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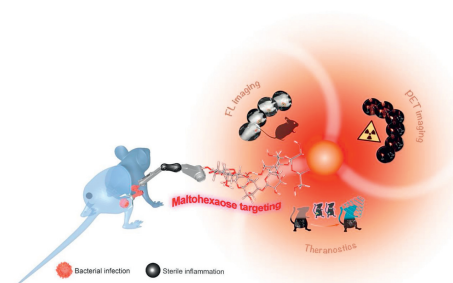
Graphical Abstracts/Chin Chem Lett 31 (2020) iii–xviii

Highlight

Maltohexaose-based probes for bacteria-specific imaging: Great sensitivity, specificity and translational potentialYi Cheng^a, Dengfeng Li^a, Xin Pang^{a,b}, Gang Liu^a^a State Key Laboratory of Molecular Vaccinology and Molecular Diagnostics & Center for Molecular Imaging and Translational Medicine, School of Public Health, Xiamen University, Xiamen 361102, China^b Department of Magnetic Resonance Imaging, The First Affiliated Hospital of Zhengzhou University, Zhengzhou 450052, China

Maltohexaose offers high sensitivity and specificity for accurate bacteria targeting, providing desirable drug delivery platform for imaging probe and theranostic agents against drug-resistant bacterial infection.

Chinese Chemical Letters 31 (2020) 1049

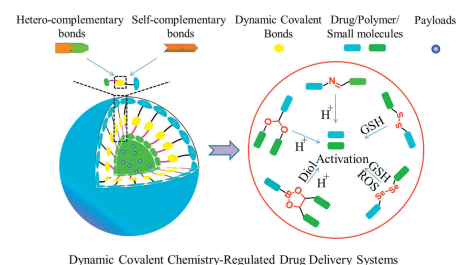


Reviews

Dynamic covalent chemistry-regulated stimuli-activatable drug delivery systems for improved cancer therapyQiwen Zhu^a, Madiha Saeed^a, Rundi Song^a, Tao Sun^b, Chen Jiang^b, Haijun Yu^{a,c}^a State Key Laboratory of Drug Research & Center of Pharmaceutics, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 201203, China^b Key Laboratory of Smart Drug Delivery (Ministry of Education), State Key Laboratory of Medical Neurobiology, Department of Pharmaceutics, School of Pharmacy, Fudan University, Shanghai 201203, China^c University of Chinese Academy of Sciences, Beijing 100049, China

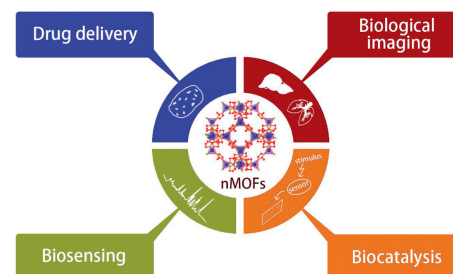
This review summarizes the recent advances in the tumor-targeted drug delivery systems utilizing the dynamic covalent chemistry, and provides a perspective for clinical translation of dynamic covalent chemistry-based drug delivery systems.

Chinese Chemical Letters 31 (2020) 1051

**Metal-organic framework-based nanomaterials for biomedical applications**Shu Zhang^{a,b}, Xibo Pei^{a,b}, Huile Gao^c, Song Chen^{a,b}, Jian Wang^{a,b}^a State Key Laboratory of Oral Diseases, National Clinical Research Center for Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu 610041, China^b West China School of Stomatology, Sichuan University, Chengdu 610041, China^c Key Laboratory of Drug Targeting and Drug Delivery Systems, West China School of Pharmacy, Sichuan University, Chengdu 610041, China

This review highlights the up-to-date progress of nanoscale metal-organic frameworks (nMOFs) related to their biological applications and discusses the challenges and perspectives of nMOFs.

Chinese Chemical Letters 31 (2020) 1060



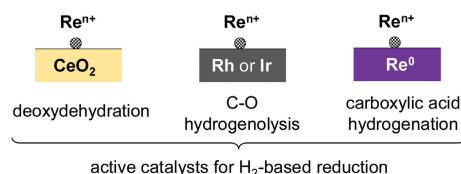
Taming heterogeneous rhenium catalysis for the production of biomass-derived chemicals

Keiichi Tomishige, Yoshinao Nakagawa, Masazumi Tamura

Department of Applied Chemistry, School of Engineering, Tohoku University, Miyagi 980-857, Japan

Heterogeneous rhenium catalysts have been used for a variety of catalytic reactions such as deoxydehydration, C-O hydrogenolysis, carboxylic acid hydrogenation and so on. Supports and modifiers play important roles in the control of the oxidation state of Re species.

Chinese Chemical Letters 31 (2020) 1071



Energy saving and environment-friendly element-transfer reactions with industrial application potential

Chao Chen^{a,c}, Yitao Cao^b, Xixi Wu^b, Yuanli Cai^b, Jian Liu^b, Lin Xu^d, Kehong Ding^d, Lei Yu^{a,b,d}

^a School of Chemistry and Chemical Engineering, Yangzhou University, Yangzhou 225002, China

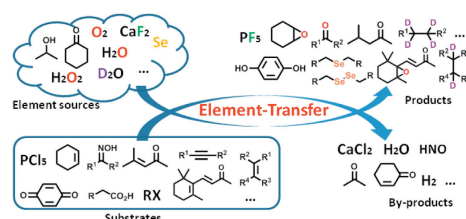
^b Tianzhu Hongfu Lithium Industry Technology Development Company Limited, Wuwei 733200, China

^c Department of Applied Chemistry, Faculty of Engineering, Kyushu Institute of Technology, Kitakyushu 804-8550, Japan

^d Jiangsu Yangnong Chemical Group Company Limited, Yangzhou 225009, China

Herein we wish to propose the concept of "element-transfer reaction", which may afford the access to elemental compounds by transferring certain elements from easily available resources efficiently, concisely and precisely. This review summarizes our staged research results on fluorine-, oxygen-, hydrogen- and selenium-transfer reactions and makes a prospect on the developing trend in the field.

Chinese Chemical Letters 31 (2020) 1078



Communications

Au nanoparticles based ultra-fast "Turn-On" fluorescent sensor for detection of biothiols and its application in living cell imaging

Hailiang Zhang^{a,b}, Pengfei Xu^{a,b}, Xintong Zhang^{a,c}, Xiaozheng Cao^a, Wenxiu Han^{a,b}, Meihui Liu^a, Xiaohui Liu^a, Wenbin Zeng^a

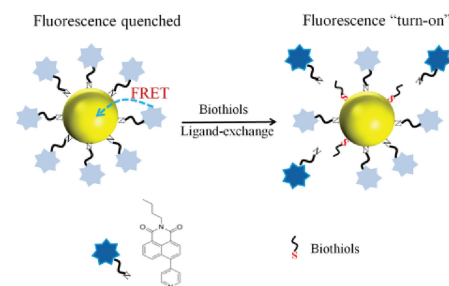
^a Xiangya School of Pharmaceutical Sciences, Central South University, Changsha 410006, China

^b Institute of Clinical Pharmacy and Pharmacology, Jining First People's Hospital, Jining Medical University, Jining 272000, China

^c Yidu Central Hospital of Weifang, Weifang 261000, China

An ultra-fast "Turn-On" fluorescent sensor was constructed for detection of biothiols based on the fluorescent resonance energy transfer (FRET) effect between the fluorophore (PN) and AuNPs, which effectively quenches the fluorescence of the fluorophore.

Chinese Chemical Letters 31 (2020) 1083



A bifunctional rhodamine derivative as chemosensor for recognizing Cu²⁺ and Hg²⁺ ions via different spectra

Kaijie Wang^a, Qing Kong^a, Xiaoqiang Chen^a, Juyoung Yoon^b, K.M.K. Swamy^{b,c}, Fang Wang^a

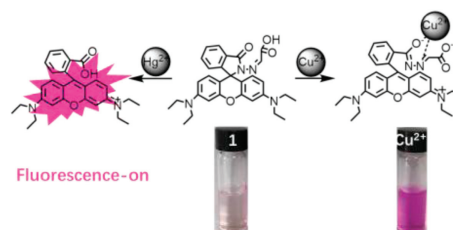
^a State Key Laboratory of Materials-Oriented Chemical Engineering, College of Chemical Engineering, Jiangsu National Synergetic Innovation Center for Advanced Materials (SICAM), Nanjing Tech University, Nanjing 211816, China

^b Department of Chemistry and Nano Science, Ewha Womans University, Seoul 120-750, Republic of Korea

^c Department of Pharmaceutical Chemistry, V.L. College of Pharmacy, Raichur 584103, India

We uncomplicatedly synthesized sensor **1** based on rhodamine derivative to recognize Cu²⁺ and Hg²⁺ via different spectra. Sensor **1** exhibits highly selective recognition of Cu²⁺ and Hg²⁺ by color change from colorless to pink and change of fluorescence, respectively.

