

ISSN 1001-8417

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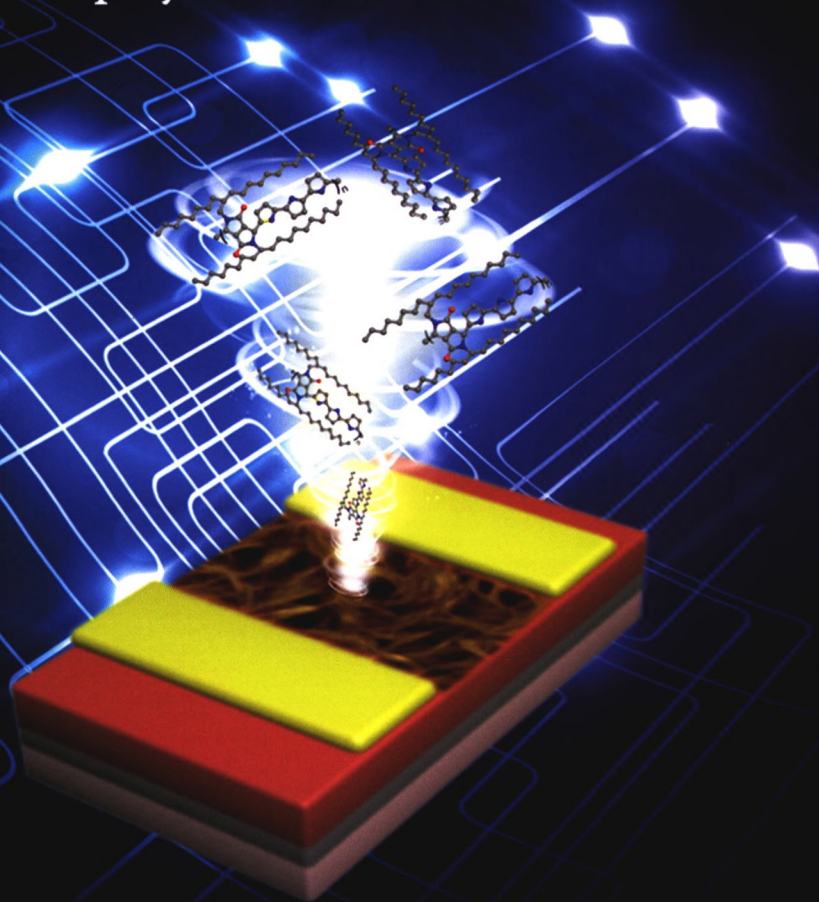
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Chinese Chemical Letters

Volume 29 | Number 11 | NOVEMBER 2018 |

High performance transistors and phototransistors based on low-concentration solution-processed copolymer thin films



Provided by Prof. Huan-Li Dong Group



REVIEW

Ying Zhou et al.
Recent progress in fluorescent and colorimetric sensors for the detection of ions and biomolecules

COMMUNICATION

Yiye Lu, Liangliang Zhu
Topochemical polymerization of diphenyldiacetylene-based materials and the relevant application in photocatalysis

ISSN 1001-8417



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Graphical Abstracts/Chin Chem Lett 29 (2018) iii–x

Reviews

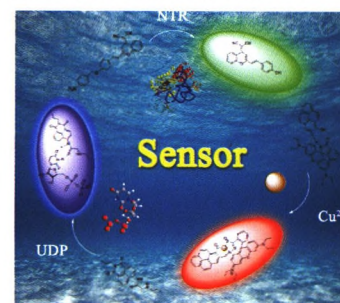
Recent progress in fluorescent and colorimetric sensors for the detection of ions and biomolecules

Le Yu, Yimu Qiao, Lanxi Miao, Yanqi He, Ying Zhou

College of Chemical Science and Technology, Yunnan University, Kunming 650091, China

Optical sensors are widely used in the field of analytical sensing and optical imaging because of their high sensitivity, fast response time, and technical simplicity. This review focuses on recent contributions concerning the ions, neutral molecules and especially tumor micro-environment-related parameters based fluorescent or colorimetric sensors and is organized according to their target classifications.

