

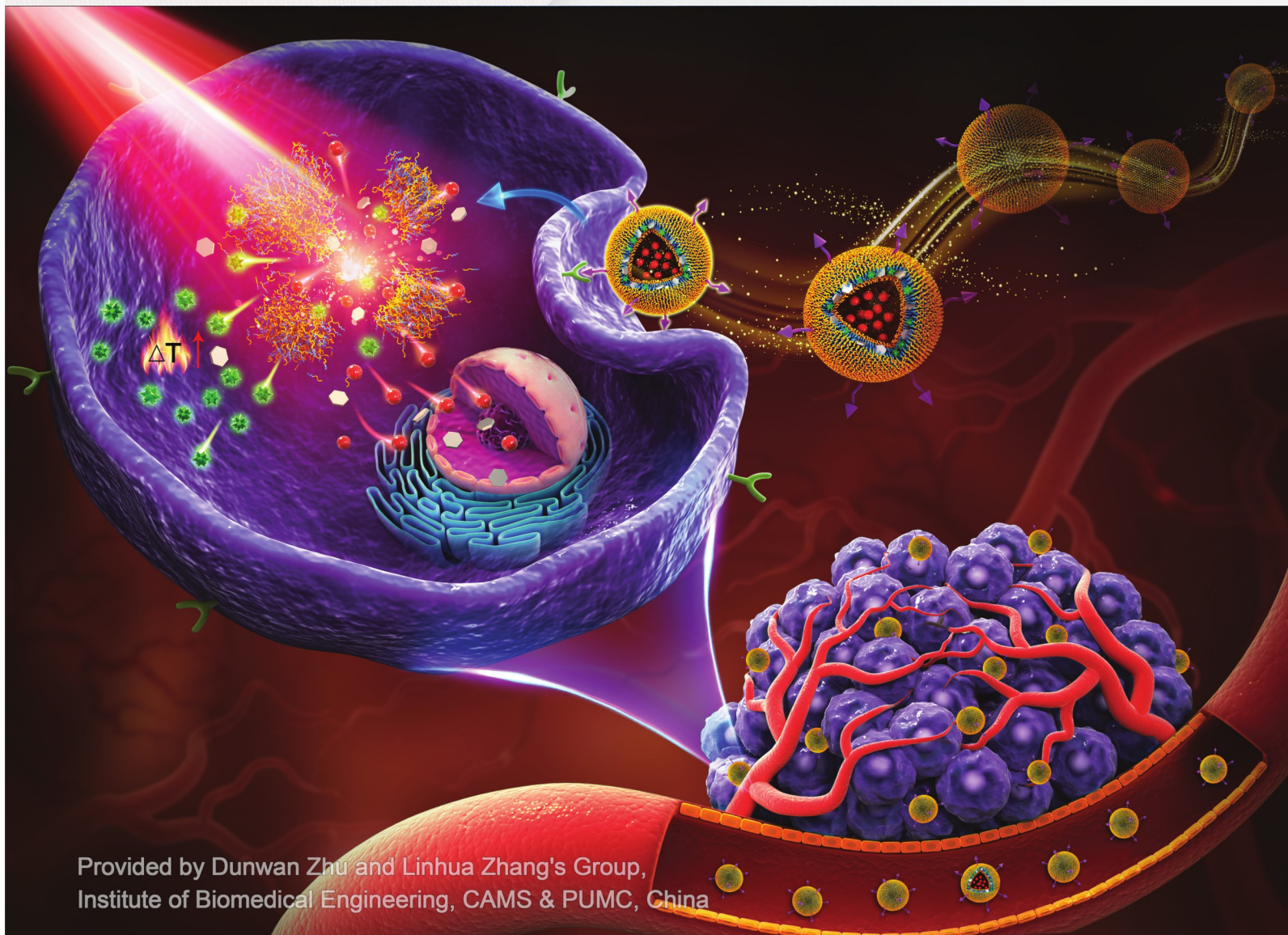
# CCL

## Chinese Chemical Letters (中国化学快报)

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Institute of Biomedical Engineering, CAMS & PUMC, China



### COMMUNICATION

Nongye He, Zhiyang Li, Bin Liu et al.  
Rapid and label-free classification of  
pathogens based on light scattering, reduced  
power spectral features and support vector  
machine

### COMMUNICATION

Xiangling Ren, Hongbo Li, Xianwei Meng et al.  
Luminescent silver nanoclusters for efficient  
detection of adenosine triphosphate in a wide  
range of pH values

Chinese Chemical Society

Institute of Materia Medica, Chinese Academy of Medical Sciences

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## Graphical Abstracts/Chin Chem Lett 31 (2020) iii–xvi

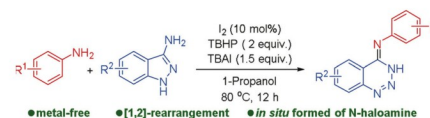
## Highlights

## Metal-free synthesis of 1,2,3-benzotriazines

Jin-Yang Chen<sup>a,c</sup>, Ying-Wu Lin<sup>d</sup>, Wei-Min He<sup>b</sup><sup>a</sup> College of Chemistry and Chemical Engineering, Yangtze Normal University, Chongqing 408000, China<sup>b</sup> Hunan Provincial Key Laboratory of Materials Protection for Electric Power and Transportation, Changsha University of Science and Technology, Changsha 410114, China<sup>c</sup> School of Chemistry and Chemical Engineering, Hunan University of Science and Technology, Xiangtan 411201, China<sup>d</sup> School of Chemistry and Chemical Engineering, University of South China, Hengyang 421001, China

The recent molecular iodine catalyzed [1,2]-rearrangement for the synthesis of 1,2,3-benzotriazines is highlighted.

Chinese Chemical Letters 31 (2020) 2989

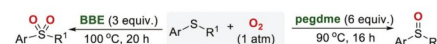


## Oxidation of aromatic sulfides with molecular oxygen: Controllable synthesis of sulfoxides or sulfones

Lili Tang<sup>a</sup>, Kejie Du<sup>d</sup>, Bing Yu<sup>b</sup>, Liangnian He<sup>c</sup><sup>a</sup> College of Chemistry & Materials Engineering, Huaihua University, Huaihua 418008, China<sup>b</sup> Green Catalysis Center, College of Chemistry, Zhengzhou University, Zhengzhou 450001, China<sup>c</sup> State Key Laboratory of Elemento-Organic Chemistry, College of Chemistry, Nankai University, Tianjin 300071, China<sup>d</sup> Hunan Key Laboratory for the Design and Application of Actinide Complexes, University of South China, Hengyang 421001, China

The recent development of selective oxidation of aromatic sulfides with molecular oxygen was highlighted.

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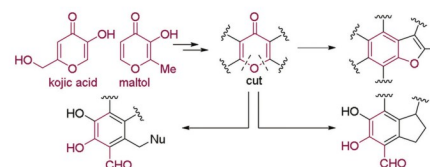


## Kojic acid and maltol: The “Transformers” in organic synthesis

Jianqiang Chen<sup>a</sup>, Lingwei Wu<sup>a</sup>, Jie Wu<sup>a,b</sup><sup>a</sup> School of Pharmaceutical and Materials Engineering & Institute for Advanced Studies, Taizhou University, Taizhou 318000, China<sup>b</sup> State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

The deconstructive reorganization strategy for the synthesis of benzene-containing products from the kojic acid- and maltol-derived alkynes has been recently reported. In this strategy, kojic acid and maltol are analogous to the “Transformers”, which can transform into the benzene-containing natural products. Under the synthetic standpoint, this deconstructive reorganization strategy features high atom economy, innate scalability and functional group tolerance. In the near future, we believe that this unique method will be widely investigated and other novel transformations of kojic acid and maltol will be discovered.

Chinese Chemical Letters 31 (2020) 2993



## Assembly of 3-sulfonated 2H-pyrrol-2-ones through the insertion of sulfur dioxide with allenic amides

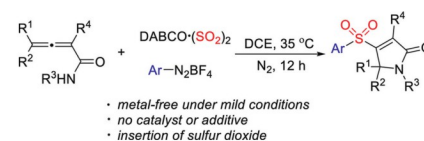
Kaida Zhou<sup>a</sup>, Jianqiang Chen<sup>a</sup>, Jie Wu<sup>a,b</sup>

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<sup>b</sup> State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

Generation of 3-sulfonated 2H-pyrrol-2-ones through a three-component reaction of allenic amides, sulfur dioxide, and aryldiazonium tetrafluoroborates under metal-free conditions is achieved. This transformation proceeds under mild conditions without the addition of catalysts or additives, giving rise to 3-sulfonated 2H-pyrrol-2-ones in moderate to good yields. Good functional group compatibility is observed.

Chinese Chemical Letters 31 (2020) 2996



## Microwave-assisted 6π-electrocyclization in water

Yan Wu<sup>a</sup>, Ying-Wu Lin<sup>b</sup>, Wei-Min He<sup>c</sup>

<sup>a</sup> College of Chemistry and Chemical Engineering, Yangtze Normal University, Chongqing 408000, China

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<sup>c</sup> Department of Chemistry, Hunan University of Science and Engineering, Yongzhou 425100, China

The recent development of microwave-assisted aqueous synthesis of polyheterocyclic-fused quinoline-2-thiones through 6π-electrocyclization was highlighted.

Chinese Chemical Letters 31 (2020) 2999



## Reviews

### Controlled synthesis of polypeptides

Yang Liu<sup>a,b,c</sup>, Di Li<sup>a</sup>, Jianxun Ding<sup>a,c</sup>, Xuesi Chen<sup>a,b,c</sup>

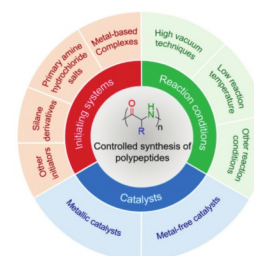
<sup>a</sup> Key Laboratory of Polymer Ecomaterials, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

<sup>b</sup> University of Science and Technology of China, Hefei 230026, China

<sup>c</sup> Jilin Biomedical Polymers Engineering Laboratory, Changchun 130022, China

Polypeptides with various α-amino acids as structural units are promising biocompatible and biodegradable polymers as biomaterials. The precise chemical structures and low polydispersity indexes of polypeptides are critical factors for the potential biomedical applications, especially in the clinic. The controlled ring-opening polymerization of different α-amino acid N-carboxyanhydrides through the regulation of initiating systems, reaction conditions, and catalysts has been developed to synthesize the target polypeptides in the past few decades.