Chinese Chemical Letters 31 (2020) 1087



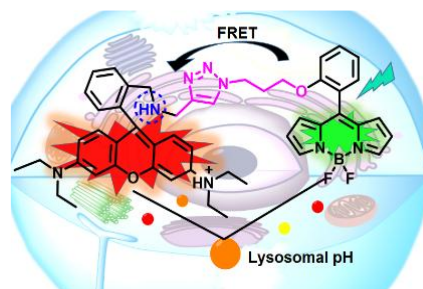
Ratiometric sensing lysosomal pH in inflammatory macrophages by a BODIPY-rhodamine dyad with restrained FRET

Yu Yan, Xiaodong Zhang, Xinfu Zhang, Ning Li, Huizi Man, Lingcheng Chen, Yi Xiao

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

A ratiometric pH probe, BDP-RhB, based on BODIPY-rhodamine dyad was designed to detect lysosomal pH. By applying BDP-RhB, we visualized a decrease of lysosomal pH of macrophages during inflammation.

Chinese Chemical Letters 31 (2020) 1091



Highly specific quantification of mRNA mutation in single cells based on RNase H cleavage-assisted reverse transcription (RT)-PCR

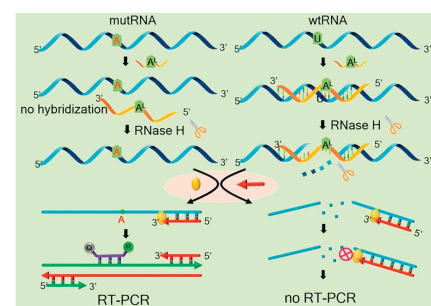
Dandan Yang^a, Yuanyuan Sun^b, Fu Chang^a, Hui Tian^a, Chenghui Liu^a, Zhengping Li^a

^a Key Laboratory of Applied Surface and Colloid Chemistry, Ministry of Education, Key Laboratory of Analytical Chemistry for Life Science of Shaanxi Province, School of Chemistry and Chemical Engineering, Shaanxi Normal University, Xi'an 710062, China

^b The First Affiliated Hospital of Zhengzhou University, Zhengzhou 450052, China

An RNase H cleavage-assisted RT-PCR strategy was developed for ultra-selective detection of site-specific mRNA mutation at the single-cell level.

Chinese Chemical Letters 31 (2020) 1095



Functional poly(carboxybetaine methacrylate) coated paper sensor for high efficient and multiple detection of nutrients in fruit

Jiajie Li^a, Tianjun Ni^b, Haiquan Liu^a, Long Wu^c, Yingjie Pan^a, Yong Zhao^a, Yongheng Zhu^a

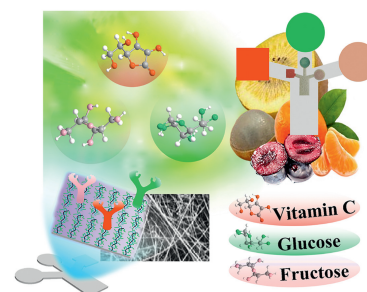
^a College of Food Science and Technology, Laboratory of Quality & Safety Risk Assessment for Aquatic Products on Storage and Preservation (Shanghai), Ministry of Agriculture and Shanghai Engineering Research Center of Aquatic-Product Processing & Preservation Shanghai Ocean University, Shanghai 201306,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

^b School of Basic Medicine, Xinxiang Medical University, Xinxiang 453003, China

^c College of Bioengineering and Food, Hubei University of Technology, Wuhan 430068, China

The pCBMA-functionalized paper-based microfluidic device can rapidly and simultaneously detect the vitamin C, glucose, sucrose and fructose in complex fruit samples. The enhanced sensing properties are attributed to the unique super-hydrophilic and ultra-low fouling properties of the pCBMA.

Chinese Chemical Letters 31 (2020) 1099



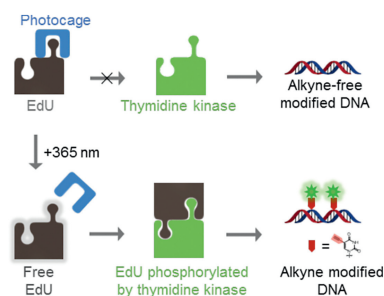
Systematic investigation of bioorthogonal cellular DNA metabolic labeling in a photo-controlled manner

Shaokang Jia, Shixi Yang, Huimin Ji, Shuang Peng, Kun Chen, Zhiyong He, Xiang Zhou

College of Chemistry and Molecular Sciences, Key Laboratory of Biomedical Polymers of Ministry of Education, Wuhan University, Wuhan 430072, China

Two 5-ethynyl-2'-deoxyuridine (EdU) derivatives photocaged on N-3 or 3' position were synthesized by simple and effective methods, through direct UV irradiation on cells treated with them, cellular DNA metabolic labeling was successfully controlled. The systematic investigation of optical-cleavage position and type in living systems contributes to form a more integrated repertoire of bioorthogonal cleavage reaction.

Chinese Chemical Letters 31 (2020) 1104



Enhanced peroxidase-like activity of hierarchical MoS₂-decorated N-doped carbon nanotubes with synergetic effect for colorimetric detection of H₂O₂ and ascorbic acid

Jing Zheng^a, Dandan Song^a, Hong Chen^b, Jingli Xu^a, Njud S. Alharbi^c, Tasawar Hayat^d, Min Zhang^a

^a College of Chemistry and Chemical Engineering, Shanghai University of Engineering Science, Shanghai 201620, China

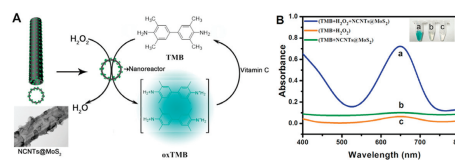
^b Shanghai Key laboratory of Crime Scene Evidence, Shanghai Research Institute of Criminal Science and Technology, Shanghai 200083, China

^c Biotechnology Research Group, Department of Biological Sciences, Faculty of Science, King Abdulaziz University, Jeddah 21589, Saudi Arabia

^d Department of Mathematics, Quaid-I-Azam University, Islamabad 44000, Pakistan

Herein, MoS₂ decorated N-doped carbon nanotubes (NCNTs@MoS₂) hybrid composites have been fabricated, which was employed to construct a sensing system based on intrinsic peroxidase-like activity to detect H₂O₂ and AA.

Chinese Chemical Letters 31 (2020) 1109



A WO₃-CuWO₄ nanostructured heterojunction for enhanced n-butanol sensing performance

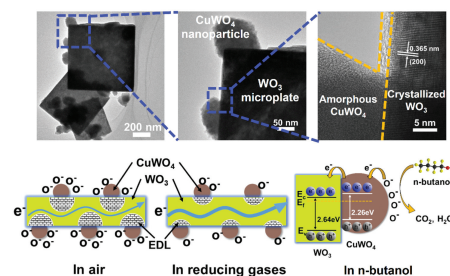
Fanpeng Duanmu^a, Zhurui Shen^a, Qian Liu^a, Shuhui Zhong^b, Huiming Ji^a

^a Key Laboratory of Advanced Ceramics and Machining Technology (Ministry of Education), School of Materials Science and Engineering, Tianjin University, Tianjin 300350, China

^b School of Mathematics, Tianjin University, Tianjin 300350, China

The WO₃-CuWO₄ nanostructured heterojunction is obtained by a facile hydrothermal route. The gas sensor based on WO₃-CuWO₄ shows enhanced sensing performance for n-butanol, like lower operating temperature, higher response value and shorter response time.

Chinese Chemical Letters 31 (2020) 1114



Controllable synthesis of highly crystallized mesoporous TiO₂/WO₃ heterojunctions for acetone gas sensing

Changyao Wang^a, Yuhui Li^a, Pengpeng Qiu^a, Linlin Duan^a, Wei Bi^c, Yan Chen^a, Dingyi Guo^a, Yupu Liu^a, Wei Luo^b, Yonghui Deng^a

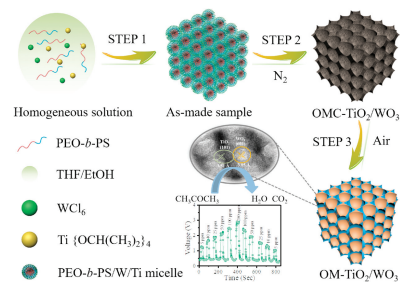
^a Laboratory of Advanced Materials, Department of Chemistry, Shanghai Key Lab of Molecular Catalysis and Innovative Materials, iChEM and State Key Laboratory of Molecular Engineering of Polymers, Fudan University, Shanghai 200433, China

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

^c Department of Stomatology, Zhongshan Hospital, Fudan University, Shanghai 200032, China

Highly crystallized mesoporous TiO₂/WO₃ heterojunctions was synthesized via a novel "acid-base pair" strategy for acetone gas sensing.

Chinese Chemical Letters 31 (2020) 1119



The optimization of hydrothermal process of MoS₂ nanosheets and their good microwave absorption performances

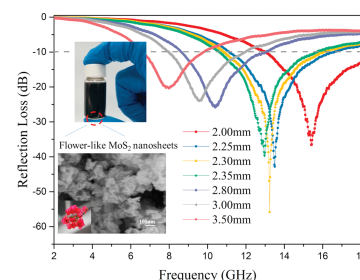
Xiaoyu Lin^a, Jing Wang^a, Zengyong Chu^a, Dongqing Liu^b, Taotao Guo^a, Lingni Yang^a, Zhenyu Huang^a, Sitong Mu^a, Shun Li^b

^a College of Liberal Arts and Sciences, National University of Defense Technology, Changsha 410073, China

^b College of Aeronautics and Astronautics, National University of Defense Technology, Changsha 410073, China

Flower-like MoS₂ constructed by nanosheets was synthesized by an optimized hydrothermal method, which had a better microwave absorption performance.