Chinese Chemical Letters 29 (2018) 1545

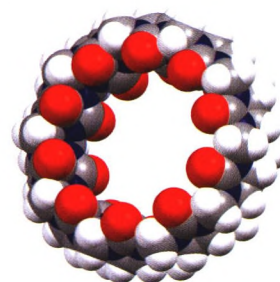
**Cucurbit[10]uril-based chemistry**

Xiran Yang, Fengbo Liu, Zhiyong Zhao, Feng Liang, Haijun Zhang, Simin Liu

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

With the biggest cavity in the cucurbit[n]urils (CB[n]s) family, CB[10] has shown its unique molecular recognition properties. This review gives a brief summary of the research progresses in the CB[10]-based chemistry, involving its purification and applications in fields such as molecular recognition and molecular assembly.

Chinese Chemical Letters 29 (2018) 1560

**State of the art: Lateral flow assay (LFA) biosensor for on-site rapid detection**Shuai Zhao^a, Sai Wang^b, Shan Zhang^a, Jiahui Liu^a, Yiyang Dong^a^a College of Life Science and Technology, Beijing University of Chemical Technology, Beijing 100029, China^b College of Food Science and Engineering, Ocean University of China, Qingdao 266003, China

We summarized the principle of LFAs, three main elements for the LFAs (recognition molecule, signal transduction element, the targets) and different optimal experimental conditions in the recent LFA-related studies to give detailed overview of the LFA development.

Chinese Chemical Letters 29 (2018) 1567



Recent developments of miniature ion trap mass spectrometers

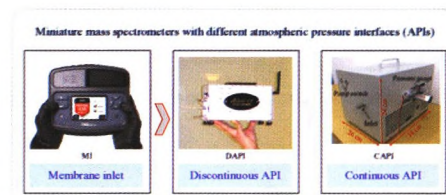
Qi Guo^a, Lijuan Gao^b, Yanbing Zhai^a, Wei Xu^a

^a School of Life Science, Beijing Institute of Technology, Beijing 100081, China

^b Beijing Center Physical and Chemical Analysis, Beijing 100089, China

The recent development of miniature ion trap mass spectrometer systems in the last ten years is reviewed in this paper. These instruments adopt different atmospheric pressure interfaces (APIs), which are membrane inlets (MIs), discontinuous atmospheric pressure interface (DAPI) and continuous atmospheric pressure interface (CAPI).

Chinese Chemical Letters 29 (2018) 1578



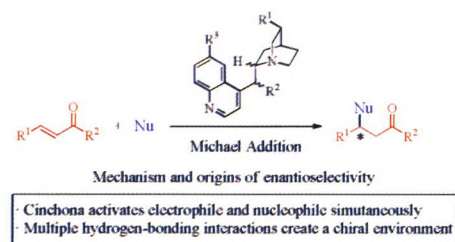
Computational studies of cinchona alkaloid-catalyzed asymmetric Michael additions

Han Li, Xin Hong

Department of Chemistry, Zhejiang University, Hangzhou 310027, China

Cinchona alkaloids exhibit remarkable catalytic activities in a wide range of organic transformations. This review summarizes the recent advances of computational studies in understanding the mechanism and origins of enantioselectivities in cinchona alkaloid-catalyzed asymmetric Michael additions. Key activation model and controlling factors of reactivity and selectivity are elucidated.

Chinese Chemical Letters 29 (2018) 1585



Topochemical polymerization of diphenyldiacetylene-based materials and the relevant application in photocatalysis

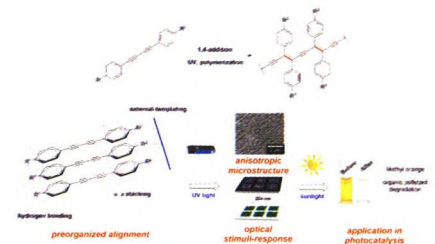
Yiye Lu^{a,b}, Liangliang Zhu^a

^a State Key Laboratory of Molecular Engineering of Polymers, Department of Macromolecular Science, Fudan University, Shanghai 200433, China

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

Diphenyldiacetylene can be preorganized by self-assembly or external-templating, followed by topochemical polymerization under UV irradiation to form polydiphenyldiacetylene. Such a resulting polymer is a promising photocatalyst for organic pollutant degradation under visible light.

