

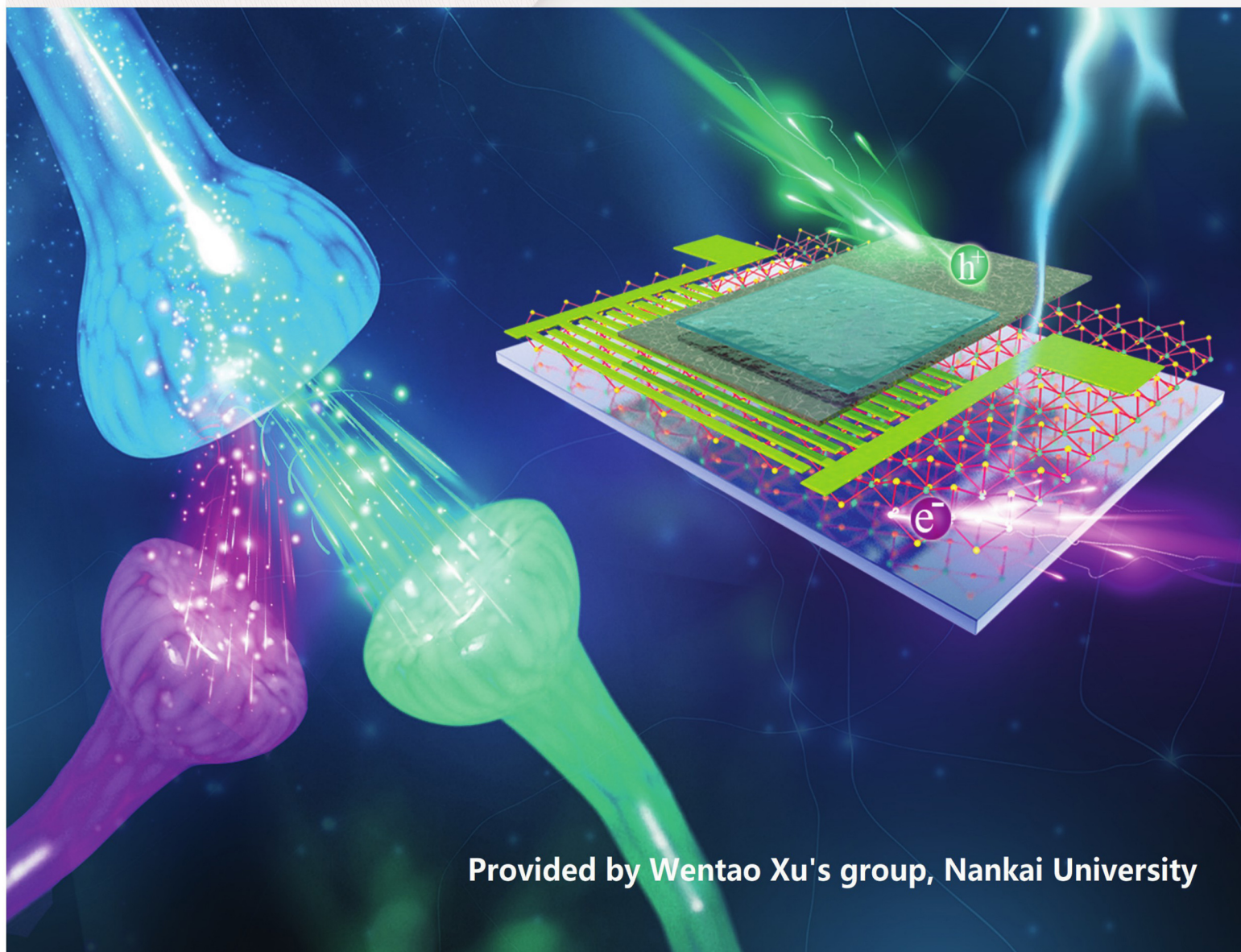
CCL

Chinese Chemical Letters (中国化学快报)

| Volume 34 | Number 2 | FEBRUARY 2023

ISSN 1001-8417

CN 11-2710/O6



Provided by Wentao Xu's group, Nankai University



COMMUNICATION

Zongwan Mao, Xiang Zhou et al.
The development of an iridium(III)
complex functionalized G-quadruplex probe
for the stability of G-quadruplex and lifetime
image in cytoplasm

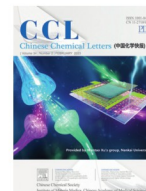
COMMUNICATION

Limin Zhu, Xiaoyu Cao, Jianmin Ma et al.
Bimetallic CoNiSe₂/C nanosphere anodes
derived from Ni-Co-metal-organic framework
precursor towards higher lithium storage
capacity

Chinese Chemical Society

Institute of Materia Medica, Chinese Academy of Medical Sciences

万方数据



Graphical Abstracts/Chin Chem Lett 34 (2023) 108115

Editorial

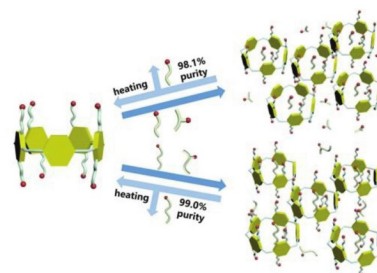
Skeleton-trimmed leggero pillar[5]arene: Amorphous and non-porous material for highly-selective haloalkane separation

Xiao-Yong Yu, Yong Chen

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

The original BrP[5]L had the ability to adsorb 1-bromopropane and 1-bromobutane from equal volume of 1-/2-position isomers with 98.1% and 99.0% purity and could be completely regenerated by simply heating to reuse.

Chinese Chemical Letters 34 (2023) 107739

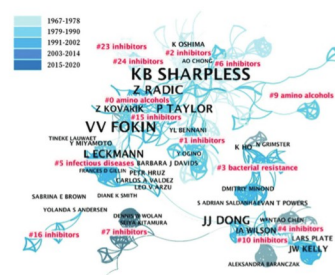


Perspective

Research strategies in click chemistry: Measuring its cognitive contents and knowledge flowJing Zhu^a, Ming Chen^a, He Liang^b, Quanmin Li^a, Xuefeng Jiang^c^a Department of Philosophy, East China Normal University, Shanghai 200241, China^b School of Journalism, Fudan University, Shanghai 200433, China^c Shanghai Key Laboratory of Green Chemistry and Chemical Process, Department of Chemistry, East China Normal University, Shanghai 200062, China

The click chemistry philosophy follows the way that values nature's principle and has a clear-cut epistemic domain in modeling nature. The innovative strategies and broad impact of click chemistry lie in the distinct nature of chemistry and the significance of its epistemic independence in current science.

Chinese Chemical Letters 34 (2023) 107936

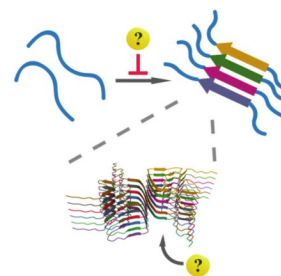


Reviews

Rationally designed amyloid inhibitors based on amyloid-related structural studiesJinjian Hu^a, Yufen Zhao^{a,d}, Yanmei Li^{a,b,c}^a Department of Chemistry, Key Lab of Bioorganic Phosphorus Chemistry & Chemical Biology, Tsinghua University, Beijing 100084, China^b Beijing Institute for Brain Disorders, Beijing 100069, China^c Center for Synthetic and Systems Biology, Tsinghua University, Beijing 100084, China^d Institute of Drug Discovery Technology, Ningbo University, Ningbo 315221, China

High-resolution structure contributes to the understanding of amyloid aggregation and provides the basis for rational design of amyloid inhibitor. This article reviewed recent structural studies of amyloids and discussed rationally designed inhibitors according to amyloid-related structural studies.

Chinese Chemical Letters 34 (2023) 107623



Recent advance in carbocation-catalyzed reactions

Wei Xiao^a, Jie Wu^{a,b,c}

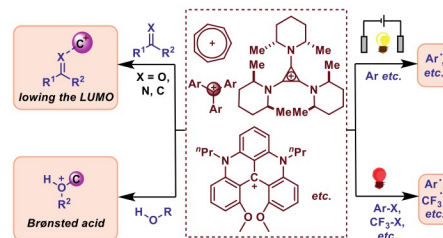
^aSchool of Pharmaceutical and Materials Engineering & Institute for Advanced Studies, Taizhou University, Taizhou 318000, China

^bState Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

^cSchool of Chemistry and Chemical Engineering, Henan Normal University, Xinxiang 453007, China

Carbocations such as tropylium and trityl cation, can be stable enough to be isolated and used without inert conditions. They can act as Lewis acids to lower the LUMO of electrophile, thus promoting reactions with nucleophiles. Additionally, the interaction between carbocations and alcohols can form Brønsted acids with enhanced acidity. Furthermore, electrophoto activation of TAC⁺ (trisaminocyclopropenium ion) delivers the excited radical dication TAC²⁺⁺, which is a strong oxidant and capable of oxidizing a range of challenging substrates. Moreover, ⁿPr-DMQA⁺ is disclosed as a versatile photoredox catalyst as its excited state can be quenched through both oxidation and reduction. This review summarizes recent advance in carbocation-catalyzed reactions. These developed methods provide an environmentally friendly pathway for the synthesis of valuable compounds and will inspire chemists to discover more interesting transformations promoted by carbocations.

Chinese Chemical Letters 34 (2023) 107637



Polyaniline-supported nano metal-catalyzed coupling reactions: Opportunities and challenges

Zhigang Zeng^{a,b}, Ying Chen^c, Xiaoming Zhu^{a,b}, Lei Yu^c

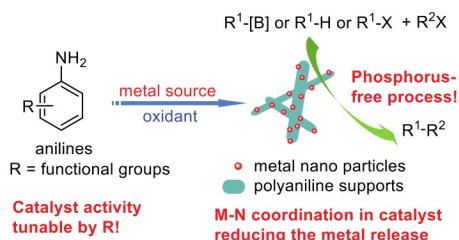
^aHubei Key Laboratory of Radiation Chemistry and Functional Materials, Hubei University of Science and Technology, Xianning 437100, China

^bSchool of Nuclear Technology and Chemistry & Biology, Hubei University of Science and Technology, Xianning 437100, China

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

Polyaniline (PANI)-supported nano metal particles have been widely applied as catalyst in coupling reactions. Since PANIs are versatile materials and their chemical features can be adjusted by introducing functional groups onto the monomers, the catalytic activities of the prepared catalysts are tunable. This review aims to summarize the recent advances and give a perspective.

Chinese Chemical Letters 34 (2023) 107728



From agricultural cellulosic waste to food delivery packaging: A mini-review

Jinxing Ma^{a,b}, Jiazhou He^a, Xiangtong Kong^c, Junjian Zheng^d, Lanfang Han^{a,b}, Yi Liu^c, Zhenchang Zhu^{a,b}, Zhong Zhang^{a,b}

^aKey Laboratory for City Cluster Environmental Safety and Green Development of the Ministry of Education, School of Ecology, Environment and Resources, Guangdong University of Technology, Guangzhou 510006, China

^bSouthern Marine Science and Engineering Guangdong Laboratory (Guangzhou), Guangzhou 511458, China

^cUNSW Water Research Centre, School of Civil and Environmental Engineering, University of New South Wales, Sydney 2052, Australia

^dCollege of Life and Environmental Sciences, Guilin University of Electronic Technology, Guilin 541004, China

This mini-review describes the material preparation, critical performance indicators, challenges and perspectives in developing sustainable agricultural cellulosic waste-based packaging materials for food delivery service.

Chinese Chemical Letters 34 (2023) 107407

Agricultural waste based food delivery packaging	Pulp products	TPS/nanocellulose	PLA/nanocellulose
Strength (dry)	★★★★★	★★★	★★★★★
Strength (wet)	★★★	★	★★★★★
Strength (hot)	★★★★★	★★★	★★★
Water and oil resistances	★	★★★	★★★★★
Biodegradability	★★★★★	★★★★★	★★★
Low cost	★★★★★	★★★★★	★★★

Photothermal catalysis for CO₂ conversion

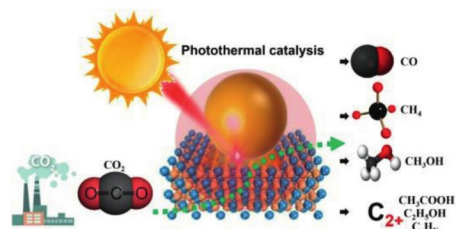
Jian Zhou^a, Hong Liu^{a,b}, Haiqing Wang^a

^aInstitute for Advanced Interdisciplinary Research (iAIR), University of Jinan, Ji'nan 250022, China

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

Photothermal catalysis for CO₂ conversion has aroused great interests aiming at carbon emission peak and carbon neutrality. Recent progress in this area has been summarized in our review.

Chinese Chemical Letters 34 (2023) 107420



Advances of nanoparticles as drug delivery systems for disease diagnosis and treatment

Rui Liu^a, Cong Luo^b, Zhiqing Pang^c, Jinming Zhang^d, Shaobo Ruan^e, Meiying Wu^f, Lei Wang^g, Tao Sun^c, Nan Li^h, Liang Hanⁱ, Jinjin Shi^g, Yuanyu Huang^j, Weisheng Guo^k, Shaojun Peng^l, Wenhui Zhou^m, Huile Gao^a

^aKey Laboratory of Drug-Targeting and Drug Delivery System of the Education Ministry and Sichuan Province, Sichuan Engineering Laboratory for Plant-Sourced Drug and Sichuan Research Center for Drug Precision Industrial Technology, West China School of Pharmacy, Sichuan University, Chengdu 610041, China

^bDepartment of Pharmaceutics, Wuya College of Innovation, Shenyang Pharmaceutical University, Shenyang 110016, China

^cDepartment of Pharmaceutics, School of Pharmacy, Fudan University, Key Laboratory of Smart Drug Delivery, Ministry of Education, Shanghai 200433, China

^dState Key Laboratory of Southwestern Chinese Medicine Resources, Pharmacy School, Chengdu University of Traditional Chinese Medicine, Chengdu 611130, China

^eAdvanced Research Institute of Multidisciplinary Science, Beijing Institute of Technology, Beijing 100081, China

^fSchool of Pharmaceutical Sciences (Shenzhen), Sun Yat-sen University, Shenzhen 518107, China

^gSchool of Pharmaceutical Sciences, Zhengzhou University, Key Laboratory of Targeting Therapy and Diagnosis for Critical Diseases, Zhengzhou 450001, China

^hTianjin Key Laboratory of Drug Delivery & High-Efficiency, School of Pharmaceutical Science and Technology, Tianjin University, Tianjin 300072, China

ⁱJiangsu Key Laboratory of Neuropsychiatric Diseases and College of Pharmaceutical Sciences, Soochow University, Suzhou 215123, China

^jAdvanced Research Institute of Multidisciplinary Science, School of Life Science, Key Laboratory of Molecular Medicine and Biotherapy, Key Laboratory of Medical Molecule Science and Pharmaceutics Engineering, Beijing Institute of Technology, Beijing 100081, China

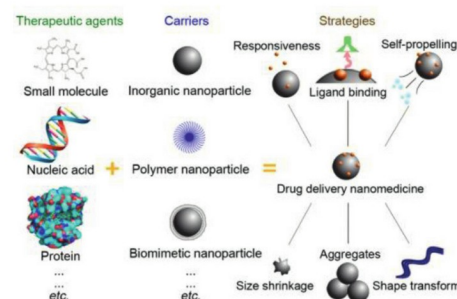
^kRadiology Center, Key Laboratory of Molecular Target & Clinical Pharmacology, School of Pharmaceutical Sciences & The Second Affiliated Hospital, Guangzhou Medical University, Guangzhou 510260, China

^lZhuhai Institute of Translational Medicine, Zhuhai People's Hospital (Zhuhai hospital affiliated with Jinan University), Zhuhai 519000, China

^mXiangya School of Pharmaceutical Sciences, Central South University, Changsha 410013, China

This review summarized the advances of nanoparticles in recent years, and classifiably illustrated their components, strategies and functions.

Chinese Chemical Letters 34 (2023) 107518



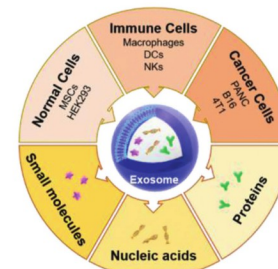
Exosome-based drug delivery systems in cancer therapy

Tianqi Wang, Yanan Fu, Shengjie Sun, Chenyi Huang, Yunfei Yi, Junqing Wang, Yang Deng, Meiying Wu

School of Pharmaceutical Sciences (Shenzhen), Shenzhen Campus of Sun Yat-sen University, Shenzhen 518107, China

Exosomes derived from different cell sources as drug delivery systems for loading small molecules, nucleic acids and proteins in cancer therapy are summarized and highlighted.

Chinese Chemical Letters 34 (2023) 107508



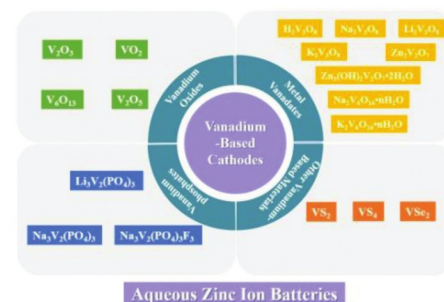
Vanadium-based cathodes for aqueous zinc ion batteries: Structure, mechanism and prospects

Yi Ding, Lele Zhang, Xin Wang, Lina Han, Weiwei Zhang, Chunli Guo

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

This review summarizes the recent progress in developments of vanadium-based materials, highlighting in the correlation between the crystal structure of active materials and Zn-ion transport mechanism. Finally, we presented the future prospects of developing aqueous zinc-ion batteries (AZIBs) with high energy density.

Chinese Chemical Letters 34 (2023) 107399



Recent advances in charge mechanism of noble metal-based cathodes for Li-O₂ batteries

Yong Zhao^a, Wei Cheng^b, Jiahua Wu^{a,c}, Zhengguang Hu^a, Fengliang Liu^a, Li Wang^{a,c}, Honggen Peng^d

^aDepartment of Physics, Nanchang University, Nanchang 330031, China

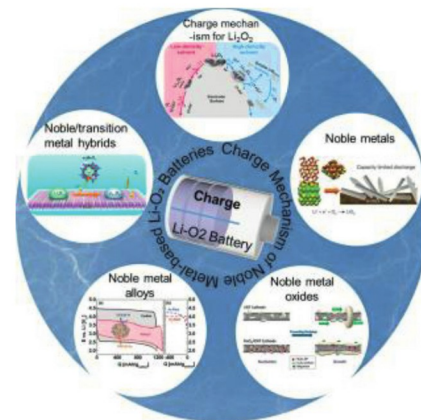
^bXiang Yang Public Inspection and Testing Center, Xiangyang 441000, China

^cInstitute for Advanced Study, Nanchang University, Nanchang 330031, China

^dKey Laboratory of Poyang Lake Environment and Resource Utilization, Ministry of Education, School of Resources Environmental and Chemical Engineering, Nanchang University, Nanchang 330031, China

The charge mechanism of Li₂O₂ in Li-O₂ is first discussed, and the charge process of cathode catalysts for noble metals, noble metal oxides, noble metal alloys, and noble/transition metals are summarized.