Chinese Chemical Letters 31 (2020) 3001



### Functionalization of bismuth sulfide nanomaterials for their application in cancer theranostics

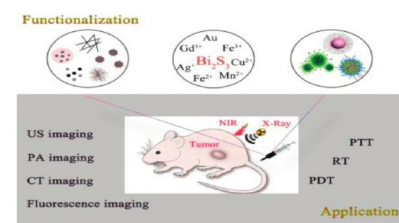
Hui Wang<sup>a</sup>, Junlei Yang<sup>a</sup>, Penghui Cao<sup>a</sup>, Ning Guo<sup>a</sup>, Yuhao Li<sup>a</sup>, Yuefeng Zhao<sup>a</sup>, Shuang Zhou<sup>b</sup>, Ruizhuo Ouyang<sup>a</sup>, Yuqing Miao<sup>a</sup>

<sup>a</sup> Institute of Bismuth Science, University of Shanghai for Science and Technology, Shanghai 200093, China

<sup>b</sup> Cancer Institute, Tongji University School of Medicine, Shanghai 200092, China

This review summarizes the ways in which Bi<sub>2</sub>S<sub>3</sub> nanomaterials can be functionalized and discusses their applications in cancer theranostics over the last few years, focusing particularly on imaging and therapy.

Chinese Chemical Letters 31 (2020) 3015



## Cathepsin B-responsive nanodrug delivery systems for precise diagnosis and targeted therapy of malignant tumors

Chinese Chemical Letters 31 (2020) 3027

Yanan Li<sup>a,b</sup>, Ting Mei<sup>c</sup>, Shupeng Han<sup>c</sup>, Tao Han<sup>d</sup>, Yongbing Sun<sup>e</sup>, Hui Zhang<sup>a,b</sup>, Feifei An<sup>c</sup>

<sup>a</sup> Department of Radiology, First Hospital of Shanxi Medical University, Taiyuan 030001, China

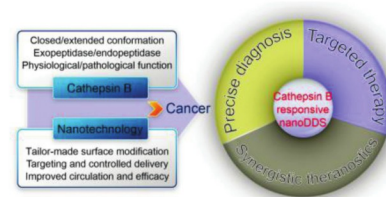
<sup>b</sup> College of Medical Imaging, Shanxi Medical University, Taiyuan 030001, China

<sup>c</sup> Institute of Medical Engineering, Department of Biophysics, School of Basic Medical Science, Health Science Center, Xi'an Jiaotong University, Xi'an 710061, China

<sup>d</sup> College of Chemistry and Life Science, Institute of Functional Molecules, Chengdu Normal University, Chengdu 611130, China

<sup>e</sup> Division of Pharmaceutics, National Pharmaceutical Engineering Center for Solid Preparation in Chinese Herbal Medicine, Jiangxi University of Traditional Chinese Medicine, Nanchang 330006, China

Cathepsin B-responsive multifunctional nanosized drug delivery systems (nanoDDS) enabling imaging and drug delivery have attracted extensive research interest for the simultaneous specific diagnosis, efficient treatment, and real-time monitoring of tumors. Overcoming obstacles in enzyme system heterogeneity, compositional coordination, mass production and biocompatibility of nanocomposites is necessary. NanoDDS with cathepsin B-mediated tumor microenvironment targeting will achieve versatile clinical potency for targeted cancer management.



## Magnetofection: Magic magnetic nanoparticles for efficient gene delivery

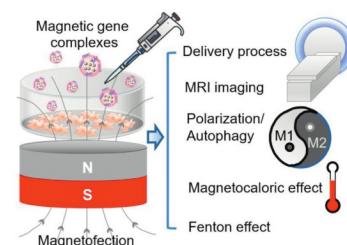
Chinese Chemical Letters 31 (2020) 3041

Qunjie Bi<sup>a</sup>, Xu Song<sup>b</sup>, Ao Hu<sup>a</sup>, Tianying Luo<sup>a</sup>, Rongrong Jin<sup>a</sup>, Hua Ai<sup>a</sup>, Yu Nie<sup>a</sup>

<sup>a</sup> National Engineering Research Center for Biomaterials, Sichuan University, Chengdu 610064, China

<sup>b</sup> Institute of Regulatory Science for Medical Devices, National Engineering Research Center for Biomaterials, Sichuan University, Chengdu 610064, China

Magnetofection promotes every gene delivery process. And magnetic nanoparticles provide associated synergistic effects for therapeutic treatment.



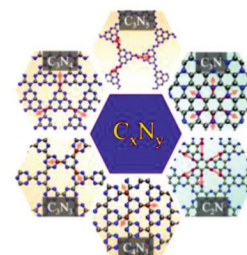
## Molecular engineering of C<sub>x</sub>N<sub>y</sub>: Topologies, electronic structures and multidisciplinary applications

Chinese Chemical Letters 31 (2020) 3047

Hong Yang, Zhuang Wang, Songqin Liu, Yanfei Shen, Yuanjian Zhang

Jiangsu Engineering Laboratory of Smart Carbon-Rich Materials and Device, Jiangsu Province Hi-Tech Key Laboratory for Bio Medical Research, School of Chemistry and Chemical Engineering, Medical School, Southeast University, Nanjing 211189, China

This review paper aims to summarize the recent progress in topological structure design and the relevant electronic band structures and properties of C<sub>x</sub>N<sub>y</sub> materials. In the final part, we also discuss the existing challenges of C<sub>x</sub>N<sub>y</sub> and outlook the prospect possibilities.



## Research progress on hybrid organic–inorganic perovskites for photo-applications

Chinese Chemical Letters 31 (2020) 3055

Zengxi Wei<sup>a</sup>, Yuhang Zhao<sup>b</sup>, Jie Jiang<sup>b</sup>, Weibo Yan<sup>c</sup>, Yuezhao Feng<sup>d</sup>, Jianmin Ma<sup>a</sup>

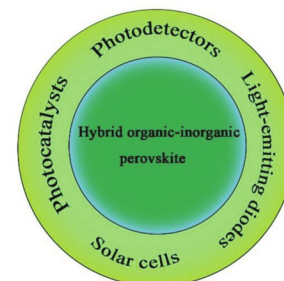
<sup>a</sup> Advanced Catalytic Engineering Research Center of the Ministry of Education, School of Physics and Electronics, Hunan University, Changsha 410082, China

<sup>b</sup> Hunan Key Laboratory of Super Microstructure and Ultrafast Process, School of Physics and Electronics, Central South University, Changsha 410082, China

<sup>c</sup> Key Laboratory for Organic Electronics and Information Displays & Institute of Advanced Materials (IAM), Nanjing University of Posts & Telecommunications, Nanjing 210023, China

<sup>d</sup> Key Laboratory of Materials Processing and Mold (Zhengzhou University), Ministry of Education, Zhengzhou University, Zhengzhou 450002, China

In this review, we review the recent progress of hybrid organic–inorganic perovskite-based photodetectors, light-emitting diodes, solar cells and photocatalysts. The challenges and outlook for the hybrid organic–inorganic perovskite-based photodetectors, light-emitting diodes, solar cells and photocatalysts are considered.



## Recent advances in the applications of [1.1.1] propellane in organic synthesis

Fu-Sheng He<sup>a</sup>, Shimin Xie<sup>b</sup>, Yanfang Yao<sup>a</sup>, Jie Wu<sup>a,c</sup>

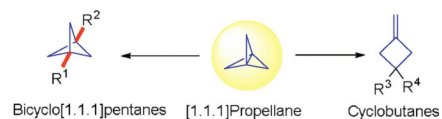
<sup>a</sup> School of Pharmaceutical and Materials Engineering & Institute for Advanced Studies, Taizhou University, Taizhou 318000, China

<sup>b</sup> College of Chemistry, Xiangtan University, Xiangtan 411105, China

<sup>c</sup> State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

As a highly strained small molecule, [1.1.1] propellane has been widely used in various synthetic transformations owing to the exceptional reactivity of the central bond between the two bridgehead carbons. In this review, the recent advances in this field are highlighted. Accordingly, the reactivity of [1.1.1] propellane is divided into three pathways, including radical, anionic and transition metal-catalyzed pathways under appropriate conditions.

Chinese Chemical Letters 31 (2020) 3065



## Recent advances in the diversification of chromones and flavones by direct C—H bond activation or functionalization

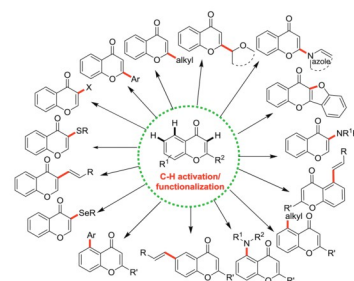
Shanghui Tian<sup>a</sup>, Tian Luo<sup>a</sup>, Yanping Zhu<sup>b</sup>, Jie-Ping Wan<sup>a</sup>

<sup>a</sup> College of Chemistry and Chemical Engineering, Jiangxi Normal University, Nanchang 330022, China

<sup>b</sup> School of Pharmacy, Key Laboratory of Molecular Pharmacology and Drug Evaluation, Ministry of Education, Collaborative Innovation Center of Advanced Drug Delivery System and Biotech Drugs in Universities of Shandong, Yantai University, Yantai 264005, China

The advances on the C—H activation and functionalization of chromones and flavones, including the C—H bond in the heterocycle and phenyl fragments, for the efficient synthesis of diverse chromone/flavone derivatives are comprehensively reviewed.

