes were prepared by nanoindentation technology. The effects of strain on promoting charge separation at the heterointerface were verified by the enhanced performances in PEC hydrogen evolution reaction of vdWs heterostructure through scanning electrochemical cell microscopy technique and various local spectrum probe measurements.

Chinese Chemical Letters 33 (2022) 1450



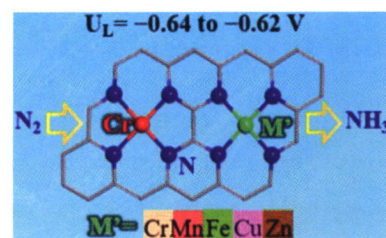
Modulation effect in adjacent dual metal single atom catalysts for electrochemical nitrogen reduction reaction

Xiaonan Zheng, Yang Liu, Yu Yan, Xiaoxiao Li, Yuan Yao

MIT Key Laboratory of Critical Materials Technology for New Energy Conversion and Storage & State Key Laboratory of Advanced Welding and Joining, School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin 150080, China

A series of adjacent dual metal single atom catalysts CrN₄/M'N₄-C (M' = Cr, Mn, Fe, Cu and Zn) was selected via systematic density functional theory (DFT) calculations, which exhibit high activity for nitrogen reduction reaction (NRR) due to the modulation effect.

Chinese Chemical Letters 33 (2022) 1455



Molecular self-induced configuration for improving dissymmetry factors in tetradentate platinum(II) enantiomers cycloaddition

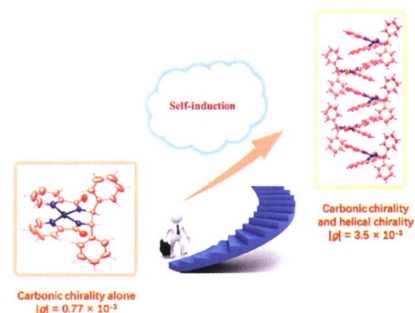
Li Yuan^a, Qian-Jun Ding^a, Zhen-Long Tu^a, Xiang-Ji Liao^a, Xu-Feng Luo^a, Zhi-Ping Yan^a, Zheng-Guang Wu^b, You-Xuan Zheng^a

^aState Key Laboratory of Coordination Chemistry, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, China

^bNantong Key Lab of Intelligent and New Energy Materials, College of Chemistry and Chemical Engineering, Nantong University, Nantong 226019, China

Due to the chiral carbon centers as well as a helicity-like structure during the platinum coordination process, the Pt(II) enantiomers containing quinoline groups show improved g factor significantly without chiral separation process.

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Scalable synthesis of macroscopic porous carbon sheet anode for potassium-ion capacitor

Yuying Qin^a, Yuhao Xie^a, Han Zhao^a, Chunyan Zhu^a, Tong Li^a, Shuxian Zhang^a, Rutao Wang^{a,b,c}, Yuanchang Shi^a, Longwei Yin^a

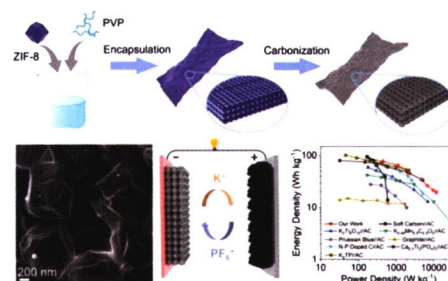
^aKey Laboratory for Liquid-Solid Structural Evolution and Processing of Materials, Ministry of Education, School of Materials Science and Engineering, Shandong University, Ji'nan 250061, China

^bSuzhou Institute of Shandong University, Suzhou 215123, China

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

A facile and scalable method is developed to synthesize macroscopic porous carbon sheet by directly carbonization of the composite of ZIF-8 encapsulated into PVP. A novel potassium-ion capacitor fabricated by this carbon sheet anode yields high values of energy density and power density.

Chinese Chemical Letters 33 (2022) 1463



Ingeniously designed Ni-Mo-S/ZnIn₂S₄ composite for multi-photocatalytic reaction systems

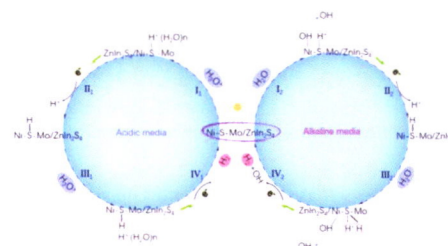
Jing Chen^a, Yumei Tang^a, Shihao Wang^a, Lingbin Xie^b, Cheng Chang^a, Xiaolei Cheng^a, Mingming Liu^a, Longlu Wang^a, Lianhui Wang^b

^aCollege of Electronic and Optical Engineering & College of Microelectronics, Jiangsu Province Engineering Research Center for Fabrication and Application of Special Optical Fiber Materials and Devices, Nanjing University of Posts and Telecommunications, Nanjing 210023, China

^bState Key Laboratory of Organic Electronics and Information Displays & Jiangsu Key Laboratory for Biosensors, Institute of Advanced Materials (IAM) & Institute of Flexible Electronics (Future Technology), Nanjing University of Posts and Telecommunications, Nanjing 210023, China

In this paper, doping Ni in MoS₂ as catalyst can make it have excellent catalytic activity in different reaction systems. It has been proved that Ni-Mo-S nanosheet has strong hydrogen evolution activity as catalyst by combining theory and experiment.

Chinese Chemical Letters 33 (2022) 1468



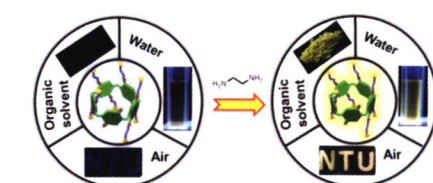
Water-soluble pillar[4]arene[1]quinone: Synthesis, host-guest property and application in the fluorescence turn-on sensing of ethylenediamine in aqueous solution, organic solvent and air

Jin Wang, Moupan Cen, Jian Wang, Di Wang, Yue Ding, Guohua Zhu, Bing Lu, Xiaolei Yuan, Yang Wang, Yong Yao

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

A new water-soluble pillar[5]arene, pillar[4]arene[1]quinone, was designed and synthesized successfully. It could be applied to sense EDA from other aliphatic amines in aqueous solution, organic solvent and air.

