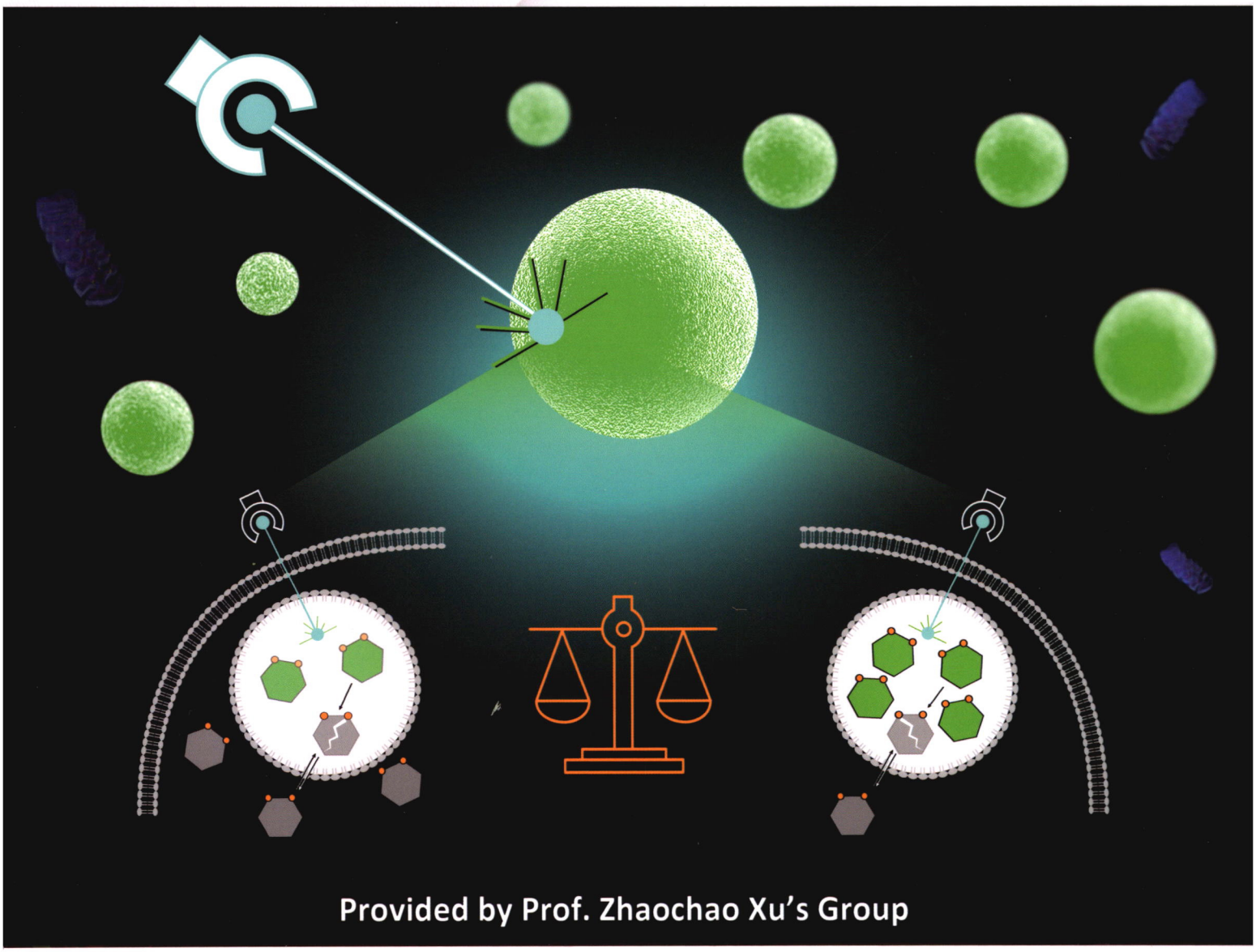
QK2248996 SSN 1001-8417
CN 11-2710/O6

CCL

Chinese Chemical Letters (中国化学快报)

| Volume 33 | Number 12 | DECEMBER 2022



ELSEVIER

Chinese Chemical Society
Institute of Materia Medica, Chinese Academy of Medical Sciences

Contents lists available at ScienceDirect

Chinese Chemical Letters

journal homepage: www.elsevier.com/locate/cclet

Graphical Abstracts/Chin Chem Lett 33 (2022) iii–xiv

Reviews

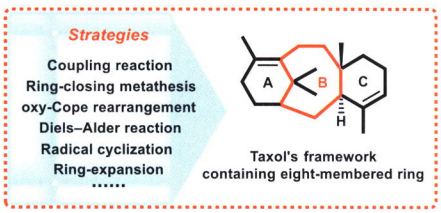
Diverse strategic approaches *en route* to Taxol total synthesis

Zexian Li, Jianfeng Zheng, Wei-Dong Z. Li

Sichuan Engineering Research Center for Biomimetic Synthesis of Natural Drugs, School of Life Science and Engineering, Southwest Jiaotong University, Chengdu 610031, China

A range of strategic approaches *en route* to the total synthesis of Taxol since 1995 have been summarized in this mini-review, focusing on the biomimetic designs and various creative methods for the challenging 6–8–6 core ring system construction.