Chinese Chemical Letters 34 (2023) 107413



Luminescent properties and recent progress in applications of lanthanide metal-organic frameworks

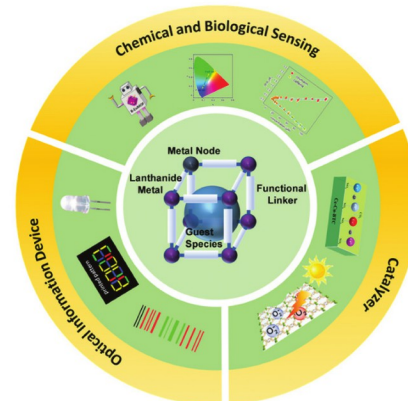
Ruyi Zhang^a, Liangliang Zhu^b, Bingbing Yue^{a,b}

^aSchool of Materials and Chemistry, Shanghai Collaborative Innovation Center of Energy Therapy for Tumors, University of Shanghai for Science and Technology, Shanghai 200093, China

^bState Key Laboratory of Molecular Engineering of Polymers, Department of Macromolecular Science, Fudan University, Shanghai 200438, China

This review shows the luminescent properties and latest progress in applications of Ln-MOFs, including Ln-MOFs for chemical and biological sensors, optical information devices and catalysis, respectively, and discussed design mechanism. Finally, this review provides some guidance for the future development of Ln-MOF materials.

Chinese Chemical Letters 34 (2023) 108009



Realizing high-voltage aqueous zinc-ion batteries with expanded electrolyte electrochemical stability window

Buke Wu^{a,b,c}, Yongbiao Mu^{a,b,c}, Zheng Li^{a,b,c}, Ming Li^d, Lin Zeng^{a,b,c}, Tianshou Zhao^{a,b,c}

^aShenzhen Key Laboratory of Advanced Energy Storage, Southern University of Science and Technology, Shenzhen 518055, China

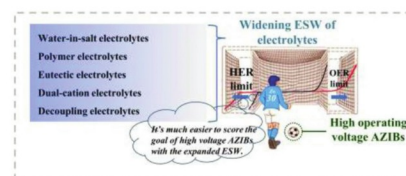
^bDepartment of Mechanical and Energy Engineering, Southern University of Science and Technology, Shenzhen 518055, China

^cSUSTech Energy Institute for Carbon Neutrality, Southern University of Science and Technology, Shenzhen 518055, China

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

The key point of building high-operating voltage aqueous zinc ion batteries is broadening the electrochemical stability window of electrolyte.

Chinese Chemical Letters 34 (2023) 107629



Aggregation of graphene oxide and its environmental implications in the aquatic environment

Jawad Ali^a, Yang Li^a, Enxiang Shang^b, Xinjie Wang^a, Jian Zhao^a, Muhammad Mohiuddin^c, Xinghui Xia^a

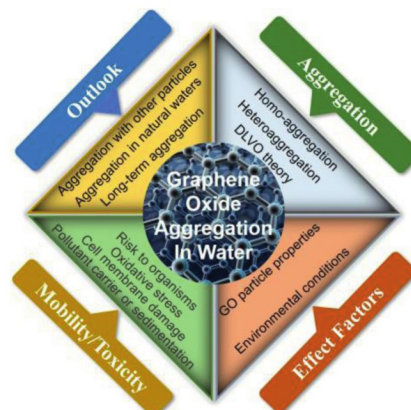
^aState Key Laboratory of Water Environment Simulation, School of Environment, Beijing Normal University, Beijing 100875, China

^bCollege of Science and Technology, Hebei Agricultural University, Huanghua 061100, China

^cDepartment of Environmental Sciences, Kohsar University, Murree 47150, Pakistan

The aggregation and colloidal behavior of GO in aquatic system is affected by particle properties as well as solution chemistry of receiving bodies. While the aggregation and colloidal behavior of GO may affect the transportation/mobility and toxicity of GO towards biota of aquatic system.

Chinese Chemical Letters 34 (2023) 107327



Communications

A new strategy to design isostructural salts: The case of the antitumor drug dimethylaminomichelolide

Zhonghua Li^a, Haibin Qu^a, Lan Fang^a, Songgu Wu^a, Junbo Gong^{a,b}

^aState Key Laboratory of Chemical Engineering, School of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China

^bChemistry and Chemical Engineering Guangdong Laboratory, Shantou 515031, China

This work provides a successful case of designing isostructural salts with a series of dihydroxybenzoic acid regioisomers and shows the thermal stability, hygroscopicity, and solubility of DMAMCL were improved with the help of isostructural crystals. The isostructurality was confirmed with the analysis of Hirshfeld surface maps, 2D fingerprint plots and quantitative similarity parameters from XPac, CrystalCMP and the packing similarity tool in Mercury.

Chinese Chemical Letters 34 (2023) 107504



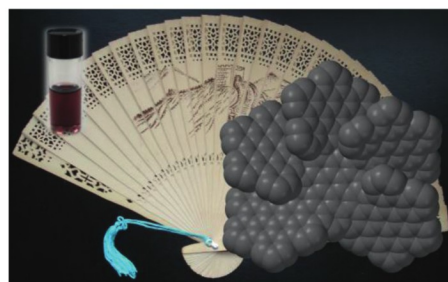
A fan-shaped synthetic chiral nanographene

Haonan Shi, Bangyuan Xiong, Ying Chen, Chaojun Lin, Jiajian Gu, Yanpeng Zhu, Jiaobing Wang

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

This work presents the synthesis and characterization of a fan-shaped chiral nanographene, which is composed of 6 hexabenzocoronene subunits with 216 conjugated carbon atoms.

Chinese Chemical Letters 34 (2023) 107520



Coordination-driven self-assembly of dibenzo-18-crown-6 functionalized Pt(II) metallacycles

Zibin Zhang^a, Yu Yao^a, Lang He^a, Tao Hong^a, Shijun Li^a, Feihe Huang^{b,c}, Peter J. Stang^d

^aCollege of Material, Chemistry and Chemical Engineering, Hangzhou Normal University, Hangzhou 311121, China

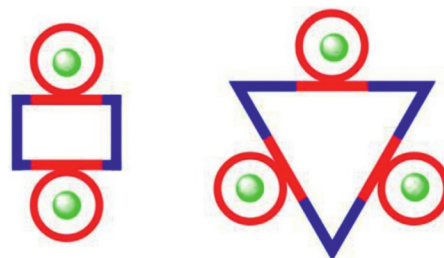
^bState Key Laboratory of Chemical Engineering, Stoddart Institute of Molecular Science, Department of Chemistry, Zhejiang University, Hangzhou 310027, China

^cGreen Catalysis Center and College of Chemistry, Zhengzhou University, Zhengzhou 450001, China

^dDepartment of Chemistry, University of Utah, Salt Lake City, UT 84112, United States

Two metallacycles, a [2 + 2] rectangle and a [3 + 3] triangle, were prepared by coordination-driven self-assembly based on a dicarboxylate-functionalized dibenzo-18-crown-6 in combination with a 0° anthracene-based clip-type acceptor or a 60° phenanthrene-based acceptor, respectively. The crown ethers on the metallacycles could selectively complex with K⁺ ions and did not interfere with the coordination-driven self-assembly.

Chinese Chemical Letters 34 (2023) 107521



Single-stranded RNA as primers of terminal deoxynucleotidyl transferase for template-independent DNA polymerization

Houyu Han^a, Jingyu Cui^a, Dianming Zhou^{c,d}, Deping Hua^a, Weipan Peng^a, Mengyao Lin^a, Yating Zhang^a, Fangya Li^b, Xiaoqun Gong^a, Jianyu Zhang^b

^aSchool of Life Sciences, Tianjin University and Tianjin Engineering Center of Micro-Nano Biomaterials and Detection-Treatment Technology (Tianjin), Tianjin 300072, China

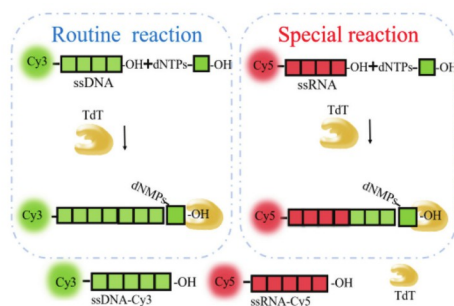
^bSchool of Pharmaceutical Science and Technology, Tianjin University, Tianjin 300072, China

^cTianjin Key Laboratory of Pathogenic Microbiology of Infectious Disease, Tianjin Centers for Disease Control and Prevention, Tianjin 300011, China

^dDepartment of Toxicology, Tianjin Centers for Disease Control and Prevention, Tianjin 300011, China

The performance of TdT-catalyzed ssDNA and ssRNA extension was contrasted, which will help to design the strategy to synthesize chimeric DNA on 3'-OH of ssRNA, which become invaluable.

Chinese Chemical Letters 34 (2023) 107533



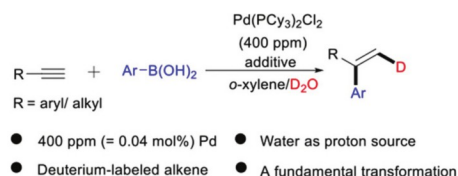
Hydroarylation of terminal alkynes with arylboronic acids catalyzed by low loadings of palladium

Lei Xu, Shiyu Li, Qi Zhang, Ning Deng, Biao Zhang, Huajian Xu

School of Chemistry and Chemical Engineering, School of Food and Biological Engineering, Institute of Industry & Equipment Technology, Anhui Province Key Laboratory of Advance Catalytic Materials and Reaction Engineering, Hefei University of Technology, Hefei 230009, China

Existing protocols for the Pd-catalyzed hydroarylation of terminal alkynes with arylboronic acids require acidic additives and Pd loadings as high as 3 mol%. We describe an improved protocol using lower loadings of Pd (0.04 mol% = 400 ppm) and an alkaline additive.

Chinese Chemical Letters 34 (2023) 107534



Electrochemically mediated decarboxylative acylation of *N*-nitrosoanilines with α -oxocarboxylic acids

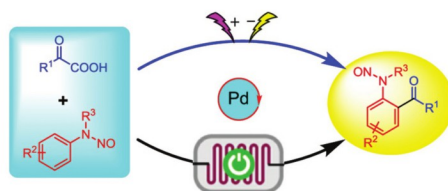
Xinyu Wang^a, Shihong Wu^a, Yujing Zhong^a, Yingchun Wang^b, Yingming Pan^{a,b}, Haitao Tang^a

^aState Key Laboratory for Chemistry and Molecular Engineering of Medicinal Resources, School of Chemistry and Pharmaceutical Sciences of Guangxi Normal University, Guilin 541004, China

^bCollege of Chemistry and Chemical Engineering, Jishou University, Jishou 416000, China

An efficient palladium-catalyzed electrooxidation C–H acylation reaction of *N*-nitrosoanilines with α -oxocarboxylic acids was developed.

Chinese Chemical Letters 34 (2023) 107537



A step towards the application of molecular plasmonic-like excitations of PAH derivatives in organic electrochromics

Yanan Zhu^a, Xing Xing^b, Zhenguo Liu^c, Hong Meng^a

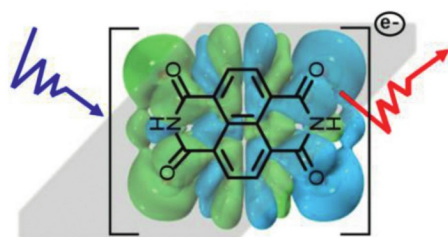
^aSchool of Advanced Materials, Peking University Shenzhen Graduate School, Shenzhen 518055, China

^bShenzhen Research Institute of Northwestern Polytechnical University, Shenzhen 518057, China

^cInstitute of Flexible Electronics, Northwestern Polytechnical University, Xi'an 710072, China

The molecular plasmon-like excitations of PAH and hetero-aromatic systems extend the application in electrochromics and optoelectronics, where the intensity and wavelength of absorption peaks are manipulated by dimeric and substitution atoms.

Chinese Chemical Letters 34 (2023) 107550



Chiroptical switching of molecular universal joint triggered by complexation/release of a cation: A stepwise synergistic complexation

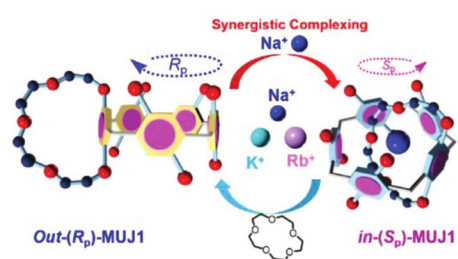
Fanrui Gao^a, Xingke Yu^a, Ling Liu^a, Jinlei Chen^a, Yongjun Lv^a, Ting Zhao^a, Jiecheng Ji^a, Jiabin Yao^b, Wanhua Wu^a, Cheng Yang^a

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

^bSchool of Chemistry and Chemical Engineering, Chongqing University, Chongqing 400044, China

Switching of the chiroptical properties of a molecular universal joint was triggered by sodium ion resulting from the synergistically stepwise complexation.

Chinese Chemical Letters 34 (2023) 107558



N-Acetylenethio phthalimides: Sequential linkage for compositional click reaction

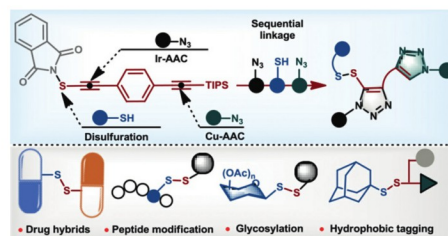
Wen-Chao Gao^{a,b}, Kai Feng^a, Jun Tian^a, Juan Zhang^a, Hong-Hong Chang^a, Xuefeng Jiang^b

^a College of Biomedical Engineering, Taiyuan University of Technology, Taiyuan 030024, China

^b School of Chemistry and Molecular Engineering, East China Normal University, Shanghai 200062, China

An iridium-catalyzed azide-alkynthio phthalimides cycloaddition has been developed for the regioselective construction of diverse *N*-triazolylthio phthalimides, and the developed compositional cycloaddition and disulfuration click was applied for the reversibly sequential linkage of drug hybrids, peptide modification and glycosylation.

Chinese Chemical Letters 34 (2023) 107587



Solvent-mediated handedness inversed and amplified circularly polarized luminescence system based on camptothecin derivative

Xuan Wu^{a,c}, Ming Liu^b, Cheng Zheng^d, Yingying Wang^e, Yujing Zheng^b, Yuna Qian^{a,c}, Zhiyong Liao^d, Guoyong Fang^{e,f}, Jianliang Shen^{a,b,c}

^a Wenzhou Institute, University of Chinese Academy of Sciences, Wenzhou 325000, China

^b School of Ophthalmology and Optometry, School of Biomedical Engineering, Wenzhou Medical University, Wenzhou 325035, China

^c Oujiang Laboratory (Zhejiang Lab for Regenerative Medicine, Vision and Brain Health), Wenzhou 325001, China

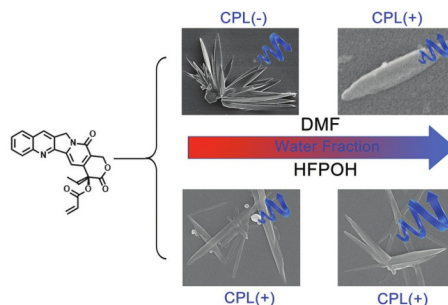
^d College of Life and Environmental Science, Wenzhou University, Wenzhou 325000, China

^e College of Chemistry and Materials Engineering, Wenzhou University, Wenzhou 325000, China

^f National Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, China

The solvent-mediated CPL inversion and amplification systems were successfully constructed by camptothecin derivative (CPT-A), in which the g_{lum} was changed from -0.0082 to +0.0085 in the water and *N,N*-dimethylformamide system, while the g_{lum} was amplified to 0.034 in the system of hexafluoroisopropanol and water.

Chinese Chemical Letters 34 (2023) 107590



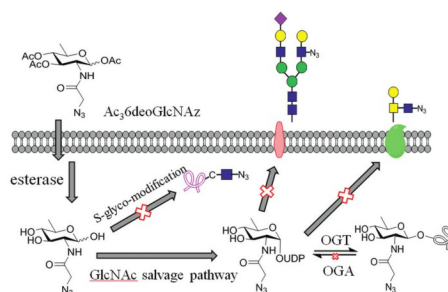
Ac₃6deoGlcNAz could selectively label O-GlcNAc modified proteins with minimal S-glyco-modification

Lu Zheng, Wei Cao, Biao Dou, Xueke Zeng, Mingya Cao, Jiajia Wang, Xia Li

Joint National Laboratory for Antibody Drug Engineering, The First Affiliated Hospital of Henan University, Henan University, Kaifeng 475000, China

An effective and specific metabolic chemical reporter for O-GlcNAc modification is developed which only induces minimal S-glyco-modification

Chinese Chemical Letters 34 (2023) 107598



Photocatalyst-free visible-light-mediated three-component reaction of α -diazoesters, cyclic ethers and NaSCN to access organic thiocyanates

Zhiwei Wang^a, Na Meng^a, Yufen Lv^a, Wei Wei^{a,b}, Huilan Yue^b, Guofu Zhong^a

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

^b Qinghai Provincial Key Laboratory of Tibetan Medicine Research and CAS Key Laboratory of Tibetan Medicine Research, Northwest Institute of Plateau Biology, Xining 810008, China

GRAA facile and green visible-light-induced protocol for the assembly of organic thiocyanates from α -diazoesters, cyclic ethers and NaSCN has been described. This three-component reaction could undergo smoothly under mild conditions to afford a series of structurally diverse organic thiocyanates in moderate to good yields.

