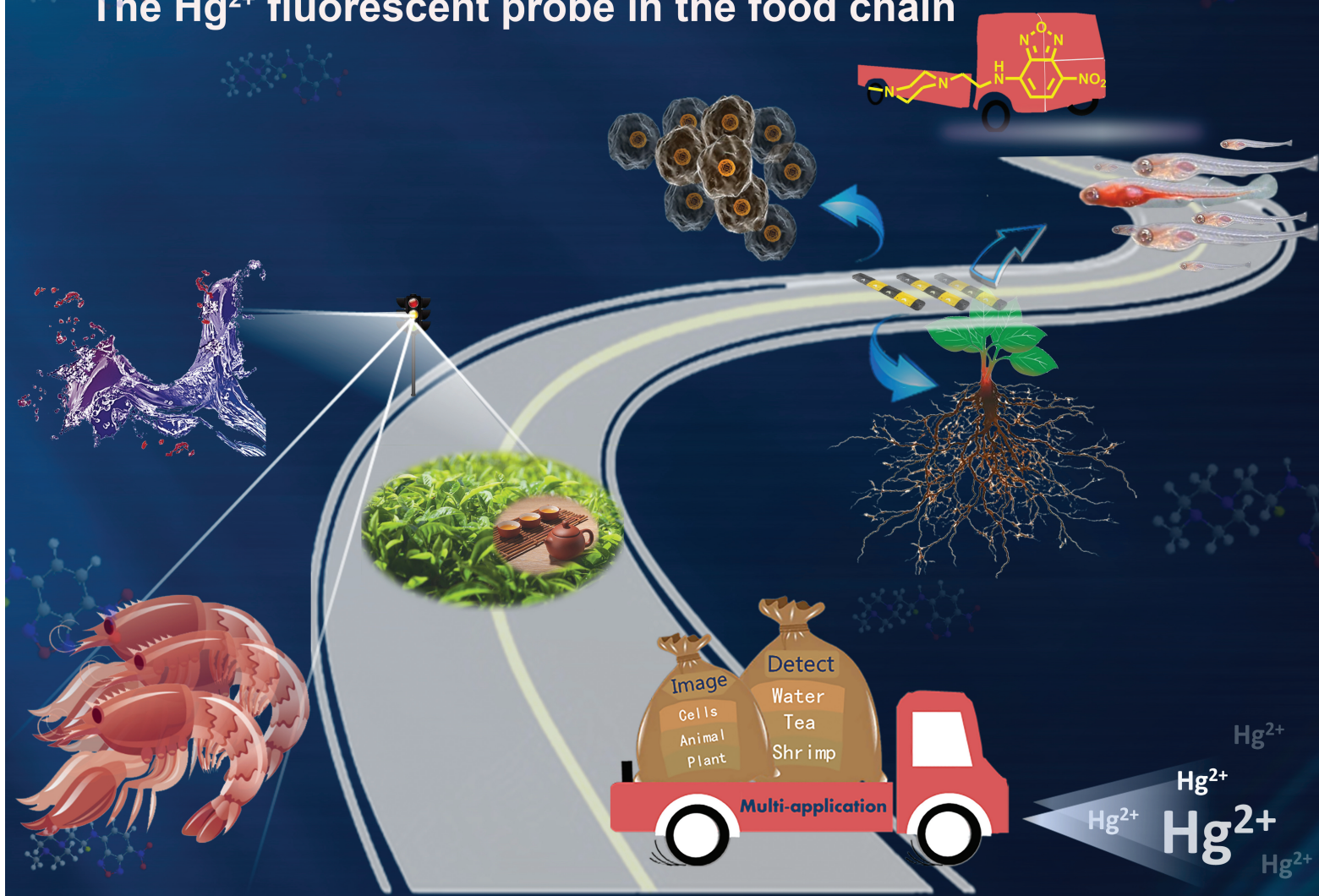


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The Hg^{2+} fluorescent probe in the food chain





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

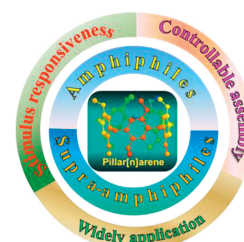
Reviews

Recent development of pillar[n]arene-based amphiphiles

Yan Cai, Zhecheng Zhang, Yue Ding, Lanping Hu, Jin Wang, Tingting Chen, Yong Yao
School of Chemistry and Chemical Engineering, Nantong University, Nantong 226019, China

A systematic review of recent achievements in pillar[n]arene-based amphiphiles, mainly focus on their chemical structures, self-assembly features, and widely applications.

Chinese Chemical Letters 32 (2021) 1267



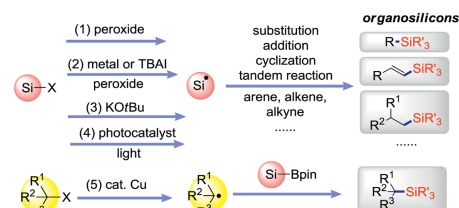
Recent advances in synthesis of organosilicons via radical strategies

Xueping Zhang, Jingkun Fang, Chun Cai, Guoping Lu

School of Chemical Engineering, Nanjing University of Science & Technology, Nanjing 210094, China

The studies on synthesis of organosilicons *via* radical strategies since 2016 are reviewed, in which there are five main categories for the initiation of these radical silylations.

Chinese Chemical Letters 32 (2021) 1280



High thermal conductivity of graphene and structure defects: Prospects for thermal applications in graphene sheets

Chenglong Cai^{a,b}, Ting Wang^{a,b}, Guanwen Qu^b, Zhangqi Feng^c

^a State Key Laboratory of Bioelectronics, National Demonstration Centre for Experimental Biomedical Engineering Education, School of Biological Science and Medical Engineering, Southeast University, Nanjing 210096, China

^b Southeast University Jiangbei New Area Innovation Institute, Nanjing 210096, China

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

Depends on their excellent thermal conductivity, graphene is widely applied in many fields, such as phase change materials, thermal interface materials, aerospace. Furthermore, deeply understanding of the thermal conductivity mechanism of graphene will be very important for the performance improvement of graphene.

Chinese Chemical Letters 32 (2021) 1293



Binder-free electrodes for advanced potassium-ion batteries: A review

Wencong Liu^a, Wenyi Liu^a, Yuqi Jiang^a, Qiuyue Gui^a, Deliang Ba^b, Yuanyuan Li^b, Jinping Liu^{a,c}

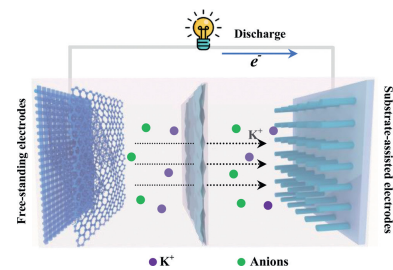
^a School of Chemistry, Chemical Engineering and Life Science, State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, Wuhan 430070, China

^b School of Optical and Electronic Information, Huazhong University of Science and Technology, Wuhan 430074, China

^c Key Laboratory for Photonic and Electronic Bandgap Materials, Ministry of Education, School of Physics and Electronic Engineering, Harbin Normal University, Harbin 150025, China

This review summarizes recent progress in the design and fabrication of binder-free electrodes for PIBs, with the focus on the methodologies, detailed strategies and functional materials for electrode construction.

Chinese Chemical Letters 32 (2021) 1299



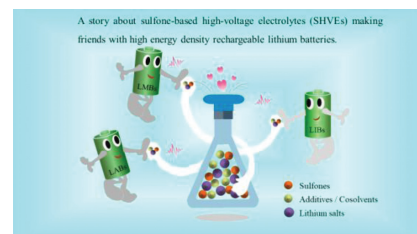
Sulfone-based high-voltage electrolytes for high energy density rechargeable lithium batteries: Progress and perspective

Wenya Wu, Ying Bai, Xinran Wang, Chuan Wu

Beijing Key Laboratory of Environmental Science and Engineering, School of Materials Science and Engineering, Beijing Institute of Technology, Beijing 100081, China

Sulfone-based high-voltage electrolytes (SHVEs) are considered as promising candidates for high-voltage lithium batteries due to their wide electrochemical window and high safety. This mini review summarized recent achievements of SHVEs in high energy density rechargeable lithium batteries, and series of optimization methods for SHVEs were also proposed.