Chinese Chemical Letters 29 (2018) 1591



Synthesis, functionalization, and nanomedical applications of functional magnetic nanoparticles

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^b International Laboratory for Insulation and Energy Efficiency Materials, College of Materials Science and Technology, Nanjing University of Aeronautics and Astronautics, Nanjing 210016, China

^c Shandong Huaying New Material Co., Ltd., Heze 274000, China

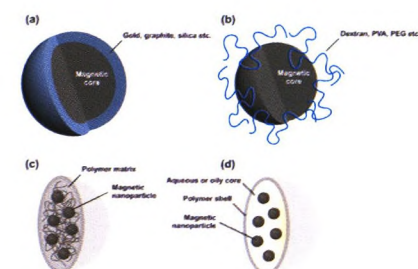
^d School of Mechanical Engineering, Changzhou University, Changzhou 213164, China

^e Department of Obstetrics and Gynecology, Zhujiang Hospital, Southern Medical University, Guangzhou 510282, China

^f Guangdong Provincial Key Laboratory of New Drug Screening, School of Pharmaceutical Sciences, Southern Medical University, Guangzhou 510515, China

This review summarizes the current synthesis of magnetic nanoparticles (MNPs) preparation, functionalization and stabilization methods. And furthermore it highlights some actual case analyses of these MNPs for disease therapy, drug delivery, hyperthermia, bioseparation and bioimaging applications.

Chinese Chemical Letters 29 (2018) 1601



Communications

Bone-targeting melphalan prodrug with tumor-microenvironment sensitivity: Synthesis, *in vitro* and *in vivo* evaluation

Can Chen^a, Yiyan Li^b, Xiaoping Yu^c, Qinglin Jiang^b, Xiaohong Xu^b, Qian Yang^b, Zhiyong Qian^d

^a The First Affiliated Hospital, Chengdu Medical College, Chengdu 610500, China

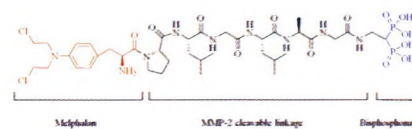
^b The School of Pharmacy, College Key Laboratory of Sichuan Province for Specific Structure of Small Molecule Drugs, Chengdu Medical College, Chengdu 610500, China

^c The Public Health Department, Chengdu Medical College, Chengdu 610500, China

^d State Key Laboratory and Collaborative Innovation Center of Biotherapy, West China Hospital, Sichuan University, Chengdu 610041, China

The synthesis, *in vitro* and *in vivo* evaluation of novel melphalan-bisphosphonate hybrids, with a tumor microenvironment sensitive linkage were described.

Chinese Chemical Letters 29 (2018) 1609



Synthesis and combined properties of novel fluorinated cationic surfactants derived from hexafluoropropylene dimer

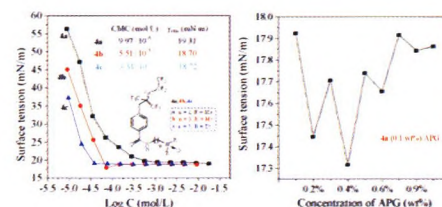
Chao Lin^a, Renming Pan^a, Ping Xing^b, Biao Jiang^{a,b}

^a School of Chemical Engineering, Nanjing University of Science and Technology, Nanjing 210094, China

^b CAS Key Laboratory of Synthetic Chemistry of Natural Substances, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

Three novel fluorinated surfactants with branched short fluorinated tails as hydrophobic groups, ammonium oxide as polar groups are prepared. Surface tension measurement shows that these fluorinated surfactants are ideal compounds to design new formulations in fire-fighting field.

Chinese Chemical Letters 29 (2018) 1613



Sulfonate group modified Ni catalyst for highly efficient liquid-phase selective hydrogenation of bio-derived furfural

Wanbing Gong^{a,b}, Chun Chen^a, Haojie Wang^{a,b}, Ruoyu Fan^{a,b}, Haimin Zhang^a, Guozhong Wang^a, Huijun Zhao^{a,c}

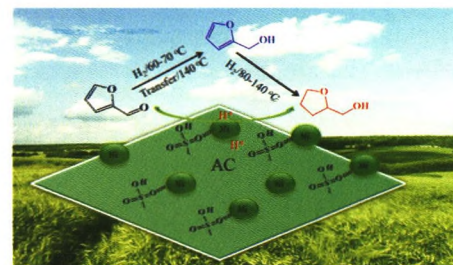
^a Key Laboratory of Materials Physics, Centre for Environmental and Energy Nanomaterials, Anhui Key Laboratory of Nanomaterials and Nanotechnology, Institute of Solid State Physics, Chinese Academy of Sciences, Hefei 230031, China

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

^c Centre for Clean Environment and Energy, Gold Coast Campus, Griffith University, Queensland 4222, Australia

A simple and highly efficient Ni catalyst was synthesized and showed excellent catalytic performance for selectively liquid-phase hydrogenation of furfural to furfuryl alcohol or tetrahydrofurfuryl alcohol.