Chinese Chemical Letters 31 (2020) 3073



## Recent advances for the photoinduced C—C bond cleavage of cycloketone oximes

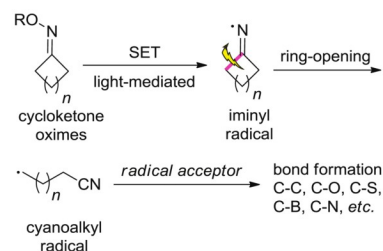
Wei Xiao<sup>a</sup>, Jie Wu<sup>a,b</sup>

<sup>a</sup> School of Pharmaceutical and Materials Engineering & Institute for Advanced Studies, Taizhou University, Taizhou 318000, China

<sup>b</sup> State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

Nitriles are widely existed in many bioactive compounds, and they can be easily transformed into other functional groups. Therefore, the synthesis of nitriles under cyanide-free conditions is of significant importance. Recent advances for the synthesis of nitriles through photoinduced C—C bond cleavage of cycloketone oximes classified by the type of C—X bond forming are summarized. Various compounds possessing nitriles can be efficiently accessed via this method.

Chinese Chemical Letters 31 (2020) 3083



## Tailoring two-dimensional surfaces with pillararenes based host-guest chemistry

Run-Hao Li<sup>a</sup>, Junkai Ma<sup>b</sup>, Yue Sun<sup>a</sup>, Haibing Li<sup>c</sup>

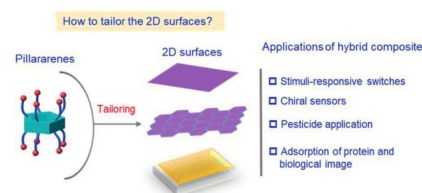
<sup>a</sup> Hubei Key Laboratory of Catalysis and Materials Science, College of Chemistry and Material Sciences, South-Central University for Nationalities, Wuhan 430074, China

<sup>b</sup> Hubei Key Laboratory of Wudang Local Chinese Medicine Research, Department of Chemistry, School of Pharmacy, Hubei University of Medicine, Shiyan 442000, China

<sup>c</sup> Key Laboratory of Pesticide and Chemical Biology (CCNU), Ministry of Education, College of Chemistry, Central China Normal University, Wuhan 430079, China

We summarized the application of two-dimensional surfaces tailored with pillararenes based host-guest chemistry, such as in the fields of stimuli-responsive switches, multilayer films, and chiral surfaces. We anticipated that this review will be helpful to the researchers working in the fields of supramolecular chemistry and materials science.

Chinese Chemical Letters 31 (2020) 3095



## Communications

### Acid-resistant ROS-responsive hyperbranched polythioether micelles for ulcerative colitis therapy

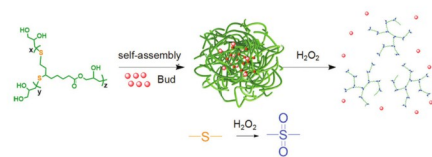
Haitong Shi<sup>a</sup>, Xiaoye Zhao<sup>b</sup>, Jushan Gao<sup>b</sup>, Zhongwen Liu<sup>a</sup>, Zhaotie Liu<sup>a</sup>, Ke Wang<sup>b</sup>, Jinqiang Jiang<sup>a</sup>

<sup>a</sup> Key Laboratory of Syngas Conversion of Shaanxi Province, Key Laboratory of Applied Surface and Colloid Chemistry, Ministry of Education, School of Chemistry and Chemical Engineering, Shaanxi Normal University, Xi'an 710062, China

<sup>b</sup> School of Pharmacy, Health Science Center, Xi'an Jiaotong University, Xi'an 710061, China

We reported an acid-resistant ROS-responsive hyperbranched polythioether which can self-assemble into micellar structure and pass through the gastrointestinal tract without leaking drugs.

Chinese Chemical Letters 31 (2020) 3102



### In situ construction of ligand nano-network to integrin $\alpha_v\beta_3$ for angiogenesis inhibition

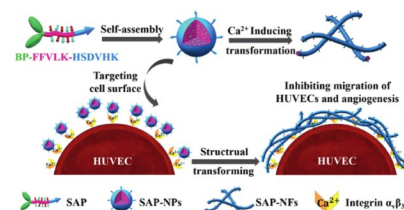
Ziming Chen<sup>a,b</sup>, Kuo Zhang<sup>b</sup>, Jiaqi Fan<sup>b</sup>, Yu Fan<sup>b</sup>, Chao Yang<sup>b</sup>, Wen Tian<sup>b</sup>, Yuan Li<sup>b</sup>, Wenliang Li<sup>a</sup>, Jingping Zhang<sup>a</sup>, Hao Wang<sup>b</sup>, Lei Wang<sup>b</sup>

<sup>a</sup> Faculty of Chemistry, Northeast Normal University, Changchun 130024, China

<sup>b</sup> CAS Center for Excellence in Nanoscience, CAS Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety, National Center for Nanoscience and Technology (NCNST), Beijing 100190, China

In this paper, we synthesized a self-assembling peptide nanomaterial SAP with the ability to target integrin  $\alpha_v\beta_3$ . Under the ligand-receptor interaction, nano-network is formed, which inhibits the migration of HUVECs cells and hinders angiogenesis.

Chinese Chemical Letters 31 (2020) 3107



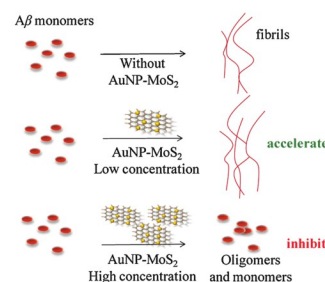
### Contradictory effect of gold nanoparticle-decorated molybdenum sulfide nanocomposites on amyloid- $\beta$ -40 aggregation

Yaqin Liu, Yan Zheng, Shaoyuan Li, Jinhan Li, Xiaoyu Du, Yanyun Ma, Guofu Liao, Qing Wang, Xiaohai Yang, Kemin Wang

State Key Laboratory of Chemo/Biosensing and Chemometrics, College of Chemistry and Chemical Engineering, Key Laboratory for Bio-Nanotechnology and Molecular Engineering of Hunan Province, Hunan University, Changsha 410082, China

Low concentration of AuNP-MoS<sub>2</sub> nanocomposites could accelerate A $\beta$ <sub>40</sub> fibrils aggregation, while high concentration of AuNP-MoS<sub>2</sub> nanocomposites inhibited A $\beta$ <sub>40</sub> aggregation process eventually.

Chinese Chemical Letters 31 (2020) 3113



### Luminescent silver nanoclusters for efficient detection of adenosine triphosphate in a wide range of pH values

Meijia Liu<sup>a</sup>, Xiangling Ren<sup>b,c,d</sup>, Xin Liu<sup>b,c</sup>, Longfei Tan<sup>b,c</sup>, Hui Li<sup>a</sup>, Jing Wei<sup>a</sup>, Changhui Fu<sup>b,c</sup>, Qiong Wu<sup>b,c</sup>, Jun Ren<sup>b</sup>, Hongbo Li<sup>a</sup>, Xianwei Meng<sup>b,c</sup>

<sup>a</sup> Experimental Center of Advanced Materials, School of Materials Science & Engineering, Beijing Institute of Technology, Beijing 100081, China

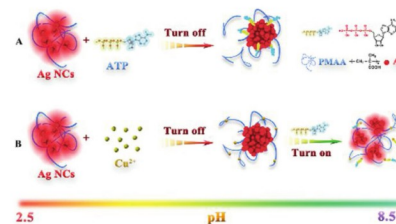
<sup>b</sup> Laboratory of Controllable Preparation and Application of Nanomaterials, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China

<sup>c</sup> CAS Key Laboratory of Cryogenics, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China

<sup>d</sup> University of Chinese Academy of Sciences, Beijing 100049, China

In this paper, polymethacrylic acid (PMAA)-templated silver nanoclusters (Ag NCs) were designed as the fluorescent probe for efficient and sensitive detection of adenosine triphosphate (ATP) over a wide range of pH.

Chinese Chemical Letters 31 (2020) 3117



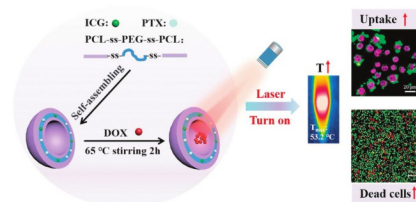
## LHRH/TAT dual peptides-conjugated polymeric vesicles for PTT enhanced chemotherapy to overcome hepatocellular carcinoma

Yu Qin, Qing Guo, Shengjie Wu, Chenlu Huang, Zhiming Zhang, Li Zhang, 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

LHRH/TAT dual peptides-conjugated polymer vesicles were synthesized through a simple process and present a laser controllable PTT effect and high anti-cancer effect via the PTT enhanced chemotherapy.

Chinese Chemical Letters 31 (2020) 3121



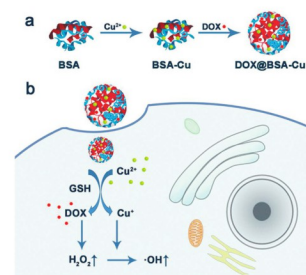
## Protein nanoparticles containing Cu(II) and DOX for efficient chemodynamic therapy via self-generation of H<sub>2</sub>O<sub>2</sub>

Rui Cao, Wen Sun, Zheng Zhang, Xiaojing Li, Jianjun Du, Jianglei Fan, Xiaojun Peng

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

The DOX@BSA-Cu protein nanoparticles were synthesized for effective chemodynamic therapy (CDT) by providing enhanced content of H<sub>2</sub>O<sub>2</sub> and consuming glutathione (GSH) in cancer cells. DOX was used as H<sub>2</sub>O<sub>2</sub> inducer to improve the content of H<sub>2</sub>O<sub>2</sub> in cancer cells and Cu<sup>2+</sup> in NPs could be reduced to Cu<sup>+</sup> by GSH which effectively converted H<sub>2</sub>O<sub>2</sub> to ·OH, resulting in more efficient generation of ·OH for CDT.

