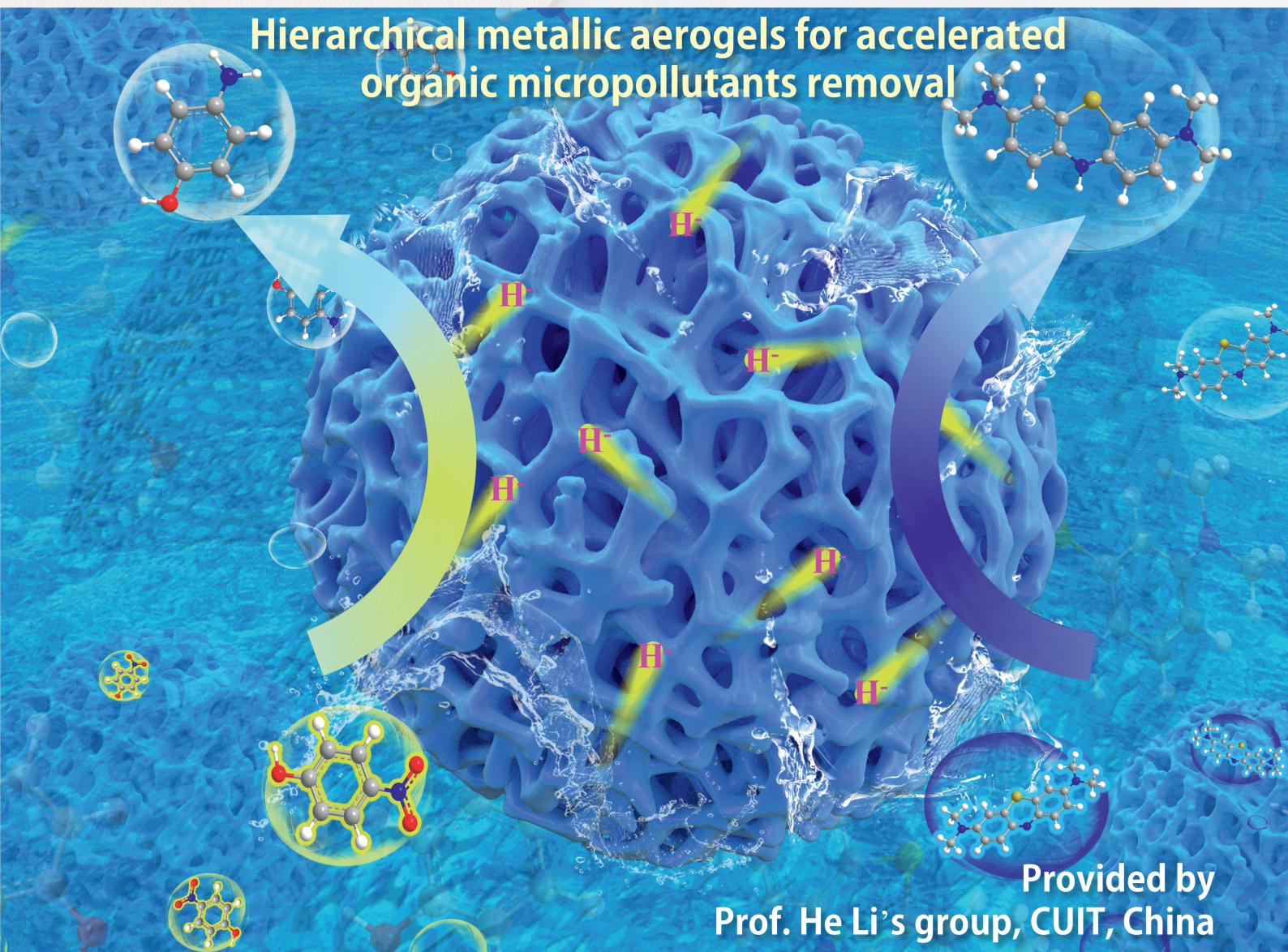


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Chinese Chemical Letters (中国化学快报)

Hierarchical metallic aerogels for accelerated organic micropollutants removal



Provided by
Prof. He Li's group, CUIT, China





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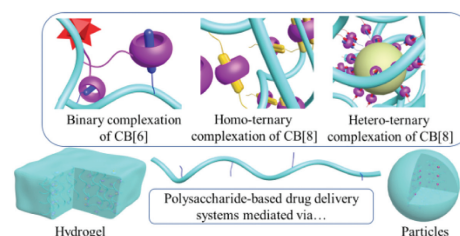
Graphical Abstracts/Chin Chem Lett 32 (2021) iii–xviii

Reviews

Polysaccharide-based supramolecular drug delivery systems mediated via host-guest interactions of cucurbiturilsYiyun Gao^{a,b}, Yan Gao^c, Yuanfu Ding^c, Huaping Tan^a, Aihua Zou^{b,d}, Shengke Li^a^a School of Materials Science and Engineering, Nanjing University of Science and Technology, Nanjing 210094, China^b Shanghai Key Laboratory of Functional Materials Chemistry, State Key Laboratory of Bioreactor Engineering and Institute of Applied Chemistry, School of Chemistry and Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China^c State Key Laboratory of Quality Research in Chinese Medicine, Institute of Chinese Medical Sciences, University of Macau, Macau, China^d College of Chemistry and Materials Science, Shanghai Normal University, Shanghai 200234, China

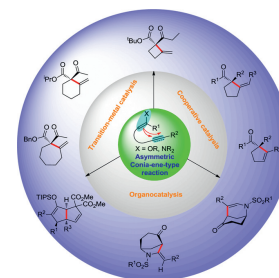
This review summarized the recent progress regarding polysaccharide-based supramolecular drug delivery systems mediated via host-guest interactions of cucurbiturils, covering both bulk hydrogels and particular systems.

Chinese Chemical Letters 32 (2021) 949

**Recent advances towards catalytic asymmetric Conia-ene-type reactions**En-Ze Lin^a, Yin Xu^b, Kegong Ji^a, Long-Wu Ye^{b,c}^a College of Chemistry and Pharmacy, Northwest A&F University, Shaanxi Key Laboratory of Natural Products & Chemical Biology, Yangling 712100, China^b The Key Laboratory for Chemical Biology of Fujian Province and State Key Laboratory of Physical Chemistry of Solid Surfaces, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China^c State Key Laboratory of Organometallic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

Organized on the basis of the catalytic system, this review comprehensively presents a summary of recent progress achieved in this emerging domain, aimed at highlighting the reactions' features, practicalities, and the mechanistic rationale is presented where possible.

Chinese Chemical Letters 32 (2021) 954

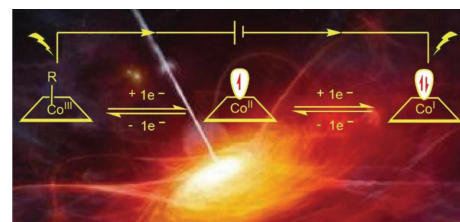
**Merging cobalt catalysis and electrochemistry in organic synthesis**

Junsong Zhong, Yi Yu, Dongliang Zhang, Keyin Ye

Key Laboratory of Molecule Synthesis and Function Discovery (Fujian Province University), College of Chemistry, Fuzhou University, Fuzhou 350108, China

Recent advances in the merger of cobalt catalysis and electrochemistry in organic synthesis are reviewed.

Chinese Chemical Letters 32 (2021) 963



Methods for enhancing the capacity of electrode materials in low-temperature lithium-ion batteries

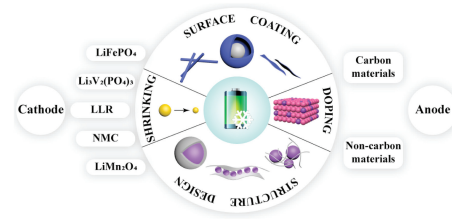
Chinese Chemical Letters 32 (2021) 973

Ying Na^a, Xiaohong Sun^a, Anran Fan^a, Shu Cai^a, Chunming Zheng^b

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

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

This review summarizes the methods and mechanisms for improving the low-temperature capacity of lithium-ion batteries from the perspective of electrode material modification. It aims to reduce the negative impact of low temperatures on lithium-ion battery capacity.



Na-K liquid alloy: A review on wettability enhancement and ionic carrier selection mechanism

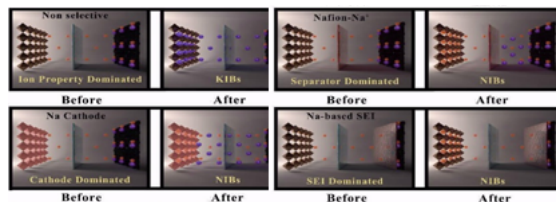
Chinese Chemical Letters 32 (2021) 983

Xinran Li^a, Jiahao Liu^a, Cheng Chen^a, Jian Yang^a, Ziqiang Xu^a, Mengqiang Wu^a, Yuesheng Wang^b, Zaghbi Karim^b

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

^b Center of Excellence in Transportation Electrification and Energy Storage, Hydro-Québec, Varennes, QC J3X1S1, Canada

Four ionic carrier selection mechanisms and evolution of the Na-K alloy anode batteries based on the initial Na⁺ electrolyte.



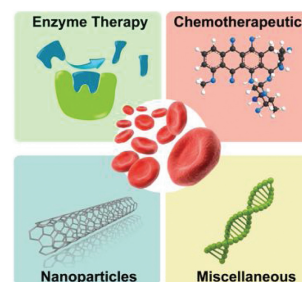
Erythrocyte-derived drug delivery systems in cancer therapy

Chinese Chemical Letters 32 (2021) 990

Yishen Mao, Caifeng Zou, Yongjian Jiang, Deliang Fu

Department of Pancreatic Surgery, Pancreatic Disease Institute, Huashan Hospital, Shanghai Medical College, Fudan University, Shanghai 200040, China

Erythrocyte-derived drug delivery systems greatly promoted the development of anti-cancer agents, especially nanoparticles. The fabrication and application of these systems were summarized in this review from four different aspects of cancer therapy: cancer enzyme therapy, delivering chemotherapeutic agents, combining with nanoparticles, and several miscellaneous anti-cancer agents.



