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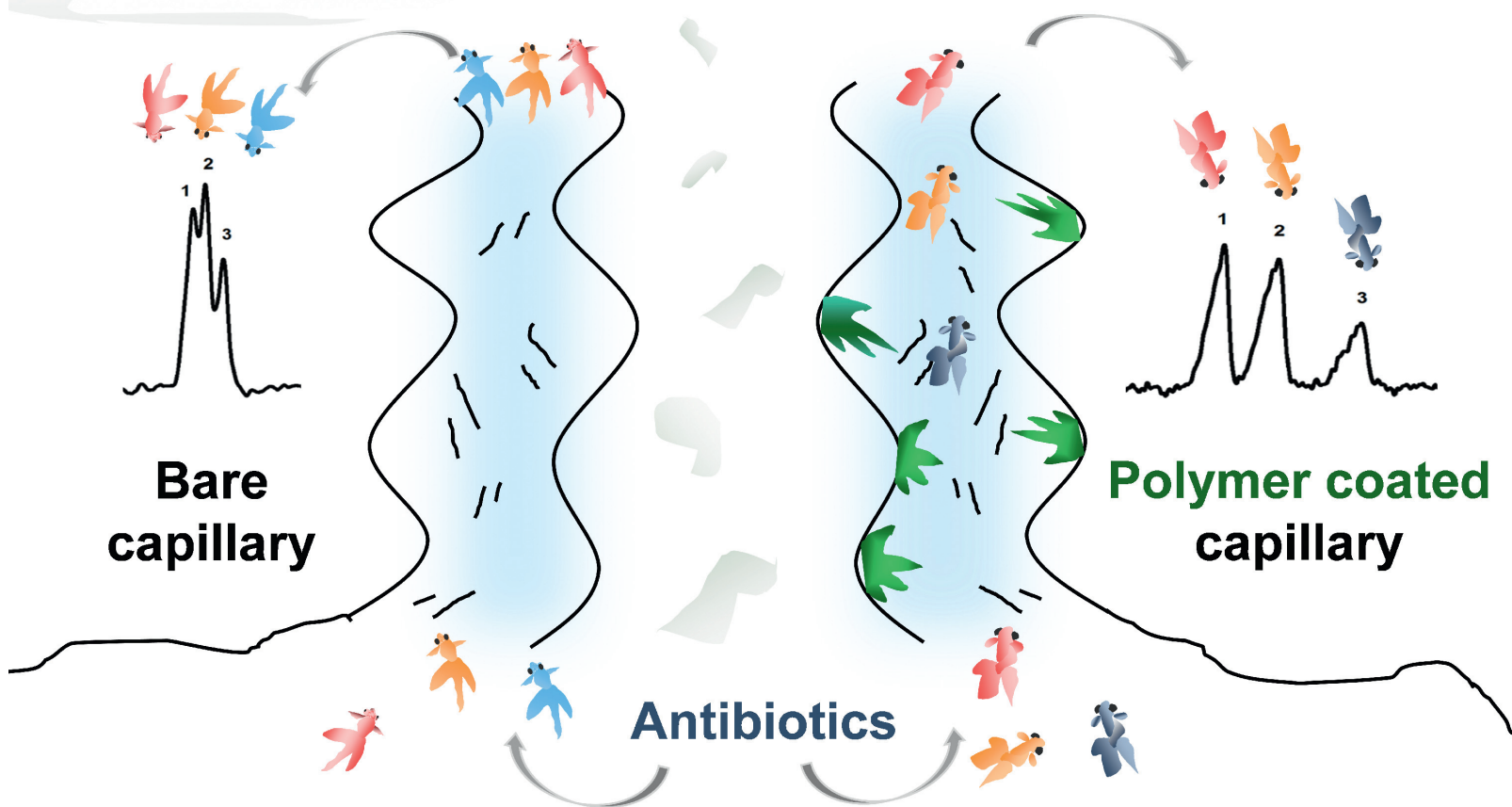
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Chinese Chemical Letters

| Volume 30 | Number 2 | FEBRUARY 2019 |



Provided by Prof. Li Qi's group, ICCAS, China



REVIEW

Jing Li, Hao Zhang et al.
Advances in green colloidal synthesis of metal selenide and telluride quantum dots

COMMUNICATION

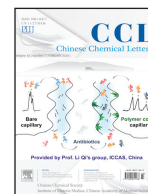
Yunfeng Zhang, Deli Wang et al.
Semi-interpenetrating polymer networks toward sulfonated poly(ether ether ketone) membranes for high concentration direct methanol fuel cell

ISSN 1001-8417



Chinese Chemical Society

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Graphical Abstracts/Chin Chem Lett 30 (2019) iii–xviii

Reviews

Dynamic materials fabricated from water soluble pillar[n]arenes bearing triethylene oxide groups

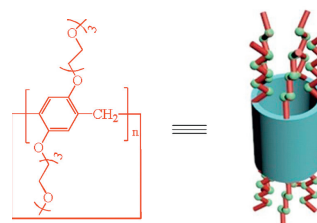
Tangxin Xiao^a, Ling Zhou^a, Lixiang Xu^a, Weiwei Zhong^a, Wei Zhao^a, Xiao-Qiang Sun^a, Robert B.P. Elmes^b

^a School of Petrochemical Engineering, Advanced Catalysis and Green Manufacturing Collaborative Innovation Center, Changzhou University, Changzhou 213164, China

^b Department of Chemistry, Maynooth University, National University of Ireland, Maynooth, Ireland

Recent advance on dynamic materials fabricated from water soluble pillar[n]arenes with triethylene oxide groups was summarized.

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Dynamic materials based on pillar[n]arenes with TEO groups

Advances in green colloidal synthesis of metal selenide and telluride quantum dots

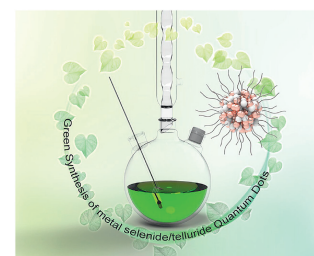
Dong Yao^a, Yi Liu^a, Jing Li^b, Hao Zhang^a

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

^b The Scientific Research Center, China-Japan Union Hospital, Jilin University, Changchun 130033, China

This review summarized the green approaches toward colloidal chemical synthesis for metal selenide and telluride quantum dots.

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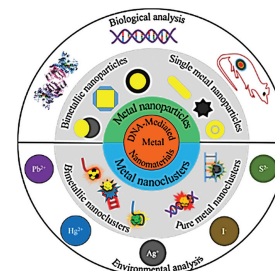
Progress on the development of DNA-mediated metal nanomaterials for environmental and biological analysis

Jingtai Fu, Zhuomin Zhang, Gongke Li

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

This review summarized the recent progress on the synthesis, morphologies and properties of DNA-mediated metal nanomaterials including nanoparticles and nanoclusters. Moreover, their applications to environmental and biological analysis were introduced with the developing prospect in analytical chemistry.

Chinese Chemical Letters 30 (2019) 285



Advances in the study of the host-guest interaction by using coronene as the guest molecule

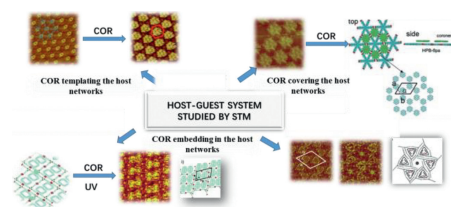
Jianqiao Li^{a,b}, Yuxin Qian^{a,b}, Wubiao Duan^a, Qingdao Zeng^b

^a Department of Chemistry, School of Science, Beijing Jiaotong University, Beijing 100044, 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

This review supplied direct insight of host-guest molecule system by using COR as the guest molecule.

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Communications

Semi-interpenetrating polymer networks toward sulfonated poly(ether ether ketone) membranes for high concentration direct methanol fuel cell

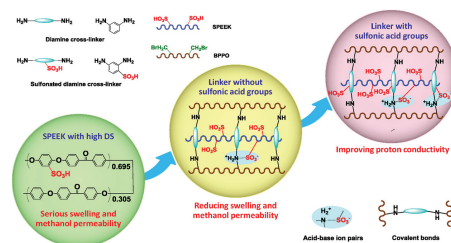
Xupo Liu^{a,b}, Yunfeng Zhang^a, Shaofeng Deng^b, Cuicui Li^a, Jiaming Dong^a, Jiaying Wang^a, Zehui Yang^a, Deli Wang^b, Hansong Cheng^a

^a Sustainable Energy Laboratory, Faculty of Materials Science and Chemistry, China University of Geosciences (Wuhan), Wuhan 430074, China

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

Semi-IPNs were constructed by forming the crosslinking networks via the reaction between BPPO and diamine cross-linkers to overcome the dimensional swelling and methanol-permeation issues of SPEEK.