Chinese Chemical Letters 29 (2018) 1617



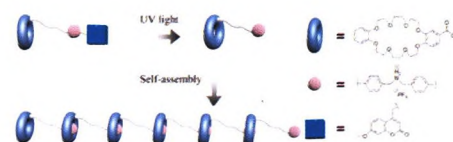
Constructing supramolecular polymers from phototrigger containing monomer

Xiuli Zheng, Qi Miao, Wenzhi Wang, Da-Hui Qu

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

A new type of strategy for photo-induced supramolecular polymerization based on hostguest interaction has been explored. A kind of monomer containing dibenzo-24-crown-8 (DB24C8) macrocycle and dibenzylammonium (DBA) site was designed and synthesized. The coumarin, as a photocleavable protector, was introduced to the end of the monomer whose polymerization can be irradiated by UV light via the host-guest interactions between DB24C8 moieties and DBA units.

Chinese Chemical Letters 29 (2018) 1621



Organocatalytic asymmetric cascade cyclization reaction of *o*-hydroxy cinnamaldehydes with diphenylphosphine oxide

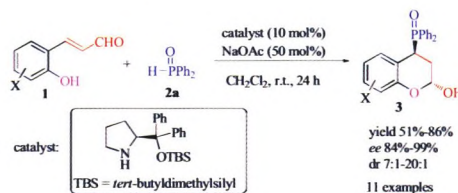
Haiyun Sun^a, Yuan Li^a, Wei Liu^a, Yang Zheng^a, Zhengjie He^{a,b}

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

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

A highly stereoselective asymmetric cascade cyclization reaction between *o*-hydroxycinnamaldehydes and diphenylphosphine oxide has been achieved with 84%-99% *ee* and 7:1-20:1 *dr* under the catalysis of L-prolinol silyl ether.

Chinese Chemical Letters 29 (2018) 1625



Exploitation of a photoelectrochemical sensing platform for bisphenol A quantitative determination using Cu/graphitic carbon nitride nanocomposites

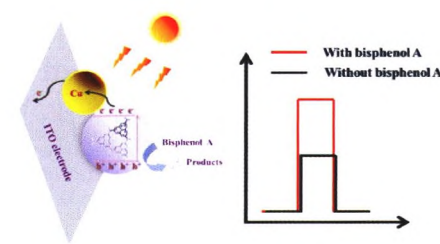
Sheng Feng^a, Pengcheng Yan^b, Li Xu^b, Jiexiang Xia^b, Huaming Li^b

^a School of Environmental and Safety Engineering, Changzhou University, Changzhou 213164, China

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

The photoelectrochemical sensor based on Cu/g-CN composites modified electrode is firstly used to monitor bisphenol A with high sensitivity. This work opens the way for the application of Cu/g-CN composites in photoelectrochemical field, and simultaneously contributed to broadening the application of graphitic carbon nitride-based materials. In addition, it can provide a convenient and rapid analysis method for the detection of other organic compounds in the future.

Chinese Chemical Letters 29 (2018) 1629



Preparation and electrocatalytic properties of gold nanoparticles loaded carbon nanotubes

Yulong Chen^{a,b}, Guowei Zhao^c, Ling Lin^a

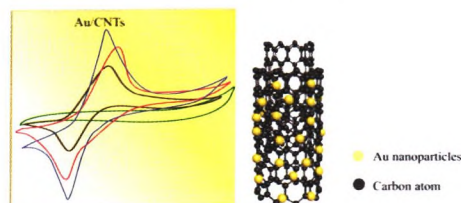
^a CAS Key Laboratory of Standardization and Measurement for Nanotechnology, CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology, Beijing 100190, China

^b Department of Hydraulic Engineering, Tsinghua University, Beijing 100084, China

^c Department of Chemical Science and Engineering, Tokyo Institute of Technology, Yokohama 226-8502, Japan

Here, we report a new method of preparation of gold nanoparticles loaded carbon nanotubes (Au/CNTs) and the electrocatalytic properties of the obtained Au/CNTs as composite catalyst. This method shows advantages as it is easy to wash sodium citrate and the particle size of Au nanoparticles could be controlled by pH.