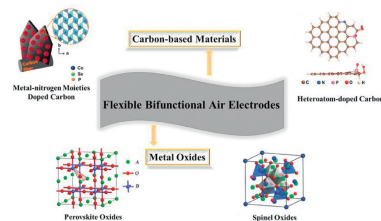
Bifunctional air electrodes for flexible rechargeable Zn-air batteries

Chinese Chemical Letters 32 (2021) 999

Xiaoling Lang^a, Zhibiao Hu^a, Caiyun Wang^b

^a Fujian Provincial Key Laboratory of Clean Energy Materials, Longyan University, Longyan 364000, China
^b ARC Centre of Excellence for Electromaterials Science, Intelligent Polymer Research Institute, AIIM Facility, Innovation Campus, University of Wollongong, North Wollongong, NSW 2500, Australia

This review presents the recent advances in bifunctional air electrodes for flexible Zn-air batteries. It focuses on the illustration of structure-property relationship of electrocatalysts that cover carbon-based materials (e.g., heteroatom-doped carbon, metal-nitrogen moieties doped carbon) and metal oxides (e.g., spinel oxides, perovskite oxides).



Recent advances in photothermal and RNA interfering synergistic therapy

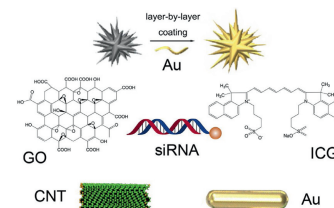
Chinese Chemical Letters 32 (2021) 1010

Kun Li^a, Mei Lu^a, Xinhua Xia^b, Yuanyu Huang^{a,b}

^a School of Life Science, Advanced Research Institute of Multidisciplinary Science, Institute of Engineering Medicine, Key Laboratory of Molecular Medicine and Biotherapy, Beijing Institute of Technology, Beijing 100081, China

^b School of Pharmacy, Hunan University of Chinese Medicine, Changsha 410208, China

This review elaborately recapitulates various versatile nanoplateforms of typical inorganic and organic photothermal conversion materials combined with RNAi, which can improve the therapeutic effect of PTT or RNAi.



Communications

Three-dimensional organic cage with aggregation-induced delayed fluorescence

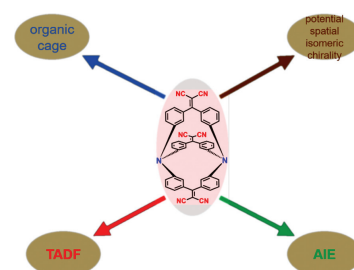
Yingyuan Hu^a, Li Li^b, Xiaoxia Wang^a, Dongge Ma^b, Fei Huang^b

^a School of Materials Science and Engineering, Dongguan University of Technology, Dongguan 523808, China

^b State Key Laboratory of Luminescent Materials and Devices, Institute of Polymer Optoelectronic Materials and Devices, South China University of Technology, Guangzhou 510640, China

A readily synthesized novel organic cage is reported to exhibit aggregation-induced delayed fluorescence and possess outstanding solubility and potential spatial isomeric chirality.

Chinese Chemical Letters 32 (2021) 1017



Structure-based linker optimization of 6-(2-cyclohexyl-1-alkyl)-2-(2-oxo-2-phenylethylsulfanyl)pyrimidin-4(3H)-ones as potent non-nucleoside HIV-1 reverse transcriptase inhibitors

Daxiong Li^a, Chunsheng Zhang^{a,e}, Wei Ding^a, Siming Huang^a, Le Yu^a, Nan Lu^a, Wenkai Pan^a, Yiming Li^a, Erik De Clercq^b, Christophe Pannecouque^b, Hongbing Zhang^a, Yueping Wang^c, Yanping He^a, Fener Chen^d

^a Key Laboratory of Medicinal Chemistry for Natural Resource, Ministry of Education, Yunnan Research & Development Center for Natural Products, School of Chemical Science and Technology, Yunnan University, Kunming 650091, China

^b Rega Institute for Medical Research, KU Leuven, Herestraat 49, B-3000, Leuven, Belgium

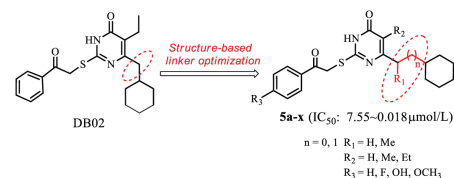
^c Department of Applied Chemistry, Faculty of Science, Kunming University of Science and Technology, Kunming 650500, China

^d Engineering Center of Catalysis and Synthesis for Chiral Molecules, Department of Chemistry, Fudan University, Shanghai 200433, China

^e Office of Academic Affairs, Yunnan University of Finance and Economics, Kunming 650221, China

A series of novel S-DACO derivatives were designed by structure-based linker optimization strategy. Most compounds showed potential activities against HIV-1 with IC₅₀ values ranging from 7.55 mmol/L to 0.018 mmol/L. Preliminary SAR and molecular modeling of these novel congeners were investigated.

Chinese Chemical Letters 32 (2021) 1020



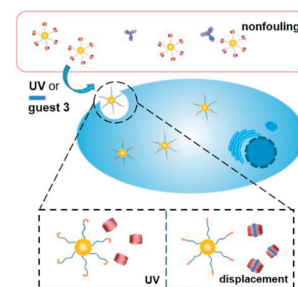
Ultra-stable and multistimuli-responsive nanoparticles coated with zwitterionic pillar[n]arene for enhanced cellular uptake

Yupeng Jiao, Shang Lan, Da Ma

Department of Chemistry, Fudan University, Shanghai 200433, China

Zwitterionic pillar[n]arene-coated nanoparticles are ultra-stable in blood serum, and responsive to multistimuli to enhance cellular uptake.

Chinese Chemical Letters 32 (2021) 1025



Organotellurium-catalyzed oxidative deoxygenation reactions using visible-light as the precise driving energy

Xin Deng^{a,b}, Rongrong Qian^c, Hongwei Zhou^b, Lei Yu^a

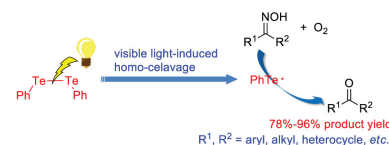
^a School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 225002, China

^b College of Biological, Chemical Sciences and Engineering, Jiaxing University, Jiaxing 314001, China

^c Jiangsu College of Tourism, Yangzhou 225127, China

Irradiated by visible light, the recyclable (PhTe)₂-catalyzed oxidative deoxygenation reaction could occur under mild conditions. In comparison with the thermo reaction, the method employed reduced catalyst loading (1 mol% vs. 2.5 mol%), but afforded elevated product yields with expanded substrate scope. This work demonstrated that for the organotellurium-catalyzed reactions, visible light might be an even more precise driving energy than heating because it could break the Te—Te bond accurately to generate the active free radical catalytic intermediates without damaging the fragile substituents (e.g., heterocycles) of substrates. The use of O₂ instead of explosive H₂O₂ as oxidant affords safer reaction conditions from the largescale application viewpoint.

Chinese Chemical Letters 32 (2021) 1029



Electrochemical synthesis of 3-azido-indolines from amino-azidation of alkenes

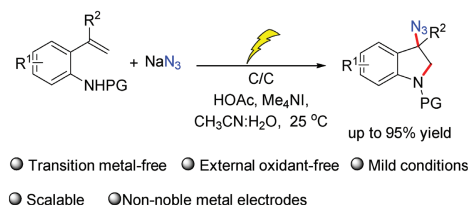
Shengping Guo^a, Liyan Liu^a, Kangfei Hu^a, Qi Suna, Zhenggen Zha^a, Yu Yang^b, Zhiyong Wang^a

^a Hefei National Laboratory for Physical Sciences at Microscale, CAS Key Laboratory of Soft Matter Chemistry & Center for Excellence in Molecular Synthesis of Chinese Academy of Sciences, Collaborative Innovation Center of Suzhou Nano Science and Technology & School of Chemistry and Materials Science, University of Science and Technology of China, Hefei 230026, China

^b School of Chemistry and Chemical Engineering, Hefei Normal University, Hefei 230601, China

An electrochemical amino-azidation of 2-aminostyrene with sodium azide (NaN₃) was developed, which can be carried out smoothly in water under metal-free condition, affording a series of 3-azido indolines with high yields.

Chinese Chemical Letters 32 (2021) 1033



Morphology controllable conjugated network polymers based on AIE-active building block for TNP detection

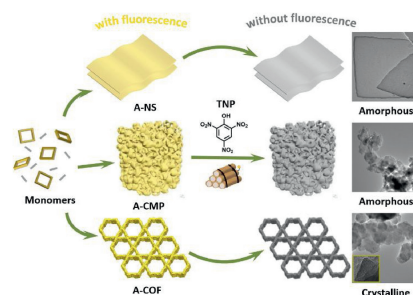
Shan Jiang^a, Lingchen Meng^a, Wenyue Ma^a, Qingkai Qi^a, Wei Zhang^b, Bin Xu^a, Leijing Liu^a, Wenjing Tian^a

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

^b Electron Microscopy Center, Jilin University, Changchun 130012, China

Three conjugated network polymers with different morphologies based on the same monomer and linker have been prepared, in the form of two-dimensional nanosheets, conjugated microporous polymers and conjugated organic frameworks. The conjugated polymers exhibit high fluorescence quantum efficiency and favorable stability, as well as obvious fluorescence quenching response to 2,4,6-trinitrophenol (TNP).

