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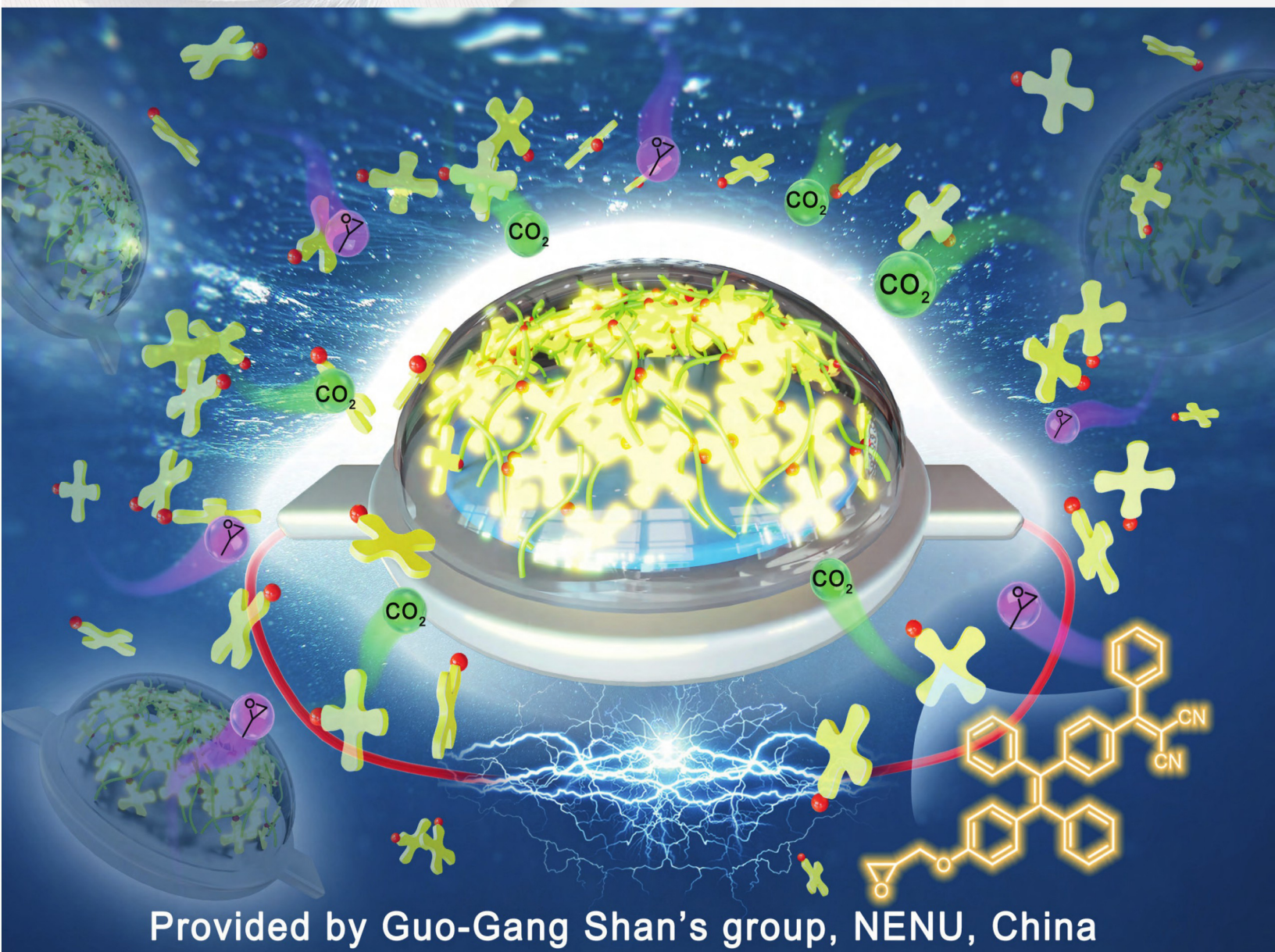
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REVIEW

Dejin Zang, Yongge Wei et al.
Polyoxometalates based compounds for green
synthesis of aldehydes and ketones

COMMUNICATION

Miao Wang, Lei Ren et al.
Superhydrophilic membrane with
photo-Fenton self-cleaning property
for effective microalgae anti-fouling

Chinese Chemical Society

万方数据

Institute of Materia Medica, Chinese Academy of Medical Sciences



Graphical Abstracts/Chin Chem Lett 34 (2023) 108729

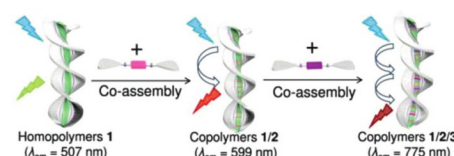
Editorials

Construction of a sequential light-harvesting system via supramolecular copolymerization

Hongwei Qian^a, Tangxin Xiao^a, Robert B.P. Elmes^b, Leyong Wang^c^a School of Petrochemical Engineering, Changzhou University, Changzhou 213164, China^b Department of Chemistry, Maynooth University, National University of Ireland, Maynooth, Co. Kildare, Ireland^c State Key Laboratory of Analytical Chemistry for Life Science, Jiangsu Key Laboratory of Advanced Organic Materials, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, China

By taking inspiration from green photosynthetic bacteria, Feng Wang and co-workers from University of Science and Technology of China have successfully constructed a sequential energy transfer system with high overall energy transfer efficiency through supramolecular copolymerization of three different σ -platinated (hetero)acenes. The reported fabrication strategy has the potential to greatly benefit future development of man-made photosynthesis systems.

Chinese Chemical Letters 34 (2023) 108185

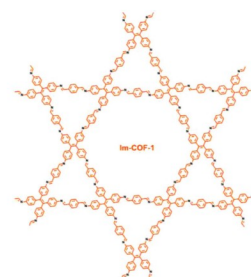


Linker-activated covalent organic frameworks with azo bridges

Wei-Lei Zhou^{a,b}, Yong Chen^b^a College of Chemistry and Material Science, Inner Mongolia Key Laboratory of Chemistry for Nature Products and Synthesis for Functional Molecules, Innovation Team of Optical Functional Molecular Devices, Inner Mongolia Minzu University, Tongliao 028000, China^b College of Chemistry, State Key Laboratory of Elemento-Organic Chemistry, Nankai University, Tianjin 300071, China

COFs with azo linkage was synthesized via *in situ* linker exchange method using the linker 1,4-dinitrobenzene to substitute the linker corresponding terephthalaldehyde in imine-linked COFs, which resulted in complete change of imine-linked COFs into azo-linked COFs. Simultaneously, the azo-linked COFs showed higher catalytic activity against RhB due to their narrower bandgap.

Chinese Chemical Letters 34 (2023) 108221



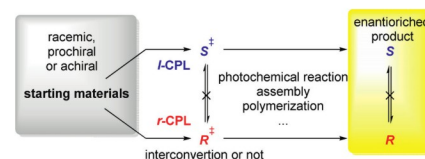
Reviews

Absolute asymmetric synthesis driven by circularly polarized Light

Chenlu He^{a,b}, Yan Li^a^a School of Pharmacy and Pharmaceutical Science and Institute of Materia Medica, Shandong First Medical University, Shandong Academy of Medical Sciences, NHC Key Laboratory of Biotechnology Drugs (Shandong Academy of Medical Sciences), Key Lab for Rare and Uncommon Diseases of Shandong Province, Ji'nan 250117, China^b Department of Chemistry, National University of Singapore (NUS), Singapore 117549, Singapore

CPL-triggered asymmetric photochemical reaction generates enantioenriched products, including organic molecule, helical polymer, supramolecular assemblies and inorganic nanostructures.

Chinese Chemical Letters 34 (2023) 108077



Catalytic asymmetric synthesis of 1,4-enynes

Han-Yu Lu^{a,b}, Zhi-Tao He^{a,c}

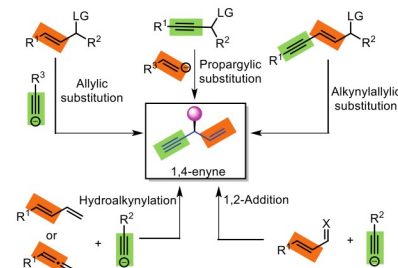
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^b School of Physical Science and Technology, ShanghaiTech University, Shanghai 201210, China

^c School of Chemistry and Materials Science, Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, Hangzhou 310024, China

This review summarized the synthetic strategies towards the enantioselective construction of 1,4-enynes bearing internal stereogenic centers.

Chinese Chemical Letters 34 (2023) 108105



Photoactive donor-acceptor conjugated macrocycles: New opportunities for supramolecular chemistry

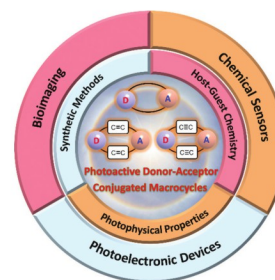
Shanyuan Zhong^a, Lingyun Zhu^a, Shuai Wu^a, Yuanming Li^a, Meijin Lin^{a,b}

^a Key Laboratory of Molecule Synthesis and Function Discovery, and Fujian Provincial Key Laboratory of Electrochemical Energy Storage Materials, College of Chemistry, Fuzhou University, Fuzhou 350116, China

^b College of Materials Science and Engineering, Fuzhou University, Fuzhou 350116, China

Donor-acceptor (D-A) conjugated macrocycles are an emerging class of photoactive molecules due to their unique D-A conjugated structural characteristics, tunable optical properties and versatile host-guest properties. This review provides a comprehensive summary of DACMs from synthesis, photophysical properties, host-guest chemistry to recent advances in potential applications of chemical sensors, bioimaging and photoelectronic devices.

Chinese Chemical Letters 34 (2023) 108124



Dentin-desensitizing biomaterials

Qihui Wang^{a,b}, Jiayi Luan^{b,c}, Zhilong Zhao^a, Weihui Kong^a, Congxiao Zhang^a, Jianxun Ding^b

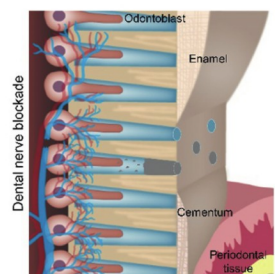
^a Department of Stomatology, the First Hospital of Jilin University, Changchun 130061, China

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

^c VIP Integrated Department, Jilin Provincial Key Laboratory of Tooth Development and Bone Remodeling, School and Hospital of Stomatology, Jilin University, Changchun 130021, China

This review discusses various biomaterials for dentin hypersensitivity therapy based on different desensitization mechanisms, including dentinal tubule closure and dental nerve blockade, and presents a perspective on their development and potential clinical applications.

Chinese Chemical Letters 34 (2023) 108060



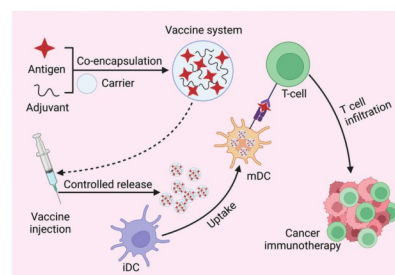
Nanovaccines for cancer immunotherapy: Current knowledge and future perspectives

Yiming Wu, Zhe Zhang, Yuquan Wei, Zhiyong Qian, Xiawei Wei

Laboratory of Aging Research and Cancer Drug Target, State Key Laboratory of Biotherapy and Cancer Center, National Clinical Research Center for Geriatrics, West China Hospital, Sichuan University, Chengdu 610041, China

In this review, we systematically introduced the characteristics of nanovaccines and highlighted the different types of nanomaterials used for cancer vaccine design. In addition, the opportunities and challenges of the emerging nanotechnology-based cancer vaccines were discussed.

Chinese Chemical Letters 34 (2023) 108098



Piperazine: Its role in the discovery of pesticides

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^a National Key Laboratory of Green Pesticide, Key Laboratory of Green Pesticide and Agricultural Bioengineering, Ministry of Education, Guizhou University, Guiyang 550025, China

^b Division of Chemistry & Biological Chemistry, School of Physical & Mathematical Sciences, Nanyang Technological University, Singapore 637371, Singapore

Piperazine is widely used in discovery of pesticides. We herein summarized the progress of piperazine-containing pesticides. Finally, some guidance for the future development of piperazine-containing pesticides is given.

Chinese Chemical Letters 34 (2023) 108123



Latest progress on fully non-fused electron acceptors for high-performance organic solar cells

Jianhong Gao^a, Xiaodong Zhu^a, Hanyi Bao^a, Jibao Feng^a, Xiang Gao^a, Zhitian Liu^a, Ziyi Ge^{b,c}

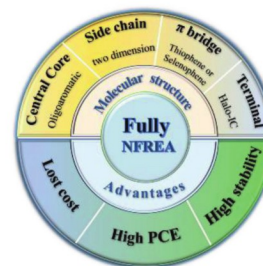
^aHubei Engineering Technology Research Center of Optoelectronic and New Energy Materials, Hubei Key Laboratory of Plasma Chemistry and Advanced Materials, School of Materials Science and Engineering, Wuhan Institute of Technology, Wuhan 430205, China

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

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

This minireview gives an insight into the development of fully non-fused electron acceptors (NFREAs)-based materials for constructing an efficiency-cost-stability balance in organic solar cells. Different fully NFREA materials with PCE exceeding 10% are summarized, the understanding of the structure-performance relationship is concluded, and the potential ways to further improve the photovoltaic performance are disclosed.