Chinese Chemical Letters 31 (2020) 1124



Synthesis of polypeptide bearing 1,4-dithiane pendants for ROS-responsive drug release

Tianhui Zhang^{a,b}, Jiuxu Yao^c, Jiamei Tian^c, Mingxiao Deng^c, Xiuli Zhuang^{a,b,e}, Chunsheng Xiao^{a,d,e}

^a Key Laboratory of Polymer Ecomaterials, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

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

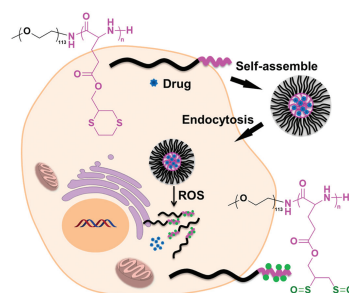
^c Department of Chemistry, Northeast Normal University, Changchun 130021, China

^d State Key Laboratory of Molecular Engineering of Polymers, Fudan University, Shanghai 200433, China

^e Jilin Biomedical Polymers Engineering Laboratory, Changchun 130022, China

A new kind of polypeptide bearing 1,4-dithiane pendants was synthesized and used for reactive oxygen species (ROS)-responsive drug release.

Chinese Chemical Letters 31 (2020) 1129



Ag@Au core/shell triangular nanoplates with dual enzyme-like properties for the colorimetric sensing of glucose

Ao Liu^a, Mengmeng Li^a, Jingxiang Wang^b, Fan Feng^a, Yu Zhang^a, Zhiwei Qiu^a, Yuzhu Chen^a, Benjamin Edem Meteku^a, Congying Wen^a, Zifeng Yan^c, Jingbin Zeng^{a,d}

^a College of Science, China University of Petroleum (East China), Qingdao 266580, China

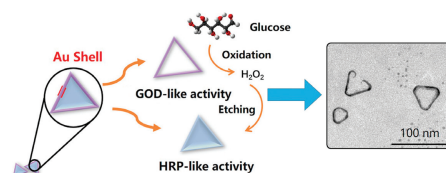
^b Integrated Traditional Chinese and Western Medicine Hospital of Shandong, Qingdao 266002, China

^c State Key Laboratory of Heavy Oil Processing, China University of Petroleum (East China), Qingdao 266580, China

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

In this work, we deposit a thin layer of Au shells on the Ag triangular nanoplates (TNPs) by epitaxial growth method to construct the Ag@Au core/shell TNPs, offering a simple and efficient method for the colorimetric detection of glucose in human urine without the need of enzymes and organic chromophores.

Chinese Chemical Letters 31 (2020) 1133



Step-growth polymerization of traptavidin-DNA conjugates for plasmonic nanostructures

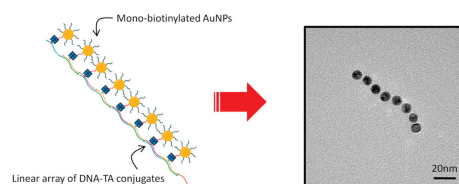
Young-Youb Kim^a, Yongbin Bang^a, Dayoung Lee^a, Mingyu Kang^a, Yoon-Kyu Song^{a,b}

^a Graduate School of Convergence Science and Technology, Seoul National University, Seoul 08826, Republic of Korea

^b Advanced Institutes of Convergence Technology, Gyeonggi-do 16229, Republic of Korea

DNA-modified AuNPs are assembled to form a linear plasmonic nanostructure with predetermined interparticle separations, using a linear array of DNA-traptavidin conjugates via DNA-directed step-growth polymerization.

Chinese Chemical Letters 31 (2020) 1137



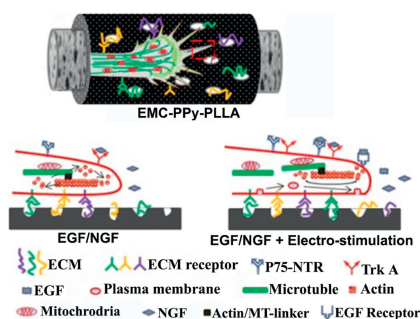
Fabrication of extracellular matrix-coated conductive polypyrrole-poly(L-lactide) fiber-films and their synergistic effect with (nerve growth factor)/(epidermal growth factor) on neurites growth

Ximing Pu, Xingxing Zhou, Zhongbing Huang, Guangfu Yin, Xianchun Chen

College of Materials Science and Engineering, Sichuan University, Chengdu 610065, China

Aligned porous ECM-linked PPy-PLLA fibers-films were fabricated via oxidation polymerization of pyrrole and L929 cell culture/lysing, and synergistic effect of NGF, EGF, extracellular matrix and electro-stimuli on the outgrowth & orientation of axons was investigated.

Chinese Chemical Letters 31 (2020) 1141



Semi-elastic core-shell nanoparticles enhanced the oral bioavailability of peptide drugs

Shengnan Zhao^{a,c}, Jinhua Li^{a,b}, Fazhan Wang^{a,b}, Ting Yu^{a,b}, Yang Zhou^a, Lili He^c, Yi Zhang^b, Jian Yang^a

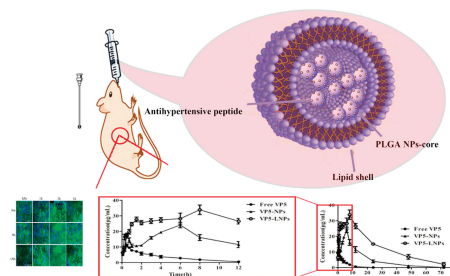
^a School of Applied Chemistry and Biological Technology, Shenzhen Polytechnic, Shenzhen 518055, China

^b Department of Pancreatic Surgery, West China Hospital, Sichuan University, Chengdu 610041, China

^c College of Pharmacy, Southwest Minzu University, Chengdu 610041, China

We pioneered the semi-elastic core-shell nanoparticles as the carriers of the oral peptide drug and investigate the potential of enhancing the oral bioavailability of peptide drugs. These results *in vitro* cellular uptake and *in vivo* pharmacokinetic experiments demonstrated that the semi-elastic core-shell poly(lactic-co-glycolic acid) (PLGA)-lipid nanoparticles (LNPs) would be an excellent oral peptide delivery system for enhancing oral peptide bioavailability and worthy of further investigation as a promising candidate for oral disease treatment.

Chinese Chemical Letters 31 (2020) 1147



A supramolecular co-delivery strategy for combined breast cancer treatment and metastasis prevention

Yuxuan Chen^a, Bowen Li^b, Xiaohong Chen^b, Min Wu^a, Yongtao Ji^c, Guping Tang^a, Yuan Ping^b

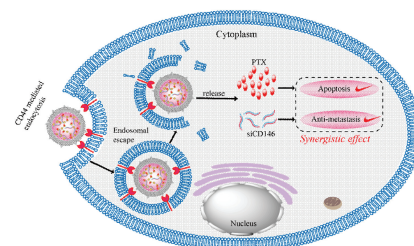
^a Department of Chemistry, Zhejiang University, Hangzhou 310027, China

^b College of Pharmaceutical Sciences, Zhejiang University, Hangzhou 310058, China

^c School of Medicine, Zhejiang University, Hangzhou 310058, China

A new delivery system that can target CD44 receptors for the co-deliver chemotherapeutics and siRNA to improve the anticancer effect and inhibit the metastasis for breast cancer treatment was developed.

Chinese Chemical Letters 31 (2020) 1153



Biomimetic synthesis of all-inclusive organic-inorganic nanospheres for enhanced electrochemical immunoassay

Luyuan Tian^a, Yuxiao Ma^b, Ming Li^a, Qiaorong Tang^a, Luyang Miao^a, Bing Geng^a, He Li^{a,c}

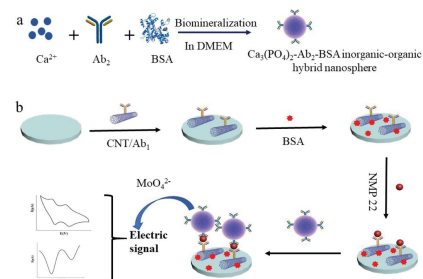
^a School of Chemistry and Chemical Engineering and Institute of Surface Analysis and Chemical Biology, University of Jinan, Ji'nan 250022, China

^b The Hospital of University of Jinan, Ji'nan 250022, China

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

A new kind of all-inclusive organic-inorganic nanospheres were prepared by mild biomimetic process. They were employed as ideal signal nano-labels for enhanced electrochemical immunosensor of nuclear matrix protein 22. Owing to the signal amplified mechanism, the improved electrochemical immunosensor will provide reliable and excellent detection performance, which has potential application for detecting biomarkers.