Chinese Chemical Letters 29 (2018) 1633



Selective recognition of HIV RNA by dinuclear metallic ligands

Xuedong Li^{a,c}, Bo Chen^b, Ling Lan^{a,c}, Ruili Wang^{a,c}, Duqiang Luo^b, Li Liu^{a,c}, Liang Cheng^{a,c}

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

^b College of Life Science, Key Laboratory of Medicinal Chemistry and Molecular Diagnosis of the Ministry of Education, Hebei University, Baoding 071002, China

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

We describe the development of dinuclear metallic ligands to target specific HIV RNA structures. Two series of dipyrindyl-N bridged dinuclear metal complexes were synthesized and their binding activities toward TAR and RRE RNA were studied both experimentally and theoretically.

Chinese Chemical Letters 29 (2018) 1637



Direct low-temperature synthesis of ultralong persistent luminescence nanobelts based on a biphasic solution-chemical reaction

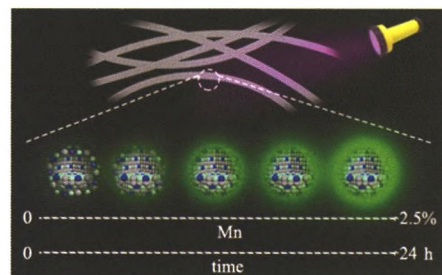
Haoyang Liu^a, Xiaoxia Hu^a, Jie Wang^a, Meng Liu^a, Wei Wei^b, Quan Yuan^a

^a Key Laboratory of Analytical Chemistry for Biology and Medicine (Ministry of Education), College of Chemistry and Molecular Sciences, Wuhan University, Wuhan 430072, China

^b State Key Laboratory of Biochemical Engineering, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 10090, China

The ultralong $\text{Zn}_2\text{GeO}_4\text{:Mn}^{2+}$ persistent luminescence nanobelts (PLNBs) were synthesized using a direct hydrothermal route. The persistent luminescence performance is fine-tuned upon prolonging the hydrothermal time and controlling the doping ratio of Mn^{2+} . This solid-state reaction-free chemical approach will promote the broad use of these unique nanostructured PLNBs in developing imaging device.

Chinese Chemical Letters 29 (2018) 1641



Unique fluorescence properties of a self-assembling bis-pyrene molecule

Zhaozhong Li^{a,b}, Yang Li^a, Dong Wang^a, Qing Cui^a, Zhengqiang Li^a, Lei Wang^{a,b}, Huai Yang^{a,c}

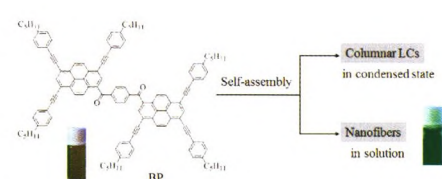
^a Department of Materials Physics and Chemistry, School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, China

^b National Center for Nanoscience and Technology (NCNST), Beijing 100190, China

^c Department of Materials Science and Engineering, College of Engineering, Peking University, Beijing 100871, China

We designed and prepared a large π -conjugated bis-pyrene (BP) molecule, which showed room-temperature discotic mesophase with highly-ordered structures. Furthermore, the BP formed nanofibers and showed bright green fluorescence against aggregation-caused quenching (ACQ) effect.

Chinese Chemical Letters 29 (2018) 1645



Light-triggered release of insecticidally active spirotetramat-enol

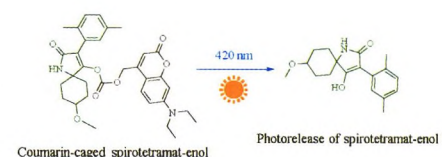
Zhiping Xu^a, Zhenhong Gao^a, Xusheng Shao^{a,b}

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

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

Optical release of spirotetramat-enol was achieved by attaching coumarin photocage.

Chinese Chemical Letters 29 (2018) 1648



Synthetic [FeFe]-H₂ase models bearing phosphino thioether chelating ligands

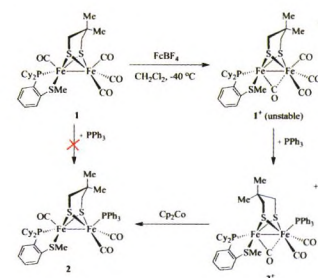
Yingjie Zhao^a, Xin Yu^a, Huilan Hu^a, Xinlong Hu^a, Sakthi Rajeb, Raja Angamuthub, Chen-Ho Tung^a, Wenguang Wang^a

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

^b Laboratory of Inorganic Synthesis and Bioinspired Catalysis (LISBIC), Department of Chemistry, Indian Institute of Technology Kanpur, Kanpur 208016, India

Through the oxidation-reduction combination procedure, the neutral tri-substituted {2Fe3S} complex **2** was synthesized by replacing the CO ligand in **1** with phosphine. This substitution leads to the Fe-Fe bonds in **1** and **2** with large Lewis basicity difference, i.e. $\Delta pK_a^{\text{MeCN}} \sim 10$.