Chinese Chemical Letters 34 (2023) 107968



MXene fibers for electronic textiles: Progress and perspectives

Jianmin Li^a, Chaoyang Miao^a, Jing Bian^a, Shayan Seyedin^b, Ke Li^c

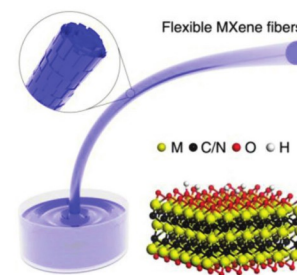
^aCollege of Electronic and Optical Engineering & College of Flexible Electronics (Future Technology), Nanjing University of Posts and Telecommunications, Nanjing 210023, China

^bSchool of Engineering, Newcastle University, Newcastle upon Tyne NE1 7RU, United Kingdom

^cCentre for Research on Adaptive Nanostructures and Nanodevices (CRANN) & Advanced Materials and BioEngineering Research (AMBER) Centre, School of Chemistry, Trinity College Dublin, Dublin, Dublin 2, Ireland

The recent progress and future challenges in the development of neat MXene fibers enabled by the distinctive liquid crystal property in MXene dispersions are discussed to shed light on the main trends for fabrication and short-term and long-term applications of MXenes fibers.

Chinese Chemical Letters 34 (2023) 107996



Polyoxometalates based compounds for green synthesis of aldehydes and ketones

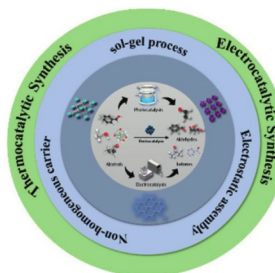
Kejie Qin^a, Dejin Zang^a, Yongge Wei^b

^aSchool of Pharmacy and Pharmaceutical Sciences & Institute of Materia Medica, Shandong First Medical University & Shandong Academy of Medical Sciences, NHC Key Laboratory of biotechnology drugs (Shandong Academy of Medical Sciences), Key Lab for Rare & Uncommon Diseases of Shandong Province, Ji'nan 250117, China

^bKey Lab of Organic Optoelectronics & Molecular Engineering of Ministry of Education, Department of Chemistry, Tsinghua University, Beijing 100084, China

Polyoxometalates (POMs) based compounds are ideal catalysts toward alcohol oxidation catalytic reaction with high atom economy producing water as the only byproduct which is of great significance upon scientific research and economy. In this review, the recent advances in the research domain and related perspectives are discussed.

Chinese Chemical Letters 34 (2023) 107999



Recent status and advanced progress of tip effect induced by micro-nanostructure

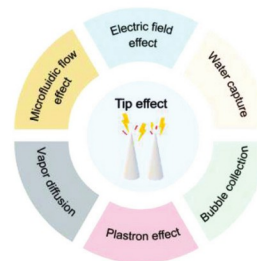
Jingwen Li^a, Junan Pan^a, Weinan Yin^a, Yuntao Cai^a, Hao Huang^a, Yuhao He^a, Gu Gong^a, Ye Yuan^a, Chengpeng Fan^a, Qingfeng Zhang^b, Longlu Wang^a

^aCollege of Electronic and Optical Engineering & College of Flexible Electronics (Future Technology), Nanjing University of Posts & Telecommunications (NJUPT), Nanjing 210023, China

^bSchool of Materials Science and Engineering, Xiangtan University, Xiangtan 411105, China

This review aims to provide a comprehensive and systematic summary of the latest advances in the application of the tip effect induced by micro-nanostructure, and summarize the recent applications of tip effect in the fields of catalysis, water capture, bubble collection, plastron effect and vapor diffusion.

Chinese Chemical Letters 34 (2023) 108049



Review on electrochemical carbon dioxide capture and transformation with bipolar membranes

Jinyun Xu^a, Guoqiang Zhong^a, Minjing Li^a, Di Zhao^a, Yu Sun^a, Xudong Hu^b, Jiefang Sun^c, Xiaoyun Li^d, Wenju Zhu^a, Ming Li^a, Ziqi Zhang^a, Yu Zhang^a, Liping Zhao^a, Chunming Zheng^a, Xiaohong Sun^b

^aSchool of Chemical Engineering, Tianjin Key Laboratory of Green Chemical Technology and Process Engineering, State Key Laboratory of Separation Membrane and Membrane Processes, Tiangong University, Tianjin 300387, China

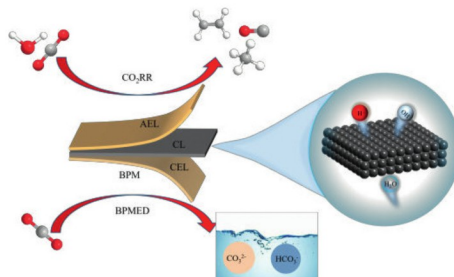
^bSchool of Materials Science and Engineering, Key Laboratory of Advanced Ceramics and Machining Technology, Ministry of Education, Tianjin University, Tianjin 300072, China

^cBeijing Key Laboratory of Diagnostic and Traceability Technologies for Food poisoning, Beijing Center for Disease Prevention and Control, Beijing 100013, China

^dAdvanced Materials Research Laboratory, CNOOC Tianjin Chemical Research and Design Institute, Tianjin 300131, China

This review focuses on the latest theoretical developments and practical applications of electrochemical CO₂ capture and transformation based on the bipolar membranes (BPMs). The challenges and opportunities are also summarized to present the new ideas for future devices and technologies of electrochemical CO₂ usage.

Chinese Chemical Letters 34 (2023) 108075



Preparation and characterization of M₁-N_x-C_y based single atom catalysts for environmental applications

Xinjiang Hu^{a,b}, Daixi Zhou^a, Hui Wang^a, Wenlong Zhang^{b,c}, Haoxiang Zhong^a, Yongsheng Chen^b

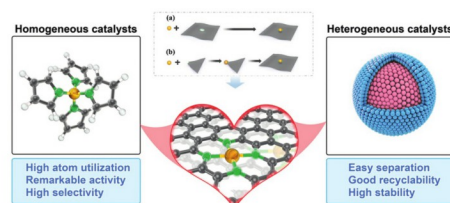
^aCollege of Environmental Science and Engineering, Central South University of Forestry and Technology, Changsha 410004, China

^bSchool of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA 30332, United States

^cGeorgia Tech Shenzhen Institute, Tianjin University, Shenzhen 518067, China

M₁-N_x-C_y based SACs and their environmental applications were summarized and discussed in this article. Synthesis procedures, characterization methods of M₁-N_x-C_y based SACs were also reviewed.

Chinese Chemical Letters 34 (2023) 108050



Stability and regeneration of metal catalytic sites with different sizes in Fenton-like system

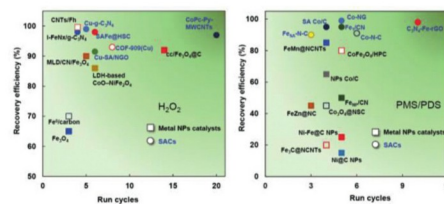
Yanan Shang^a, Yujiao Kan^a, Xing Xu^b

^aSchool of Safety and Environmental Engineering, Shandong University of Science and Technology, Qingdao 266590, China

^bSchool of Environmental Science and Engineering, Shandong University, Qingdao 266237, China

Stability and regeneration of metal catalytic sites with different sizes showed certain difference in Fenton-like catalytic system.

Chinese Chemical Letters 34 (2023) 108278



Communications

Overriding the inherent alkalinity to dual phosphinito bimetallic catalyst for C(sp²)-C(sp³) formation: A combined computational and experimental study

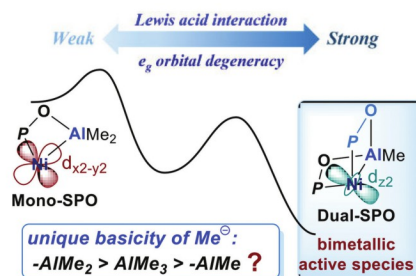
Sujuan Zheng^a, Heng Zhang^a, Qian Peng^{a,b}

^aState Key Laboratory of Elemento-Organic Chemistry, Tianjin Key Laboratory of Biosensing and Molecular Recognition, Frontiers Science Center for New Organic Matter, College of Chemistry, Nankai University, Tianjin 300071, China

^bHaihe Laboratory of Sustainable Chemical Transformation, Tianjin 300192, China

A dual-phosphinito bridged hetero-bimetallic species was discovered theoretically and further verified by NMR experiments, and the tandem redox dehydrogenation mechanism was revealed to control the formation of this active species overriding the inherent basicity. The quantum chemical computations indicate only dual-phosphinito Ni-Al model can be an active catalyst in catalyzed asymmetric cycloadditions via C-C activation and C-H activation that can well rationalize the experimental observations for both reactivity and stereo-selectivity.

Chinese Chemical Letters 34 (2023) 108067



Continuous-flow synthesis and crystal modification of Pigment Red 53

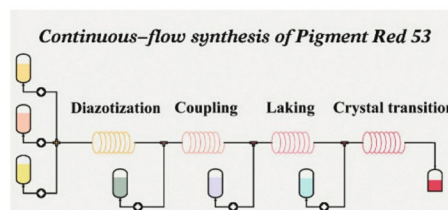
Yuxin Mao^a, Changlu Zhou^a, Chaoying Wang^a, Zhong Xin^{a,b}

^aShanghai Key Laboratory of Multiphase Materials Chemical Engineering, School of Chemical Engineering, East China University of Science and Technology, Shanghai 200237, China

^bState Key Laboratory of Chemical Engineering, School of Chemical Engineering, East China University of Science and Technology, Shanghai 200237, China

A continuous-flow procedure containing four steps (diazotization-coupling-laking-crystal transition) was developed to synthesize azo lake pigments. This process increases the production efficiency and improve the quality of azo lake pigment products in purity and particle size.

Chinese Chemical Letters 34 (2023) 108061



Protonic recognition and assembly for the creation of porous Brønsted acid catalysts with enhanced catalytic efficiency

Liping Huang^{a,c}, Mingyun Liang^a, Yajun Fang^a, Jehan Kim^d, Yuntian Yang^a, Zhegang Huang^{a,b}

^aPCFM, LIFM Lab, School of Chemistry, Sun Yat-sen University, Guangzhou 510275, China

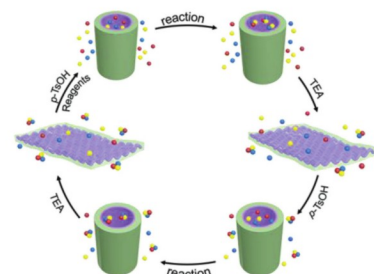
^bGuangdong Provincial Key Laboratory of Optical Chemicals, Xinhua Group, Maoming 525000, China

^cShenzhen Grubbs Institute, Department of Chemistry, Southern University of Science and Technology, Shenzhen 518055, China

^dPohang Accelerator Laboratory, Postech, Pohang, Gyeongbuk, Korea

Self-assembled tubular Brønsted acid catalysts with unique protonic recognition exhibit excellent catalytic performance and remarkable chemical stability towards acid catalysis, which can be regenerated by dynamic assembly with remained catalytic capacity. Thus, large-scale synthesis can be achieved through increasing conversion times.

Chinese Chemical Letters 34 (2023) 108080



Construction and application of the polyelectrolyte-based sequential artificial light-harvesting system

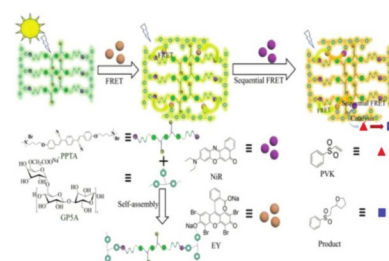
Chaoqun Ma^a, Ning Han^b, Ying Wang^a, Hui Liu^a, Rongzhou Wang^a, Shengsheng Yu^a, Yuebo Wang^a, Lingbao Xing^a

^aSchool of Chemistry and Chemical Engineering, Shandong University of Technology, Zibo 255000, China

^bDepartment of Materials Engineering, KU Leuven, Leuven 3001, Belgium

We have constructed an artificial light-harvesting system with a two-step sequential energy transfer process by using the polyelectrolyte materials, which can be used as a photocatalysis nanoreactor.

