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南昌大学化学学院建院六十周年



REVIEW

Yu Liu et al.
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selective binding and molecular assembly

COMMUNICATION

Wen Liu et al.
Photocatalytic degradation of amoxicillin by
carbon quantum dots modified $K_2Ti_6O_{13}$
nanotubes: Effect of light wavelength

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

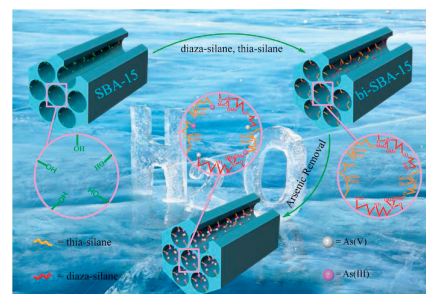
Special Column: 60th Anniversary of College of Chemistry, Nanchang University

Facile surface modification of mesoporous silica with heterocyclic silanes for efficiently removing arsenic

Xiaohui Zhu^a, Wei Jiang^a, Weirong Cui^a, Ruping Liang^a, Li Zhang^a, Jianding Qiu^{a,b}^a College of Chemistry, Nanchang University, Nanchang 330031, China^b Environmental Protection Materials and Equipment Engineering Technology Center of Jiangxi, Department of Materials and Chemical Engineering, Pingxiang University, Pingxiang 337055, China

SBA-15 was modified with heterocyclic silanes for synthesis bi-SBA-15 by using ring-opening click reaction in a short time under mild conditions. The prepared bi-SBA-15 can directly remove As(III) and As(V) without pre-oxidizing As(III) to As(V).

Chinese Chemical Letters 30 (2019) 1133



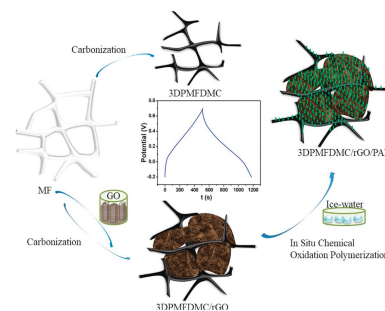
High-performance supercapacitor based on ultralight and elastic three-dimensional carbon foam/reduced graphene/polyaniline nanocomposites

Canwei Peng, Jie Yu, Shouhui Chen, Li Wang

Key Laboratory of Functional Small Organic Molecule, Key Laboratory of Chemical Biology, College of Chemistry and Chemical Engineering, Jiangxi Normal University, Nanchang 330022, China

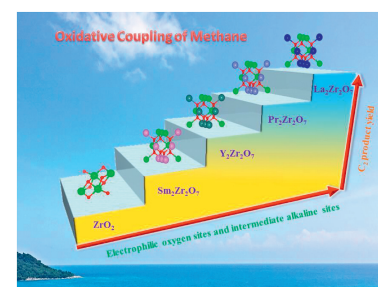
A novel supercapacitor based on ultralight and elastic three-dimensional porous melamine foam-derived macroporous carbon/reduced graphene oxide/polyaniline nanocomposites were fabricated, which showed great electrical performance and cycle performance.

Chinese Chemical Letters 30 (2019) 1137

Ln₂Zr₂O₇ compounds (Ln = La, Pr, Sm, Y) with varied rare earth A sites for low temperature oxidative coupling of methaneXiuzhong Fang^a, Lianghai Xia^a, Liang Peng^a, Yuan Luo^a, Junwei Xu^a, Luoji Xu^a, Xianglan Xu^a, Wenming Liu^a, Renyang Zheng^b, Xiang Wang^a^a Key Laboratory of Jiangxi Province for Environment and Energy Catalysis, College of Chemistry, Nanchang University, Nanchang 330031, China^b Research Institute of Processing (RIIP), SINOPEC, Beijing 100083, China

The replacement of Ln site with different rare earth cations alters the crystalline phases of Ln₂Zr₂O₇, which in turn influences the surface active oxygen and alkaline sites significantly. The abundance and the interaction of the two types of sites determine the OCM reaction performance.

Chinese Chemical Letters 30 (2019) 1141



Adsorption of Ni_n (n=1–4) clusters on perfect and O-defective CuAl₂O₄ surfaces: A DFT study

Li Li^a, Liu Shi^a, Xiaohu Yu^b, Shaojun Qing^c, Zhixian Gao^c, Qiquan Luo^d, Gang Feng^a, Rongbin Zhang^a

^a Key Laboratory of Jiangxi Province for Environment and Energy Catalysis, Institute of Applied Chemistry, College of Chemistry, Nanchang University, Nanchang 330031, China

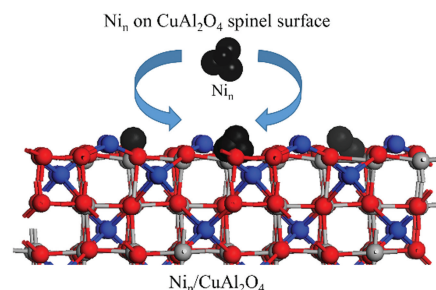
^b Institute of Theoretical and Computational Chemistry, Shaanxi Key Laboratory of Catalysis, School of Chemical & Environment Sciences, Shaanxi University of Technology, Hanzhong 723000, China

^c State Key Laboratory of Coal Conversion, Institute of Coal Chemistry, Chinese Academy of Sciences, Taiyuan 030001, China

^d Hefei National Laboratory for Physical Sciences at the Microscale, University of Science and Technology of China, Hefei 230026, China

The adsorption energies for single Ni atom on CuAl₂O₄ (100) and (110) surfaces are 5.30 and 4.08 eV, respectively. The growth and aggregation of Ni can be effectively inhibited on the perfect CuAl₂O₄ (100) surface. The adsorption of Ni on the spinel surface is accompanied by charge transfer. The interaction of Ni with CuAl₂O₄ surface is stronger than with the γ -Al₂O₃ (110) surface.