Chinese Chemical Letters 31 (2020) 1159



Non-covalent glycosylated gold nanoparticles/peptides nanovaccine as potential cancer vaccines

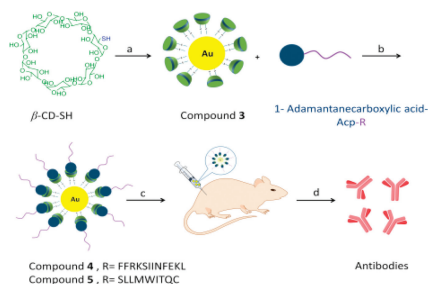
Liming Zeng^a, Zonglang Liao^a, Wenwei Li^a, Qijuan Yuan^b, Peng Wu^a, Zhipeng Gu^b, Zhongqiu Liu^a, Guochao Liao^a

^a Joint Laboratory for Translational Cancer Research of Chinese Medicine of the Ministry of Education of the People's Republic of China, International Institute for Translational Chinese Medicine, Guangzhou University of Chinese Medicine, Guangzhou 510006, China

^b School of Biomedical Engineering, Sun Yat-sen University, Guangzhou 510006, China

Non-covalent glycosylated gold nanoparticles/peptides nanovaccine has been firstly developed via β -cyclodextrin (β -CD) based host-guest assembled and indicated great potential for cancer therapy.

Chinese Chemical Letters 31 (2020) 1162



Preparation and application of mesoporous core-shell nanosilica using leucine derivative as template in effective drug delivery

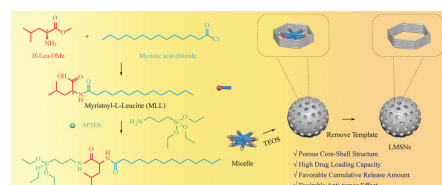
Wei Zhang^a, Qiming Kan^b, Lu Chen^a, Luyao Xie^a, Mingshu Cui^a, Ziyue Xi^a, Yanru Xi^a, Sanming Li^a, Lu Xu^a

^a School of Pharmacy, Shenyang Pharmaceutical University, Shenyang 110016, China

^b School of Life Science & Bio-pharmaceutics, Shenyang Pharmaceutical University, Shenyang 110016, China

In this study, we fabricated mesoporous silica with a newly-synthesized template from L-leucine methyl ester hydrochloride (H-Leu-OMe•HCl). We found that it has considerable loading capacity, favorable cumulative release amount and desirable anti-tumor effect.

Chinese Chemical Letters 31 (2020) 1165



NIR light-induced tumor phototherapy using ICG delivery system based on platelet-membrane-camouflaged hollow bismuth selenide nanoparticles

Kaili Ding^a, Cuixia Zheng^a, Lingling Sun^a, Xinxin Liu^a, Yanyan Yin^b, Lei Wang^{a,c}

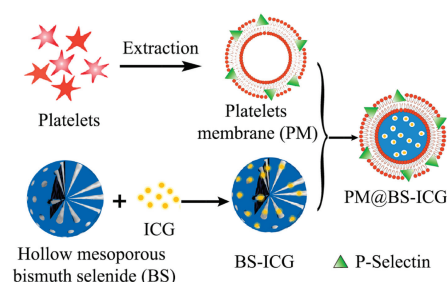
^a School of Pharmaceutical Sciences, Zhengzhou University, Zhengzhou 450001, China

^b School of Pharmacy, Xinxiang Medical University, Xinxiang 453000, China

^c Key Laboratory of Targeting Therapy and Diagnosis for Critical Diseases, Zhengzhou 450001, China

In this work, we designed a platelet membrane (PM)-camouflaged hollow mesoporous bismuth selenide nanoparticles (BS NPs) loading with indocyanine green (ICG) (PM@BS-ICG NPs) to enhance the tumor inhibiting efficacy of PTT.

Chinese Chemical Letters 31 (2020) 1168



Galactose-modified enzymatic synthesis of poly(amino-co-ester) micelles for co-delivery miR122 and sorafenib to inhibit hepatocellular carcinoma development

Jianhua Xie, Yao Lu, Baiqing Yu, Jun Wu, Jie Liu

School of Biomedical Engineering, Sun Yat-sen University, Guangzhou 510006, China

Amphiphilic galactose modified PEG-poly(amino-co-ester) copolymers was synthesized via enzymatic catalysis for co-delivery of microRNA-122 and sorafenib to treat hepatocellular carcinoma.

Chinese Chemical Letters 31 (2020) 1173



Targeted pH-responsive polyion complex micelle for controlled intracellular drug delivery

Pan Zheng^{a,b,c}, Yang Liu^{a,c}, Jinjin Chen^{a,c}, Weiguo Xu^{a,c}, Gao Lijia^{b,c}, Jianxun Ding^{a,c}

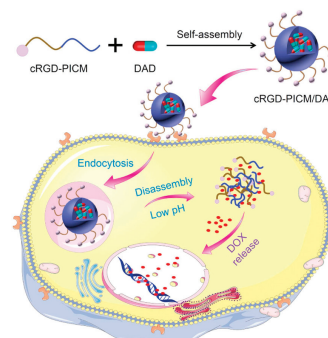
^a Key Laboratory of Polymer Ecomaterials, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

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

^c Jilin Biomedical Polymers Engineering Laboratory, Changchun 130022, China

A targeted pH-responsive polyion complex micelle is developed by the electrostatic interaction between the positively charged cRGD-decorated poly(ethylene glycol)-block-poly(L-lysine) and the anionic acidity-activatable 2,3-dimethylmaleic anhydride-modified doxorubicin for controlled intracellular drug delivery with upregulated antitumor efficacy and reduced side effects.

Chinese Chemical Letters 31 (2020) 1178



An iridium(III)-palladium(II) metal-organic cage for efficient mitochondria-targeted photodynamic therapy

Chaojie Li^a, Yaping Wang^a, Yulin Lu^a, Jing Guo^a, Chengyi Zhu^a, Haozhe He^b, Xiaohui Duan^c, Mei Pan^a, Chengyong Su^a

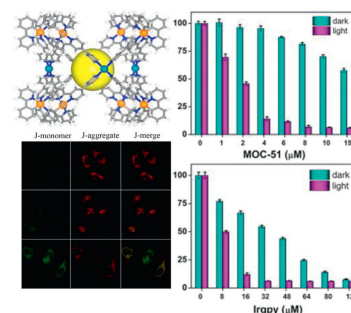
^a MOE Laboratory of Bioinorganic and Synthetic Chemistry, Lehn Institute of Functional Materials, School of Chemistry, Sun Yat-Sen University, Guangzhou 510275, China

^b School of Materials Science and Engineering and School of Chemistry, Sun Yat-Sen University, Guangzhou 510275, China

^c Sun Yat-Sen Memorial Hospital, Sun Yat-Sen University, Guangzhou 510120, China

An Ir₃Pd₄-heteronuclear metal-organic cage (MOC-51) was assembled from bipodal metalloligand [Ir(ppy)₂(qpy)(BF₄)] with Pd(II) salt, which presents the first case of Ir-based metal-organic cages for bio-applications in successful integration of imaging diagnosis and photodynamic therapy.

Chinese Chemical Letters 31 (2020) 1183



Stable deep blue organic light emitting diodes with CIE of y < 0.10 based on quinazoline and carbazole units

Bowen Li^a, Xiang'an Song^a, Xi Jiang^a, Zhiyi Li^b, Fengyun Guo^a, Ying Wang^b, Liancheng Zhao^a, Yong Zhang^{a,c}

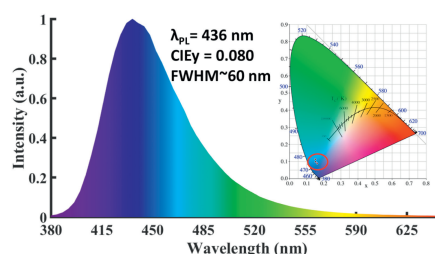
^a School of Materials Science and Engineering, Harbin Institute of Technology, Harbin 150001, China

^b Key Laboratory of Photochemical Conversion and Optoelectronic Materials, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China

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

We designed and synthesized three deep blue emitters via integrating asymmetric quinazoline (PQ) acceptor with weak donating carbazole (Cz) donor, which exhibit deep blue emission with the maximum wavelength ≤ 450 nm and narrow FWHM ≈ 60 nm. Significantly, the deep blue electroluminescence (EL) spectra of these three emitters-based OLED devices are very stable, and the corresponding CIE coordinates deviation (ΔCIE (x, y)) can be negligible under the applied voltage ranging from 5 V to 9 V.

Chinese Chemical Letters 31 (2020) 1188



B ← N-containing azaacenes with propynyl groups on boron atoms

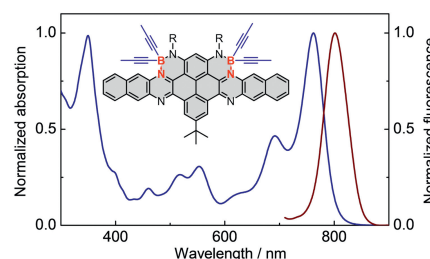
Linan Li^a, Ying Gao^a, Chuandong Dou^b, Jun Liu^b

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

^b State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

Two new B ← N-containing azaacenes with the propynyl groups on boron atoms were reported, which exhibit the NIR light-absorption and fluorescence properties, as well as multiple reversible redox behaviors.