Chinese Chemical Letters 34 (2023) 107599



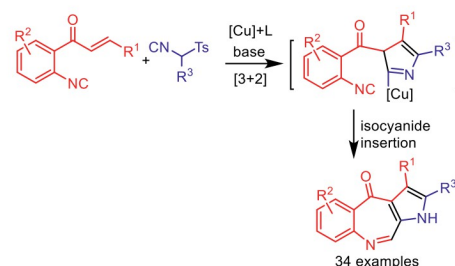
Copper-catalyzed chemoselective heterocyclization of two isocyanides: Facile access to pyrroloazepinone derivatives

Xiaoyu Guo, Jinhuan Dong, Yunjie Zhu, Lan Bao, Zhongyan Hu, Xianxiu Xu

College of Chemistry, Chemical Engineering and Materials Science, Collaborative Innovation Center of Functionalized Probes for Chemical Imaging in Universities of Shandong, Key Laboratory of Molecular and Nano Probes, Ministry of Education, Institute of Molecular and Nano Science, Shandong Normal University, Ji'nan 250014, China

A Cu-catalyzed chemoselective heterocyclization of *o*-cinnamoyl arylisocyanides with α -substituted tosylmethyl isocyanides is developed for the efficient synthesis benzopyrroloazepinones.

Chinese Chemical Letters 34 (2023) 107608



External electrolyte-free electrochemical one-pot cascade synthesis of 4-thiocyanato-1*H*-pyrazoles

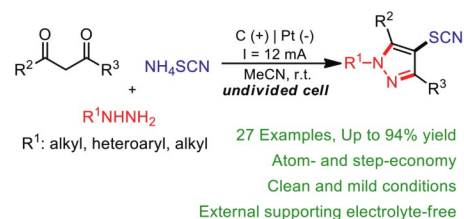
Wei-Bao He^a, Sai-Jie Zhao^a, Jing-Yang Chen^b, Jun Jiang^b, Xiang Chen^b, Xinhua Xu^a, Wei-Min He^b

^a College of Chemistry and Chemical Engineering, Hunan University, Changsha 410082, China

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

A practical synthetic method for 4-thiocyanato-1*H*-pyrazoles through the electrochemical cascade reaction of hydrazines, 1,3-diones and NH_4SCN under metal-, chemical oxidant- and external electrolyte-free conditions was established. Importantly, both a gram-scale synthesis of 4-thiocyanato-1*H*-pyrazoles and five one-pot sequential transformations starting from hydrazine were successfully accomplished.

Chinese Chemical Letters 34 (2023) 107640



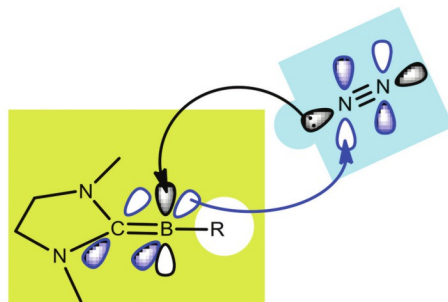
Understanding reaction mechanisms of metal-free dinitrogen activation by methyleneboranes

Jie Zeng, Jiaying Su, Feiying You, Jun Zhu

State Key Laboratory of Physical Chemistry of Solid Surfaces and Fujian Provincial Key Laboratory of Theoretical and Computational Chemistry, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

The reaction mechanism of dinitrogen activation by methyleneboranes has been explored by DFT calculations. It is found that methyleneboranes can mimic transition metals to break the $\text{N}\equiv\text{N}$ triple bond and a moderate correlation is achieved between the reaction energies and the singlet-triplet gaps of the reactants.

Chinese Chemical Letters 34 (2023) 107759



Rim-differentiation vs. mixture of constitutional isomers: A binding study between pillar[5]arene-based glycoclusters and lectins from pathogenic bacteria

Zhiping Liu^a, Fanny Demontrond^b, Anne Imberty^c, Andrew C.-H. Sue^d, Sébastien Vidal^{b,e}, Hongxia Zhao^a

^a Tianjin Key Lab for Modern Drug Delivery and High-Efficiency, School of Pharmaceutical Science and Technology, Tianjin University, Tianjin 300072, China

^b Institut de Chimie et Biochimie Moléculaires et Supramoléculaires, Laboratoire de Chimie Organique 2-Glycochimie, UMR 5246, CNRS, Université Claude Bernard Lyon 1, Université de Lyon, Villeurbanne 69622, France

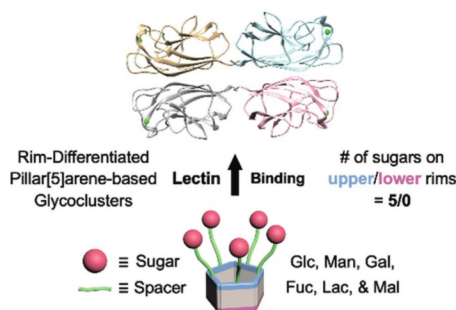
^c CNRS, Univ. Grenoble Alpes, CERMAV, Grenoble 38000, France

^d College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

^e CNRS, Institut de Chimie des Substances Naturelles, Université Paris-Saclay, UPR 2301, Gif-sur-Yvette 91198, France

The glycosylated rim-differentiated pillar[5]arene-based multivalent ligands with or without TEG spacer arm displayed good binding properties toward lectins from pathogenic bacteria.

Chinese Chemical Letters 34 (2023) 107872



Metal-free nucleophilic 7,8-dearomatization of quinolines: Spiroannulation of aminoquinoline protected amino acids

Zhiguo Zhang^a, Xiyang Cao^a, Xiaoqing Song^a, Gang Wang^a, Bingbing Shi^a, Xiang Li^a, Nana Ma^a, Lantao Liu^b, Guisheng Zhang^a

^aKey Laboratory of Green Chemical Media and Reactions, Ministry of Education, Collaborative Innovation Centre of Henan Province for Green Manufacturing of Fine Chemicals, NMPA Key Laboratory for Research and Evaluation of Innovative Drug, School of Chemistry and Chemical Engineering, Henan Normal University, Xinxiang 453007, China

^bThe College of Chemistry and Chemical Engineering, Shangqiu Normal University, Shangqiu 476000, China

Atom- and step-economy in IBX assisted diversity-oriented synthesis is achieved with a versatile AQ auxiliary α -amino acid analogs offering rapid access to polycyclic spiro-quinolines featuring a quaternary stereocenter in 20%-94% yields under mild conditions via 7,8-dearomatization of quinolines. Free of a preinstalled activation group is highlight of this intramolecular oxidation spiroannulation tandem reaction.

Chinese Chemical Letters 34 (2023) 107779



One-pot synthesis of SrTiO₃-SrCO₃ heterojunction with strong interfacial electronic interaction as a novel photocatalyst for water splitting to generate H₂

Yige Deng^a, Song Shu^a, Ningjie Fang^a, Ruobing Wang^a, Yinghao Chu^a, Zhaobing Liu^{a,b}, Wanglai Cen^c

^aCollege of Architecture and Environment, Sichuan University, Chengdu 610065, China

^bChengdu Environment Group, Chengdu 610065, China

^cInstitute of New Energy and Low Carbon Technology, Sichuan University, Chengdu 610065, China

A novel SrTiO₃-SrCO₃ heterojunction photocatalyst has been successfully synthesized for the first time for water splitting by soft chemical methods. This heterojunction can effectively promote the transmission and separation of charge carriers.

Chinese Chemical Letters 34 (2023) 107323



Nitrogen-doped pyrogenic carbonaceous matter facilitates azo dye decolorization by sulfide: The important role of graphitic nitrogen

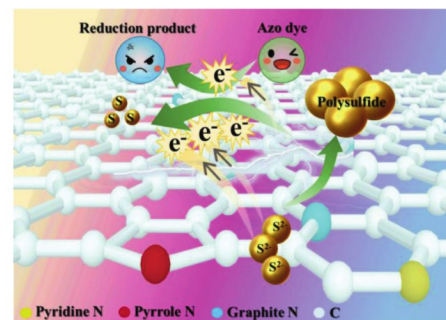
Han-Qing Zhao^{a,b}, Wen-Qiang Li^a, Nannan Hou^a, Lei Li^a, Yiran Wang^a, Peili Lu^b, Yang Mu^a

^aCAS Key Laboratory of Urban Pollutant Conversion, Department of Environmental Science and Engineering, University of Science and Technology of China, Hefei 230026, China

^bCollege of Environment and Ecology, Chongqing University, Chongqing 400044, China

The important role for graphitic nitrogen facilitated the azo dye reduction by sulfide was studied in detail.

Chinese Chemical Letters 34 (2023) 107326



Remarkable difference of phospholipid molecular chirality in regulating PrP aggregation and cell responses

Cunli Wang^{a,b}, Xue Wang^b, Dongdong Wang^b, Shengxu Qian^b, Fusheng Zhang^b, Mingyang Li^b, Minmin Li^b, Wenqi Lu^b, Bo Liu^b, Guangyan Qing^{b,c}

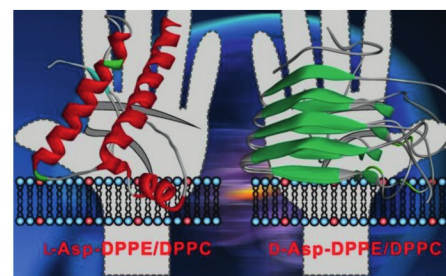
^aSchool of Biomedical Engineering, Dalian University of Technology, Dalian 116024, China

^bCAS Key Laboratory of Separation Science for Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

^cCollege of Chemistry and Chemical Engineering, Wuhan Textile University, Wuhan 430200, China

This work firstly reported the effect of chiral liposome on the fibrillation process of PrP₁₀₆₋₁₂₆ and its cell responses.

Chinese Chemical Letters 34 (2023) 107332



pH-responsive aldehyde-bearing cyclometalated iridium(III) complex for tracking intracellular pH fluctuations under external stimulation

Manping Qian^a, Danyang Zhang^a, Hetong Qi^b, Xuebing Yang^c, Guanjun Yin^c, Chengxiao Zhang^a, Jianzhong Guo^c, Honglan Qi^a

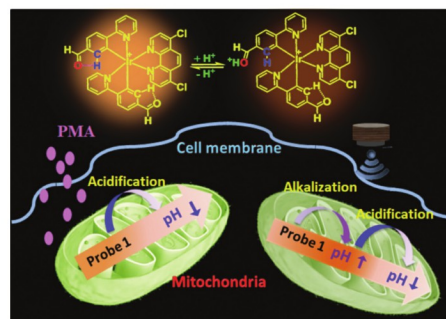
^aKey Laboratory of Analytical Chemistry for Life Science of Shaanxi Province, School of Chemistry and Chemical Engineering, Shaanxi Normal University, Xi'an 710062, China

^bSchool of Chemistry, Xi'an Jiaotong University, Xi'an 710049, China

^cShaanxi Province Key Laboratory of Ultrasound, School of Physics and Information Technology, Shaanxi Normal University, Xi'an 710062, China

A new pH-responsive aldehyde-bearing cyclometalated iridium(III) complex was synthesized for tracking intracellular pH fluctuations under external stimulation. An intramolecular hydrogen bonds assisted pH-responsive mechanism was proposed.

Chinese Chemical Letters 34 (2023) 107336



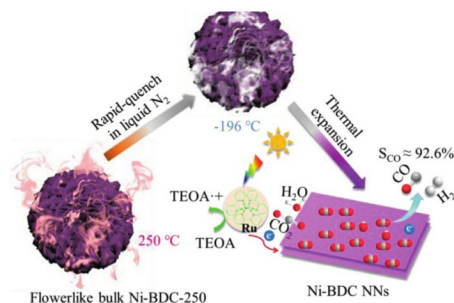
Thermal expansion-quench of nickel metal-organic framework into nanosheets for efficient visible light CO₂ reduction

Liuyong Chen, Qinglin Liu, Jun Yang, Yinle Li, Guangqin Li

MOE Laboratory of Bioinorganic and Synthetic Chemistry, Lehn Institute of Functional Materials, School of Chemistry, Sun Yat-sen University, Guangzhou 510275, China

Nickel metal-organic frameworks (MOF) Ni-BDC nanosheets (Ni-BDC NNs) have been successfully synthesized by an efficient, top-down thermal expansion-quench method. The unique structures with large surface are exposing abundant active sites, contribute an improved CO₂ photoreduction.

Chinese Chemical Letters 34 (2023) 107335



Specific enrichment of urinary exosomes and exosomal glycopeptides by coefficient affinity of integrated L-cysteine and titania

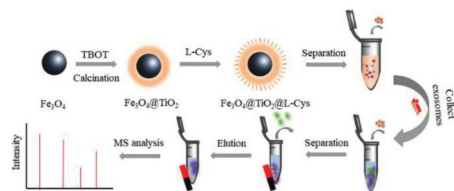
Yijie Chen^a, Haolin Chen^a, Chenjie Yang^a, Yonglei Wu^a, Chunhui Deng^{a,b}, Nianrong Sun^b

^aDepartment of Chemistry, Institute of Metabolism & Integrate Biology(IMIB), Fudan University, Shanghai 200433, China

^bDepartment of Gastroenterology and Hepatology, Zhongshan Hospital, Fudan University, Shanghai 200032, China

Titania and L-Cys are integrated on the surface of magnetic nanoparticles for capturing urine exosomes and exosomal glycopeptides. We separate exosomes from human urine concentrations directly, and 146 glycopeptides corresponding to 77 glycoproteins are successfully identified from captured exosomes.

Chinese Chemical Letters 34 (2023) 107352



Multicellular tumor spheroids bridge the gap between two-dimensional cancer cells and solid tumors: The role of lipid metabolism and distribution

Peisi Xie^a, Jinghui Zhang^{a,b}, Pengfei Wu^a, Yongjiang Wu^b, Yanjun Hong^{a,c}, Jianing Wang^a, Zongwei Cai^a

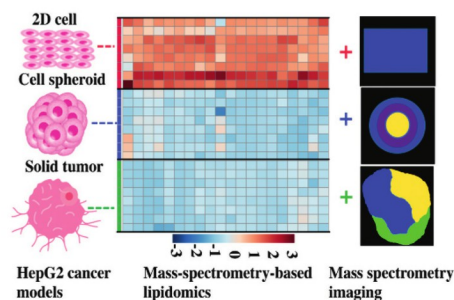
^aState Key Laboratory of Environmental and Biological Analysis, Department of Chemistry, Hong Kong Baptist University, Hong Kong, China

^bCollege of Pharmaceutical Sciences, Zhejiang University, Hangzhou 310058, China

^cSchool of Pharmaceutical Sciences (Shenzhen), Sun Yat-sen University, Shenzhen 518107, China

Mass spectrometry-based lipidomics and matrix-assisted laser desorption/ionization mass spectrometry imaging were employed to investigate the difference in lipid metabolism and distribution among these three cancer models (2D cancer cells, 3D cell spheroids and solid tumors). The obtained results showed that 3D cell spheroids are more suitable as an *in vitro* model to mimic solid tumors in terms of lipid metabolism and distribution.

Chinese Chemical Letters 34 (2023) 107349



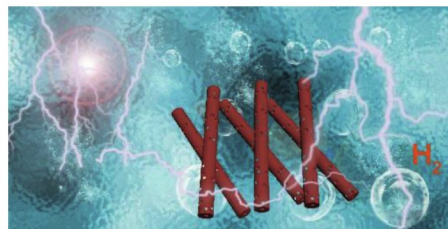
General synthesis of Pt and Ni co-doped porous carbon nanofibers to boost HER performance in both acidic and alkaline solutions

Jiaqi Xu, Mengxiao Zhong, Na Song, Ce Wang, Xiaofeng Lu

Alan G. MacDiarmid Institute, College of Chemistry, Jilin University, Changchun 130012, China

Platinum (Pt) and nickel (Ni) co-doped porous carbon nanofibers (Pt/Ni-PCNFs) with low Pt content have been successfully synthesized via an electrospinning, carbonization and galvanic replacement reaction, which showed excellent HER performances in both acidic and alkaline solutions.

Chinese Chemical Letters 34 (2023) 107359



A portable viable *Salmonella* detection device based on microfluidic chip and recombinase aided amplification

Wuzhen Qi^a, Siyuan Wang^a, Lei Wang^a, Xinge Xi^a, Shangyi Wu^a, Yanbin Li^b, Ming Liao^c, Jianhan Lin^a

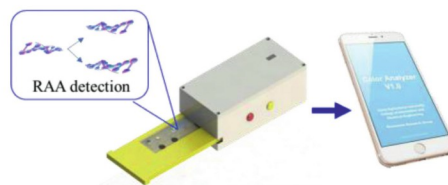
^aKey Laboratory of Agricultural Information Acquisition Technology, Ministry of Agriculture and Rural Affairs, China Agricultural University, Beijing 100083, China

^bDepartment of Biological and Agricultural Engineering, University of Arkansas, Fayetteville 72701, United States

^cCollege of Veterinary medicine, South China Agricultural University, Guangzhou 510642, China

Improved propidium monoazide (PMAxx) was combined with RAA to enable this device to distinguish viable bacteria from dead ones. Fluorescent signal during RAA amplification of nucleic acids was collected and analyzed using self-developed smartphone App to quantitatively determine bacterial concentration.

Chinese Chemical Letters 34 (2023) 107360



Molybdenum-induced tuning 3d-orbital electron filling degree of CoSe₂ for alkaline hydrogen and oxygen evolution reactions

Sumaira Nazar Hussain^a, Yana Men^a, Zhen Li^a, Pingping Zhao^b, Gongzhen Cheng^a, Wei Luo^{a,c}

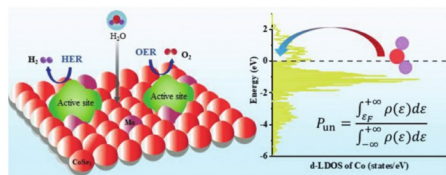
^aCollege of Chemistry and Molecular Sciences, Wuhan University, Wuhan 430072, China

^bSchool of Printing and Packaging, Wuhan University, Wuhan 430072, China

^cSuzhou Institute of Wuhan University, Suzhou 215123, China

A cost-effective bifunctional catalyst (Mo-CoSe₂) is successfully designed by introducing Mo with higher proportion of unoccupied d-orbitals (P_{un}) into CoSe₂, which possesses superior catalytic performance for both OER and HER in alkaline media.