Chinese Chemical Letters 29 (2018) 1651



Facile synthesized Cu-SnO₂ anode materials with three-dimensional metal cluster conducting architecture for high performance lithium-ion batteries

Zhijia Zhang^{a,c}, Yuxuan Hou^b, Shaofei Zhang^a, Guoliang Zhang^a, Ming Li^d, Huanming Lu^d, Yong Li^d, Xuerong Zheng^e, Zhijun Qiao^b, Zhenyang Yu^b, Qin Huang^{a,c}, Jianli Kang^{a,c,f}

^a School of Materials Science and Engineering, Tianjin Polytechnic University, Tianjin 300387, China

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^c Tianjin Municipal Key Laboratory of Advanced Fibers and Energy Storage, Tianjin 300387, China

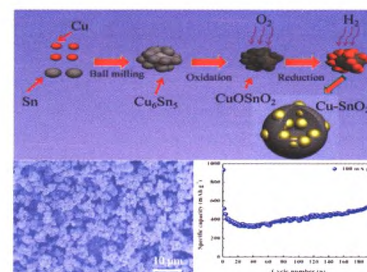
^d Test Center, Ningbo Institute of Material Technology and Engineering, Chinese Academy of Science (CAS), Ningbo 315201, China

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

^f State key laboratory of separation membrane and membrane processes, Tianjin Polytechnic University, Tianjin 300387, China

A novel Cu-SnO₂ anode material derived from Cu₆Sn₅ alloy, retaining high conductivity of Cu and high theoretical capacity of SnO₂ with a facile synthesizing process by oxidation and reduction method. The novel Cu structure penetrates in the composite particles inducing high conductivity and spaceconfined SnO₂, which restrict the pulverization of SnO₂ during lithiation/delithiation process.

Chinese Chemical Letters 29 (2018) 1656



Rational construction of self-assembly azobenzene derivative monolayers with photoswitchable surface properties

Yu Zhang^a, Peng Gao^b, Qin Yue^a, Peter Trefonas^c, Yonghui Deng^{a,d}

^a Department of Chemistry, State Key Laboratory of Molecular Engineering of Polymers, Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, iChEM, Fudan University, Shanghai 200433, China

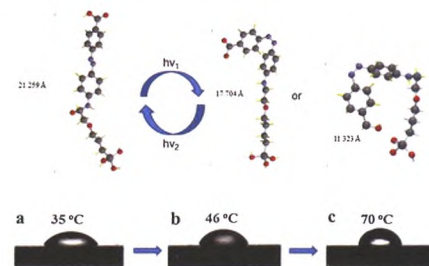
^b Dow Chemical (China) Investment Company, Shanghai 201203, China

^c Rohm & Haas Electronic Materials LLC, Marlborough, MA01752, United States

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

hoto-responsive azobenzene (ABZ) derivatives with different end groups (R) were employed to construct self-assembled monolayers (SAMs) on silicon substrates. The SAMs based on hydrophilic (4-(4'-aminophenylazo) benzoic acid, ABZ-COOH) show excellent reversible photoswitching performance with a large contact angle change of 35° under optimized process.

Chinese Chemical Letters 29 (2018) 1661



Visualizing the toughening origins of gel-grown calcite single-crystal composites

Yujing Liu^{a,b,c}, Kai He^b, Wentao Yuan^{c,d}, Xinyi Jin^{a,c}, Tao Liang^{a,c}, Yong Wang^{c,d}, Huolin L. Xin^b, Hongzheng Chen^{a,c}, Chao Gao^{a,c}, Hanying Li^{a,c}

^a MOE Key Laboratory of Macromolecular Synthesis and Functionalization, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou 310027, China

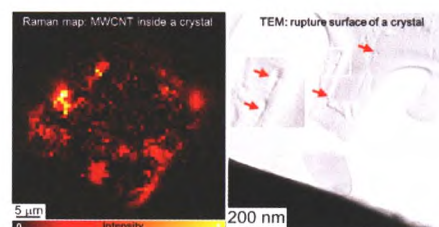
^b Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, NY 11973, United States

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

^d Center of Electron Microscopy, Department of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, China

The mechanical properties of gel-grown calcite single-crystal composites can be modified by incorporation of guest materials including agarose gel fiber, MWCNTs and GO. The *in-situ* observation of the crystal deformation suggests that the guest incorporation toughens the single-crystal host by the shielding effect of nanofiber on crack-bridging at nanoscale.