Chinese Chemical Letters 33 (2022) 1475



Visible-light-initiated 4CzIPN catalyzed multi-component tandem reactions to assemble sulfonated quinoxalin-2(1H)-ones

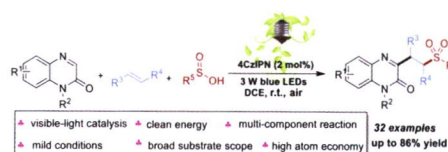
Zhiwei Wang^a, Qishun Liu^a, Ruisheng Liu^a, Zhongyin Ji^a, Yan Li^a, Xiaohui Zhao^b, Wei Wei^a

^aSchool of Chemistry and Chemical Engineering, Qufu Normal University, Qufu 273165, China

^bQinghai Provincial Key Laboratory of Tibetan Medicine Research and Key Laboratory of Tibetan Medicine Research, Northwest Institute of Plateau Biology, Chinese Academy of Sciences, Qinghai 810008, China

A mild and efficient photochemical multi-component reaction of quinoxalin-2(1H)-ones, alkenes and sulfonic acids was established for the synthesis of sulfonated quinoxalin-2(1H)-ones. This multi-component could be carried out at room temperature by employing 4CzIPN as the photocatalyst and dioxygen (air) as the environmentally benign oxidant. A number of sulfonated quinoxalin-2(1H)-ones were conveniently obtained in satisfactory yields.

Chinese Chemical Letters 33 (2022) 1479



$H_4SiW_{12}O_{40}$ -catalyzed cyclization of epoxides/aldehydes and sulfonyl hydrazides: An efficient synthesis of 3,4-disubstituted 1H-pyrazoles

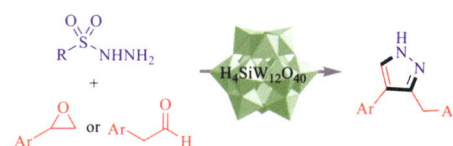
Guoping Yang^a, Xuanjie Xie^a, Mengyuan Cheng^b, Xiaofei Gao^a, Xiaoling Lin^a, Ke Li^a, Yuanyuan Cheng^a, Yufeng Liu^a

^aJiangxi Key Laboratory for Mass Spectrometry and Instrumentation, Jiangxi Province Key Laboratory of Synthetic Chemistry, East China University of Technology, Nanchang 330013, China

^bHenan Key Laboratory of Polyoxometalate Chemistry, College of Chemistry and Chemical Engineering, Henan University, Kaifeng 475004, China

A simple and efficient method for the regioselective synthesis of 3,4-disubstituted 1H-pyrazoles through a silicotungstic acid ($H_4SiW_{12}O_{40}$)-catalyzed cyclization of epoxides/aldehydes and sulfonyl hydrazides has been developed.

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- ★ regioselective synthesis of 3,4-disubstituted 1H-pyrazoles
- ★ mild conditions ★ gram-scale synthesis ★ DFT calculations

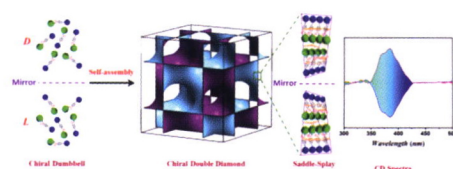
Chirality and chiral functional composites of bicontinuous cubic nanostructured cubosomes

Deyin Wang, Hongkai Liu, Wei Wang

Center for Synthetic Soft Materials, Key Laboratory of Functional Polymer Materials of Ministry of Education and Institute of Polymer Chemistry, College of Chemistry, Nankai University, Tianjin 300071, China

Molecular self-assembly is the most important strategy for the development of chiral aggregates and chiral functional materials. In this study, we rationally designed and synthesized chiral fluorescent heteroclusters that were self-assembled into microscale cubosomes with a three-dimensional (3D) bicontinuous cubic phase nanostructure. The cubosomes exhibited chirality, indicating that chirality is transferred from the molecules to the 3D nanostructure. Therefore, we confirmed the formation of a chiral bicontinuous cubic phase nanostructure for the first time. It also showed that this chirality originates from the continuous change in the saddle-splay distortion of the molecules within the curved bilayer. At the same time, transparent films of chiral composites were prepared by mixing the chiral cubosomes with an epoxy resin and then curing the mixture. Therefore, we demonstrated an effective method for preparing chiral composites.

Chinese Chemical Letters 33 (2022) 1488



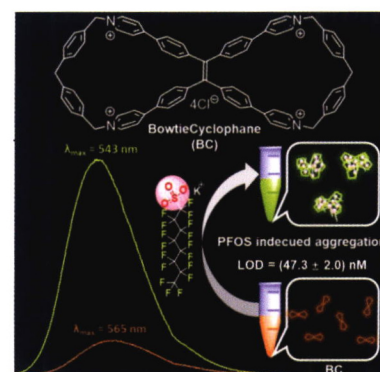
Fluorescence detection of perfluorooctane sulfonate in water employing a tetraphenylethylene-derived dual macrocycle BowtieCyclophane

Sheng-Nan Lei, Huan Cong

Key Laboratory of Photochemical Conversion and Optoelectronic Materials, Technical Institute of Physics and Chemistry & School of Future Technology, University of Chinese Academy of Sciences, Chinese Academy of Sciences, Beijing 100190, China

Sensitive fluorescent detection of perfluorooctane sulfonate in water has been achieved employing a novel tetraphenylethylene-derived macrocycle BowtieCyclophane through aggregation-induced emission enhancement and fluorochromism.

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Iodine-catalyzed amination of benzothiazoles with KSeCN in water to access primary 2-aminobenzothiazoles

Yu-Shen Zhu, Linlin Shi, Lianrong Fu, Xiran Chen, Xinju Zhu, Xin-Qi Hao, Mao-Ping Song

College of Chemistry, Zhengzhou University, Zhengzhou 450001, China

A facile and sustainable approach for the amination of benzothiazoles with KSeCN using iodine as the catalyst in water has been disclosed under transition-metal free conditions. The reaction proceeded smoothly to afford various primary 2-amino benzothiazoles in up to 96% yield. A series of control experiments were performed, suggesting a ring-opening mechanism was involved via a radical process. This protocol provides efficient synthesis of primary 2-benzothiazolamines.