Chinese Chemical Letters 34 (2023) 107364



A new photolabeling probe for efficient enrichment and deep profiling of cell surface membrane proteome by mass spectrometry

Yuanyuan Li^{a,b}, Chaoshuang Xia^b, Hongxian Zhao^b, Yuping Xie^b, Yangjun Zhang^b, Wanjun Zhang^b, Yongliang Yu^a, Jianhua Wang^a, Weijie Qin^{b,c}

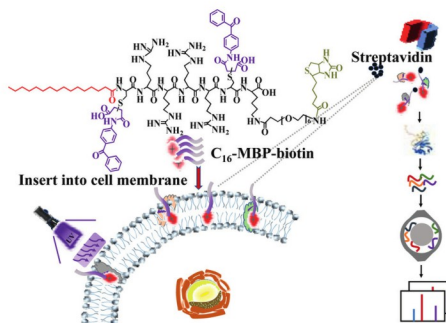
^aResearch Center for Analytical Sciences, Department of Chemistry, College of Sciences, Northeastern University, Shenyang 110819, China

^bNational Center for Protein Sciences Beijing, State Key Laboratory of Proteomics, Beijing Proteome Research Center, Beijing Institute of Lifeomics, Beijing 102206, China

^cCollege of Basic Medicine, Anhui Medical University, Hefei 230032, China

We developed a new photolabeling probe to achieve facile enrichment of cell surface membrane proteins (CSMPs). More than 3000 known CSMPs with approximately 70% enrichment selectivity were achieved, and we can expect it to facilitate basic mechanistic study of CSMPs and drug target screening.

Chinese Chemical Letters 34 (2023) 107377



Tailoring the electronic acceptor–donor heterointerface between black phosphorus and Co_3O_4 for boosting oxygen bifunctional electrocatalysis

Jing Zou^a, Yilun Zou^a, Haitao Wang^a, Wei Wang^c, Pingxiu Wu^d, Arramel^e, Jizhou Jiang^{a,b}, Xin Li^f

^aSchool of Chemistry and Environmental Engineering, School of Environmental Ecology and Biological Engineering, Key Laboratory of Green Chemical Engineering Process of Ministry of Education, Engineering Research Center of Phosphorus Resources Development and Utilization of Ministry of Education, Hubei Tree Gorges Laboratory, Wuhan Institute of Technology, Wuhan 430205, China

^bKey Laboratory of Rare Mineral, Ministry of Natural Resources, Geological Experimental Testing Center of Hubei Province, Wuhan 430034, China

^cKey Laboratory of Hunan Province for Advanced Carbon-based Functional Materials, Hunan Institute of Science and Technology, Yueyang 414006, China

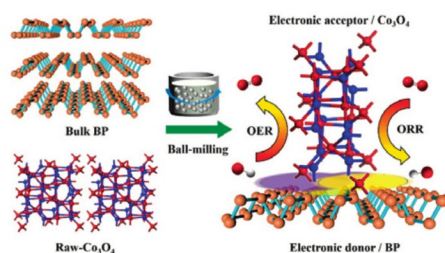
^dSemiconductor Electronic Special Gas of Hubei Engineering Research Center, Jingzhou 434000, China

^eNano Center Indonesia, Jl. PUSPIPEK Tangerang Selatan, Banten 15314, Indonesia

^fInstitute of Biomass Engineering, Key Laboratory of Energy Plants Resource and Utilization, Ministry of Agriculture and Rural Affairs, South China Agricultural University, Guangzhou 510642, China

A beneficial electronic acceptor-donor heterointerface between BP and Co_3O_4 is tailored skillfully by wet ball milling to boost bifunctional oxygen electrocatalysis.

Chinese Chemical Letters 34 (2023) 107378



Surface modification of phosphate ion to promote photocatalytic recovery of precious metals

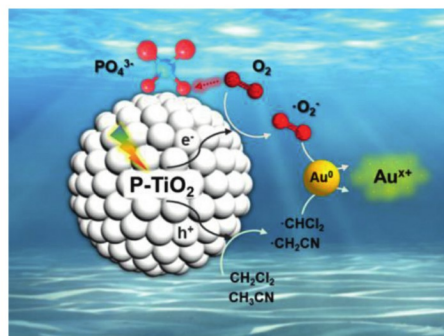
Qianyu Qiao^a, Yao Chen^{a,b}, Yue Wang^a, Yuqing Ren^a, Jiazhen Cao^a, Fengjiao Huang^a, Zhenfeng Bian^a

^aMOE Key Laboratory of Resource Chemistry and Shanghai Key Laboratory of Rare Earth Functional Materials, Shanghai Normal University, Shanghai 200234, China

^bDepartment of Chemistry, Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, Fudan University, Shanghai 200438, China

Phosphate-modified titanium dioxide (P-TiO_2) was designed to enhance the adsorption strength of oxygen on the catalyst surface, thereby effectively improving the photocatalytic dissolution rate of noble metals.

Chinese Chemical Letters 34 (2023) 107394



Strain boosts CO oxidation on Ni single-atom-catalyst supported by defective graphene

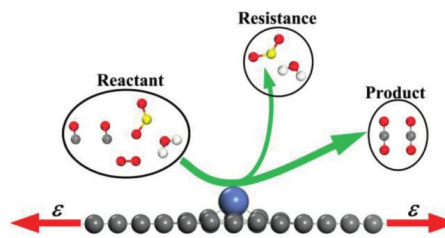
Quanguo Jiang^a, Yushuai Qian^a, Yuqing Liu^a, Min Huang^a, Zhimin Ao^b

^aCollege of Mechanics and Materials, Hohai University, Nanjing 210098, China

^bGuangzhou Key Laboratory Environmental Catalysis and Pollution Control, Guangdong Key Laboratory of Environmental Catalysis and Health Risk Control, Institute of Environmental Health and Pollution Control, School of Environmental Science and Engineering, Guangdong University of Technology, Guangzhou 510006, China

The tensile strain can enhance the sulfur and water resistance of Ni single-atom-catalyst, as well as boost the CO oxidation reaction.

Chinese Chemical Letters 34 (2023) 107395



MIL-101(Cr)-decorated Ti/TiO_2 anode for electrochemical oxidation of aromatic pollutants from water

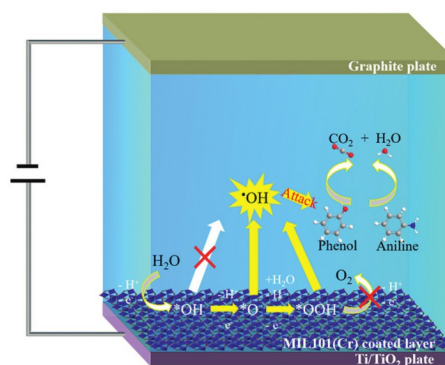
Zepeng Zhang^a, Yunyun Li^a, Longzhang Dong^a, Zhonglong Yin^a, Ziqi Tian^b, Weiben Yang^a, Zhen Yang^a

^aSchool of Chemistry and Materials Science, Jiangsu Provincial Key Laboratory of Material Cycling and Pollution Control, Jiangsu Collaborative Innovation Center of Biomedical Functional Materials, Nanjing Normal University, Nanjing 210046, China

^bNingbo Institute of Materials Technology & Engineering, Chinese Academy of Sciences, Ningbo 315000, China

Stabilizing deeply oxidized states ($\cdot\text{O}$ and $\cdot\text{OOH}$) at the anode surface can promote electrochemical oxidation of organic pollutants for water treatment.

Chinese Chemical Letters 34 (2023) 107404



A new method for evaluating the quality of single sperm by detecting reactive oxygen species

Hao Hu^a, Bei Yan^{a,b}, Wei Zhang^{a,c}, Wenbo Yan^{a,d}, Liquan Liu^a, Xiaofeng Tang^a, Kejun Dong^{a,c}, Longjie Li^{a,d}, Xianjin Xiao^{a,e}, Chengliang Xiong^{a,e,f}

^aInstitute of Reproductive Health, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, China

^bSperm Bank, General Hospital of Ningxia Medical University, Yinchuan 750004, China

^cDepartment of Obstetrics and Gynecology, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430022, China

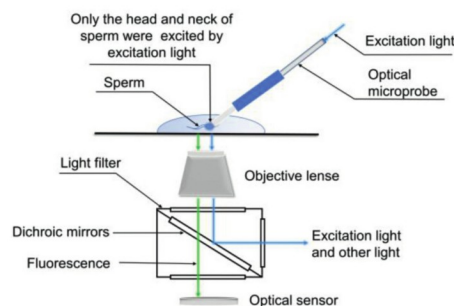
^dSchool of Life Science and Technology, Wuhan Polytechnic University, Wuhan 430023, China

^eReproductive Medicine Center, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, China

^fHubei Province Human Sperm Bank, Wuhan 430030, China

In this work, we constructed a single sperm ROS detection method (SSRDM) with an optical micro-probe. The SSRDM can quantitatively detect fluorescent substances in sperm at the single-cell level and successfully verified the method's strong specificity and high sensitivity by detecting ROS in the sperm of 102 semen samples. This method can accurately determine the level of ROS in sperm, provides a new detection method for assessing sperm quality, and makes a significant contribution to providing evidence for diagnosis and prognosis of male infertility.

Chinese Chemical Letters 34 (2023) 107418



Photocatalytic fuel cell for simultaneous antibiotic wastewater treatment and electricity production by anatase TiO₂ nanoparticles anchored on Ni foam

Jinhan Li^a, Xicheng Li^a, Shaobin Yu^a, Shuai Gao^c, Yang Zhang^b, Yan Li^a, Changzheng Wang^a, Qiang Wang^c

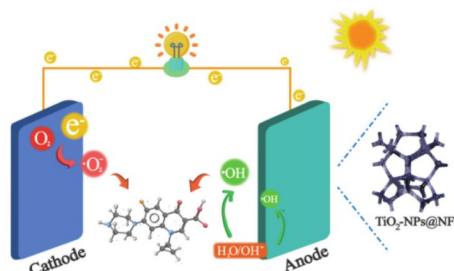
^aBeijing Key Laboratory of Functional Materials for Building Structure and Environment Remediation, Beijing University of Civil Engineering and Architecture, Beijing 100044, China

^bCollege of Chemistry, Beijing Normal University, Beijing 100875, China

^cLaboratory for Micro-sized Functional Materials & College of Elementary Education, Capital Normal University, Beijing 100048, China

Anatase TiO₂ nanoparticles were *in situ* grown on porous Ni foam as a photoanode exhibited the high efficiency for degrading ciprofloxacin by suppressing the recombination of photogenerated electron-hole pairs and electric power generation.

Chinese Chemical Letters 34 (2023) 107417



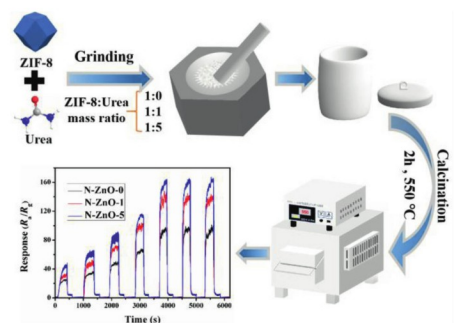
Enhanced ethanol sensing performance of N-doped ZnO derived from ZIF-8

Huifen Fu, Ziyue Feng, Shan-Shan Liu, Peng Wang, Chen Zhao, Chong-Chen Wang

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

ZnO with abundant oxygen vacancies was constructed by a urea-assisted pyrolysis method using ZIF-8 as self-sacrificing template, which exhibited improved ethanol-sensing performance.

Chinese Chemical Letters 34 (2023) 107425



Exponential isothermal amplification coupled MALDI-TOF MS for microRNAs detection

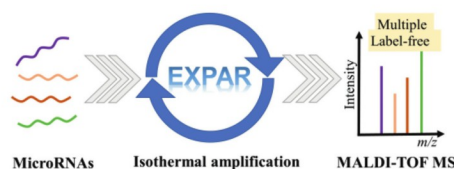
Guobin Han^a, Dandan Li^a, Qiuyuan Lin^a, Jia Yi^a, Qian Lyu^b, Qingwei Ma^b, Liang Qiao^a

^aDepartment of Chemistry, Shanghai Stomatological Hospital, Fudan University, Shanghai 200000, China

^bBioyong Technologies, Inc., Beijing 100176, China

An exponential amplification reaction (EXPAR) coupled MALDI-TOF MS assay is presented for label-free and simultaneous quantitative detection of multiple miRNAs with high sensitivity and specificity.

Chinese Chemical Letters 34 (2023) 107421



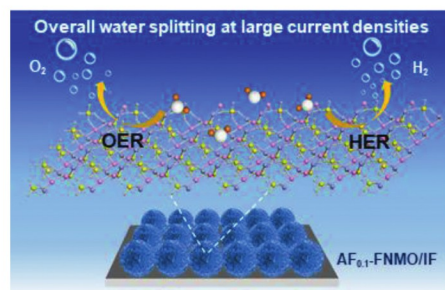
Self-supported $\text{Fe}_x\text{Ni}_{1-x}\text{MoO}_4$ with synergistic morphology and composition for efficient overall water splitting at large current density

Xin-Yu Zhang, Wen-Li Yu, Jie Zhao, Jia-Yu Fu, Bin Dong, Fu-Li Wang, Jian-Feng Yu, Chen-Guang Liu, Yong-Ming Chai

State Key Laboratory of Heavy Oil Processing, College of Chemistry and Chemical Engineering, China University of Petroleum (East China), Qingdao 266580, China

A self-supported amorphous $\text{Fe}_x\text{Ni}_{1-x}\text{MoO}_4/\text{IF}$ treated with ammonium fluoride ($\text{AF}_{0.1}\text{-FNMO}/\text{IF}$) has been synthesized by one-step hydrothermal method. With the assistant of NH_4F , the obtained $\text{AF}_{0.1}\text{-FNMO}/\text{IF}$ shows excellent electrochemical performance and only need low overpotentials of 289 and 345 mV to reach a current response of 500 mA/cm^2 for oxygen evolution reaction and hydrogen evolution reaction, respectively, together with long-time stability (both at 500, 1000 and 2000 mA/cm^2) in 1.0 mol/L KOH solution.

Chinese Chemical Letters 34 (2023) 107422



Unraveling pharmaceuticals removal in a sulfur-driven autotrophic denitrification process: Performance, kinetics and mechanisms

Jiying Huang^a, Yujian Yan^b, Yuyi Ou^b, Yanyan Jia^b, Lianpeng Sun^{a,c}, Qing Zhao^d, Hui Lu^{a,c}

^aSchool of Environmental Science and Engineering, Sun Yat-sen University, Guangzhou 510006, China

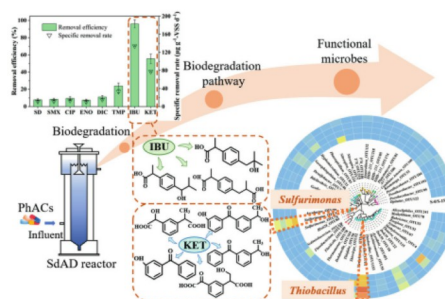
^bSchool of Ecology, Sun Yat-sen University, Guangzhou 510006, China

^cGuangdong Provincial Key Laboratory of Environmental Pollution Control and Remediation Technology (Sun Yat-sen University), Guangzhou 510006, China

^dSchool of Civil Engineering, Guangzhou University, Guangzhou 510006, China

Eight typical pharmaceuticals removal was firstly evaluated in the sulfur-driven autotrophic denitrification process. Ibuprofen (IBU) and Ketoprofen (KET) can be effectively biodegraded via a series of hydroxylation and oxidation/reduction reactions by sulfur-oxidizing bacteria (SOB) sludge. The genera of *Thiobacillus* and *Sulfurimonas* played important roles in the removal of IBU and KET.

Chinese Chemical Letters 34 (2023) 107433



Controllable synthesis of MnO_2 /iron mesh monolithic catalyst and its significant enhancement for toluene oxidation

Meijuan Qi^{a,b}, Zhe Li^{a,b}, Zhang Zhang^c, Yanshan Gao^{a,b}, Qiang Wang^{a,b}

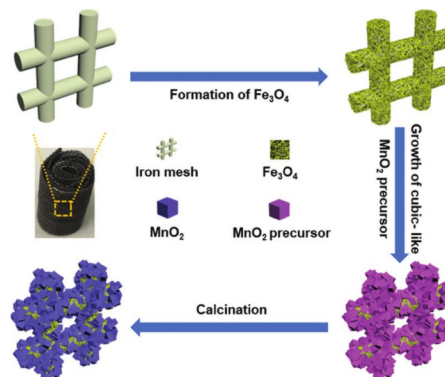
^aBeijing Key Lab for Source Control Technology of Water Pollution, College of Environmental Science and Engineering, Beijing Forestry University, Beijing 100083, China

^bEngineering Research Center for Water Pollution Source Control & Eco-remediation, College of Environmental Science and Engineering, Beijing Forestry University, Beijing 100083, China

^cBeijing Municipal Ecological and Environmental Monitoring Center, Beijing 100048, China

Monolithic MnO_2 /iron mesh (IM) catalysts with excellent toluene oxidation performance were successfully prepared using *in-situ* hydrothermal growth, which provides a new direction for the research and application of monolithic catalysts.

Chinese Chemical Letters 34 (2023) 107437



Inhibition mechanisms of ammonia and sulfate in high-solids anaerobic digesters for food waste treatment: Microbial community and element distributions responses

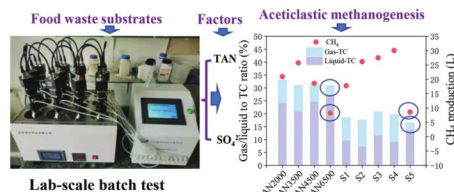
Likui Feng^a, Weixin Zhao^a, Yu Liu^a, Yan Chen^b, Shufei He^a, Jing Ding^a, Qingliang Zhao^a, Liangliang Wei^a

^aState Key Laboratory of Urban Water Resources and Environment (SKLUWRE), School of Environment, Harbin Institute of Technology, Harbin 150090, China

^bBaicheng Municipal Party Committee Office, Baicheng 137000, China

Inhibition mechanisms of ammonia/sulfate in high-solids anaerobic digesters of food waste were investigated via the dynamic transformation of microbial structures and element distributions.

Chinese Chemical Letters 34 (2023) 107439



Edge-enriched N, S co-doped hierarchical porous carbon for oxygen reduction reaction

Fangfang Chang^{a,b}, Panpan Su^a, Utsab Guharoy^a, Runping Ye^a, Yanfu Ma^a, Huajun Zheng^c, Yi Jia^c, Jian Liu^{a,d}

^aState Key Laboratory of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

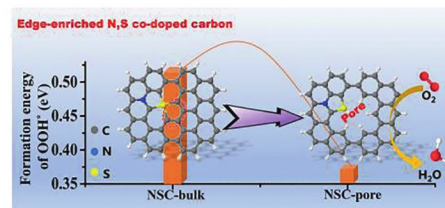
^bUniversity of Chinese Academy of Sciences, Beijing 100049, China

^cDepartment of Applied Chemistry and Zhejiang Carbon Neutral Innovation Institute, Zhejiang University of Technology, Hangzhou 310032, China

^dDICP-Surrey Joint Centre for Future Materials, Department of Chemical and Process Engineering, University of Surrey, Guildford, Surrey GU2 7XH, United Kingdom

Edge-enriched N, S co-doped carbon materials, derived from encapsulation of thiourea within ZIF-8 and subsequent pyrolysis, exhibit enhanced oxygen reduction reaction (ORR) performance in alkaline medium.