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Structure, rheology and electrospinning of zein and poly(ethylene oxide) in aqueous ethanol solutions

Ce Shi^{a,c}, Shixia Xia^{a,b}, Yingchun Han^{a,d}, Hao Zhang^b, Jingsheng Liu^b, Yunqi Li^{a,d}

^a Key Laboratory of High-Performance Synthetic Rubber and its Composite Materials, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

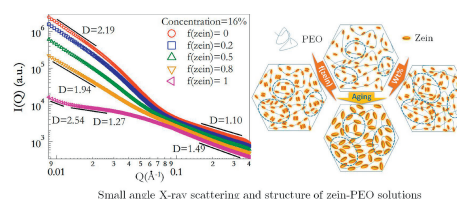
^b College of Food Science and Engineering, National Engineering Laboratory for Wheat and Corn Deep Processing, Jilin Agricultural University, Changchun 130118, China

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

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

This study provided a clear correlation of the structure and rheology of solutions with the morphologies of EFM made up of proteins and polymers.

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Selective modification of two-dimensional MoS₂ nanosheets by polymer grafting

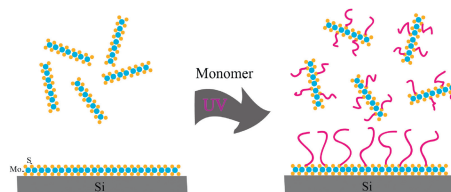
Hang Bian^a, Xuejian Zhang^a, Dexin Huang^a, Ning Zhang^b

^a School of Material Science and Engineering, Jilin Jianzhu University, Changchun 130118, China

^b Key Laboratory of Synthetic Rubber, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

We reported on the direct creation of polymer brushes on two-dimensional molybdenum disulfide via the formation of C—S bond by UV-induced photopolymerization. The functionalization can be manipulated in forming polymer grafts on one side or both sides of the nanosheets.

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Chloride-derived copper electrode for efficient electrochemical reduction of CO₂ to ethylene

Tian Qin^{a,b,c}, Yao Qian^b, Fan Zhang^b, Bo-Lin Lin^b

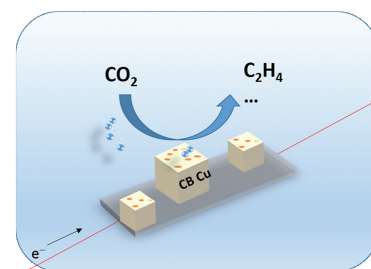
^a Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, Shanghai 200050, China

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

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

Transformation of CuCl into cubic structure of bi-phasic Cu₂O-Cu (CB-Cu) enhanced production of ethylene from electrochemical reduction of CO₂.

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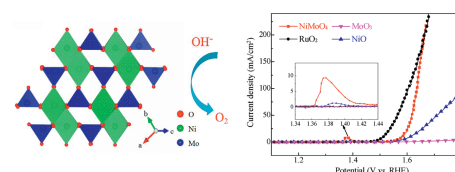
Nanostructured NiMoO₄ as active electrocatalyst for oxygen evolution

Xinyue Zhao, Jing Meng, Zhenhua Yan, Fangyi Cheng, Jun Chen

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

Hydrothermally synthesized NiMoO₄ nanorods exhibit considerable electrocatalytic properties for the oxygen evolution in alkaline condition. The performance enhancement of ternary NiMoO₄ over binary oxide NiO and MoO₃ is attributed to the inclusion of Mo that promotes the pre-redox reaction of Ni to form active Ni species.

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Recyclable Fenton-like catalyst based on zeolite Y supported ultrafine, highly-dispersed Fe₂O₃ nanoparticles for removal of organics under mild conditions

Xuanyu Yang^a, Xiaowei Cheng^a, Ahmed A. Elzatahry^b, Jinyang Chen^c, Abdulaziz Alghamdi^d, Yonghui Deng^{a,e}

^a Department of Chemistry, State Key Laboratory of Molecular Engineering of Polymers, Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, iChEM (Collaborative Innovation Center of Chemistry for Energy Materials), Fudan University, Shanghai 200433, China

^b Materials Science and Technology Program, College of Arts and Sciences, Qatar University, Doha 2713, Qatar

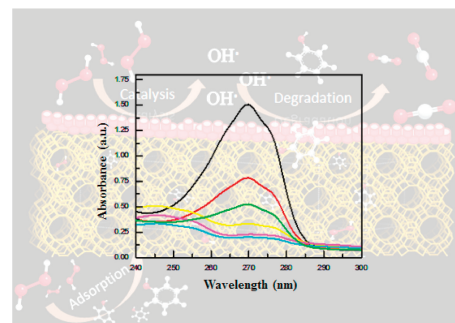
^c School of Environmental and Chemical Engineering, Shanghai University, Shanghai 200444, China

^d Department of Chemistry, College of Science, King Saud University, Riyadh 11451, Saudi Arabia

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

The active Fenton-like catalyst, obtained by highly dispersed Fe₂O₃ nanoparticles in size of 5 nm on the surface of zeolite Y, shows the excellent degradation efficiency to phenol higher than 90% under the mild conditions of room temperature and neutral solution, and the catalyst can be easily recovered with stable catalytic activity for 8 cycles.

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Co-culture of tumor spheroids and monocytes in a collagen matrix-embedded microfluidic device to study the migration of breast cancer cells

Tianying Yuan^{a,b}, Dan Gao^{a,b}, Shangfu Li^{a,b}, Yuyang Jiang^{a,c}

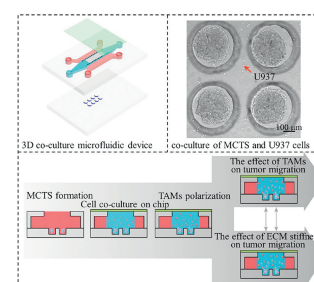
^a State Key Laboratory of Chemical Oncogenomics, The Graduate School at Shenzhen, Tsinghua University, Shenzhen 518055, China

^b Key Laboratory of Metabolomics at Shenzhen, Shenzhen 518055, China

^c School of Medicine, Tsinghua University, Beijing 100084, China

A 3D co-culture microfluidic device was developed to study the effects of ECM stiffness and TAMs on tumor cells migration.

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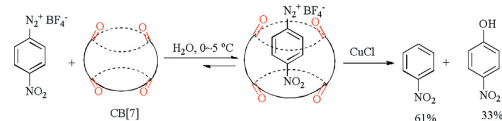
Cucurbit[7]uril/CuCl promoting decomposition of 4-nitrobenzenediazonium in aqueous solution

Hongxing Xu, Qiaochun Wang

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

The host-guest complex between cucurbit[7]uril and 4-nitro-benzenediazonium is decomposed into a nitrobenzene/4-nitrophenol mixture in a high total yield in the presence of CuCl.

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Synthesis and insecticidal bioactivities of 2,3-dihydroimidazo[1,2-a]pyridin-5(1H)-one derivatives

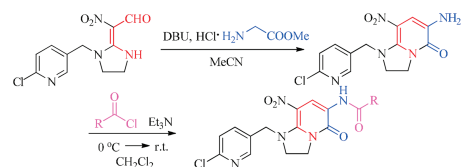
Lietan Zhang^a, Kun Liu^a, Xusheng Shao^a, Zhong Li^{a,b}, Xiaoyong Xu^{a,b}

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

^b Shanghai Collaborative Innovation Center for Biomanufacturing Technology, Shanghai 200237, China

A novel synthesis of 2,3-dihydroimidazo[1,2-a]pyridin-5(1H)-one, and insecticidal derivatives were described.