Chinese Chemical Letters 33 (2022) 4957



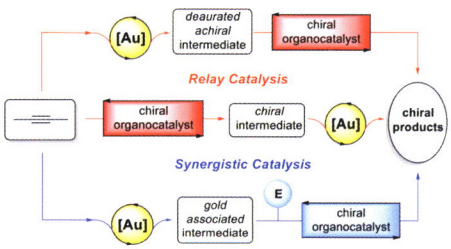
Recent advances in gold-complex and chiral organocatalyst cooperative catalysis for asymmetric alkyne functionalization

Ming Bao, Su Zhou, Wenhao Hu, Xinfang Xu

Guangdong Key Laboratory of Chiral Molecule and Drug Discovery, School of Pharmaceutical Sciences, Sun Yat-sen University, Guangzhou 510006, China

This review will cover two general protocols in gold-complex and chiral organocatalyst cooperative catalysis for asymmetric alkyne functionalization, including relay catalysis and synergistic catalysis, with emphasis on the detailed cooperative catalysis patterns for the asymmetric induction to illustrated the roles of the two catalysts.

Chinese Chemical Letters 33 (2022) 4969



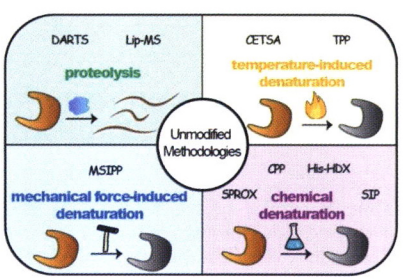
Unmodified methodologies in target discovery for small molecule drugs: A rising star

Jiayue Tang[a], Meng Ou[a], Qiuling Zheng[b], Ya Ding[a]

[a] *Key Laboratory of Drug Quality Control and Pharmacovigilance, Ministry of Education, China Pharmaceutical University, Nanjing 210009, China*
[b] *State Key Laboratory of Natural Medicines, Department of Pharmaceutical Analysis, College of Pharmacy, China Pharmaceutical University, Nanjing 210009, China*

In this review, we discuss unmodified methodology advances for the target discovery of active molecules and highlight their achievements and limitations in drug development. According to the protein properties applied by various methods, we divide them into four classes.

Chinese Chemical Letters 33 (2022) 4980



doi:10.1016/j.cclet.2022.04.013

Communications

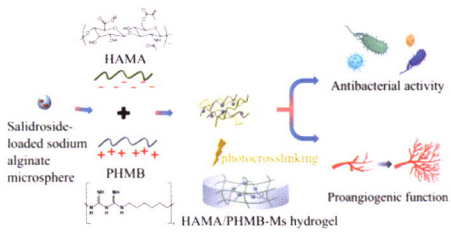
Hyaluronic acid-methacrylic anhydride/polyhexamethylene biguanide hybrid hydrogel with antibacterial and proangiogenic functions for diabetic wound repair

Yike Li, Huiyu Zheng, Yaxian Liang, Ming Xuan, Guiting Liu, Huixu Xie

State Key Laboratory of Oral Diseases, National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, State Key Laboratory of Polymer Materials Engineering, Sichuan University, Chengdu 610041, China

In this case, we prepared a hybrid hydrogel composed of hyaluronic acid-methacrylic anhydride, antibacterial component polyhexamethylene biguanide, and proangiogenic sodium alginate/salidroside composite microspheres. *In vivo* and *in vitro* experiments have been conducted to verify its promising performance in treating diabetic wounds.

Chinese Chemical Letters 33 (2022) 5030



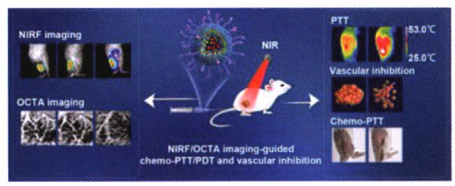
Folate-targeted co-delivery polymersomes for efficient photo-chemo-antiangiogenic therapy against breast cancer and *in vivo* evaluation *via* OCTA/NIRF dual-modal imaging

Hongjun Wu, Chenlu Huang, Liwei Wang, Qinghua Li, Yuejie Li, Linhua Zhang, Dunwan Zhu

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

Intelligent nano-sized polymersomes was designed to achieve synergistic PTT/PDT/chemo/antiangiogenic and *in vivo* evaluation *via* OCTA/NIRF dual-modal imaging.

Chinese Chemical Letters 33 (2022) 5035



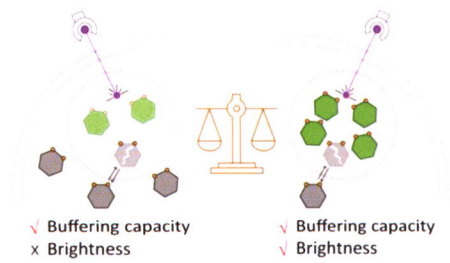
BODIPY 493 acts as a bright buffering fluorogenic probe for super-resolution imaging of lipid droplet dynamics

Jie Chen[a,b], Wenjuan Liu[a,b], Xiangning Fang[a,b], Qinglong Qiao[a], Zhaochao Xu[a]

[a] *CAS Key Laboratory of Separation Science for Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China*
[b] *University of Chinese Academy of Sciences, Beijing 100049, China*

BODIPY 493 has high fluorescence brightness and buffering fluorogenic recognition performance, enabling high spatiotemporal resolution for super-resolution imaging of lipid droplet dynamics.