Chinese Chemical Letters 31 (2020) 1193



Partially biobased polymers: The synthesis of polysilylethers via dehydrocoupling catalyzed by an anionic iridium complex

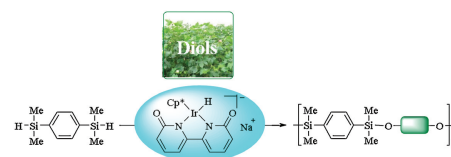
Xiao-Yong Zhai^{a,b}, Xiao-Qing Wang^a, Yi-Xuan Ding^a, Yong-Gui Zhou^a

^a State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

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

Partially biobased polysilylethers (PSEs) are synthesized via dehydrocoupling polymerization catalyzed by an anionic iridium complex. Moderate to high yields of polymers with number-average molecular weights (M_n) up to 4.38×10^4 were obtained.

Chinese Chemical Letters 31 (2020) 1197



Role of copper grid mesh in the catalytic oxidation of CO over one-step synthesized Cu-Fe-Co ternary oxides thin film

Muhammad Waqas^{a,b}, Patrick Mountapmbeme Kouotou^{a,c}, Achraf El Kasmi^a, Yu Wang^d, Zhen-Yu Tian^{a,b}

^a Institute of Engineering Thermophysics, Chinese Academy of Sciences, Beijing 100190, China

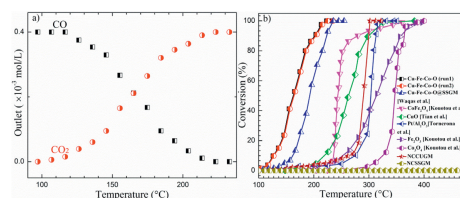
^b University of Chinese Academy of Sciences, Beijing 100049, China

^c National Advanced School of Engineering of Maroua, University of Maroua, Maroua P.O. Box 46, Cameroon

^d Shanghai Research Institute of Petrochemical Technology, Shanghai 201208, China

In this study, an effective valuation of active support for ternary oxide thin film was carried out in the absence of any other oxygen promoter. The performance and stability of Cu-Fe-Co ternary oxides was studied towards the complete catalytic oxidation of CO by using one-step synthesis method.

Chinese Chemical Letters 31 (2020) 1201



Overwhelming electrochemical oxygen reduction reaction of zinc-nitrogen-carbon from biomass resource chitosan via a facile carbon bath method

Libing Hu^a, Feng Yu^a, Fu Wang^b, Shengchao Yang^a, Banghua Peng^a, Long Chen^a, Gang Wang^a, Juan Hou^c, Bin Dai^a, Zhi-Qun Tian^{d,e}

^a Key Laboratory for Green Processing of Chemical Engineering of Xinjiang Bingtuan, School of Chemistry and Chemical Engineering, Shihezi University, Shihezi 832003, China

^b School of Environmental Science and Engineering, Shanghai Jiao Tong University, Shanghai 200240, China

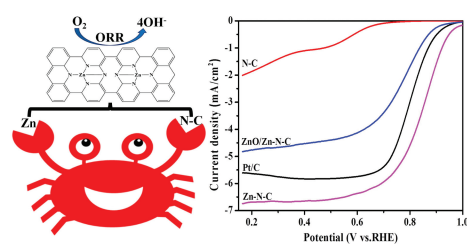
^c College of Science, Key Laboratory of Ecophysics, Department of Physics, Shihezi University, Shihezi 832003, China

^d Collaborative Innovation Center of Sustainable Energy Materials, Guangxi Key Laboratory of Electrochemical Energy Materials, Guangxi University, Nanning 530004, China

^e Key Laboratory of New Processing Technology for Non-ferrous Metal and Materials, Ministry of Education, Nanning 530004, China

Biomass chitosan from crustaceans (such as crab) derived the material of Zn-N-C displayed high performance for ORR due to the presence of Zn-N₄ structures as the active sites.

Chinese Chemical Letters 31 (2020) 1207



Charge storage mechanism of copper hexacyanoferrate nanocubes for supercapacitors

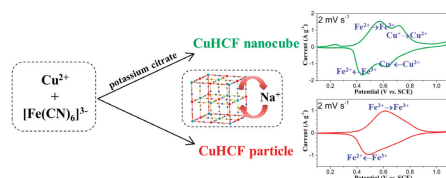
Zhaoxia Song^a, Wei Liu^b, Xiaofei Wei^a, Quan Zhou^a, Hongda Liu^b, Zheng Zhang^b, Guichang Liu^b, Zhongfu Zhao^b

^a Department of Chemical Engineering, College of Life Science, Dalian Minzu University, Dalian 116600, China

^b School of Chemical Engineering, Dalian University of Technology, Dalian 116024, China

The combined analyses of cyclic voltammogram (CV) and X-ray photoelectron spectroscopy (XPS) disclose that the CuHCF nanocubes undergo the redox reactions of Fe³⁺/Fe²⁺ and Cu²⁺/Cu⁺ couples to store charges. The Cu²⁺/Cu⁺ redox couple is activated due to the strong coordination interaction between the carboxylate groups of citrate ions and surface Cu cations.

Chinese Chemical Letters 31 (2020) 1213



Electrolyte additive maintains high performance for dendrite-free lithium metal anode

Manshu Zhang^a, Renjie Liu^a, Zekun Wang^b, Xiyuan Xing^a, Yangai Liu^a, Bingbing Deng^a, Tao Yang^c

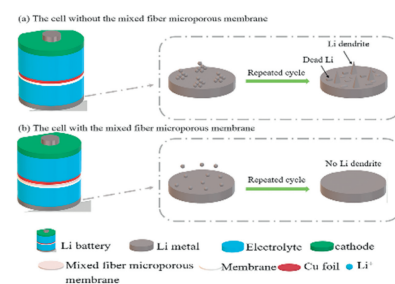
^a Beijing Key Laboratory of Materials Utilization of Nonmetallic Minerals and Solid Wastes, National Laboratory of Mineral Materials, School of Materials Science and Technology, China University of Geosciences, Beijing 100083, China

^b Shanxi Key Laboratory of Green Preparation and Functionalization for Inorganic Materials, Xi'an Key Laboratory of Green Processing for Ceramic materials, School of Material Science and Engineering, Shaanxi University of Science and Technology, Xi'an 710021, China

^c College of Materials & Environmental Engineering, Hangzhou Dianzi University, Hangzhou 310036, China

As an electrolyte additive, the acidified cellulose ester has been demonstrated to be effective in inhibiting lithium dendrite growth and improving the coulombic efficiency of lithium metal batteries.

Chinese Chemical Letters 31 (2020) 1217



MnS hollow microspheres combined with carbon nanotubes for enhanced performance sodium-ion battery anode

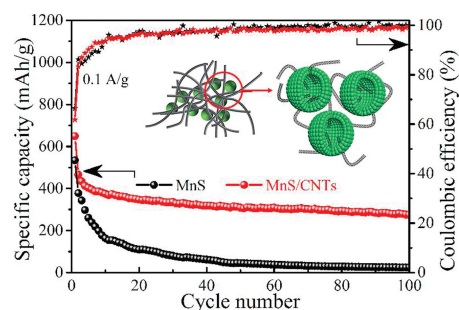
Na Zhang^a, Xin Li^a, Tianyi Hou^a, Jinze Guo^a, Anran Fan^a, Shibo Jin^a, Xiaohong Sun^a, Shu Cai^a, Chunming Zheng^b

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

^b State Key Laboratory of Hollow-fiber Membrane Materials and Membrane Processes, School of Environmental and Chemical Engineering, Tianjin Polytechnic University, Tianjin 300387, China

The electrochemical performance of the synthesized hollow MnS/CNTs composite is effectively enhanced. The enhanced performance benefits from the rational combination of the advantages of the hollow porous structure and the synergistic effect between MnS and CNTs, which can facilitate the transport of electrons and Na⁺, accommodate the volume expansion, and improve the contact area between the electrode and electrolyte.

Chinese Chemical Letters 31 (2020) 1221



Highly active N, O-doped hierarchical porous carbons for high-energy supercapacitors

Ziyang Zhou^a, Ling Miao^a, Hui Duan^a, Zhiwei Wang^b, Yaokang Lv^c, Wei Xiong^e, Dazhang Zhu^a, Liangchun Li^a, Mingxian Liu^{a,b,d}, Lihua Gan^a

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

^b State Key Laboratory of Pollution Control and Resources Reuse, Shanghai Institute of Pollution Control and Ecological Security, School of Environmental Science and Engineering, Tongji University, Shanghai 200092, China

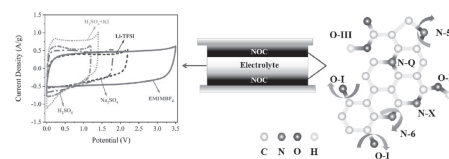
^c College of Chemical Engineering, Zhejiang University of Technology, Hangzhou 310014, China

^d College of Chemistry and Molecular Engineering, Zhengzhou University, Zhengzhou 450001, China

^e School of Chemistry and Environmental Engineering, Key Laboratory for Green Chemical Process (Ministry of Education), Hubei Key Lab. of Novel Reactor & Green Chemical Technology, Wuhan Institute of Technology, Wuhan 430205, China

Highly active N, O-doped hierarchical porous carbons are developed to optimize the physical adsorption and faradaic activity for efficient energy storage.