Chinese Chemical Letters 32 (2021) 1037



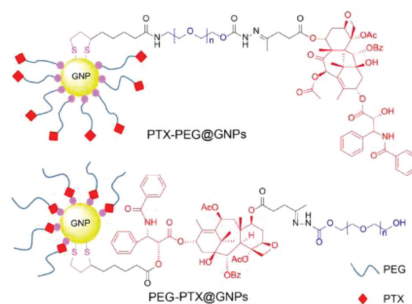
The effect of drug position on the properties of paclitaxel-conjugated gold nanoparticles for liver tumor treatment

Huaisong Wang, Lin Wang, Yueyuan Gao, Ya Ding

Key Laboratory of Drug Quality Control and Pharmacovigilance, Ministry of Education, China Pharmaceutical University, Nanjing 210009, China

Two types of PTX-conjugated GNPs (PTX-PEG@GNPs and PEG-PTX@GNPs) are prepared for investigating tumor therapy efficiency affected by the drug position in the PTX-ligands. The PEG-PTX@GNPs exhibit better anticancer activity.

Chinese Chemical Letters 32 (2021) 1041



Reduction-sensitive nanomicelles: Delivery celastrol for retinoblastoma cells effective apoptosis

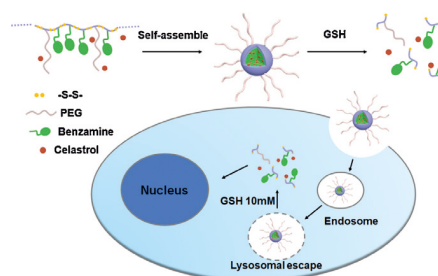
Zhihua Guo^a, Liuqi Shi^{a,b}, Huayang Feng^{a,b}, Fan Yang^a, Zhanrong Li^a, Junjie Zhang^a, Lin Jin^a, Jingguo Li^{a,b}

^a Henan Eye Hospital, Henan Provincial People's Hospital, Zhengzhou University People's Hospital, Zhengzhou 450003, China

^b School of Materials Science and Engineering, Zhengzhou University, Zhengzhou 450001, China

A novel polymeric vector with high density disulfide groups in the backbone is developed for celastrol controlled intracellular drug delivery with strengthened apoptosis-inducing effect on human retinoblastoma cells.

Chinese Chemical Letters 32 (2021) 1046



Simple fabrication of Cu²⁺ doped calcium alginate hydrogel filtration membrane with excellent anti-fouling and antibacterial properties

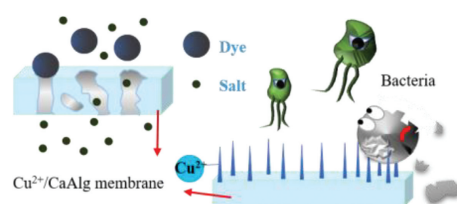
Tian Bai^a, Kongyin Zhao^a, Zijie Lu^a, Xuefang Liu^a, Ze Lin^a, Mengmeng Cheng^a, Ziyi Li^a, Dunwan Zhu^b, Linhua Zhang^b

^a State Key Laboratory of Separation Membranes and Membrane Processes, Tiangong University, Tianjin 300387, China

^b Tianjin Key Laboratory of Biomedical Materials, Key Laboratory of Biomaterials and Nanotechnology for Cancer Immunotherapy, Institute of Biomedical Engineering, Chinese Academy of Medical Sciences & Peking Union Medical College, Tianjin 300192, China

Compared with CaAlg, Cu²⁺/CaAlg had stronger mechanical properties, high flux and lower swelling rate. Cu²⁺/CaAlg showed good antibacterial properties and can be used for a long time.

Chinese Chemical Letters 32 (2021) 1051



Polydopamine (PDA)-activated cobalt sulfide nanospheres responsive to tumor microenvironment (TME) for chemotherapeutic-enhanced photothermal therapy

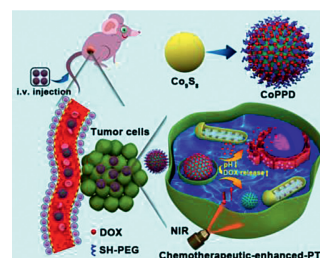
Mengmeng Hou^a, Yuanxin Zhong^a, Lei Zhang^b, Zhigang Xu^a, Yuejun Kang^a, Peng Xue^a

^a School of Materials and Energy, Southwest University, Chongqing 400715, China

^b State Key Laboratory of Silkworm Genome Biology, Southwest University, Chongqing 400716, China

Tumor microenvironment-responsive CoS@PDA/PEG/DOX (CoPPD) NSs exhibited an admirable photothermal property and high drug loading capacity of 44.6%, which can afford chemotherapeutic-enhanced photothermal therapy.

Chinese Chemical Letters 32 (2021) 1055



Rational design of a bifunctional fluorescent probe for distinguishing Hcy/Cys from GSH with ideal properties

Xiaojie Ren^a, Lide Liao^a, Zhaoguang Yang^{a,b}, Haipu Li^{a,b}, Xi Li^c, Yangang Wang^c, Yong Ye^d, Xiangzhi Song^{a,b}

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

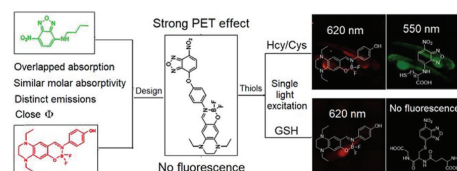
^b Key Laboratory of Hunan Province for Water Environment and Agriculture Product Safety, Changsha 410083, China

^c College of Biological Chemical Science and Engineering, Jiaxing University, Jiaxing 314001, China

^d College of Chemistry and Molecular Engineering, Zhengzhou University, Zhengzhou 450001, China

A sensitive and selective bifunctional fluorescent probe, TQBF-NBD, was rationally designed to distinguish Hcy/Cys from GSH with a red emission and mega-large Stokes shift under a single-wavelength excitation. This probe displayed distinct fluorescence responses toward Hcy/Cys and GSH and was successfully applied for imaging of Hcy/Cys and GSH in living cells and zebrafish.

Chinese Chemical Letters 32 (2021) 1061



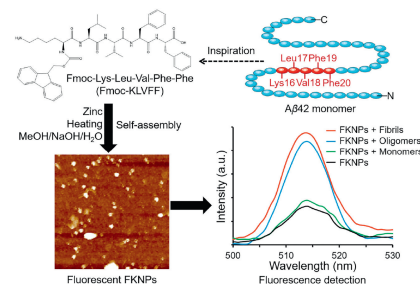
Detection of amyloid-beta by Fmoc-KLVFF self-assembled fluorescent nanoparticles for Alzheimer's disease diagnosis

Dingchang Liu, Dongjie Fu, Lianbing Zhang, Leming Sun

School of Life Sciences, Key Laboratory of Space Bioscience & Biotechnology, Northwestern Polytechnical University, Xi'an 710072, China

The Fmoc-KLVFF self-assembled fluorescent nanoparticles FKNPs with good biocompatibility can detect different concentrations of Aβ42 and distinguish different forms of Aβ42, which have the potential for AD diagnosis and progression prediction.

Chinese Chemical Letters 32 (2021) 1066



Formulation optimization and *in vitro* antibacterial ability investigation of azithromycin loaded FDKP microspheres dry powder inhalation

Qiyue Wang^a, Liang Ge^a, Lu Wang^a, Ying Xu^b, Si Miao^a, Guiping Yu^c, Yan Shen^a

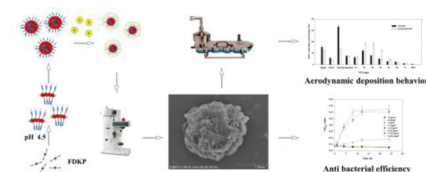
^a Center for Research Development and Evaluation of Pharmaceutical Excipients and Generic Drugs, Department of Pharmaceutics, China Pharmaceutical University, Nanjing 210009, China

^b College of Pharmacy, Jiangsu University, Zhenjiang 212013, China

^c Department of Cardiothoracic Surgery, The Affiliated Jiangyin Hospital of Southeast University Medical College, Jiangyin 214400, China

Formulation of azithromycin loaded FDKP microparticle was prepared by spray drying azithromycin dissolved FDKP microparticle suspension at pH 4.5 after optimizing high-pressure homogenization and spray drying conditions. The *in vitro* antibacterial efficiency and *in vitro* dispersion performance was also investigated to confirm the antibacterial efficiency, dispersion and deposition behaviors.

Chinese Chemical Letters 32 (2021) 1071



Selective adsorption behaviors of guest molecules COR in the hexamer host networks at liquid/solid interface

Xiaokang Li^{a,b}, Jianqiao Li^{a,b}, Chunyu Ma^{a,b}, Chen Chen^{a,b}, Siqi Zhang^{a,b}, Bin Tu^a, Wubiao Duan^b, Qingdao Zeng^{a,c}

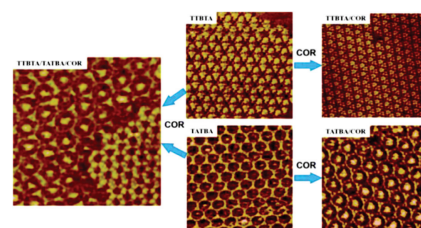
^a CAS Key Laboratory of Standardization and Measurement for Nanotechnology, CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology (NCNST), Beijing 100190, China

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

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

The self-assembled networks of TTBA and TATBA could be used as molecular templates to accommodate the guest molecule COR, and COR showed preferential adsorption to the TATBA host grid.