Chinese Chemical Letters 29 (2018) 1666



Three-dimensional nitrogen-doped graphene hydrogel supported Co-CeO_x nanoclusters as efficient catalysts for hydrogen generation from hydrolysis of ammonia borane

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^a College of Chemistry and Molecular Sciences, Wuhan University, Wuhan 430072, China

^b Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology, Wuhan 430074, China

^c Technical Center of Fujian Tobacco Industrial Co., Ltd., Xiamen 361022, China

Benefit from the strong synergistic electronic effect between Co and CeO_x, as well as the strong metalsupport interaction between Co-CeO_x and 3D NGH, the as-synthesized Co-(CeO_x)_{0.91}/NGH catalyst exhibits excellent catalytic activity toward hydrolysis of ammonia borane, with the turnover frequency (TOF) value of 79.5 min⁻¹.

Chinese Chemical Letters 29 (2018) 1671



Chinese Chemical Letters 29 (2018) 1675

High performance organic transistors and phototransistors based on diketopyrrolopyrrole-quaterthiophene copolymer thin films fabricated via low-concentration solution processing

Pengcheng Gu^{a,d}, Mengxiao Hu^{a,b}, Shang Ding^{a,b}, Guangyao Zhao^b, Yifan Yao^b, Feng Liue, Xiaotao Zhang^c, Huanli Dong^{a,b}, Xiangke Wang^d, Wenping Hu^{b,c}

^a Beijing Key Laboratory for Optical Materials and Photonic Devices, Department of Chemistry, Capital Normal University, Beijing 100048, China

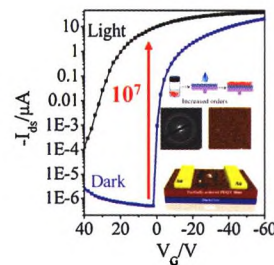
^b Beijing National Laboratory for Molecular Sciences, Key Laboratory of Organic Solids, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

^c Collaborative Innovation Center of Chemical Science and Engineering (Tianjin) & Department of Chemistry, School of Science, Tianjin University, Tianjin 300072, China

^d College of Environmental Science and Engineering, North China Electric Power University, Beijing 102206, China

^e Department of Physics & Astronautics Shanghai Jiao Tong University, Shanghai 200240, China

Herein, highly crystalline diketopyrrolopyrrole-quaterthiophene copolymer thin films were achieved by a simple low-concentration solution processing with a little material waste, which exhibit efficient charge transport and optoelectronic properties for constructing high performance OFET and phototransistors.



Chinese Chemical Letters 29 (2018) 1681

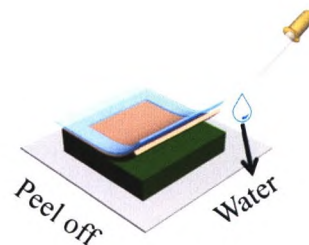
Fabrication of flexible thin organic transistors by trace water assisted transfer method

Junjie Kan^a, Shuguang Wang^{a,b}, Zhongwu Wang^b, Shujing Guo^b, Wenchong Wang^a, Liqiang Li^b

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

^b Advanced Nano-materials Division, Key Laboratory of Nano-Devices and Applications, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Suzhou 215123, China

In this paper, we develop a facile peel-off method to transfer organic thin film to various substrates. Remarkably, the method uses only micro volume water as an assist to peel off PAN film, which reduces the risk of contamination by solvent and greatly contributes to the performance maintenance.