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Design and synthesis of self-included pillar[5]arene-based bis-[1]rotaxanes

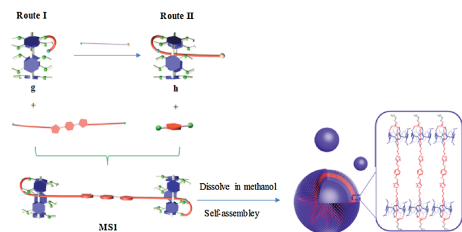
Mengjun Wang^a, Xusheng Du^a, Huasheng Tian^a, Qiong Jia^a, Rong Deng^a, Yahan Cui^a, Chunyu Wang^b, Kamel Meguellati^a

^a International Joint Research Laboratory of Nano-Micro Architecture Chemistry (NMAC), College of Chemistry, Jilin University, Changchun 130012, China

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

Two strategies for the design of new pillar[5]arene-based mechanically self-interlocked molecules (MSMs) are reported here. The first strategy is based on the construction of an intermediate pseudo[1]rotaxane followed by the desired bis-[1]rotaxane. The other one is based on the construction of the desired bis-[1]rotaxane directly via a condensation reaction through host-guest interactions between a mono-functionalized pillar[5]arene and the axle. This compound has interesting self-assembly properties in methanol and some extended applications of this compound will be reported in the near future.

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Open tubular capillary electrochromatography with block co-polymer coating for separation of β -lactam antibiotics

Liping Zhao^{a,b}, Juan Qiao^{b,c}, Hongyi Zhang^a, Fangnan Xie^d, Li Qi^{b,c}

^a College of Chemistry & Environmental Science, Key Laboratory of Analytical Science and Technology of Hebei Province, Hebei University, Baoding 071002, China

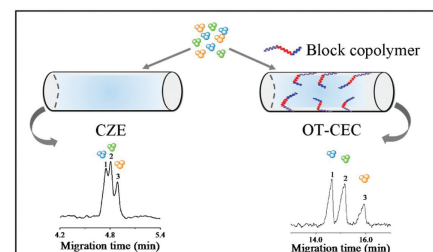
^b Beijing National Laboratory of Molecular Sciences, Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

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

^d National Center for Children's Health, Beijing Children's Hospital, Beijing 100045, China

Unique block co-polymer P(MAN-St-NIPAm) has been successfully synthesized by reversible addition fragmentation chain transfer radical polymerization protocol. Based on the tunable hydrophobic/hydrophilic properties of the block co-polymer, a new open tubular capillary electrochromatography (OT-CEC) system has been constructed with the prepared block co-polymer as the coating and applied in analysis of β -lactam antibiotics in serum samples.

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Electroformation and collection of giant liposomes on an integrated microchip

Zhenyu Wang^{a,b}, Chaoxiong Wu^a, Ting Fan^b, Xianwei Han^b, Qiong Wang^{b,c}, Jincan Lei^c, Jun Yang^b

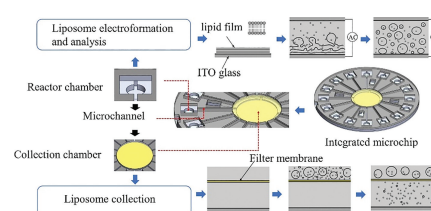
^a State Key Laboratory of Ultrasound Engineering in Medicine Co-Founded by Chongqing & the Ministry of Science & Technology, College of Biomedical Engineering, Chongqing Medical University, Chongqing 400016, China

^b Key Laboratory of Biorheological Science and Technology (Chongqing University), Ministry of Education, and Key Lab of Visual Damage and Regeneration & Restoration of Chongqing, Bioengineering College, Chongqing University, Chongqing 400030, China

^c Chongqing Engineering and Technology Research Center of Intelligent Rehabilitation and Eldercare, Chongqing City Management College, Chongqing 401331, China

In this work, a microchip was developed for the electroformation and collection of giant liposomes. On the chip, a reactor chamber array was expressly designed so that the influences of multiple parameters could be explored rapidly and efficiently to screen for a suitable condition. Furthermore, in order to overcome the difficulty in the collection of giant liposomes, a tailor-made collection chamber was also integrated on this chip.

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Zirconyl schiff base complex-functionalized MCM-41 catalyzes d 5-hydroxymethylfurfural in organic solvents

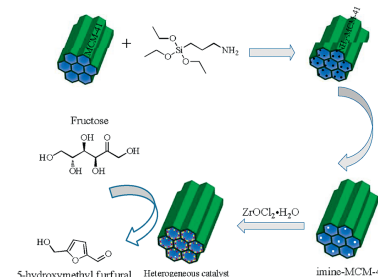
Yongdi Xie^a, Wenwen Yuan^a, Yi Huang^a, Chunyan Wu^a, Haijun Wang^a, Yongmei Xia^b, Xiang Liu^a

^a Key Laboratory of Synthetic and Biological Colloids, Ministry of Education, School of Chemical and Material Engineering, Jiangnan University, Wuxi 214122, China

^b State Key Laboratory of Food Science & Technology, Wuxi 214122, China

A heterogeneous catalyst was prepared by immobilizing Zirconyl Schiff base complex on the modified MCM-41 and used in the conversion of fructose to HMF. A higher HMF yield was obtained when fructose as raw material under optimal reaction conditions.

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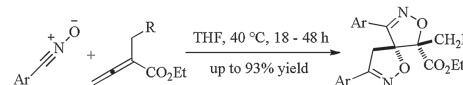
Double [3 + 2] cycloaddition of nitrile oxides with allenates: Synthesis of spirobidihiydroisoxazoles

Wei Sun, Feng Jiang, Honglei Liu, Xing Gao, Hao Jia, Cheng Zhang, Hongchao Guo

Department of Applied Chemistry, China Agricultural University, Beijing 100193, China

The double [3+2] cycloaddition of allenates with nitrile oxides was presented. The reaction worked well under mild reaction conditions to give the spirobidihiydroisoxazole in moderate to excellent yields with excellent diastereoselectivities.

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Effect of high hydrostatic pressure on prebiotic peptide synthesis

Jianxi Ying^a, Peng Chen^a, Yile Wu^a, Xu Yang^a, Kaili Yan^a, Pengxiang Xu^a, Yufen Zhao^{a,b,c}

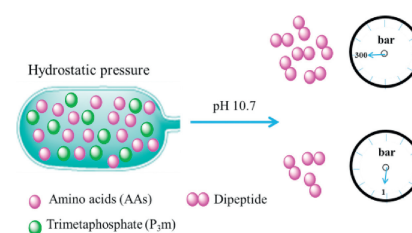
^a Department of Chemistry and Key Laboratory for Chemical Biology of Fujian Province, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

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

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

Here we reported the high hydrostatic pressure, as a key factor of deep-sea environment conditions, promoted the peptide formation and should be considered as one of the significant factors in studying the origin of life.

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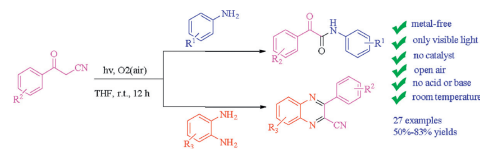
Facile photochemical synthesis of α -ketoamides and quinoxalines from amines and benzoylacetonitrile under mild conditions

Chao Zhou, Pinhui Diao, Xiaoji Li, Yanqin Ge, Cheng Guo

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

A selective protocol for the synthesis of either α -ketoamides or quinoxaline derivatives under the same reaction conditions has been achieved simply by varying substitution number of amino-groups. The method features metal-free, room temperature and broad substrate scopes as well as no extra oxidant. This process applies to various substituent groups and gives products in moderate to good yield. Finally, a rational mechanism was proposed.

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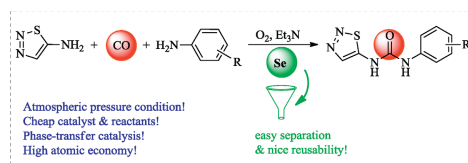
Selenium-catalyzed oxidative carbonylation of 1,2,3-thiadiazol-5-amine with amines to 1,2,3-thiadiazol-5-ylureas

Xiaopeng Zhang, Shuxiang Dong, Qianqian Ding, Xuesen Fan, Guisheng Zhang

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

With cheap and easily available 1,2,3-thiadiazol-5-amine and amines as raw materials, cheap and reusable selenium as the catalyst, CO as the carbonylation reagent and O₂ as the oxidizing agent, the selenium-catalyzed oxidative carbonylation reaction of 1,2,3-thiadiazol-5-amine can proceed smoothly with a series of amines in one-pot manner in the presence of triethylamine, affording 1,2,3-thiadiazol-5-ylureas mostly in moderate to good yields.