Chinese Chemical Letters 33 (2022) 1497



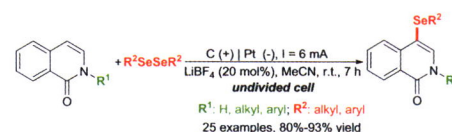
Electrochemical regioselective synthesis of N-substituted/unsubstituted 4-selanyloquinolin-1(2H)-ones

Zhi-Lin Wu, Jin-Yang Chen, Xian-Zhi Tian, Wen-Tao Ouyang, Zhuo-Tao Zhang, Wei-Min He

School of Chemistry and Chemical Engineering, University of South China, Hengyang 421001, China

A novel and efficient electrochemical initiated radical strategy was developed for the preparation of both N-unsubstituted and N-substituted 4-selanyloquinolin-1(2H)-ones through selenylation of isoquinolin-1(2H)-ones with organodiselenides under chemical oxidant-, additive-free and ambient conditions..

Chinese Chemical Letters 33 (2022) 1501



Pseudo-crown ether having AIE and PET effects from a TPE-CD conjugate for highly selective detection of mercury ions

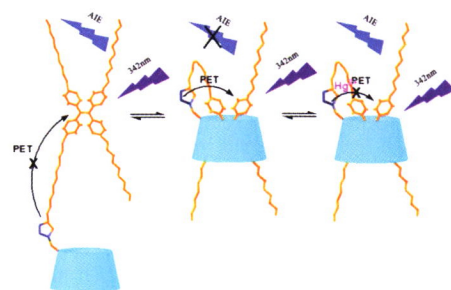
Kai-Ran Zhang^a, Ming Hu^a, Jun Luo^b, Fengying Ye^a, Ting-Ting Zhou^a, Ying-Xue Yuan^a, Miao-Li Gao^a, Yan-Song Zheng^a

^a Key Laboratory of Material Chemistry for Energy Conversion and Storage, Ministry of Education, School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

^b Tongji School of Pharmacy, Huazhong University of Science and Technology, Wuhan 430030, China

A new TPE-CD conjugate not only has aggregation-induced emission (AIE) effect but also shows photo-induced electron transfer (PET) phenomenon by formation of pseudo-crown ether through self-inclusion, displaying great potential in highly selective detection of mercury ions in water..

Chinese Chemical Letters 33 (2022) 1505



[4+1] Cyclization of benzohydrazide and ClCF₂COONa towards 1,3,4-oxadiazoles and 1,3,4-oxadiazoles-d₅

Ya Wang^a, Shiqiang Mu^a, Xin Li^a, Qjuling Song^{a,b,c}

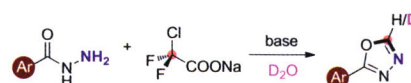
^a Institute of Next Generation Matter Transformation, College of Materials Science & Engineering and College of Chemical Engineering at Huaqiao University, Xiamen 361021, China

^b Guangdong Provincial Key Laboratory of Catalysis, Southern University of Science and Technology, Shenzhen 518055, China.

^c State Key Laboratory of Organometallic Chemistry and Key Laboratory of Organofluorine Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

A facile synthesis of 1,3,4-oxadiazoles and 1,3,4-oxadiazoles-d₅ via [4 + 1] cyclization of ClCF₂COONa with non-amine compounds containing amino groups is developed. It features simple operation, readily accessible raw materials, wide substrate scope and valuable products.

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- ◆ transition metal-free catalyzed [4+1] cyclization
- ◆ excellent deuteration ratios and good yields
- ◆ first hydrazide as N source to react with difluoro reagent
- ◆ simple operation and mild conditions

Theoretical and experimental investigations of the enantioselective epoxidation of olefins catalyzed by manganese complexes

Jin Lin^{a,c}, Fang Wang^a, Jing Tian^{a,c}, Jisheng Zhang^a, Yong Wang^b, Wei Sun^{a,c}

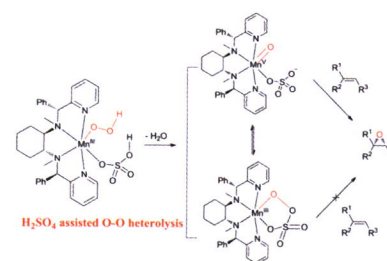
^a State Key Laboratory for Oxo Synthesis and Selective Oxidation, Center for Excellence in Molecular Synthesis, Suzhou Research Institute of LICP, Lanzhou Institute of Chemical Physics (LICP), Chinese Academy of Sciences, Lanzhou 730000, China

^b Institute of Drug Discovery Technology, Ningbo University, Ningbo 315211, China

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

DFT calculations suggest that Mn^V(O)(SO₄) and Mn^{III}-persulfate exist in a dynamic equilibrium in (R,R)-PMCP-Mn(OTf)₂/H₂O₂/H₂SO₄ catalyst system, while only the Mn^V(O)(SO₄) serves as the active species for olefin epoxidation.

Chinese Chemical Letters 33 (2022) 1515



Cleavage/cross-coupling strategy for converting β -O-4 linkage lignin model compounds into high valued benzyl amines via dual C-O bond cleavage

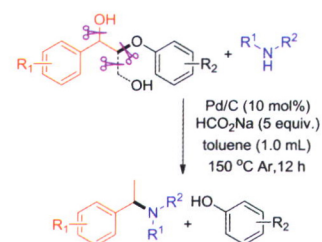
Le Jia^a, Chao-Jun Li^b, Huiying Zeng^a

^aThe State Key Laboratory of Applied Organic Chemistry, Lanzhou University, Lanzhou 730000, China

^bDepartment of Chemistry, FQRNT Centre for Green Chemistry and Catalysis, McGill University, Montreal, Quebec H3A 0B8, Canada

Cleavage/cross-coupling strategy for converting β -O-4 linkage lignin model compounds to high valued benzyl amines via dual CO bond cleavage and cross-coupling reaction was reported. This method plays a novel avenue in the exploitation of novel sustainable feedstocks for chemical production.

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- ◆ C-C bond and dual C-O bond cleavage
- ◆ C-N bond formation
- ◆ Cleavage/cross-coupling strategy
- ◆ Converting β -O-4 linkage into high valued compounds

Q[8]/SC[6]A-based framework constructed via OSIQ for metal ion capture

Li-Fei Tian^a, Ming Liu^a, Li-Xia Chen^a, Chao Huang^a, Qian-Jiang Zhu^a, Kai Chen^b, Jiang-Lin Zhao^c, Zhu Tao^a

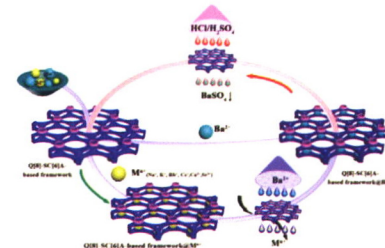
^aKey Laboratory of Macrocyclic and Supramolecular Chemistry of Guizhou Province, Guizhou University, Guiyang 550025, China

^bJiangsu Collaborative Innovation Center of Atmospheric Environment and Equipment Technology, Jiangsu Key Laboratory of Atmospheric Environment Monitoring and Pollution Control, School of Environmental Science and Engineering, Nanjing University of Information Science & Technology, Nanjing 210044 China

^cInstitute of Biomedical & Health Engineering, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen 518055 China

In this work, we demonstrated a Q[8]-SC[6]A-based supramolecular framework which can selectively capture metal ions with larger ionic radii, such as A^+ and AE^{2+} , which can be replaced by Ba^{2+} , whereas Ba^{2+} can be removed and the framework can be recovered by using sulfuric/hydrochloric acid mixture.