Chinese Chemical Letters 30 (2019) 1147



Effects of reduction temperature and content of Pd loading on the performance Pd/CeO₂ catalyst for CO oxidation

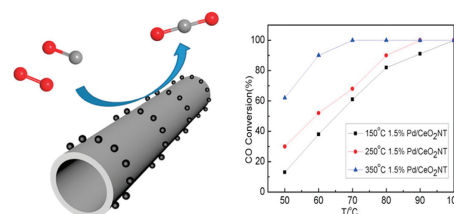
Yue Yan^a, Huaxi Li^a, Zhanghui Lu^b, Xuewen Wang^a, Rongbin Zhang^a, Gang Feng^a

^a Key Laboratory of Jiangxi Province for Environment and Energy Catalysis, College of Chemistry, Nanchang University, Nanchang 330031, China

^b College of Chemistry and Chemical Engineering, Jiangxi Normal University, Nanchang 330022, China

Palladium nanoparticles were prepared by thermally assisted reduction using glutathione as reduction agent. The Pd loading on CeO₂ for CO oxidation was optimized to 1.5 wt%. The catalysts reduced at 350 °C show the highest activity for CO oxidation, which achieve 100% CO conversion at 70 °C.

Chinese Chemical Letters 30 (2019) 1153



Electrochemical non-enzymatic glucose sensors based on nano-composite of Co₃O₄ and multiwalled carbon nanotube

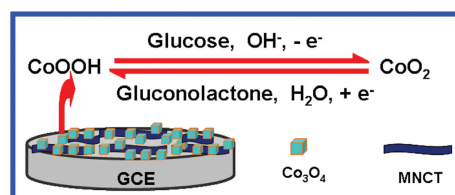
Xiaoyun Lin^a, Yanfang Wang^a, Miaomiao Zou^a, Tianxiang Lan^a, Yongnian Ni^{a,b}

^a College of Chemistry, Nanchang University, Nanchang 330031, China

^b State Key Laboratory of Food Science and Technology, Nanchang University, Nanchang 330047, China

Nanocomposite of Co₃O₄ and MCNT was synthesised using one step solvothermal method, and an electrochemical non-enzymatic glucose sensor (Co₃O₄-MCNT/GCE) was successfully constructed. This sensor was used successfully for the quantitative analysis of trace glucose in serum sample.

Chinese Chemical Letters 30 (2019) 1157



Additive-free non-fullerene organic solar cells with random copolymers as donors over 9% power conversion efficiency

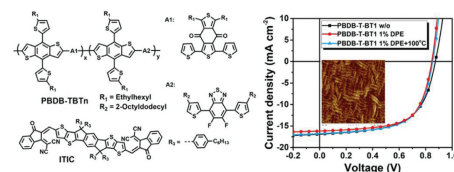
Meimei Wu^a, Laitao Shi^a, Yu Hu^a, Lie Chen^{a,b}, Ting Hu^{a,b}, Youdi Zhang^{a,b}, Zhongyi Yuan^{a,b}, Yiwang Chen^{a,b}

^a College of Chemistry, Nanchang University, Nanchang 330031, China

^b Institute of Polymers and Energy Chemistry (IPEC), Nanchang University, Nanchang 330031, China

The PBDB-TBT1:ITIC-based device obtains PCE of 9.09%, and is insensitive to additive and thermal annealing, and forms microstructural morphology.

Chinese Chemical Letters 30 (2019) 1161



Effect of mass transfer process on hydrogen adsorption on polycrystalline platinum electrode in sulfuric acid solution

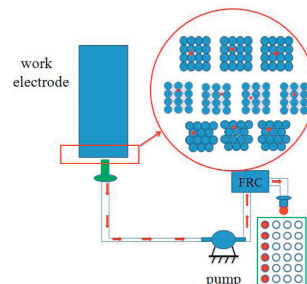
Wei Zhang^{a,b}, Yang Liu^a, Hainan Luo^a, Changwei Pan^b

^a College of Chemical Engineering and Material Science, Zaozhuang University, Zaozhuang 277160, China

^b College of Chemical Engineering, China University of Mining and Technology, Xuzhou 221116, China

The hydrogen adsorption on polycrystalline platinum electrode experimentally as well as on single crystal Pt(110), Pt(100) and Pt(111) electrode theoretically were studied. The study of forced convection on the electrode surface promotes the HUPD research from static process to a convective mode and provides a new strategy to investigate the hydrogen adsorption in solution.

Chinese Chemical Letters 30 (2019) 1168



Dichloromethane as a methylene synthon for regioselective linkage of diverse carboxylic acids: Direct access to methylene diesters under metal-free conditions

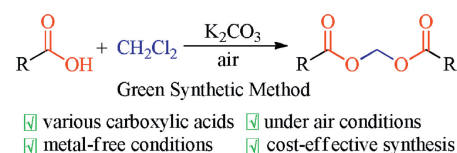
Shuiliang Wang^a, Zhengjiang Fu^{a,b}, Zhicong Huang^a, Yongqing Jiang^a, Shengmei Guo^a, Hu Cai^a

^a College of Chemistry, Nanchang University, Nanchang 330031, China

^b State Key Laboratory of Structural Chemistry, Fujian Institute of Research on the Structure of Matter, CAS, Fuzhou 350002, China

This simple protocol is a convenient and cost-effective route to synthesize methylene diesters from a wide scope of carboxylic acids substrates with good functional group tolerance. Several gram-scale reactions have been performed to evaluate the effectiveness and practicality of this protocol.

Chinese Chemical Letters 30 (2019) 1173



Black fungus derived aerogel with double faced properties

Bixing Fang^{a,b}, Lina Dong^c, Xingwei Ding^c, Yingzi Ren^c, Zhongsheng Lv^c, Kuan Liu^c, Feng Zhang^d, Wei Zhang^b, Jianjian Deng^e, Hongbo Xin^c, Xiaolei Wang^{b,c},

^a Department of Otolaryngology Head & Neck Surgery, The Third Affiliated Hospital of Sun Yat-sen University, Guangzhou 510630, China

^b College of Chemistry, Nanchang University, Nanchang 330088, China

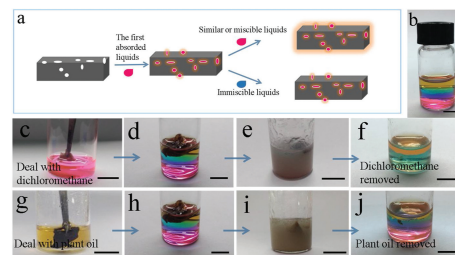
^c The National Engineering Research Center for Bioengineering Drugs and Technologies, Institute of Translational Medicine, Nanchang University, Nanchang 330088, China

^d Department of Orthopedic Surgery, The Affiliated Stomatological Hospital of Nanchang University, The Key Laboratory of Oral Biomedicine, Nanchang 330006, China

^e Department of Orthopedic Surgery, The Second Affiliated Hospital of Nanchang University, Nanchang 330006, China

Black fungus aerogel (BFA) exhibited interesting double-faced properties. We explored the diverse properties of each side of the black fungus in three aspects: water contact angle measurements, liquid selective absorption capacity and air pollutant adsorption abilities.