Chinese Chemical Letters 33 (2022) 5042



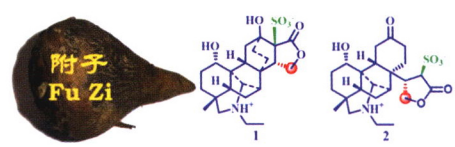
Two unique C_{21}-diterpenoid alkaloids from *Aconitum carmichaelii*

Jingfang Zhang, Xiaoqiang Lei, Yazi Wei, Hui Liu, Qinglan Guo, Tiantai Zhang, Jiangong Shi

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

Two diterpenoid alkaloids having unique twenty-one skeletal carbons were isolated as minor chemical constituents of the lateral root of *Aconitum carmichaelii* "Fu Zi"

Chinese Chemical Letters 33 (2022) 5047



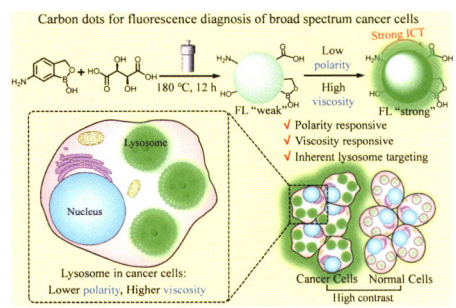
Dual microenvironmental parameter-responsive lysosome-targeting carbon dots for the high contrast discrimination of a broad spectrum of cancer cells

Yue Xiao, Xiaohui Yin, Pengjuan Sun, Yuanqiang Sun, Lingbo Qu, Zhaohui Li

College of Chemistry, Institute of Analytical Chemistry for Life Science, Henan Joint International Research Laboratory of Green Construction of Functional Molecules and Their Bioanalytical Applications, Zhengzhou University, Zhengzhou 450001, China

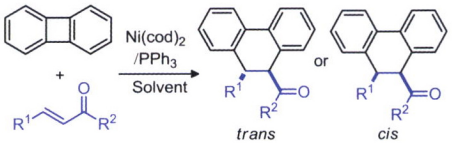
By taking advantage of lower polarity and higher viscosity of cancerous lysosomes, polarity and viscosity dual microenvironmental parameter-responsive lysosome-targeting CDs were rationally prepared and showed great potential in high contrast discrimination of a broad spectrum of cancer cells from normal cells.

Chinese Chemical Letters 33 (2022) 5051



Diastereodivergent [4 + 2] annulation of biphenylenes with enones *via* nickel(0)-catalyzed C–C bond activation

Chinese Chemical Letters 33 (2022) 5056



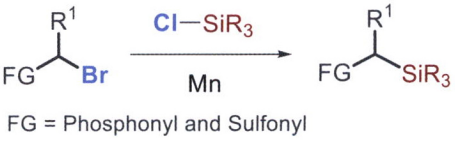
Junyan Chen [a], Dachang Bai [a,b], Xiuli Guo [a], Yiyao Wang [a], Xingwei Li [a,c]

[a] *NMPA Key Laboratory for Research and Evaluation of Innovative Drug, 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] *State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China*
[c] *School of Chemistry and Chemical Engineering, Shaanxi Normal University (SNNU), Xi'an 710062, China*

$Ni(cod)_2(0)$-catalyzed [4 + 2] annulation of biphenylenes with enones *via* C–C activation has been realized, providing an efficient and general synthesis route for *trans* or *cis* diastereoisomers of 9,10-dihydrophenanthrene derivatives.

Mn-mediated reductive C(sp^3)–Si coupling of activated secondary alkyl bromides with chlorosilanes

Chinese Chemical Letters 33 (2022) 5061



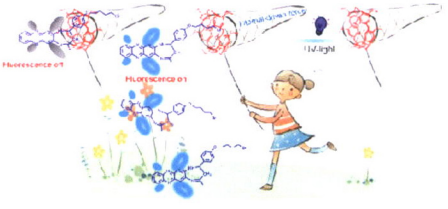
Liangliang Qi [a], Xiaobo Pang [a], Kai Yin [b,c], Qiu-Quan Pan [a], Xiao-Xue Wei [a], Xing-Zhong Shu [a]

[a] *State Key Laboratory of Applied Organic Chemistry (SKLAOC), College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, China*
[b] *School of Chemistry and Chemical Engineering, Southeast University, Jiangsu Optoelectronic Functional Materials and Engineering Laboratory, Nanjing 211189, China*
[c] *Zhejiang Nanjiao Chemistry Co., Ltd., Shangyu Economic and Technological Development Zone, Shangyu 312369, China*

We report here an Mn-mediated reductive C(sp^3)–Si bond-forming reaction of alkyl and silyl halides. The reaction proceeds under mild conditions and works with various common chlorosilanes. This method offers a new approach for the synthesis of α-silylated organophosphorus and sulfones with a scope that is complementary to those obtained from the established methods.