Chinese Chemical Letters 33 (2022) 1524



Host-guest interaction tailored cucurbit[6]uril-based supramolecular organic frameworks (SOFs) for drug delivery

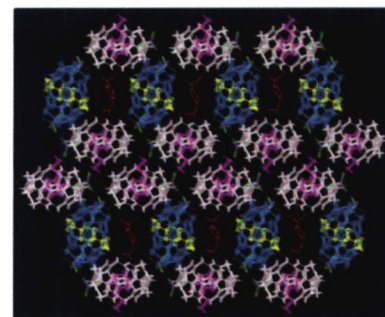
Chun Liu^a, Yu Xia^a, Zhu Tao^a, Xin-Long Ni^{a,b}

^aKey Laboratory of Macrocyclic and Supramolecular Chemistry of Guizhou Province, Guizhou University, Guiyang 550025, China

^bCollege of Chemistry and Chemical Engineering, Key Laboratory of the Assembly and Application of Organic Functional Molecules of Hunan Province, Hunan Normal University, Changsha 410081, China

An approach for the construction of crystalline porous supramolecular organic frameworks (SOFs) via outer-surface interactions of cucurbit[6]uril (Q[6]) with high yield is presented.

Chinese Chemical Letters 33 (2022) 1529



An acid-base responsive linear-cyclic polymer rotaxane molecular shuttle with fluorescence signal output

Zhanqi Cao^a, Dongpu Wu^a, Mengzhen Li^a, Fan Yang^a, Zhikai Li^c, Wankai An^a, Song Jiang^a, Xin Zheng^a, Caoyuan Niu^a, Dahui Qu^b

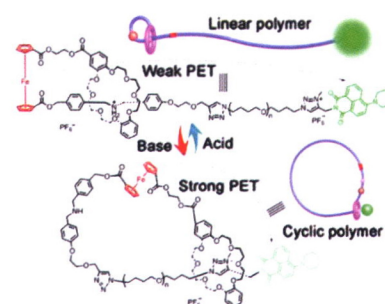
^aCollege of Science, Henan Agricultural University, Zhengzhou 450002, China

^bKey Laboratory for Advanced Materials and Joint International Research Laboratory of Precision Chemistry and Molecular Engineering, Feringa Nobel Prize Scientist Joint Research Center, Frontiers Science Center for Materiobiology and Dynamic Chemistry, Institute of Fine Chemicals, School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

^cCollege of Chemistry and Environmental Engineering, Shenzhen University, Shenzhen 518060, China

Here, we designed and prepared a linear-cyclic reversible topological structure polymer based on the bistable [1]rotaxane molecular shuttle. A ferrocene-functionalized [1]rotaxane and naphthalimide fluorophore group are introduced into the both ends of the polymer, which exhibit distance-induced photo-electron transfer effect. The structural transformation between linear and cyclic state of polymer is demonstrated by simple acid-base stimuli, accompanying visual fluorescence changes.

Chinese Chemical Letters 33 (2022) 1533



Electrochemical determination of paraquat using a glassy carbon electrode decorated with pillararene-coated nitrogen-doped carbon dots

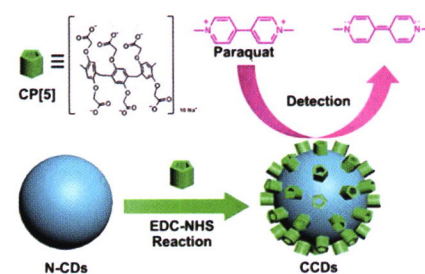
Hao Zhang^{a,b}, Kun-Tao Huang^{a,b}, Ling Ding^a, Jie Yang^b, Ying-Wei Yang^{a,b}, Feng Liang^a

^a The State Key Laboratory of Refractories and Metallurgy, School of Chemistry and Chemical Engineering, Wuhan University of Science and Technology, Wuhan 430081, China

^b International Joint Research Laboratory of Nano-Micro Architecture Chemistry, College of Chemistry, Jilin University, Changchun 130012, China

An electrochemical sensor based on carboxylatopillar[5]arene functionalized nitrogen-doped carbon dots (namely CCDs) has been developed. CCDs modified glassy carbon electrode shows excellent anti-interference capability, selectivity, stability, and reproducibility in the sensitive detection of paraquat.

Chinese Chemical Letters 33 (2022) 1537



The Pd-catalyzed synthesis of difluoroethyl and difluorovinyl compounds with a chlorodifluoroethyl iodonium salt (CDFI)

Yaru Niu^{a,b}, Chengyao Kimmy Cao^b, Chenxin Ge^b, Hongmei Qu^a, Chao Chen^{b,c}

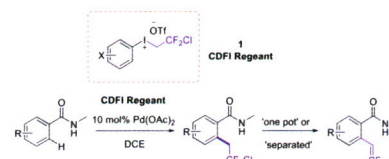
^a Key Laboratory of Systems Bioengineering, Ministry of Education, Department of Pharmaceutical Engineering, School of Chemical Engineering and Technology, Tianjin University, Tianjin 300350, China

^b Key Laboratory of Bioorganic Phosphorus Chemistry and Chemical Biology (Ministry of Education, MOE), Department of Chemistry, Tsinghua University, Beijing 100084, China

^c State Key Laboratory of Elemento-Organic Chemistry, Nankai University, Tianjin 300071, China

Herein, we report a simple and efficient method for the direct installation of chlorodifluoroethyl group onto aromatic molecules of various aromatic amides with a new 2-chloro,2,2-difluoroethyl(mesityl) iodonium salt (CDFI). Moreover, the chlorodifluoroethyl compounds could be smoothly converted into difluorovinyl compounds in a one-pot or discrete procedure and regarded as a steady source of difluorovinyl compounds with "HCl-mask".