Chinese Chemical Letters 32 (2021) 1309



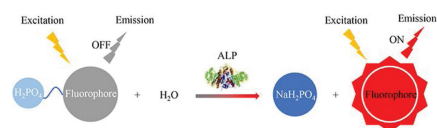
Recent advances in fluorescence imaging of alkaline phosphatase

Meng Li, Bhaskar Gurram, Shan Lei, Nicholas T. Blum, Peng Huang, Jing Lin

Marshall Laboratory of Biomedical Engineering, International Cancer Center, Laboratory of Evolutionary Theranostics (LET), School of Biomedical Engineering, Shenzhen University Health Science Center, Shenzhen 518060, China

Alkaline phosphatase (ALP), widely existing in biological tissues, can be used as a biomarker to provide important information for the research and application of diagnosis of human diseases. Therefore, it is necessary to establish an accurate, extensive and sensitive analytical method to detect the content and activity of ALP. In this review, we update most recent studies based on ALP fluorescence detection. We specifically make a clear classification based on luminescence principles and design principles of some representative organic and inorganic probes, and finally we assess the challenges and future prospects of ALP-based probe.

Chinese Chemical Letters 32 (2021) 1316



Polysaccharide conjugate vaccine: A kind of vaccine with great development potential

Jing Zhao^a, Gang Hu^d, Yi Huang^e, Yingchun Huang^c, Xin Wei^b, Jianyou Shi^a

^a Department of Pharmacy, Sichuan Academy of Medical Science & Sichuan Provincial People's Hospital, Personalized Drug Therapy Key Laboratory of Sichuan Province, University of Electronic Science and Technology of China, Chengdu 610072, China

^b Chengdu Kanghua Biological Products Co., Ltd., Chengdu 610100, China

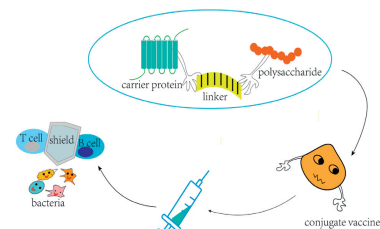
^c College of Biochemical Engineering, Beijing Union University, Beijing 100023, China

^d Galactophore Department, Sichuan Academy of Medical Sciences & Sichuan Provincial People's Hospital, University of Electronic Science and Technology of China, Chengdu 610072, China

^e Clinical Laboratory, Sichuan Academy of Medical Sciences & Sichuan Provincial People's Hospital, University of Electronic Science and Technology of China, Chengdu 610072, China

The polysaccharide conjugate vaccine obtained by coupling polysaccharides and proteins together has a good immune effect, which is a vaccine with great development potential.

Chinese Chemical Letters 32 (2021) 1331



The progress and perspective of strategies to improve tumor penetration of nanomedicines

Jiang Hu^a, Xinwei Yuan^a, Fei Wang^a, Huile Gao^b, Xilin Liu^a, Wei Zhang^a

^a Department of Orthopedics, Sichuan Provincial People's Hospital & Sichuan Academy of Medical Sciences & Affiliated Hospital of University of Electronic Science and Technology, Chengdu 610072, China

^b Key Laboratory of Drug Targeting and Drug Delivery System of the Education Ministry, Sichuan Engineering Laboratory for Plant-Sourced Drug and Sichuan Research Center for Drug Precision Industrial Technology, West China School of Pharmacy Sichuan University, Chengdu 610041, China

There are several barriers that influence the tumor penetration, including tumor microenvironment barriers, nanoparticle properties, and interaction barriers between tumor and nanoparticles. To overcome the barrier, several strategies are developed, including modulating tumor microenvironment, changing particle size, transcytosis enabled tumor penetration, cell penetrating peptide modification and overcoming binding site barrier.

Chinese Chemical Letters 32 (2021) 1341

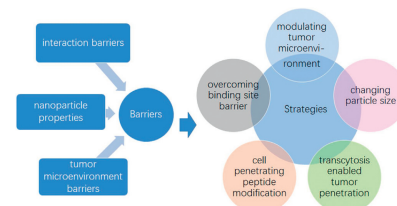


Photo-responsive metal/semiconductor hybrid nanostructure: A promising electrocatalyst for solar light enhanced fuel cell reaction

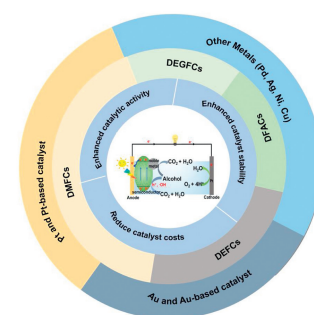
Jiayue Hu^a, Chunyang Zhai^b, Mingshan Zhu^a

^a Guangdong Key Laboratory of Environmental Pollution and Health, School of Environment, Jinan University, Guangzhou 511443, China

^b School of Materials Science and Chemical Engineering, Ningbo University, Ningbo 315211, China

This review summary the research progresses of photo-responsive metal/semiconductor hybrids as the electrocatalysts for DAFCs including: (1) Mechanism and advantages of photo-assistant electrochemical alcohol oxidation reaction; (2) different type and different metal in fuel cell reactions; (3) prospects of the photoresponsive metal/semiconductor structure for future applications.

Chinese Chemical Letters 32 (2021) 1348



Communications

Ternary organic solar cells: Improved optical and morphological properties allow an enhanced efficiency

Yingying Zhao^a, Liuyang Zhou^b, Xiaobo Wu^c, Xiaosha Wang^a, Yungui Li^d, Yazhou Qi^a, Lihui Jiang^a, Guohui Chen^a, Yingping Zou^a

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

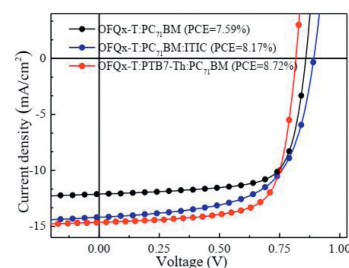
^b Beijing National Laboratory for Molecular Sciences, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

^c College of Metallurgy and Materials Engineering, Hunan University of Technology, Zhuzhou 412000, China

^d Max Planck Institute for Polymer Research, Ackermannweg 10, 55128 Mainz, Germany

The addition of the third component ITIC and PTB7-Th broadens the absorption spectra and improve blends morphology, leading to an increase in the efficiency of the ternary organic solar cells by 8% and 13%, respectively.

Chinese Chemical Letters 32 (2021) 1359



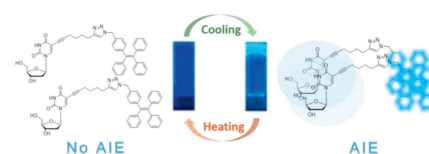
Intermolecular hydrogen-bond interaction to promote thermoreversible 2'-deoxyuridine-based AIE-organogels

Xuan Zhao, Long Zhao, Qiuyun Xiao, Hai Xiong

Institute for Advanced Study, Shenzhen University, Shenzhen 518060, China

The intermolecular hydrogen-bond interaction between nucleobase and triazole moieties induces the forming of 2'-deoxyuridine-based organogels, and the gel state promotes an aggregation-induced emission of TPE moiety. The organogels are thermoreversible and easy processability.

Chinese Chemical Letters 32 (2021) 1363



A purely organic D- π -A- π -D emitter with thermally activated delayed fluorescence and room temperature phosphorescence for near-white OLED

Jing Sun^{a,b}, Junsen Jia^b, Bo Zhao^b, Jingjing Yang^b, Manjeet Singh^c, Zhongfu An^c, Hua Wang^b, Bingshe Xu^b, Wei Huang^a

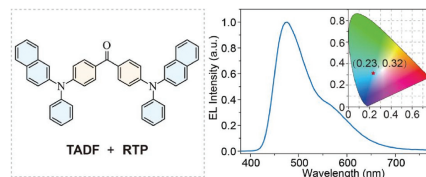
^a Frontiers Science Center for Flexible Electronics, Xi'an Institute of Flexible Electronics (IFE) and Xi'an Institute of Biomedical Materials & Engineering, Northwestern Polytechnical University, Xi'an 710072, China

^b Key Laboratory of Interface Science and Engineering in Advanced Materials, Taiyuan University of Technology, Ministry of Education, Taiyuan 030024, China

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

A purely organic D- π -A- π -D type emitter showing thermally activated delayed fluorescence and room temperature phosphorescence simultaneously was designed and synthesized. It shows near-white light emission with a CIE coordination of (0.23, 0.32) as a single emitting layer in the electroluminescent device.