Chinese Chemical Letters 30 (2019) 1178



DES-Fe₃O₄ composite for rapid extraction of residual plant growth regulators in edible vegetable oil

Ting Tan^{a,b}, Xiaomei Xu^c, Yiqun Wan^{a,b,c}

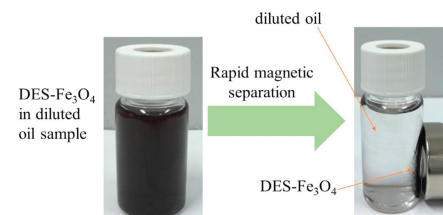
^a State Key Laboratory of Food Science and Technology, Nanchang University, Nanchang 330047, China

^b Center of Analysis and Testing, Nanchang University, Nanchang 330031, China

^c School of Chemistry, Nanchang University, Nanchang 330031, China

DES-Fe₃O₄ composite achieved a good performance on rapid extraction of residual plant growth regulators in edible vegetable oil with the help of external magnetic field.

Chinese Chemical Letters 30 (2019) 1182



Reviews

New strategy for reversal tolerant anode for automotive polymer electrolyte fuel cell

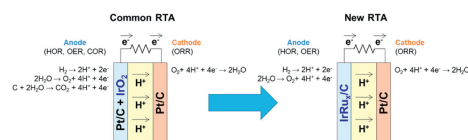
Chanho Pak^a, Seung Woo Lee^a, Chaekyung Baik^a, Bong Ho Lee^a, Dae Jong You^b, Eunyong You^b

^a Graduate Program of Energy Technology, School of Integrated Technology, Institute of Integrated Technology, Gwangju Institute of Science and Technology, Gwangju 61005, Republic of Korea

^b Fuel Cell Engineering Core Technology Team, Division of Electric Powertrain, Hyundai Mobis, Co., Ltd., Yongin, Gyeonggi-do 16891, Republic of Korea

New approach for the reversal tolerant anode for polymer electrolyte membrane fuel cell is suggested by using the multifunctional IrRu alloy catalyst having concurrent superior activities towards hydrogen oxidation reaction and oxygen evolution reaction to mitigate the degradation of anode under the fuel starvation condition.

Chinese Chemical Letters 30 (2019) 1186



Calixarene/pillararene-based supramolecular selective binding and molecular assembly

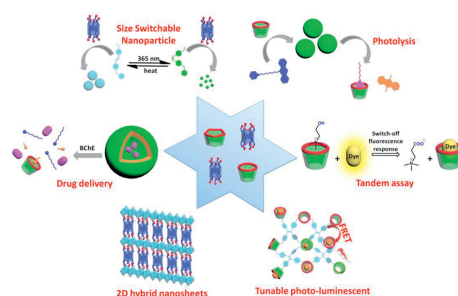
Peiyu Li^a, Yong Chen^{a,b}, Yu Liu^{a,b}

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

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

This review mainly summarized the recent researches on the supramolecular selective binding and molecular assembly based on calixarene and pillararene. Several representative examples were provided to expound the progress in the area of recognition and sensing, multi-functional assembly and crosslinked multi-dimensional materials.

Chinese Chemical Letters 30 (2019) 1190



Communications

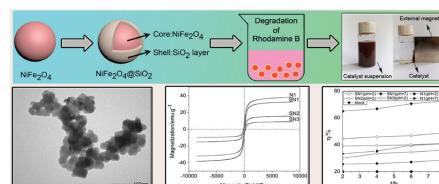
A novel magnetic silica supported spinel ferrites NiFe₂O₄ catalyst for heterogeneous Fenton-like oxidation of rhodamine B

Jifeng Qu, Tinghua Che, Libin, Shi, Qinghua Lu, Suitao Qi

School of Chemical Engineering and Technology, Xi'an Jiaotong University, Xi'an 710049, China

As the heterogeneous Fenton-like catalyst, a series of spinel ferrites magnetic nanoparticles NiFe₂O₄ and NiFe₂O₄@SiO₂ catalysts were synthesized and were applied into the oxidation of rhodamine B, which exhibited the good catalytic performance and strong magnetic separation after reaction.

Chinese Chemical Letters 30 (2019) 1198



Copper-exchanged LTA zeolite membranes with enhanced water flux for ethanol dehydration

Can Xu^{a,b}, Chen Zhou^b, Sui Wang^a, Aisheng Huang^{b,c}

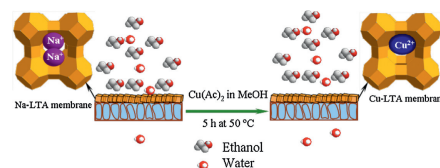
^a Ningbo University, Ningbo 315201, China

^b Institute of New Energy Technology, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Science, Ningbo 315201, China

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

Phase-pure and well-intergrown Cu-LTA membranes are developed through copper ions exchange of sodium ions in Na-LTA framework. For pervaporation of 90.0 wt% ethanol/10.0 wt% water mixtures, the Cu-LTA membrane shows much higher water flux than Na-LTA membranes due to the enhancement of the pore size after ions exchange.

Chinese Chemical Letters 30 (2019) 1204



Synthesis and nematicidal evaluation of 1,2,3-benzotriazin-4-one derivatives containing piperazine as linker against *Meloidogyne incognita*

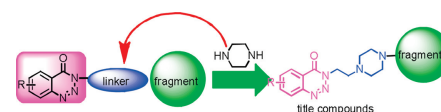
Xiulei Chen^a, Haowu Jia^a, Zhong Li^{a,b}, Xiaoyong Xu^{a,b}

^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

To explore new skeleton with nematicidal activity, a series of novel 1,2,3-benzotriazin-4-one derivatives containing piperazine as linker were synthesized and varied fragments were also introduced to increase structure diversity of the new skeleton.