Chinese Chemical Letters 32 (2021) 1077



Two-dimensional MgSiP₂ with anisotropic electronic properties and good performances for Na-ion batteries

Chunying Pu^{a,b}, Jiahui Yu^{a,c}, Ling Fu^{a,c}, Jia Wang^{a,c}, Houyong Yang^{a,c}, Dawei Zhou^b, Chaozheng He^{a,c}

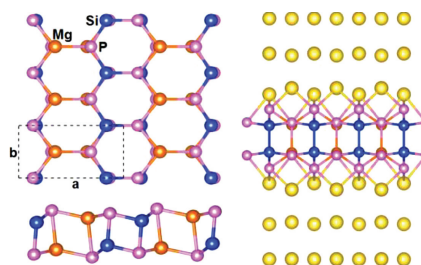
^a Institute of Environment and Energy Catalysis, School of Materials Science and Chemical Engineering, Xi'an Technological University, Xi'an 710021, China

^b College of Physics and Electronic Engineering, Nanyang Normal University, Nanyang 473061, China

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

We predicted a two dimensional MgSiP₂ with high electron mobility and good performance for sodium-ion battery as an anode material.

Chinese Chemical Letters 32 (2021) 1081



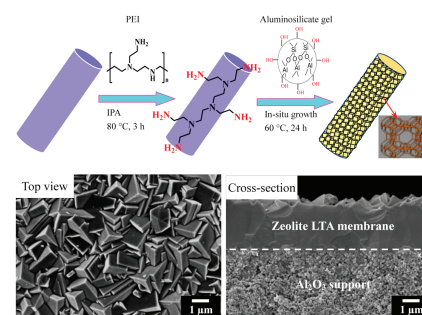
Facile preparation of compact LTA molecular sieve membranes on polyethyleneimine modified substrates

Fangge Chen, Yanhong Li, Aisheng Huang

Shanghai Key Laboratory of Green Chemistry and Chemical Processes, Department of Chemistry, East China Normal University, Shanghai 200241, China

Thin, well-intergrown and phase-pure zeolite LTA membranes are prepared on the polyethyleneimine (PEI) modified substrates without seeding. For separation of 90.0 wt% iso-propanol/water mixtures by pervaporation, the LTA membrane shows a high separation performance, with a high separation factor of 44991 and water flux of 1.73 kg m⁻² h⁻¹ at 90 °C.

Chinese Chemical Letters 32 (2021) 1086



Prediction of semiconducting SiP₂ monolayer with negative Poisson's ratio, ultrahigh carrier mobility and CO₂ capture ability

Xi Fu^a, Houyong Yang^{b,c}, Ling Fu^d, Chaozheng He^{b,c}, Jinrong Huo^{b,c}, Jiyuan Guo^e, Liming Li^a

^a College of Science, Hunan University of Science and Engineering, Yongzhou 425199, China

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

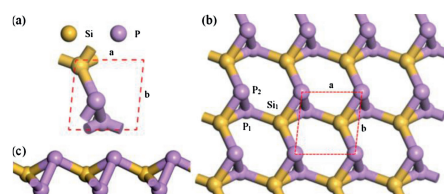
^c Shaanxi Key Laboratory of Optoelectronic Functional Materials and Devices, School of Materials Science and Chemical Engineering, Xi'an Technological University, Xi'an 710021, China

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

^e School of Science, Jiangsu University of Science and Technology, Zhenjiang 212003, China

Predicted SiP₂ monolayer is an indirectbandgap semiconductor with the gap as 1.8484 eV (PBE) or 2.681 eV (HSE06), a relatively hard auxetic material with negative Poisson's ratios, a CO₂ capturing material, and possesses an ultrahigh carrier mobility which is comparable to that of the graphene. The monolayer should be a novel 2D material holding great promises for applications in highperformance electronics, optoelectronics, mechanics and CO₂ capturing material.

Chinese Chemical Letters 32 (2021) 1089



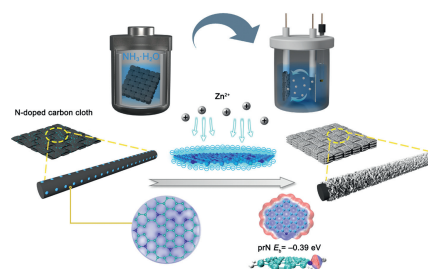
Selective nitrogen doping on carbon cloth to enhance the performance of zinc anode

Lei Wang, Guilan Fan, Jiuding Liu, Le Zhang, Meng Yu, Zhenhua Yan, Fangyi Cheng

Key Laboratory of Advanced Energy Materials Chemistry (Ministry of Education), Renewable Energy Conversion and Storage Center, College of Chemistry, Nankai University, Tianjin 300071, China

Selective nitrogen doping 3D carbonaceous substrate enhances surface Zn-affinity, suppresses dendrite formation and improves the plating/stripping stability of Zn anode.

Chinese Chemical Letters 32 (2021) 1095



Deformable double-shelled hollow mesoporous organosilica nanocapsules: A multi-interfacial etching strategy

Zhihao Feng^a, Zhaogang Teng^a, Yuyuan Shi^b, Wenhui Shi^a, Xiaodan Su^a, Guangming Lu^c, Lianhui Wang^a, Lixing Weng^b

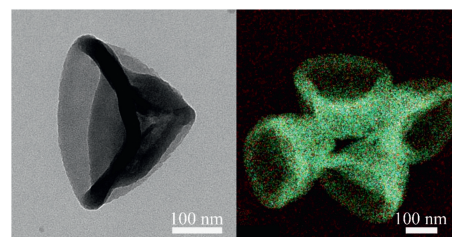
^a Key Laboratory for Organic Electronics & Information Displays and Jiangsu Key Laboratory for Biosensors, Institute of Advanced Materials, Jiangsu National Synergetic Innovation Centre for Advanced Materials, Nanjing University of Posts and Telecommunications (NJUPT), Nanjing 210023, China

^b College of Geography and Biological Information, Nanjing University of Posts and Telecommunications, Nanjing 210046, China

^c Department of Medical Imaging, Jinling Hospital, School of Medicine, Nanjing University, Nanjing 210002, China

Double-shelled deformable hollow mesoporous organosilica nanocapsules (DDHMONs) we successfully prepared via a multi-interfacial etching strategy. The DDHMONs are characterized with a unique cross-wrinkled morphology, separated double shells, and organic-inorganic hybrid frameworks.

Chinese Chemical Letters 32 (2021) 1101



Porous carbon framework nested nickel foam as freestanding host for high energy lithium sulfur batteries

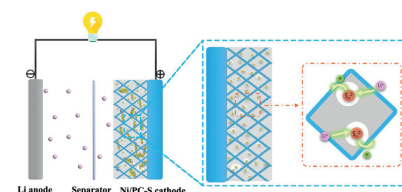
Yan Song^{a,b}, Xiuyuan Li^{a,b}, Chaozheng He^{a,b}

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

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

A freestanding electrode with porous carbon network was constructed for controlling the shuttle of lithium polysulphides to promote the utilization of active sulfur.

Chinese Chemical Letters 32 (2021) 1106



Sub-nanopores-containing N,O-codoped porous carbon from molecular-scale networked polymer hydrogel for solid-state supercapacitor

Meiling Wang^{a,d}, Tianyuan Zhang^c, Mingzhu Cui^e, Weifeng Liu^a, Xuguang Liu^a, Jianwei Zhao^b, Jiadong Zhou^d

^a Institute of New Carbon Materials, Taiyuan University of Technology, Taiyuan 030024, China

^b College of Material and Textile Engineering, Jiaxing University, Jiaxing 314001, China

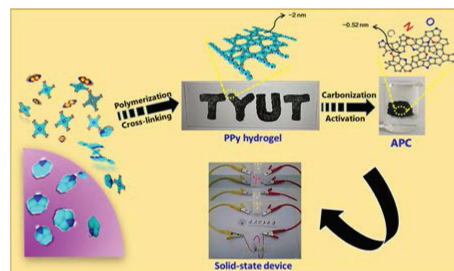
^c Department of Chemistry, University of Washington, Seattle, Washington 98195, United States

^d School of Materials Science and Engineering, Nanyang Technological University, Singapore 639798, Singapore

^e Institute of Crystalline Materials, Shanxi University, Taiyuan 030006, China

Designing of PPy hydrogel precursor containing molecular-scale grids (diameter ~2.0 nm) allows for homogeneous N,O-codoping into the porous carbon with tailored pore structures through carbonization-activation, which renders abundant sub-nanopores on their surface to increase the specific capacitance as extra capacitance sites.

Chinese Chemical Letters 32 (2021) 1111



Uniform-dispersed ZnS quantum dots loading on graphene as a promising anode for potassium-ion batteries

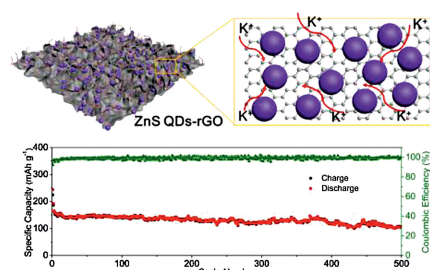
Yaqin Qi^{a,b}, Yong Yang^{a,b}, Qian Hou^{a,b}, Kun Zhang^{a,b}, Hui Zhao^{a,b}, Haijun Su^{a,b}, Lijiao Zhou^{a,b}, Xingrui Liu^b, Chao Shen^{a,b}, Keyu Xie^{a,b}

^a Research & Development Institute of Northwestern Polytechnical University in Shenzhen, Northwestern Polytechnical University, Shenzhen 518057, China

^b State Key Laboratory of Solidification Processing, Center for Nano Energy Materials, School of Materials Science and Engineering, Northwestern Polytechnical University and Shaanxi Joint Laboratory of Graphene (NPU), Xi'an 710072, China

The uniform-dispersed and morphology-controllable ZnS quantum dots loading on graphene nanosheets were investigated as an anode material for PIBs. By combining the smaller volume expansion and shorter ion diffusion distance of ultra-nano ZnS quantum dots (~2.8 nm) with the higher conductivity of rGO, the ZnS QDs-rGO anode displayed the splendid stable capacity of 122 mAh/g at a current density of 1 A/g over 500 cycles.