Chinese Chemical Letters 32 (2021) 1367



Solution-processed multi-resonance organic light-emitting diodes with high efficiency and narrowband emission

Shen Xu^{a,b}, Qingqing Yang^a, Ying Zhang^a, Hui Li^a, Qin Xue^c, Guohua Xie^c, Minzhao Gu^a, Jibiao Jin^a, Ling Huang^b, Runfeng Chen^a

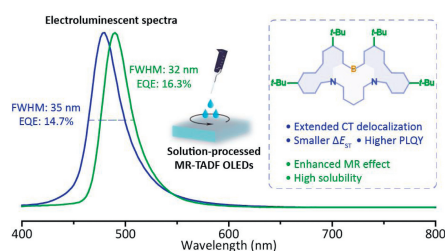
^a Key Laboratory for Organic Electronics and Information Displays & Jiangsu Key Laboratory for Biosensors, Institute of Advanced Materials (IAM), Jiangsu National Synergistic Innovation Center for Advanced Materials (SICAM), Nanjing University of Posts & Telecommunications, Nanjing 210023, China

^b Key Laboratory of Flexible Electronics (KLOFE) & Institute of Advanced Materials (IAM), Nanjing Tech University, Nanjing 211816, China

^c Sauvage Center for Molecular Sciences, Hubei Key Lab on Organic and Polymeric Optoelectronic Materials, Department of Chemistry, Wuhan University, Wuhan 430072, China

Two MR-TADF emitters with small ΔE_{ST} , large oscillator strengths and good solubility were prepared and used in solution-processed MR-OLEDs realizing EQE up to 16.3% and FWHM of 32 nm.

Chinese Chemical Letters 32 (2021) 1372



Preparation of a fixed-tetraphenylethylene motif bridged ditopic benzo-21-crown-7 and its application for constructing AIE supramolecular polymers

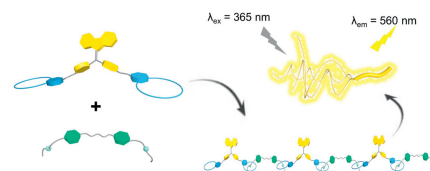
Tangxin Xiao^a, Jie Wang^a, Yong Shen^a, Cheng Bao^a, Zheng-Yi Li^a, Xiao-Qiang Sun^a, Leyong Wang^b

^a School of Petrochemical Engineering, Changzhou University, Changzhou 213164, China

^b School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, China

A fixed-tetraphenylethylene (FTPE) motif bridged ditopic benzo-21-crown-7 molecule was prepared. In the presence of a ditopic dialkylammonium salt guest molecule, a fluorescent supramolecular polymer with golden emission was developed.

Chinese Chemical Letters 32 (2021) 1377



An AIE singlet oxygen generation system based on supramolecular strategy

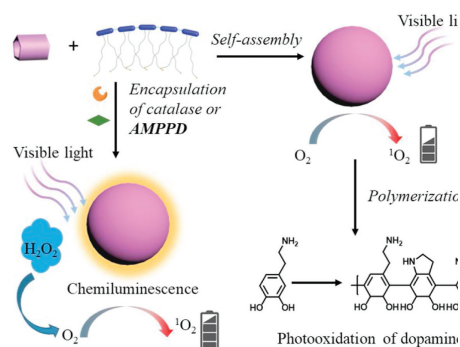
Minzan Zuo^a, Weirui Qian^b, Min Hao^b, Kaiya Wang^a, Xiao-Yu Hu^a, Leyong Wang^b

^a College of Material Science and Technology, Nanjing University of Aeronautics and Astronautics, Nanjing 211106, China

^b Key Laboratory of Mesoscopic Chemistry of MOE, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210023, China

An AIE-based singlet oxygen generation system with chemiluminescence properties is reported in aqueous media based on supramolecular host-guest assembly. Moreover, the present system can function as nanoreactors to perform the photooxidation of dopamine to form polydopamine with visible light irradiation.

Chinese Chemical Letters 32 (2021) 1381



Host-guest co-assembly triggered turn-on and ratiometric sensing of berberine and its detoxicating

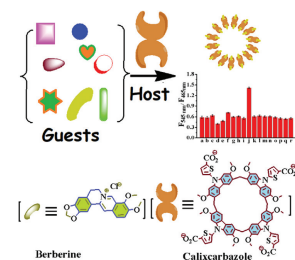
Chuanfeng Liu^a, Zhixin Li^a, Hai Yu^a, Naibin Cui^a, Xiaoyu Liao^b, Haibin Zhang^a, Zhengning Shu^a, Peng Yang^a

^a Wuya College of Innovation, Shenyang Pharmaceutical University, Shenyang 110016, China

^b School of Traditional Chinese Materia Medica, Shenyang Pharmaceutical University, Shenyang 110016, China

In this study, a macrocyclic probe capable of specifically detecting berberine via co-assembly triggered FRET fluorescence has been developed.

Chinese Chemical Letters 32 (2021) 1385



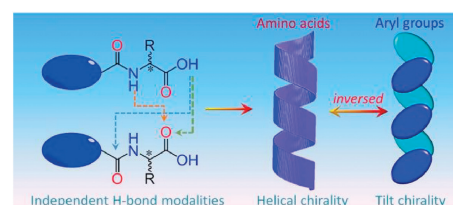
Helical secondary structures and supramolecular tilted chirality in N-terminal aryl amino acids with diversified optical activities

Zhuoer Wang, Aiyu Hao, Pengyao Xing

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

Supramolecular tilt chirality and helical chirality directed by carboxylic acid-involved H-bonds are generically found in solid-state Fmoc-protected amino acids.

Chinese Chemical Letters 32 (2021) 1390



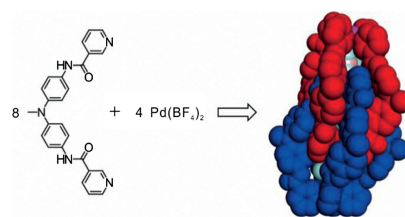
An interlocked coordination cage based on aromatic amide ligands

Dan Luo, Bo Pan, Jiajia Zhang, Chunmiao Ma, Yuyang Su, Quan Gan

Hubei Key Laboratory of Bioinorganic Chemistry & Materia Medica, School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

A M_4L_8 interlocked coordination cage was constructed via coordination of aromatic amide bidentate ligands with palladium ions. Its interpenetrating structure was clearly revealed by using ¹H NMR, mass spectrometry and X-ray crystallography.

Chinese Chemical Letters 32 (2021) 1397



Synthetic studies on pseudolaric acid B: Enantioselective synthesis of C4,C10-di-*epi-trans*-fused [5-7]-bicyclic skeleton

Rui Guo^{a,b}, Hongbin Zhai^c, Yun Li^a

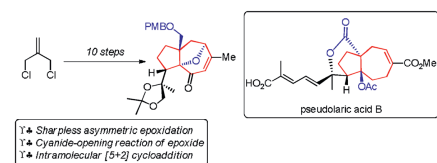
^a State Key Laboratory of Applied Organic Chemistry, College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, China

^b Department of Chemistry, University of Pittsburgh, Pittsburgh, PA 15260, United States

^c The State Key Laboratory of Chemical Oncogenomics, Guangdong Provincial Key Laboratory of Nano-Micro Materials Research, School of Chemical Biology and Biotechnology, Shenzhen Graduate School of Peking University, Shenzhen 518055 China

The enantioselective synthesis of C4,C10-di-*epi-trans*-fused [5-7]-bicyclic skeleton of pseudolaric acid B was described which exploiting the Sharpless asymmetric epoxidation, cyanide-opening reaction of epoxide, and intramolecular [5 + 2] cycloaddition reaction as key transformations.

Chinese Chemical Letters 32 (2021) 1400



Mechanism of the Ir/Pd catalyzed photocarboxylation of aryl halides

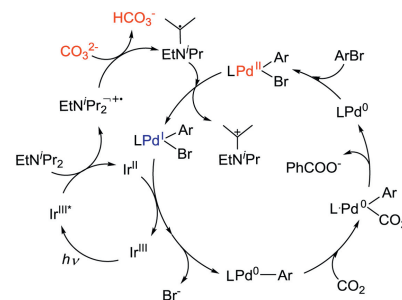
Ying Lv^a, Bing Wang^b, Haizhu Yu^a

^a Department of Chemistry and Centre for Atomic Engineering of Advanced Materials, Anhui University, Hefei 230601, China

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

The mechanism of Ir/Pd catalyzed photocarboxylation of aryl halides with CO₂ were elucidated by DFT calculations.

Chinese Chemical Letters 32 (2021) 1403



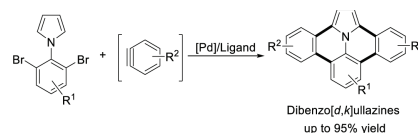
Synthesis of π -extended dibenzo[*d,k*]ullazines by a palladium-catalyzed double annulation using arynes

Deping Wang, Yan Liu, Linhua Wang, Hu Cheng, Yuming Zhang, Ge Gao

Key Laboratory of Green Chemistry and Technology of Ministry of Education, College of Chemistry, Sichuan University, Chengdu 610064, China

A Pd-catalyzed double annulation reaction of 1-(2,6-dibromophenyl)-1*H*-pyrroles with arynes to synthesize π -extended dibenzo[*d,k*]ullazines is presented.