Fabricating a novel supramolecular light-activated platform based on internal-driven forces induced by the UV-light

Chinese Chemical Letters 33 (2022) 5065



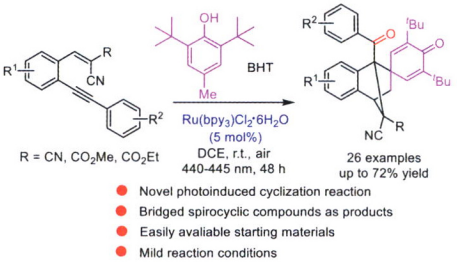
Xiaoni Qi, Weichun Li, Bingbing Shi, Youming Zhang, Hong Yao, Qi Lin, Taibao Wei

Key Laboratory of Eco-Environmental Polymer Materials of Gansu Province, College of Chemistry and Chemical Engineering, Northwest Normal University, Lanzhou 730070, China

We fabricated a novel supramolecular light-activated platform based on the internal-driven forces induced by the UV-light.

Visible-light-induced novel cyclization of 2-(2-(arylethynyl)benzylidene)-malononitrile derivatives with 2,6-di(*tert*-butyl)-4-methylphenol to bridged spirocyclic compounds

Chinese Chemical Letters 33 (2022) 5069



Xiaofei Xie [a], Lei Wang [a,c], Quan Zhou [a], Yongmin Ma [a], Zhi-Ming Wang [a], Pinhua Li [b,c]

[a] *Advanced Research Institute and Department of Chemistry, Taizhou University, Taizhou 318000, China*
[b] *Department of Chemistry, Anhui Polytechnic University, Wuhu 241000, China*
[c] *State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Shanghai 200032, China*

An efficient strategy for the preparation of bridged spirocyclic compounds *via* visible-light-induced cyclization of 2-(2-(arylethynyl)benzylidene)malononitrile derivatives with 2,6-di(*tert*-butyl)-4-methylphenol (BHT) was developed.

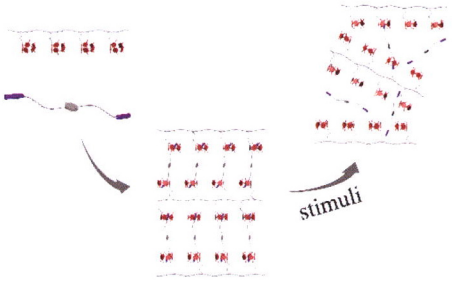
Multistimuli responsive supramolecular polymer networks *via* host-guest complexation of pillararene-containing polymers and sulfonium salts

Feihong Lu[a], Yi Chen[a], Boqiao Fu[b], Shigui Chen[a], Lu Wang[a]

[a] *The Institute for Advanced Studies, Hubei Clinical Center & Key Lab of Intestinal & Colorectal Diseases, Wuhan University, Wuhan 430072, China*
[b] *Institute of Biomedical Materials Industry Technology, Hubei co-Innovation Center for Utilization of Biomass Waste, College of Chemistry and Materials Science, Hubei Engineering University, Xiaogan 432000, China*

Supramolecular polymer networks based on the host-guest interactions between pillar[5]arenes and sulfonium salts have been constructed, which could be dissociated by external stimuli including temperature and competing reagents.

Chinese Chemical Letters 33 (2022) 5111



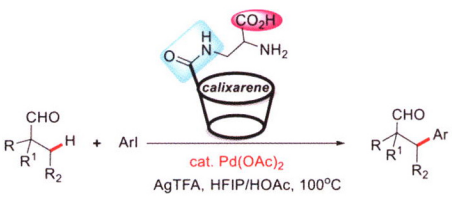
Supramolecular interaction controlled and calix[4]arene ligand assisted Pd-catalyzed C(sp^3)–H arylation of aliphatic aldehydes

Yao Wu, Zhiyan Ma, Jing Shi, Xiaoqiang Sun, Ke Yang, Zheng-Yi Li

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

A calix[4]arene ligand assisted direct β-C–H arylation of tertiary aliphatic aldehydes has been developed *via* a Pd-catalyzed C(sp^3)–H functionalization process.

Chinese Chemical Letters 33 (2022) 5116



A multiple-function fluorescent pillar[5]arene: Fe^{3+}/Ag^{+} detection and light-harvesting system

Yang Luo, Wei Zhang, Qian Ren, Guo-Rong Chen, Jiang-Lian Ran, Xin Xiao

Key Laboratory of Macrocyclic and Supramolecular Chemistry of Guizhou Province, Guizhou University, Guiyang 550025, China

A novel pillar[5]arenes not only shows good selectivity for coordination to Ag^{+} and Fe^{3+} but also satisfies the conditions for the construction of an energy transfer system with the commonly used Rhodamine B dye.

Chinese Chemical Letters 33 (2022) 5120

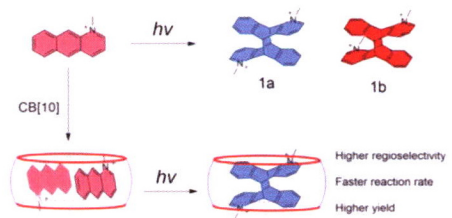
Photodimerization of azaanthracene derivatives mediated by cucurbit[10]uril

Huaxing Li[a], Xianchen Hu[a], Fengbo Liu[a], Dongdong Sun[a], Yong Wu[a], Simin Liu[a,b]

[a] *School of Chemistry and Chemical Engineering, Wuhan University of Science and Technology, Wuhan 430081, China*
[b] *The State Key Laboratory of Refractories and Metallurgy, Institute of Advanced Materials and Nanotechnology, Wuhan University of Science and Technology, Wuhan 430081, China*

Photodimerization of four azaanthracene derivatives **1-4** were regulated by cucurbit[10]uril (CB[10]). Specifically, photodimerization of the CB[10]·(**1**)$_2$ complex yielded a single head-to-tail (*anti*-HT) photodimer (CB[10]·**1a**) with fast reaction rate and high regioselectivity.