Chinese Chemical Letters 29 (2018) 1685

Highly biocompatible BSA-MnO₂ nanoparticles as an efficient near-infrared photothermal agent for cancer therapy

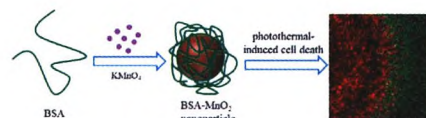
Yuzhen Wang^a, Yujun Song^b, Guixian Zhu^c, Dechen Zhang^c, Xuewu Liu^c

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

^b Department of Biomedical Engineering, College of Engineering and Applied Sciences, Nanjing University, Nanjing 210093, China

^c Department of Nanomedicine, Houston Methodist Research Institute, Houston TX 77030, United States

In this work, we reported a facile, one-pot method to synthesis of bovine serum albumin (BSA)-reduced and stabilized MnO₂ nanoparticles (BSA-MnO₂ NPs) with good aqueous dispersibility and high biocompatibility. And we also showed for the first time that BSA-MnO₂ NPs displayed superior near infrared (NIR) photothermal efficiency and photostability which demonstrated as a novel class of photothermal antitumor agent.



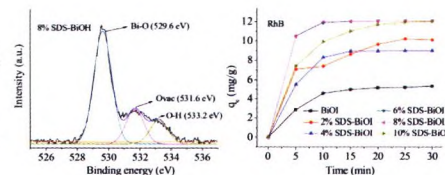
Chinese Chemical Letters 29 (2018) 1689

Oxygen vacancy promoting adsorption property of BiOI microspheres modified with SDS

Fenqiang Ma, Jingwen Yao, Yanfeng Zhang, Yu Wei

College of Chemistry and Material Science, National Demonstration Center for Experimental Chemistry Education, Hebei Normal University, Shijiazhuang 050024, China

8% SDS-BiOI microspheres possessed the homogeneous morphology, larger specific surface area and more oxygen vacancies compared with the pure BiOI, and the 8% SDS-BiOI showed the higher adsorption performance of different dyes relative to the pure BiOI sample.



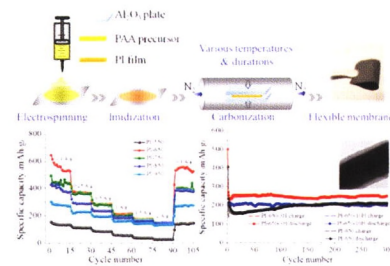
Polyimide-derived carbon nanofiber membranes as anodes for high-performance flexible lithium ion batteries

Fangyuan Zhao, Xin Zhao, Bo Peng, Feng Gan, Mengyao Yao, Wenjun Tan, Jie Dong, Qinghua Zhang

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

Heteroatoms-doped carbon nanofiber membranes with flexible features were prepared by electrospinning with heterocyclic polyimide (PI) structures containing biphenyl and pyrimidine rings. The products with optimized treatment could achieve 695 mAh/g at 0.1 A/g and retain 245 mAh/g at 1.5 A/g after 300 cycles when used as anode for Li-ion batteries.

Chinese Chemical Letters 29 (2018) 1692



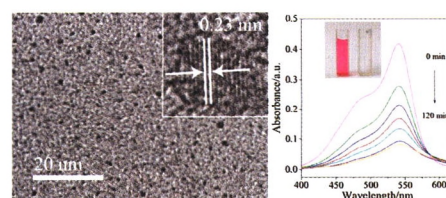
S-doped graphene quantum dots as nanophotocatalyst for visible light degradation

Biting Huang, Jingbo He, Shiyue Bian, Chenjuan Zhou, Zhiyang Li, Fengna Xi, Jiyang Liu, Xiaoping Dong

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S-doped graphene quantum dots (S-GQDs) with well crystallization and monodispersity were prepared and applied as novel nanophotocatalyst for visible light degradation of basic fuchsin.

Chinese Chemical Letters 29 (2018) 1698



Responsible Institution: China Association for Science and Technology
Sponsor: Chinese Chemical Society
Institute of Materia Medica, Chinese Academy of Medical Sciences
Editor-in-Chief: Xuhong Qian
Editor: Editorial Board of Chinese Chemical Letters
Address: Institute of Materia Medica, Chinese Academy of Medical Sciences
1 Xian Nong Tan Street, Beijing 100050, China
Tel: 86-10-63165638
E-mail: cclbj@imm.ac.cn
Website: www.chinchemlett.com.cn
Online Submission: www.ees.elsevier.com/cclet
Publisher: Editorial Office of Chinese Chemical Letters
ELSEVIER B.V.

国内发行: 全国各地邮局

邮发代号: 2-915

定价: 50元/本; 600元/年

Available online at www.sciencedirect.com

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