Chinese Chemical Letters 33 (2022) 1541



Programmed co-assembly of DNA-peptide hybrid microdroplets by phase separation

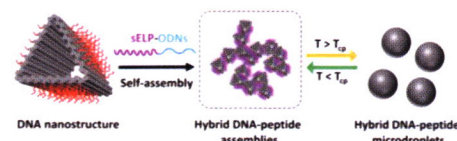
Shengtao Yao^a, Yue Liao^a, Rizhao Pan^a, Weiping Zhu^a, Yufang Xu^a, Yangyang Yang^a, Xuhong Qian^{a,b}

^a School of Pharmacy, Shanghai Key Laboratory of Chemical Biology, East China University of Science and Technology, Shanghai 200237, China

^b State Key Laboratory of Bioreactor Engineering, East China University of Science and Technology Shanghai 200237, China

A hybrid microsystem is developed by programmed co-assembly of DNA origami structure with short elastin-like polypeptides conjugated oligonucleotides and transforms into microdroplets via temperature-dependent phase separation. Furthermore, the hybrid microdroplets show ability to capture guest molecules and perform biocatalytic reactions as open microreactors.

Chinese Chemical Letters 33 (2022) 1545



[4 + 1] Annulation of *in situ* generated azoalkenes with amines: A powerful approach to access 1-substituted 1,2,3-triazoles

Hongwei Wang^a, Yongquan Ning^a, Paramasivam Sivaguru^a, Giuseppe Zanoni^b, Xihe Bi^{a,c}

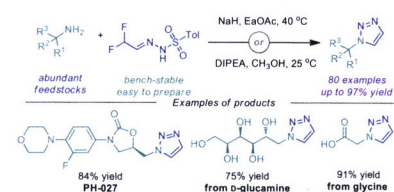
^a Department of Chemistry, Northeast Normal University, Changchun 130024, China

^b Department of Chemistry, University of Pavia, Viale Taramelli 12, Pavia 27100, Italy

^c State Key Laboratory of Elemento-Organic Chemistry, Nankai University, Tianjin 300071, China

Here we report a base-mediated [4 + 1] annulation of azoalkenes generated *in situ* from readily available difluoroacetaldehyde *N*-tosylhydrazones (DFHZ-Ts) with amines, accessing to diverse 1-substituted 1,2,3-triazole derivatives in high yield. This transformation has great functional group tolerance and can suit a broad substrate scope. Furthermore, the application of this novel methodology in the gram-scale synthesis of an antibiotic drug PH-027 and in the late-stage derivatization of several bioactive small molecules and clinical drugs demonstrated its generality, practicability and applicability.

Chinese Chemical Letters 33 (2022) 1550



Electrochemically promoted decarboxylative borylation of alkyl *N*-hydroxyphthalimide esters

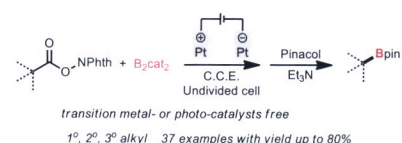
Jian-Jun Dai^{a,b}, Xin-Xin Teng^a, Wen Fang^a, Jun Xu^{a,b}, Hua-Jian Xu^{a,b}

^a School of Food and Biological Engineering, Hefei University of Technology, Hefei 230009, China

^b Anhui Province Key Laboratory of Advance Catalytic Materials and Reaction Engineering, Hefei University of Technology, Hefei 230009, China

An electrochemically promoted decarboxylative borylation reaction is reported. The reaction proceeds under mild conditions in an undivided cell without use of transition metal- or photo-catalysts.

Chinese Chemical Letters 33 (2022) 1555



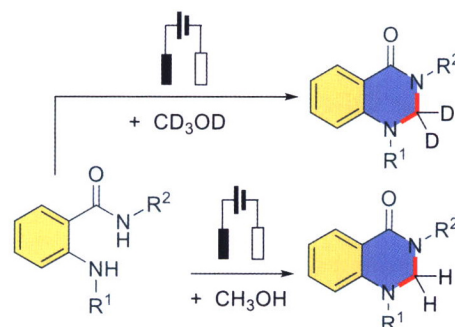
Electrochemical utilization of methanol and methanol-*d*₄ as a C1 source to access (deuterated) 2,3-dihydroquinazolin-4(1*H*)-one

Mingzhu Liu, Liang Xu, Yu Wei

School of Chemistry and Chemical Engineering, Key Laboratory for Green Processing of Chemical Engineering of Xinjiang Bingtuan, Shihezi University, Shihezi 832003, China

An environmentally benign protocol is disclosed herein, which takes advantage of methanol as a methylene source to access 2,3-dihydroquinazolin-4(1*H*)-one via an electrochemical cyclization process.

Chinese Chemical Letters 33 (2022) 1559



A chemical labeling of *N*⁶-formyl adenosine (*f*⁶A) RNA

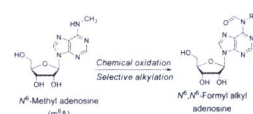
Li-Jun Xie^a, Cui-Lian Lin^{a,b}, Li Liu^{a,b}, Liang Cheng^{a,b}

^a Beijing National Laboratory for Molecular Sciences (BNLMS), CAS Key Laboratory of Molecular Recognition and Function, CAS Research/Education Center for Excellence in Molecular Sciences, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

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

We present here an approach which selectively alkylated the *N*⁶-formyl adenosine *f*⁶A, the key intermediate during chemical oxidation of *N*⁶-methyl adenosine *m*⁶A, with an alkyne functionality that can be further labeled with click reactions.

Chinese Chemical Letters 33 (2022) 1563



Construction of a biotin-targeting drug delivery system and its near-infrared theranostic fluorescent probe for real-time image-guided therapy of lung cancer

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^a Department of Respiratory Medicine, Department of Pediatric Gastroenterology and Nephrology, Binzhou Medical University Hospital, Binzhou 256603, China

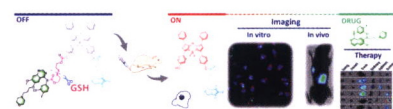
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^c Key Laboratory of Emergency and Trauma, Ministry of Education, Key Laboratory of Hainan Functional Materials and Molecular Imaging, College of Pharmacy, College of Emergency and Trauma, Hainan Medical University, Haikou 571199, China

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The new cancer-targeting prodrug TBG was presented for real-time imaging of *in vivo* drug release process during therapy of lung cancer.