Chinese Chemical Letters 30 (2019) 1207



Photocatalytic degradation of amoxicillin by carbon quantum dots modified $K_2Ti_6O_{13}$ nanotubes: Effect of light wavelength

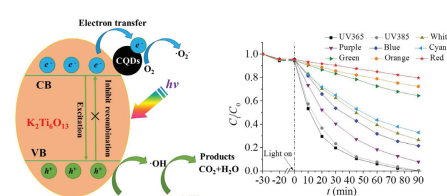
Qiankun Chen^a, Long Chen^a, Juanjuan Qi^a, Yingqian Tong^a, Yitao Lv^a, Chaokai Xu^a, Jinren Ni^{a,b}, Wen Liu^{a,b}

^a The Key Laboratory of Water and Sediment Sciences, Ministry of Education, College of Environmental Sciences and Engineering, Peking University, Beijing 100871, China

^b The Beijing Innovation Center for Engineering Science and Advanced Technology (BIC-ESAT), Peking University, Beijing 100871, China

Novel carbon quantum dots modified potassium titanate nanotubes (CQDs/ $K_2Ti_6O_{13}$) composite was synthesized and exhibited high photocatalytic activity for degradation of amoxicillin under UV and visible lights with nine wavelengths. Better amoxicillin removal was achieved at lower wavelength irradiation due to its higher photo energy.

Chinese Chemical Letters 30 (2019) 1214



Hydrothermal pretreatment of rice straw at relatively lower temperature to improve biogas production via anaerobic digestion

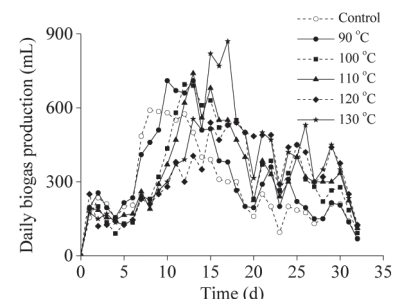
Tao Luo^a, Hailong Huang^{a,b}, Zili Mei^a, Fei Shen^{a,b}, Yihong Ge^a, Guoquan Hu^a, Xi Meng^b

^a Biogas Institute of Ministry of Agriculture (BIOMA), Chengdu 610041, China

^b College of Environment Sciences, Sichuan Agricultural University, Chengdu 611130, China

The performances of rice straw (RS) degradation and biogas production were examined at different pretreatment temperatures from 90 °C to 130 °C to improve biogas fermentation efficiency and net energy production in whole slurry. Test at 100 °C pretreatment, which achieved 12.8% higher net energy production from RS than that observed in the control, could be considered as the optimal choice.

Chinese Chemical Letters 30 (2019) 1219



Pre-incubated with BSA-complexed free fatty acids alters ER stress/autophagic gene expression by carboxylated multi-walled carbon nanotube exposure in THP-1 macrophages

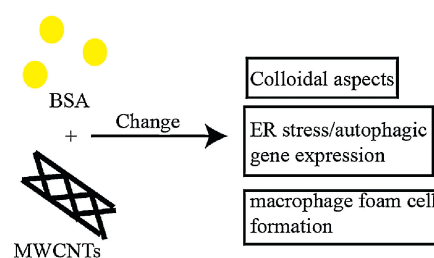
Qianyu Yang^a, Maolin Wang^a, Yongbing Sun^b, Shengming Peng^a, Yanhuai Ding^a, Yi Cao^a

^a Key Laboratory of Environment-Friendly Chemistry and Application of Ministry of Education, Lab of Biochemistry, College of Chemistry, Xiangtan University, Xiangtan 411105, China

^b National Engineering Research Center for Solid Preparation Technology of Chinese Medicines, Jiangxi University of Traditional Chinese Medicines, Nanchang 330006, China

Pre-incubation with BSA-complexed free fatty acids influenced the colloidal aspects of carboxylated multi-walled carbon nanotubes (c-MWCNTs), and altered macrophage foam cell formation through the modulation of ER stress/autophagic gene expression.

Chinese Chemical Letters 30 (2019) 1224



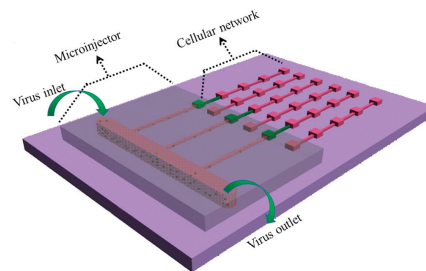
Controllable and flexible cellular network for virus cell-to-cell spread

Chinese Chemical Letters 30 (2019) 1229

Qiong Yan, Cheng Wang, Ji Wang, Liangjun Pan, Zhiling Zhang

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

Cellular networks were constructed based on PEG modification and soft lithography, in which cell numbers and spatial distributions can be controlled. A micro-injector was combined with cellular networks to fix virus induced plaque and virus spread direction, by which virus cell-to-cell spread can be distinguished from cell-free spread.



Combined inhibition of HDAC and DNMT1 induces p85 α /MEK-mediated cell cycle arrest by dual target inhibitor 208 in U937 cells

Chinese Chemical Letters 30 (2019) 1233

Yue Ren^{a,b,c}, Qinsheng Sun^{b,c,d}, Zigao Yuan^{b,c}, Yuyang Jiang^{a,b,c,e}

^a Department of Chemistry, Tsinghua University, Beijing 100084, China

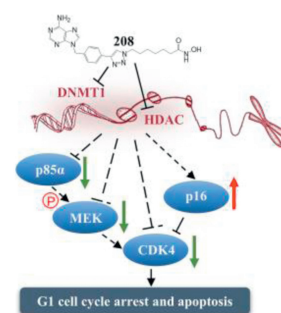
^b State Key Laboratory of Chemical Oncogenomics, Key Laboratory of Chemical Biology, the Graduate School at Shenzhen, Tsinghua University, Shenzhen 518055, China

^c National & Local United Engineering Lab for Personalized Anti-tumor Drugs, Shenzhen Kivita Innovative Drug Discovery Institute, the Graduate School at Shenzhen, Tsinghua University, Shenzhen 518055, China

^d School of Life Science, Tsinghua University, Beijing 100084, China

^e School of Pharmaceutical Sciences, Tsinghua University, Beijing 100084, China

Herein we reported an efficient dual DNMT and HDAC inhibitor **208** with great antiproliferative activity against U937 cells. Further studies revealed **208** affected the whole proteome profile and could induce G1 cell cycle arrest and apoptosis in U937 cells through upregulating CDK inhibitor p16 and downregulating cyclin-dependent kinases and their activators.