Chinese Chemical Letters 34 (2023) 108081



Novel conductive metallo-supramolecular polymer AIE gel for multi-channel highly sensitive detection of hydrazine hydrate

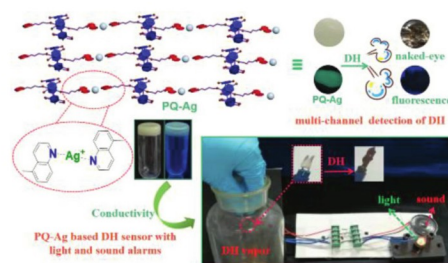
Yu Jia^a, Wen-Li Guan^a, Juan Liu^b, Jian-Peng Hu^a, Bingbing Shi^a, Hong Yao^a, You-Ming Zhang^a, Tai-Bao Wei^a, Qi Lin^a

^aKey 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

^bCollege of Chemical Engineering, Key Laboratory for Utility of Environment Friendly Composite Materials and Biomass in University of Gansu Province, Northwest Minzu University (Northwest University for Nationalities), Lanzhou 730070, China

A conductive metallo-supramolecular polymer AIE gel (PQ-Ag) has been constructed by the coordination of bis-5 hydroxyquinoline modified pillar[5]arene with Ag⁺. The PQ-Ag could multi-channel sensitively detect hydrazine hydrate (DH) through naked-eye, fluorescence, and electrochemical methods. An electronic device based on the PQ-Ag for DH detection has been prepared.

Chinese Chemical Letters 34 (2023) 108082



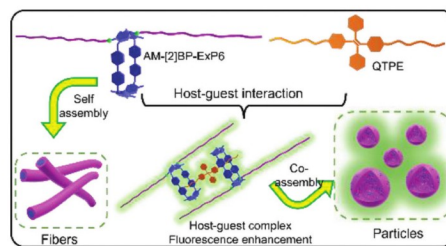
An amphiphilic [2]biphenyl-extended pillar[6]arene: Synthesis, controllable self-assembly in water and application in cell-imaging

Tingting Chen, Jian Wang, Ruowen Tang, Yuying Huang, Qin Zhao, Yong Yao

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

The first amphiphilic [2]biphenyl-extended pillar[6]arene was designed and synthesized successfully, which showed controllable self-assembly property in water and can be further applied in living cell imaging.

Chinese Chemical Letters 34 (2023) 108088



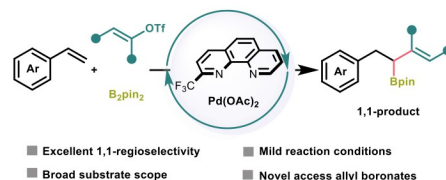
1,1-Regioselective alkenylboration of styrenes enabled by palladium catalysis

Dong Wu, Hailiang Pang, Guoyin Yin

The Institute for Advanced Studies, Wuhan University, Wuhan 430072, China

We report a palladium-catalyzed, highly 1,1-regioselective alkenylboration of styrenes by using alkenyl triflates and a diboron reagent as the coupling partners. This study provides a rapid protocol to access allyl boronates and this method merits broad substrate scope and good chemoselectivity.

Chinese Chemical Letters 34 (2023) 108087



Self-assembly of phosphorylated peptide driven by Dy³⁺

Hang Yang^{a,b}, Yuting Xiong^a, Minmin Li^a, Zhiying Yang^{a,c}, Peiran Meng^a, Guangyan Qing^a

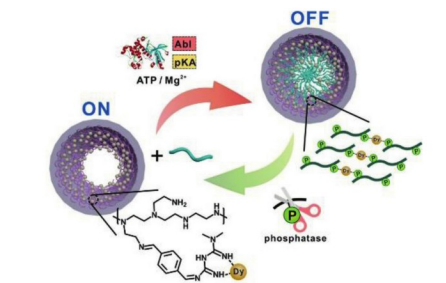
^aCAS Key Laboratory of Separation Science for Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

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

^cZhang Dayu School of Chemistry, Dalian University of Technology, Dalian 116024, China

A supramolecular assembly of phosphorylated peptides (PPs) with the assistance of dysprosium ions (Dy³⁺) is reported. The assembly was found inside nanochannels, leading to prominent "ON-OFF" switching in pore conductivity. The PPs' assembling process could be dynamically regulated by the addition or deletion of phosphate groups under the control of kinases or phosphatases.

Chinese Chemical Letters 34 (2023) 108106



Photoisomerization, assembling and fluorescence photoswitching behaviors of a water-soluble stiff-stilbene with cucurbit[7]uril

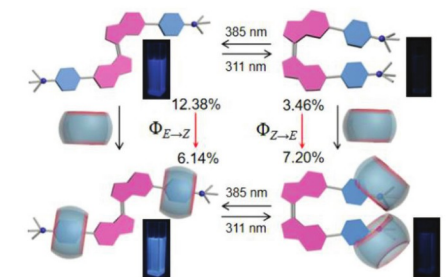
Liangru Yang^a, Yixin Li^a, Haifan Zhang^a, Changming Tian^b, Qiaohong Cao^a, Yongmei Xiao^a, Libo Yuan^a, Guoxing Liu^{a,b}

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

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

A water-soluble stiff-stilbene molecular photoswitch, which exhibited good photoisomerization behaviors, can assemble with cucurbit[7]uril to form a tunable fluorescence supramolecular assembly and meanwhile, the photoswitch can further selectively modulate G-quadruplex structure of Tel22 upon light irradiation or with addition of CB[7].

Chinese Chemical Letters 34 (2023) 108108



Preparation of novel magnetic noble metals supramolecular composite for the reduction of organic dyes and nitro aromatics

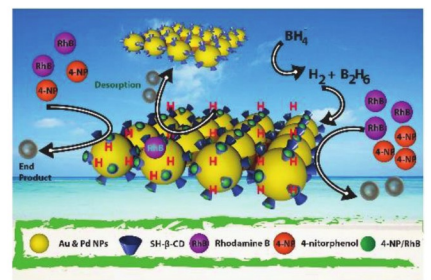
Aadil Nabi Chishti^a, Zhiyuan Ma^a, Junjie Zha^a, Muhammad Ahmad^{a,b}, Peisen Wang^a, Jagadis Gautam^a, Ming Chen^a, Lubin Ni^a, Guowang Diao^a

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

^bCollege of Environmental Science and Engineering, Yangzhou University, Yangzhou 225002, China

The synthesized Fe₃O₄@SiO₂-Au-Pd@SH-β-CD nanocomposite served as an efficient catalyst for the reduction of Rhodamine B and 4-nitrophenol in an aqueous solution. The resulting nanocomposite demonstrated notable catalytic performances with excellent cycling stability, reusability and magnetic separability.

Chinese Chemical Letters 34 (2023) 108122



Effect of spatial configuration on adhesion of 1,2-disubstituted cyclohexane derivatives

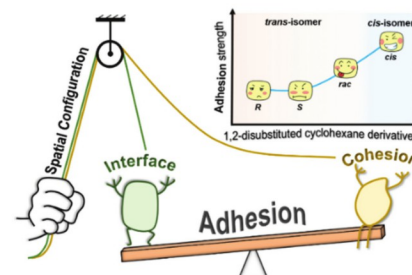
Qiao Zhang^a, Yuhang Yin^b, Jingfu Song^b, Gai Zhao^b, Shengyi Dong^a

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

^b State Key Laboratory of Mechanics and Control of Mechanical Structures, Nanjing University of Aeronautics and Astronautics, Nanjing 210016, China

Spatial configurations of 1,2-disubstituted cyclohexane derivatives showed great influences on the supramolecular assembly and adhesion.

Chinese Chemical Letters 34 (2023) 108126



Antimony salt-promoted cyclization facilitating on-DNA syntheses of dihydroquinazolinone derivatives and its applications

Qigui Nie^a, Jie Sun^a, Xianfu Fang^a, Xun He^b, Feng Xiong^b, Gong Zhang^{a,c}, Yangfeng Li^{a,c}, Yizhou Li^{a,c,d,e}

^a Chongqing Key Laboratory of Natural Product Synthesis and Drug Research, Innovative Drug Research Center, School of Pharmaceutical Sciences, Chongqing University, Chongqing 401331, China

^b Shenzhen Innovation Center for Small Molecule Drug Discovery Co., Ltd., Shenzhen 518110, China

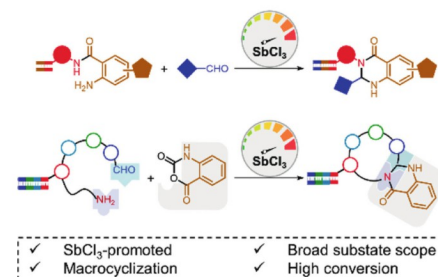
^c Chemical Biology Research Center, School of Pharmaceutical Sciences, Chongqing University, Chongqing 401331, China

^d Key Laboratory of Biorheological Science and Technology, Ministry of Education, College of Bioengineering, Chongqing University, Chongqing 400044, China

^e Beijing National Laboratory for Molecular Sciences, Beijing 100190, China

We report a facile method to synthesis on-DNA dihydroquinazolinone from aldehyde and anthranilamide. We further applied the reaction to DNA-compatible macrocyclization, obtaining macrocycles embedded dihydroquinazolinone scaffold in synthetically useful conversion yields.

Chinese Chemical Letters 34 (2023) 108132



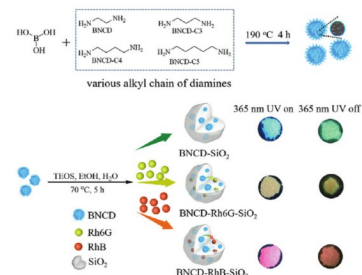
Spatial effect and resonance energy transfer for the construction of carbon dots composites with long-lived multicolor afterglow for advanced anticounterfeiting

Qian Cheng, Zhiyuan Chen, Lai Hu, Yuwei Song, Senqiang Zhu, Rui Liu, Hongjun Zhu

School of Chemistry and Molecular Engineering, Nanjing Tech University, Nanjing 211816, China

Based on spatial effect and resonance energy transfer, long-lived multicolor afterglow carbon dots composites were prepared. These composites were used for time-resolved and multiple-color advanced anticounterfeiting.

Chinese Chemical Letters 34 (2023) 108070



Novel thieno[2,3-*b*]quinoline-procaine hybrid molecules: A new class of allosteric SHP-1 activators evolved from PTP1B inhibitors

Lei Xu^{a,b,c}, Xuyang Mu^{a,d}, Minmin Liu^{a,b}, Zhijia Wang^{a,b}, Chao Shen^e, Qianwen Mu^b, Bo Feng^b, Yechun Xu^b, Tingjun Hou^e, Lixin Gao^{a,b}, Haini Jiang^c, Jia Li^{b,c,f}, Yubo Zhou^{b,c}, Wenlong Wang^{a,b,d}

^a School of Life Sciences and Health Engineering, Jiangnan University, Wuxi 214122, China

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

^c Zhongshan Institute for Drug Discovery, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Zhongshan 528400, China

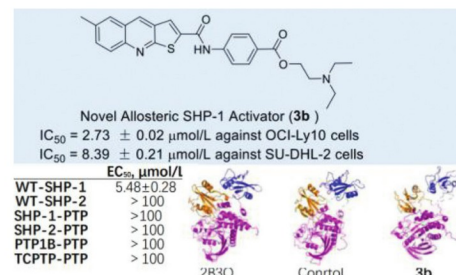
^d School of Chemical and Material Engineering, Jiangnan University, Wuxi 214122, China

^e Innovation Institute for Artificial Intelligence in Medicine, College of Pharmaceutical Sciences, Zhejiang University, Hangzhou 310058, China

^f School of Life Science and Technology, ShanghaiTech University, Shanghai 201210, China

A new class of thieno[2,3-*b*]quinoline-procaine hybrid molecules was identified as the allosterical SHP-1 activators from the focused in-house PTP inhibitors library, among which the representative compound **3b** interacted with SHP-1 confirmed by biochemical and biophysical assays, showing *in vivo* anti-DLBCL efficacy.

Chinese Chemical Letters 34 (2023) 108063



Build in seconds: Small-molecule hydrogels of self-assembled tryptophan derivatives

Xianwen Song^a, Jun Zheng^a, Shunmei He^a, Yilin Liu^b, Shutong Yang^a, Qiang Li^a, Chuntao Liu^c, Zequn Zhang^d, Xi Liu^d, Chunyan Deng^a, Yi Zhang^a

^aHunan Provincial Key Laboratory of Micro & Nano Materials Interface Science, College of Chemistry and Chemical Engineering, Central South University, Changsha 410083, China

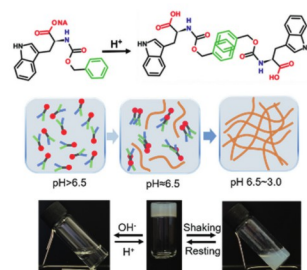
^bBeijing National Laboratory for Molecular Sciences (BNLMS), CAS Key Lab of Colloid, Interface and Chemical Thermodynamics Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

^cKey Laboratory of Materials Processing and Mold (Zhengzhou University), Ministry of Education, Zhengzhou 450002, China

^dDepartment of Gastrointestinal Surgery, The Third Xiangya Hospital of Central South University, Changsha 410013, China

By adjusting the pH to induce non-covalent interactions between molecules, small-molecule tryptophan derivatives can rapidly form a self-assembled hydrogel with reversible stimulus response within seconds.