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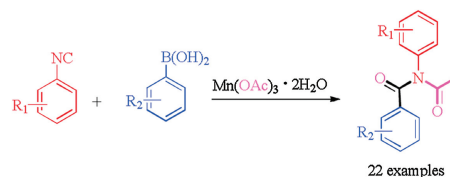
Mn(III)-mediated radical cascade reaction of boronic acids with isocyanides: Synthesis of diimide derivatives

Fei Wang, Tian-Qi Wei, Pei Xu, Shun-Yi Wang, Shun-Jun Ji

Key Laboratory of Organic Synthesis of Jiangsu Province, College of Chemistry, Chemical Engineering and Materials Science & Collaborative Innovation Center of Suzhou Nano Science and Technology, Soochow University, Suzhou 215123, China

A manganese(III)-promoted oxidative radical cascade reaction of easily accessible arylboronic acids with isocyanides to construct diimide derivatives was studied. This protocol provides a new way to synthesis of acetyl diimide derivatives. New C-C, C-N and C=O bonds were formed in one step.

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A facile transformation of alkynes into α -amino ketones by an N-bromosuccinimide-mediated one-pot strategy

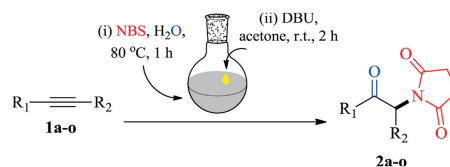
Ting Wei^a, Yongming Zeng^{a,b}, Wei He^a, Lili Geng^a, Liang Hong^a

^a Department of Chemistry and Applied Chemistry, Changji University, Changji 831100, China

^b State Key Laboratory of Coordination Chemistry, Nanjing University, Nanjing 210093, China

A facile efficient transformation of commercially available alkynes into α -amino ketones by an N-bromosuccinimide-mediated one-pot cascade strategy was developed. A variety of α -amino ketones were obtained in moderate to good yields under mild conditions.

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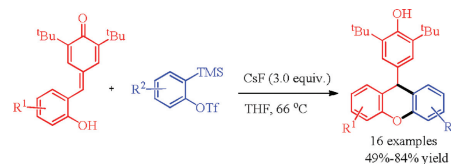
Synthesis of 9-phenol-substituted xanthenes by cascade O-insertion/1,6-conjugate addition of benzyne with *ortho*-hydroxyphenyl substituted *para*-quinone methides

Zhijuan Li, Weihua Wang, Hui Jian, Wenjuan Li, Bin Dai, Lin He

Key Laboratory for Green Processing of Chemical Engineering of Xinjiang Bingtuan, School of Chemistry and Chemical Engineering, Shihezi University, Shihezi 832000, China

Benzynes undergo O-insertion/1,6-conjugate addition reaction with *ortho*-hydroxyphenyl substituted *para*-quinone methides efficiently, producing 9-phenol substituted xanthenes in moderate to high yields.

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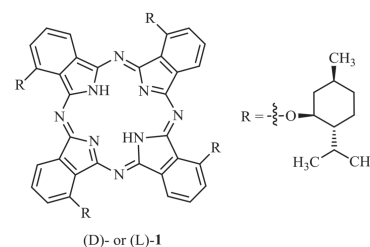
“Pinwheel-like” phthalocyanines with four non-peripheral chiral menthol units: Synthesis, spectroscopy, and electrochemistry

Wei Lv, Junling Duan, Shiyun Ai

College of Chemistry and Material Science, Shandong Agricultural University, Tai'an 271018, China

Chiral side chains have been incorporated onto the non-periphery moiety of phthalocyanine ring, resulting in a pair of chiral phthalocyanines, (D)- and (L)-1,8,15, 22-tetrakis(2-isopropyl-5-methylcyclohexoxy)phthalocyanine.

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Triazole-gold (TAAu) catalyzed three-component coupling (A3 reaction) towards the synthesis of 2, 4-disubstituted quinoline derivatives

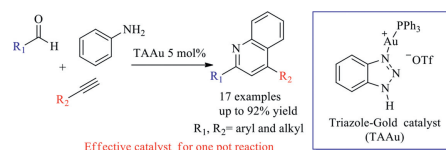
Fusong Zhang^a, Qi Lai^a, Xiaodong Shi^b, Zhiguang Song^a

^a Department of Chemistry, Jilin University, Changchun, Jilin 130021, China

^b Department of Chemistry, University of South Florida, Tampa, FL33620, United States

A gold-catalyzed three-component coupling reaction (A3 reaction) was developed as an efficient approach for the synthesis of challenging 2,4-disubstituted quinoline derivatives. Compared to previously reported Cu/Au bi-catalyst system, this protocol enables achieving A3 reaction only in the presence of triazole-gold catalyst. Notably, 4-alkyl substituted or 2-alkyl substituted quinoline derivatives were obtained with good yields, which highlighted the unique advantage of this new strategy.

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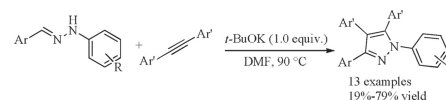
Cycloaddition of hydrazones and 1, 2-diaryllalkynes promoted by *t*-BuOK/DMF: A convenient synthesis of tetraarylpyrazoles

Lang Tong, Zhifeng Mao, Xiangzheng Tang, Xuejing Zhang, Ming Yan

Institute of Drug Synthesis and Pharmaceutical Process, School of Pharmaceutical Sciences, Sun Yat-sen University, Guangzhou 510006, China

A facile synthesis of tetraarylpyrazoles has been developed via *t*-BuOK/DMF promoted intermolecular cycloaddition of hydrazones and 1,2-diaryllalkynes.

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RuCl₃ anchored onto post-synthetic modification MIL-101(Cr)-NH₂ as heterogeneous catalyst for hydrogenation of CO₂ to formic acid

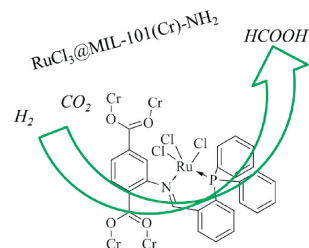
Shengping Wang^{a,b}, Shihui Hou^{a,b}, Chao Wu^{a,b}, Yujun Zhao^{a,b}, Xinbin Ma^{a,b}

^a Key Laboratory for Green Chemical Technology, School of Chemical Engineering and Technology, Tianjin University, Tianjin 300350, China

^b Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, China

A series of novel metal-organic framework-anchored RuCl₃ catalysts for the CO₂ hydrogenation to formic acid have been developed. RuCl₃@MIL-101(Cr)-DPPB catalyst exhibited the higher catalytic performance for hydrogenation of CO₂ to formic acid due to the phosphorus atom of DPPBde as a stronger electron-donor substituent to promote the insertion of CO₂ into RuH bond.

Chinese Chemical Letters 30 (2019) 398



A multifunctional integrated simultaneously online screening microfluidic biochip for the examination of “efficacy-toxicity” and compatibility of medicine

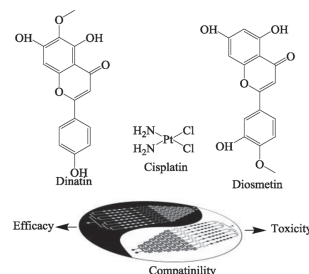
Hechen Wang^a, Tianjiao Li^{a,b}, Yongrui Bao^{a,b}, Shuai Wang^{a,b}, Xiansheng Meng^{a,b}

^a College of Liaoning University of Traditional Chinese Medicine, Dalian 116600, China

^b Liaoning University of Traditional Chinese Medicine-Agilent Technologies Modern TCM and Multi-Omics Research Collaboration Lab, Liaoning University of Traditional Chinese Medicine, Dalian 116600, China

A multifunctional integrated microfluidic biochip device was engineered to estimate the activity-toxicity and composition principle of medicine in a cell model *in vitro*.