Chinese Chemical Letters 34 (2023) 107462



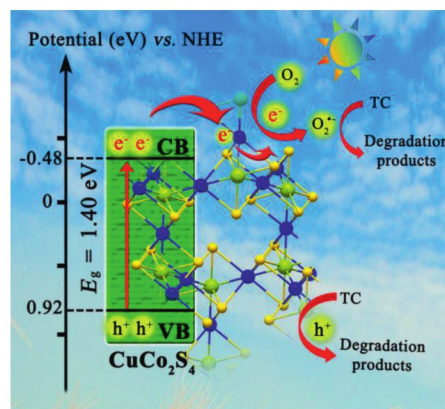
Lattice expansion boosting photocatalytic degradation performance of CuCo_2S_4 with an inherent dipole moment

Yicheng Guo, Biguo Yan, Fang Deng, Penghui Shao, Jianping Zou, Xubiao Luo, Shuqu Zhang, Xibao Li

National-Local Joint Engineering Research Center of Heavy Metal Pollutants Control and Resource Utilization, Nanchang Hangkong University, Nanchang 330063, China

A single-component semiconductor photocatalyst CuCo_2S_4 with effective charge separation and directional transfer can remove 95.4% tetracycline hydrochloride within 40 min and effectively improve the biodegradability of pharmaceutical wastewater.

Chinese Chemical Letters 34 (2023) 107468



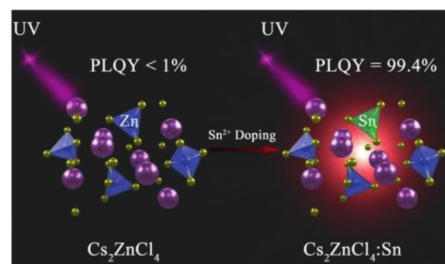
Highly stable metal halides Cs_2ZnX_4 ($\text{X} = \text{Cl}, \text{Br}$) with Sn^{2+} as dopants for efficient deep-red photoluminescence

Yan Zhang, Lei Zhou, Lei Zhang, Wei Luo, Wei Shen, Ming Li, Rongxing He

Key Laboratory of Luminescence Analysis and Molecular Sensing (Southwest University), Ministry of Education, College of Chemistry and Chemical Engineering, Southwest University, Chongqing 400715, China

A Sn^{2+} -doped 0D metal halide Cs_2ZnCl_4 has been synthesized and the introduction of Sn^{2+} induces the generation of self-trapped exciton state, resulting in a deep-red emission with near-unity photoluminescence quantum yield. Remarkably, the luminescence efficiency of $\text{Cs}_2\text{ZnCl}_4:\text{Sn}$ maintains 96% after one year in ambient air.

Chinese Chemical Letters 34 (2023) 107556



A candy-like photocatalyst by wrapping Co, N-co-doped hollow carbon sphere with ultrathin mesoporous carbon nitride for boosted photocatalytic hydrogen evolution

Jinyuan Liu^a, Shumin Zhu^a, Bin Wang^a, Ruizhe Yang^a, Rong Wang^a, Xingwang Zhu^b, Yanhua Song^c, Junjie Yuan^a, Hui Xu^a, Huaming Li^a

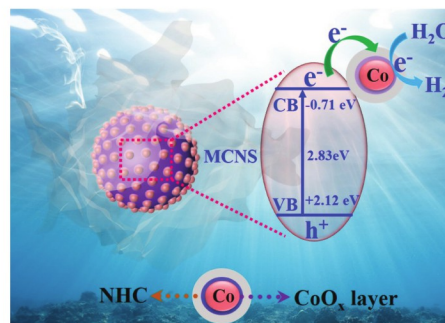
^aSchool of Chemistry and Chemical Engineering, Institute for Energy Research, Jiangsu University, Zhenjiang 212013, China

^bCollege of Environmental Science and Engineering, Yangzhou University, Yangzhou 225009, China

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

The N, Co co-doped hollow carbon spheres with excellent charge transport properties can effectively accelerate the charge transfer from ultrathin MCNS to cobalt nanoparticles. The goal of improving the photocatalytic hydrogen evolution performance of Co@NHC/MCNS material is achieved.

Chinese Chemical Letters 34 (2023) 107749



Aniline as a TICT rotor to derive methine fluorogens for biomolecules: A curcuminoid-BF₂ compound for lighting up HSA/BSA

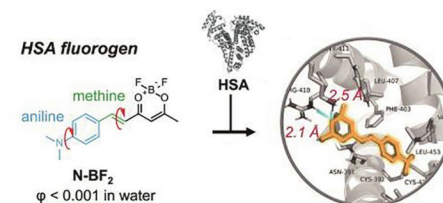
Yue Zhang^{a,b}, Wei Zhou^b, Ning Xu^b, Guangying Wang^b, Jin Li^b, Kai An^b,
Wenchao Jiang^b, Xuelian Zhou^b, Qinglong Qiao^b, Xindong Jiang^a, Zhaochao Xu^b

^aLiaoning & Shenyang Key Laboratory of Functional Dye and Pigment, Shenyang University of Chemical Technology, Shenyang 110142, China

^bCAS Key Laboratory of Separation Science for Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

N-BF₂ has fast and strong binding to HSA or BSA, accompanied by the activation of fluorescence (90/112-fold fluorescence enhancement). This intermolecular binding was found to be rapid and reversible in solution and intracellularly. Since **N-BF₂** also has lipid droplet-targeted staining ability, the complex of **N-BF₂**/HSA achieved reversible intracellular staining of lipid droplets.

Chinese Chemical Letters 34 (2023) 107472



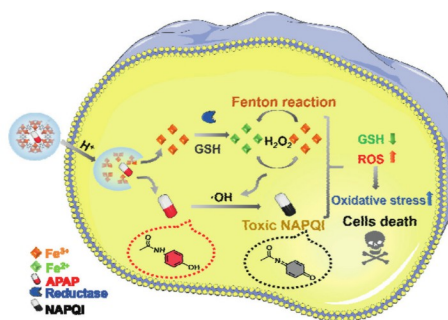
Fenton-reaction-triggered metabolism of acetaminophen for enhanced cancer therapy

Fanwen Sun, Yayun Peng, Yanping Li, Menghan Xu, Ting Cai

State Key Laboratory of Natural Medicines, Department of Pharmaceuticals, China Pharmaceutical University, Nanjing 210009, China

We develop a Fe-based metal-organic framework (MOF) to deliver and transform acetaminophen into toxic "chemo" drug through the cascade reaction for enhanced cancer therapy. The intracellular oxidative stress and the toxic metabolite of APAP can provide a synergistic effect on antitumor activity.

Chinese Chemical Letters 34 (2023) 107507



A colorimetric assay for cholesterol based on the encapsulation of multienzyme in leaf-shape crossed ZIF-L

Jiaqi He^a, Tingling Zhuo^a, Yintong Teng^b, Guoqin Chen^a, Peng Zhao^{c,e}, Caiwen Ou^{b,d,e}

^aDepartment of Cardiology, Guangzhou Panyu Central Hospital, Guangzhou University of Chinese Medicine, Guangzhou 510006, China

^bDepartment of Cardiology and Laboratory of Heart Center, Zhujiang Hospital, Southern Medical University, Guangzhou 510280, China

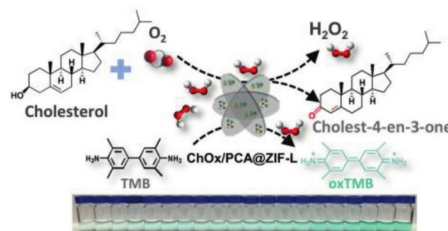
^cNMPA Key Laboratory for Research and Evaluation of Drug Metabolism, Guangdong Provincial Key Laboratory of New Drug Screening, School of Pharmaceutical Sciences, Southern Medical University, Guangzhou 510515, China

^dAffiliated Dongguan Hospital, Southern Medical University, Dongguan 523059, China

^eGuangdong Provincial Key Laboratory of Shock and Microcirculation, Southern Medical University, Guangzhou 510515, China

Cholesterol oxidase and PdCuAu nanoparticles are encapsulated in zeolite imidazole framework-L to establish a cascade catalytic system for cholesterol detection by colorimetry. And a simple paper-based sensing system is constructed through a pre-reaction-transfer operation, which paves a new way to design the point-of-care testing device for daily monitoring of healthy.

Chinese Chemical Letters 34 (2023) 107510



Polymer types regulation strategy toward the synthesis of carbonized polymer dots with excitation-wavelength dependent or independent fluorescence

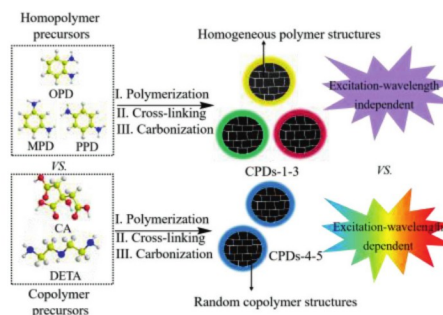
Jianliang Bai^a, Xinyu Wang^a, Yaqing Zhu^a, Guojun Yuan^b, Shuang Wu^a, Fu Qin^a, Xu Yu^a, Lili Ren^a

^aSchool of Chemistry & Chemical Engineering, Southeast University, Nanjing 211189, China

^bSchool of Environment and Chemical Engineering, Anhui Vocational and Technical College, Hefei 230011, China

Excitation-wavelength dependent and excitation-wavelength independent features are one of the most interesting optical properties of carbon dots. Herein, we report five carbonized polymer dots, which can regulate excitation-wavelength dependence or independence by controlling polymer types.

Chinese Chemical Letters 34 (2023) 107509



Multiple fluorescence color transitions mediated by anion- π interactions and C-F covalent bond formation

Jie Pan^a, Wei Lin^b, Fang Bao^{a,c}, Qinglong Qiao^a, Guixin Zhang^c, Yao Lu^a, Zhaochao Xu^a

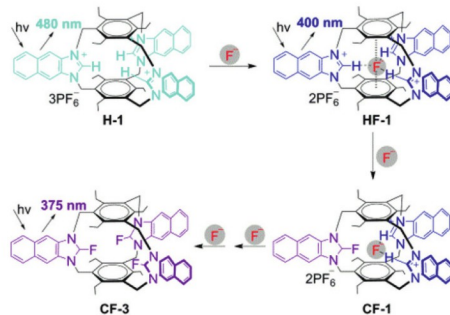
^a CAS Key Laboratory of Separation Science for Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

^b China Department of Obstetrics and Gynecology, The Affiliated Hospital of Qingdao University, Qingdao 266000, China

^c General Surgery Department, The First Affiliated Hospital of Dalian Medical University, Dalian 116011, China

The absorption and fluorescence spectra of 15 rhodamine dyes covering the visible to near-infrared regions were tested under exactly the same conditions. Then accurate and comparable data obtained were expected to be used as references for future research and help to understand the structure-fluorescence relationship of rhodamines.

Chinese Chemical Letters 34 (2023) 107519



The development of an iridium(III) complex functionalized G-quadruplex probe for the stability of G-quadruplex and lifetime image in cytoplasm

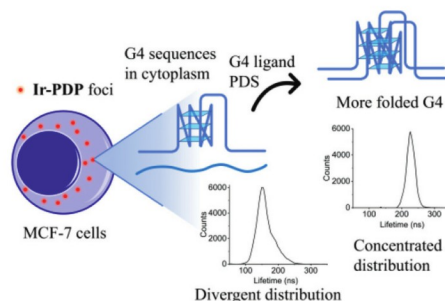
Shaokang Jia^a, Wenjin Wang^b, Shanshan Qin^a, Shengjie Xie^a, Lisi Zhan^a, Qi Wei^a, Ziang Lu^a, Xiaolu Zhou^a, Cong Chen^a, Kun Chen^a, Shen Yan^a, Caiping Tan^b, Zongwan Mao^b, Xiang Zhou^a

^a College of Chemistry and Molecular Sciences, Key Laboratory of Biomedical Polymers-Ministry of Education, Wuhan University, Wuhan 430072, China

^b MOE Key Laboratory of Bioinorganic and Synthetic Chemistry, School of Chemistry, Sun Yat-sen University, Guangzhou 510275, China

By installing the G4 ligand PDP on the iridium complex, we synthesized a phosphorescent probe that can label G4 in the cytoplasm, and the level of G4 in the cytoplasm can be explored through the phosphorescent lifetime of the probe.

Chinese Chemical Letters 34 (2023) 107517



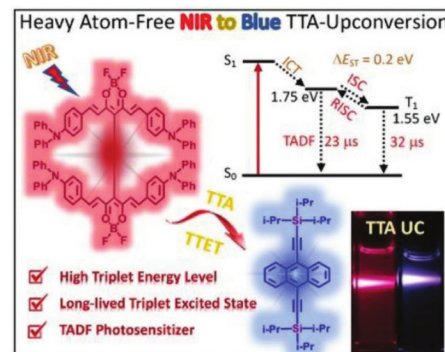
Heavy atom-free triplet photosensitizer based on thermally activated delayed fluorescence material for NIR-to-blue triplet-triplet annihilation upconversion

Hui Liang, Xiaoyu Liu, Liting Tang, Zafar Mahmood, Zeduan Chen, Guowei Chen, Shaomin Ji, Yanping Huo

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

For the first time, heavy atom-free near-infrared (NIR)-to-blue triplet-triplet annihilation upconversion system was constructed using thermally activated delayed fluorescence curcuminoid derivative as a triplet photosensitizer.

Chinese Chemical Letters 34 (2023) 107515



Vercytochalasins A and B: Two unprecedented biosynthetically related cytochalasins from the deep-sea-sourced endozoic fungus *Curvularia verruculosa*

Xueyi Hu^{a,b}, Xiaoming Li^{a,c}, Suiqun Yang^{a,c}, Xin Li^{a,c}, Bingui Wang^{a,b,c}, Linghong Meng^{a,c}

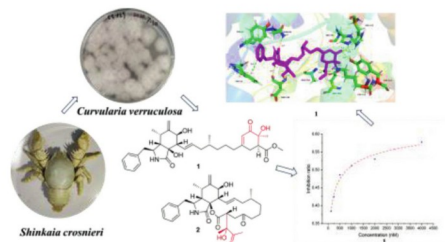
^a CAS and Shandong Province Key Laboratory of Experimental Marine Biology, Institute of Oceanology, Chinese Academy of Sciences, and Laboratory of Marine Biology and Biotechnology, Qingdao National Laboratory for Marine Science and Technology, Qingdao 266071, China

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

^c Center for Ocean Mega-Science, Chinese Academy of Sciences, Qingdao 266071, China

Vercytochalasins A (1) and B (2), two biosynthetically related cytochalasins featuring novel structure and substituents, were isolated from the endozoic fungus *Curvularia verruculosa*. Their absolute configurations were determined and the plausible biosynthesis pathway was proposed. The bioactivities and the molecular docking simulations were also performed.

Chinese Chemical Letters 34 (2023) 107516



Artificial intelligence-aided discovery of prolyl hydroxylase 2 inhibitors to stabilize hypoxia inducible factor-1 α and promote angiogenesis

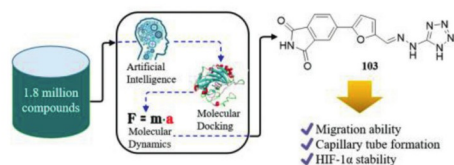
Jianzhong Zhu^a, Cheng Chen^a, Jie Dong^{a,b}, Shasha Cheng^a, Guodong Li^a, Chunming Wang^a, Defang Ouyang^a, Chung-Hang Leung^a, Ligen Lin^a

^aState Key Laboratory of Quality Research in Chinese Medicine, Institute of Chinese Medical Sciences, University of Macau, Macau 999078, China

^bXiangya School of Pharmaceutical Science, Central South University, Changsha 410083, China

A virtual screening workflow that sequentially incorporates AI, molecular docking, and molecular dynamics identified a novel PHD2 inhibitor to promote angiogenesis.

Chinese Chemical Letters 34 (2023) 107514



Hawanoids A–E, unprecedented diterpenoids with PAF-induced platelet aggregation inhibitory activities from the deep-sea-derived fungus *Paraconiothyrium hawaiiense*

Shushuai Chen^{a,b}, Hongxin Liu^a, Saini Li^a, Yuchan Chen^a, Wei Ye^a, Haohua Li^a, Haibo Tan^c, Dongli Li^b, Zhaoming Liu^a, Weimin Zhang^a

^aState Key Laboratory of Applied Microbiology Southern China, Guangdong Provincial Key Laboratory of Microbial Culture Collection and Application, Institute of Microbiology, Guangdong Academy of Sciences, Guangzhou 510070, China

^bSchool of Biotechnology and Health Sciences, Wuyi University, Jiangmen 529020, China

^cProgram for Natural Product Chemical Biology, Key Laboratory Plant Resources Conservation and Sustainable Utilization, South China Botanical Garden, Chinese Academy of Sciences, Guangzhou 510650, China

Hawanoids A–E (1–5), five highly cyclized diterpenoids with unprecedented frameworks and anti-PAF activity were isolated from the deep-sea-derived fungus *Paraconiothyrium hawaiiense*.

Chinese Chemical Letters 34 (2023) 107513



Yonarolide A, an unprecedented furanobutenolide-containing norcembranoid derivative formed by photoinduced intramolecular [2 + 2] cycloaddition

Yeqing Du^{a,b}, Ligong Yao^b, Xuwen Li^{a,b,c}, Yuewei Guo^{a,b,c}

^aSchool of Chinese Materia Medica, Nanjing University of Chinese Medicine, Nanjing 210023, China

^bState Key Laboratory of Drug Research, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 201203, China

^cDrug Discovery Shandong Laboratory, Bohai Rim Advanced Research Institute for Drug Discovery, Yantai 264117, China

Yonarolide A (**1a**), featuring an unprecedented 5/6/4/4/7 pentacyclic ring skeleton, was obtained as a transformed product by leaving compound **1** under indoor natural light, and was further proved to be a [2 + 2] cycloaddition product of **1** by photochemical reaction. With the aid of X-ray diffraction analysis, the structure of scabrolide B (**2**), was revised as **2a** with the rare inelagane skeleton featured by the highly oxygenated 5/7/6 tricyclic carbocycle.