Chinese Chemical Letters 34 (2023) 108069



Design, synthesis and bioassay of the emerging photo-responsive fungicides

Wen Fu^a, Xinyue Hu^a, Qinglong Yuan^a, Zhiping Xu^a, Jiagao Cheng^a, Zhong Li^{a,b}, Xusheng Shao^{a,b,c,d}

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

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

^cShanghai Frontier Science Research Base of Optogenetic Techniques for Cell Metabolism, School of Pharmacy, East China University of Science and Technology, Shanghai 200237, China

^dEngineering Research Center of Pharmaceutical Process Chemistry, Ministry of Education, School of Pharmacy, East China University of Science and Technology, Shanghai 200237, China

PHE could be optical controlled released from DEACM-PHE with a 98% releasing rate, manifesting significant *in-vitro/vivo* activity differences before and after irradiation. It provided a novel and promising controlled release system for the environment-friendly agricultural applications with high pesticide efficiency.

Chinese Chemical Letters 34 (2023) 108064



Thermosensitive injectable hydrogel loaded with hypoxia-induced exosomes maintains chondrocyte phenotype through NDRG3-mediated hypoxic response

Xiongbo Song^{a,b}, Liling Gu^b, Qiming Yang^b, Jiarui Wu^b, Junrong Chen^b, Xiaobin Tian^c, Li Sun^{a,b}, Long Chen^{a,b}

^aMedical College, Guizhou University, Guiyang 550000, China

^bDepartment of Orthopedics, Guizhou Provincial People's Hospital, Guiyang 550000, China

^cDepartment of Orthopaedics, The Affiliated Hospital of Guizhou Medical University, Guiyang 550000, China

For osteoarthritis (OA) at the early and middle stages, an injectable Pluronic F-127 and hyaluronic acid (HA) thermosensitive hydrogel was established to sustainably release hypoxia induced Exos (HEXo). The HEXo loaded HP hydrogel maintains chondrocyte phenotype through NDRG3 mediated hypoxia response.

Chinese Chemical Letters 34 (2023) 108079



Ratiometric fluorescence and visual sensing of ATP based on gold nanocluster-encapsulated metal-organic framework with a smartphone

Xiaomeng Zhou^a, Xinjie Wang^b, Li Shang^{a,c}

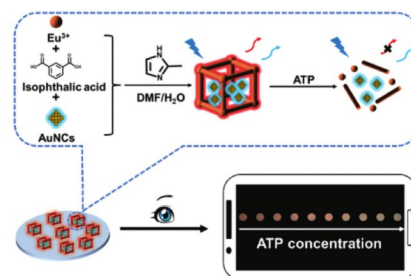
^aState Key Laboratory of Solidification Processing, School of Materials Science and Engineering, Northwestern Polytechnical University and Shaanxi Joint Laboratory of Graphene (NPU), Xi'an 710072, China

^bQueen Mary University of London Engineering School, Northwestern Polytechnical University, Xi'an 710072, China

^cNPU-QMUL Joint Research Institute of Advanced Materials and Structures (JRI-AMAS), Northwestern Polytechnical University, Xi'an 710072, China

A novel dual-emissive fluorescence nanoplatfrom was designed based on red emissive europium metal-organic framework and blue emissive gold nanoclusters. The distinct red/blue emission intensity change enables the establishment of a ratiometric fluorescent and visual sensor of ATP.

Chinese Chemical Letters 34 (2023) 108093



A novel cartridge for nucleic acid extraction, amplification and detection of infectious disease pathogens with the help of magnetic nanoparticles

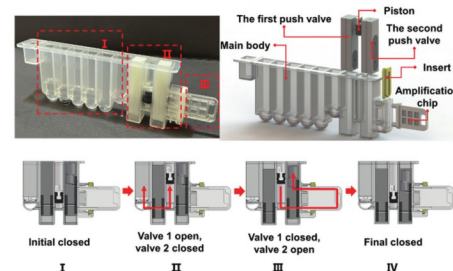
Yile Fang^a, Yue Wang^a, Liangxi Zhu^a, Haoran Liu^a, Xiangyi Su^a, Yuan Liu^a, Zhu Chen^b, Hui Chen^b, Nongyue He^{a,b}

^aState Key Laboratory of Bioelectronics, School of Biological Science and Medical Engineering, Southeast University, Nanjing 210096, China

^bEconomical Forest Cultivation and Utilization of 2011 Collaborative Innovation Center in Hunan Province, Hunan Key Laboratory of Green Chemistry and Application of Biological Nanotechnology, Hunan University of Technology, Zhuzhou 412007, China

A simple-structure cartridge was developed for point-of-care detection of infectious diseases, which is able to extract nucleic acid from up to 500 μ L of liquid samples by magnetic nanoparticles and finish the detection process from "sample in" to "answer out" automatically.

Chinese Chemical Letters 34 (2023) 108092



Local sustained release of PD-1 monoclonal antibody and lenvatinib by thermo-sensitive hydrogel for improving tumor immunotherapy

Lin Zhai^a, Yujie Shi^{a,b}, Yi Yan^a, An Lu^a, Xiaoyu Liu^a, Lei Lei^a, Yi Sun^a, Linxia Jiang^a, Xiangyu Wang^a, Honggang Qian^c, Jiancheng Wang^a

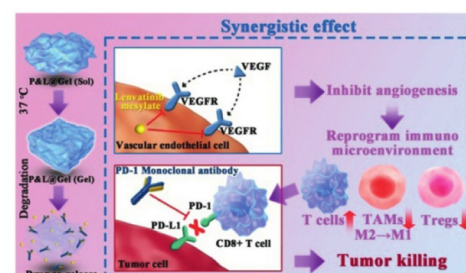
^aBeijing Key Laboratory of Molecular Pharmaceutics and New Drug Delivery Systems, State Key Laboratory of Natural and Biomimetic Drugs, School of Pharmaceutical Sciences, Peking University, Beijing 100191, China

^bDepartment of Pharmaceutical Analysis, School of Pharmaceutical Sciences, Peking University, Beijing 100191, China

^cKey Laboratory of Carcinogenesis and Translational Research (Ministry of Education), Department of Hepato-Pancreato-Biliary Surgery, Peking University Cancer Hospital & Institute, Beijing 100142, China

This study fabricates a temperature-sensitive *in-situ* gel based on PLGA-PEG-PLGA copolymers for local administration of anti-PD1 and lenvatinib mesylate (P&L@Gel). P&L@Gel achieves better tumor-inhibiting effects and leads to 2.2-fold increase of level CD8⁺ T cells and the polarization of TAM from M2 to M1.

Chinese Chemical Letters 34 (2023) 108104



Natural okra-based hydrogel for chronic diabetic wound healing

Peikun Xin^a, Shuyan Han^a, Jun Huang^c, Conglai Zhou^d, Jiayuan Zhang^e, Xinru You^b, Jun Wu^{a,f,g}

^aSchool of Biomedical Engineering, Sun Yat-sen University, Shenzhen 518107, China

^bCenter for Nanomedicine and Department of Anesthesiology, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02115, United States

^cInstitute of Biological and Medical Engineering, Guangdong Academy of Sciences, Guangzhou 510316, China

^dGuizhou University of Chinese Traditional Medicine, Guiyang 550025, China

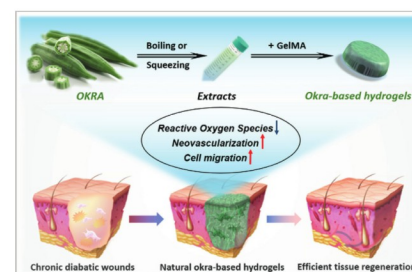
^eSchool of Life Science, Jilin University, Changchun 130012, China

^fBioscience and Biomedical Engineering Thrust, The Hong Kong University of Science and Technology (Guangzhou), Guangzhou 511400, China

^gDivision of Life Science, The Hong Kong University of Science and Technology, Hong Kong SAR, China

The ultra-natural okra-based Gel-MA hydrogel dressings prepared via a simple and feasible route have a promising potential in accelerating diabetic wound repair by ROS-scavenging, cell migration and vascularization promotion.

Chinese Chemical Letters 34 (2023) 108125



Magnetorheological elastomer and smartphone enable microfluidic biosensing of foodborne pathogen

Gaozhe Cai^{a,b}, Yuhe Wang^a, Yingchao Zhang^a, Lingyan Zheng^c, Jianhan Lin^a

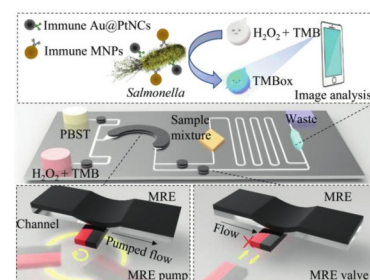
^aKey Laboratory of Agricultural Information Acquisition Technology, Ministry of Agriculture and Rural Affairs, China Agricultural University, Beijing 100083, China

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

^cBeijing Engineering and Technology Research Center of Food Additives, Beijing Technology & Business University (BTBU), Beijing 100048, China

We proposed a microfluidic biosensor based on magnetorheological elastomer and smartphone to detect *Salmonella typhimurium* quantitatively and automatically in 1 h with a detection limit of 62 CFU/mL. This microfluidic biosensor was featured with small size, simple operation and rapid detection, and might be applicable for in-field screening of foodborne pathogens.

Chinese Chemical Letters 34 (2023) 108059



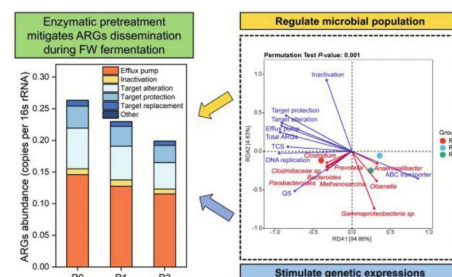
Enzymatic pretreatment mitigates the dissemination of antibiotic resistance genes *via* regulating microbial populations and gene expressions during food waste fermentation

Yang Wu, Wanying Hu, Haining Huang, Xiong Zheng, Lei Dong, Yinguang Chen

State Key Laboratory of Pollution Control and Resource Reuse, School of Environmental Science and Engineering, Tongji University, Shanghai 200092, China

This study would expand the insight of pretreatment method on ARGs fate during FW fermentation process, and offer practical navigation on the sustainable management of FW.

Chinese Chemical Letters 34 (2023) 108058



Evaluation of the stability of shortcut nitrification-denitrification process based on online specific oxygen uptake rate monitoring

Zhouliang Tan^a, Yue Guan^{a,b}, Yajun Luo^c, Lin Wang^a, Houzhen Zhou^a, Chong Yang^a, Dan Meng^a, Yangwu Chen^a

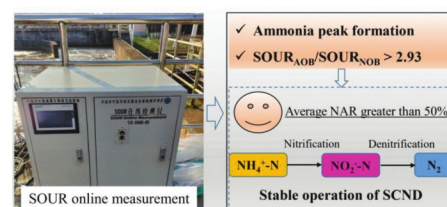
^aCAS Key Laboratory of Environmental and Applied Microbiology, Environmental Microbiology Key Laboratory of Sichuan Province, Chengdu Institute of Biology, Chinese Academy of Sciences, Chengdu 610041, China

^bCollege of Resources and Environmental Engineering, Mianyang Normal University, Mianyang 621000, China

^cDepartment of Materials and Chemical Engineering, Yibin University, Yibin 644000, China

The ammonia peak point can be determined according to the dynamics of online SOUR to avoid the damage of SCND by excessive aeration. Timely adjust the aeration rate according to the breakthrough point of SOUR and making the SOUR_{AOB}/SOUR_{NOB} ratio constant greater than 2.93 can ensure stable SCND performance.

Chinese Chemical Letters 34 (2023) 108074



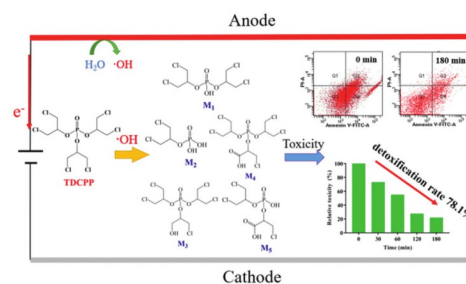
Degradation and detoxification mechanisms of organophosphorus flame retardant tris(1,3-dichloro-2-propyl) phosphate (TDCPP) during electrochemical oxidation process

Shaoyu Tang, Zhujun Luo, Jianbo Liao, Zhun Liu, Lei Xu, Junfeng Niu

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

Electrochemical oxidation process could effectively degrade TDCPP by the generated $\cdot\text{OH}$, while the degradation intermediates are less or not toxic.