Chinese Chemical Letters 32 (2021) 1117



Stable confinement of Fe/Fe₃C in Fe, N-codoped carbon nanotube towards robust zinc-air batteries

Lingbo Zong^a, Xin Chen^a, Shuming Doub, Kaicai Fan^c, Zumin Wang^d, Wenjun Zhang^a, Yunmei Du^a, Jie Xu^b, Xiaofei Jia^a, Qi Zhang^a, Xia Li^a, Yida Deng^b, Yanan Chen^b, Lei Wang^a

^a Taishan Scholar Advantage and Characteristic Discipline Team of Eco Chemical Process and Technology, Key Laboratory of Optic-electric Sensing and Analytical Chemistry for Life Science, MOE, State Key Laboratory of Eco-chemical Engineering, College of Chemistry and Molecular Engineering, Qingdao University of Science and Technology, Qingdao 266042, China

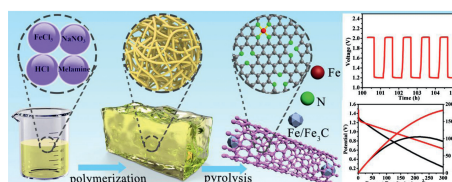
^b School of Materials Science and Engineering, Key Laboratory of Advanced Ceramics and Machining Technology of Ministry of Education, Tianjin Key Laboratory of Composite and Functional Materials, Tianjin University, Tianjin 300072, China

^c Centre for Clean Environment and Energy, School of Environment and Science, Griffith University, Queensland 4222, Australia

^d Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100190, China

Superior nonprecious bifunctional oxygen electrocatalyst is successfully fabricated through spatial confinement of Fe/Fe₃C nanocrystals in pyridinic N and Fe-Nx active sites rich carbon nanotubes (Fe/Fe₃C-N-CNTs), which can impede the aggregation and corrosion of Fe/Fe₃C nanocrystals. The resultant cost-effective bifunctional oxygen electrocatalyst has efficient electrocatalytic properties for ORR/OER and great corrosion resistance in harsh conditions. Impressively, the Fe/Fe₃C-N-CNTs-based rechargeable Zn-air batteries demonstrate high power density of 183 mW/cm² and robust cycling stability with small charge/discharge voltage gap of 0.81 V.

Chinese Chemical Letters 32 (2021) 1121



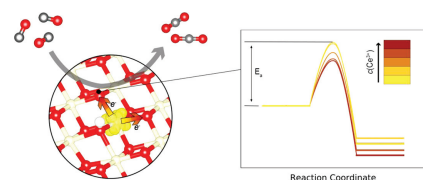
Relationships between the activities and Ce³⁺ concentrations of CeO₂(111) for CO oxidation: A first-principle investigation

Jiyuan Liu, Xueqing Gong

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

CO oxidation at hydroxylated CeO₂(111) surfaces with different sizes was calculated to learn the effect of reduction degree on the catalytic activities.

Chinese Chemical Letters 32 (2021) 1127



Size-controlled flow synthesis of metal-organic frameworks crystals monitored by *in-situ* ultraviolet–visible absorption spectroscopy

Wenbo Li^{a,b,e}, Yucen Li^c, Wei Zhang^c, Difeng Yin^{a,b,e}, Ya Cheng^{a,c,d,e}, Wei Chu^d, Ming Hu^c

^a State Key Laboratory of High Field Laser Physics and CAS Center for Excellence in Ultra-Intense Laser Science, Shanghai Institute of Optics and Fine Mechanics (SIOM), Chinese Academy of Sciences (CAS), Shanghai 201800, China

^b School of Physical Science and Technology, ShanghaiTech University, Shanghai 200031, China

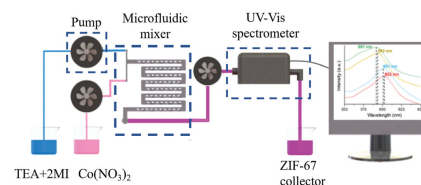
^c State Key Laboratory of Precision Spectroscopy, School of Physics and Electronic Science, East China Normal University, Shanghai 200241, China

^d XXL – The Extreme Optoelectromechanics Laboratory, School of Physics and Electronic Science, East China Normal University, Shanghai 200241, China

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

Size-controlled flow synthesis of metal-organic frameworks crystals can be realized under monitoring of ultraviolet–visible spectroscopy with the help of femtosecond laser micromachining.

Chinese Chemical Letters 32 (2021) 1131



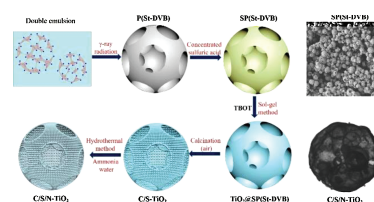
Macroporous-mesoporous C-, S-, N-doped titania microspheres via the polyHIPE microspheres templates

Xiaoling Cui, Huarong Liu, Xingyuan Zhang, Hewen Liu

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

We report a new facile method to prepare hierarchical porous C-, S-, N-doped titania microspheres (C/S/N-TiO₂) using polyHIPE microspheres as template, which show high visiblelight catalytic efficiency and good cycling stability to degrade RhB dye.

Chinese Chemical Letters 32 (2021) 1135



Monitoring the mechanical properties of the solid electrolyte interphase (SEI) using electrochemical quartz crystal microbalance with dissipation

Yinguang Chai^a, Wenshan Jia^a, Zhiqiu Hu^a, Song Jin^a, Hongchang Jin^a, Huanxin Ju^b, Xingbin Yan^c, Hengxing Ji^a, Li-Jun Wan^{a,d}

^a Hefei National Laboratory for Physical Sciences at the Microscale, Department of Applied Chemistry, University of Science and Technology of China, Hefei 230026, China

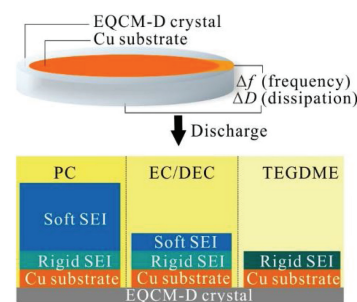
^b PHI China Analytical Laboratory, CoreTech Integrated Limited, Nanjing 211102, China

^c Laboratory of Clean Energy Chemistry and Materials, State Key Laboratory of Solid Lubrication, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, China

^d CAS Key Laboratory of Molecular Nanostructure and Nanotechnology, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

The mechanical properties of SEI was monitored *in-situ* using EQCM-D. SEIs in PC- and EC/DEC-based electrolytes are formed initially by growing a rigid layer followed by a viscoelastic overlayer. In contrast, a distinct “one-layer” rigid model is found to be applicable for the analysis of the SEI formed in the TEGDME-based electrolyte.

Chinese Chemical Letters 32 (2021) 1139



A novel synthesis of Nb₂O₅@rGO nanocomposite as anode material for superior sodium storage

Yu Zhang^a, Li Fang^a, Wang Sun^a, Bin Shi^b, Xiaotao Chen^b, Yujie Gu^c, Kunpeng Ding^c, Zhenhua Wang^a, Kening Sun^a

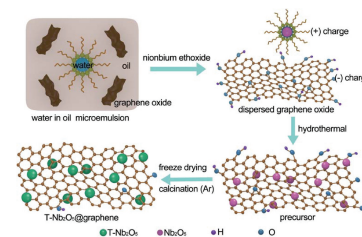
^a Beijing Key Laboratory for Chemical Power Source and Green Catalysis, School of Chemistry and Chemical Engineering, BIT-QUB Joint Center on Novel Energy and Materials Research, Beijing Institute of Technology, Beijing 100081, China

^b State Key Laboratory of Advanced Chemical Power Sources, Guizhou Meiling Power Sources Co., Ltd., Zunyi 563003, China

^c Yinlong Energy Co., Ltd., Zhuhai 519000, China

We novelly prepared Nb₂O₅@rGO nanocomposite by a facile hydrothermal-assisted microemulsion and adopted as an electrode material of sodium-ion batteries with superior rate performance.

Chinese Chemical Letters 32 (2021) 1144



Influence of functional groups on the self-assembly of liquid crystals

Shanchao Tan^{a,b}, Jiayu Tao^c, Wendi Luo^{d,f}, Hao Jiang^c, Yuhong Liu^a, Haijun Xu^c, Qingdao Zeng^{b,e}, Hongyu Shi^{a,b}

^a State Key Laboratory of Tribology, Tsinghua University, Beijing 100084, China

^b 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

^c Jiangsu Co-Innovation Center of Efficient Processing and Utilization of Forest Resources, College of Chemical Engineering, Nanjing Forestry University, Nanjing 210037, China

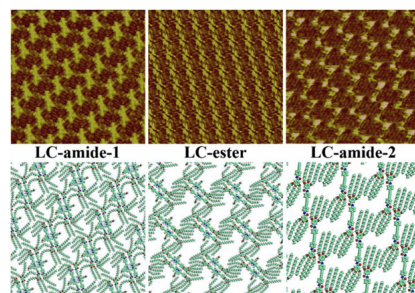
^d Laboratory of Theoretical and Computational Nanoscience, CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology, Beijing 100190, China

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

^f Sino-Danish Center for Education and Research, University of Chinese Academy of Sciences, Beijing 100190, China

By comparing the assembly structures of three liquid crystal molecules at interface, we have investigated the influence of functional groups on the self-assembly mechanism.