Chinese Chemical Letters 31 (2020) 3127



## Construction of triblock copolymer-gold nanorod composites for fluorescence resonance energy transfer via pH-sensitive allosteric

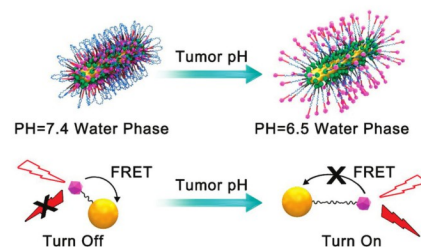
Li Zeng<sup>a</sup>, Zhipeng Su<sup>b</sup>, Xingyi Li<sup>a</sup>, Shuai Shi<sup>a</sup>

<sup>a</sup> Institute of Biomedical Engineering, School of Ophthalmology & Optometry and Eye Hospital, Wenzhou Medical University, Wenzhou 325027, China

<sup>b</sup> Department of Neurosurgery, First Affiliated Hospital of Wenzhou Medical University, Wenzhou 325000, China

A pH-sensitive-polymer self-assembly constructs a fluorescence resonance energy transfer (FRET) model to regulate the non-specific emission of fluorescence.

Chinese Chemical Letters 31 (2020) 3131



## Preparation of hollow mesoporous silica nanorods for encapsulating and slowly releasing eugenol

Tianlu Zhang<sup>a,c</sup>, Zhiguo Lu<sup>a,c</sup>, Luyao Zhang<sup>a,c</sup>, Yan Li<sup>a,c</sup>, Jun Yang<sup>a,c</sup>, Jie Shen<sup>a,c</sup>, Jianze Wang<sup>a</sup>, Yunwei Niu<sup>d,e</sup>, Zuobing Xiao<sup>d,e</sup>, Lei Chen<sup>b</sup>, Xin Zhang<sup>a</sup>

<sup>a</sup> State Key Laboratory of Biochemical Engineering, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100190, China

<sup>b</sup> Department of Obstetrics and Gynecology, Navy General Hospital of People Liberation Army, Beijing 100048, China

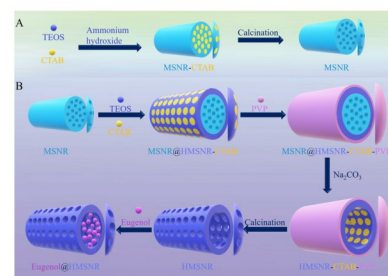
<sup>c</sup> School of Chemical Engineering, University of Chinese Academy of Sciences, Beijing 100049, China

<sup>d</sup> Shanghai Research Institute of Fragrance and Flavor Industry, Shanghai 200232, China

<sup>e</sup> School of Perfume and Aroma Technology, Shanghai Institute of Technology, Shanghai 200233, China

Hollow mesoporous silica nanorods were prepared to encapsulate eugenol for slow release of the fragrance.

Chinese Chemical Letters 31 (2020) 3135



## Cationic and temperature-sensitive liposomes loaded with eugenol for the application to silk

Zhiguo Lu<sup>a,c</sup>, Xiangyu Wang<sup>a</sup>, Tianlu Zhang<sup>a,c</sup>, Luyao Zhang<sup>a,c</sup>, Jun Yang<sup>a</sup>, Yan Li<sup>a</sup>, Jie Shen<sup>a,c</sup>, Jianze Wang<sup>a</sup>, Yunwei Niu<sup>d,e</sup>, Zuobing Xiao<sup>d,e</sup>, Guiying Liu<sup>b</sup>, Xin Zhang<sup>a</sup>

<sup>a</sup> State Key Laboratory of Biochemical Engineering, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100190, China

<sup>b</sup> Department of Pediatrics, Capital Medical University Affiliated Beijing Anzhen Hospital, Beijing 100029, China

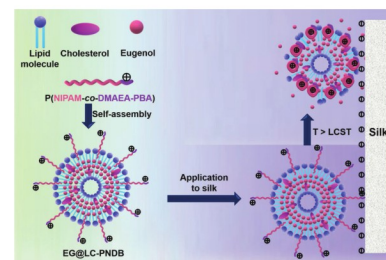
<sup>c</sup> School of Chemical Engineering, University of Chinese Academy of Sciences, Beijing 100049, China

<sup>d</sup> Shanghai Research Institute of Fragrance and Flavor Industry, Shanghai 200232, China

<sup>e</sup> School of Perfume and Aroma Technology, Shanghai Institute of Technology, Shanghai 200233, China

Cationic and temperature-sensitive liposomes were prepared to encapsulate eugenol for the application to silk.

Chinese Chemical Letters 31 (2020) 3139



## Circumvent PEGylation dilemma by implementing matrix metalloproteinase-responsive chemistry for promoted tumor gene therapy

Jingyun Wang<sup>a,b</sup>, Hao Wang<sup>a,b</sup>, Hongyan Cui<sup>a,b</sup>, Peng Sun<sup>b</sup>, Xi Yang<sup>c</sup>, Qixian Chen<sup>b</sup>

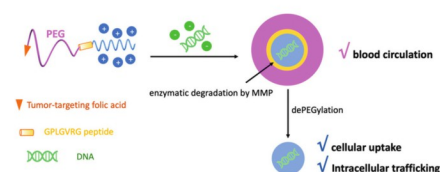
<sup>a</sup> State Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian 116024, China

<sup>b</sup> School of Bioengineering, Dalian University of Technology, Dalian 116024, China

<sup>c</sup> Department of Neurosurgery, Renji Hospital, School of Medicine, Shanghai Jiao Tong University, Shanghai 200127, China

Matrix metalloproteinase (MMP)-mediated dePEGylation strategy was proposed in manufacture of gene delivery polyplex micelles, which demonstrated to circumvent the well-acknowledged PEGylation dilemma by stimulated transcellular endocytosis and facilitated intracellular trafficking.

Chinese Chemical Letters 31 (2020) 3143



## Design of a novel mitochondria targetable turn-on fluorescence probe for hydrogen peroxide and its two-photon bioimaging applications

Kangnan Wang<sup>a</sup>, Wen Ma<sup>b</sup>, Yuchun Xu<sup>b</sup>, Xin Liu<sup>a</sup>, Gui Chen<sup>b</sup>, Meng Yu<sup>b</sup>, Qiling Pan<sup>a</sup>, Chaobo Huang<sup>c</sup>, Xiaochuan Li<sup>d</sup>, Qingchun Mu<sup>d</sup>, Yongbing Sun<sup>e</sup>, Zhiqiang Yu<sup>b</sup>

<sup>a</sup> The First People's Hospital of Shunde, Southern Medical University, Foshan 528300, China

<sup>b</sup> School of Pharmaceutical Sciences, Southern Medical University, Guangzhou 510515, China

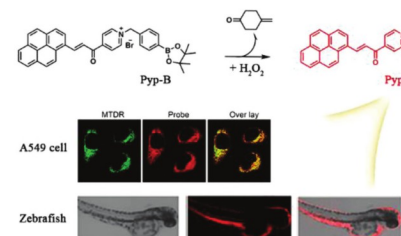
<sup>c</sup> Joint Laboratory of Advanced Biomedical Technology, College of Chemical Engineering, Nanjing Forestry University, Nanjing 210037, China

<sup>d</sup> The People's Hospital of Gaozhou, Gaozhou 525200, China

<sup>e</sup> Division of Pharmaceutics, National Pharmaceutical Engineering Center for Solid Preparation in Chinese Herbal Medicine, Jiangxi University of Traditional Chinese Medicine, Nanchang 330004, China

A novel mitochondria targetable turn-on two-photon fluorescence probe for the detection of hydrogen peroxide was developed.

Chinese Chemical Letters 31 (2020) 3149



## A self-assembling peptide targeting VEGF receptors to inhibit angiogenesis

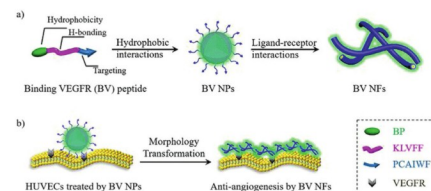
Shifang Wen<sup>a,b</sup>, Kuo Zhang<sup>b</sup>, Yuan Li<sup>b</sup>, Jiaqi Fan<sup>b</sup>, Ziming Chen<sup>a,b</sup>, Jingping Zhang<sup>a</sup>, Hao Wang<sup>b</sup>, Lei Wang<sup>b</sup>

<sup>a</sup> Faculty of Chemistry, Northeast Normal University, Changchun 130024, China

<sup>b</sup> Laboratory for Biomedical Effects of Nanomaterials and Nanosafety, National Center for Nanoscience and Technology (NCNST), Beijing 100190, China

The designed peptide could self-assemble into nanoparticles, which are able to bind to VEGFR and transform into nanofibers. This strategy could decrease the activation of the downstream pathway for inhibiting the migration of endothelial cells and the resulting angiogenesis.

Chinese Chemical Letters 31 (2020) 3153





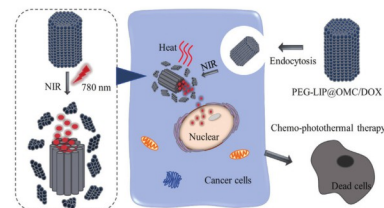
## NIR-triggered drug delivery system based on phospholipid coated ordered mesoporous carbon for synergistic chemo-photothermal therapy of cancer cells

Anman Zhang, Luo Hai, Tianzheng Wang, Hong Cheng, Man Li, Xiaoxiao He, Kemin Wang

State Key Laboratory of Chemo/Biosensing and Chemometrics, College of Biology, College of Chemistry and Chemical Engineering, Hunan University, State Key Laboratory for Bio-Nanotechnology and Molecular Engineering of Hunan Province, Changsha 410082, China

Herein, we report a facile synthesis of a polyethylene glycol (PEG) linked liposome (PEG-liposomes) coated doxorubicin (DOX)-loaded ordered mesoporous carbon (OMC) nanocomponents (PEG-LIP@OMC/DOX) and employed it for NIR-triggered drug delivery and synergistic chemo-photothermal therapy of cancer cells.