Chinese Chemical Letters 33 (2022) 1567



Specific tracking of monoamine oxidase A in heart failure models by a far-red fluorescent probe with an ultra large Stokes shift

Xinming Li^a, Donglei Shi^a, Yihe Song^a, Yixiang Xu^a, Ying Gao^b, Wenjing Qiu^a, Xin Chen^a, Xiaokang Li^a, Yunyuan Huang^a, Yanjun Feng^a, Baoli Li^a, Yuan Guo^b, Jian Li^{a,c,d,e}

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^bKey Laboratory of Synthetic and Natural Functional Molecule of the Ministry of Education, College of Chemistry and Materials Science, Northwest University, Xi'an 710127, China

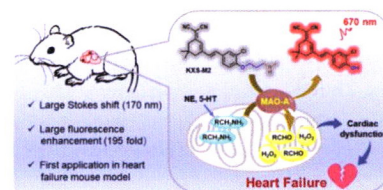
^cFrontiers Science Center for Materiobiology and Dynamic Chemistry, East China University of Science and Technology, Shanghai 200237, China

^dCollege of Pharmacy and Chemistry, Dali University, Dali 671000, China

^eClinical Medicine Scientific and Technical Innovation Center, Shanghai Tenth People's Hospital, Tongji University School of Medicine, Shanghai 200092, China

MAO-A is an outer mitochondrial membrane-located enzyme, which not only catalyzes the oxidative deamination of serotonin (5-HT) and norepinephrine (NE) in the heart, but also produces H₂O₂ and relative aldehydes as by-products during the degradation process. Enhanced MAO-A activity contributes to cardiac dysfunction and heart failure. For specific monitoring of MAO-A activity in heart failure, we developed a novel dicyanoisophorone-based far-red fluorescent probe KXS-M2 with an ultra large Stokes shift. Utilizing KXS-M2, fluorescence imaging of MAO-A in heart failure mouse model was achieved.

Chinese Chemical Letters 33 (2022) 1572



A "cluster bomb" oral drug delivery system to sequentially overcome the multiple absorption barriers

Qingling Song^{b,d}, Huirui Wang^{a,c}, Junfei Yang^{b,d}, Hui Gao^{b,d}, Ke Wang^{b,d}, Hao Wang^b, Yun Zhang^{b,d,e}, Lei Wang^{a,b,c,d,e}

^aLuoyang Central Hospital Affiliated to Zhengzhou University, Luoyang 471009, China

^bSchool of Pharmaceutical Sciences, Zhengzhou University, Zhengzhou 450001, China

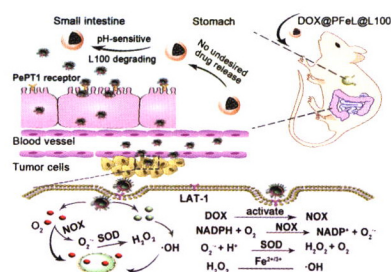
^cTumor Immunity and Biomaterials Advanced Medical Center, Zhengzhou University, Luoyang 471009, China

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^eKey Laboratory of Advanced Drug Preparation Technologies, Ministry of Education, Zhengzhou 450001, China

This study provides a promising cluster bomb-like drug delivery system (DOX@PFel@L100) with the pH-responsive switch and explosive "bomb" that could response the complex GIT environment as well as improve the antitumor efficiency by the Fenton-like reaction. This work can arouse broad interests among researchers in the fields of nanotechnology, nanomedicine and construction of oral drug delivery system.

Chinese Chemical Letters 33 (2022) 1577



Endogenous peroxynitrite activated fluorescent probe for revealing anti-tuberculosis drug induced hepatotoxicity

Nannan Wang^a, Han Wang^a, Jian Zhang^a, Xin Ji^b, Huihui Su^a, Jinying Liu^a, Jiamin Wang^c, Weili Zhao^{a,b}

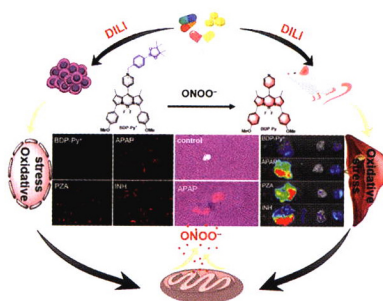
^aKey Laboratory for Special Functional Materials of Ministry of Education, School of Materials Science and Engineering, Henan University, Kaifeng 475004, China

^bSchool of Pharmacy, Institutes of Integrative Medicine, Fudan University, Shanghai 201203, China

^cKey Laboratory of Natural Medicine and Immuno-Engineering of Henan Province, Henan University, Kaifeng 475004, China

A BODIPY-based fluorescent probe was constructed to selectively and sensitively detect and image ONOO⁻ in vivo. The probe could achieve early diagnosis of DILI before solid lesions in liver via monitoring the up-regulation of ONOO⁻ levels.

Chinese Chemical Letters 33 (2022) 1584



A near-infrared multifunctional fluorescent probe for hypoxia monitoring and tumor-targeted therapy

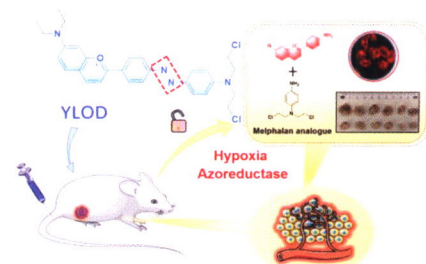
Yuxun Lu^a, Jiajia Xu^b, Zongyun Jia^a, Siyu Kong^a, Yimu Qiao^a, Lin Li^b, Qiong Wu^b, Ying Zhou^a

^aCollege of Chemical Science and Technology, Yunnan University, Kunming 650091, China

^bKey Laboratory of Flexible Electronics (KLOFE) & Institute of Advanced Materials (IAM), Jiangsu National Synergetic Innovation Center for Advanced Materials (SICAM), Nanjing Tech University (NanjingTech), Nanjing 211816, China

A near-infrared multifunctional fluorescent probe YLOD was developed for hypoxia monitoring and tumor-targeted therapy. In the presence of azoreductase, YLOD was able to give a red emission at 620 nm and release the anti-tumor drugs, thus achieving the integrated effects of hypoxic level imaging and inhibition of the growth of solid tumors.

Chinese Chemical Letters 33 (2022) 1589



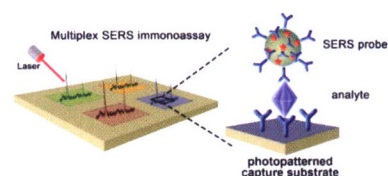
A photopatterned SERS substrate with a sandwich structure for multiplex detection

Yuan Xue, Duo Liu, Xuebin Wang, Yanxin Xiang, Shengjie Du, Kai Ye, Chunyan Bao, Linyong Zhu

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

A photopatterned gold substrate is used as the capture substrate for a sandwich SERS immunoassay. The spatiotemporal controllability of light endows the substrate with sensitive, multiple and quantitative determination of biomarkers.