Chinese Chemical Letters 34 (2023) 108090



Novel colorimetric, photothermal and up-conversion fluorescence triple-signal sensor for rosmarinic acid detection

Yinyin Chen^{a,c}, Xiujuan Yang^{a,c}, Changfang Lu^b, Zouping Yang^b, Wei Wu^{a,c}, Xianxiang Wang^b

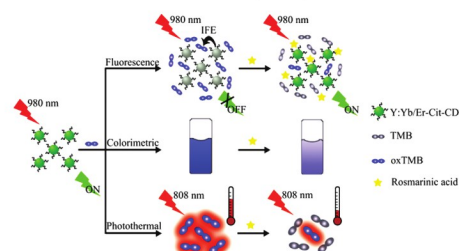
^a College of Agronomy, Sichuan Agricultural University, Chengdu 611130, China

^b College of Science, Sichuan Agricultural University, Chengdu 611130, China

^c State Key Laboratory of Crop Gene Exploration and Utilization in Southwest China, Chengdu 611130, China

A turn-on up-conversion fluorescence, colorimetric and photothermal multi-modal analysis method for the quantification of rosmarinic acid in food by NaYF₄:Yb/Er-Cit-CD has been developed.

Chinese Chemical Letters 34 (2023) 108099



Rapid detection of pathogenic bacteria based on a universal dual-recognition FRET sensing system constructed with aptamer-quantum dots and lectin-gold nanoparticles

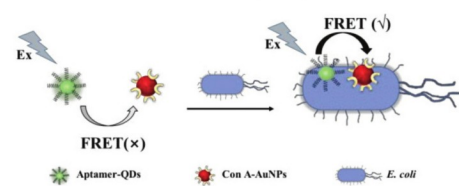
Yaqing Zhang^a, Yan Liu^a, Yun Yang^a, Linyao Li^a, Xiaoqi Tao^b, Erqun Song^a

^a Key Laboratory of Luminescence Analysis and Molecular Sensing, College of Pharmaceutical Sciences, Southwest University, Chongqing 400715, China

^b College of Food Science, Southwest University, Chongqing 400715, China

In the presence of target, the aptamer and concanavalin A bound to *E. coli* simultaneously, making the energy donor (Aptamer-QDs) and acceptor (Con A-AuNPs) dramatically close to each other and subsequently the FRET turned "on".

Chinese Chemical Letters 34 (2023) 108102



An integrated microfluidic device for the simultaneous detection of multiple antibiotics

Xiaorui Wang^a, Gaowa Xing^b, Nan Li^c, Yaoshuang Xie^a, Ling Lin^a

^a Department of Bioengineering, Beijing Technology and Business University, Beijing 100048, China

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

^c School of Chinese Materia Medica, Beijing University of Chinese Medicine, Beijing 100029, China

An integrated microfluidic device was developed for the simultaneous and rapid qualitative and quantitative analysis of multiple antibiotic residues in milk.

Chinese Chemical Letters 34 (2023) 108110



Fabricating pyridinic N-B sites in porous carbon as efficient metal-free electrocatalyst in conversion CO₂ into CH₄

Yuying Zhao^{a,b}, Qixin Yuan^b, Mengmeng Fan^{a,b}, Ao Wang^a, Kang Sun^a, Zeming Wang^c, Jianchun Jiang^{a,b}

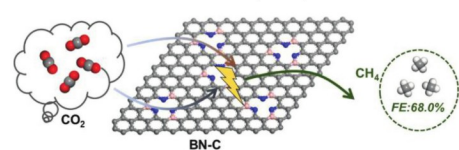
^a Institute of Chemical Industry of Forest Products, Chinese Academy of Forestry; Key Lab. of Biomass Energy and Material, Jiangsu Province; National Engineering Lab for Biomass Chemical Utilization, Nanjing 210042, China

^b Jiangsu Co-Innovation Center of Efficient Processing and Utilization of Forest Resources; International Innovation Center for Forest Chemicals and Materials College of Chemical Engineering, Nanjing Forestry University, Nanjing 210037, China

^c Institute of Nanochemistry and Nanobiology School of Environmental and Chemical Engineering, Shanghai University, Shanghai 200444, China

The predominant pyridinic N-B species are prepared in porous carbon and shows high electrocatalytic performance for CO₂ conversion to CH₄, superior to most of carbon-based electrocatalysts.

Chinese Chemical Letters 34 (2023) 108120



A soluble pH-responsive host-guest-based nanosystem for homogeneous exosomes capture with high-efficiency

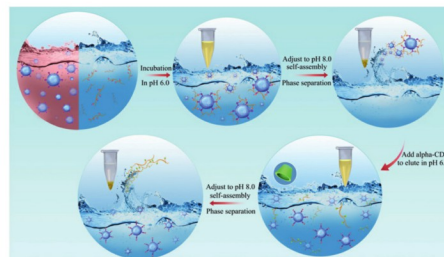
Haiyan Wang^a, Peng Liang^a, Lei Zhang^a, Liping Shi^b, Yitong Ge^b, Liyuan Zhang^b, Xiaoqiang Qiao^a

^a College of Pharmaceutical Sciences, Key Laboratory of Public Health Safety of Hebei Province, Key Laboratory of Medicinal Chemistry and Molecular Diagnosis, Ministry of Education, Hebei University, Baoding 071002, China

^b College of Basic Medical Science, Key Laboratory for Proteomics of Liaoning Province, Dalian Medical University, Dalian 116044, China

A soluble pH-responsive host-guest-based nanosystem pH-HGN for homogeneous capture of exosomes around physiological pH was proposed. The developed pH-HGN has been proven to be a promising strategy to isolate exosomes as well as their further downstream analysis.

Chinese Chemical Letters 34 (2023) 108129



3D anchoring structured for $\text{LiFe}_{0.5}\text{Mn}_{0.5}\text{PO}_4$ @cornstalk-C cathode materials

Guangliang Zhang^a, Riran Zang^a, Man Mo^b, Zhijie Fang^b, Yangxian Huang^c, Kunsong Hu^c, Jiali Huang^d, Xinxiang Liu^d, Lingyun Huang^d, Guohui Kang^d, Weijian Li^e, Haiqing Zhan^e, Xianquan Ming^e, Guanhan Huang^e, Guiliang Li^e, Feng Zhan^a

^a School of Resources Environment and Materials, Guangxi University, Nanning 530004, China

^b School of Electronics Engineering, Guangxi University of Science and Technology, Liuzhou 545006, China

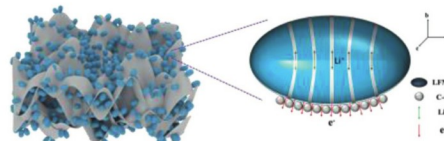
^c State Key Laboratory of Featured Metal Materials and Life-cycle Safety for Composite Structures, Guangxi University, Nanning 530004, China

^d Guangxi Higher Education Key Laboratory of High Performance Structural Materials and Heat Treatment & Surface Processing, Guangxi University, Nanning 53004, China

^e South Manganese Group Limited, Nanning 530029, China

$\text{LiFe}_{0.5}\text{Mn}_{0.5}\text{PO}_4$ @cornstalk-C with 3D anchoring structure is prepared by the solvothermal method, which enables the $\text{LiFe}_{0.5}\text{Mn}_{0.5}\text{PO}_4$ to have high cycling performance.

Chinese Chemical Letters 34 (2023) 108164



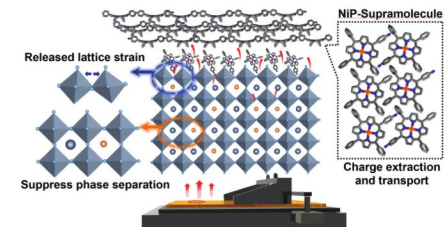
Self-assembly of porphyrins on perovskite film for blade-coating stable large-area methylammonium-free solar cells

Taorui Liu, Yajun Liu, Xingbang Gao, Jing Cao

State Key Laboratory of Applied Organic Chemistry, Key Laboratory of Nonferrous Metal Chemistry and Resources Utilization of Gansu Province, College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, China

NIP-supramolecule was *in situ* anchored on perovskite surface to release lattice strain and promotes hole extraction and transport. This simultaneously inhibit the phase transition and phase separation of perovskite to enhance the performance and stability of MA-free photovoltaic devices.

Chinese Chemical Letters 34 (2023) 107883



Sila-annulated terrylene diimides for balanced ambipolar transporting

Kai Chen^a, Ning Xue^c, Guogang Liu^a, Yujian Liu^c, Jiajing Feng^b, Wei Jiang^{a,c}, Zhaohui Wang^{a,c}

^a Key Laboratory for Advanced Materials and Institute of Fine Chemicals, School of Chemistry & Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

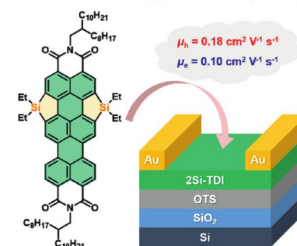
^b School of Science, China University of Geosciences (Beijing), Beijing 100083, China

^c Key Laboratory of Organic Optoelectronics and Molecular Engineering, Department of Chemistry, Tsinghua University, Beijing 100084, China

Sila-annulated terrylene diimides have been developed for the first time, which exhibited well-balanced ambipolar transporting performance in single-crystal organic field-effect transistors.

Chinese Chemical Letters 34 (2023) 107884

Balanced Ambipolar Transporting



Accelerated discovery of novel high-performance zinc-ion battery cathode materials by combining high-throughput screening and experiments

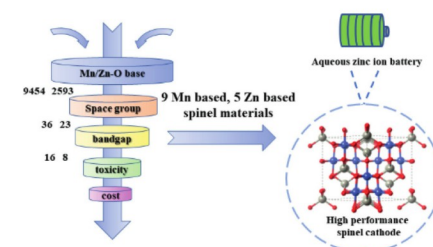
Haoran Luo^a, Jiangbin Deng^a, Qianzhi Gou^a, Omololu Odunmbaku^a, Kuan Sun^a, Juanxiu Xiao^b, Meng Li^a, Yujie Zheng^a

^aMOE Key Laboratory of Low-grade Energy Utilization Technologies and Systems, School of Energy and Power Engineering, Chongqing University, Chongqing 400044, China

^bState Key Laboratory of Marine Resource Utilization in South China Sea, School of Chemical Engineering and Technology, Hainan University, Haikou 570228, China

A DFT-based high-throughput screening method combined with experimental validation to enable rapid development of high-performance spinel cathode material for AZIBs.

Chinese Chemical Letters 34 (2023) 107885



Carbazolebis(thiadiazole)-core based non-fused ring electron acceptors for efficient organic solar cells

Yongjie Cui^{a,b}, Peipei Zhu^b, Xinxin Xia^c, Xinhui Lu^c, Xunfan Liao^{a,b}, Yiwang Chen^{a,b}

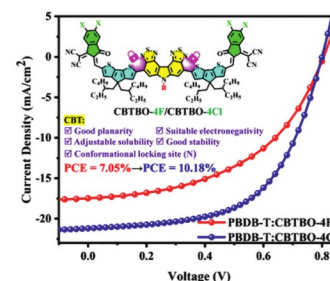
^aState Key Laboratory for Modification of Chemical Fibers and Polymer Materials and College of Materials Science and Engineering, Donghua University, Shanghai 201620, China

^bNational Engineering Research Center for Carbohydrate Synthesis/Key Lab of Fluorine and Silicon for Energy Materials and Chemistry of Ministry of Education, College of Chemistry and Chemical Engineering, Jiangxi Normal University, Nanchang 330022, China

^cDepartment of Physics, Chinese University of Hong Kong, New Territories, Hong Kong 999077, China

Carbazolebis(thiadiazole) (CBT)-based non-fused ring electron acceptors (NFREAS) with S...N conformation locks are successfully synthesized for efficient organic solar cells (OSCs). Our results demonstrate that CBT has great potential as novel building block to construct efficient high-performance active layer materials of OSCs.

Chinese Chemical Letters 34 (2023) 107902



Turning the V site in V@2D-BC₃N₂ complex to high curvature state for efficient CO₂ electroreduction to hydrocarbons

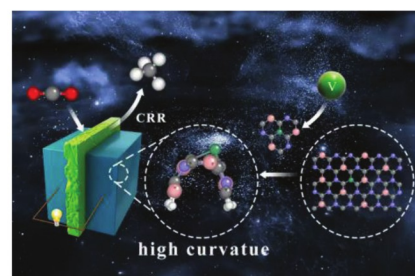
Chaozheng He^a, Yue Yu^a, Chenxu Zhao^a, Jinrong Huo^b

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

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

V doped 2D-BC₃N₂ is a promising catalyst to realize the electroreduction of CO₂ to hydrocarbons, which can be dramatically enhanced at high curvature state.

Chinese Chemical Letters 34 (2023) 107897



Eliminating crystal water enables enhanced sodium storage performance in an oxalate-phosphate cathode material

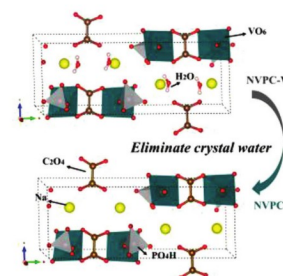
Kena Sun^a, Huiwu Long^b, Xiaowu Jie^a, Huangxu Li^b

^aBGRIMM Technology Group, Beijing 100160, China

^bDepartment of Chemistry, City University of Hong Kong, Hong Kong 999077, China

The crystal water eliminated Na₂(VO)₂(HPO₄)₂(C₂O₄) material exhibits significant improvements in cycling stability, Coulombic efficiency, as well as rate performances. Kinetics analysis indicates that the existence of lattice water molecules hinders sodium-ion diffusion and promotes the degradation of electrodes.