Chinese Chemical Letters 33 (2022) 5124



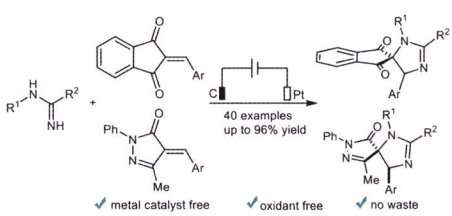
Electrooxidative [3 + 2] annulation of amidines with alkenes for the synthesis of spiroimidazolines

Sai Zhang, Gaochen Xu, Huan Yan, Qinghuan Wu, Jingjing Meng, Jindian Duan, Kai Guo

College of Biotechnology and Pharmaceutical Engineering, State Key Laboratory of Materials-Oriented Chemical Engineering, Nanjing Tech University, Nanjing 211816, China

An environmentally benign and efficient electrooxidative [3 + 2] annulation of amidines with 2-arylideneindane-1,3-diones or 4-alkylidene pyrazolones for the synthesis of spiroimidazolines is reported.

Chinese Chemical Letters 33 (2022) 5128



N, O-coupling towards the selectively electrochemical production of H_2O_2

Chinese Chemical Letters 33 (2022) 5152

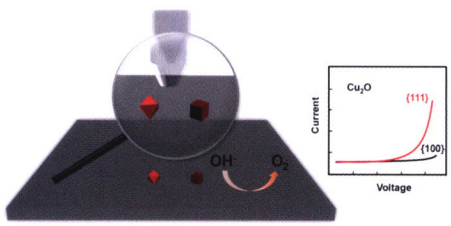
Shuaishuai Xu[a,b], Yang Gao[b], Tao Liang[b], Lipeng Zhang[c], Bin Wang[b]

[a] State Key Laboratory of Organic–Inorganic Composites, Beijing Advanced Innovation Center for Soft Matter Science and Engineering, College of Materials Science and Engineering, Beijing University of Chemical Technology, Beijing 100029, China
[b] CAS Key Laboratory of Nanosystem and Hierarchical Fabrication, CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology, Beijing 100190, China
[c] State Key Laboratory of Organic–Inorganic Composites, Beijing Advanced Innovation Center for Soft Matter Science and Engineering, College of Chemical Engineering, Beijing University of Chemical Technology, Beijing 100029, China

A N, O co-doped carbon xerogel-based electrocatalyst (NO-CX) was prepared by a simple and economical method and the catalyst exhibited a high H_2O_2 selectivity and a high H_2O_2 production rate.

Surface facets dependent oxygen evolution reaction of single Cu_2O nanoparticles

Chinese Chemical Letters 33 (2022) 5158



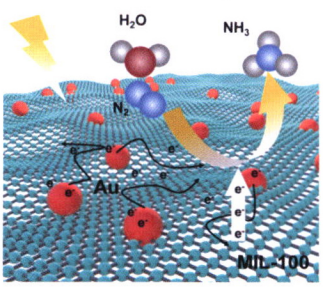
Yun Shan, Xiaoli Deng, Xiaoxi Lu, Cong Gao, Yingjian Li, Qianjin Chen

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

We endeavor to directly establish the correlation between nanoparticle surface facets with the intrinsic electrocatalytic OER activity from electrochemical measurement at single Cu_2O nanoparticles using a combination of SECCM and SEM.

Boosting the photocatalytic nitrogen reduction to ammonia through adsorption-plasmonic synergistic effects

Chinese Chemical Letters 33 (2022) 5162



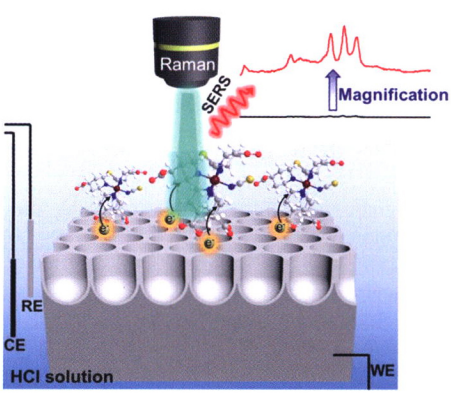
Yunni Liu[b], Xingyu Ye[a], Ruping Li[a], Ying Tao[b], Chi Zhang[b], Zichao Lian[c], Dieqing Zhang[a], Guisheng Li[a,b,c]

[a] The Education Ministry Key Lab of Resource Chemistry, Shanghai Key Laboratory of Rare Earth Functional Materials, College of Chemistry and Materials Science, Shanghai Normal University, Shanghai 200234, China
[b] School of Environmental and Geographical Sciences, Shanghai Normal University, Shanghai 200234, China
[c] School of Materials Science and Engineering, University of Shanghai for Science and Technology, Shanghai 200093, China

The adsorption-plasmonic synergistic effects of the MIL-100(Cr) and Au NPs were proposed to promote Au/MIL-100(Cr) photocatalyst to capture, adsorb and activate N_2 molecules and achieve efficient nitrogen reduction to ammonia under visible light irradiation.