Chinese Chemical Letters 32 (2021) 1407



Access to multi-functionalized oxazolines via silver-catalyzed heteroannulation of enamides with sulfoxonium ylides

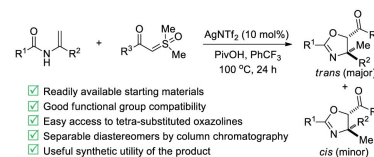
Rui-Hua Liu^a, Qi-Chao Shan^a, Ya Gao^a, Teck-Peng Loh^{a,b}, Xu-Hong Hu^a

^a Institute of Advanced Synthesis, School of Chemistry and Molecular Engineering, Nanjing Tech University, Nanjing 211816, China

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

A practical protocol for the efficient construction of tetra-substituted oxazolines is presented by Ag-catalyzed [4 + 1] heteroannulation of enamides with sulfoxonium ylides.

Chinese Chemical Letters 32 (2021) 1411



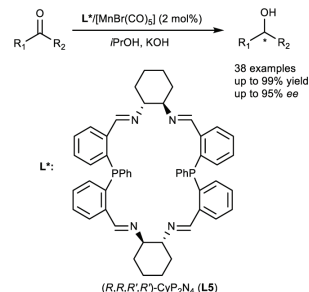
Manganese catalyzed asymmetric transfer hydrogenation of ketones

Guang-Ya Zhang, Sun-Hong Ruan, Yan-Yun Li, Jing-Xing Gao

Department of Chemistry, College of Chemistry and Chemical Engineering, National Engineering Laboratory for Green Chemical Production of Alcohols-Ethers-Esters, Xiamen University, Xiamen 361005, China

Using 2-propanol as hydrogen source, various ketones could be enantioselectively hydrogenated by combining cheap, readily available [MnBr(CO)₂] with chiral macrocyclic ligand (*R,R,R',R'*-CyP₂N₄ (**L5**), affording corresponding chiral alcohols with up to 95% ee.

Chinese Chemical Letters 32 (2021) 1415



Acid-catalyzed chemodivergent reactions of 2,2-dimethoxyacetaldehyde and anilines

Luxia Guo^a, Zihao Chen^a, Hongmei Zhu^a, Minghao Li^a, Yanlong Gu^{a,b,c}

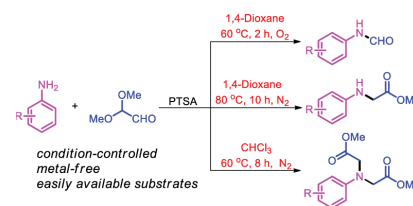
^a Huazhong University of Science and Technology, Hubei Key Laboratory of Material Chemistry and Service Failure, Wuhan 430074, China

^b State Key Laboratory for Oxo Synthesis and Selective Oxidation, Lanzhou Institute of Chemical Physics, Lanzhou 730000, China

^c The Key Laboratory for Green Processing of Chemical Engineering of Xinjiang Bingtuan, Shihezi University, Shihezi 832004, China

Acid-catalyzed chemodivergent reactions of 2,2-dimethoxyacetaldehyde and anilines were described, which were realized via either a C—C bond cleavage or a Heyns rearrangement of the reaction intermediate. These reactions not only enriched the conversion method of biomass-derived platform molecule, 2,2-dimethoxyacetaldehyde, but also offered facile and efficient ways for the synthesis of methyl phenylglycinates and *N*-arylformamides under mild acidic conditions.

Chinese Chemical Letters 32 (2021) 1419



Synthesis of polycyclic spiro-fused indolines via IBX-mediated cascade cyclization

Zhiguo Zhang^a, Xiaoqing Song^a, Guofeng Li^a, Xiang Li^a, Dan Zheng^b, Xuna Zhao^a, Huanran Miao^a, Guisheng Zhang^a, Lantao Liu^c

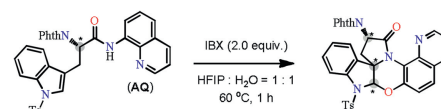
^a Henan Key Laboratory of Organic Functional Molecule and Drug Innovation, Collaborative Innovation Center of Henan Province for Green Manufacturing of Fine Chemicals, Key Laboratory of Green Chemical Media and Reactions, Ministry of Education, School of Chemistry and Chemical Engineering, Henan Normal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

^b Quality and Technique Supervision, Inspection and Testing Center of Xuchang City, Xuchang 461000, China

^c The College of Chemistry and Chemical Engineering, Shangqiu Normal University, Shangqiu 476000, China

We report a 2-iodoxybenzoic acid (IBX)-mediated intramolecular oxidative spiro-fused tandem cyclization reaction of tryptophan analogs bearing an *N*-arylamides side-chain to rapidly afford polycyclic spiroindolines featuring multiple stereocenters including a quaternary stereocenters under mild reaction conditions.

Chinese Chemical Letters 32 (2021) 1423



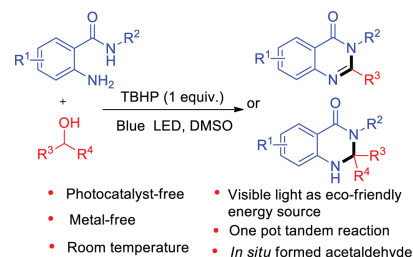
Visible light induced tandem reactions: An efficient one pot strategy for constructing quinazolinones using *in-situ* formed aldehydes under photocatalyst-free and room-temperature conditions

Zongbo Xie, Jin Lan, Haibo Zhu, Gaoyi Lei, Guofang Jiang, Zhanggao Le

Jiangxi Province Key Laboratory of Synthetic Chemistry, School of Chemistry, Biology and Material Science, East China University of Technology, Nanchang 330013, China

A catalyst-free method for the construction of quinazolinones through the visible-light-promoted *in-situ* generation of aldehydes from alcohols and subsequent reactions with various 2-aminobenzamides at room temperature was built. Visible light plays a dual role: first oxidizes the alcohol to the aldehyde and then facilitates its cyclization with *o*-substituted aniline.

Chinese Chemical Letters 32 (2021) 1427



Carbon-halogen bond activation by a structurally constrained phosphorus(III) platform

Penglong Wang^a, Qin Zhu^{a,b,c}, Yi Wang^a, Guixiang Zeng^b, Jun Zhu^c, Congqing Zhu^a

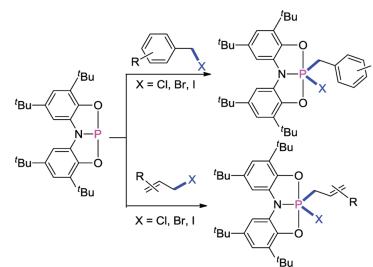
^a State Key Laboratory of Coordination Chemistry, Jiangsu Key Laboratory of Advanced Organic Materials, School of Chemistry and Chemical Engineering, Nanjing University, Nanjing 210093, China

^b Kuang Yaming Honors School, Institute for Brain Sciences, Nanjing University, Nanjing 210093, China

^c State Key Laboratory of Physical Chemistry of Solid Surfaces and Collaborative Innovation Center of Chemistry for Energy Materials (iChEM), and Department of Chemistry, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

The C—X bond activation by a pincer-type phosphorus platform was accomplished via an electrophilic addition rather than a direct oxidative addition to a structurally constrained phosphorus(III) center. This study further highlights the potential of main group elements in the activation of small molecules.

Chinese Chemical Letters 32 (2021) 1432



Ruthenium(II)-catalyzed *para*-selective C—H difluoroalkylation of aromatic aldehydes and ketones using transient directing groups

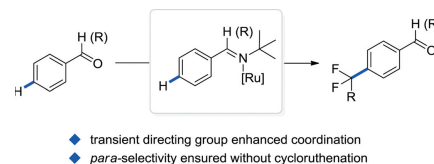
Yaohang Cheng^a, Yuhang He^a, Jie Zheng^a, Hui Yang^a, Jun Liu^a, Guanghui An^{a,b}, Guangming Li^a

^a Key Laboratory of Functional Inorganic Material Chemistry (MOE), School of Chemistry and Materials Science, Heilongjiang University, Harbin 150080, China

^b College of Materials Science and Chemical Engineering, Harbin Engineering University, Harbin 150001, China

A Ru(II)-catalyzed *para*-difluoroalkylation of aromatic aldehydes and ketones with a transient directing group has been developed.