Chinese Chemical Letters 31 (2020) 3158



## Rapid and label-free classification of pathogens based on light scattering, reduced power spectral features and support vector machine

Mubashir Hussain<sup>a</sup>, Zhen Chen<sup>b</sup>, Mu Ly<sup>b</sup>, Jingyi Xu<sup>b</sup>, Xiaohan Dong<sup>b</sup>, Jingzhou Zhao<sup>a</sup>, Song Li<sup>d</sup>, Yan Deng<sup>d</sup>, Nongyue He<sup>a,d</sup>, Zhiyang Li<sup>c</sup>, Bin Liu<sup>b</sup>

<sup>a</sup> State Key Laboratory of Bioelectronics, School of Biological Science and Medical Engineering, Southeast University, Nanjing 210096, China

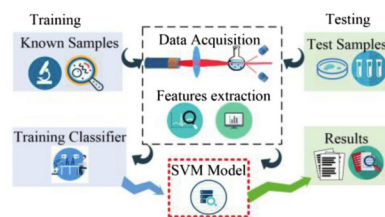
<sup>b</sup> Key Laboratory of Clinical and Medical Engineering, Department of Biomedical Engineering, School of Biomedical Engineering and Informatics, Nanjing Medical University, Nanjing 211166, China

<sup>c</sup> Department of Clinical Laboratory, The Affiliated Drum Tower Hospital of Nanjing University Medical School, Nanjing 210008, China

<sup>d</sup> Hunan Key Laboratory of Biomedical Nanomaterials and Devices, Hunan University of Technology, Zhuzhou 412007, China

The proposed system for the rapid and label-free identification of pathogens is based on the principle of laser scattering from the bacterial microbes. Scattered light intensity depends on the size, shape, and morphology of bacterial microbes. The features of data were extracted by using power spectral characteristics from the acquired time domain signal. SVM trained classifier can classify three different bacterial microbes: *Enterococcus faecalis*, *Escherichia coli* and *Staphylococcus aureus*.

Chinese Chemical Letters 31 (2020) 3163



## In vivo formation of Cu(DDC)<sub>2</sub> complex induced by nanomedicine for mesothelioma chemotherapy

Yixin Zhang<sup>a</sup>, Shunjie Ding<sup>b</sup>, Junhua Li<sup>a</sup>, Xinyu Peng<sup>a</sup>, Jing Li<sup>a</sup>, Jing Chang<sup>c</sup>, Wenxia Gao<sup>d</sup>, Bin He<sup>a</sup>

<sup>a</sup> National Engineering Research Center for Biomaterials, Sichuan University, Chengdu 610064, China

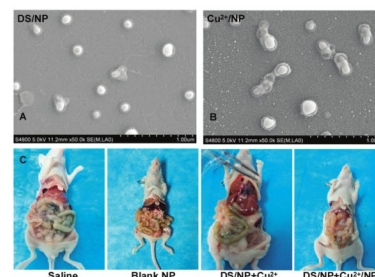
<sup>b</sup> Army Logistics University of PLA, Chongqing 401331, China

<sup>c</sup> College of Marine Life Science, Ocean University of China, Qingdao 266003, China

<sup>d</sup> College of Chemistry and Materials Engineering, Wenzhou University, Wenzhou 325027, China

The *in vivo* formation of Cu(DDC)<sub>2</sub> complex was induced by disulfiram and Cu<sup>2+</sup> released from PLGA nanoparticles. This strategy avoids many obstacles in the use of Cu(DDC)<sub>2</sub> complex as a chemotherapeutic and exhibits excellent inhibition to mesothelioma.

Chinese Chemical Letters 31 (2020) 3168



## Highly green fluorescent Nb<sub>2</sub>C MXene quantum dots for Cu<sup>2+</sup> ion sensing and cell imaging

Xiang Yan<sup>a</sup>, Junfei Ma<sup>b</sup>, Kaixuan Yu<sup>b</sup>, Jiapeng Li<sup>b</sup>, Lei Yang<sup>c</sup>, Jiaqi Liu<sup>c</sup>, Juncheng Wang<sup>d</sup>, Lulu Cai<sup>c</sup>

<sup>a</sup> School of Materials Science and Engineering, Baise University, Baise 533000, China

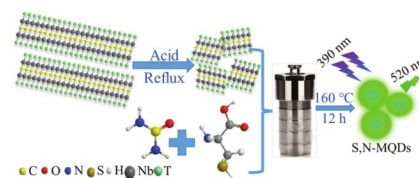
<sup>b</sup> State Key Laboratory of Heavy Oil Processing, China University of Petroleum-Beijing, Beijing 102249, China

<sup>c</sup> Personalized Drug Therapy Key Laboratory of Sichuan Province, Department of Pharmacy, Sichuan Provincial People's Hospital, School of Medicine, University of Electronic Science and Technology of China, Chengdu 610072, China

<sup>d</sup> Stomatology Department of the General Hospital of Chinese PLA, Beijing 100853, China

The synthesized Nb<sub>2</sub>C MXene quantum dots have good green fluorescence imaging performance and high Cu<sup>2+</sup> ion sensitivity, which can be used for cell imaging and ion detection.

Chinese Chemical Letters 31 (2020) 3173



## Delivery of triptolide with reduction-sensitive polymer nanoparticles for liver cancer therapy on patient-derived xenografts models

Mengxue He<sup>a</sup>, Ling Yu<sup>b</sup>, Yuanyuan Yang<sup>d</sup>, Binhua Zou<sup>d</sup>, Wen Ma<sup>d</sup>, Meng Yu<sup>d</sup>, Jiandong Lu<sup>c</sup>, Guoliang Xiong<sup>c</sup>, Zhiqiang Yu<sup>d</sup>, Aimin Li<sup>a</sup>

<sup>a</sup> Integrated Hospital of Traditional Chinese Medicine, Southern Medical University, Guangzhou 510315, China

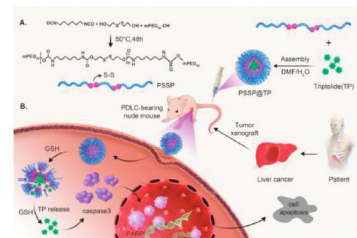
<sup>b</sup> Traditional Chinese Medicine Department, The First Affiliated Hospital, Sun Yat-sen University, Guangzhou 510080, China

<sup>c</sup> Department of Nephrology, Shenzhen Traditional Chinese Medicine Hospital, Guangzhou University of Chinese Medicine, Shenzhen 518033, China

<sup>d</sup> School of Pharmaceutical Sciences, Guangdong Provincial Key Laboratory of New Drug Screening, Southern Medical University, Guangzhou 510515, China

Triptolide was encapsulated into reduction-sensitive polymeric nanoparticles for targeted delivery to liver cancer on a patient-derived xenograft model.

Chinese Chemical Letters 31 (2020) 3178



## Facet-dependent antibacterial activity of Au nanocrystals

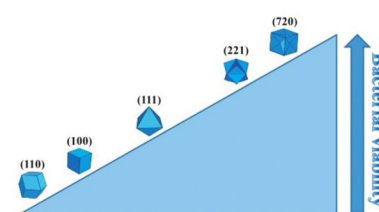
Youkun Zheng<sup>a,b</sup>, Hui Jiang<sup>a</sup>, Xuemei Wang<sup>a</sup>

<sup>a</sup> State Key Laboratory of Bioelectronics, School of Biological Science and Medical Engineering, Southeast University, Nanjing 210096, China

<sup>b</sup> Drug Discovery Research Center, Key Laboratory of Medical Electrophysiology of Ministry of Education, Southwest Medical University, Luzhou 646000, China

Au nanocrystals show substantial facet-dependent antibacterial activity. The low-index facets of cubes, octahedra and rhombic dodecahedra show considerable antibacterial activity, whereas the high-index facets of trisoctahedra and concave cubes remain inert.

Chinese Chemical Letters 31 (2020) 3183



## Tofu as excellent scaffolds for potential bone regeneration

Keqing Huang<sup>a,b</sup>, Guiting Liu<sup>a,b</sup>, Zhipeng Gu<sup>b,c</sup>, Jun Wu<sup>a,b</sup>

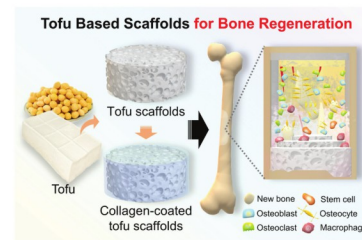
<sup>a</sup> Key Laboratory of Sensing Technology and Biomedical Instrument of Guangdong Province, School of Biomedical Engineering, Sun Yat-sen University, Guangzhou 510006, China

<sup>b</sup> Research Institute of Sun Yat-sen University in Shenzhen, Shenzhen 518057, China

<sup>c</sup> College of Polymer Science and Engineering, State Key Laboratory of Polymer Materials Engineering, Sichuan University, Chengdu 610065, China

Tofu-based scaffold with specific surface modification could be a promising natural scaffold for bone tissue engineering with satisfactory porous structure, good cytocompatibility and excellent bioactivities.

Chinese Chemical Letters 31 (2020) 3190



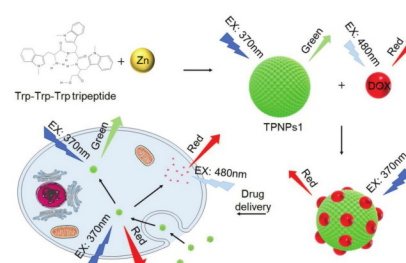
## Self-assembled fluorescent tripeptide nanoparticles for bioimaging and drug delivery applications

Dongjie Fu, Dingchang Liu, Lianbing Zhang, Leming Sun

School of Life Sciences, Key Laboratory of Space Bioscience & Biotechnology, Northwestern Polytechnical University, Xi'an 710072, China

The tripeptide self-assembled fluorescent nanoparticles can be used for bioimaging and drug delivery based on their fluorescence resonance with doxorubicin.