Engineering large-scaled electrochromic semiconductor films as reproductive SERS substrates for operando investigation at the solid/liquid interfaces

Chinese Chemical Letters 33 (2022) 5169



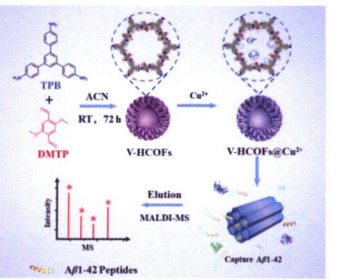
Lingling Yang[a], Jiuju Feng[e], Jia-Ning Wang[b], Zhida Gao[a], Jingwen Xu[a], Ye Mei[b,c,d], Yan-Yan Song[a]

[a] College of Sciences, Northeastern University, Shenyang 110004, China
[b] State Key Laboratory of Precision Spectroscopy, School of Physics and Electronic Science, East China Normal University, Shanghai 200062, China
[c] NYU-ECNU Center for Computational Chemistry at NYU Shanghai, Shanghai 200062, China
[d] Collaborative Innovation Center of Extreme Optics, Shanxi University, Taiyuan 030006, China
[e] College of Chemistry and Life Sciences, Zhejiang Normal University, Jinhua 321004, China

A large-scaled semiconductor films with multi-walled (TiO_2/WO_3/TiO_2) nanopore distribution is developed for gaining enhanced Raman signals at the solid/liquid surface. Benefiting from the remarkably improved electrochromic property of the multi-walled nanopore films, the SERS substrate can be controllably filled with oxygen vacancies (V_O) *via* a simple electrochemical approach, which enables us to achieve a remarkably increased Raman signal even in the solution.

Copper(II) ions-immobilized virus-like hollow covalent organic frameworks for highly efficient capture and sensitive analysis of amyloid beta-peptide 1–42 by MALDI-MS

Chinese Chemical Letters 33 (2022) 5174



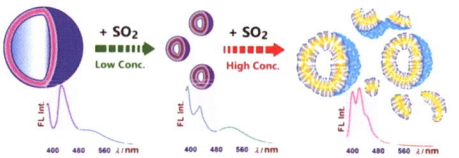
Wende Ma [a], Chao Zhong [a], Juan Lin [b], Zhuling Chen [a], Guorong Li [a], Wei Tong [a], Yijing Wu [a], Lan Zhang [a], Zian Lin [a]

[a] *Ministry of Education Key Laboratory of Analytical Science for Food Safety and Biology, Fujian Provincial Key Laboratory of Analysis and Detection Technology for Food Safety, College of Chemistry, Fuzhou University, Fuzhou 350108, China*
[b] *Department of Cardiology, Fujian Provincial Governmental Hospital, Fuzhou 350003, China*

V-HCOFs@Cu^{2+} were synthesized *via* a facile approach at room temperature and applied as an adsorption probe for selective capture and quantitative analysis of Aβ1–42 from human serum by MALDI-MS.

Rapidly SO_2-responsive vesicles with intrinsic fluorescent indicators for membrane structure evolution

Chinese Chemical Letters 33 (2022) 5180



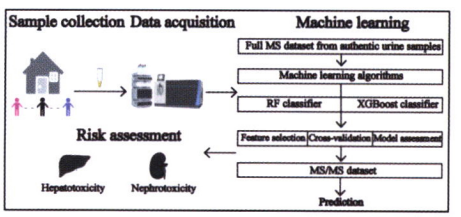
Yuan Zhu [a,b], Yuanmei Hu [a,b], Juanmei Zeng [a,b], Chaoxiang Chen [a,b], Shunhua Li [a,b], Yunbao Jiang [a,b]

[a] *Department of Chemistry and the MOE Key Laboratory of Spectrochemical Analysis & Instrumentation, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China*
[b] *Xiamen Key Laboratory of Analytical Molecular Nanotechnology, Xiamen University, Xiamen 361005, China*

A new mode of stimuli-responsive vesicles with fluorescent auto-recording function is reported. The sensory vesicles, which can be facilely fabricated *via* modular self-assembly, rapidly display hierarchical membrane reconstitution with definable fluorescence response upon SO_2 stimulation.

Application of machine learning algorithms to screen potential biomarkers under cadmium exposure based on human urine metabolic profiles

Chinese Chemical Letters 33 (2022) 5184



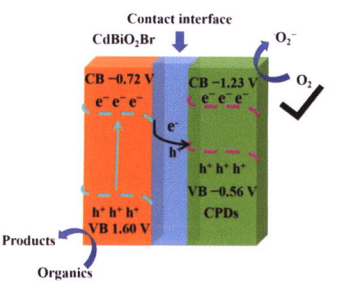
Ting Zeng [a,b], Yanshan Liang [a,b], Qingyuan Dai [a,b], Jinglin Tian [a,b], Jinyao Chen [c], Bo Lei [a], Zhu Yang [b], Zongwei Cai [b]

[a] *Food Science and Technology Program, Beijing Normal University-Hong Kong Baptist University United International College, Zhuhai 519087, China*
[b] *State Key Laboratory of Environmental and Biological Analysis, Department of Chemistry, Hong Kong Baptist University, Hong Kong, China*
[c] *Department of Nutrition, Food Safety and Toxicology, West China School of Public Health, Sichuan University, Chengdu 610041, China*

On a cohort of 403 volunteers who had been exposed to cadmium, high-resolution mass spectrometry-based urine metabolic detection was conducted, seven machine learning algorithms on the LC–HRMS data set were compared, and a biomarker panel based on the selected machine learning mode were identified. The extreme gradient boosting and random forest classifiers showed better accuracy and predictive performance than others which indicates this study has added a new reference for selecting data-driven machine learning algorithms for a metabolic analysis of urine under cadmium exposure.