Chinese Chemical Letters 32 (2021) 1437



Three-dimensional porous photo-thermal fiber felt with salt-resistant property for high efficient solar distillation

Jingjing Zhang^a, Xueqing Luo^a, Xiaoxin Zhang^a, Ying Xu^d, Hongbo Xu^b, Jinlong Zuo^c, Dongmei Liu^a, Fuyi Cui^a, Wei Wang^a

^a State Key Laboratory of Urban Water Resource and Environment, School of Environment, Harbin Institute of Technology, Harbin 150090, China

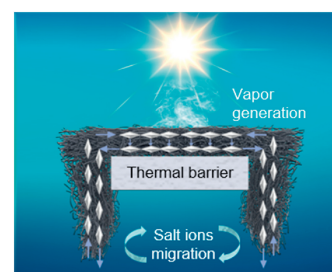
^b School of Chemistry and Chemical Engineering, Harbin Institute of Technology, Harbin 150090, China

^c Department of Environmental Engineering, Harbin University of Commerce, Harbin 150076, China

^d School of Ecology and Environment, Zhengzhou University, Zhengzhou 450000, China

A three-dimensional porous photo-thermal fiber felt with salt-resistant property was fabricated to solve the robust salt deposition problem faced in solar distillation for seawater purification.

Chinese Chemical Letters 32 (2021) 1442



Optimized Pt-MnO_x interface in Pt-MnO_x/3DOM-Al₂O₃ catalysts for enhancing catalytic soot combustion

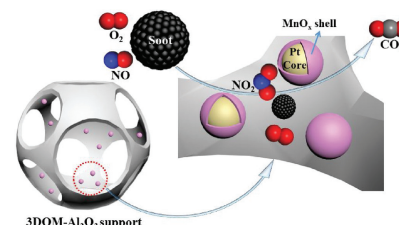
Jing Xiong^{a,b}, Zhenguo Li^a, Peng Zhang^b, Qi Yu^b, Kaixiang Li^a, Yilin Zhang^b, Zhen Zhao^b, Jian Liu^b, Jianmei Li^b, Yuechang Wei^{a,b}

^a National Engineering Laboratory for Mobile Source Emission Control Technology, China Automotive Technology & Research Center Co., Ltd., Tianjin 300300, China

^b State Key Laboratory of Heavy Oil Processing, College of Science, China University of Petroleum, Beijing 102249, China

Pt@MnO_x/3DOM-Al₂O₃ catalysts, which combines both advantages of high-efficiency sootcatalyst contact by 3DOM structure and the abundant active sites by the optimized Pt-MnO_x interface, exhibited high catalytic activity for soot combustion.

Chinese Chemical Letters 32 (2021) 1447



Intermetallic PdBi aerogels with improved catalytic performance for the degradation of organic pollutants in water

Xiaofeng Tan^a, Jun Qin^b, Yan Li^c, Yuting Zeng^c, Jindi Gong^c, Gengxiu Zheng^a, Feng Feng^b, He Li^{a,c}

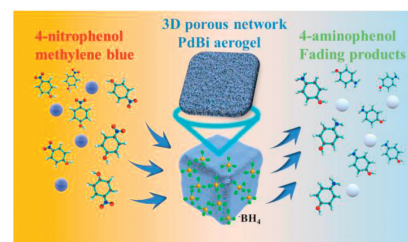
^a School of Chemistry and Chemical Engineering, University of Jinan, Ji'nan 250022, China

^b College of Chemistry and Environmental Engineering, Shanxi Datong University, Datong 037009, China

^c College of Optoelectronics Technology, Chengdu University of Information Technology, Chengdu 610225, China

Intermetallic PdBi aerogels with three-dimensional interconnected nanowires network architecture and clear interfaces were prepared successfully by a one-step spontaneous gelation method for the first time. As a proof-of-concept application, the optimized Pd₂Bi₃ aerogels exhibit 4.2 and 6.2 times higher catalytic activity for the reduction of model organic micropollutants of 4-nitrophenol and methylene blue than those of commercial Pd/C, respectively. With the introduction of non-noble metal of Bi, the cost of the resulted PdBi aerogels can be dropped significantly while the catalytic capability of PdBi aerogel will be improved sharply.

Chinese Chemical Letters 32 (2021) 1451



A confined micro-reactor with a movable Fe_3O_4 core and a mesoporous TiO_2 shell for a photocatalytic Fenton-like degradation of bisphenol A

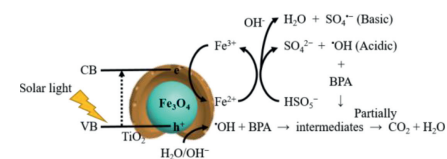
Pengpeng Qiu^a, Tao Zhao^a, Xiaohang Zhu^a, Binota Thokchom^b, Jianping Yang^a, Wan Jiang^a, Lianjun Wang^a, Yuchi Fan^a, Xiaopeng Li^a, Wei Luo^a

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

^b Indian Institute of Technology Guwahati, Guwahati 781039, India

A confined micro-reactor with a movable Fe_3O_4 core and a mesoporous TiO_2 shell has been constructed for a simultaneous photo and Fenton-like catalytic degradation of bisphenol A.

Chinese Chemical Letters 32 (2021) 1456



Magnetic beads-based multicolor colorimetric immunoassay for ultrasensitive detection of aflatoxin B₁

Shan He^a, Qitong Huang^b, Ying Zhang^a, Huifang Zhang^a, Huifeng Xu^c, Xun Li^a, Xiaoming Ma^{a,d}

^a Department of Chemistry and Chemical Engineering, Gannan Normal University, Ganzhou 341000, China

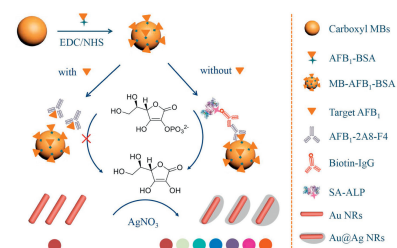
^b Scientific Research Center, Gannan Medical University, Ganzhou 341000, China

^c Fujian Key Laboratory of Integrative Medicine on Geriatrics, Academy of Integrative Medicine, Fujian University of Traditional Chinese Medicine, Fuzhou 350100, China

^d State Key Laboratory of Chemo/Biosensing and Chemometrics, Hunan University, Changsha 410082, China

A simple, sensitive and portable magnetic beads multicolor colorimetric immunoassay (MBMCIA) for on-site visual detection of AFB₁ was developed.

Chinese Chemical Letters 32 (2021) 1462



Structure-based design, synthesis of novel probes for cytochrome P450 OleT

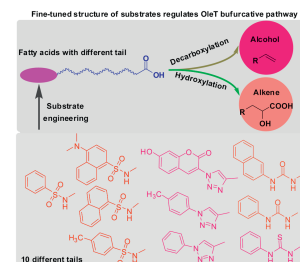
Dumei Ma^a, Libo Zhang^b, Yingwu Yin^a, Qian Wang^b

^a Department of Chemical and Biochemical Engineering, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

^b Department of Chemistry and Biochemistry, University of South Carolina, Columbia, SC 29208, United States

A class of structurally diversified fatty acids were synthesized and analyzed aiming to explore the decarboxylation/hydroxylation reaction of OleT.

Chinese Chemical Letters 32 (2021) 1466



A boronate-modified renewable nanointerface for ultrasensitive electrochemical assay of cellulase activity

Tianxiang Wei^{a,b}, Qiao Xu^b, Caiyu Zou^b, Zeqiang He^a, Yidan Tang^a, Tao Gao^c, Min Han^a, Zhihui Dai^a

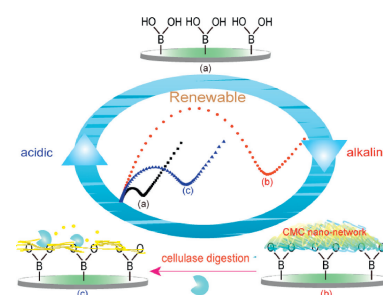
^a Jiangsu Collaborative Innovation Center of Biomedical Functional Materials, Jiangsu Key Laboratory of Biofunctional Materials, School of Chemistry and Materials Science, Nanjing Normal University, Nanjing 210023, China

^b School of Environment, Nanjing Normal University, Nanjing 210023, China

^c Jiangsu Key Laboratory for Molecular and Medical Biotechnology, School of Life Sciences, Nanjing Normal University, Nanjing 210023, China

A renewable and ultrasensitive electrochemical sensor for cellulase activity assay is constructed by creating boronate-affinity nanointerface.