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Cyclopropanation of active methylene compounds with β-alkoxycarbonyl vinylsulfonium salts

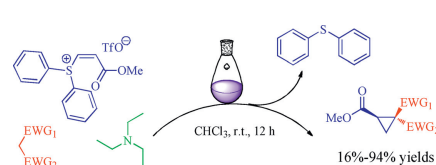
Shenquan Guo^a, Niuniu Zhang^b, Xiangzheng Tang^b, Zhifeng Mao^b, Xuejing Zhang^b, Ming Yan^b, Yining Xuan^a

^a College of Pharmacy, Guangdong Pharmaceutical University, Guangzhou 510006, China

^b Institute of Drug Synthesis and Pharmaceutical Process, School of Pharmaceutical Sciences, Sun Yat-sen University, Guangzhou 510006, China

An efficient synthesis of β-alkoxycarbonyl vinylsulfonium salts had been developed. Their reaction with indene-1,3-diones and other active methylene compounds provided cyclopropane carboxylates in good yields. A tentative reaction mechanism was proposed.

Chinese Chemical Letters 30 (2019) 406



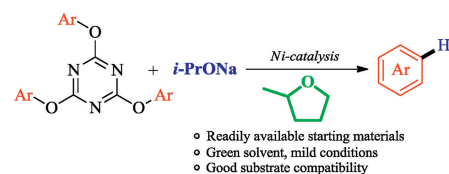
Nickel-catalysed C—O bond reduction of 2,4,6-triaryloxy-1,3,5-triazines in 2-methyltetrahydrofuran

Yaoyao Wang, Jun Shen, Qun Chen, Liang Wang, Mingyang He

School of Petrochemical Engineering, Jiangsu Key Laboratory of Advanced Catalytic Materials & Technology, Changzhou University, Changzhou 213164, China

A nickel-catalysed reduction of phenol derivatives activated by 2,4,6-trichloro-1,3,5-triazine (TCT) in ecofriendly 2-methyltetrahydrofuran (2-MeTHF) was described.

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Design, synthesis and antimycobacterial activity of novel nitrobenzamide derivatives

Hongjian Wang^a, Kai Lv^a, Xiaoning Li^a, Bo Wang^a, Apeng Wang^a, Zeyu Tao^a, Yunhe Geng^a, Bin Wang^b, Menghao Huang^c, Mingliang Liu^a, Huiyuan Guo^a, Yu Lu^b

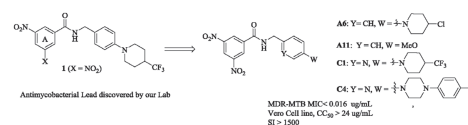
^a Institute of Medicinal Biotechnology, Chinese Academy of Medical Sciences, Peking Union Medical College, Beijing 100050, China

^b Beijing Key Laboratory of Drug Resistance Tuberculosis Research, Department of Pharmacology, Beijing Tuberculosis and Thoracic Tumor Research Institute, Beijing Chest Hospital, Capital Medical University, Beijing 101149, China

^c Division of Gastroenterology and Hepatology, Department of Medicine, Indiana University School of Medicine, Indianapolis 46202, United States

We report herein the design and synthesis of a series of novel nitrobenzamide derivatives. Results reveal that **A6**, **A11**, **C1** and **C4** have not only the same excellent MIC values of <0.016 μg/mL against drug-resistant clinical isolates as lead **1**, but also acceptable safety indices (SI >1500), opening a new direction for further development.

Chinese Chemical Letters 30 (2019) 413



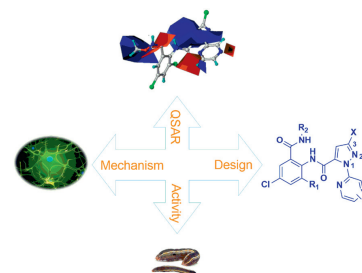
Synthesis, bioactivity, action mode and 3D-QSAR of novel anthranilic diamide derivatives

Weijie Liu, Jiao Li, Kai He, Fangfang Huang, Yi Ma, Yuxin Li, Qingshan Li, Fengbo Xu

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

Several newly synthesized anthranilic diamide derivatives were found to exhibit excellent bioactivity. The action mode test and 3D-QSAR analysis provided valuable information for evaluation and future design of anthranilic diamide insecticides.

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Improvement of antibacterial activity of copper nanoclusters for selective inhibition on the growth of gram-positive bacteria

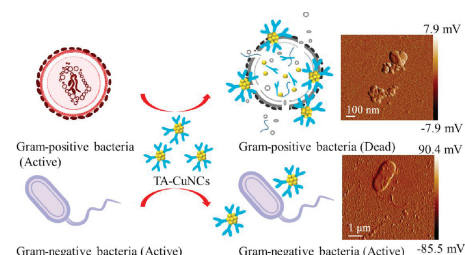
Junmei Xia^a, Wenjing Wang^b, Xin Hai^a, Shuang E^a, Yang Shu^a, Jianhua Wang^a

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

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

A novel copper nanoclusters, i.e., tannic acid (TA) capped CuNCs (TA-CuNCs), exists high antibacterial activity for selectively inhibiting/against the growth of gram-positive bacteria by damaging the cell membrane.

Chinese Chemical Letters 30 (2019) 421



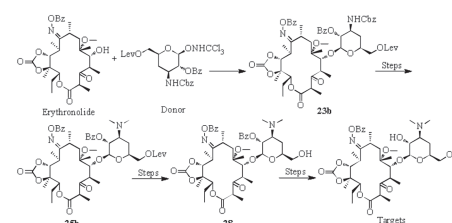
Synthesis of novel 5-O-(6'-O-modified)-desosamine 14-membered ketolides

Zhehui Zhao, Apeng Wang, Xiaoxi Zhang, Shuang Yang, Zhigang Luo, Pingsheng Lei

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

A new and facile procedure was developed to synthesize novel 5-O-(6'-O-modified)-desosamine 14-membered ketolides by adopting different protective strategies and comparing various glycosylation conditions.

Chinese Chemical Letters 30 (2019) 425



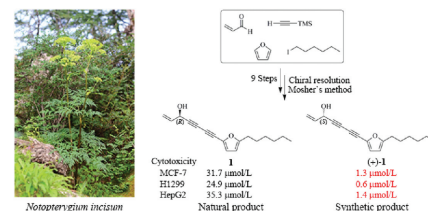
Cytotoxic polyacetylenes isolated from the roots and rhizomes of *Notopterygium incisum*

Xikang Zheng, Xiaoqing Zheng, Chen Zhang, Qingying Zhang, Yong Jiang, Pengfei Tu

State Key Laboratory of Natural and Biomimetic Drugs, School of Pharmaceutical Sciences, Peking University, Beijing 100191, China

A new polyacetylene, notopolyenol A, isolated from *Notopterygium incisum* was identified by spectroscopic technique and chemical method, and its synthetic enantiomer displayed significant cytotoxicity against MCF-7, H1299, and HepG2 cancer cells with IC_{50} values ranging from 0.6 $\mu\text{mol/L}$ to 1.4 $\mu\text{mol/L}$.

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New phenylpyridone derivatives from the *Penicillium sumatrense* GZWMJZ-313, a fungal endophyte of *Garcinia multiflora*

Yanchao Xu^{a,b,c}, Liping Wang^{a,b,c}, Guoliang Zhu^d, Mingxing Zuo^{a,b,c}, Qianyu Gong^{a,b,c}, Wenwen He^{a,b,c}, Mingpeng Li^{a,b,c}, Chunmao Yuan^{a,b,c}, Xiaojiang Hao^{a,b,c}, Weiming Zhu^{a,d}

^a State Key Laboratory of Functions and Applications of Medicinal Plants, Guizhou Medical University, Guiyang 550014, China

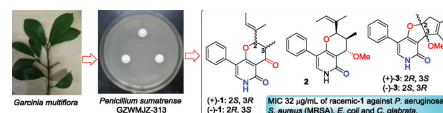
^b School of Pharmaceutical Sciences, Guizhou Medical University, Guiyang 550025, China

^c Key Laboratory of Chemistry for Natural Products of Guizhou Province, Chinese Academy of Sciences, Guiyang 550014, China

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

New pyridine alkaloids, citridones E–G (**1–3**), were identified from the solid culture of the endophytic fungus *Penicillium sumatrense* GZWMJZ-313 in *Garcinia multiflora*.