Chinese Chemical Letters 34 (2023) 107512



A novel TICT-based near-infrared fluorescent probe for light-up sensing and imaging of human serum albumin in real samples

Yufan Fan^a, Fangyuan Wang^{a,d}, Fanbin Hou^a, Lai Wei^b, Guanghao Zhu^a, Dongfang Zhao^a, Qing Hu^a, Tao Lei^c, Ling Yang^a, Ping Wang^a, Guangbo Ge^a

^aShanghai Frontiers Science Center of TCM Chemical Biology, Institute of Interdisciplinary Integrative Medicine Research, Shanghai University of Traditional Chinese Medicine, Shanghai 201203, China

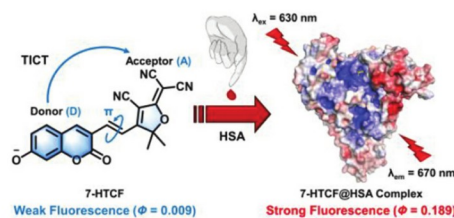
^bKey Lab of Separation Science for Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

^cPutuo Hospital, Shanghai University of Traditional Chinese Medicine, Shanghai 200062, China

^dKey Laboratory of Liver and Kidney Diseases (Ministry of Education), Institute of Liver Diseases, Shuguang Hospital, Shanghai University of Traditional Chinese Medicine, Shanghai 201204, China

A novel TICT-based near-infrared fluorescent probe was rationally constructed for light-up sensing of HSA in real biological samples and for *in-situ* imaging of reabsorbed HSA in living renal cells.

Chinese Chemical Letters 34 (2023) 107557



Integration exosomes with MOF-modified multifunctional scaffold for accelerating vascularized bone regeneration

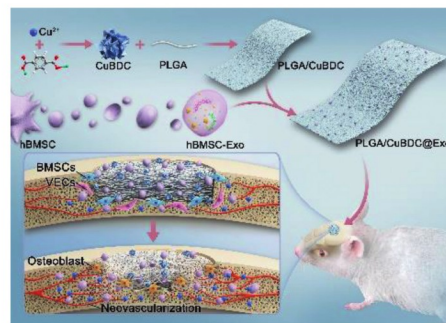
Chang Xu^a, Yue Kang^b, Xufeng Dong^a, Daqing Jiang^b, Min Qi^a

^aSchool of Materials Science and Engineering, Dalian University of Technology, Dalian 116024, China

^bDepartment of Breast Surgery, Cancer Hospital of China Medical University, Shenyang 110042, China

A novel scaffold that immobilized exosomes onto MOF-based polymer mesh was fabricated for accelerating vascularized bone regeneration. The exosome-laden composite scaffold could promote the osteogenesis and angiogenesis *in vitro* and powerful bone regeneration *in vivo*.

Chinese Chemical Letters 34 (2023) 107528



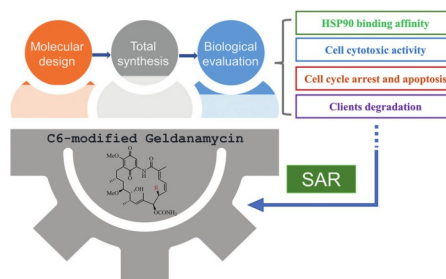
Rational design, synthesis, and biological evaluation of novel C6-modified geldanamycin derivatives as potent Hsp90 inhibitors and anti-tumor agents

Ruxuan Wang, Rentao Zhang, Haoran Yang, Nina Xue, Xiaoguang Chen, Xiaoming Yu

State Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China

We firstly demonstrated that docking study is able to provide a precise prediction of Hsp90 affinities of geldanamycin (GA) analogues, and the C6 substituent of GA is not erasable without affecting its biological activity.

Chinese Chemical Letters 34 (2023) 107529



Azobenzene quaternary ammonium salt for photo-controlled and reusable disinfection without drug resistance

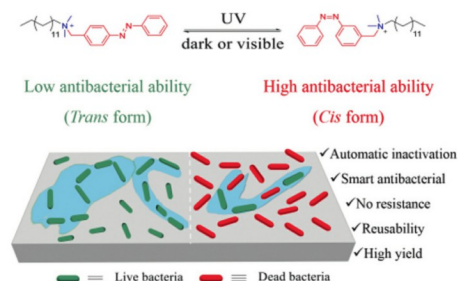
Yuhong Zhu^a, Pengfei Li^b, Caikun Liu^a, Mengqi Jia^b, Yadong Luo^b, Dengfeng He^b, Chunyan Liao^b, Shiyong Zhang^{a,b}

^aCollege of Chemistry, Sichuan University, Chengdu 610064, China

^bCollege of Biomedical Engineering and National Engineering Research Center for Biomaterials, Sichuan University, Chengdu 610064, China

Compound **4** showed impressive antibacterial activity upon UV-induced *trans*-to-*cis* photoisomerization of azobenzene while its antibacterial activity was automatically lost after sterilization. Compound **4** killed bacteria with undetectable drug resistance. A concept for smart disinfection antibacterial agents was provided.

Chinese Chemical Letters 34 (2023) 107543



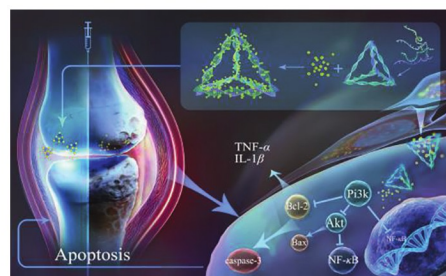
Biological regulation on synovial fibroblast and the treatment of rheumatoid arthritis by nobiletin-loaded tetrahedral framework nucleic acids cargo tank

Yuting Wen, Mei Zhang, Yangxue Yao, Yang Gao, Xiaolin Zhang, Yunfeng Lin, Xiaoxiao Cai

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

Nobiletin-loaded tetrahedral framework nucleic acids cargo tank improved the drug effect of nobiletin, promoted the apoptosis of tumor-like synovial fibroblast and alleviated the course of rheumatoid arthritis more effectively compared with the same dosage of nobiletin.

Chinese Chemical Letters 34 (2023) 107549



Self-enhanced photothermal-chemodynamic antibacterial agents for synergistic anti-infective therapy

Ning Guo^a, Yu Xia^a, Yuxi Duan^a, Quanxin Wu^a, Le Xiao^a, Yaxin Shi^a, Bin Yang^b, Yun Liu^{a,c}

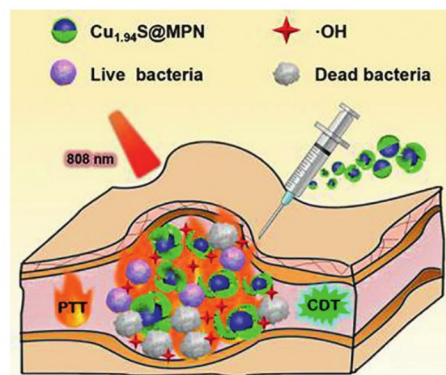
^aGuangdong Key Laboratory for Research and Development of Natural Drugs, School of Pharmacy, Guangdong Medical University, Zhanjiang 524023, China

^bThe Sixth Affiliated Hospital of Guangzhou Medical University, Qingyuan People's Hospital; Department of Biomedical Engineering, School of Basic Medical Sciences, Guangzhou Medical University, Guangzhou 511436, China

^cThe Marine Biomedical Research Institute of Guangdong, Zhanjiang 524023, China

Through the coating of Cu_{1.94}S nanoparticles with Fe(III)/tannic acid complexes, a novel non-antibiotic nanotherapeutics was successfully constructed. This antibacterial agent exhibited excellent self-enhanced photothermal/chemodynamic synergistic therapeutic efficacy *in vivo*.

Chinese Chemical Letters 34 (2023) 107542



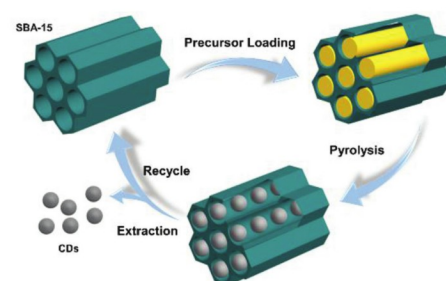
Pyrolysis of single carbon sources in SBA-15: A recyclable solid phase synthesis to obtain uniform carbon dots with tunable luminescence

Xiaoqing Niu, Weijie Zheng, Tianbing Song, Zunhui Huang, Chunlei Yang, Liming Zhang, Wei Li, Huanming Xiong

Department of Chemistry and Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, Fudan University, Shanghai 200438, China

Multicolor-emissive carbon dots were made from single carbon sources by a recyclable template-assisted solid phase synthesis.

Chinese Chemical Letters 34 (2023) 107560



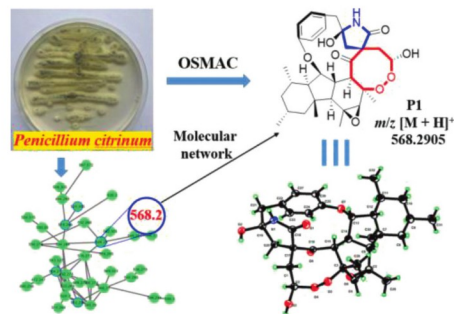
Perpyrrospirone A, an unprecedented hirsutellone peroxide from the marine-derived *Penicillium citrinum*

Yi Ding, Yu Jiang, Sunjie Xu, Xiujuan Xin, Faliang An

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

The first hirsutellone peroxide, perpyrrospirone A (**1**), characterized an unprecedented 6/5/6/8/5/13/6 oxahexacyclic scaffold with a unique peroxide-bridged 8,9-dioxo-2-azaspiro[4.7]dodecane core from marine-derived *Penicillium citrinum*.

Chinese Chemical Letters 34 (2023) 107562



Identification of 2-aminothiazoyl piperidine derivatives as a new class of adjuvants potentiating the activity of colistin against *Acinetobacter baumannii*

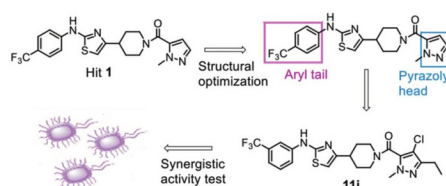
Yuce Chen^a, Zhen Li^b, Yu Yin^b, Ping Yang^b, Yijin Kong^a, Zhong Li^a, Daijie Chen^b, Xiaoyong Xu^a

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

^bSchool of Pharmacy, Shanghai JiaoTong University, Shanghai 200240, China

Based on the hit compound **1** with moderate synergistic activity on colistin, a series of novel 2-aminothiazoyl piperidine derivatives were designed and synthesized to explore more active lead. The synergistic activity, SAR, time-kill curves, ADMET analysis, membrane permeability experiments, comparative molecular similarity indices analysis (CoMSIA) and the density functional theory (DFT) calculations of title compounds were investigated.

Chinese Chemical Letters 34 (2023) 107948



Near infrared light-induced dynamic modulation of enzymatic activity through polyphenol-functionalized liquid metal nanodroplets

Chaojun Zhang^a, Yang Tang^a, Qin Wang^{a,b}, Yunxiang He^{a,c}, Xiaoling Wang^{a,c}, Sebastian Beyer^d, Junling Guo^{a,c,e,f}

^aBMI Center for Biomass Materials and Nanointerfaces, College of Biomass Science and Engineering, Sichuan University, Chengdu 610065, China

^bSchool of Pharmacy, Southwest Minzu University, Chengdu 610225, China

^cNational Engineering Research Center of Clean Technology in Leather Industry, Sichuan University, Chengdu 610065, China

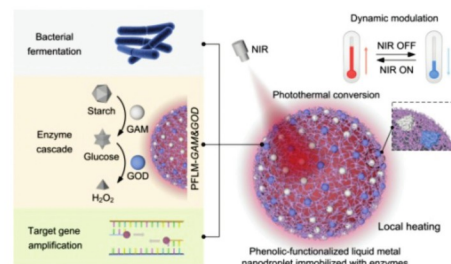
^dDepartment of Biomedical Engineering, Chinese University of Hong Kong, Hong Kong 999077, China

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

^fBioproducts Institute, Department of Chemical and Biological Engineering, University of British Columbia, Vancouver, BC V6T 1Z4, Canada

The phenolic-functionalized liquid metal nanodroplets (PFLM) are designed with immobilization of different enzymes (PFLM-E, including proteinase K, glucoamylase, glucose oxidase, and Bst DNA polymerase) for achieving dynamic manipulation of the enzymatic activity through local heating by NIR irradiation without affecting the bulk temperature, which holds the potential in industrial fermentation, bacteriostasis, and target gene amplification.

Chinese Chemical Letters 34 (2023) 107795



Supercapacitors as redox mediators for decoupled water splitting

Mingrui Guo^a, Jing Zhan^b, Zekun Wang^b, Xiaorui Wang^c, Zhang Dai^b, Ting Wang^b

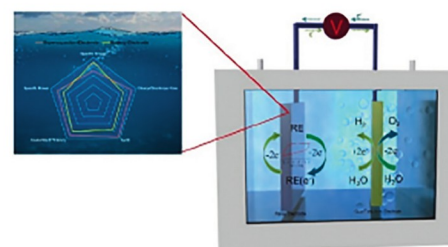
^aCollege of Chemistry and Chemical Engineering, Institute for Sustainable Energy and Resources, Qingdao University, Qingdao 266071, China

^bNational Engineering Research Center for Colloidal Materials, School of Chemistry and Chemical Engineering, Shandong University, Ji'nan 250100, China

^cShandong Shengtong Optical Materials Technology Co., Ltd., Dongying 257500, China

We propose to use supercapacitors as solid state redox mediators for decoupled water splitting to allow O₂ and H₂ to be produced at different times, at different rates. Na_{0.5}MnO₂ (pseudocapacitor) and active carbon (double layer capacitor), used as the supercapacitor based mediator show superior current density (1 A/cm²) and ultralong cycle-life (8000 cycles) compared with commonly investigated battery-based mediators (NiOOH/Ni(OH)₂).

Chinese Chemical Letters 34 (2023) 107790



Graphene oxide modified membrane for alleviated ammonia crossover and improved electricity generation in thermally regenerative batteries

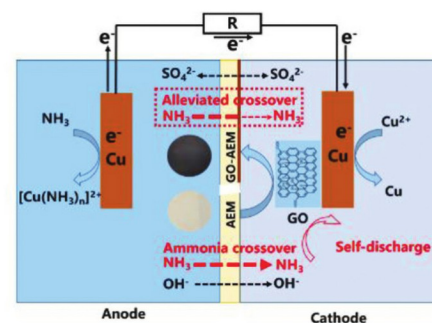
Yongsheng Zhang^{a,b}, Yu Shi^{a,b}, Liang Zhang^{a,b}, Jun Li^{a,b}, Qian Fu^{a,b}, Xun Zhu^{a,b}, Qiang Liao^{a,b}

^aKey Laboratory of Low-grade Energy Utilization Technologies and Systems, Chongqing University, Ministry of Education, Chongqing 400030, China

^bInstitute of Engineering Thermophysics, School of Energy and Power Engineering, Chongqing University, Chongqing 400030, China

A graphene oxide modified membrane was proposed to alleviate ammonia crossover in thermally regenerative batteries without compromising the battery performance.

Chinese Chemical Letters 34 (2023) 107704



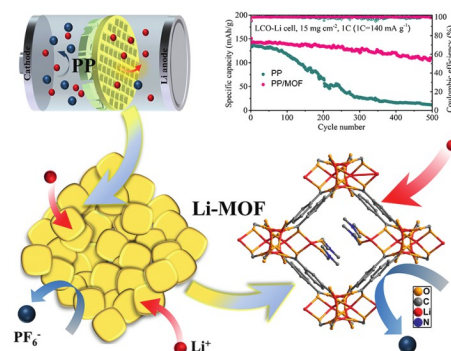
Li-MOF-based ions regulator enabling fast-charging and dendrite-free lithium metal anode

Xiang Han, Tiantian Wu, Lanhui Gu, Minfeng Chen, Jianzhong Song, Dan Tian, Jizhang Chen

College of Materials Science and Engineering, Co-Innovation Center of Efficient Processing and Utilization of Forest Resources, Nanjing Forestry University, Nanjing 210037, China

A multifunctional separator is designed with Li-MOF coating to regulate Li⁺ flux transportation and to form stable SEI. The well-defined intrinsic nanochannels in Li-MOF restrict the free migration of anions and enable a high Li⁺ transference number that further suppresses the dendritic nucleation process.

Chinese Chemical Letters 34 (2023) 107594



In situ crosslinking of polyoxometalate-polymer nanocomposites for robust high-temperature proton exchange membranes

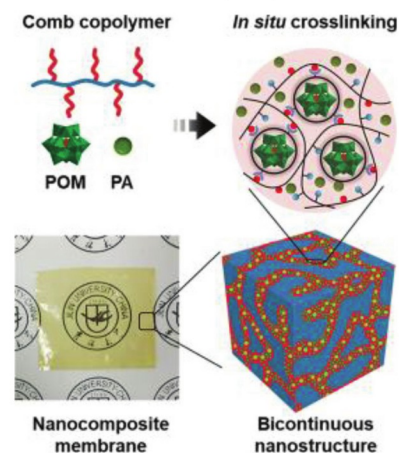
Gang Wang^a, Jialin Li^b, Haibin Li^a, Haibo He^a, Liang Zhai^a, Xiang Li^a, Tingting Li^a, Chengji Zhao^b, Lixin Wu^a, Haolong Li^{a,b}

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

^bKey Laboratory of High Performance Plastics, Ministry of Education, College of Chemistry, Jilin University, Changchun 130012, China

Bicontinuous proton exchange membranes were prepared based on the *in situ* electrostatic crosslinking of a polyoxometalate and a comb copolymer, which show both high anhydrous proton conductivity and high mechanical performance.