Sustainable routes for quantitative green selenocyanation of activated alkynes

Chinese Chemical Letters 30 (2019) 1237

Ling-Hui Lu^{a,b}, Zheng Wang^b, Weng Xia^c, Ping Cheng^c, Bo Zhang^d, Zhong Cao^d, Wei-Min He^{a,b}

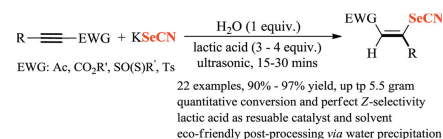
^a Department of Chemistry, Hunan University, Changsha 410082, China

^b Department of Chemistry, Hunan University of Science and Engineering, Yongzhou 425100, China

^c School of Chemistry and Chemical Engineering, Hunan University of Science and Technology, Xiangtan 411201, China

^d Hunan Provincial Key Laboratory of Materials Protection for Electric Power and Transportation, Changsha University of Science and Technology, Changsha 410114, China

By using cheap lactic acid as the recyclable catalyst and reaction media, a sustainable protocol for the synthesis of Z-3-selenocyanatoacrylates and analogues through green selenocyanation of activated alkynes has been achieved.



Direct oxidative C(sp³) H cyanation of secondary benzylic ethers

Chinese Chemical Letters 30 (2019) 1241

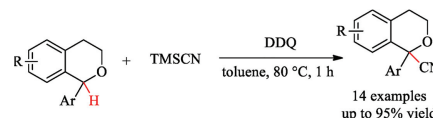
Zehua Wang^a, Ying Mao^b, Honghao Guan^a, Min Cao^a, Jing Hua^c, Lei Feng^a, Lei Liu^{a,b}

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

^b School of Pharmaceutical Sciences, Shandong University, Ji'nan 250012, China

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

A practical and efficient oxidative CH cyanation of secondary benzylic ethers with TMSCN in the presence of DDQ is described for the first time. The metal-free process is well tolerated with a wide variety of electronically varied α -monosubstituted isochromans for the synthesis of isochromans bearing α -aryl α -cyano substituent patterns.



A novel and effective Zn/PEI-MCM catalyst for the acetylene hydration to acetaldehyde

Qinqin Wang^a, Mingyuan Zhu^{b,c}, Bin Dai^{b,c}, Jinli Zhang^a

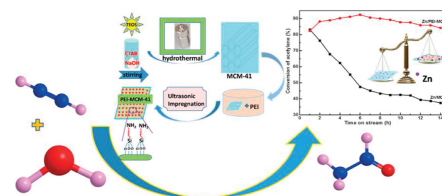
^a School of Chemical Engineering & Technology, Tianjin University, Tianjin 300350, China

^b Key Laboratory for Green Processing of Chemical Engineering of Xinjiang Bingtuan, Shihezi 832000, China

^c School of Chemistry and Chemical Engineering, Shihezi University, Shihezi 832003, China

The introduction of PEI can enhance the metal-support interaction to make the better metal dispersion and more active sites, and the charge transfer from N atom to Zn species, especially for the Zn/P-MCM-12 catalyst with about 88% C₂H₂ conversion and 85% selectivity.

Chinese Chemical Letters 30 (2019) 1244



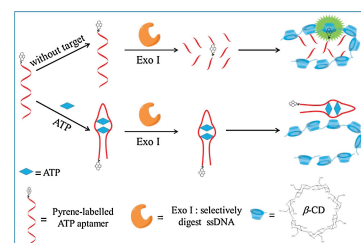
β -Cyclodextrin polymer based fluorescence enhancement method for sensitive adenosine triphosphate detection

Chunxia Song*, Yuxin Xiao, Kunpeng Li, Xiaoyu Zhang, Ying Lu

Department of Applied Chemistry, School of Science, Anhui Agricultural University, Hefei 230036, China

A sensitive and facile method for adenosine triphosphate detection has been developed that based on the prominent fluorescence enhancement capability of β -cyclodextrin polymer to pyrene through host-guest interaction.

Chinese Chemical Letters 30 (2019) 1249



Layered MoS₂@graphene functionalized with nitrogen-doped graphene quantum dots as an enhanced electrochemical hydrogen evolution catalyst

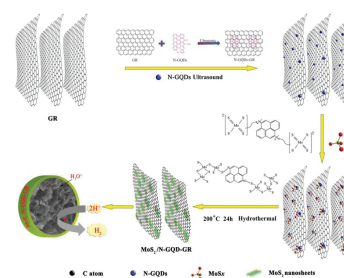
Tong Guo^a, Lina Wang^a, Sen Sun^a, Yan Wang^a, Xiaoling Chen^a, Kangning Zhang^a, Dongxia Zhang^a, Zhonghua Xue^b, Xibin Zhou^a

^a Key Laboratory of Bioelectrochemistry & Environmental Analysis of Gansu Province, College of Geography and Environment Science, Northwest Normal University, Lanzhou 730070, China

^b College of Chemistry and Chemical Engineering, Northwest Normal University, Lanzhou 730070, China

Layered MoS₂@graphene functionalized with nitrogen-doped graphene quantum dots (MoS₂@NGQDs-GR) was obtained by one-pot hydrothermal method, as an enhanced electrochemical hydrogen evolution catalyst.

Chinese Chemical Letters 30 (2019) 1253



Effect of defects in TiO₂ nanoplates with exposed {001} facets on the gas sensing properties

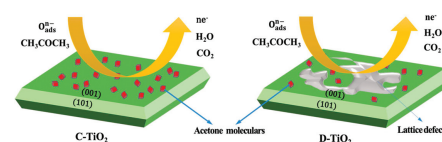
Weichao Wang^{a,b}, Fengqi Liu^a, Bing Wang^a, Yingde Wang^a

^a Science and Technology on Advanced Ceramic Fibers and Composites Laboratory, College of Aerospace Science and Engineering, National University of Defense Technology, Changsha 410073, China

^b Northwest Institute of Nuclear Technology, Xi'an 710024, China

The gas-sensing properties and mechanism of anatase TiO₂ with complete and defective {001} facets were explored and compared, which provides a more direct evidence for the high sensitivity of TiO₂ with the complete {001} crystal facets.

Chinese Chemical Letters 30 (2019) 1261



Colloidal AgCl induced-growth of thorny gold nanoparticles and their SERS activity

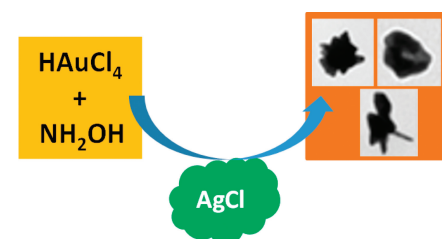
Shuai Zeng^a, Hong Yuan^a, Lin Gan^b, Jin Huang^b

^a Key Laboratory of Pesticide and Chemical Biology of Ministry of Education, College of Chemistry, Central China Normal University, Wuhan 430079, China

^b Chongqing Key Laboratory of Soft-Matter Material Chemistry and Function Manufacturing, School of Chemistry and Chemical Engineering, Southwest University, Chongqing 400715, China

In this paper, we exploited a unique procedure for obtaining thorny gold nanoparticles (Au NPs) with controllable length of thorns without using seeds and surfactants. The obtained Au NPs exhibited shape-determined surface-enhanced Raman spectroscopy activity toward rhodamine 6G.