$CdBiO_2Br$ nanosheets *in situ* strong coupling to carbonized polymer dots and improved photocatalytic activity for organic pollutants degradation

Chinese Chemical Letters 33 (2022) 5189



Zhiyuan Pang [a], Bin Wang [a], Xingwang Yan [a], Chongtai Wang [b], Sheng Yin [a], Huaming Li [a], Jiexiang Xia [a]

[a] *School of Chemistry and Chemical Engineering, Institute for Energy Research, Jiangsu University, Zhenjiang 212013, China*
[b] *School of Chemistry and Chemical Engineering, the Key Laboratory of Electrochemical Energy Storage and Energy Conversion of Hainan Province, Hainan Normal University, Haikou 571158, China*

A novel Z-scheme composite semiconductor photocatalytic system CPDs/$CdBiO_2Br$ enhances the migration and separation of photogenerated carriers and contributes to the generation of reactive oxygen species.

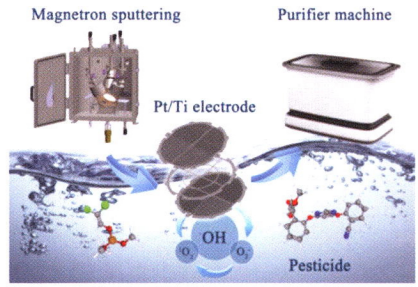
Electrocatalytic degradation of pesticide micropollutants in water by high energy pulse magnetron sputtered Pt/Ti anode

Yuxin Zeng[a], Siyao Zhang[a], Lifeng Yin[a], Yunrong Dai[b]

[a] School of Environment, Beijing Normal University, Beijing 100875, China
[b] School of Water Resources and Environment, China University of Geosciences (Beijing), Beijing 100083, China

The high energy pulse magnetron sputtering embedded Pt atoms into the TiO_2 lattice on the surface of Ti plate and produced the optimized Pt/Ti electrode. Based on the Pt/Ti electrocatalysis we designed a purifier machine to generate more ·OH and destroyed dichlorvos and azoxystrobin in water efficiently.

Chinese Chemical Letters 33 (2022) 5196



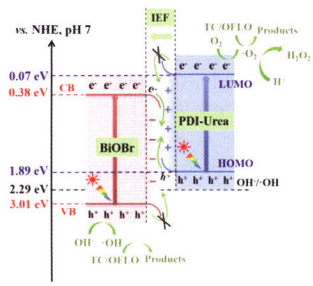
Novel organic/inorganic PDI-Urea/BiOBr S-scheme heterojunction for improved photocatalytic antibiotic degradation and H_2O_2 production

Weiwei Wang[a], Xibao Li[a,b], Fang Deng[b], Jiyou Liu[a], Xiaoming Gao[c], Juntong Huang[a], Jilin Xu[a], Zhijun Feng[a], Zhi Chen[a], Lu Han[d]

[a] School of Materials Science and Engineering, Nanchang Hangkong University, Nanchang 330063, China
[b] Key Laboratory of Jiangxi Province for Persistent Pollutants Control and Resources Recycle, Nanchang Hangkong University, Nanchang 330063, China
[c] Department of Chemistry and Chemical Engineering, Shaanxi Key Laboratory of Chemical Reaction Engineering, Yan'an University, Yan'an 716000, China
[d] School of Materials and Metallurgy, University of Science and Technology Liaoning, Anshan 114051, China

A novel organic/inorganic S-scheme heterojunction PDI-Urea/BiOBr composite photocatalyst showed higher photocatalytic activity for the degradation of tetracycline (TC), ofloxacin (OFLO) and the production of H_2O_2 in the spectral range of 400–800 nm.

Chinese Chemical Letters 33 (2022) 5200



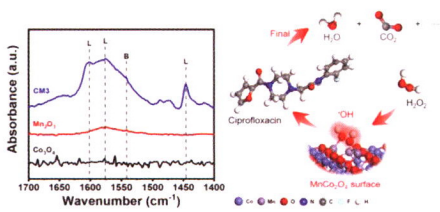
Hydroxyl radical induced from hydrogen peroxide by cobalt manganese oxides for ciprofloxacin degradation

Shuandi Wang[a], Xiaodong Zhang[a], Guozhu Chen[a], Bao Liu[a], Hongmei Li[a], Junhua Hu[b], Junwei Fu[a], Min Liu[a]

[a] Hunan Joint International Research Center for Carbon Dioxide Resource Utilization, School of Physics and Electronics, State Key Laboratory of Powder Metallurgy, Hunan Provincial Key Laboratory of Chemical Power Sources, Central South University, Changsha 410083, China
[b] School of Materials Science and Engineering, Zhengzhou University, Zhengzhou 450002, China

$MnCo_2O_4$ has more Lewis acid sites due to the synergistic effect of Co and Mn. H_2O_2 is a Lewis base that is strongly absorbed by Lewis acid sites to generate abundant hydroxyl (·OH). As a result, $MnCo_2O_4$ has excellent performance for activating H_2O_2 to decompose the typical ciprofloxacin pollutant.