Chinese Chemical Letters 34 (2023) 107497



Synergistic chemical and electrochemical strategy for high-performance Zn//MnO₂ batteries

Mingming Han^a, Jingjing Yao^b, Jiwu Huang^a, Yan Tang^a, Xianwen Wu^c, Bingan Lu^d, Jiang Zhou^a

^aSchool of Materials Science & Engineering, Hunan Provincial Key Laboratory of Electronic Packaging and Advanced Functional Materials, Central South University, Changsha 410083, China

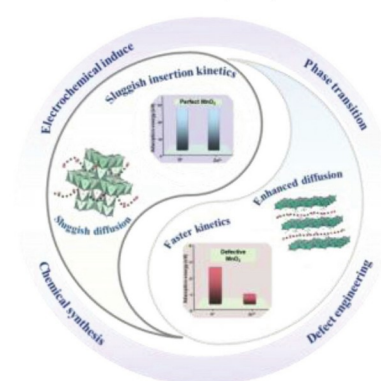
^bCentre for Environment and Water Resources, College of Chemistry and Chemical Engineering, Central South University, Changsha 410083, China

^cCollege of Chemistry and Chemical Engineering, Jishou University, Jishou 416000, China

^dSchool of Physics and Electronics, Hunan University, Changsha 410083, China

The synergistic strategy of chemical defects engineering and electrochemical induced structural evolution is proposed for improving ion/charge transfer kinetics and structural stability in aqueous Zn// λ -MnO₂ system

Chinese Chemical Letters 34 (2023) 107493



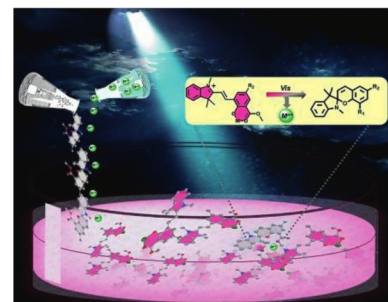
Visible light responsive spiropyran derivatives based on dynamic coordination bonds

Xiong Xiao, Wei Zheng, Yue Zhao, Cheng-Hui Li

State Key Laboratory of Coordination Chemistry, School of Chemistry and Chemical Engineering, Nanjing National Laboratory of Microstructures, Collaborative Innovation Center of Advanced Microstructures, Nanjing University, Nanjing 210023, China

A new type of visible light-responsive spiropyran has been developed through introducing both electron-donating substituents and dynamic coordination bonds.

Chinese Chemical Letters 34 (2023) 107457



Tetradentate cyclometalated platinum complex enables high-performance near-infrared electroluminescence with excellent device stability

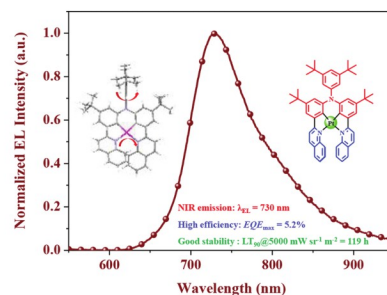
Chengjun Wu^a, Youming Zhang^{a,b}, Jingsheng Miao^a, Kai Li^a, Weiguo Zhu^b, Chuluo Yang^a

^aShenzhen Key Laboratory of New Information Display and Storage Materials, Guangdong Research Center for Interfacial Engineering of Functional Materials, College of Materials Science and Engineering, Shenzhen University, Shenzhen 518055, China

^bJiangsu Engineering Laboratory of Light-Electricity-Heat Energy-Converting Materials and Applications, Changzhou University, Changzhou 213164, China

A novel tetradentate cyclometalated platinum complex enables high-performance near-infrared electroluminescence with maximum external quantum efficiency of 5.2%, maximum radiance of 74626 mW sr⁻¹ m⁻² and LT90 of 119 h.

Chinese Chemical Letters 34 (2023) 107445



One-dimensional ZnSe@N-doped carbon nanofibers with simple electrospinning route for superior Na/K-ion storage

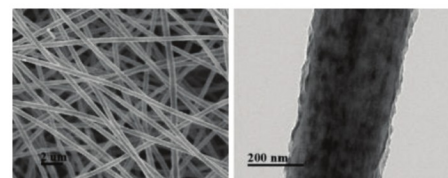
Di Huang^a, Daxiong Wu^b, Jixing Zhu^a, Jinyu Xie^a, Jipeng Wu^{a,b}, Jiaojiao Liang^a

^aHunan University of Technology, Zhuzhou 412008, China

^bSchool of Physics and Electronics, Hunan University, Changsha 410082, China

One-dimensional ZnSe@NC NFs have successfully synthesized by the ordinary electrospinning and annealing. The as-synthesized ZnSe@NC NFs material exhibits higher capacity and better rate capability in the cycling process as a novel anode material for Na/K-ion batteries than that of the ZnO@NC NFs material.

Chinese Chemical Letters 34 (2023) 107416



CO oxidation on MXene (Mo₂CS₂) supported single-atom catalyst: A termolecular Eley-Rideal mechanism

Shamraiz Hussain Talib^{a,b}, Zhansheng Lu^a, Beenish Bashir^c, Sajjad Hussain^d, Khalil Ahmad^e, Salahuddin Khan^f, Sajjad Haider^g, Zongxian Yang^a, Kersti Hermansson^h, Jun Li^{b,i}

^aSchool of Physics, Henan Normal University, Xinxiang 453007, China

^bDepartment of Chemistry and Key Laboratory of Organic Optoelectronics & Molecular Engineering of Ministry of Education, Tsinghua University, Beijing 100084, China

^cDepartment of Materials Science and Engineering, Southern University of Science and Technology, Shenzhen 518055, China

^dSchool of Chemistry, Minhaj University, Lahore 54000, Pakistan

^eDepartment of Chemistry, Mirpur University of Science and Technology (MUST), Mirpur, AJK 10250, Pakistan

^fCollege of Engineering, King Saud University, PO Box 800, Riyadh 11421, Saudi Arabia

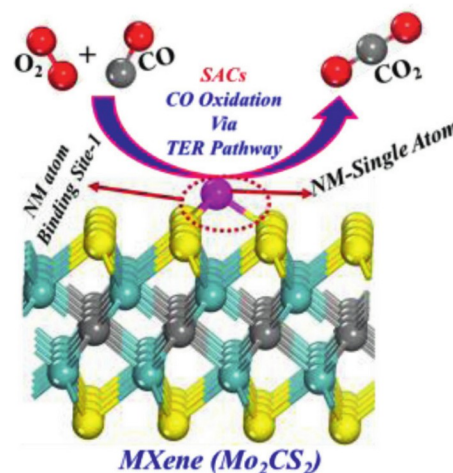
^gChemical Engineering Department, College of Engineering, King Saud University, PO Box 800, Riyadh 11421, Saudi Arabia

^hDepartment of Chemistry-Ångström, Uppsala University, Box 538, Uppsala 75121, Sweden

ⁱDepartment of Chemistry, Southern University of Science and Technology, Shenzhen 518055, China

Stable noble metal atom loaded on MXene surface (NM₁@Mo₂CS₂) as a single-atom catalyst (SAC) exhibits excellent catalytic performance via Termolecular Eley-Rideal Mechanism for CO oxidation with an activation energy barrier of 0.65 eV (Ru₁) and 0.59 eV (Ir₁).

Chinese Chemical Letters 34 (2023) 107412



Monolithic polyimine vitrimer/graphene aerogel composites

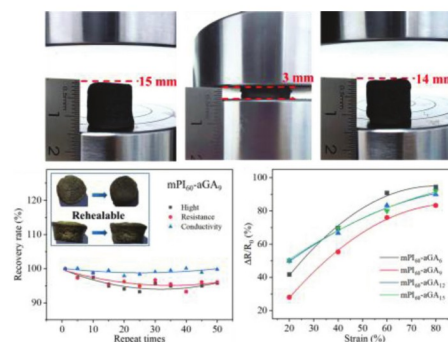
Jinye Zhang^a, Shichang Luo^a, Yunlong Ma^a, Ruiyang Li^a, Yinghua Jin^b, Li Qiu^a, Wei Zhang^b

^aYunnan Key Laboratory for Micro/Nano Materials & Technology, National Center for International Research on Photoelectric and Energy Materials, School of Materials and Energy, Yunnan University, Kunming 650091, China

^bDepartment of Chemistry, University of Colorado Boulder, Boulder, CO 80309, United States

Monolithic polyimine vitrimer/graphene aerogel (GA) composites (mPI-aGAs) have been prepared via simple infiltration of polyimine monomers into the pores of GA. The resulting mPI-aGAs showed durable compressibility, high compressive strength (up to 1.2 MPa), high conductivity (up to 79 S/m), excellent rehealability, as well as piezoresistive properties.

Chinese Chemical Letters 34 (2023) 107363



Bimetallic CoNiSe₂/C nanosphere anodes derived from Ni-Co-metal-organic framework precursor towards higher lithium storage capacity

Weifan Zhang^{a,c}, Lei Wang^{a,c}, Guochun Ding^{a,c}, Yuejia Yang^{a,c}, Guang Yang^{a,c}, Jing Xu^{a,c}, Ningning Xu^{a,c}, Lingling Xie^{b,c}, Qing Han^{a,c}, Limin Zhu^{a,c}, Xiaoyu Cao^{a,c}, Jianmin Ma^d

^aSchool of Chemistry and Chemical Engineering, Henan University of Technology, Zhengzhou 450001, China

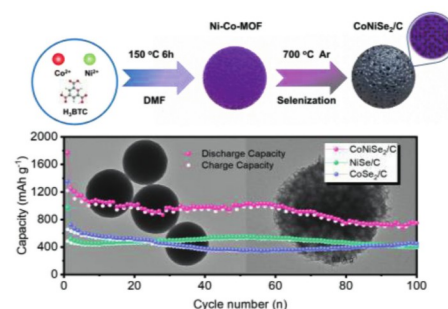
^bSchool of Environmental Engineering, Henan University of Technology, Zhengzhou 450001, China

^cKey Laboratory of High Specific Energy Materials for Electrochemical Power Sources of Zhengzhou City, Henan University of Technology, Zhengzhou 450001, China

^dSchool of Materials and Energy, University of Electronic Science and Technology of China, Chengdu 611731, China

We prepared Ni-Co-MOF, Ni-MOF and Co-MOF precursors with nano-sphere structure by a simple thermal method, and calcined in an argon atmosphere to obtain CoNiSe₂/C, NiSe/C and CoSe₂/C composite material. The three materials were subjected to a variety of physical property characterization and electrochemical analysis, and all demonstrated the superiority of CoNiSe₂/C as a negative electrode material for lithium-ion batteries. Moreover, this work provides great reference value for the application of MOFs-derived bimetallic selenides in the field of lithium-ion batteries.

Chinese Chemical Letters 34 (2023) 107328



A mechanistic study of selective propane dehydrogenations on MoS₂ supported single Fe atoms

Yingke Yang^a, Ruru Song^a, Xing Fan^a, Yunxia Liu^a, Ningning Kong^a, Haiping Lin^{a,b}, Youyong Li^{a,c}

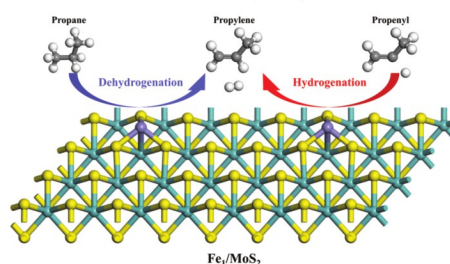
^aInstitute of Functional Nano & Soft Materials (FUNSOM), Jiangsu Key Laboratory for Carbon-Based Functional Materials & Devices, Soochow University, Suzhou 215123, China

^bSchool of Physics and Information Technology, Shaanxi Normal University, Xi'an 710119, China

^cMacao Institute of Materials Science and Engineering, Macau University of Science and Technology, Macau SAR 999078, China

Fe atoms may atomically disperse on MoS₂ (Fe₁/MoS₂) and serve as a promising single-atom catalyst for propane dehydrogenation. The catalytic selectivity is originated from the kinetic inhibition of propylene dehydrogenation resulting from fast propenyl hydrogenation.

Chinese Chemical Letters 34 (2023) 107257



An innovative rhein-matrine cocrystal: Synthesis, characterization, formation mechanism and pharmacokinetic study

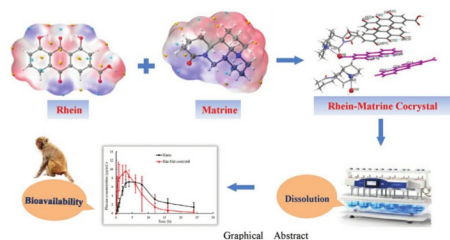
Hongjuan Wang^a, Dezhi Yang^a, Wen Zhang^b, Junke Song^b, Ningbo Gong^a, Mingchao Yu^a, Shiying Yang^a, Baoxi Zhang^a, Qiwen Liu^a, Guanhua Du^b, Yang Lu^a

^aBeijing Key Laboratory of Polymorphic Drugs, Center of Pharmaceutical Polymorphs, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China

^bBeijing Key Laboratory of Drug Targets Identification and Drug Screening, National Center for Pharmaceutical Screening, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China

An innovative rhein-matrine cocrystal with the improved solubility and oral bioavailability was prepared.

Chinese Chemical Letters 34 (2023) 107258



Highly active Fe₃₆Co₄₄ bimetallic nanoclusters catalysts for hydrolysis of ammonia borane: The first-principles study

Jinrong Huo^{a,c}, Haocong Wei^{a,c}, Ling Fu^d, Chenxu Zhao^{b,c}, Chaozheng He^{b,c}

^aSchool of Sciences, Xi'an Technological University, Xi'an 710021, China

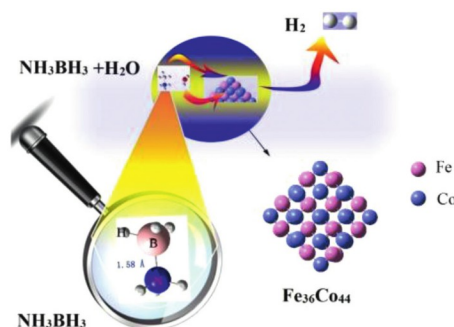
^bShaanxi Key Laboratory of Optoelectronic Functional Materials and Devices, School of Materials Science and Chemical Engineering, Xi'an Technological University, Xi'an 710021, China

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

^dCollege of Resources and Environmental Engineering, Tianshui Normal University, Tianshui 741001, China

The hydrolysis reaction of Ammonia borane (NH₃BH₃, AB) on Fe₃₆Co₄₄ bimetallic nanoclusters is investigated by the First-principles study. Activation of B-N, N-H and B-H bonds is involved in the catalytic process.

Chinese Chemical Letters 34 (2023) 107261



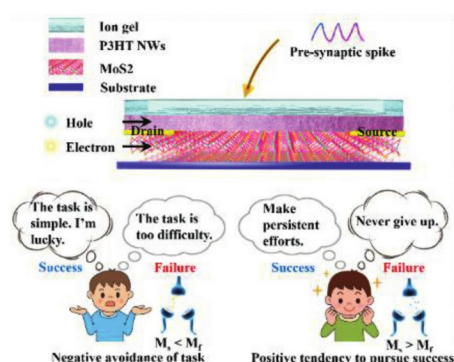
A hybrid ambipolar synaptic transistor emulating multiplexed neurotransmission for motivation control and experience-dependent learning

Zhipeng Xu, Yao Ni, Hong Han, Huanhuan Wei, Lu Liu, Shuo Zhang, Hao Huang, Wentao Xu

Institute of Optoelectronic Thin Film Devices and Technology, Key Laboratory of Optoelectronic Thin Film Devices and Technology of Tianjin, College of Electrical Information and Optical Engineering, National Institute for Advanced Materials, Nankai University, Tianjin 300350, China

A plasticity-switchable artificial synapse has been proposed to emulate the multiplexed transmission of different neurotransmitters by altering the charge carriers in parallel channels, and simulate the task-learning process of individuals with different motivations.

Chinese Chemical Letters 34 (2023) 107292



Benzothiophene and benzosulfone fused pyrazino[2,3-g]quinoxaline: Synthesis and semiconducting properties

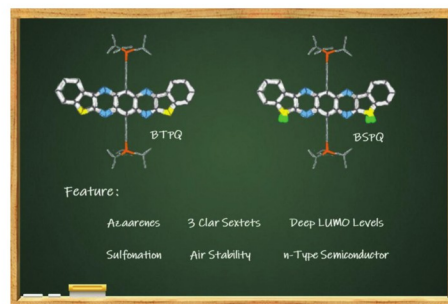
Fangwei Ding^a, Debin Xia^a, Xiping Ding^a, Ruibin Deng^a, Congwu Ge^b, Yulin Yang^a, Ruiqing Fan^a, Kaifeng Lin^a, Xike Gao^b

^aMIIT Key Laboratory of Critical Materials Technology for New Energy Conversion and Storage, School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin 150001, China

^bKey Laboratory of Synthetic and Self-Assembly Chemistry for Organic Functional Molecules, Shanghai Institute of Organic Chemistry Chinese Academy of Sciences, Shanghai 200032, China

Two novel air-stable n-type azaarenes with deep frontier orbital energy levels were prepared.

Chinese Chemical Letters 34 (2023) 107235



Ultrasensitive photochromism and impedance dual response to weak visible light by solvated Pb(II) modified polyoxomolybdate

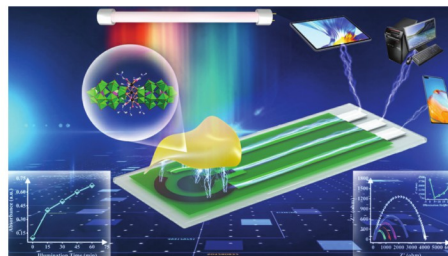
Jiayuan Zhang^{a,b}, Xinyu Wang^{a,b}, Gui Wang^a, Yi Feng^a, Chunhui Zhang^a, Tao Pang^b, Guanggang Gao^a, Linlin Fan^a, Hong Liu^a

^aSchool of Materials Science and Engineering, University of Jinan, Jinan 250022, China

^bCollege of Pharmacy, Jiamusi University, Jiamusi 154007, China

A novel structure-defined Pb²⁺ linked polyoxomolybdate complex of [(Pb(DMF)₄)₃(P₂Mo₁₈O₆₂)₂]_n (Pb₃Mo₁₈) has been successfully synthesized, which shows an ultrasensitive photochromic response to weak visible lights (5 W LED). Moreover, the electrochemical impedance signals of Pb₃Mo₁₈ coated on the screen printed chip electrode are also response to weak visible lights, confirming that Pb₃Mo₁₈ is an ultrasensitive dual response sensor to light signals and laying a foundation to extend the application of POMs in portable photo- and electro-chemical sensors.