Chinese Chemical Letters 30 (2019) 1266



Facile cyclic ammonium salt with the smallest size for high performance electric double layer capacitors

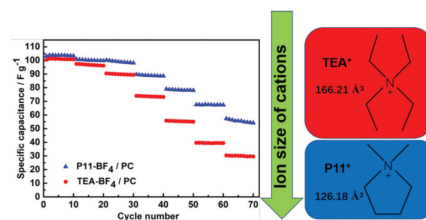
Chao Wang^a, Jing Wang^b, Xiang Xiao^a, Guobin Zhong^a, Shijia Wu^a, Kaiqi Xu^a, Wei Zhao^a, Wei Su^a, Jie Zeng^a, Baojun Wu^b, Weili Zhang^b, Changcheng Wu^b, Zhiqiang Shi^b

^a Electric Power Research Institute of Guangdong Power Grid Co., Ltd., Guangzhou 510080, China

^b Tianjin Key Laboratory of Advanced Fibers and Energy Storage, College of Materials Science and Engineering, Tianjin Polytechnic University, Tianjin 300387, China

A novel cyclic ammonium salt, *N,N*-dimethylpyrrolidinium tetrafluoroborate ($P_{11}-BF_4$), was successfully synthesized for the first time. The smallest cyclic structure of $P_{11}-BF_4$ induced high solubility and conductivity in PC, which can easier enter the micropores of activated carbon and occupy more surface area during charge/discharge process.

Chinese Chemical Letters 30 (2019) 1269



Polyoxometalate-based high-nuclear cobalt-vanadium-oxo cluster as efficient catalyst for visible light-driven CO₂ reduction

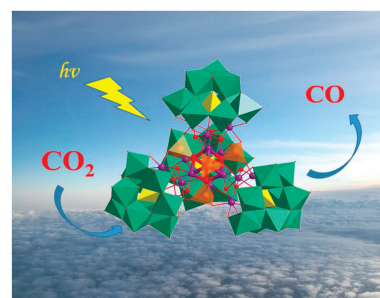
Lizhen Qiao^{a,b}, Man Song^{a,b}, Aifang Geng^a, Shuang Yao^{a,b}

^a School of Chemical and Environmental Engineering, Changchun University of Science and Technology, Changchun 130022, China

^b School of Chemistry and Chemical Engineering, Tianjin University of Technology, Tianjin 300384, China

A high-nuclear $\{Co_{16}V_4\}$ cluster was firstly isolated by pure inorganic lacunary POM units, which exhibits excellent photocatalytic activity for CO₂-to-CO conversion under visible light irradiation.

Chinese Chemical Letters 30 (2019) 1273



A non-fullerene acceptor enables efficient P3HT-based organic solar cells with small voltage loss and thickness insensitivity

Ning Wang^a, Weitao Yang^a, Shuixing Li^a, Minmin Shi^a, Tsz-Ki Lau^b, Xinhui Lu^b, Rafi Shikler^c, Chang-Zhi Li^a, Hongzheng Chen^a

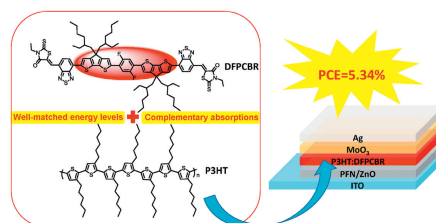
^a MOE Key Laboratory of Macromolecular Synthesis and Functionalization, State Key Laboratory of Silicon Materials, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou 310027, China

^b Department of Physics, The Chinese University of Hong Kong, Hong Kong 999077, China

^c Department of Electrical and Computer Engineering, Ben-Gurion University of the Negev, Beer-Sheva 8410501, Israel

The large D core of DFPCBR results in efficient P3HT-based OSCs with a high V_{oc} and thickness insensitivity.

Chinese Chemical Letters 30 (2019) 1277



Critical importance of current collector property to the performance of flexible electrochemical power sources

Fandi Ning^{a,b}, Yangbin Shen^b, Chuang Bai^{a,b}, Jun Wei^{a,b}, Guanbin Lu^b, Yi Cui^{a,d}, Xiaochun Zhou^{a,b,c}

^a Nano Science and Technology Institute, University of Science and Technology of China, Suzhou 215123, China

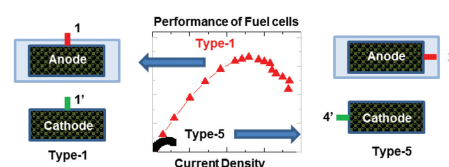
^b Division of Advanced Nanomaterials, Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences (CAS), Suzhou 215123, China

^c Division of Nanomaterials, Suzhou Institute of Nano-Tech and Nano-Bionics, Nanchang, Chinese Academy of Sciences (CAS), Nanchang 330200, China

^d Vacuum Interconnected Workstation, Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences (CAS), Suzhou 215123, China

The property of current collector is significant to the performance of flexible power supply.

Chinese Chemical Letters 30 (2019) 1282



Organic ionic plastic crystal as electrolyte for lithium-oxygen batteries

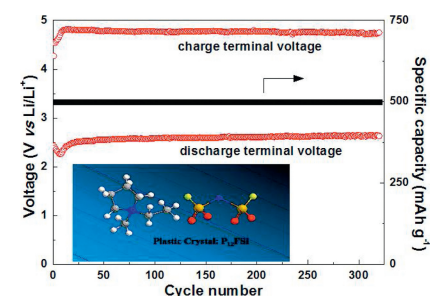
Shaokang Tian^a, Bowen Shao^a, Zhiqun Wang^a, Shangda Li^a, Xiangyu Liu^a, Yibo Zhao^a, Lei Li^{a,b}

^a School of Chemistry and Chemical Engineering, Shanghai Key Lab of Electrical Insulation and Thermal Aging, Shanghai Jiao Tong University, Shanghai 200240, China

^b Shanghai Electrochemical Energy Devices Research Center, School of Chemistry and Chemical Engineering, Shanghai Jiao Tong University, Shanghai 200240, China

Organic ionic plastic crystal composed of 1-ethyl-1-methyl pyrrolidinium bis(fluorosulfonyl)imide (P₁₂FSl) and lithium bis(fluorosulfonyl)imide (LiFSl) was used as electrolyte for lithium-oxygen battery. The battery at room temperature delivered a superior long life (320 cycles) and good rate capability since the electrolyte had good chemical and electrochemical stability, and high ionic conductivity.