Chinese Chemical Letters 33 (2022) 5208



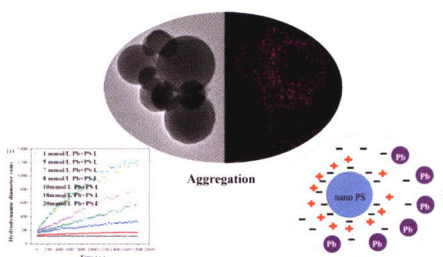
An insight into aggregation kinetics of polystyrene nanoplastics interaction with metal cations

Yucheng Zhang[a], Xiaotong Su[a], Nora F.Y. Tam[b,c], Xiaolan Lao[a], Meiling Zhong[a], Qihang Wu[a], Huifang Lei[a], Zihui Chen[a], Zhang Li[d], Jie Fu[d]

[a] Key Laboratory for Water Quality and Conservation of the Pearl Stream Delta, Ministry of Education, School of Environmental Science and Engineering, Guangzhou University, Guangzhou 510006, China
[b] State Key Laboratory of Marine Pollution and Department of Chemistry, City University of Hong Kong, Hong Kong, China
[c] School of Science and Technology, Open University of Hong Kong, Hong Kong, China
[d] School of Environmental Science and Engineering, Huazhong University of Science and Technology, Wuhan 430074, China

The aggregation kinetics of different sizes of polystyrene nanoplastics with metal cations at different solution pH were investigated. The adsorption behavior of cations onto nanoplastics was determined by TEM and EDX, which demonstrated the adherence of cations onto the surface of nanoplastics with the effect of charge neutralization.

Chinese Chemical Letters 33 (2022) 5213

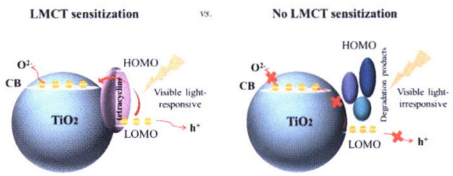


Tetracycline sensitizes TiO_2 for visible light photocatalytic degradation *via* ligand-to-metal charge transfer

Caidie Qin [a,b], Juanjuan Tang [a,b], Ruxia Qiao [a,b], Sijie Lin [a,b]

[a] *College of Environmental Science and Engineering, Biomedical Multidisciplinary Innovation Research Institute, Shanghai East Hospital, Tongji University, Shanghai 200092, China*
[b] *Key Laboratory of Yangtze River Water Environment, Shanghai Institute of Pollution Control and Ecological Security, Tongji University, Shanghai 200092, China*

Chinese Chemical Letters 33 (2022) 5218



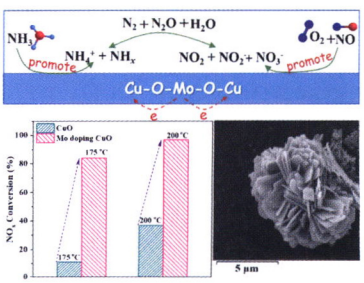
Tetracycline sensitized pure TiO_2 for visible light photocatalytic degradation *via* ligand-to-metal charge transfer mechanism. The intermediate degradation products of TC, however, did not sensitize TiO_2.

Investigation of the promotion effect of Mo doped CuO catalysts for the low-temperature performance of NH_3-SCR reaction

Hui Wang, Ting Zhu, Yujie Qiao, Shicheng Dong, Zhenping Qu

Key Laboratory of Industrial Ecology and Environmental Engineering (MOE), School of Environmental Science and Technology, Dalian University of Technology, Dalian 116024, China

Chinese Chemical Letters 33 (2022) 5223



The doping of Mo into CuO lattice leads to the formation of Cu-O-Mo system with strong electron interaction between Cu and Mo, providing more Lewis and Brønsted acid sites, which is beneficial to the adsorption of NH_3 and NO_x and thereby enhancing the low-temperature activity with above 80% NO_x conversion at 175 °C.

Chinese Chemical Letters (中国化学快报)

Responsible Institution:	China Association for Science and Technology
Sponsor:	Chinese Chemical Society Institute of Materia Medica, Chinese Academy of Medical Sciences
Editor-in-Chief:	Xuhong Qian
Address:	Institute of Materia Medica, Chinese Academy of Medical Sciences 1 Xian Nong Tan Street, Beijing 100050, China
Tel:	86-10-63165638
E-mail:	cclbj@imm.ac.cn
Website:	www.chinchemlett.com.cn
Online Submission:	www.ees.elsevier.com/cclet
Publisher:	Editorial Office of Chinese Chemical Letters ELSEVIER B.V.
Printer:	Beijing Kexin Printing Co., Ltd.
Date:	15 December 2022

国内发行：全国各地邮局　　邮发代号：2-915　　定价：50元/本；600元/年

Available online at www.sciencedirect.com

ScienceDirect

ISSN 1001-8417

9 771001 841220 12>