Chinese Chemical Letters 32 (2021) 1470



Biscaesalmins A and B from *Caesalpinia minax*, highly oxidized dimeric cassane diterpenoids as interleukin-1 β inhibitors

Yunshao Xu^a, Tian Zhang^a, Lu Feng^b, Zheling Feng^a, Qingwen Zhang^a, Yang Ye^{b,c}, Lishe Gan^d, Ligen Lin^a

^a State Key Laboratory of Quality Research in Chinese Medicine, Institute of Chinese Medical Sciences, University of Macau, Avenida da Universidade, Taipa, Macau 999078, China

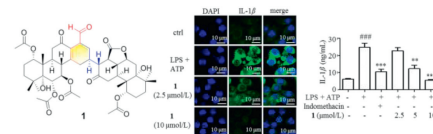
^b State Key Laboratory of Drug Research, & Natural Products Chemistry Department, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 201203, China

^c School of Life Science and Technology, Shanghai Tech University, Shanghai 201203, China

^d School of Biotechnology and Health Sciences, Wuyi University, Jiangmen 529020, China

Biscaesalmins A (**1**) and B (**2**), two dimers linked by a cyclohexane ring through intermolecular [4 + 2] Diels-Alder cycloaddition of two cassane-diterpenoids, were isolated from the seeds of *Caesalpinia minax*. Biscaesalmin A inhibited NLRP3 inflammasome-mediated IL-1 β production and blocked the migration of macrophages towards adipocyte conditioned medium.

Chinese Chemical Letters 32 (2021) 1475



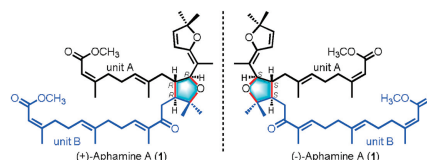
Aphamines A–C, dimeric acyclic diterpene enantiomers from *Aphanamixis polystachya*

Panpan Zhang, Shang Xue, Pengfei Tang, Zhirong Cui, Zefan Wang, Jun Luo, Lingyi Kong

State Key Laboratory of Natural Medicines and Jiangsu Key Laboratory of Bioactive Natural Product Research, School of Traditional Chinese Pharmacy, China Pharmaceutical University, Nanjing 210009, China

Three pairs of acyclic diterpene dimer enantiomers with an unprecedented polymerization pattern were discovered from *Aphanamixis polystachya* by NMR-guided isolation and chiral resolution.

Chinese Chemical Letters 32 (2021) 1480



ZIF-derived mesoporous carbon materials prepared by activation via Na₂SiO₃ for supercapacitor

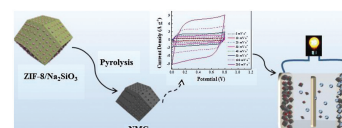
Chang Ma^a, Yahui Mo^a, Lei Liu^a, Yifeng Yu^a, Aibing Chen^{a,b}

^a College of Chemical and Pharmaceutical Engineering, Hebei University of Science and Technology, Shijiazhuang 050018, China

^b CAS Key Laboratory of Carbon Materials, Institute of Coal Chemistry, Chinese Academy of Sciences, Taiyuan 030001, China

N-doped ZIF-derived mesoporous carbon material (NMC) with high specific surface, rich porous structure and excellent electrochemical performance in supercapacitor is prepared by activation method using low-cost Na₂SiO₃ as activator, which can create rich mesoporous structure and increase specific surface area for the prepared NMC. As well as the carbon precursor of ZIF-8 results to N-doping for NMC.

Chinese Chemical Letters 32 (2021) 1485



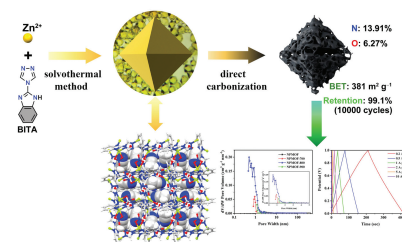
Highly N/O co-doped ultramicroporous carbons derived from nonporous metal-organic framework for high performance supercapacitors

Yangyi Gu, Ling Miao, Ying Yin, Mingxian Liu, Lihua Gan, Liangchun Li

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

A new nonporous Zn-based metal-organic framework readily synthesized from a high nitrogen-containing ligand can be converted into ultramicroporous carbons with narrow pore size distribution and 20.18% N/O co-doping by direct carbonization. The NPMOF-800 fabricated electrode exhibits very high capacitance of 220 F/g and shows excellent energy, power density, and 99.1% capacitance retention rate after 10,000 charge-discharge cycles.

Chinese Chemical Letters 32 (2021) 1491



Silver nanocubes monolayers as a SERS substrate for quantitative analysis

Ziang Zhou^a, Xiuhui Bai^b, Peishen Li^a, Changzheng Wang^c, Ming Guo^a, Yang Zhang^d, Peiren Ding^a, Shaowei Chen^e, Yunyun Wu^a, Qiang Wang^a

^a Laboratory for Micro-sized Functional Materials, College of Elementary Education and Department of Chemistry, Capital Normal University, Beijing 100048, China

^b School of Chemistry, Beijing Advanced Innovation Center for Biomedical Engineering, Beihang University, Beijing 100191, China

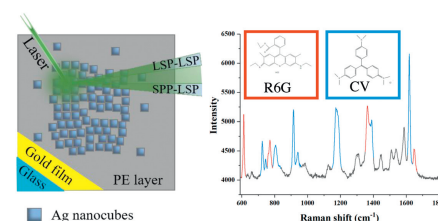
^c Beijing Key Laboratory of Functional Materials for Building Structure and Environment Remediation, Beijing University of Civil Engineering and Architecture, Beijing 100044, China

^d College of Chemistry, Beijing Normal University, Beijing 100875, China

^e Department of Chemistry and Biochemistry, University of California, Santa Cruz, United States

With adding 1-dodecanethiol-ethanol mixture, the Ag nanocubes was deposited as edge-to-edge monolayer onto the PE/gold film surface, leading to improved SERS efficiency.

Chinese Chemical Letters 32 (2021) 1497



Hydrothermal synthesis of hierarchical SnO₂ nanomaterials for high-efficiency detection of pesticide residue

Haijie Cai^{a,e}, Xiaopeng Qiao^a, Meilian Chen^b, Dongsheng Feng^b, Abdulaziz A. Alghamdi^c, Fahad A. Alharthi^c, Yingjie Pan^a, Yong Zhao^a, Yongheng Zhu^a, Yonghui Deng^{d,e}

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

^b Shanghai Agricultural Product Quality and Safety Center, Shanghai 201306, China

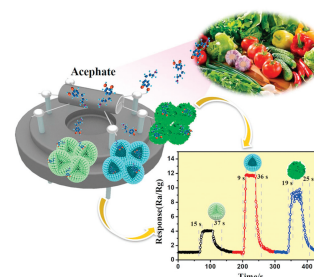
^c Department of Chemistry, College of Science, King Saud University, P.O. Box 2455, Riyadh 11451, Saudi Arabia

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

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

Hierarchical assembled SnO₂ hollow nanosphere based gas sensor displays best sensing properties toward acephate among the three SnO₂ nanomaterials, which represents a useful tool for simple and highly effective monitoring of acephate pesticide residues. The good sensing performance of SnO₂ hollow nanosphere based sensor can be attributed to the unique uniform mesoporous hollow nanosphere structure and appropriate band gap of SnO₂ hollow nanosphere.

Chinese Chemical Letters 32 (2021) 1502



Facile synthesis of ternary AgInS₂ nanowires and their self-assembly of fingerprint-like nanostructures

Jing Zhang^a, Bin Zeng^a, Haihang Ye^c, Aiwei Tang^{a,b}

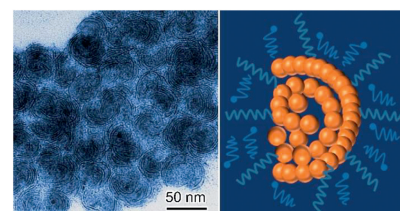
^a Department of Chemistry, School of Science, Beijing JiaoTong University, Beijing 100044, China

^b Key Laboratory of Luminescence and Optical Information, Ministry of Education, School of Science, Beijing JiaoTong University, Beijing 100044, China

^c Mechanical Engineering Department, University of Texas at Dallas, Richardson, TX 75080, United States

A seeded-mediated strategy has been developed to prepare AgInS₂ nanowires, which could self-assemble into fingerprint-like nanostructures.