Chinese Chemical Letters 31 (2020) 1226



Supramolecular polymer materials based on pillar[5]arene: Ultrasensitive detection and efficient removal of cyanide

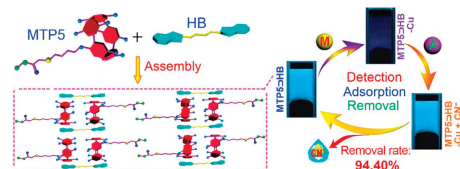
Hong Yao^a, Qi Zhou^a, Youming Zhang^{a,b}, Yinping Hu^a, Xiaotong Kan^a, Yanyan Chen^a, Guanfei Gong^a, Qinpeng Zhang^a, Taibao Wei^a, Qi Lin^a

^a Key Laboratory of Eco-functional Polymer Materials of the Ministry of Education, Key Laboratory of Eco-environmental Polymer Materials of Gansu Province, College of Chemistry and Chemical Engineering, Northwest Normal University, Lanzhou 730070, China

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

A pillar[5]arene-based supramolecular polymer gel (MTP5-HB) with AIE was constructed, which could ultrasensitively detect Cu²⁺ and Fe³⁺, and *in-situ* generated MTP5-HB-Cu could selectively detect and efficiently remove CN⁻.

Chinese Chemical Letters 31 (2020) 1231



pH-Responsive supramolecular DOX-dimer based on cucurbit[8]uril for selective drug release

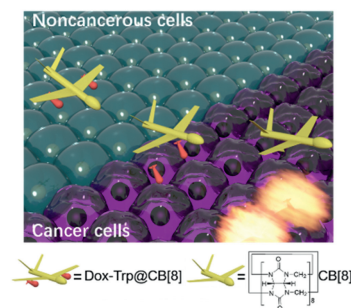
Qian Cheng^a, Shengke Li^b, Yanlong Ma^a, Hang Yin^a, Ruibing Wang^a

^a State Key Laboratory of Quality Research in Chinese Medicine, Institute of Chinese Medical Sciences, University of Macau, Macau, China

^b School of Materials Science and Engineering, Nanjing University of Science and Technology, Nanjing 210094, China

A pH-responsive, supramolecular dimer of doxorubicin (DOX) was constructed via ternary host-guest interactions between cucurbit[8]uril and tryptophan modified DOX (DOX-Trp, connected with an acid-labile bond), which exhibited selective cytotoxicity against cancer cells.

Chinese Chemical Letters 31 (2020) 1235



Control of secondary structure and morphology of peptide-guanidiniocarbonylpyrrole conjugates by variation of the chain length

Xin Liu^{a,d}, Kaiya Wang^a, Marlen Externbrink^c, Jochen Niemeyer^c, Michael Giese^c, Xiao-Yu Hu^{a,b}

^a School of Material Science & Engineering, Nanjing University of Aeronautics & Astronautics, Nanjing 210016, China

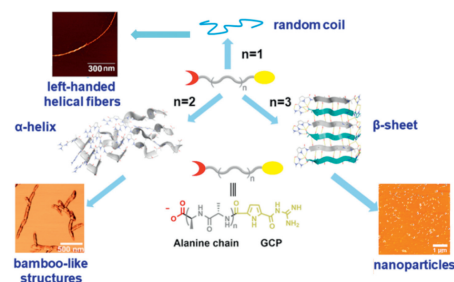
^b Qinghai Provincial Key Laboratory of Tibetan Medicine Research and Key Laboratory of Tibetan Medicine Research, Northwest Institute of Plateau Biology, Chinese Academy of Sciences, Xining 810008, China

^c Institute for Organic Chemistry, University of Duisburg-Essen, Essen 45117, Germany

^d College of Pharmacy, Nantong University, Nantong 226001, China

Interesting morphology and secondary structure changes were presented by three guanidiniocarbonylpyrrole (GCP) containing peptide amphiphiles with different backbone length.

Chinese Chemical Letters 31 (2020) 1239



Design a thieno[3,2-*b*]thiophene bridged nonfullerene acceptor to increase open-circuit voltage, short-circuit current-density and fill factor via the ternary strategy

Xiaofang Li^{a,b}, Kun Li^{b,c}, Dan Su^{a,b}, Fugang Shen^{a,b}, Shuying Huo^a, Hongbing Fu^c, Chuanlang Zhan^{a,b}

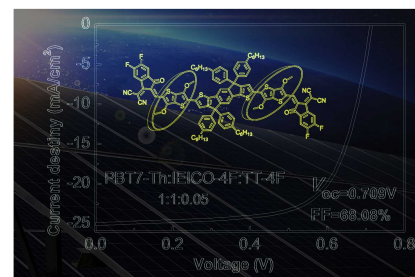
^a College of Chemistry and Environmental Science, Hebei University, Baoding 071002, China

^b CAS key Laboratory of Photochemistry, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

^c Department of Chemistry, Capital Normal University, Beijing 100048, China

3,6-Dimethoxythieno[3,2-*b*]thiophene is used as the π -bridge to design a new small-molecule acceptor that is introduced as the acceptor guest to regulate the electric property of the active layer, affording 12.1% efficiency organic photovoltaic cell.

Chinese Chemical Letters 31 (2020) 1243



Three unprecedented biphenyl derivatives bearing C6-C3 carbon skeleton from the bark of *Magnolia officinalis* var. *biloba*

Chuan Li, Kailing Xu, Chuangjun Li, Jie Ma, Xiaoliang Wang, Dongming Zhang

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

Three novel compounds, (\pm)-magoilgomers A [(\pm)-**1**] and B (**2**), were identified from the bark of *Magnolia officinalis* var. *biloba*.

Chinese Chemical Letters 31 (2020) 1248



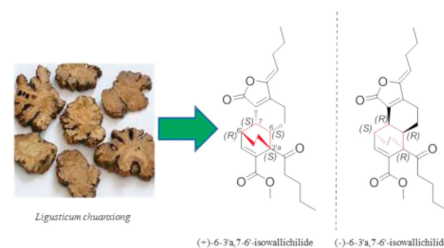
(\pm)-6-3'a,7-6'-Isowallichilide: A pair of enantiomeric phthalide dimers from *Ligusticum chuanxiong* with new 6-3'a,7-6' dimerization sites

Xin Fang, Qiang Ma, Yi Feng, Shuang Liang

Innovation Research Institute of Traditional Chinese Medicine, Shanghai University of Traditional Chinese Medicine, Shanghai 201203, China

A pair of enantiomeric phthalide dimers featuring new 6-3'a,7-6' dimerization sites were isolated from *Ligusticum chuanxiong*. Their structures and absolute configurations are determined.

Chinese Chemical Letters 31 (2020) 1251



New norlignan enantiomers from the fruit of *Crataegus pinnatifida* with neuroprotective activities

Rui Guo^a, Tianming Lv^a, Fengying Han^a, Zilin Hou^a, Guodong Yao^a, Bin Lin^b, Xiaobo Wang^c, Xiaoxiao Huang^{a,c}, Shaojiang Song^a

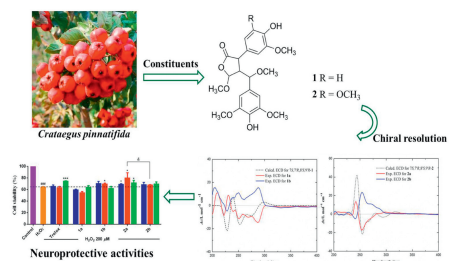
^a Key Laboratory of Computational Chemistry-Based Natural Antitumor Drug Research & Development, Liaoning Province, School of Traditional Chinese Materia Medica, Shenyang Pharmaceutical University, Shenyang 110016, China

^b School of Pharmaceutical Engineering, Shenyang Pharmaceutical University, Shenyang 110016, China

^c Chinese People's Liberation Army Logistics Support Force No. 967 Hospital, Dalian 116021, China

Two pairs of rare 8,9'-epoxy-type norlignan enantiomers, were isolated from the fruit of *Crataegus pinnatifida*, which were evaluated for their neuroprotective activities against H₂O₂-induced cell injury in human neuroblastoma SH-SY5Y cells.

Chinese Chemical Letters 31 (2020) 1254



Dracomolphesin A–E, five 3,4-*seco*-phenylpropanoids with Nrf2 inducing activity from *Dracocephalum moldavica*

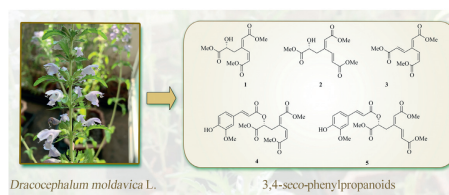
Huaran Zhang^a, Lintao Xu^a, Xiaoqing Liu^a, Jiangjiang Fan^{a,b}, Xiaoning Wang^a, Tao Shen^a, Shuqi Wang^a, Dongmei Ren^a

^a Department of Natural Product Chemistry, Key Laboratory of Chemical Biology (Ministry of Education), School of Pharmaceutical Sciences, Shandong University, Ji'nan 250012, China

^b Department of Thoracic Surgery, Qilu Hospital of Shandong University, Ji'nan 250012, China

Five 3,4-*seco*-phenylpropanoids were isolated from the aerial parts of *Dracocephalum moldavica*, four of them were identified as potential Nrf2 pathway activators.