Chinese Chemical Letters 33 (2022) 1595



The marriage of sealant agent between structure transformable silk fibroin and traditional Chinese medicine for faster skin repair

Rongjun Zhang^{a,b}, Youbin Zheng^c, Tianqing Liu^d, Ning Tang^d, Lianzhi Mao^e, Lihan Lin^a, Jiahui Ye^a, Luoyijun Xie^a, Wenwen Hu^d, Weiwei Wu^d, Wenzhen Liao^e, Miaomiao Yuan^a

^aThe Eighth Affiliated Hospital, Sun Yat-sen University, Shenzhen 518033, China

^bInstitute of Molecular Medicine (IMM), Renji Hospital, Shanghai Jiao Tong University School of Medicine, Shanghai 200240, China

^cDepartment of Chemical Engineering and Russell Berrie Nanotechnology Institute, Technion-Israel Institute of Technology, Haifa 3200003, Israel

^dSchool of Advanced Materials and Nanotechnology, Interdisciplinary Research Center of Smart Sensors, Xidian University, Xi'an 710126, China

^eDepartment of Nutrition and Food Hygiene, School of Public Health, Southern Medical University, Guangzhou 510515, China

The marriage between silk protein and *Rehmanniae radix preparata* (a kind of traditional Chinese herb) has been demonstrated as a novel and effective way to achieve an excellent healing effect for skin repair with advantages of non-toxicity and high photothermal conversion efficiency.

Chinese Chemical Letters 33 (2022) 1599



Chemical chaperone delivered nanoscale metal-organic frameworks as inhibitor of endoplasmic reticulum for enhanced sensitization of thermo-chemo therapy

Xiaoyan Ma^{a,b}, Qiong Wu^{a,c}, Longfei Tan^{a,c}, Changhui Fu^{a,c}, Xiangling Ren^{a,c}, Qijun Du^{a,c}, Lufeng Chen^d, Xianwei Meng^{a,c}

^aLaboratory of Controllable Preparation and Application of Nanomaterials, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China

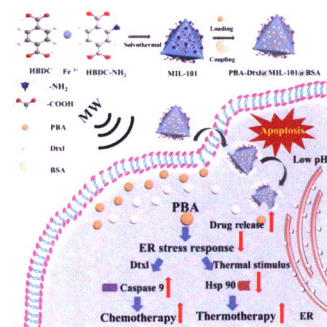
^bGraduate School of Bio-Applications and Systems Engineering, Tokyo University of Agriculture and Technology, Kokyo 184-8588, Japan

^cCAS Key Laboratory of Cryogenics, Technical Institute of Physics and Chemistry, Beijing 100190, China

^dFirst Clinical Medical School and First Hospital, Shanxi Medical University, Taiyuan 030001, China

PBA-Dtxl@MIL-101 nanoparticles as ER stress inhibitors facilitate HSP 90 downregulating and caspase 9 upregulating for combination therapy of thermotherapy and chemotherapy.

Chinese Chemical Letters 33 (2022) 1604



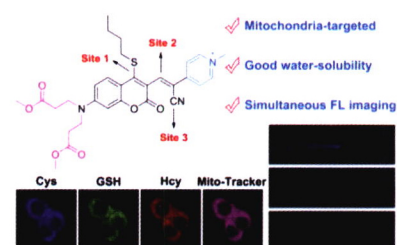
A multisite-binding fluorescent probe for simultaneous monitoring of mitochondrial homocysteine, cysteine and glutathione in live cells and zebrafish

Huimin Jiang, Guoxing Yin, Yabing Gan, Ting Yu, Youyu Zhang, Haitao Li, Peng Yin

Key Laboratory of Chemical Biology and Traditional Chinese Medicine Research (Ministry of Education), College of Chemistry and Chemical Engineering, Hunan Normal University, Changsha 410081, China

A multisite-binding fluorescent probe was rationally exploited for simultaneously differentiating and visualizing mitochondrial homocysteine, cysteine and glutathione in living cells and zebrafish.

Chinese Chemical Letters 33 (2022) 1609



Dithienylethene metallodendrimers with high photochromic efficiency

Yuxuan Wang^{a,c}, Qifeng Zhou^a, Xiaoxiao He^b, Ying Zhang^d, Hongwei Tan^d, Jianhua Xu^b, Cuihong Wang^a, Wei Wang^a, Xiping Luo^c, Jinquan Chen^b, Lin Xu^a

^aShanghai Key Laboratory of Green Chemistry and Chemical Processes, School of Chemistry and Molecular Engineering, East China Normal University, Shanghai 200062, China

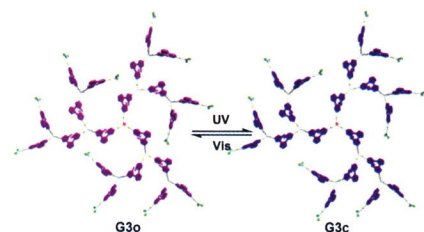
^bState Key Laboratory of Precision Spectroscopy, East China Normal University, Shanghai 200241, China

^cZhejiang Provincial Key Laboratory of Chemical Utilization of Forestry Biomass, Department of Chemistry, Zhejiang A&F University, Hangzhou 311300, China

^dCollege of Chemistry, Beijing Normal University, Beijing 100050, China

The design and preparation of a new family of platinum-acetylide dendrimers containing up to twenty-one photochromic dithienylethene (DTE) units that exhibit both high photochromic efficiency and individual switching properties have been achieved.

Chinese Chemical Letters 33 (2022) 1613



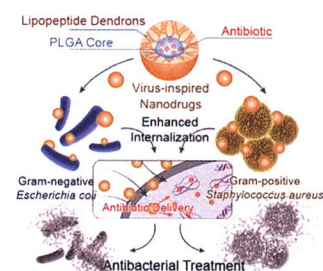
Virus-inspired nanoparticles as versatile antibacterial carriers for antibiotic delivery against Gram-negative and Gram-positive bacteria

Kefurong Deng, Yachao Li, Xiaoyu Liang, Cheng Shen, Zenan Zeng, Xianghui Xu

Department of Pharmacy, College of Biology, Hunan University, Changsha 410082, China

Virus-inspired nanodrugs were capable of promoting antibiotic internalization and enhancing their antibacterial effects against Gram-negative *Escherichia coli* and Gram-positive *Staphylococcus aureus*.