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Bistachybotrysins D and E, one stereoisomeric pair of cytotoxic phenylspirodrimane dimers from *Stachybotrys chartarum*

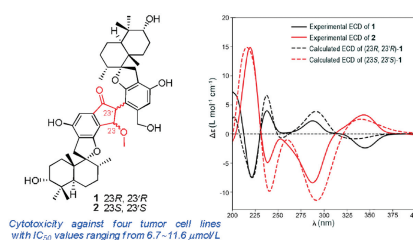
Min Zhang^{a,b}, Jiamin Feng^{a,b}, Xiaona Jia^{a,b}, Jinlian Zhao^{a,b}, Jimei Liu^{a,b}, Ridao Chen^{a,b}, Kebo Xie^{a,b}, Dawei Chen^{a,b}, Yan Li^a, Dan Zhang^a, Jungui Dai^{a,b}

^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 Biosynthesis of Natural Products of National Health and Family Planning Commission, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China

Bistachybotrysins D and E (**1** and **2**), one stereoisomeric pair of phenylspirodrimane dimers with a central [6,5,6]-tricyclic carbon scaffold were isolated from *Stachybotrys chartarum* CGMCC 3.5365. They displayed potent cytotoxic activity against four human tumor cell lines with IC_{50} values ranging from 6.7 $\mu\text{mol/L}$ to 11.6 $\mu\text{mol/L}$.

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Lithocarpinols A and B, a pair of diastereomeric antineoplastic tenellone derivatives from the deep-sea derived fungus *Phomopsis lithocarpus* FS508

Jianlin Xu^{a,b}, Haibo Tan^c, Yuchan Chen^a, Saini Li^a, Heng Guo^{a,b}, Zilei Huang^a, Haohua Li^a, Xiaoxia Gao^b, Hongxin Liu^{a,c}, Weimin Zhang^a

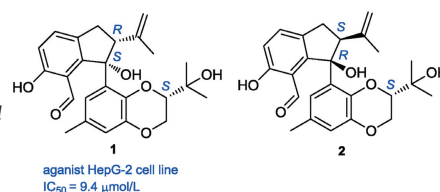
^a State Key Laboratory of Applied Microbiology Southern China, Guangdong Provincial Key Laboratory of Microbial Culture Collection and Application, Guangdong Open Laboratory of Applied Microbiology, Guangdong Institute of Microbiology, Guangzhou 510070, China

^b College of Pharmacy, Guangdong Pharmaceutical University, Guangzhou 510006, China

^c Program for Natural Products Chemical Biology, Key Laboratory of Plant Resources Conservation and Sustainable Utilization, Guangdong Provincial Key Laboratory of Applied Botany, South China Botanical Garden, Chinese Academy of Sciences, Guangzhou 510650, China

A pair of tenellone diastereoisomers with a rare 2,3-dihydro-1*H*-indene core, showing moderate cytotoxic activity against four human tumor cell lines, were isolated from marine-derived fungus *Phomopsis lithocarpus* FS508.

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Enzymatic biosynthesis of benzyloquinoline alkaloid glycosides via promiscuous glycosyltransferases from *Carthamus tinctorius*

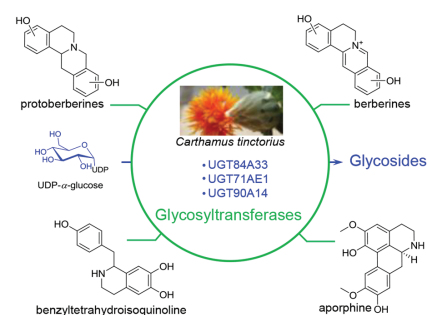
Yujiao Zhang^a, Kebo Xie^b, Aijing Liu^a, Ridao Chen^b, Dawei Chen^b, Lin Yang^a, Jungui Dai^b

^a College of Life and Environmental Sciences, Minzu University of China, Beijing 100081, China

^b 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

Three new GTs (UGT84A33, UGT71AE1 and UGT90A14) from *Carthamus tinctorius* exhibited robust catalytic promiscuity to benzyloquinoline alkaloids, and were used as enzymatic tools for the synthesis of diverse benzyloquinoline alkaloid glycosides.

Chinese Chemical Letters 30 (2019) 443



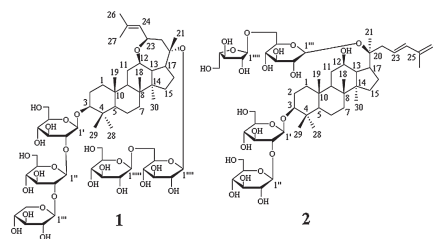
New dammarane-type saponins from the leaves of *Panax notoginseng*

Jiwu Huang, Chuangjun Li, Junzi Cao, Jie Ma, Yiqian Du, Xinyi Liu, Jingzhi Yang, Dongming Zhang

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

Two new triterpenoid saponins, notoginsenoside-Ng3 (**1**) and notoginsenoside-Ng4 (**2**), along with three known saponins (**3–5**), were isolated from a water extract of the leaves of *Panax notoginseng*. The absolute configuration of notoginsenoside Fa (**3**) with five sugars was confirmed by the single-crystal X-ray diffraction for the first time.

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New *ent*-kaurane diterpenes with chiral epoxyangelate moieties from *Wedelia prostrata*

Zhongnan Wu^a, Yubo Zhang^{a,b}, Wen Li^a, Nenghua Chen^a, Qianwen Niu^a, Yingying Li^a, Qingguo Li^c, Dan Yang^d, Yaolan Li^a, Guocai Wang^{a,b}

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

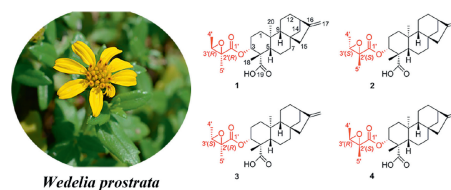
^b Integrated Chinese and Western Medicine Postdoctoral Research Station, Jinan University, Guangzhou 510632, China

^c School of Pharmaceutical Sciences, Guangzhou University of Chinese Medicine, Guangzhou 510006, China

^d Department of Specific Diagnosis, The 324th Military Hospital, Chongqing 400020, China

Four new *ent*-kaurane diterpenes, which contain (2'*R*,3'*R*)-/[(2'*S*,3'*S*)-/[(2'*S*,3'*R*)-/[(2'*R*,3'*S*)-2',3'-epoxyangeloyloxy moieties, along with eight known ones, were isolated from the herbs of *Wedelia prostrata*. Their structures were elucidated by spectroscopic data, X-ray crystallography, ECD calculation and chemical methods.

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A photocalibrated NO donor based on *N*-nitrosorhodamine 6G upon UV irradiation

Shengrui Zhang^{a,b}, Qin Wang^{a,b}, Jiajun Yang^c, Xiao-Feng Yang^a, Zheng Li^c, Hua Li^d

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

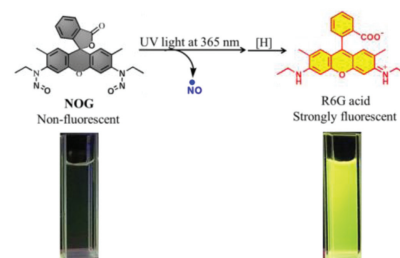
^b Shaanxi Key Laboratory of Catalysis, School of Chemistry and Environment Science, Shaanxi University of Technology, Hanzhong 723000, China

^c College of Life Sciences, Northwest University, Xi'an 710069, China

^d College of Chemistry and Chemical Engineering, Xi'an Shiyou University, Xi'an 710065, China

A *N*-nitrosated rhodamine 6G acid (NOG) was designed for monitoring the kinetics and the dose of NO release in a real-time fashion with UV irradiation.

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Microfluidic fabrication of water-in-water droplets encapsulated in hydrogel microfibers

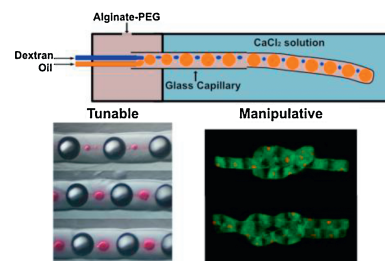
Chenguang Liu^a, Wenchen Zheng^a, Ruoxiao Xie^a, Yupeng Liu^a, Zhe Liang^a, Guoan Luo^b, Mingyu Ding^a, Qionglin Liang^a

^a Key Laboratory of Chemical Biology (Ministry of Education), Beijing Key Laboratory of Microanalytical Methods & Instrumentation, Department of Chemistry, Tsinghua University, Beijing 100084, China

^b State Key Laboratory of Quality Research in Chinese Medicine, Macau Institute for Applied Research in Medicine and Health, Macau University of Science and Technology, Macau, China

By combining microfiber spinning techniques with aqueous two phase system (ATPS), a rapid and simple strategy to fabricate water-in-water (w/w) droplets encapsulated in microfibers was proposed for the first time. Hydrophilic environment in hydrogel and the fiber format facilitates higher biocompatibility, convenient manipulation of the droplets and recycling of the contents inside droplets, which would have promising development in biological, pharmacological and environmental fields.