Chinese Chemical Letters 34 (2023) 107898



Hierarchical structures, surface morphology and mechanical elasticity of lamellar crystals dominated by halogen effects

Chuanxin Wei^{a,b}, Jianfeng Wang^a, Yanni Zhang^a, Xuehua Ding^a, Yanze Jiang^a, Qiang Zhao^{a,b}, Jinyi Lin^a, Jianfeng Zhao^a, Linghai Xie^b, Wei Huang^{a,b,c}

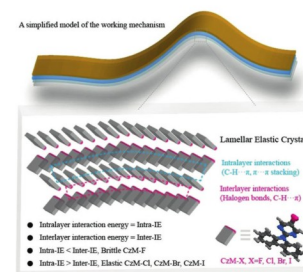
^aKey Laboratory of Flexible Electronics (KLOFE), Institute of Advanced Materials (IAM), Nanjing Tech University (NanjingTech), Nanjing 211816, China

^bKey Laboratory for Organic Electronics and Information Displays, Institute of Advanced Materials (IAM), Nanjing University of Posts & Telecommunications, Nanjing 210023, China

^cInstitute of Flexible Electronics (IFE), Northwestern Polytechnical University (NPU), Xi'an 710072, China

The inter/intralayer interaction energy (Inter/Intra-IE) of lamellar elastic crystals draw from crystal energy framework (CEF) were obtained. Combined with crystal structure and surface morphology, it is found that the lamellar elastic crystals of halo-pyrimidinyl carbazoles could bend under external force attributed to the stronger Intra-IE for the prevention of crystal cleavage and the weaker Inter-IE for implementation of short-range molecule movement, respectively.

Chinese Chemical Letters 34 (2023) 107896



Polydopamine-coated metal-organic framework-based composite phase change materials for photothermal conversion and storage

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^aSchool of Materials Science and Engineering, Suzhou University of Science and Technology, Suzhou 215009, China

^bBeijing Advanced Innovation Center for Materials Genome Engineering, Beijing Key Laboratory of Function Materials for Molecule & Structure Construction, School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China

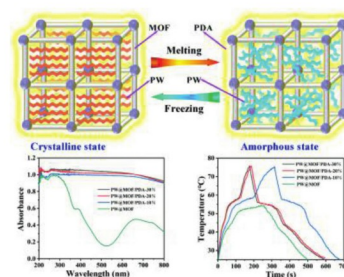
^cInstitute of Advanced Materials, Beijing Normal University, Beijing 100875, China

^dKey Laboratory of Low-grade Energy Utilization Technologies and Systems (Chongqing University), Ministry of Education of China, Chongqing University, Chongqing 400044, China

^eShunde Graduate School, University of Science and Technology Beijing, Shunde 528399, China

The prepared PW@MOF/PDA composite PCMs exhibit high photothermal conversion and storage efficiency, excellent thermal stability, shape stability, energy storage stability, and photothermal conversion stability.

Chinese Chemical Letters 34 (2023) 107916



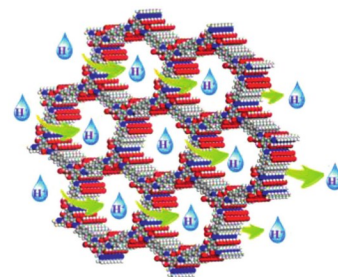
Superhigh intrinsic proton conductivity in densely carboxylic covalent organic framework

Jinli Li, Junhua Wang, Feng Shui, Mao Yi, Zhiyuan Zhang, Xiongli Liu, Laiyu Zhang, Zifeng You, Rufeng Yang, Shiqi Yang, Baiyan Li, Xian-He Bu

School of Materials Science and Engineering, National Institute for Advanced Materials, TKL of Metal and Molecule-Based Material Chemistry, Nankai University, Tianjin 300350, China

Herein, we developed two carboxylic acid based intrinsic proton conductors (COOH-COF-1 and COOH-COF-2) via pre-assembly approach. The intrinsic proton conductivity of COOH-COF-2 is 2.6×10^{-3} S/cm (353 K, 98% RH), which is the highest value among all acid functionalized COFs reported to date.

Chinese Chemical Letters 34 (2023) 107917



Dual roles of trifluoroborate in nickel-catalyzed ethylene polymerization: Electronic perturbation and anchoring for heterogenization

Changwen Hong^a, Zihao Wang^a, Hui Jiang^b, Guifu Si^a, Maoping Song^b, Changle Chen^a

^aCAS Key Laboratory of Soft Matter Chemistry, Department of Polymer Science and Engineering, University of Science and Technology of China, Hefei 230026, China

^bCollege of Chemistry, Zhengzhou University, Zhengzhou 450001, China

A trifluoroborate potassium substituent was installed on an α -diimine framework, enabling strong catalyst affinity for the SiO_2 support, and simultaneously enhancing the catalyst stability and polyethylene molecular weight.

Chinese Chemical Letters 34 (2023) 107918



Surface engineering towards high-energy carbon cathode for advanced aqueous zinc-ion hybrid capacitors

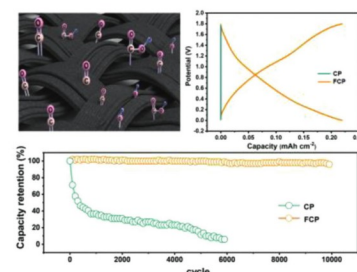
Xingyuan Gao^{a,b}, Huilin Deng^a, Yuanbin Fang^b, Yuyan Li^a, Xihong Lu^b

^a Faculty of Chemistry and Material Science, Guangdong University of Education, Engineering Technology Development Center of Advanced Materials & Energy Saving and Emission Reduction in Guangdong Colleges and Universities, Guangzhou 510303, China

^b MOE of the Key Laboratory of Bioinorganic and Synthetic Chemistry, The Key Lab of Low-carbon Chem & Energy Conservation of Guangdong Province, School of Chemistry, Sun Yat-sen University, Guangzhou 510275, China

A functionalized carbon paper with significantly enhanced capacity and long-term stability via an efficient oxygen-induced surface activation strategy is reported for zinc ion hybrid capacitors.

Chinese Chemical Letters 34 (2023) 107919



High-density oxygen-doped nano-TaN enables robust polysulfide interconversion in Li–S batteries

Shuang Yu^a, Yonggui Zhang^a, Shuo Yang^{a,b}, Kuikui Xiao^a, Dong Cai^a, Huagui Nie^a, Zhi Yang^a

^a Key Laboratory of Carbon Materials of Zhejiang Province, Wenzhou University, Wenzhou 325035, China

^b College of Electrical and Electronic Engineering, Wenzhou University, Wenzhou 325035, China

High-density O doped nano-TaN with abundant nanopores is designed as a catalyst to accelerate polysulfide conversion kinetics in Li–S batteries.

Chinese Chemical Letters 34 (2023) 107911



Synthesis of D-A typed AIE luminogens in isomeric architecture and their application in latent fingerprints imaging

Peijuan Zhang^a, Qifei Shen^a, Yu Zhou^{a,b}, Fengyi He^a, Bo Zhao^a, Zhi Wang^a, Ruohan Xu^a, Yanzi Xu^a, Zhiwei Yang^c, Lingjie Meng^{a,b}, Dongfeng Dang^a

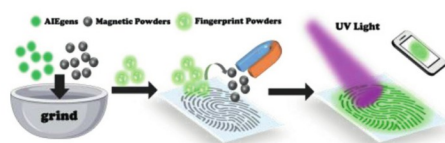
^a School of Chemistry, Xi'an Key Laboratory of Sustainable Energy Material Chemistry, Xi'an Jiao Tong University, Xi'an 710049, China

^b Instrumental Analysis Center, Xi'an Jiao Tong University, Xi'an 710049, China

^c School of Physics, Xi'an Jiao Tong University, Xi'an 710049, China

Highly emissive AIEgen of DTPA-2,3-P is well applied in high performance latent fingerprints imaging by using the powder dusting method.

Chinese Chemical Letters 34 (2023) 107910



Agar-derived nitrogen-doped porous carbon as anode for construction of cost-effective lithium-ion batteries

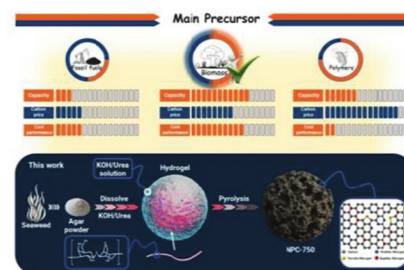
Tong Wang^{a,b}, Jingquan Sha^b, Wenwen Wang^b, Yuhang Ji^b, Zhi-Ming Zhang^a

^a Institute for New Energy Materials & Low Carbon Technologies, School of Chemistry and Chemical Engineering, Tianjin University of Technology, Tianjin 300384, China

^b School of Chemistry, Chemical Engineering and Materials, Jining University, Qufu 273100, China

To balance cost and performance of porous carbon (PC) as anode for LIBs, cost-effective N-doped PC with ultrahigh reversible capacity were facilely prepared in batches. Coupling with LiFePO₄ cathode, the fabricated Li⁺ full cells possess high capacity, excellent rate and cycling performances, highlighting the practicability of this NPC-750 as the anode materials.

Chinese Chemical Letters 34 (2023) 107929



Ultra-thin CoAl layered double hydroxide nanosheets for the construction of highly sensitive and selective QCM humidity sensor

Yongheng Zhu^a, Xuhua Dong^a, Jinsheng Cheng^c, Lumin Wang^c, Cheng Zhao^a, Yonghui Deng^d, Siqi Xie^a, Yingjie Pan^a, Yong Zhao^a, Gengzhi Sun^c, Tianjun Ni^b

^a College of Food Science and Technology, Laboratory of Quality & Safety Risk Assessment for Aquatic Products on Storage and Preservation (Shanghai), Ministry of Agriculture and Shanghai Engineering Research Center of Aquatic-Product Processing & Preservation Shanghai Ocean University, Shanghai 201306, China

^b School of Basic Medicine, Xinxiang Medical University, Xinxiang 453003, China

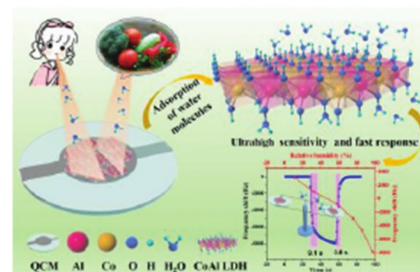
^c Key Laboratory of Flexible Electronics (KLOFE) & Institute of Advanced Materials (IAM), Jiangsu National Synergetic Innovation Center for Advanced Materials (SICAM), Nanjing Tech University (NanjingTech), Nanjing 211816, China

^d Department of Chemistry, Fudan University, Shanghai 200433, China

^e Henry-Fork School of Food Sciences, Shaoguan University, Shaoguan 512005, China

CoAl LDH nanosheets with interlayer structure were prepared and modified on QCM sensor, which can selectively capture water molecules on their surface due to their high specific surface area and abundant hydroxyl groups. The humidity of human respiration and fruits and vegetables in storage can be sensitively and rapidly monitored by the QCM sensor.

Chinese Chemical Letters 34 (2023) 107930



Metal-organic framework-derived Co₃O₄ modified nickel foam-based dendrite-free anode for robust lithium metal batteries

Tao Wei^a, Jiahao Lu^a, Pan Zhang^b, Guang Yang^b, Cheng Sun^a, Yanyan Zhou^a, Quanchao Zhuang^c, Yongfu Tang^b

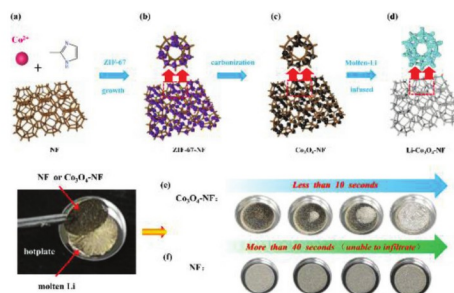
^a School of Energy and Power, Jiangsu University of Science and Technology, Zhenjiang 212003, China

^b Hebei Key Laboratory of Applied Chemistry, School of Environmental and Chemical Engineering, Yanshan University, Qinhuangdao 066004, China

^c Li-ion Batteries Lab, School of Materials Science and Engineering, China University of Mining and Technology, Xuzhou 221116, China

For several decades, the promise of implementing of lithium (Li) metal anodes for Li batteries has been a "holy grail" for researchers. Herein, we proposed a facile design of a MOF-derived Co₃O₄ nanoparticles modified nickel foam, i.e., Co₃O₄-NF, as a 3D host to achieve a uniform infusion of the molten Li. The molten Li was uniformly absorbed on the Co₃O₄-NF host. The Li stripping/plating process of pure Li foil and Li-Co₃O₄-NF electrode was also investigated by *in-situ* optical microscopy (OM).