Chinese Chemical Letters 33 (2022) 1619



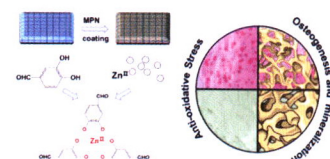
Metal-phenolic networks modified polyurethane as periosteum for bone regeneration

Qingyi Zhang, Kai Huang, Jie Tan, Xiongxin Lei, Liping Huang, Yuting Song, Qianjin Li, Chenyu Zou, Huiqi Xie

Laboratory of Stem Cell and Tissue Engineering, Orthopedic Research Institute, Med-X Center for Materials, State Key Laboratory of Biotherapy, West China Hospital, Sichuan University, Chengdu 610041, China

To conquer the oxidative stress micro-environment, we have designed and successfully synthesized a protocatechualdehyde + zinc ion (PCA+Zn^{II}) metal-phenolic networks (MPNs) coating on the polyurethane membrane by using a facile one-pot method to fabricate a new-type of periosteum. The physical and chemical properties as well as reaction mechanism of the PCA+Zn^{II} MPN have been evaluated in detail. The biocompatibility and remarkable abilities of the MPNs in modulating oxidative stress and inducing osteogenesis and mineralization, as demonstrated in our study, have shown a great promise to be further applied as periosteum materials for bone regeneration.

Chinese Chemical Letters 33 (2022) 1623



Selective probes targeting *c*-MYC Pu22 G-quadruplex and their application in live mice imaging

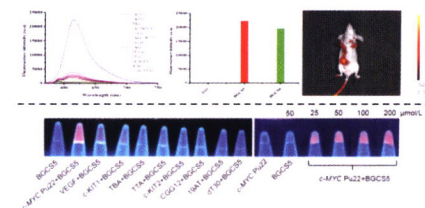
Zhuo Yu^{a,b}, Wenbo Huang^a, Liqiao Shi^a, Shaoyong Ke^a, Shengzhen Xu^b

^aNational Biopesticide Engineering Research Centre, Hubei Biopesticide Engineering Research Centre, Hubei Academy of Agricultural Sciences, Wuhan 430064, China

^bCollege of Science, Huazhong Agricultural University, Wuhan 430070, China

Several probes containing benzothiazole-guided conjugated systems (BGCS) were designed and synthesized, and two molecules (BGCS5 and BGCS6) of which were discovered as selective probes targeting *c*-MYC Pu22 G-quadruplex DNA. The fluorescence intensity of BGCS5 and BGCS6 in the presence of *c*-MYC Pu22 far exceeds that of the typical G4 probe TO1. Especially, the fluorescence of BGCS6 increased almost 193-fold in the presence of *c*-MYC Pu22 G4 compared to that alone in aqueous buffer condition with almost no fluorescence and 10–30 folds than those in the presence of other DNAs, which will be useful tools for disease detection in mammals.

Chinese Chemical Letters 33 (2022) 1627



Carbon dot-based fluorescent and colorimetric sensor for sensitive and selective visual detection of benzoyl peroxide

Xiangcao Li^a, Xuejian Xing^a, Shaojing Zhao^a, Shaohua Zhu^c, Benhua Wang^a, Minhuan Lan^{a,b}, Xiangzhi Song^a

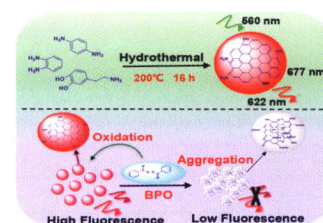
^aKey Laboratory of Hunan Province for Water Environment and Agriculture Product Safety, College of Chemistry and Chemical Engineering, Central South University, Changsha 410083, China

^bShenzhen Research Institute of Central South University, Shenzhen 518057, China

^cHunan Norui Environmental Technology Co., Ltd., Changsha 410021, China

A carbon dot (CD)-based fluorescent and colorimetric probe for visually, sensitively and selectively sensing BPO was reported. The addition of BPO could quench the red fluorescence of CDs peaked at 622 and 677 nm, and decrease the absorbance at 613 nm, while increase the absorbance at 450 nm, resulting in a fluorescence turn-off and colorimetric spectral response. The applicability of the CDs in detecting BPO in wheat, noodle and starch samples were further demonstrated, and good recoveries were obtained.

Chinese Chemical Letters 33 (2022) 1632



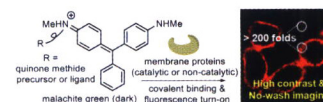
High-contrast and real-time visualization of membrane proteins in live cells with malachite green-based fluorogenic probes

Yefeng Chen, Chenghong Xue, Jie Wang, Minqiu Xu, Yuyao Li, Yiru Ding, Heng Song, Weipan Xu, Hexin Xie

State Key Laboratory of Bioreactor Engineering, Shanghai Key Laboratory of New Drug Design, Frontiers Science Center for Microbiology and Dynamic Chemistry, School of Pharmacy, East China University of Science and Technology, Shanghai 200237, China

Malachite green has been applied as switchable fluorophore to real-time image endogenous membrane proteins, including catalytic and non-catalytic proteins, in live cells with high contrast.

Chinese Chemical Letters 33 (2022) 1637



Design and synthesis of novel α -aminoamides derivatives as Nav1.7 inhibitors for antinociception

Dengqi Xue^{a,b}, Yani Liu^c, Yilin Zheng^a, Heling Niu^c, Liying Dong^c, Xiangshuo Ouyang^a, Siyu Song^a, Denggao Zhang^a, Qianwei Ge^a, Kewei Wang^c, Liming Shao^{a,b}

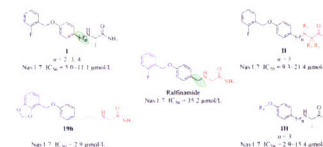
^aSchool of Pharmacy, Fudan University, Shanghai 201203, China

^bState Key Laboratory of Medical Neurobiology, Fudan University, Shanghai 200032, China

^cDepartment of Pharmacology, School of Pharmacy, Qingdao University Medical College, Qingdao 266071, China

Three novel series of α -aminoamides derivatives were designed and synthesized based on ralfinamide, and their Nav1.7 inhibitory activities were evaluated using manual patch clamp electrophysiology. Compound **19h** was efficacious in antinociception in the mouse spared nerve injury (SNI) model of neuropathic pain without causing sedation in the open field test.

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