Chinese Chemical Letters 30 (2019) 1289



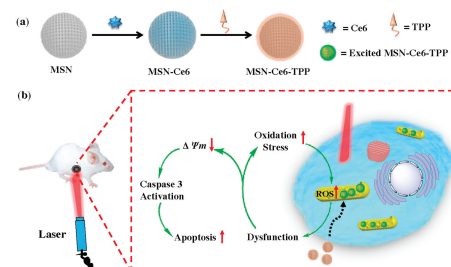
Boosting the photodynamic therapy efficiency with a mitochondria-targeted nanophotosensitizer

Limin Yang, Peng Gao, Yuanlei Huang, Xiao Lu, Qian Chang, Wei Pan, Na Li, Bo Tang

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

A nanophotosensitizer with outstanding mitochondrion-targeting ability was developed and the enhanced photodynamic therapy efficiency both in cancer cells and xenograft tumor models was successfully realized.

Chinese Chemical Letters 30 (2019) 1293



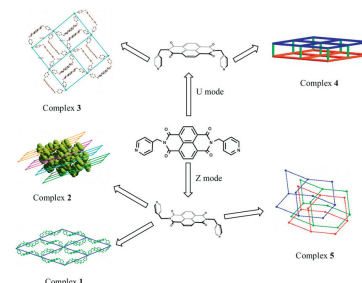
Structural tuning of coordination polymers by 4-connecting metal node and secondary building process

Chaojie Li, Zhangwen Wei, Mei Pan, Haiying Deng, Jijun Jiang, Chengyong Su

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

Due to variation in ligand's conformation, metal node's connecting geometry, and secondary building process by anions, bat-like, dumbbell-like, diamondoid, or pillar-layer topologies are achieved.

Chinese Chemical Letters 30 (2019) 1297



Spectroscopic study of conformation changes of bovine serum albumin in aqueous environment

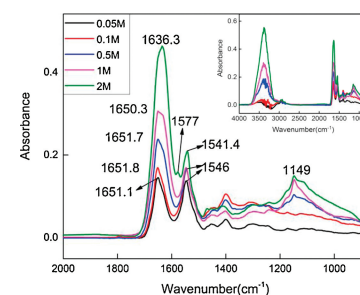
Chune Guo^{a,b}, Xiaomi Guo^{a,b}, Wubo Chu^a, Nan Jiang^{a,b}, He Li^{a,b}

^a Key Laboratory of Marine Materials and Related Technologies, CAS, Zhejiang Key Laboratory of Marine Materials and Protective Technologies, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo 315201, China

^b College of Materials Science and Optoelectronic Technology, University of Chinese Academy of Sciences, Beijing 100049, China

The secondary structural changes of protein aqueous solutions with and without calcium cations were investigated by attenuated total reflection-Fourier transform infrared (ATR-FTIR) technology.

Chinese Chemical Letters 30 (2019) 1302



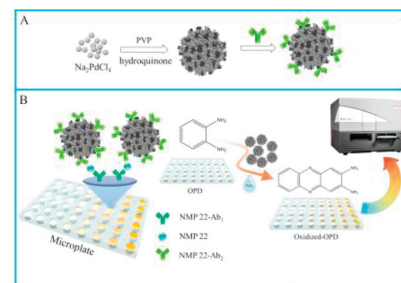
Fluorescent and colorimetric immunoassay of nuclear matrix protein 22 enhanced by porous Pd nanoparticles

Wenyun Zhuge, Xiaofeng Tan, Ruyue Zhang, He Li, Gengxiu Zheng

School of Chemistry and Chemical Engineering, University of Jinan, Ji'nan 250022, China

A new modified ELISA enhanced by porous Pd nanoparticles for colorimetric and fluorescence dual-modal immunoassay of nuclear matrix protein 22 has been demonstrated. Benefited from different signal readout and independent signal amplified mechanism, the improved ELISA will afford more reliable detection performance, which can bring high promising for clinical diagnosis.

Chinese Chemical Letters 30 (2019) 1307



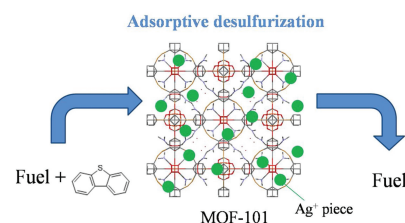
A composite metal-organic framework material with high selective adsorption for dibenzothiophene

Xu Guan, Yan Wang, Wangfeng Cai

School of Chemical Engineering and Technology, Tianjin University, Tianjin 300350, China

A composite metal-organic framework material Ag⁺/MOF-101 was synthesized and applied to adsorb dibenzothiophene (DBT) from model oils. The loading of Ag⁺ enhanced the deep adsorptive desulfurization capacity for DBT and significantly weakened the adsorption competitiveness of toluene.

Chinese Chemical Letters 30 (2019) 1310



Effect of removing silica in rice husk for the preparation of activated carbon for supercapacitor applications

Dechen Liu^a, Wenli Zhang^b, Weimin Huang^{b,c}

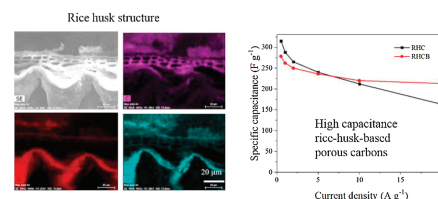
^a Jilin Police College, Changchun 130117, China

^b College of Chemistry, Jilin University, Changchun 130012, China

^c Key Laboratory of Physics and Technology for Advanced Batteries of Ministry of Education, Changchun 130012, China

The significant influence of silica inside rice husk in the preparation and electrochemical performances of activated carbon are investigated. The removing of silica results in high mesoporous ratio and good rate capability.