Chinese Chemical Letters 34 (2023) 107947



Self-swelling derived frameworks with rigidity and flexibility enabling high-reversible silicon anodes

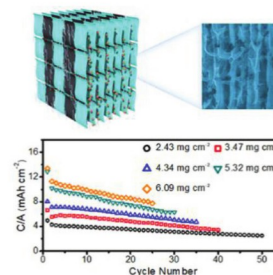
Peng Liu^a, Bingqing Li^a, Jianli Zhang^b, Hongfu Jiang^b, Zhong Su^a, Chao Lai^a

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

^b Jiangsu Xinhua Semiconductor Material Technology Co., Ltd., Xuzhou 221116, China

A 3D free-standing silicon anode with both rigidity and flexibility has been constructed via self-swelling artificial laponite, which enables the preparation of high areal capacity electrodes to further enhance the energy density of LIBs.

Chinese Chemical Letters 34 (2023) 107946



Tactfully revealing the working mechanisms on a tetraarylimidazole derivative: AIE characteristic, ESIPT process and ICT effect integrating in one molecule

Min Liu^{a,b,c}, Shibo Zhong^a, Bin Feng^a, Yueming Ren^a, Xiaohui Liu^a, Shuaige Bai^a, Fei Chen^a, Shao Liu^{b,c}, Wenbin Zeng^a

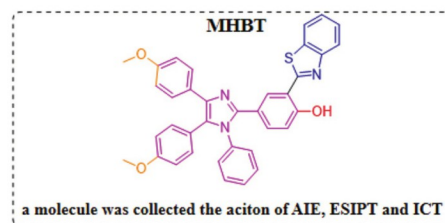
^aXiangya School of Pharmaceutical Sciences, Central South University, Changsha 410013, China

^bDepartment of Pharmacy, Xiangya Hospital, Central South University, Changsha 410008, China

^cNational Clinical Research Center for Geriatric Disorders, Xiangya Hospital, Central South University, Changsha 410008, China

A novel tetraarylimidazole derivative MHBT had been synthesized and fully characterized. Its synergistic and collaborative working mechanism combined with AIE, ESIPT and ICT have been tactfully revealed by means of density functional theory (DFT) and time-dependent density functional theory (TD-DFT).

Chinese Chemical Letters 34 (2023) 107940



Cocrystal virtual screening based on the XGBoost machine learning model

Dezhi Yang^a, Li Wang^a, Penghui Yuan^a, Qi An^a, Bin Su^b, Mingchao Yu^a, Ting Chen^a, Kun Hu^a, Li Zhang^a, Yang Lu^a, Guanhua Du^c

^aBeijing City 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

^bShandong Soteria Pharmaceutical Co., Ltd., Laiwu 271100, China

^cBeijing City Key Laboratory of Drug Target and Screening Research, National Center for Pharmaceutical Screening, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China

This study presents a data-driven co-crystal prediction method based on the XGBoost machine learning model. The simplified molecular input line entry specification information of two compounds is simply inputted to determine whether a co-crystal can be formed. The prediction success rate of the model exceeds 90%. The model therefore provides a simple and feasible scheme for designing and screening co-crystal drugs efficiently and accurately.

Chinese Chemical Letters 34 (2023) 107964



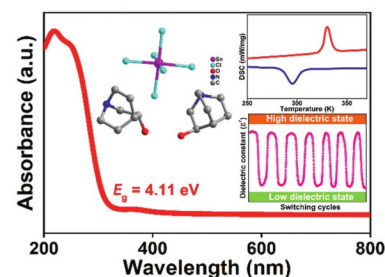
A chiral lead-free tin(IV)-based halide organic-inorganic semiconductor with dielectric switching and phase transition

Hang Peng, Qin Liu, Yuhua Liu, Yanzi Lu, Weiqiang Liao

Ordered Matter Science Research Center, Nanchang University, Nanchang 330031, China

[(R)-3-Hydroxyquinuclidinium]₂SnCl₆ is a chiral lead-free halide organic-inorganic semiconductor with a wide bandgap of 4.11 eV, which shows a phase transition accompanied by distinct dielectric switching.

Chinese Chemical Letters 34 (2023) 107980



Highly sensitive, humidity-tolerant and flexible NO₂ sensors based on nanoplate Bi₂Se₃ film

Yanjie Wang^a, Cheng Tang^b, Min Su^c, Yixiong Ji^c, Lei Xie^a, Qi Yang^c, Aijun Du^b, Yong Zhou^a, Jun Yang^c

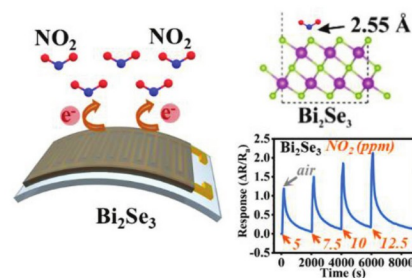
^aKey Laboratory of Optoelectronic Technology and System of Ministry of Education, College of Optoelectronic Engineering, Chongqing University, Chongqing 400044, China

^bSchool of Chemistry and Physics, Centre of Materials Science, Queensland University of Technology, Brisbane 4001, Australia

^cChongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences, Chongqing 400714, China

In this study, highly sensitive, humidity-tolerant and flexible NO₂ sensors based on nanoplate Bi₂Se₃ film at room temperature were proposed.

Chinese Chemical Letters 34 (2023) 107981



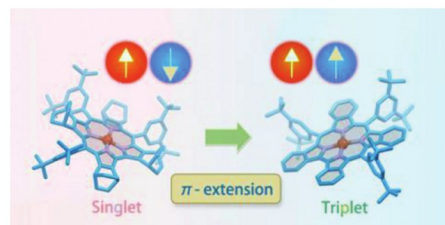
Ground state singlet-to-triplet conversion of copper corrole radical by β -benzo-fusion

Fan Wu, Hu Gao, Yue Zhao, Zhen Shen

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

The β -benzo-fusion of copper(II) corrole radical extends its ligand π -system and modulates the d- π interaction, resulting in a ground state conversion from open-shell singlet to triplet.

Chinese Chemical Letters 34 (2023) 107994



The self-assembly and structural regulation of a hydrogen-bonded dimeric building block formed by two N-H...O hydrogen bonds on HOPG

Peng Lei^{a,c}, Lin Ma^{a,b}, Siqi Zhang^a, Jianqiao Li^{a,b}, Linlin Gan^{a,b}, Ke Deng^a, Wubiao Duan^b, Wei Li^d, Qingdao Zeng^{a,c}

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

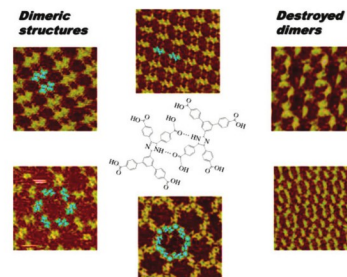
^b Department of Chemistry, School of Science, Beijing Jiaotong University, Beijing 100044, China

^c Center of Material Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing 100049, China

^d School of Science, Nanchang Institute of Technology, Nanchang 330099, China

This work describes that the BCDTDA molecule self-assembles into grids and Kagomés structures in the form of N-H...O hydrogen bonded dimers and those self-assembly structures could be regulated by different guest molecules such as COR, BP, PEBP-C4 and PEBP-C8.

Chinese Chemical Letters 34 (2023) 108005



Organic salt-derived phosphorus-doped mesoporous carbon for high performance supercapacitors

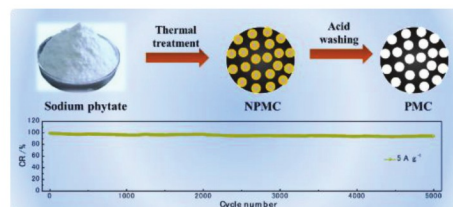
Huan Liu^{a,b}, Longfeng Hu^b, Razium A. Soomro^b, Bin Xu^b

^a College of Materials Science and Engineering, Xi'an University of Science and Technology, Xi'an 710054, China

^b State Key Laboratory of Organic-Inorganic Composites, Beijing Key Laboratory of Electrochemical Process and Technology for Materials, Beijing University of Chemical Technology, Beijing 100029, China

Phosphorus-doped mesoporous carbons were prepared using a self-doping and self-templating approach, which can work at an extended voltage range of 0–1.6 V in sulphuric acid with excellent cyclability and rate performance as electrode materials for supercapacitors.

Chinese Chemical Letters 34 (2023) 108004



Room temperature spontaneous surface condensation of boronic acids observed by scanning tunneling microscopy

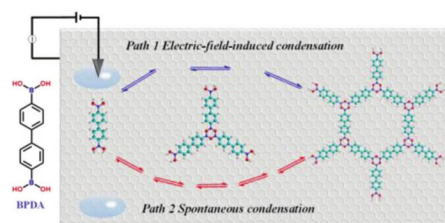
Qiu Liang^{a,b}, Guangyuan Feng^a, Hongzhen Ni^a, Yaru Song^a, Xinyu Zhang^a, Shengbin Lei^a, Wenping Hu^a

^a Tianjin Key Laboratory of Molecular Optoelectronic Sciences, Department of Chemistry, School of Science & Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin University, Tianjin 300072, China

^b School of Foreign Languages, Henan University, Kaifeng 475000, China

The surface-confined condensation of boronic acid can happen spontaneously at room temperature and the negative sample bias indeed accelerates the self-condensation reaction of boronic acid.

Chinese Chemical Letters 34 (2023) 108006



Rational design of AIE-active biodegradable polycarbonates for high-performance WLED and selective detection of nitroaromatic explosives

Shanshan Huang^a, Enhao Wang^b, Jialin Tong^a, Guo-Gang Shan^a, Shunjie Liu^b, Haitao Feng^c, Chao Qin^a, Xianhong Wang^b, Zhongmin Su^a

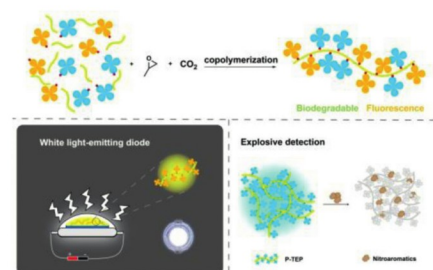
^a National & Local United Engineering Laboratory for Power Batteries, Department of Chemistry, Northeast Normal University, Changchun 130024, China

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

^c AIE Research Center, Shaanxi Key Laboratory of Phytochemistry, College of Chemistry and Chemical Engineering, University of Arts and Sciences, Baoji 721013, China

A series of biodegradable polycarbonates with AIE properties were synthesized by environmental-friendly epoxide/CO₂ copolymerization and employed as emitting species for efficient white light-emitting diodes and sensors for explosive detection.

Chinese Chemical Letters 34 (2023) 108008



Polymeric aluminum porphyrin: Controllable synthesis of ultra-low molecular weight CO₂-based polyols

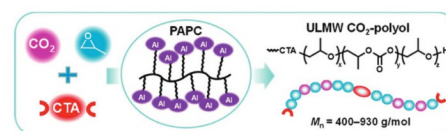
Chunwei Zhuo^a, Han Cao^a, Xiaoshen Wang^{a,b}, Shunjie Liu^{a,b}, Xianhong Wang^{a,b}

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

^b University of Science and Technology of China, Hefei 230026, China

Herein, we demonstrated a polymeric aluminum porphyrin catalyst (PAPC) with the multi-center cooperative effect. PAPC showed excellent tolerance of chain transfer agents and realized the controllable synthesis of CO₂-polyols with ultra-low molecular weight ($M_n < 1000$ g/mol).

Chinese Chemical Letters 34 (2023) 108011



Conjugation expansion strategy enables highly stable all-polymer solar cells

Dingding Qiu^{a,b,d}, Yanan Shi^{a,b}, Yi Li^{a,c}, 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

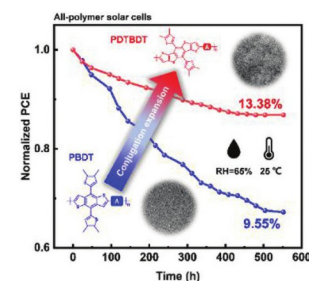
^b University of Chinese Academy of Sciences, Beijing 100049, China

^c Department of Chemistry, Molecular Dynamic Chemistry Center, Tianjin Key Laboratory of Molecular Optoelectronic Sciences, School of Science, Tianjin University, Tianjin 300354, China

^d Sino-Danish Center for Education and Research, Sino-Danish College, University of Chinese Academy of Sciences, Beijing 100049, China

Two novel polymer donor materials PBDT and PDTBDT with different conjugation ranges were designed and synthesized. PDTBDT with a larger conjugation range yielded better power conversion efficiencies of 13.38% in all-polymer solar cells and more outstanding device stability in air atmosphere. Further test results show that the excellent performance and stability come from the more favorable film morphology and charge transport and separation properties due to the strong crystallinity.