Chinese Chemical Letters 32 (2021) 1149



A unique 3D microporous MOF constructed by cross-linking 1D coordination polymer chains for effectively selective separation of CO₂/CH₄ and C₂H₂/CH₄

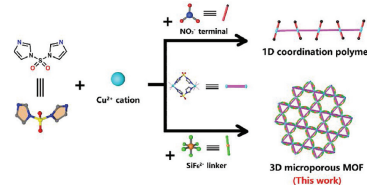
Yu-Pei Xia^a, Chen-Xue Wang^a, Mei-Hui Yu^a, Xian-He Bu^{a,b}

^a School of Materials Science and Engineering, National Institute for Advanced Materials, Nankai University, Tianjin 300350, China

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

A unique 3D microporous MOF material [Cu(SiF₆)(sdi)₂] solvents was rationally designed and successfully constructed by cross-linking 1D coordination polymer chains. Gas separation experiments revealed that the MOF can effectively selective separation of CO₂/CH₄ and C₂H₂/CH₄.

Chinese Chemical Letters 32 (2021) 1153



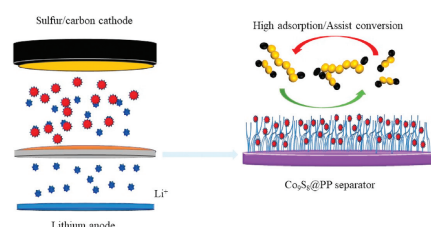
MOF-derived Co₉S₈ nano-flower cluster array modified separator towards superior lithium sulfur battery

Qi Wang, Hanqing Zhao, Boya Li, Chenhui Yang, Mingyang Li, Yanan Li, Peng Han, Miaomiao Wu, Tengyu Li, Ruiping Liu

Department of Materials Science and Engineering, China University of Mining & Technology (Beijing), Beijing 100083, China

Co₉S₈ nanostructure derived from metal organic framework material (MOF) can enhance the electrochemical performance of Li-S batteries by preventing the dissolution of polysulfide and accelerating the redox kinetics.

Chinese Chemical Letters 32 (2021) 1157



Mesoporous carbon nanosheet-assembled flowers towards superior potassium storage

Xianghua Zhang^a, Dong Chen^a, Yanping Zhou^b, Dan Yang^a, Weiling Liu^f, Yuezhao Feng^g, Xianhong Rui^a, Yan Yu^{c,d,e}

^a School of Materials and Energy, Guangdong University of Technology, Guangzhou 510006, China

^b College of Electronics and Information Engineering, Sichuan University, Chengdu 610065, China

^c Hefei National Laboratory for Physical Sciences at the Microscale, Department of Materials Science and Engineering, Key Laboratory of Materials for Energy Conversion, Chinese Academy of Sciences (CAS), University of Science and Technology of China, Hefei 230026, China

^d Dalian National Laboratory for Clean Energy (DNL), Chinese Academy of Sciences, Dalian 116023, China

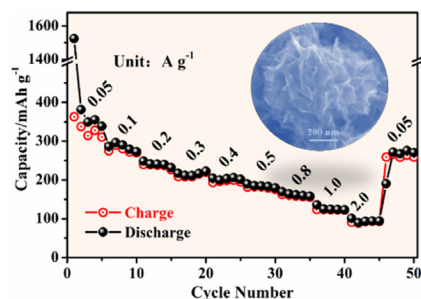
^e State Key Laboratory of Fire Science, University of Science and Technology of China, Hefei 230026, China

^f School of Materials Science and Engineering, Nanyang Technological University, Singapore 639798, Singapore

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

Mesoporous carbon nanosheet-assembled flowers exhibit superior potassium storage performance in terms of high reversible capacity and excellent rate capability.

Chinese Chemical Letters 32 (2021) 1161



TiO₂/CuPc/NiFe-LDH photoanode for efficient photoelectrochemical water splitting

Yanfei Li^a, Ruikang Zhang^b, Jianming Li^c, Jingchao Liu^a, Yucong Miao^a, Jian Guo^a, Mingfei Shao^a

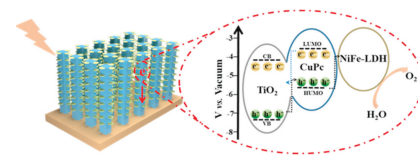
^a State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing 100029, China

^b College of Chemistry and Material Science, Hebei Normal University, Shijiazhuang 050024, China

^c Petroleum Geology Research and Laboratory Center, Research Institute of Petroleum Exploration & Development (RIPED), PetroChina, Beijing 100083, China

TiO₂/CuPc/NiFe-LDH photoanode was fabricated by assembling the CuPc molecules and NiFe-LDH nanosheets on TiO₂ through a facile layer-by-layer method, which shows excellent photoelectrochemical water splitting performance.

Chinese Chemical Letters 32 (2021) 1165



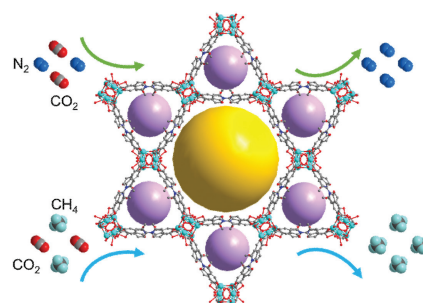
A 3D Ba-MOF for selective adsorption of CO₂/CH₄ and CO₂/N₂

Xiaokang Wang, Yutong Wang, Kebin Lu, Weifeng Jiang, Fangna Dai

College of Science, School of Materials Science and Engineering, China University of Petroleum (East China), Qingdao 266580, China

A Ba-MOF was obtained based on an *in-situ* partial hydrolysis of ligand and exhibited high separation selectivity for CO₂/CH₄ and CO₂/N₂ at ambient conditions.

Chinese Chemical Letters 32 (2021) 1169



Three new decarbonyl prenylphloroglucinols bearing unusual spirost subunits from *Hypericum scabrum* and their neuronal activities

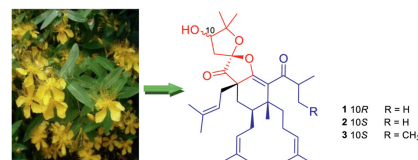
Jie Ma^a, Guiyang Xia^{a,b}, Yingda Zang^a, Chuangjun Li^a, Jianbo Yang^a, Jiwu Huang^a, Jianjun Zhang^a, Yalun Su^a, Aiguo Wang^a, Dongming Zhang^a

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

^b Key Laboratory of Chinese Internal Medicine of Ministry of Education and Beijing, Dongzhimen Hospital, Beijing University of Chinese Medicine, Beijing 100700, China

Three novel compounds, Hyperscabins A-C (1-3), were identified from the aerial parts of *Hypericum scabrum*.

Chinese Chemical Letters 32 (2021) 1173



A facile and controllable one-pot synthesis approach to amino-functionalized hollow silica nanoparticles with accessible ordered mesoporous shells

Shaoxin Deng^{a,b}, Cheng-Xing Cui^{b,c}, Lu Liu^b, Lingyao Duan^b, Jichao Wang^b, Yuping Zhang^b, Lingbo Qu^{a,c}

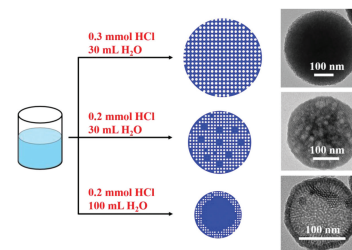
^a Postdoctoral Station of Food Science and Engineering, College of Food Science and Engineering, Henan University of Technology, Zhengzhou 450001, China

^b Postdoctoral Research Base, School of Chemistry and Chemical Engineering, Henan Institute of Science and Technology, Xinxiang 453003, China

^c College of Chemistry, and Institute of Green Catalysis, Zhengzhou University, Zhengzhou 450001, China

Monodisperse amino-functionalized hollow mesoporous silica nanoparticles were synthesized by a facile and practical one-pot approach. A novel solid-to-hollow structural transformation procedure was presented by tailoring the amount of HCl and water in the sol-gel.

Chinese Chemical Letters 32 (2021) 1177



Porous microtubes of nickel-cobalt double oxides as non-enzymatic hydrogen peroxide sensors

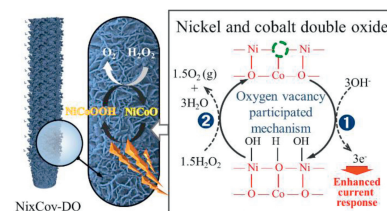
Qin Li^{a,b}, Jin Niu^{a,b}, Meiling Dou^{a,b}, Zhengping Zhang^{a,b}, Feng Wang^{a,b}

^a State Key Laboratory of Chemical Resource Engineering, Beijing Key Laboratory of Electrochemical Process and Technology for Materials, Beijing University of Chemical Technology, Beijing 100029, China

^b Beijing Advanced Innovation Center for Soft Matter Science and Engineering, Beijing University of Chemical Technology, Beijing 100029, China

A series of Ni_xCo_y-DO porous microtubes with abundant oxygen vacancies are synthesized as high-performance electrochemical sensors for H₂O₂ detection.

Chinese Chemical Letters 32 (2021) 1181



Catalytic transfer hydrogenation of biomass-derived furfural to furfuryl alcohol with formic acid as hydrogen donor over CuCs-MCM catalyst

Tao Wang^a, Juan Due, Yong Sun^a, Xing Tang^a, Zuo-Jun Wei^c, Xianhai Zeng^a, Shi-Jie Liu^d, Lu Lin^b

^a Xiamen Key Laboratory of Clean and High-valued Utilization for Biomass, College of Energy, Xiamen University, Xiamen 361102, China

^b Fujian Engineering and Research Center of Clean and High-valued Technologies for Biomass, Xiamen 361102, China

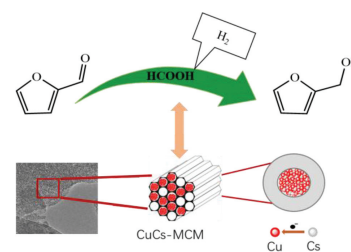
^c School of Chemical and Biological Engineering, Zhejiang University, Hangzhou 310058, China

^d Department of Paper and Bioprocess Engineering, State University of New York College of Environmental Science and Forestry, Syracuse, New York 13210, United States

^e State Key Laboratory of Applied Microbiology Southern China, Guangdong Provincial Key Laboratory of Microbial Culture Collection and Application, Guangdong Open Laboratory of Applied Microbiology, Guangdong Microbial Culture Collection Center (GDMCC), Guangdong Institute of Microbiology, Guangdong Academy of Sciences, Guangzhou 510070, China

CuCs-MCM as an efficient difunctional catalyst was developed for the transfer hydrogenation of biomass-derived furfural to furfuryl alcohol with formic acid as hydrogen donor, which played crucial roles in the decomposition of formic acid to hydrogen and hydrogenation of furfural to furfuryl alcohol.