Chinese Chemical Letters 31 (2020) 3195



## Excess capacity on compound phases of $\text{Li}_2\text{FeTiO}_4$ composite cathode materials synthesized by hydrothermal reaction using optional titanium sources to boost battery performance

Liu Yang<sup>a,b,c</sup>, Shaohua Luo<sup>b,c,d</sup>, Yafeng Wang<sup>a,b,c</sup>, Yang Zhan<sup>a,b,c</sup>, Qing Wang<sup>b,c,d</sup>, Yahui Zhang<sup>b,c,d</sup>, Xin Liua,<sup>b,c,d</sup>, Wenning Mu<sup>b,d</sup>, Fei Teng<sup>b,d</sup>

<sup>a</sup> School of Materials Science and Engineering, Northeastern University, Shenyang 110819, China

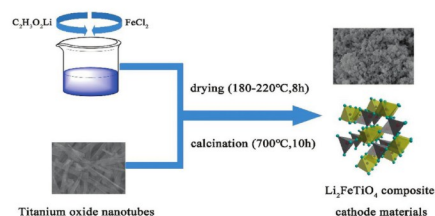
<sup>b</sup> School of Resources and Materials, Northeastern University at Qinhuangdao, Qinhuangdao 066004, China

<sup>c</sup> Key Laboratory of Dielectric and Electrolyte Functional Material Hebei Province, Qinhuangdao 066004, China

<sup>d</sup> Qinhuangdao Laboratory of Resources Cleaner Conversion and Efficient Utilization, Qinhuangdao 066004, China

$\text{Li}_2\text{FeTiO}_4$  composite material has been identified as an active cathode material for a new generation of Li-ion batteries, especially for applications in electric vehicles and hybrid electric vehicles. In this work, the  $\text{Li}_2\text{FeTiO}_4$  composite cathode material was prepared using hydrothermal reaction and then calcined in nitrogen atmosphere at 700 °C, which not only saved time, but also achieved good effect.

Chinese Chemical Letters 31 (2020) 3200



## An unexpected generation of magnetically separable $\text{Se}/\text{Fe}_3\text{O}_4$ for catalytic degradation of polyene contaminants with molecular oxygen

Xingyu Chen<sup>a</sup>, Jingfei Mao<sup>b</sup>, Chuang Liu<sup>c</sup>, Chao Chen<sup>c,d</sup>, Hongen Cao<sup>a</sup>, Lei Yu<sup>b,c</sup>

<sup>a</sup> School of Horticulture and Plant Protection, Yangzhou University, Yangzhou 225009, China

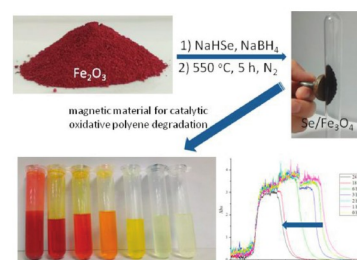
<sup>b</sup> Guangling College, Yangzhou University, Yangzhou 225000, China

<sup>c</sup> School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 225002, China

<sup>d</sup> Department of Applied Chemistry, Faculty of Engineering, Kyushu Institute of Technology, Kitakyushu 804-8550, Japan

Selenization of  $\text{Fe}_2\text{O}_3$  with NaHSe led to  $\text{Se}/\text{Fe}_3\text{O}_4$ . The unexpected generation of  $\text{Fe}_3\text{O}_4$  attributed to the reduction conditions of the reaction, and the resulted magnetic features of the material facilitated its separation in practical applications. Owing to the synergistic effect of Se with Fe, the material was especially active to catalyze the oxidative C=C scission using  $\text{O}_2$  as mild oxidant. The technique has been successfully applied in polyene degradation project, which is of profound practical values for the treatment of the polyene pigment pollution and may be applied in the food and pharmaceutical industry.

Chinese Chemical Letters 31 (2020) 3205



## A facile synthesis of non-aqueous $\text{LiPO}_2\text{F}_2$ solution as the electrolyte additive for high performance lithium ion batteries

Weimin Zhao<sup>a,b</sup>, Fucheng Ren<sup>b</sup>, Qizhang Yan<sup>c</sup>, Haodong Liu<sup>c</sup>, Yong Yang<sup>b</sup>

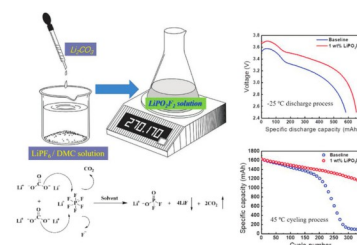
<sup>a</sup> College of Chemical Engineering and Safety, Binzhou University, Binzhou 256503, China

<sup>b</sup> State Key Laboratory for Physical Chemistry of Solid Surfaces, and Department of Chemistry, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

<sup>c</sup> Department of Nanoengineering, University of California San Diego, La Jolla 92093, United States

The  $\text{LiPO}_2\text{F}_2$  solution is prepared using the mixtures of  $\text{Li}_2\text{CO}_3$  and  $\text{LiPF}_6$  in dimethyl carbonate (DMC) via one step reaction. Enhanced cyclic stability of graphite||NMC532 pouch cell by using the prepared  $\text{LiPO}_2\text{F}_2$  additive under all-climate condition.

Chinese Chemical Letters 31 (2020) 3209



## Copper-sulfide cluster assembled architecture via *in situ* reaction

Hailiang Hu<sup>a</sup>, Huan Yang<sup>a</sup>, Xiuyan Yang<sup>a</sup>, Ran Wang<sup>d</sup>, Lan Zhou<sup>a</sup>, Yi Dai<sup>a</sup>, Ningning Ji<sup>b</sup>, Huanjiang Wang<sup>a</sup>, Zhiqiang Shi<sup>b</sup>, Guoyong Zhou<sup>a</sup>, Baokuan Chen<sup>c</sup>, Yingchun Luo<sup>a</sup>, Chaozheng He<sup>d</sup>

<sup>a</sup> College of Chemical Engineering, Guizhou Minzu University, Guiyang 550025, China

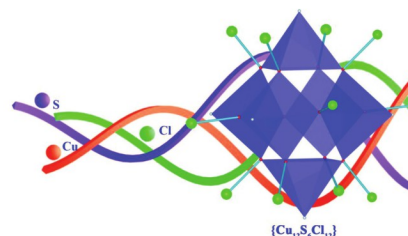
<sup>b</sup> College of Chemistry and Chemical Engineering, Taishan University, Tai'an 271021, China

<sup>c</sup> College of Chemistry, Chemical Engineering and Environmental Engineering, Liaoning Shihua University, Fushun 113001, China

<sup>d</sup> Shaanxi Key Laboratory of Optoelectronic Functional Materials and Devices, School of Materials Science and Chemical Engineering, Xi'an Technological University, Xi'an 710021, China

A new copper-thiolate cluster has been solvothermally synthesized through *in situ* reaction viz., *in situ* ligand generation and metal reduction.

Chinese Chemical Letters 31 (2020) 3213



## The effects of coil–stretch transition behavior of polyfluorene inks on single droplet formation during inkjet printing

Zhonghui Du<sup>a,b</sup>, Hang Zhou<sup>a</sup>, Weiran Cao<sup>b</sup>, Xinhong Yu<sup>c</sup>, Yanchun Han<sup>c</sup>

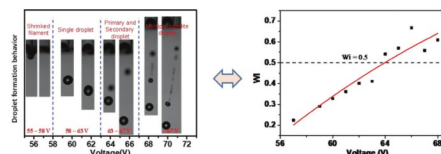
<sup>a</sup> Shenzhen Key Lab of Thin Film Transistor and Advanced Display, Peking University Shenzhen Graduate School, Peking University, Shenzhen 518055, China

<sup>b</sup> Shenzhen China Star Optoelectronic Semiconductor Display Technology Co., Ltd., Shenzhen 518132, China

<sup>c</sup> State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

The droplet formation behaviors of polyfluorene (PFO) ink at various driving voltages,  $Wi$  number, polymer chain's coil–stretch transition mechanisms and its effects on single ink droplet formation were investigated in this paper.

Chinese Chemical Letters 31 (2020) 3216



## Supramolecular control over LCST behavior of hybrid macrocyclic system based on pillar[5]arene and crown ether

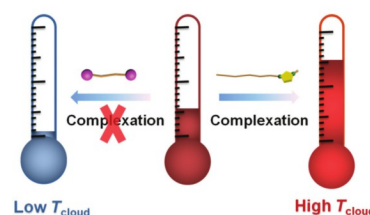
Yan Deng<sup>a</sup>, Xing Li<sup>a</sup>, Chengyou Han<sup>b</sup>, Shengyi Dong<sup>a</sup>

<sup>a</sup> College of Chemistry and Chemical Engineering, Hunan University, Changsha 410082, China

<sup>b</sup> Department of Chemistry, College of Science, China University of Petroleum (East China), Qingdao 266580, China

A hybrid macrocycle system based on pillar[5]arene and crown ether was designed and prepared. The LCST behavior of this hybrid system can be controlled by the host–guest interactions.