Chinese Chemical Letters 34 (2023) 108019



Superhydrophilic membrane with photo-Fenton self-cleaning property for effective microalgae anti-fouling

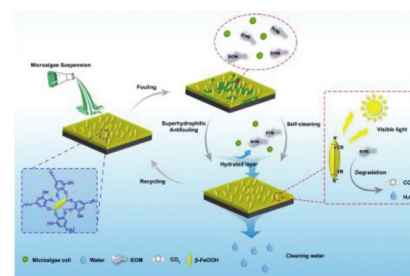
Yunhua Wang^a, Zhengqi Jiao^a, Wenlong Li^a, Sen Zeng^a, Jiliang Deng^a, Miao Wang^a, Lei Ren^{a,b}

^a Department of Biomaterials, College of Materials, Key Laboratory of Biomedical Engineering of Fujian Province University/Research Center of Biomedical Engineering of Xiamen, Xiamen University, Xiamen 361005, China

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

In this work, a novel strategy of photo-Fenton is recommended to address the challenge of membrane fouling in microalgae harvesting to design and fabricate antifouling membranes with superhydrophilic and self-cleaning properties.

Chinese Chemical Letters 34 (2023) 108020



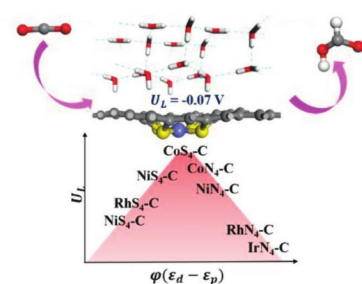
Carbon-supported CoS₄-C single-atom nanozyme for dramatic improvement in CO₂ electroreduction to HCOOH: A DFT study combined with hybrid solvation model

Hao Sun, Jingyao Liu

Institute of Theoretical Chemistry, College of Chemistry, Jilin University, Changchun 130023, China

The dependence of limiting potential (U_L) of TMS₄-C and TMN₄-C as a function of φ displays a volcano-shaped curve, in which the CoS₄-C single-atom nanozyme exhibits the best performance, with a low limiting potential of -0.07 V, exceeding most reported catalysts.

Chinese Chemical Letters 34 (2023) 108018



A new perchlorate-based hybrid ultramicroporous material with rich bare oxygen atoms for high C₂H₂/CO₂ separation

Ke Jiang^{b,c}, Yuntian Gao^a, Peng Zhang^a, Shiwei Lin^a, Ling Zhang^a

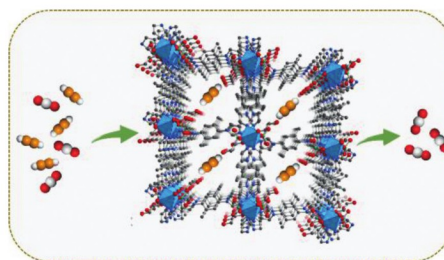
^aState Key Laboratory of Marine Resource Utilization in South China Sea, School of Materials Science and Engineering, Hainan University, Haikou 570228, China

^bKey Laboratory of Food Nutrition and Functional Food of Hainan Province, School of Food Science and Engineering, Hainan University, Haikou 570228, China

^cState Key Laboratory of Silicon Materials, Zhejiang University, Hangzhou 310027, China

A new perchlorate-based hybrid ultra-microporous material features the unique flexible-robust network decorated with rich bare oxygen atoms, and thus offers very high C₂H₂/CO₂ adsorptive selectivity.

Chinese Chemical Letters 34 (2023) 108039



In situ synthesized homochiral dysprosium-oxo clusters with threonine Schiff bases

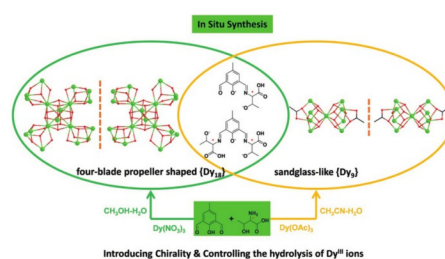
Song Peng^a, Xiaoming Ouyang^a, Yihan Wang^a, Qinghu Teng^a, Yan Li^a, Xiuqing Zhang^a, Zhaobo Hu^b, Kai Wang^a, Fupei Liang^a

^aGuangxi Key Laboratory of Electrochemical and Magnetochemical Functional Materials, College of Chemistry and Bioengineering, Guilin University of Technology, Guilin 541004, China

^bJiangxi Provincial Key Laboratory of Functional Molecular Materials Chemistry, Jiangxi University of Science and Technology, Ganzhou 341000, China

Two pairs of enantiomers of high-nuclearity Dy-oxo clusters, four-blade propeller shaped {Dy₁₈} and sandglass-like {Dy₉}, were synthesized by *in situ* strategy. The {Dy₁₈} represent the second largest species in chiral lanthanide cluster family so far.

Chinese Chemical Letters 34 (2023) 108044



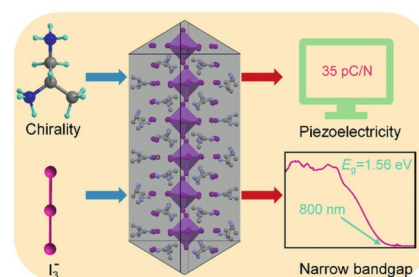
Enantiomeric hybrid high-temperature multiaxial ferroelectrics with a narrow bandgap and high piezoelectricity

Chang-Feng Wang, Na Wang, Lang Liu, Le-Ping Miao, Heng-Yun Ye, Yi Zhang, Chao Shi

Chaotic Matter Science Research Center, Department of Materials, Metallurgy and Chemistry, Jiangxi University of Science and Technology, Ganzhou 341000, China

Based on the strategy of introducing chirality and I₃⁻ ions, A pair of enantiomeric hybrid ferroelectrics was synthesized, which exhibits high-temperature multiaxial ferroelectricity, a narrow bandgap (1.56 eV), and high piezoelectric response (35 P_C/N).

Chinese Chemical Letters 34 (2023) 108051



Structures and magnetic relaxation properties of cyclopentadienyl/ β -diketonate/trispyrazolylborate hybridized dysprosium single-molecule magnets

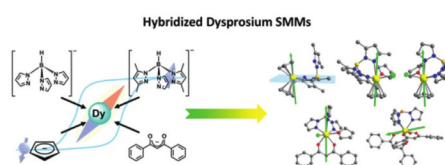
Lu Zhang^a, Jin Xiong^b, Yin-Shan Meng^a, Tao Liu^a

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

^bDepartment of Chemistry, Carnegie Mellon University, Pittsburgh, PA 15213, United States

A series of mononuclear dysprosium complexes were synthesized by using four well-known multidentate ligands. Magnetic and *ab initio* calculation studies revealed that it was the relative strength of the interactions between Dy^{III} and surrounding ligands that determined the orientation of the magnetic easy axis.

Chinese Chemical Letters 34 (2023) 108055



N-doped graphitic carbon encapsulating cobalt nanoparticles derived from novel metal–organic frameworks for electrocatalytic oxygen evolution reaction

Yuanmeng Tian^{a,b,c}, Hao Wu^d, Aamir Hanif^b, Yanli Niu^a, Ying Yin^a, Yangyi Gu^a, Zuofeng Chen^a, Qinfen Gu^e, Yun Hau Ng^{b,c}, Jin Shang^{b,c}, Liangchun Li^a, Mingxian Liu^a

^aShanghai Key Lab of Chemical Assessment and Sustainability, School of Chemical Science and Engineering, Tongji University, Shanghai 200092, China

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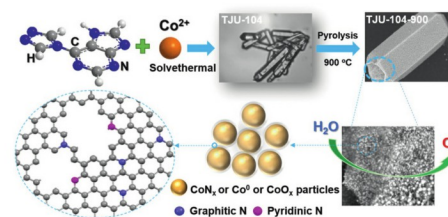
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One-step pyrolysis of novel MOFs with high N content rigid ligand allows for making porous N-doped graphitic carbons encapsulating metal nanoparticles as high-performance OER catalysts.

Chinese Chemical Letters 34 (2023) 108056



The molecular mechanisms of plasticity in crystal forms of theophylline

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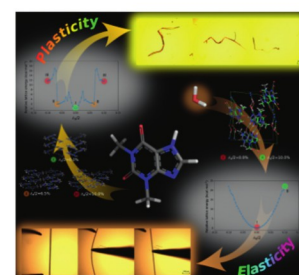
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In this work, the plasticity of anhydrous theophylline is found to be abolished upon the formation of monohydrate, which conversely shows excellent elastic behavior. Theoretical calculations suggest that the energy barrier between the strained and unstrained states could be one of the major contributing factors for the irreversible deformation of plastic organic crystals.

Chinese Chemical Letters 34 (2023) 108057



Fluorene pendant-functionalization of poly(*N*-vinylcarbazole) as deep-blue fluorescent and host materials for polymer light-emitting diodes

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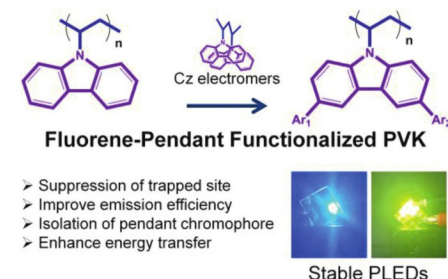
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The pendant steric functionalization of π -stacked semiconducting polymers is an effective strategy to precisely control their excitonic behavior and photophysical processing toward the optoelectronic devices.

Chinese Chemical Letters 34 (2023) 108078



Cauliflower-like nanostructured ZnV_2S_4 as a potential cathode material to boost-up high capacity and durability of the aqueous zinc-ion battery

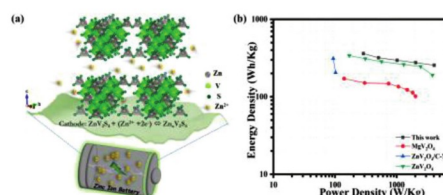
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A unique ion-exchange strategy is used to construct a high-rate and morphologically stable cauliflower-like nano- ZnV_2S_4 cathode material for an aqueous zinc-ion battery, which exhibits high specific capacity (348.2 mAh/g) with enhanced rate capability and excellent capacity retention.

Chinese Chemical Letters 34 (2023) 108076



A NIR fluorescent probe for imaging thiophenol in the living system and revealing thiophenol-induced oxidative stress

Zesi Wang^a, Jiao Li^a, Jiao Chen^{a,b}, Zifeng Cao^a, Hui Li^a, Yaopeng Cao^a, Quanquan Li^{a,c}, Mengyao She^{a,b}, Ping Liu^a, Shengyong Zhang^a, Jianli Li^a

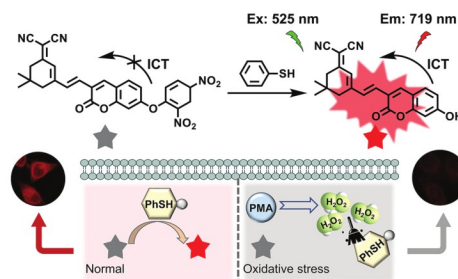
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A near-infrared (NIR) fluorescent probe for imaging thiophenol in the living system and revealing the oxidative stress process induced by thiophenol and proposed that H_2O_2 would alleviate the poisoning of thiophenol.

Chinese Chemical Letters 34 (2023) 108507



Resistive-type sensors based on few-layer MXene and SnO_2 hollow spheres heterojunctions: Facile synthesis, ethanol sensing performances

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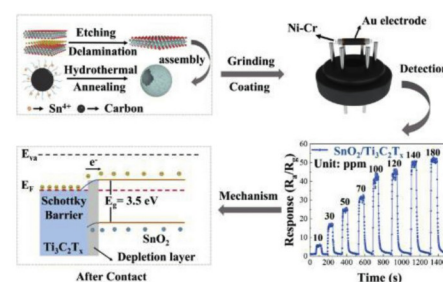
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In the present investigation, $\text{SnO}_2/\text{Ti}_3\text{C}_2\text{T}_x$ composites have been synthesized for gas sensing applications via the electrostatic self-assembly technique, demonstrating a remarkable response towards ethanol gas molecules that can be attributed to the synergistic impact of the composite components.

Chinese Chemical Letters 34 (2023) 108512



Ethylene glycol-regulated ammonium vanadate with stable layered structure and favorable interplanar spacing as high-performance cathode for aqueous zinc ion batteries

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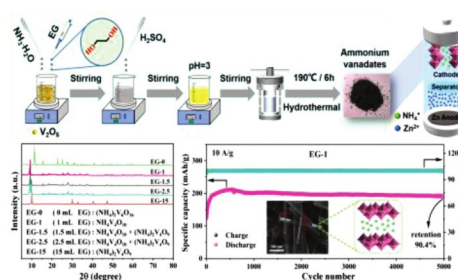
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The morphology and phase composition for ammonium vanadate compounds synthesized via hydrothermal technique can evolve from $(\text{NH}_4)_2\text{V}_6\text{O}_{16}$ to $(\text{NH}_4)_2\text{V}_4\text{O}_9$ by ethylene glycol-regulated polyol-reduction strategy and solvent effect. The stable open-framework layered structure, favorable (001) interplanar spacing, and peculiar rod-like morphology of $\text{NH}_4\text{V}_4\text{O}_{10}$ contribute to highly reversible Zn^{2+} storage.

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