Chinese Chemical Letters 32 (2021) 1507



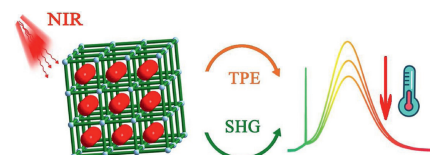
Nonlinear optical metal-organic frameworks for ratiometric temperature sensing in physiological range

Yating Wan, Yuanjing Cui, Yu Yang, Guodong Qian

State Key Laboratory of Silicon Materials, Cyrus Tang Center for Sensor Materials and Applications, School of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, China

By encapsulating the two-photon fluorescent dye DMASE into the pores of Zn-TCOMA, the composite Zn-TCOMADMASE is obtained and simultaneously exhibits SHG response and two-photon fluorescence, which is further used for ratiometric physiological temperature sensing.

Chinese Chemical Letters 32 (2021) 1511



Influence of conformational change of chain unit on the intrinsic negative thermal expansion of polymers

Qiangsheng Sun^a, Ke Jin^a, Yuhui Huang^a, Jia Guo^a, Thanyada Rungrotmongkol^b, Phornphimon Maitarad^c, Changchun Wang^a

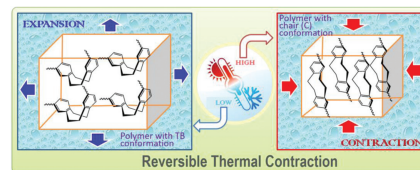
^a State Key Laboratory of Molecular Engineering of Polymers and Department of Macromolecular Science, Fudan University, Shanghai 200433, China

^b Biocatalyst and Environmental Biotechnology Research Unit, Department of Biochemistry, Faculty of Science and Program in Bioinformatics and Computational Biology, Graduate School, Chulalongkorn University, Bangkok 10330, Thailand

^c Research Center of Nano Science and Technology, Shanghai University, Shanghai 200444, China

Conformational change of dibenzocyclooctadiene (DBCOD) units between chair (C) and twist-boat (TB) can greatly influence the coefficient of thermal expansion of polymers. Our experimental results showed direct information of the relationship between the structure of DBCOD units and the thermal contraction behavior of the related polymers.

Chinese Chemical Letters 32 (2021) 1515



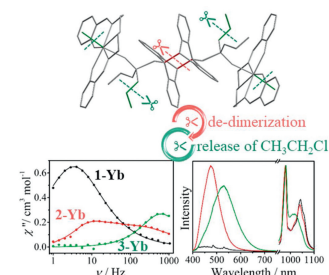
Thermo-induced structural transformation with synergistic optical and magnetic changes in ytterbium and erbium complexes

Qian Zou, Jing-Cui Liu, Xin-Da Huang, Song-Song Bao, Li-Min Zheng

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

Dinuclear complexes $\text{Ln}_2\text{L}_2(\text{depma}_2)_2\text{Cl}_2$ (**1-Ln**, Ln = Yb and Er) can undergo thermo-induced consecutive phase transitions, first the dissociation of depma_2 ligand and then the release of chloroethane. The structural transformations are accompanied with synergistic switch of the luminescence in visible and NIR regions and also magnetic dynamics.

Chinese Chemical Letters 32 (2021) 1519



Au nanorods decorated TiO₂ nanobelts with enhanced full solar spectrum photocatalytic antibacterial activity and the sterilization file cabinet application

Yingying Qin^a, Yichen Guo^b, Zhangqian Liang^b, Yanjun Xue^b, Xiaoli Zhang^c, Lei Yang^d, Jian Tian^b

^a Archives Department, China University of Petroleum (East China), Qingdao 266580, China

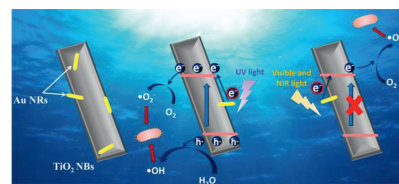
^b School of Materials Science and Engineering, Shandong University of Science and Technology, Qingdao 266590, China

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

^d Shenzhen HUASUAN Technology Co., Ltd., Shenzhen 518055, China

In this work, we use the Au nanorods to enhance the visible and NIR light absorption of TiO₂ NBs, a typical UV light photocatalyst, thus the enhancement of its full solar spectrum (UV, visible and NIR) photocatalytic antibacterial properties is achieved. Furthermore, we design a sterilization file cabinet with Au NR/TiO₂ NB heterostructures as the photocatalytic coating plates.

Chinese Chemical Letters 32 (2021) 1523



A Hg(II)-specific probe for imaging application in living systems and quantitative analysis in environmental/food samples

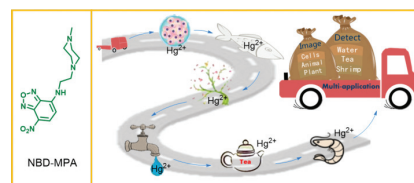
Guangjin Li^a, Jiali Wang^b, Dongyang Li^a, Shenghua Liu^a, Jun Yin^a, Zhibing Lai^b, Guangfu Yang^a

^a Key Laboratory of Pesticide and Chemical Biology, Ministry of Education, Hubei International Scientific and Technological Cooperation Base of Pesticide and Green Synthesis, International Joint Research Center for Intelligent Biosensing Technology and Health, College of Chemistry, Central China Normal University, Wuhan 430079, China

^b National Key Laboratory of Crop Genetics Improvement, Huazhong Agricultural University, Wuhan 430070, China

A small molecule fluorescent probe has gained the multi-application in mercury ion detection, whether they are organisms or inert objects.

Chinese Chemical Letters 32 (2021) 1527



Mass production of highly fluorescent full color carbon dots from the petroleum coke

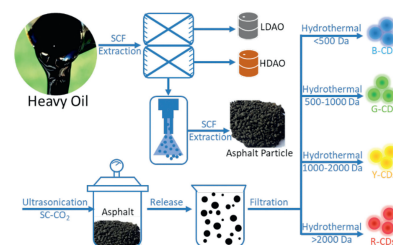
Junfei Ma^a, Linzhou Zhang^a, Xiu Chen^a, Rigu Su^b, Quan Shi^a, Suoqi Zhao^a, Quan Xu^a, Chunming Xu^a

^a State Key Laboratory of Heavy Oil Processing, China University of Petroleum-Beijing, Beijing 102249, China

^b Engineering Technology Research Institute of PetroChina Xinjiang Oilfield Company, Karamay 834000, China

Using heavy oil and three SDA products as precursors, we synthesized highly fluorescent multi-color carbon dots (CDs) by hydrothermal method and further used the CDs in macrophage labeling.

Chinese Chemical Letters 32 (2021) 1532



Acid-induced tunable white light emission based on triphenylamine derivatives

Xi Liu^a, Yi Qin^a, Junlong Zhu^a, Xiaoli Zhao^a, Tanyu Cheng^b, Yanrong Jiang^c, Haitao Sun^c, Lin Xu^{a,d}

^a Shanghai Key Laboratory of Green Chemistry and Chemical Processes, School of Chemistry and Molecular Engineering, East China Normal University, Shanghai 200062, China

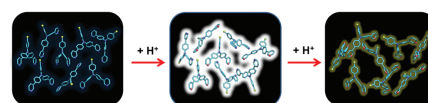
^b Key Laboratory of Resource Chemistry of Ministry of Education, Shanghai Key Laboratory of Rare Earth Functional Materials, Shanghai Normal University, Shanghai 200234, China

^c State Key Laboratory of Precision Spectroscopy, East China Normal University, Shanghai 200062, China

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

A series of triphenylamine-based fluorescent compounds displaying acid-induced tunable white light emission were developed.

Chinese Chemical Letters 32 (2021) 1537



A GSH-responsive PET-based fluorescent probe for cancer cells imaging

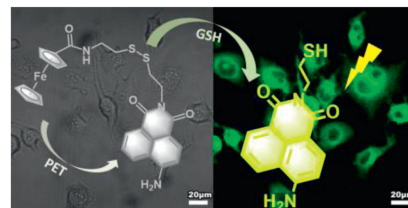
Xue Li^a, Huaying Wang^b, Youhui Zhang^a, Qianyong Cao^a, Yong Chen^b

^a Chemical College, Nanchang University, Nanchang 330031, China

^b Jiangxi Key Laboratory for Microscale Interdisciplinary Study, Institute for Advanced Study, Nanchang University, Nanchang 330031, China

An efficient PET-based probe, in which the ferrocene quencher and the naphthalimide fluorophore are linked by a disulfide bond, has been developed. This probe can be activated by GSH with fluorescence a turn-on response for blocking the PET process. In addition, it was successfully applied for distinguishing cancer cells from normal cells.