Chinese Chemical Letters 34 (2023) 107231



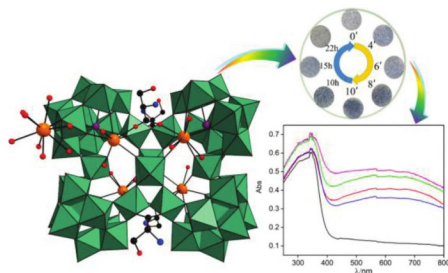
DL-Serine covalently modified multinuclear lanthanide-implanted arsenotungstates with fast photochromism

Kangting Zheng, Bingxue Niu, Cunmeng Lin, Yizhen Song, Pengtao Ma, Jingping Wang, Jingyang Niu

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

A series of rapid photochromic DL-serine covalently modified multinuclear lanthanide (Ln³⁺) implanted arsenotungstates K₂[(Ln(H₂O)₇)₂{As₄W₄₄O₁₃₇(OH)₁₈(H₂O)₂(DL-Ser)₂}{Ln₂(H₂O)₅(DL-Ser)₂}]·65H₂O (DL-Ser = DL-serine, Ln = La (1), Ce (2), Pr (3)) are obtained, in which the polyoxoanion is constituted of two {As₂W₁₉O₅₉(OH)₈(H₂O)₃}⁶⁻ subunits, joined together by a [W₆O₂₃(OH)₂(DL-Ser)₂]¹⁴⁻ fragment and two embedded [Ln₂(H₂O)₅(DL-Ser)]⁵⁺ groups.

Chinese Chemical Letters 34 (2023) 107238



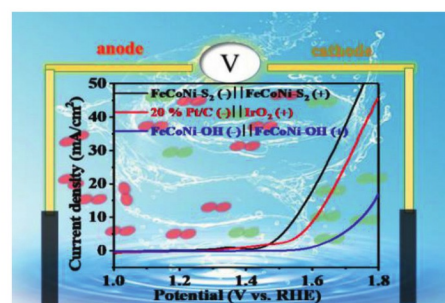
Amorphous FeCoNi-S as efficient bifunctional electrocatalysts for overall water splitting reaction

Runze He, Chunyan Wang, Ligang Feng

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

An amorphous FeCoNi-S was effective as a bifunctional catalyst for water splitting reaction with good activity and high stability.

Chinese Chemical Letters 34 (2023) 107241



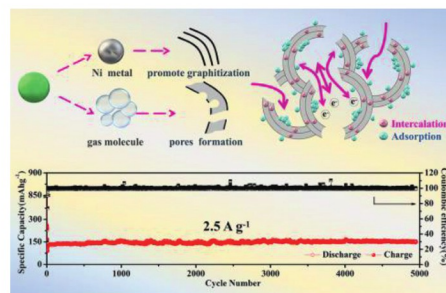
Interlayer and doping engineering in partially graphitic hollow carbon nanospheres for fast sodium and potassium storage

Dongfei Sun, Sen Lin, Dandan Yu, Zijuan Wang, Fangfang Deng, Xiaozhong Zhou, Guofu Ma, Ziqiang Lei

Key Laboratory of Eco-functional Polymer Materials of the Ministry of Education, Key Laboratory of Eco-environmental Polymer Materials of Gansu Province, College of Chemistry and Chemical Engineering, Northwest Normal University, Lanzhou 730070, China

N/S co-doped hollow carbon nanospheres were prepared by involving an *in situ* growth of polydopamine on nano-Ni(OH)₂ template with subsequent sulfur doping process. The as-prepared electrode with enlarged interlayer spacing and high content of pyridinic N/pyrrolic N facilitates the fast transport kinetics for high-performance sodium ion batteries and potassium ion batteries.

Chinese Chemical Letters 34 (2023) 107339



Porous 2D CuO nanosheets for efficient triethylamine detection at low temperature

Feng Wang^a, Haoran Zhong^a, Zhenlu Chen^a, Ding Wang^a, Zhuangchai Lai^b, Yonghui Deng^c, Xianying Wang^d

^aSchool of Materials and Chemistry, University of Shanghai for Science & Technology, Shanghai 200093, China

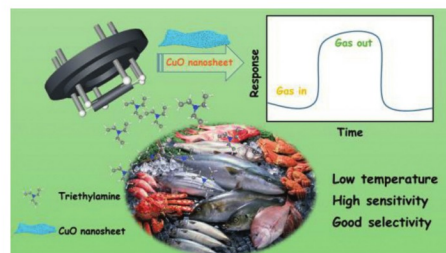
^bDepartment of Applied Physics, The Hong Kong Polytechnic University, Hong Kong, China

^cDepartment of Chemistry, Fudan University, Shanghai 200433, China

^dShanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China

The sensor based on porous 2D CuO nanosheet shows high selectivity, good selectivity and low detection limit for triethylamine gas detection at low temperature.

Chinese Chemical Letters 34 (2023) 107392



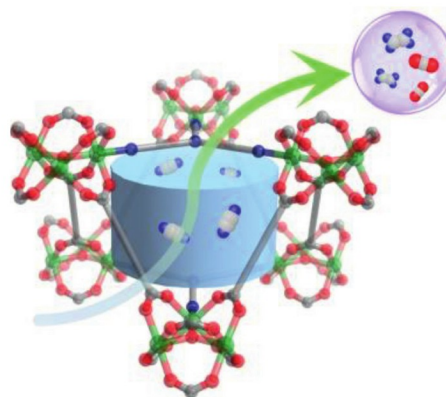
Fine-tuning of pore-space-partitioned metal-organic frameworks for efficient C₂H₂/C₂H₄ and C₂H₂/CO₂ separation

Xiaobing Mu, Yingying Xue, Mancheng Hu, Peng Zhang, Ying Wang, Haipeng Li, Shuni Li, Quanguo Zhai

Key Laboratory of Macromolecular Science of Shaanxi Province, Key Laboratory of Applied Surface and Colloid Chemistry, Ministry of Education, School of Chemistry & Chemical Engineering, Shaanxi Normal University, Xi'an 710062, China

New metal-organic frameworks rationally designed by the pore space partition strategy exhibit excellent C₂H₂/C₂H₄ and C₂H₂/CO₂ adsorption and separation performance promoted by suitable pore sizes and functionalized Lewis basic sites.

Chinese Chemical Letters 34 (2023) 107296



Two-dimensional porous Cu-CuO nanosheets: Integration of heterojunction and morphology engineering to achieve high-effective and stable reduction of the aromatic nitro-compounds

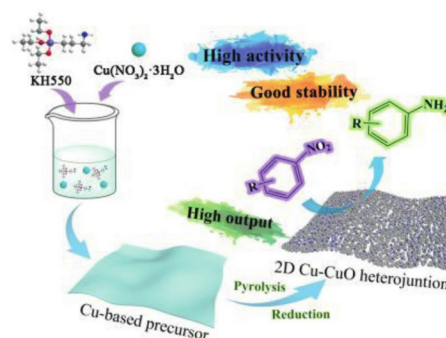
Xinran Dong^a, Zexu Fang^a, Ying Gu^a, Xiaoguang Zhou^a, Chungui Tian^b

^aCollege of Chemistry, Chemical Engineering and Resource Utilization, Northeast Forestry University, Harbin 150040, China

^bKey Laboratory of Functional Inorganic Material Chemistry, Ministry of Education of the People's Republic of China, Heilongjiang University, Harbin 150080, China

Two-dimensional porous Cu-CuO heterojunction nanosheets (2D Cu-CuO NS) were designed and synthesized with high yield based on 3-aminopropyl-triethoxysilane (KH550) aided synthetic strategy. Due to the 2D porous structure and the synergistic effect of Cu and CuO, the 2D Cu-CuO heterojunction showed excellent catalytic activity and stability for the reduction of the various aromatic nitro-compounds, being at the forefront of reported non-noble metal catalysts.

Chinese Chemical Letters 34 (2023) 107295



Single-bond-linked oligomeric donors for high performance organic solar cells

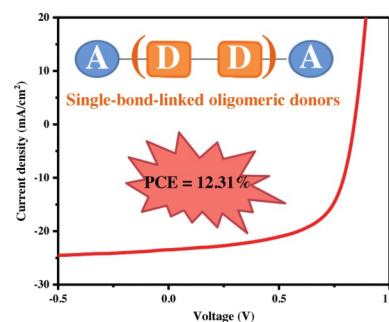
Min Lv^{a,b}, Yi Tang^{a,b}, Dingding Qiu^{a,b}, Wenjun Zou^a, Ruimin Zhou^{a,b}, Lixuan Liu^{a,b}, Ziyun Huang^{a,b}, Jianqi Zhang^a, Kun Lu^{a,b}, Zhixiang Wei^{a,b}

^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 100049, China

Two novel acceptor-donor-donor-acceptor (A-D-D-A) type oligomeric donors 2DTBDT and 2DTBDT-2T with a larger conjugated unit linked-DTBDT as the central donor were successfully designed and synthesized. The 2DTBDT-2T:Y6 blend films achieved a smoother surface, stronger crystallinity and more uniform phase separation morphology, which delivered higher and more balanced carrier mobilities, more efficient exciton dissociation and reduced biomolecular recombination, therefore obtaining better power conversion efficiencies of 12.31%.

Chinese Chemical Letters 34 (2023) 107321



Degradation of platinum electrocatalysts for methanol oxidation by lead contamination

Zihao Li^{a,b}, Xianggui Zhou^c, Subhash Singh^b, Xiaoming Wei^a, Chunlei Guo^b, Weishan Li^{b,c}

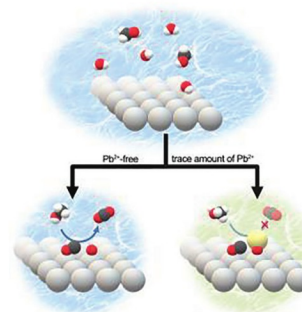
^a School of Physics and Optoelectronics, South China University of Technology, Guangzhou 510640, China

^b The Institute of Optics, University of Rochester, Rochester, New York 14627, United States

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

In this paper, an abnormal phenomenon that the electrocatalytic activity of Pt toward methanol oxidation is largely lost in a Pb-contaminated environment is reported as indicated by the significant decrease in methanol oxidation current with the presence of Pb^{2+} in the solution. The possible mechanism on the activity loss of Pt by Pb contamination is given and confirmed by simulations.

Chinese Chemical Letters 34 (2023) 107230



Nitrogen doped hollow carbon nanospheres as efficient polysulfide restricted layer on commercial separators for high-performance lithium-sulfur batteries

Yue Zhao^{a,b}, Zhi Gu^{b,c}, Wei Weng^{b,d}, Dan Zhou^e, Ziqiang Liu^{b,d}, Wentong Fan^b, Shungui Deng^b, Hao He^a, Xiayin Yao^{b,d}

^a Key Laboratory of Material Physics, Ministry of Education, School of Physics and Microelectronics, Zhengzhou University, Zhengzhou 450001, China

^b Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo 315201, China

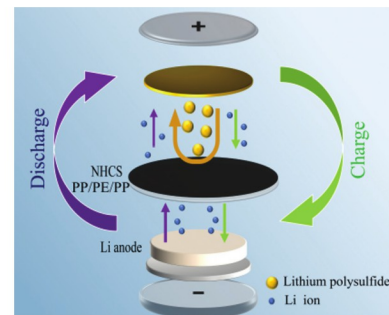
^c Department of Chemical and Environmental Engineering, Faculty of Science and Engineering, University of Nottingham, Ningbo 315100, China

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

^e Chongqing Key Laboratory of Extraordinary Bond Engineering and Advanced Materials Technology, College of Materials Science and Engineering, Yangtze Normal University, Chongqing 408100, China

Commercial polypropylene/polyethylene/polypropylene tri-layer separators modified by nitrogen doped hollow carbon nanospheres (PP/PE/PP@NHCS) exhibits efficient inhibition of lithium polysulfides shuttle due to the abundant nitrogen heteroatoms and unique hollow spherical morphology in NHCS, further promotes the utilization of active sulfur, and thus resulting in enhanced electrochemical performances of Li-S batteries.

Chinese Chemical Letters 34 (2023) 107232



Defect-rich and highly porous carbon nanosheets derived from Ti_3AlC_2 MAX with good lithium storage properties

Zhihao Zhu^{a,b}, Peng Liu^b, Yucheng Liu^b, Xingxing Gu^{c,d}, Zhi Su^a, Zhong Su^b, Chao Lai^b

^a College of Chemistry and Chemical Engineering, Xinjiang Normal University, Urumqi 830054, China

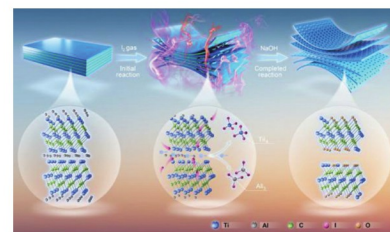
^b School of Chemistry and Materials Science, Jiangsu Normal University, Xuzhou 221116, China

^c Chongqing Key Laboratory of Catalysis and New Environmental Materials, College of Environment and Resources, Chongqing Technology and Business University, Chongqing 400067, China

^d National Research Base of Intelligent Manufacturing Service, Chongqing Technology and Business University, Chongqing 400067, China

An ultrathin two-dimensional carbon nanosheets (CNS) with rich defects and abundant pores was obtained via two-step etching the Ti_3AlC_2 under the help of I_2 and NaOH. Such ultra-thin CNS with high specific surface area provides promising potential applications in various fields.

Chinese Chemical Letters 34 (2023) 107228



Phase-field simulation tending to depict practical electrodeposition process in lithium-based batteries

Yajie Li^a, Liting Sha^a, Geng Zhang^b, Bin Chen^a, Wei Zhao^a, Yiping Wang^a, Siqi Shi^{a,c,d}

^aSchool of Materials Science and Engineering, Shanghai University, Shanghai 200444, China

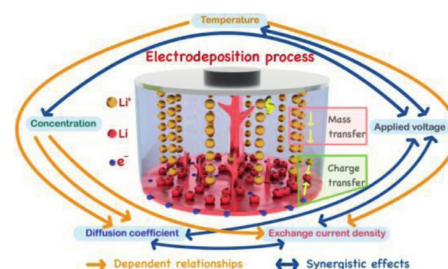
^bPhysical Science and Engineering Division, King Abdullah University of Science and Technology, Thuwal 23955-6900, Saudi Arabia

^cMaterials Genome Institute, Shanghai University, Shanghai 200444, China

^dZhijiang Laboratory, Hangzhou 311100, China

The dependent relationships among key factors (diffusion coefficient/exchange current density/electrolyte concentration/temperature) are included into the electrochemical phase-field model to capture their synergistic effects on electrodeposition morphologies.

Chinese Chemical Letters 34 (2023) 107993



Self-assembled nanostructures of a series of linear oligothiophene derivatives adsorbed on surfaces

Xuan Peng^{a,b}, Ting Meng^{a,b}, Lilei Wang^c, Linxiu Cheng^{a,b}, Wenchao Zhai^{a,b}, Ke Deng^a, Chang-Qi Ma^c, Qingdao Zeng^{a,b}

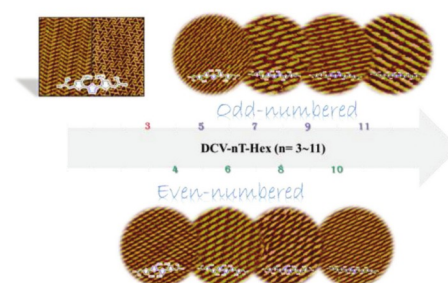
^aCAS Key Laboratory of Standardization and Measurement for Nanotechnology, CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology (NCNST), Beijing 100190, China

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

^cPrintable Electronics Research Center, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Suzhou 215123, China

The self-assembly behaviors of linear oligothiophene derivatives DCV-*n*T-Hex (*n* = 3~11) driven by hydrogen bond and van der Waals force were investigated by STM and DFT calculations, and the orientation of molecular alkyl chains was found to greatly affect the intermolecular interactions.

Chinese Chemical Letters 34 (2023) 107568



Integrated microalgae culture with food processing waste for wastewater remediation and enhanced biomass productivity

Angela Paul Peter^a, Kit Wayne Chew^b, Apurav Krishna Koyande^a, Heli Siti Halimatul Munawaroh^c, Amit Bhatnagar^d, Yang Tao^e, Chihe Sun^f, Fubao Sun^f, Zengling Ma^b, Pau Loke Show^{a,b,g}

^aDepartment of Chemical and Environmental Engineering, Faculty of Science and Engineering, University of Nottingham Malaysia, Jalan Broga, 43500 Semenyih, Selangor Darul Ehsan, Malaysia

^bZhejiang Provincial Key Laboratory for Subtropical Water Environment and Marine Biological Resources Protection, Wenzhou University, Wenzhou 325035, China

^cStudy Program of Chemistry, Department of Chemistry Education, Faculty of Mathematics and Science Education, Universitas Pendidikan Indonesia, Bandung 40154, Indonesia

^dDepartment of Separation Science, LUT School of Engineering Science, LUT University, Sammonkatu 12, FI 50130, Mikkeli, Finland

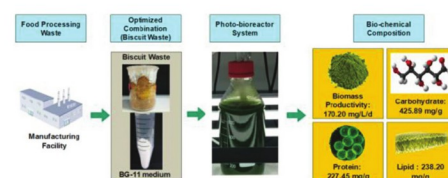
^eCollege of Food Science and Technology, Nanjing Agricultural University, Nanjing 210095, China

^fKey Laboratory of Industrial Biotechnology, Ministry of Education, School of Biotechnology, Jiangnan University, Wuxi 214122, China

^gDepartment of Sustainable Engineering, Saveetha School of Engineering, SIMATS, Chennai 602105, India

In comparison to the non-integrated medium, the mixture of biscuit waste as growth media offers the greatest microalgae production (146.63 mg L⁻¹ d⁻¹), lipid yield (238.20 mg/g), protein (227.45 mg/g), and carbohydrate concentration (314.01 mg/g).

Chinese Chemical Letters 34 (2023) 107721



Chinese Chemical Letters (中国化学快报)

Responsible Institution: China Association for Science and Technology
Sponsor: Chinese Chemical Society
Institute of Materia Medica, Chinese Academy of Medical Sciences
Editor-in-Chief: Xuhong Qian
Address: Institute of Materia Medica, Chinese Academy of Medical Sciences
1 Xian Nong Tan Street, Beijing 100050, China
Tel: 86-10-63165638
E-mail: cclbj@imm.ac.cn
Website: www.chinchemlett.com.cn
Online Submission: <https://www.editorialmanager.com/cclet/default2.aspx>
Publisher: Editorial Office of Chinese Chemical Letters
ELSEVIER B.V.
Beijing Kexin Printing Co., Ltd.
Printer: Beijing Kexin Printing Co., Ltd.
Date: 15 February 2023

国内发行: 全国各地邮局

邮发代号: 2-915

定价: 200元/本; 2400元/年

Available online at www.sciencedirect.com

ScienceDirect

ISSN 1001-8417