Chinese Chemical Letters 32 (2021) 1186



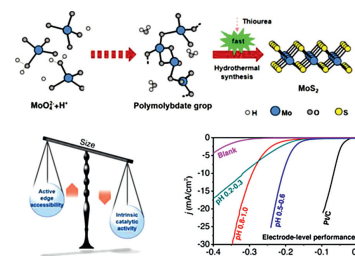
Proton-induced fast preparation of size-controllable MoS₂ nanocatalyst towards highly efficient water electrolysis

Jingjiang Wei, Ge Wang, Yijie Zhang, Shengping Wang, Wanyu Zhao, Qihang Liu, Congcong Liu, Xiaoli Zhao, Xiaowei Yang

School of Materials Science and Engineering, Tongji University, Shanghai 201804, China

A hydrothermal method for fast formation (3 h) of MoS₂ nanocatalyst was reported by pretreating traditional precursor simply with hydrochloric acid (HCl). Through regulating the particle size from proton concentration, a favorable catalytic performance among the best performances of MoS₂ based catalysts can be achieved.

Chinese Chemical Letters 32 (2021) 1191



Radiosensitization of human pancreatic cancer by piperlongumine analogues

Hao Ma^{a,e}, Yuelin Wu^d, Wannian Zhang^{a,c}, Huojun Zhang^b, Zhenyuan Miao^a, Chunlin Zhuang^{a,c}

^a School of Pharmacy, Second Military Medical University, Shanghai 200433, China

^b Department of Radiation Oncology, Shanghai Changhai Hospital, Second Military Medical University, Shanghai 200433, China

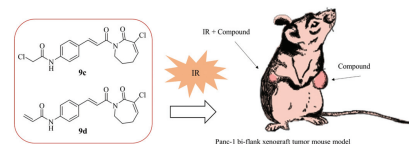
^c School of Pharmacy, Ningxia Medical University, Yinchuan 750004, China

^d School of Chemical and Environmental Engineering, Shanghai Institute of Technology, Shanghai 201418, China

^e Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China

A series of piperlongumine derivatives were synthesized. Compounds **9c** and **9d** enhanced the radiosensitivity of Panc-1 and SW1990 cells with high sensitivity enhancement ratios. They also significantly inhibited tumor growth in pancreatic bi-flank xenograft tumor model. They can induce ROS expression and target Keap1 to up-regulate γ -H2AX to induce DNA damage, G2/M-phase cell cycle arrest, and apoptosis.

Chinese Chemical Letters 32 (2021) 1197



Tsaokols A and B, unusual flavanol-monoterpenoid hybrids as α -glucosidase inhibitors from *Amomum tsao-ko*

Xiao-Feng He^{a,c}, Ji-Jun Chen^{a,c}, Tian-Ze Li^a, Jing Hu^a, Xu-Ke Zhang^b, Yuan-Qiang Guo^b, Xue-Mei Zhang^a, Chang-An Geng^a

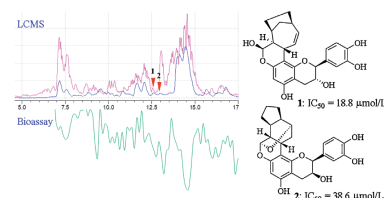
^a State Key Laboratory of Phytochemistry and Plant Resources in West China, Kunming Institute of Botany, Chinese Academy of Sciences, Yunnan Key Laboratory of Natural Medicinal Chemistry, Kunming 650201, China

^b College of Pharmacy and Tianjin Key Laboratory of Molecular Drug Research, Nankai University, Tianjin 300071, China

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

Two rare flavanol-monoterpenoid hybrids, tsaokols A (**1**) and B (**2**), were isolated from the dried fruits of *Amomum tsao-ko* under the guidance of LCMS and bioassay. They showed significant α -glucosidase inhibitory activity with IC_{50} values of 18.8 and 38.6 μ mol/L.

Chinese Chemical Letters 32 (2021) 1202



Unveiling the importance of reactant mass transfer in environmental catalysis: Taking catalytic chlorobenzene oxidation as an example

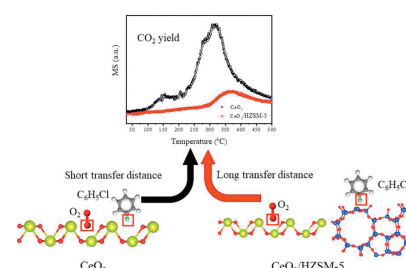
Kexin Cao^{a,b}, Xiaoxia Dai^{a,b}, Zhongbiao Wu^{a,b}, Xiaole Weng^{a,b}

^a Key Laboratory of Environment Remediation and Ecological Health, Ministry of Education, College of Environmental and Resource Sciences, Zhejiang University, Hangzhou 310058, China

^b Zhejiang Provincial Engineering Research Center of Industrial Boiler & Furnace Flue Gas Pollution Control, Hangzhou 310058, China

We demonstrated that rational regulation of reactant mass transfer on solid catalyst surface could effectively adjust the pollutant conversion efficiency, product selectivity, reaction stability and secondary pollution in environmental catalysis.

Chinese Chemical Letters 32 (2021) 1206



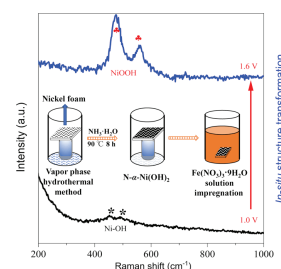
Efficient electrocatalytic oxygen evolution at ultra-high current densities over 3D Fe, N doped Ni(OH)₂ nanosheets

Pu Shi, Xiaodi Cheng, Siliu Lyu

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

The 3D Fe, N-Ni(OH)₂/NF were prepared through simple ammonia hydrothermal and impregnation method and exhibited excellent oxygen evolution reaction (OER) performances under ultra-high current densities when employed as the electrocatalyst. This work is expected to provide new insights into the study of OER process towards ultra-high current densities.

Chinese Chemical Letters 32 (2021) 1210



Synergistic *in-situ* growth of silver nanoparticles with nanozyme activity for dual-mode biosensing and cancer theranostics

Xin Hai^a, Yuwei Li^a, Kaixin Yu^a, Shuzhen Yue^a, Yuanfang Li^a, Weiling Song^c, Sai Bi^a, Xueji Zhang^b

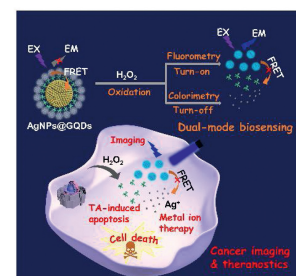
^a Research Center for Intelligent and Wearable Technology, College of Chemistry and Chemical Engineering, Qingdao University, Qingdao 266071, China

^b School of Biomedical Engineering, Shenzhen University Health Science Center, Shenzhen 518060, China

^c Laboratory of Optic-electric Sensing and Analytical Chemistry for Life Science, Ministry of Education, Shandong Key Laboratory of Biochemical Analysis, Key Laboratory of Analytical Chemistry for Life Science in Universities of Shandong, College of Chemistry and Molecular Engineering, Qingdao University of Science and Technology, Qingdao 266042, China.

Multifunctional AgNPs@GQDs with nanozyme activity have been applied for dual-mode biosensing and cancer theranostics based on the H₂O₂-responsive degradation.

Chinese Chemical Letters 32 (2021) 1215



Mitochondrion targeting peptide-modified magnetic graphene oxide delivering mitoxantrone for impairment of tumor mitochondrial functions

Hangqi Zhu^a, Bing Zhang^{b,c}, Nali Zhu^a, Mingchun Li^a, Qilin Yu^a

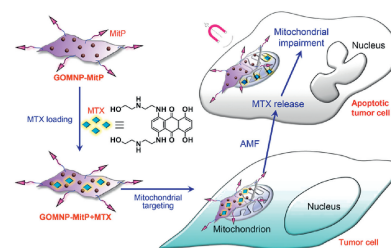
^a Key Laboratory of Molecular Microbiology and Technology, Ministry of Education, Department of Microbiology, College of Life Sciences, Nankai University, Tianjin 300071, China

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

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The magnetic graphene oxide was modified by the mitochondrion targeting peptide for MTX loading. The MTX-loading GOMNP-MitP specifically targeted the tumor mitochondria, and released MTX to the mitochondria for damaging this organelle and inducing apoptosis with the aid of alternating magnetic field.