Chinese Chemical Letters 31 (2020) 3221



## Pillar[5]arene based conjugated macrocycle polymers with unique photocatalytic selectivity

Hui Qiang<sup>a,b</sup>, Tao Chen<sup>b,c</sup>, Zhuo Wang<sup>d</sup>, Wenqian Li<sup>b,c</sup>, Yunzhe Guo<sup>b,c</sup>, Jie Yang<sup>d</sup>, Xueshun Jia<sup>a</sup>, Hui Yang<sup>b</sup>, Weibo Hu<sup>b</sup>, Ke Wen<sup>b,d</sup>

<sup>a</sup> College of Science, Shanghai University, Shanghai 200444, China

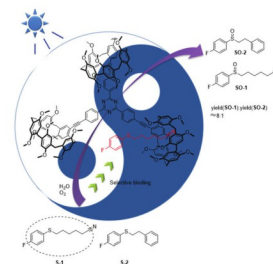
<sup>b</sup> Shanghai Advanced Research Institute, Chinese Academy of Sciences, Shanghai 201210, China

<sup>c</sup> University of Chinese Academy of Sciences, Beijing 100049, China

<sup>d</sup> School of Physical Science and Technology, ShanghaiTech University, Shanghai 201210, China

Enhanced catalytic photo-oxidation efficiency of the pillar[5]arene-contained conjugated organic polymers (**CMP-1** and **CMP-2**) toward their guest-like substrate **S-1** was demonstrated and a 'host-guest' interaction related mechanism was proposed. The conversion yield of **S-1** achieved near 18 folds over the non-guest-like substrate **S-2** in the case that **CMP-2** was used as a photocatalyst.

Chinese Chemical Letters 31 (2020) 3225



## Carbon-carbon double bond in pillar[5]arene cavity: Selective binding of cis/trans-olefin isomers

Xue Zhang<sup>a</sup>, Xiaoyang Wang<sup>b</sup>, Bin Wang<sup>a</sup>, Zhi-Jun Ding<sup>c</sup>, Chunju Li<sup>a,b</sup>

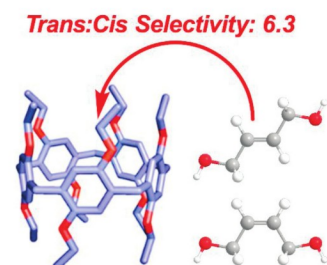
<sup>a</sup> Key Laboratory of Inorganic–Organic Hybrid Functional Material Chemistry, Ministry of Education, Tianjin Key Laboratory of Structure and Performance for Functional Molecules, College of Chemistry, Tianjin Normal University, Tianjin 300387, China

<sup>b</sup> Center for Supramolecular Chemistry and Catalysis and Department of Chemistry, Shanghai University, Shanghai 200444, China

<sup>c</sup> State Key Laboratory of NBC Protection for Civilian, Beijing 102205, China

Pillar[5]arenes showed interesting binding selectivity for the *trans*-olefin isomers over their *cis*-isomers in solution.

Chinese Chemical Letters 31 (2020) 3230



## H<sub>3</sub>PMo<sub>12</sub>O<sub>40</sub>-catalyzed coupling of diarylmethanols with epoxides/diols/aldehydes toward polyaryl-substituted aldehydes

Guoping Yang<sup>a,b</sup>, Yufeng Liu<sup>b</sup>, Ke Li<sup>b</sup>, Wei Liu<sup>b</sup>, Bing Yu<sup>c</sup>, Changwen Hu<sup>a</sup>

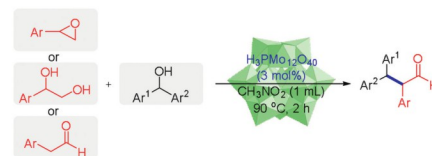
<sup>a</sup> Key Laboratory of Cluster Science of Ministry of Education, Beijing Key Laboratory of Photoelectronic/Electrophotonic, School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing 100081, China

<sup>b</sup> Jiangxi Key Laboratory for Mass Spectrometry and Instrumentation, East China University of Technology, Nanchang 330013, China

<sup>c</sup> Green Catalysis Center, College of Chemistry, Zhengzhou University, Zhengzhou 450001, China

A versatile heteropoly acid (H<sub>3</sub>PMo<sub>12</sub>O<sub>40</sub>)-catalyzed coupling of diarylmethanols with epoxides was established for the synthesis of polyaryl-substituted aldehydes. Furthermore, the catalytic system was also suitable for the reaction of diarylmethanols and diols/aldehydes. The application of such an earth-abundant, readily accessible, and nontoxic catalyst provides a green approach for the construction of polyaryl-substituted aldehydes.

Chinese Chemical Letters 31 (2020) 3233



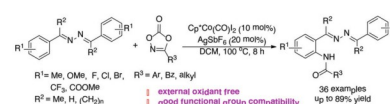
## Cp\*Co(III)-catalyzed C—H amidation of azines with dioxazolones

Yanzhen Huang, Chao Pi, Zhen Tang, Yangjie Wu, Xiuling Cui

Henan Key Laboratory of Chemical Biology and Organic Chemistry, Key Laboratory of Applied Chemistry of Henan Universities, College of Chemistry, Green Catalysis Center, Zhengzhou University, Zhengzhou 450052, China

Cp\*Co(III)-catalyzed direct C—H amidation of azines has been developed. This conversion could proceed smoothly in the absence of external oxidants, acids or bases, with excellent regioselectivity and broad functional group tolerance. CO<sub>2</sub> was released as the sole byproduct, thus providing an environmentally benign amidation process. The products obtained are important intermediates in organic synthesis.

Chinese Chemical Letters 31 (2020) 3237



## Ultrasound-assisted tandem synthesis of tri- and tetra-substituted pyrrole-2-carbonitriles from alkenes, TMSCN and N,N-disubstituted formamides

Qing-Wen Gui<sup>a</sup>, Fan Teng<sup>a</sup>, Sheng-Neng Ying<sup>a</sup>, Yang Liu<sup>a</sup>, Tao Guo<sup>a</sup>, Jian-Xin Tang<sup>b</sup>, Jin-Yang Chen<sup>c</sup>, Zhong Cao<sup>c</sup>, Wei-Min He<sup>c</sup>

<sup>a</sup> College of Chemistry and Materials Science, Hunan Agricultural University, Changsha 410128, China

<sup>b</sup> School of Life Sciences and Chemistry, Hunan University of Technology, Zhuzhou 412007, China

<sup>c</sup> Hunan Provincial Key Laboratory of Materials Protection for Electric Power and Transportation, Changsha University of Science and Technology, Changsha 410114, China

An eco-friendly, energy-saving and simple protocol for the preparation of various tri- and tetra-substituted pyrrolocarbonitriles from readily available alkenes, TMSCN and N,N-disubstituted formamides through ultrasound-assisted tandem reaction within 40 min under metal-, solvent-free and mild conditions was developed.

Chinese Chemical Letters 31 (2020) 3241



Dual Roles of I<sub>2</sub>: Catalyst and Oxidant  
Metal- and Solvent-Free and Mild Conditions  
Tri-substituted Pyrrolocarbonitriles, 29 examples  
Fully substituted Pyrrolocarbonitriles, 5 examples

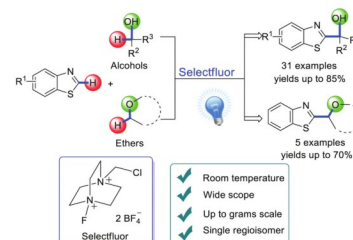
## Visible light-induced hydroxyalkylation of 2H-benzothiazoles with alcohols via selectfluor oxidation

Yaolei Kong, Wenxiu Xu, Xinghai Liu, Jianquan Weng

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

A visible-light induced hydroxyalkylation reaction of 2H-benzothiazoles with alcohols or ethers using selectfluor as oxidant has been developed. Various substrates could afford hydroxyalkylated 2H-benzothiazoles in moderate to good yields.

Chinese Chemical Letters 31 (2020) 3245



## Phosphine-phosphonium ylides as ligands in palladium-catalysed C<sub>2</sub>-H arylation of benzoxazoles

Zhenyu Yao<sup>a</sup>, Xing Lin<sup>a</sup>, Remi Chauvin<sup>a,b</sup>, Lianhui Wang<sup>a</sup>, Emmanuel Gras<sup>b</sup>, Xiuling Cui<sup>a</sup>

<sup>a</sup> Engineering Research Centre of Molecular Medicine of Ministry of Education, Key Laboratory of Fujian Molecular Medicine, Key Laboratory of Precision Medicine and Molecular Diagnosis of Fujian Universities, Key Laboratory of Xiamen Marine and Gene Drugs, School of Biomedical Sciences, Huaqiao University, Xiamen 361021, China

<sup>b</sup> Laboratory of Coordination Chemistry (LCC), CNRS & Universite' de Toulouse (UPS, INP), Toulouse 31077 Cedex 4, France

As balanced electron-rich P,C-chelating ligands, phosphine-phosphonium-ylides are considered for their ability to promote palladium-catalyzed direct sp<sup>2</sup>-C—H arylation. This first example of using phosphonium ylides as ligands in catalytic C—H activation extends the prospect of their general implementation in homogeneous transition metal catalysis.

Chinese Chemical Letters 31 (2020) 3250



## Visible-light induced cascade radical cyclization of sulfinic acids and *o*-(allyloxy)arylaldehydes towards functionalized chroman-4-ones

Guang-Hui Li<sup>a</sup>, Qing-Qing Han<sup>a</sup>, Yuan-Yuan Sun<sup>a</sup>, De-Mao Chen<sup>a</sup>, Zu-Li Wang<sup>a</sup>, Xin-Ming Xu<sup>b</sup>, Xian-Yong Yu<sup>c</sup>

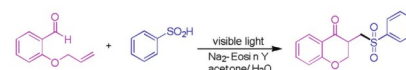
<sup>a</sup> College of Chemistry and Pharmaceutical Sciences, Qingdao Agricultural University, Qingdao 266109, China

<sup>b</sup> College of Chemistry and Chemical Engineering, Yantai University, Yantai 264005, China

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An efficient method for the synthesis of functionalized chroman-4-ones induced by visible light via the radical cyclization reaction of sulfinic acids and *o*-(allyloxy) arylaldehydes at room temperature was described. The corresponding products were isolated with moderate to good yields. Radical mechanism was proposed for this transformation. Anti-microbial activity of some desired compounds were screened.