Chinese Chemical Letters 30 (2019) 1315



Cy5.5-MSA-G250 nanoparticles (CMGNPs) induce M1 polarity of RAW264.7 macrophage cells via TLR4-dependent manner

Zhuoxuan Lu^a, Lingfeng Xu^a, Nongyue He^b, Fengying Huang^a, Tiefeng Xu^c, Li Li^c, Yanwei Zhang^a, Liming Zhang^a

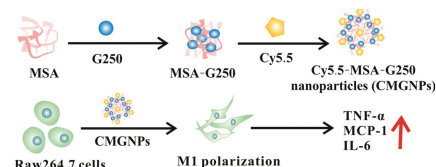
^a Key Laboratory of Tropical Disease and Translational Medicine of the Ministry of Education & Hainan Provincial Key Laboratory of Tropical Medicine, Hainan Medical College, Haikou 571101, China

^b Hunan Key Laboratory of Biomedical Materials and Devices, Hunan University of Technology, Zhuzhou 412008, China

^c The First Affiliated Hospital and the Oncological Institute of Hainan Medical College, Haikou 571101, China

CMGNPs can promote M1 polarization of macrophages and TLR4 is involved in CMGNP-induced inflammation.

Chinese Chemical Letters 30 (2019) 1320



Anti-solvent assisted treatment for improved morphology and efficiency of lead acetate derived perovskite solar cells

Mengqin Kong^{a,d}, Hang Hu^{b,c,d}, Kingsley Egbo^a, Binghai Dong^d, Li Wan^d, Shimin Wang^d

^a Department of Physics, City University of Hong Kong, Hong Kong 999077, China

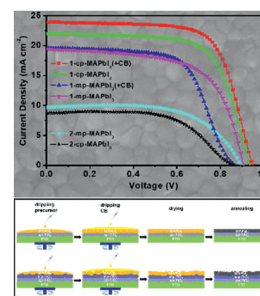
^b Institute of Microstructure Technology, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen 76344, Germany

^c Light Technology Institute, Karlsruhe Institute of Technology, Karlsruhe 76131, Germany

^d Hubei Collaborative Innovation Center for Advanced Organic Chemical Materials, Ministry-of-Education Key Laboratory for the Green Preparation and Application of Functional Materials, Faculty of Materials Science and Engineering, Hubei University, Wuhan 430062, China

An efficient solution-processable route employing $\text{Pb}(\text{Ac})_2$ as lead source and anti-solvent treatment to achieve fully covered and homogenous perovskite films is reported.

Chinese Chemical Letters 30 (2019) 1325



Asymmetric supercapacitors based on high capacitance Ni_6MnO_8 and graphene

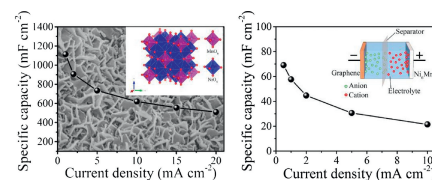
Mingyang Zeng^a, Li Zhang^a, Dandan Wu^a, Jun Ma^a, Cao Zhang^a, Shujuan Li^b

^a Department of Physics, School of Science, Lanzhou University of Technology, Lanzhou 730050, China

^b Institute for Mathematics, Free University of Berlin, Berlin D-14195, Germany

A fast, facile and cost-effective method is used to synthesize Ni_6MnO_8 electrode with high electrochemical performance. The supercapacitor based on Ni_6MnO_8 electrode exhibits excellent stability, high area specific capacitance and promising energy and power density.

Chinese Chemical Letters 30 (2019) 1329



Lyp-1 peptide-functionalized gold nanoprisms for SERRS imaging and tumor growth suppressing by PTT induced-hyperthermia

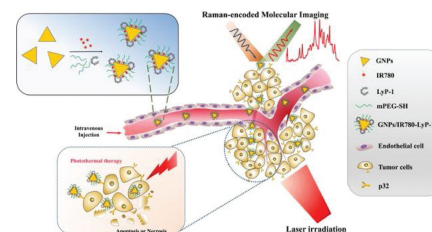
Xi Huang^{a,b,1}, Yanlong Yin^{a,1}, Min Wu^a, Wang Zan^a, Qian Yang^a

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

^b Ophthalmic Laboratory and Department of Ophthalmology, State Key Laboratory and Collaborative Innovation Center of Biotherapy, West China Hospital, Sichuan University, Chengdu 610041, China

The gold nanoprisms (GNPs) have exhibited special plasmonic properties for biomedical applications because of their unique shapes and dimensions. Based on their optical performance, the NIR dye IR780 not only enabled the GNPs-based nanosystem as SERRS nanoparticles for Raman-encoded molecular imaging, but also enhanced the plasmonic photothermal property by laser irradiation. Meanwhile, the GNPs/IR780-Lyp-1 by introduction of tumor-homing peptide segment Lyp-1, which presents high affinity to p32 protein, demonstrated the increased enrichment in tumor region and enhanced photothermal therapy efficacy.

Chinese Chemical Letters 30 (2019) 1335



Lotus-stalk $\text{Bi}_4\text{Ge}_3\text{O}_{12}$ as binder-free anode for lithium and sodium ion batteries

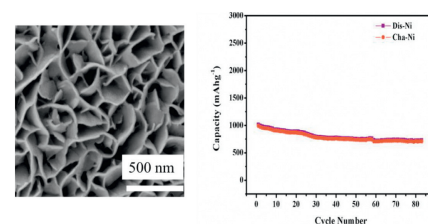
Jianlong Xu^{a,b}, Wei Wei^b, Xu Zhang^{a,b}, Lei Liang^b, Maotian Xu^b

^a College of Materials Science and Engineering, Xi'an University of Architecture and Technology, Xi'an 710055, China

^b School of Chemistry and Chemical Engineering, Henan D&A Engineering Center of Advanced Battery Materials, Henan Key Laboratory of Bimolecular Reorganization and Sensing, Shangqiu Normal University, Shangqiu 476000, China

The synthesized lotus-stalk $\text{Bi}_4\text{Ge}_3\text{O}_{12}$ utilized as binder-free anode for LIBs demonstrates excellent cycling performance. The synthesized lotus-stalk $\text{Bi}_4\text{Ge}_3\text{O}_{12}$ is composed of nanosheets, which is contribute to outstanding lithium storage performance.

Chinese Chemical Letters 30 (2019) 1341



Genetic algorithm aided density functional theory simulations unravel the kinetic nature of Au(100) in catalytic CO oxidation

Yi Fang, Xueqing Gong

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

The interactions of oxygen atoms and Au(100) can affect the surface morphology by inducing the hexagonal type reconstruction to the surface layer and forming a lifted O-Au-O species.