Chinese Chemical Letters 31 (2020) 1259



Hyperinoids A and B, two polycyclic meroterpenoids from *Hypericum patulum*

Xinyu Jia^{a,c}, Yongmei Wu^b, Chun Lei^a, Yanyan Yu^b, Jianqi Li^c, Jingya Li^b, Aijun Hou^a

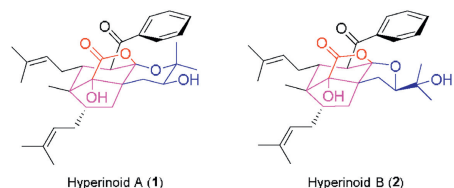
^a School of Pharmacy, State Key Laboratory of Medical Neurobiology, Fudan University, Shanghai 201203, China

^b National Center for Drug Screening, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 201203, China

^c Shanghai Institute of Pharmaceutical Industry, Shanghai 201203, China

Hyperinoids A (**1**) and B (**2**), two prenylated acylphloroglucinol related meroterpenoids possessing unprecedented tetracyclic systems, were isolated from *Hypericum patulum*. Both of them are potent NF- κ B pathway inhibitors and can effectively decrease the inflammatory response of macrophages.

Chinese Chemical Letters 31 (2020) 1263



Total chemical synthesis of bivalently modified H3 by improved three-segment native chemical ligation

Yong Zheng^{a,b}, Fangming Wu^{a,b}, Shenglong Ling^{a,b}, Jia-Bin Li^c, Changlin Tian^{a,b}

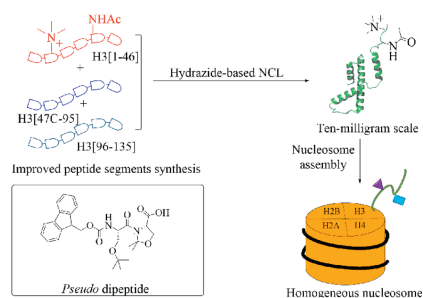
^a High Magnetic Field Laboratory, Chinese Academy of Sciences, Hefei 230031, China

^b School of Life Sciences, University of Science and Technology of China, Hefei 230027, China

^c Jiangsu Key Laboratory of Neuropsychiatric Diseases and College of Pharmaceutical Sciences, Soochow University, Suzhou 215123, China

Based on the efficient synthesis of H3 segment with *pseudo* dipeptide incorporation, we have developed a practical strategy for three-segment-directed total chemical synthesis of H3 bearing trimethylation and acylation. Subsequently we reconstituted it into nucleosome successfully with good homogeneity.

Chinese Chemical Letters 31 (2020) 1267



Thiazolylhydrazone derivatives as inhibitors for insect *N*-acetyl- β -D-hexosaminidase and chitinase

Huibin Yang^{a,b}, Huitang Qi^c, Zesheng Hao^b, Xusheng Shao^a, Tian Liu^c, Qing Yang^c, Xuhong Qian^a

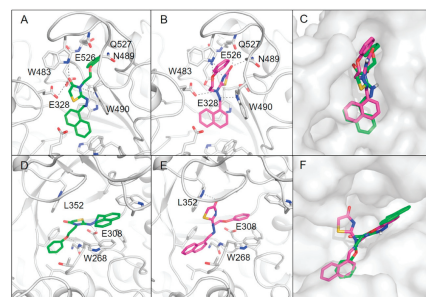
^a Shanghai Key Laboratory of Chemical Biology, Institute of Pesticides and Pharmaceuticals, School of Pharmacy, East China University of Science and Technology, Shanghai 200237, China

^b State Key Laboratory of the Discovery and Development of Novel Pesticide, Shenyang Sinochem Agrochemicals Research and Development Co., Ltd., Shenyang 110021, China

^c School of Bioengineering, Dalian University of Technology, Dalian 116024, China

Here, a series of thiazolylhydrazones **I** and **II** were designed, synthesised and evaluated as competitive inhibitors of *O*/Hex1 and *O*/Chi-h. Derivatives **I-3d** and **II-3d** demonstrated the best inhibitory activities against *O*/Hex1 and *O*/Chi-h. This work suggests a novel scaffold for developing specific Hex and Chi-h inhibitors.

Chinese Chemical Letters 31 (2020) 1271



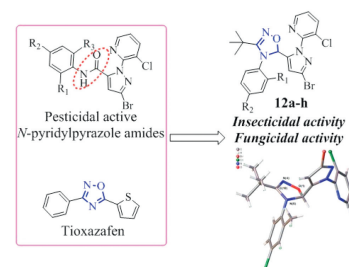
Synthesis of novel *N*-pyridylpyrazole derivatives containing 1,2,4-oxadiazole moiety via 1,3-dipolar cycloaddition and their structures and biological activities

Yan Zhang, Junfeng Shang, Huan Li, Hang Liu, Haibin Song, Baolei Wang, Zhengming Li

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

A series of novel 1,2,4-oxadiazole-containing *N*-pyridylpyrazole derivatives were successfully synthesized via a 1,3-dipolar cycloaddition. The structures, insecticidal and fungicidal activities of the new compounds were studied.

Chinese Chemical Letters 31 (2020) 1276



2-Oxo-3,4-dihydropyrimido[4,5-*d*] pyrimidines as new reversible inhibitors of EGFR C797S (Cys797 to Ser797) mutant

Xianglong Hu^a, Qiuju Xun^a, Tao Zhang^b, Su-Jie Zhu^c, Qian Li^a, Linjiang Tong^b, Mengzhen Lai^b, Tao Huang^a, Cai-Hong Yun^d, Hua Xie^b, Ke Ding^a, Xiaoyun Lu^a

^a International Cooperative Laboratory of Traditional Chinese Medicine Modernization and Innovative Drug Development of Chinese Ministry of Education (MOE), School of Pharmacy, Jinan University, Guangzhou 510632, China

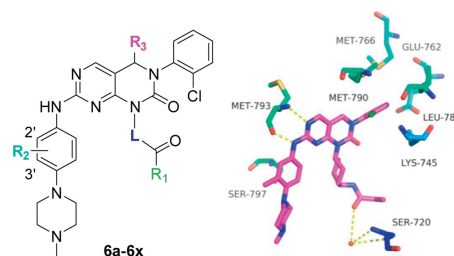
^b Division of Antitumor Pharmacology, State Key Laboratory of Drug Research, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 201203, China

^c Institute for Translational Medicine, College of Medicine, Qingdao University, Qingdao 266021, China

^d Department of Biochemistry and Biophysics, Institute of Systems Biomedicine, School of Basic Medical Sciences, Peking University Health Science Center, Beijing 100191, China

A new series of 2-oxo-3,4-dihydropyrimido[4,5-*d*] pyrimidines was designed and synthesized as new reversible inhibitors of EGFR^{C797S} mutant to overcome drug resistant NSCLC. One of the most potent compound **6i** potently suppressed EGFR^{L858R/T790M/C797S} kinase with an IC_{50} value of 3.1 nmol/L, and inhibited the proliferation of BaF3 cells harboring EGFR^{L858R/T790M/C797S} and EGFR^{19D/T790M/C797S} mutants with IC_{50} values of 290 nmol/L and 316 nmol/L, respectively.

Chinese Chemical Letters 31 (2020) 1281



Structural modification and antitumor activity of antimicrobial peptide HYL

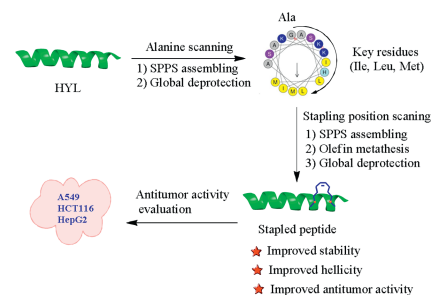
Minghao Wu^{a,b}, Qing Chen^a, Yingdi Wang^a, Yulei Li^{a,b}, Xia Zhao^{a,b}, Qi Chang^{a,b}

^a Key Laboratory of Marine Drugs, Ministry of Education, School of Medicine and Pharmacy, Ocean University of China, Qingdao 266003, China

^b Laboratory for Marine Drugs and Bioproducts of Qingdao National Laboratory for Marine Science and Technology, Qingdao 266237, China

The hydrocarbon stapling strategy effectively improved the antitumor activity and proteolytic stability of HYL without destroying the key residues.

Chinese Chemical Letters 31 (2020) 1288



Diastereoselective synthesis of functionalized tetrahydro- γ -carbolines via a [3 + 3] cycloaddition of 2,2'-diester aziridines with β -(indol-2-yl)- α,β -unsaturated ketones

Xuejie Zou, Yangzi Liu, Shaojing Shang, Wulin Yang, Weiping Deng

Shanghai Key Laboratory of New Drug Design and School of Pharmacy, East China University of Science and Technology, Shanghai 200237, China

A Sc(OTf)₃-catalyzed [3 + 3] cycloaddition of 2,2'-diester aziridines with β -(indol-2-yl)- α,β -unsaturated ketones was developed, affording polysubstituted tetrahydro- γ -carbolines in single diastereoisomers in good to excellent yields.