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A high-performance bio-tissue imaging method using air flow-assisted desorption electrospray ionization coupled with a high-resolution mass spectrometer

Yiwei Lv^a, Tiegang Li^a, Chengan Guo^b, Chenglong Sun^a, Fei Tang^b, Luojuan Huang^a, Zhigang Luo^a, Xin Li^a, Ruiping Zhang^a, Qingce Zang^a, Jiuming He^a, Zeper Abliz^{a,c}

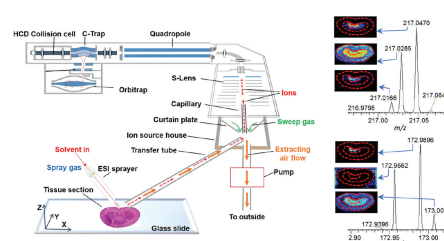
^a State Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China

^b State Key Laboratory of Precision Measurement Technology and Instruments, Department of Precision Instrument, Tsinghua University, Beijing 100086, China

^c Center for Imaging and Systems Biology, Minzu University of China, Beijing 100081, China

An air flow-assisted desorption electrospray ionization (AFADESI) MSI device was combined with a high-resolution mass spectrometer to optimize the system parameters and achieve more accurate spatial distribution characteristics for compounds of interest while investigating bio-tissue sections. Finally, the parameter conditions that can provide optimal ionic intensity and enhanced resolution were confirmed.

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A novel composite stationary phase composed of polystyrene/divinybenzene beads and quaternized nanodiamond for anion exchange chromatography

Peng Yao^a, Zhongping Huang^a, Qiulian Zhu^a, Zuoyi Zhu^b, Lili Wang^a, Yan Zhu^c

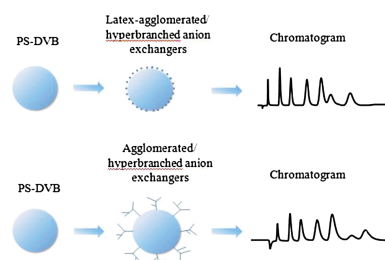
^a College of Chemical Engineering, Zhejiang University of Technology, Hangzhou 310014, China

^b Institute of Quality and Standard for Agricultural Products, Zhejiang Academy of Agricultural Science, Hangzhou 310021, China

^c Department of Chemistry, Zhejiang University, Hangzhou 310028, China

Anion exchangers were prepared through agglomerating quaternized nanodiamonds or cationic polyelectrolyte with sulfonated polystyrene/divinylbenzene. These particles showed good separation efficiency after hyperbranched by methylamine and 1,4-butanediol diglycidyl ether.

Chinese Chemical Letters 30 (2019) 465



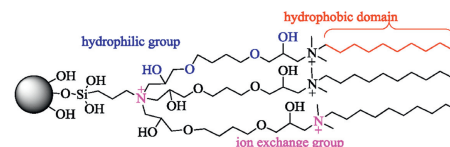
A reversed phase/hydrophilic interaction/ion exchange mixed-mode stationary phase for liquid chromatography

Sainan Zhang, Feifang Zhang, Bingcheng Yang, Xinmiao Liang

Shanghai Key Laboratory of New Drug Design, School of Pharmacy, East China University of Science and Technology, Shanghai 200237, China

A new stationary phase demonstrated effective separation towards polar analytes or their counterions within a single run.

Chinese Chemical Letters 30 (2019) 470



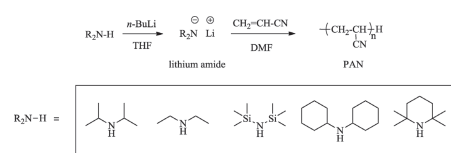
Anionic polymerization initiated by lithium amides for preparing high molecular weight polyacrylonitrile

Xiaolin Shi, Jingyang Jiang

State Key Laboratory of Fine Chemicals, Faculty of Chemical, Environmental and Biological Science and Technology, Dalian University of Technology, Dalian 116024, China

Five lithium amides have been proved to be effective anionic initiators for the anionic polymerization of acrylonitrile to get high molecular weight polyacrylonitrile in this study.

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Self-assembly of homopolymer of PAA-NH₄

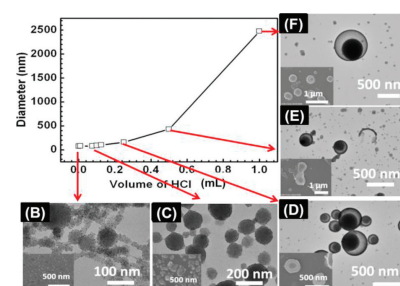
Tongbing Sun^{a,b}, Xiaoli Yang^b, Caizhen Zhu^a, Ning Zhao^b, Haixia Dong^b, Jian Xu^b

^a College of Chemical and Environmental Engineering, Shenzhen University, Shenzhen 518060, China

^b Beijing National Laboratory for Molecular Sciences, Laboratory of Polymer Physics and Chemistry, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

PAA-NH₄ assemblies varying from nanospheres to large particles and yolk-shell vesicles were obtained by adding different amount of HCl solution into the dispersion of PAA-NH₄ in ethanol, which may be extended the practical application due to the simple polymers used.

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Zirconium metal-organic framework nanocrystal as microwave sensitizer for enhancement of tumor therapy

Yuanwen Zou^a, Wei Zhang^c, Hongqiao Zhou^a, Changhui Fu^b, Longfei Tan^b, Zhongbing Huang^a, Xiangling Ren^b, Jun Ren^b, Xudong Chen^c, Xianwei Meng^b

^a College of Materials Science and Engineering, Sichuan University, Chengdu 610065, China

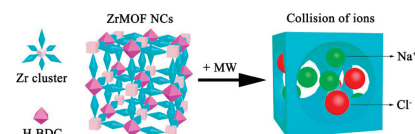
^b Laboratory of Controllable Preparation and Application of Nanomaterials CAS Key Laboratory of Cryogenics

Technical Institute of Physics and Chemistry Chinese Academy of Sciences (CAS), Beijing 100190, China

^c Second Clinical Medical College of Jinan University, Shenzhen People's Hospital, Shenzhen 518020, China

A microwave thermal therapy was proposed based on the strategy of microwave sensitizers and the susceptibility of the tumor tissue for enhancing thermal antitumor therapy.

Chinese Chemical Letters 30 (2019) 481



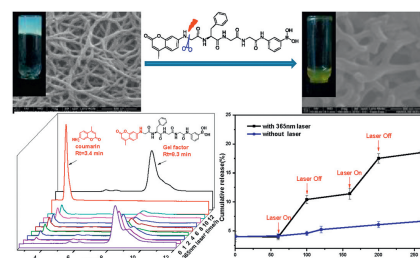
A photocleavable low molecular weight hydrogel for light-triggered drug delivery

Qihong Liu, Hao Wang, Guotao Li, Miaochang Liu, Jinchang Ding, Xiaobo Huang, Wenxia Gao, Huayue Wu

College of Chemistry and Materials Engineering, Wenzhou University, Wenzhou 325027, China

A photocleavable low-molecular-weight hydrogel was fabricated based on coumarin with C-N bond breaking upon UV irradiation to obtain a photo-triggered drug delivery carrier.

Chinese Chemical Letters 30 (2019) 485



Designing cancer nanodrugs that are highly loaded, pH-responsive, photothermal, and possess a favored morphology: A hierarchical assembly of DOX and layer-by-layer modified rGO

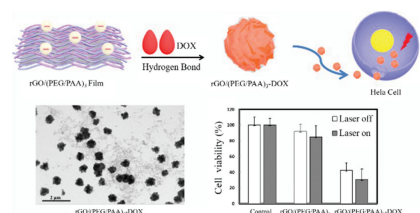
Xiangming Li^a, Yihe Zhang^a, Zequn Ma^a, Chengjun He^a, Yaling Wu^b, Qi An^a

^a Beijing Key Laboratory of Materials Utilization of Nonmetallic Minerals and Solid Wastes, National Laboratory of Mineral Materials, School of Materials Sciences and Technology, China University of Geosciences, Beijing 100083, China

^b Beijing Zhendong Guangming Pharmaceutical Research Institute Co., Ltd., Beijing 100120, China

A facile strategy to construct the multifunctional rGO-DOX nanodrugs by hydrogen bonding was reported. The nanodrugs were highly loaded, pH-responsive, photothermal, and possess a favored morphology.