Chinese Chemical Letters 32 (2021) 1220



Comparative study of Co₃O₄-ZSM-5 catalysts synthesized by different hydrothermal methods for the catalytic oxidation of dichloromethane

Xiaoqi Fei^{a,b}, Shuang Cao^c, Weilong Ouyang^{a,b}, Haiqiang Wang^{a,b}, Zhongbiao Wu^{a,b}

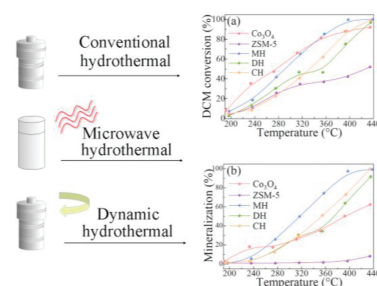
^a Key Laboratory of Environment Remediation and Ecological Health, Ministry of Education, College of Environmental & Resources Science, Zhejiang University, Hangzhou 310058, China

^b Zhejiang Provincial Engineering Research Center of Industrial Boiler & Furnace Flue Gas Pollution Control, Hangzhou 310058, China

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Three Co₃O₄-ZSM-5 catalysts were prepared by the microwave hydrothermal method (MH-Co₃O₄@ZSM-5), dynamic hydrothermal method (DH-Co₃O₄@ZSM-5), and conventional hydrothermal method (CH-Co₃O₄@ZSM-5). MH-Co₃O₄@ZSM-5 formed a uniform core-shell structure and showed the best catalytic performance for dichloromethane (DCM) oxidation

Chinese Chemical Letters 32 (2021) 1224



Visible-light-induced photoredox-catalyzed synthesis of benzimidazo [2,1-a]iso-quinoline-6(5H)-ones

Bin Wang^{a,b}, Long Zou^b, Lei Wang^{a,b,c}, Manman Sun^a, Pinhua Li^{b,c}

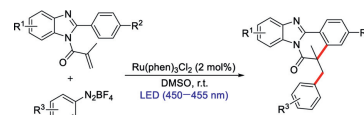
^a Advanced Research Institute and Department of Chemistry, Taizhou University, Taizhou 318000, China

^b Department of Chemistry, Huaibei Normal University, Huaibei 235000, China

^c State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Shanghai 200032, China

A visible-light-induced photoredox-catalyzed diarylation of *N*-methacryloyl-2-arylbenzimidazoles with aryl diazonium salts was developed, providing an efficient access to benzimidazoisoquinolinones under mild conditions.

Chinese Chemical Letters 32 (2021) 1229



Simultaneous studies of pressure effect on charge transport and photophysical properties in organic semiconductors: A theoretical investigation

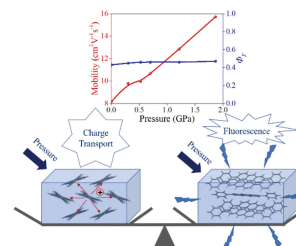
Xueying Lu^a, Yajing Sun^a, Zhicheng Zhang^a, Zhigang Shuai^b, Wenping Hu^a

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

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

We theoretically explored the pressure-depended charge transport and photophysical properties of DPA single simultaneously. Significant mobility increase and high fluorescence quantum yield were founded under pressure.

Chinese Chemical Letters 32 (2021) 1233



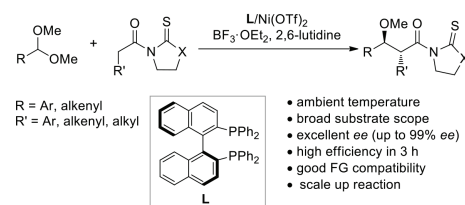
Nickel(II)-catalyzed asymmetric alkylation of acyclic oxocarbenium ions with carboxylic acid derivatives

Pengbo Ye, Xuan Liu, Gang Wang, Lei Liu

School of Chemistry and Chemical Engineering, Shandong University, Ji'nan 250100, China

A nickel(II)-catalyzed asymmetric alkylation of acyclic oxocarbenium ions with carboxylic acid derivatives has been disclosed.

Chinese Chemical Letters 32 (2021) 1237



Cobalt-catalyzed asymmetric hydrogenation of ketones: A remarkable additive effect on enantioselectivity

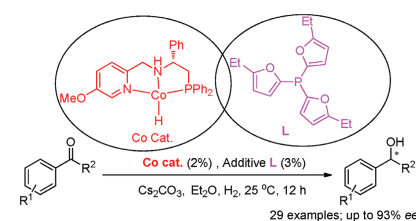
Tian Du^a, Biwen Wang^a, Chao Wang^a, Jianliang Xiao^b, Weijun Tang^a

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

^b Department of Chemistry, University of Liverpool, Liverpool, L69 7ZD, UK

A chiral cobalt pincer complex combined with an achiral mono-phosphine ligand catalyzes efficient asymmetric hydrogenation of aryl ketones.

Chinese Chemical Letters 32 (2021) 1241



Spatial donor/acceptor architecture for intramolecular charge-transfer emitter

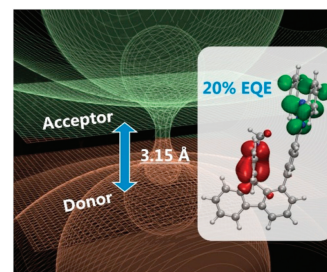
Hong-Cheng Li^a, Xun Tang^a, Sheng-Yi Yang^a, Yang-Kun Qu^a, Zuo-Quan Jiang^a, Liang-Sheng Liao^{a,b}

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

^b Institute of Organic Optoelectronics, Jiangsu Industrial Technology Research Institute (JITRI), Suzhou 215211, China

A folded molecular construction, in which electron donor and acceptor can interact each other to give bright luminescence. And thermally activated delayed fluorescence device with 20% external quantum efficiency is achieved with this emitter.

Chinese Chemical Letters 32 (2021) 1245



Ultralong nanowires self-assembled from a [b]-bisphenanthrene-fused azadipyrromethene

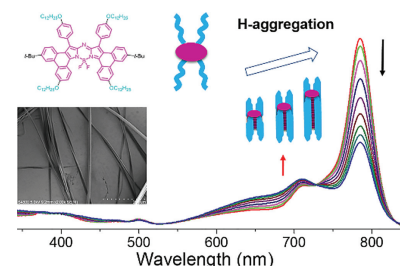
Wanle Sheng^a, Zhangcui Wang^a, Erhong Hao^b, Lijuan Jiao^b

^a Department of Chemistry, Bengbu Medical College, Bengbu 233030, China

^b The Key Laboratory of Functional Molecular Solids, Ministry of Education, School of Chemistry and Materials Science, Anhui Normal University, Wuhu 241002, China

Ultralong nanowires self-assembled from a [b]-bisphenanthrene-fused azadipyrromethene by H-type aggregation processing.

Chinese Chemical Letters 32 (2021) 1249



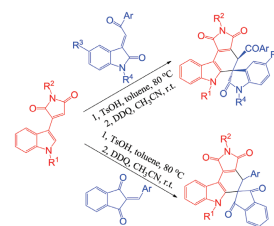
Convenient construction of spiro[indoline-3,5'-pyrrolo[3,4-c]carbazole] and spiro[indene-2,5'-pyrrolo[3,4-c]carbazole] via acid-catalyzed Diels-Alder reaction

Chen Yan, Jing Sun, Chao-Guo Yan

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

p-TsOH catalyzed Diels-Alder reaction of 3-(indol-3-yl)maleimides with 3-phenacylideneoxindoles in toluene afforded *cis/trans* isomers of 3a',4',6',10c'-tetrahydrospiro[indoline-3,5'-pyrrolo[3,4-c]carbazoles] in nearly comparable yields, which could be easily converted to the corresponding 4',6'-dihydrospiro[indoline-3,5'-pyrrolo[3,4-c]carbazoles] in high yields and with high diastereoselectivity by further DDQ oxidation.

Chinese Chemical Letters 32 (2021) 1253



High electron mobility fluorinated indacenodithiophene small molecule acceptors for organic solar cells

Fei Pan^{a,b,c}, Xiaojun Li^{b,c}, Song Bai^a, Tianhao Liu^{a,d}, Xian Wei^a, Yingfen Li^a, Shanshan Chen^{e,f}, Changduk Yang^f, Xiwen Chen^g, Menglan Lv^{a,b,d}, Yongfang Li^{b,c}

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^c School of Chemical Science, University of Chinese Academy of Sciences, Beijing 100049, China

^d School of Chemistry and Chemical Engineering, Guizhou University, Guiyang 550025, China

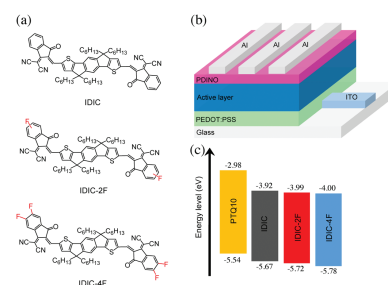
^e MOE Key Laboratory of Low-grade Energy Utilization Technologies and Systems, CQU-NUS Renewable Energy Materials & Devices Joint Laboratory, School of Energy & Power Engineering, Chongqing University, Chongqing 400044, China

^f Department of Energy Engineering, School of Energy and Chemical Engineering, Low Dimensional Carbon Materials Center, Ulsan National Institute of Science and Technology (UNIST), Ulsan 689-798, South Korea

^g Guangzhou Polyforte Chemical Technology Co. Ltd, Guangzhou 510520, China

Fluorination density and positioning of end group could effects on the photovoltaic properties of indacenodithiophene (IDT)-based acceptors. Due to the advantages of J_{sc} and FF as well as acceptable V_{oc} , the difluorinated IDIC-2F acceptor based OSCs achieve the highest performance of 13%, and highly electron mobility and thickness-insensitivity property of OSCs have potential for large-scale and printable fabrication technology.

Chinese Chemical Letters 32 (2021) 1257



Direct synthesis of benzoxazinones via Cp*Co(III)-catalyzed C-H activation and annulation of sulfoxonium ylides with dioxazolones

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

^b Department of Chemistry, Zhejiang Normal University, Jinhua 321004, China

A highly novel and direct synthesis of benzoxazinones was developed via Cp*Co(III)-catalyzed C-H activation and [3+3] annulation between sulfoxonium ylides and dioxazolones. The reaction is conducted under base-free conditions and tolerates various functional groups. Starting from diverse readily available sulfoxonium ylides and dioxazolones, a variety of benzoxazinones could be synthesized in one step in 32%-75% yields.

Chinese Chemical Letters 32 (2021) 1263