Chinese Chemical Letters 31 (2020) 3255



## Asymmetric Michael addition reactions catalyzed by a novel upper-rim functionalized calix[4]squaramide organocatalyst

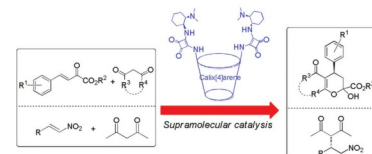
Ke Yang<sup>a</sup>, Zhiyan Ma<sup>a</sup>, Hong-Xiao Tong<sup>a</sup>, Xiao-Qiang Sun<sup>a</sup>, Xiao-Yu Hu<sup>a,b</sup>, Zheng-Yi Li<sup>a</sup>

<sup>a</sup> Jiangsu Key Laboratory of Advanced Catalytic Materials & Technology, School of Petrochemical Engineering, Changzhou University, Changzhou 213164, China

<sup>b</sup> College of Material Science and Technology, Nanjing University of Aeronautics and Astronautics, Nanjing 211100, China

A novel upper-rim functionalized calix[4]squaramide organocatalyst bearing bis-squaramide and cyclohexanediamine scaffolds was designed and prepared to catalyze a series of asymmetric Michael addition of 1,3-dicarbonyl compounds to  $\alpha,\beta$ -unsaturated carbonyl compounds.

Chinese Chemical Letters 31 (2020) 3259



## Palladium-catalyzed oxidative homocoupling of 2-arylquinazolinones

Yadong Feng<sup>a,b</sup>, Zhengping Wu<sup>a</sup>, Ting Chen<sup>a</sup>, Qi Fu<sup>a</sup>, Qihua You<sup>a</sup>, Jinhai Shen<sup>a</sup>, Xiuling Cui<sup>b</sup>

<sup>a</sup> College of Environment and Public Health, Xiamen Huaxia University, Xiamen 361024, China

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Pd-catalyzed oxidative homocoupling of 2-arylquinazolinones was successfully developed for the direct construction of biaryls via C—H bond activation. New well-defined structure that possessed two quinazolinone units was obtained with high efficiency and atomic economy. The protocols offer an efficient approach to synthetically useful and functionalized biaryls in good yields using quinazolinone as a directing group.

Chinese Chemical Letters 31 (2020) 3263



## Alcohols controlled selective radical cyclization of 1,6-dienes under mild conditions

Fu-Hua Qin<sup>a</sup>, Xun-Jie Huang<sup>a</sup>, Yi Liu<sup>a</sup>, Hongze Liang<sup>a</sup>, Qiang Li<sup>b</sup>, Zhong Cao<sup>c</sup>, Wen-Ting Wei<sup>a</sup>, Wei-Min He<sup>c</sup>

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<sup>c</sup> Hunan Provincial Key Laboratory of Materials Protection for Electric Power and Transportation, Changsha University of Science and Technology, Changsha 410114, China

An efficient procedure for the selective preparation of hydroxy-, carbonyl- and acetalcontaining 2-pyrrolidinones has been developed through radical cyclization of 1,6-dienes under catalyst-free conditions by employing commercially available *tert*-butyl peroxybenzoate (TBPB) as the oxidant.

Chinese Chemical Letters 31 (2020) 3267



## A simple strategy for constructing acylhydrazone photochromic system with visible color/emission change and its application in photo-patterning

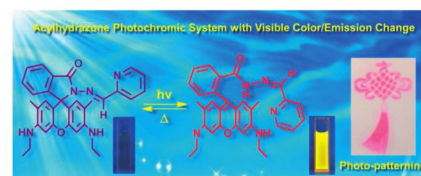
Yuanyuan Liu<sup>a</sup>, Qjuchen Peng<sup>a,b</sup>, Yuanyuan Li<sup>b</sup>, Hongwei Hou<sup>a</sup>, Kai Li<sup>a</sup>

<sup>a</sup> Green Catalysis Center, College of Chemistry, Zhengzhou University, Zhengzhou 450001, China

<sup>b</sup> School of Chemistry and Chemical Engineering, Henan University of Technology, Zhengzhou 450001, China

A simple strategy is provided for constructing reversible acylhydrazone photochromic system. By introducing Rhodamine 6G moiety, the new molecule not only remains all the advantages of acylhydrazone photochromic system but also exhibits visible photo-induced color/emission changes both in solution and in a solid matrix, which makes it an excellent candidate for photo-patterning.

Chinese Chemical Letters 31 (2020) 3271



## Inhibition of mycotoxin deoxynivalenol generation by using selenized glucose

Xueyun Mao<sup>a</sup>, Peizi Li<sup>b</sup>, Tao Li<sup>a</sup>, Minmeng Zhao<sup>c</sup>, Chao Chen<sup>b,d</sup>, Jian Liu<sup>e</sup>, Zhiqiang Wang<sup>f</sup>, Lei Yu<sup>b</sup>

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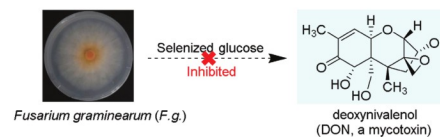
<sup>d</sup> Department of Applied Chemistry, Faculty of Engineering, Kyushu Institute of Technology, Kitakyushu 804-8550, Japan

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<sup>f</sup> College of Veterinary Medicine, Yangzhou University, Yangzhou 225009, China

Selenized glucose can be easily prepared via the selenization reaction of glucose using *in situ* generated NaHSe as the selenization reagent. The technique has been industrialized to produce the chemical in kilogram scale, making it an easily available material in laboratory presently. The selenized glucose may be widely used as the starting material for the preparation of selenium-containing catalysts, as the organoselenium additive for feeds, and as the efficient selenium-enriched foliar fertilizers. In this work, we found that the treating *Fusarium graminearum*, a fungal pathogen inciting wheat scab disease, with selenium glucose could significantly inhibit the generation of the deoxynivalenol (DON) toxin, which might be a breakthrough for reducing the detriment of wheat scab disease.

Chinese Chemical Letters 31 (2020) 3276



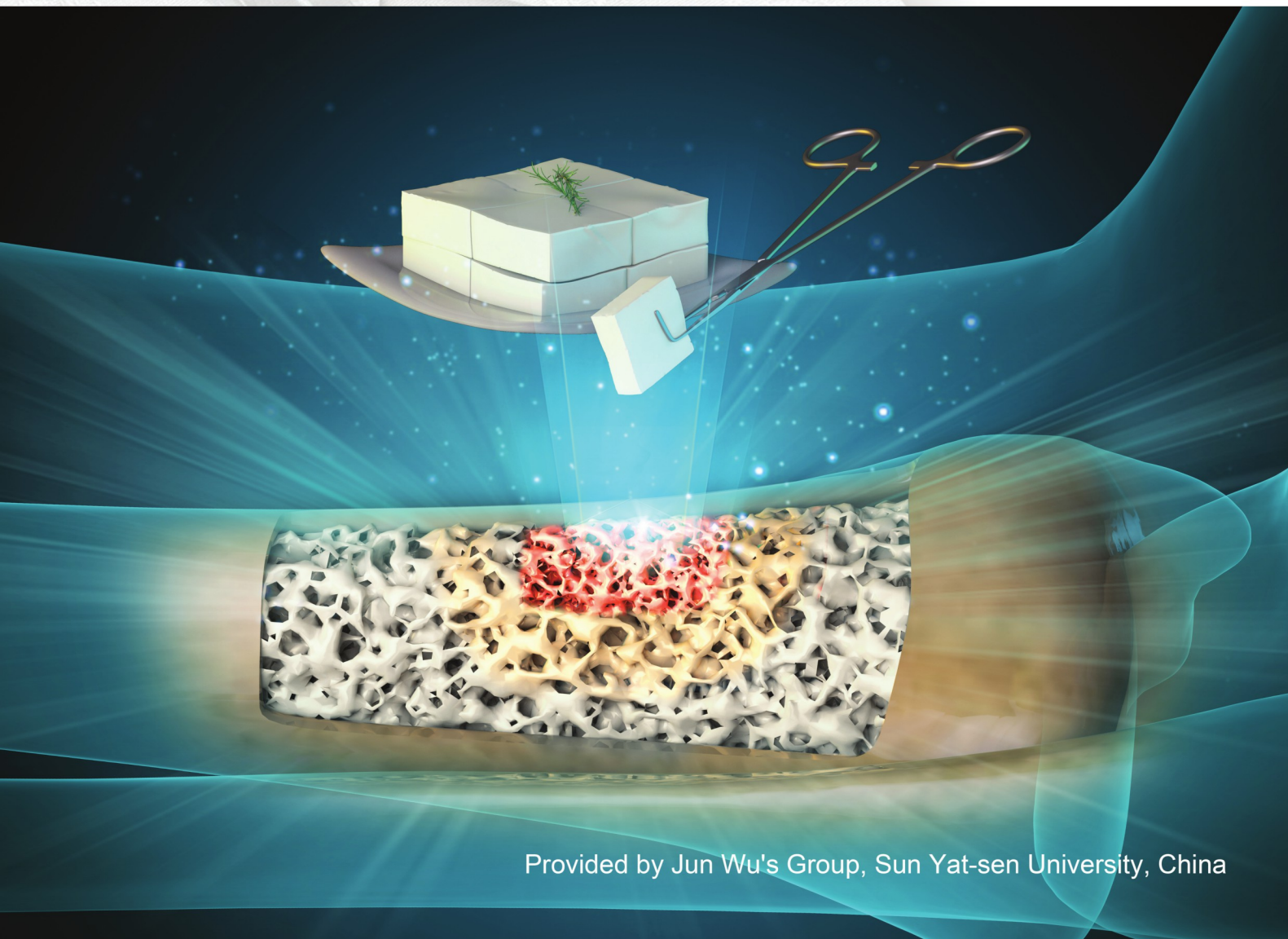
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