Chinese Chemical Letters 32 (2021) 1541



The intragastric fate of paclitaxel-loaded micelles: Implications on oral drug delivery

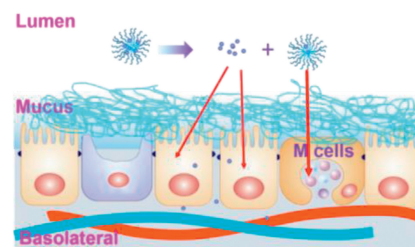
Iqbal Zoya^a, Haisheng He^a, Luting Wang^a, Jianping Qi^a, Yi Lu^a, Wei Wu^{a,b}

^a Key Laboratory of Smart Drug Delivery of MOE, School of Pharmacy, Fudan University, Shanghai 201203, China

^b Center for Medical Research and Innovation, Shanghai Pudong Hospital, Fudan University Pudong Medical Center, Shanghai 201399, China

Micelles have shown potential to improve the oral bioavailability of poorly water-soluble drugs. Nevertheless, upon oral administration micelles may be absorbed intact but with prior leakage of the drug in the gastrointestinal tract and intact micelles may be transported across the intestinal epithelia via mainly the microfold cell pathway.

Chinese Chemical Letters 32 (2021) 1545



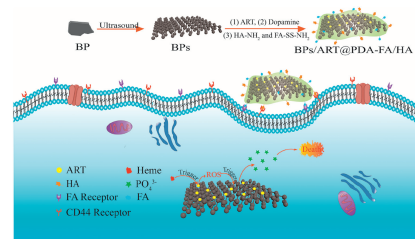
Phosphate imbalance conducting by BPs-based cancer-targeting phosphate anions carrier induces necrosis

Chunmeng Ma, Jinlong Zhang, Yuan Zhang, Chen Ma, Minrui Ma, Fanpeng Ran, Xiaoyan Liu, Haixia Zhang

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

We constructed a reactive phosphate anions nanocarrier BPs/ART@PDA-FA/HA. When targeted into cancer cells, ART and BPs are exposed to generate phosphate anions, give rise to the destruction of ion homeostasis to induce necrosis.

Chinese Chemical Letters 32 (2021) 1550



A microfluidic device for accurate detection of hs-cTnI

Li Huang^{a,b}, Enben Su^{a,b}, Yuan Liu^a, Nongyue He^{a,c}, Yan Deng^c, Lian Jin^{a,c}, Zhu Chen^c, Song Li^c

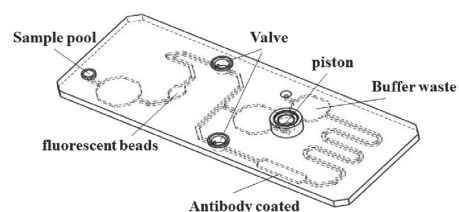
^a State Key Laboratory of Bioelectronics, National Demonstration Center for Experimental Biomedical Engineering Education, School of Biological Science and Medical Engineering, Southeast University, Nanjing 210096, China

^b Getein Biotechnology Co., Ltd., Nanjing 210000, China

^c Hunan Key Laboratory of Biomedical Nanomaterials and Devices, Hunan University of Technology, Zhuzhou 412007, China

This device is aimed at ensuring that the sample is uniformly and equivalently reacted with the antibody on the NC membrane in each test when the microfluidic liquid system is introduced to the chip. In this study, the developed microfluidic chip can avoid the presence of the sample and conjugate pads in the chip, while the precision of the chromatography system can be greatly improved.

Chinese Chemical Letters 32 (2021) 1555



Co-delivery of anticancer drugs and cell penetrating peptides for improved cancer therapy

Xiao Fu^a, Guiqiang Zhang^a, Yulin Zhang^b, Haifeng Sun^a, Shuang Yang^a, Shilei Ni^b, Jiwei Cui^{a,c}

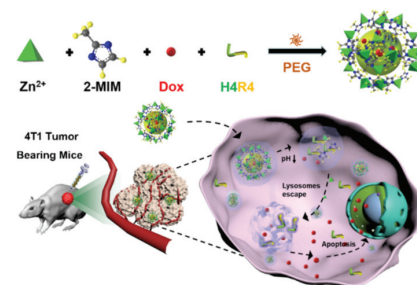
^a Key Laboratory of Colloid and Interface Chemistry of the Ministry of Education, School of Chemistry and Chemical Engineering, Shandong University, Ji'nan 250100, China

^b Department of Neurosurgery, Qilu Hospital and Institute of Brain and Brain-Inspired Science, Cheeoo College of Medicine, Shandong University, Ji'nan 250012, China

^c State Key Laboratory of Microbial Technology, Shandong University, Qingdao 266237, China

Poly(ethylene glycol)-mediated metal-organic frameworks were synthesized to deliver both anticancer drugs and cell penetrating peptides for improved cancer therapy.

Chinese Chemical Letters 32 (2021) 1559



Drug-induced hierarchical self-assembly of poly(amino acid) for efficient intracellular drug delivery

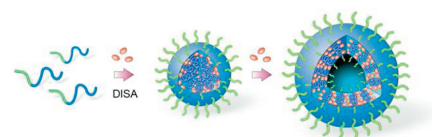
Zifen Li^a, Yanxue Yang^{a,b}, Chuan Peng^a, Hang Liu^a, Rui Yang^a, Yi Zheng^a, Lulu Cai^b, Hong Tan^a, Qiang Fu^a, Mingming Ding^a

^a College of Polymer Science and Engineering, State Key Laboratory of Polymer Materials Engineering, Sichuan University, Chengdu 610065, China

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Drug complexation induces a random coil-to- α -helix conformational transition and a micelle-to-vesicle morphological transformation of poly(amino acid), which provides a facile, specific and reversible nanoplatform for efficient delivery of multiple therapeutics.

Chinese Chemical Letters 32 (2021) 1563



Titanate nanofibers reduce Kruppel-like factor 2 (KLF2)-eNOS pathway in endothelial monolayer: A transcriptomic study

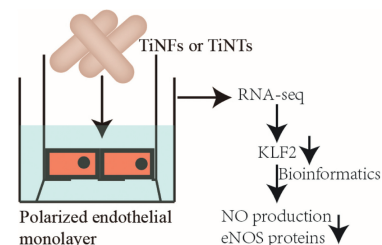
Shuang Li^a, Xuejun Zheng^a, Chaobo Huang^b, Yi Cao^a

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This study showed that TiNFs or TiNTs were non-cytotoxic to endothelial monolayer model, but TiNFs and more modestly TiNTs decreased KLF2 leading to decreased eNOS proteins and NO production.

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Nucleic acids induced peptide-based AIE nanoparticles for fast cell imaging

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^a State Key Laboratory of Chemical Oncogenomics, School of Chemical Biology and Biotechnology, Peking University Shenzhen Graduate School, Shenzhen 518055, China

^b Pingshan Translational Medicine Center, Shenzhen Bay Laboratory, Shenzhen 518055, China

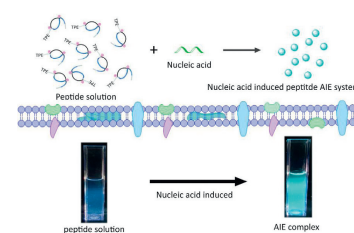
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^e Department of Gynecology, Shenzhen People's Hospital, Shenzhen 518020, China

By simply adding a little amount of nucleic acids into the peptide solution, AIE nanoparticles with strong fluorescence can be obtained through self-aggregation behavior. This AIE nanoparticles with good biocompatibility could achieve fast cell imaging, and be expected to be used for real-time monitoring of drug delivery.

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Synthesis and biological evaluation of a lipopeptide-based methamphetamine vaccine

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^b National Institute on Drug Dependence and Beijing Key Laboratory of Drug Dependence, Peking University, Beijing 100191, China

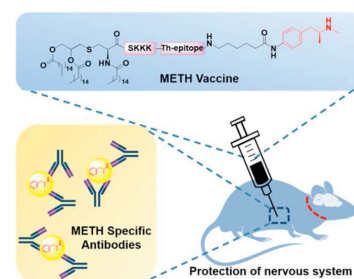
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A fully synthetic lipopeptide-based methamphetamine vaccine invoked an immune response and demonstrated the potential of preventing the rewarding and psychoactive effects of methamphetamine.

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D-A-D structured selenadiazolesbenzothiadiazole-based near-infrared dye for enhanced photoacoustic imaging and photothermal cancer therapy

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Two donor-acceptor-donor (D-A-D) structured NIR dyes, BBTT and SeBTT, are rationally designed and prepared based on molecular surgery strategy. And SeBTT NPs exhibit stronger NIR absorbance and higher photothermal conversion efficiency (PTCE \approx 65.3%) for enhanced photoacoustic imaging and photothermal therapy.

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