Chinese Chemical Letters 30 (2019) 489



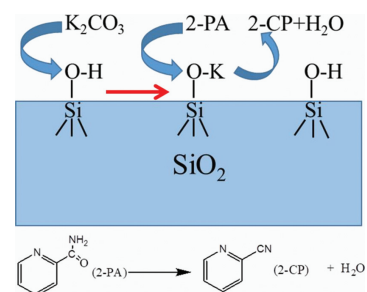
Silica supported potassium oxide catalyst for dehydration of 2-picolinamide to form 2-cyanopyridine

Yamei Li, Yujun Zhao, Shengping Wang, Xinbin Ma

Key Laboratory for Green Chemical Technology, School of Chemical Engineering and Technology, Tianjin University, Collaborative Innovation Center of Chemical Science and Engineering(Tianjin), Tianjin 300072, China

Si—O—K produced by the reaction of loaded K_2CO_3 with Si-OH was found to be the active species for the dehydration of 2-PA to 2-CP over K_2O/SiO_2 catalyst.

Chinese Chemical Letters 30 (2019) 494



A zinc(II) MOF based on secondary building units of infinite wavy-shaped chain exhibiting obvious luminescent sense effects

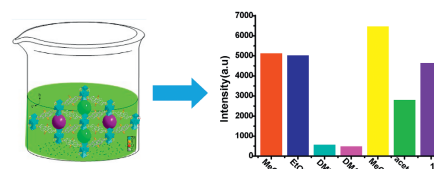
Kai Li^a, Kunhuan He^b, Quanwen Li^b, Bin Xia^b, Qinglun Wang^b, Yinghui Zhang^a

^a School of Materials Science and Engineering, TKL of Metal and Molecule-Based Material Chemistry, Nankai University, Tianjin 300350, China

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

A metal-organic framework (1) based on a wavy and infinite chainshaped secondary building unit was constructed and it exhibited palpable luminescent sense effects for DMF and DMAC.

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Preparation and tribological properties of potassium titanate- $Ti_3C_2T_x$ nanocomposites as additives in base oil

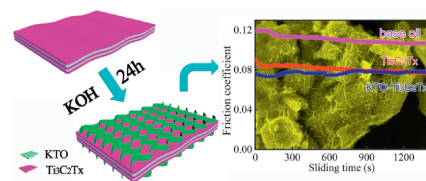
Xuefeng Zhang^a, Yu Guo^a, Yijia Li^b, Yong Liu^a, Shangli Dong^a

^a School of Materials Science and Engineering, Harbin Institute of Technology, Harbin 150001, China

^b Harbin No.3 High School, Harbin 150001, China

The potassium titanate- $Ti_3C_2T_x$ nanocomposite was successfully synthesized by a simple one-step chemical process using $Ti_3C_2T_x$ and potassium hydroxide at room temperature. Compare to $Ti_3C_2T_x$ nanosheets, the potassium titanate- $Ti_3C_2T_x$ exhibits superior tribological properties.

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Patterning catalyst via inkjet printing to grow single-walled carbon nanotubes

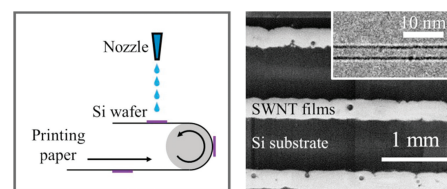
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We demonstrated a method to pattern catalyst via inkjet printing to grow SWNTs, using metal salt solutions as the inks and an ordinary office-use printer. We printed water solutions of cobalt acetate on hydrophilic Si substrates and grew high quality SWNT films.

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Electrochemical reduction of CO₂ and degradation of KHP on boron-doped diamond electrodes in a simultaneous and enhanced process

Daibing Luo^{a,b}, Shanhu Liu^{b,c}, Kazuya Nakata^b, Akira Fujishima^b

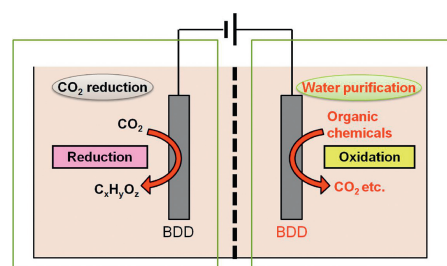
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^c Henan Key Laboratory of Polymetalate Chemistry, Institute of Molecular and Crystal Engineering, College of Chemistry and Chemical Engineering, Henan University, Kaifeng 475004, China

A BDD-BDD system was developed in the simultaneous conversion of CO₂ and wastewater purification in one electrochemical cell.

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Isolated zinc in mordenite stabilizing carbonylation of dimethyl ether to methyl acetate

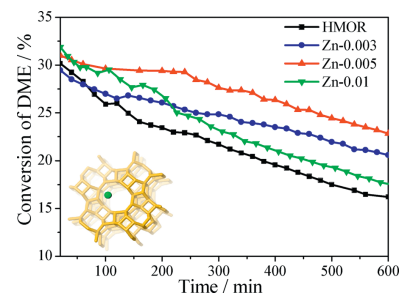
Zhitao Zhang^a, Na Zhao^a, Kui Ma^a, Qingpeng Cheng^a, Jing Zhang^b, Lirong Zheng^b, Ye Tian^a, Xingang Li^a

^a Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin Key Laboratory of Applied Catalysis Science and Engineering, School of Chemical Engineering and Technology, Tianjin University, Tianjin 300350, China

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Mordenite with the isolated zinc ions enhanced the catalytic performance for carbonylation of dimethyl ether to methyl acetate. The addition of Zn affected the acid properties of the catalysts, further changed the rate of coke deposition.

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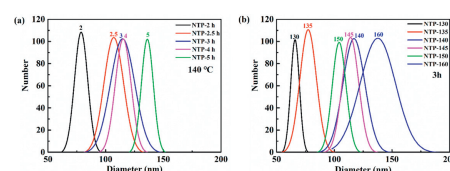
Concise synthesis of NaTi₂(PO₄)₃ nanocrystals with size and morphology control

Hanqing Dai, Wenqian Xu, Kehan Yu, Wei Wei

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NaTi₂(PO₄)₃ nanocrystals with high room-temperature ionic conductivity of 1.1×10^{-3} S/cm were prepared by the solvothermal method at 140 °C for 3 h, and the aspect ratios of all the NTP nanocrystals are the closest to 0.7. The controllability over size and morphology of the NTP nanocrystals via solvothermal temperature and time were investigated.

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Promoted conversion of polysulfides by MoO₂ inlaid ordered mesoporous carbons towards high performance lithium-sulfur batteries

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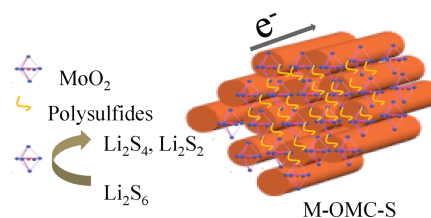
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A MoO₂-ordered mesoporous carbon (M-OMC) hybrid was designed as the sulfur host, in which MoO₂ is inlaid on the surface of ordered mesoporous carbons that can store active materials and provide fast electron transfer channel due to its ordered porestructure. The MoO₂ can effectively prevent the migration of polysulfides through the chemical adsorption and promote the conversion of polysulfides towards Li-sulfur battery.

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Protection of Li metal anode by surface-coating of PVDF thin film to enhance the cycling performance of Li batteries

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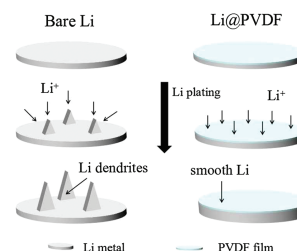
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The PVDF thin film on the surface of the lithium metal can highly suppress the lithium dendrites.

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MOF-derived ZnCo₂O₄/C wrapped on carbon fiber as anode materials for structural lithium-ion batteries

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In this work, large area MOF-derived ZnCo₂O₄/C anchored on carbon fiber as high-performance anode materials was fabricated via a facile method and subsequent annealing treatment.

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