Chinese Chemical Letters 31 (2020) 1293



Bismuth trichloride-catalyzed oxy-Michael addition of water and alcohol to α,β -unsaturated ketones

Zhen Wu^{a,b}, Xue-Xin Feng^{a,b}, Qing-Dong Wang^b, Jin-Jin Yun^a, Weidong Rao^c, Jin-Ming Yang^{a,b}, Zhi-Liang Shen^a

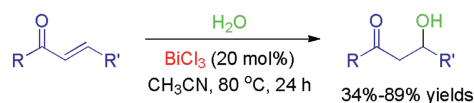
^a School of Chemistry and Molecular Engineering, Nanjing Tech University, Nanjing 211816, China

^b School of Pharmacy, Yancheng Teachers University, Yancheng 224007, China

^c Jiangsu Key Laboratory of Biomass-based Green Fuels and Chemicals, College of Chemical Engineering, Nanjing Forestry University, Nanjing 210037, China

An efficient method was developed for the conjugate addition of water or alcohol to various α,β -unsaturated ketones by using a catalytic amount of BiCl₃ (20 mol%) as reaction catalyst. The reactions proceeded smoothly in aqueous media to furnish a variety of synthetically useful β -hydroxyl ketones and β -alkoxyl ketones in moderate to good yields with the tolerance to a range of functional groups.

Chinese Chemical Letters 31 (2020) 1297



Palladium-catalyzed *meta*-CH bond iodination of arenes with I₂

Min Liu^{a,c,b}, Ling-Jun Li^{a,c,b}, Jun Zhang^{d,b}, Hui Xu^{a,c,b}, Hui-Xiong Dai^{a,c,b}

^a Chinese Academy of Sciences Key Laboratory of Receptor Research, Shanghai Institute of Materia Medica, Shanghai 201203, China

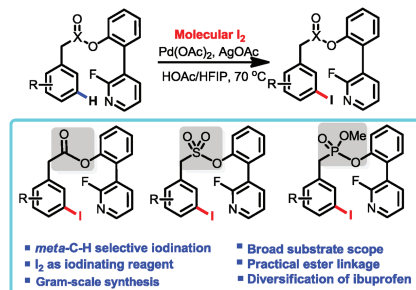
^b State Key Laboratory of Natural and Biomimetic Drugs, Peking University, Beijing 100191, China

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

^d School of Pharmaceutical Science, Shanxi Medical University, Taiyuan 030001, China

Palladium-catalyzed highly *meta*-selective C—H iodination of phenylacetic acid, benzylphosphonate and benzylsulfonate scaffolds with molecular I₂ is developed using a pyridine-type template. The practical ester linkage enables the directing template easily installed and readily removed. The substrate scope is broad, and alkyl, methoxyl, trifluoromethyl and halo substituents are compatible with this reaction. Further transformations of ibuprofen iodide intermediates by Pd-catalyzed C—C and C—heteroatom bond formation illustrate the broad utility of this method.

Chinese Chemical Letters 31 (2020) 1301



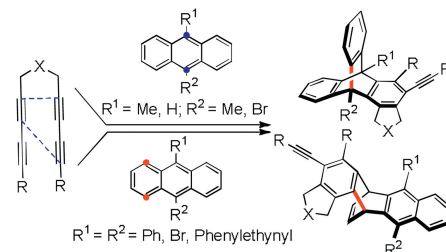
Fused multifunctionalized bridge aromatic hydrocarbons from *in situ*-generated arynes and anthracene derivatives

Baohua Liu, Qiong Hu, Feihu Yang, Xiaojie Zheng, Yimin Hu

Key Laboratory of Functional Molecular Solids, Ministry of Education, Anhui Laboratory of Molecule-Based Materials, State Laboratory Cultivation Base, College of Chemistry and Materials Science, Anhui Normal University, Wuhu 241002, China

This study presents a facile strategy for the formation of highly substituted butterfly 1,4-adducts/9,10-adducts via the Diels–Alder reaction of benzyne intermediates. The method achieves very good to excellent yields of the respective anthracene derivatives under mild conditions. This practical protocol is compatible with a variety of sensitive functional groups and provides access to difunctionalized bridge 1,4-adducts/9,10-adducts.

Chinese Chemical Letters 31 (2020) 1305



Stereospecific access to bridged [n.2.1] skeletons through gold-catalyzed tandem reaction of indolyl homopropargyl amides

Tong-De Tan^a, Xin-Qi Zhu^a, Mei Jia^a, Yongjia Lin^b, Jun Cheng^a, Yuanzhi Xia^b, Long-Wu Ye^{a,c}

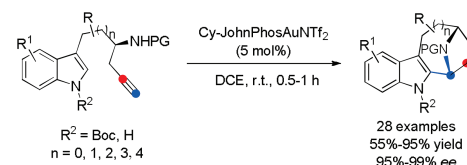
^a iChEM, State Key Laboratory of Physical Chemistry of Solid Surfaces and Key Laboratory for Chemical Biology of Fujian Province, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

^b College of Chemistry and Materials Engineering, Wenzhou University, Wenzhou 325035, China

^c State Key Laboratory of Organometallic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

An efficient gold-catalyzed anti-Markovnikov cycloisomerization-initiated tandem reaction of Boc-protected indole tethered homopropargyl amides has been achieved. This method delivers a wide range of valuable bridged aza-[n.2.1] skeletons ($n = 3-7$) at room temperature with high diastereoselectivity and enantioselectivity by a chirality-transfer strategy. Moreover, the gold-catalyzed tandem reaction of homopropargyl alcohol is also achieved to produce the bridged oxa-[3.2.1] skeleton.

Chinese Chemical Letters 31 (2020) 1309



Metal-free photo-induced radical C-P and C-S bond formation for the synthesis of 2-phosphoryl benzothiazoles

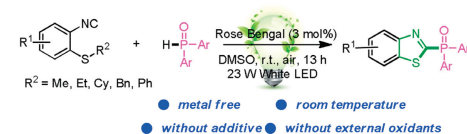
Wenchao Yang^a, Bing Li^a, Mingming Zhang^a, Shuang Wang^a, Yigang Ji^b, Sa Dong^a, Jianguo Feng^a, Shuzhong Yuan^a

^a Guangling College and Institute of Pesticide of School of Horticulture and Plant Protection, Yangzhou University, Yangzhou 225009, China

^b Jiangsu Key Laboratory of Biofunctional Molecules, Department of Life Sciences and Chemistry, Jiangsu Second Normal University, Nanjing 210013, China

In this work, an efficient method for the synthesis of phosphoryl nitrogen-containing heterocycles was developed from isocyanides and *H*-phosphorus oxides via radical cascade cyclization reaction.

Chinese Chemical Letters 31 (2020) 1313



Development of aryl-containing dipyrrolyldiketone difluoroboron complexes (BONEPYs): Tune the hydrogen bond o-C—H...F for fluoride recognition

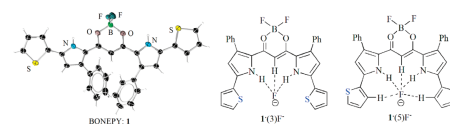
Xin-Dong Jiang^{a,b}, Zhumei Shao^a, Changliang Sun^a, Shuai Yue^a, Rong Shang^b, Yohsuke Yamamoto^b

^a College of Applied Chemistry, Shenyang University of Chemical Technology, Shenyang 110142, China

^b Department of Chemistry, Graduate School of Science, Hiroshima University, Higashi-Hiroshima 739-8526, Japan

Novel aryl-containing dipyrrolyldiketone difluoroboron complexes (BONEPYs) were prepared and could recognize the fluoride anion by tuning the hydrogen bond o-C—H...F.

Chinese Chemical Letters 31 (2020) 1317



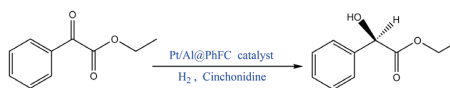
Preparation of alumina-carbon composites with phloroglucinol-formaldehyde resin and their application in asymmetric hydrogenation

Wenrui Cai, Renjie Xiong, Cong Mao, Meitian Xiao, Yongjun Liu, Ranjith Kumar Kankala, Xueqin Zhang

College of Chemical Engineering, Huaqiao University, Xiamen 361021, China

The alumina-carbon composites Al@PhFC are synthesized by using phloroglucinol-formaldehyde resin as carbon source and aluminum acetylacetonate as the aluminum source, and the corresponding supported Pt catalysts are applied in the asymmetric hydrogenation of ethyl 2-oxo-4-phenylbutanoate.

Chinese Chemical Letters 31 (2020) 1322



Native amine-directed site-selective C(sp³)-H arylation of primary aliphatic amines with aryl iodides

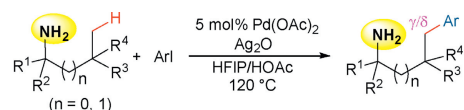
Pranab K. Pramanick^a, Zhibing Zhou^a, Zhenlin Hou^a, Yufei Ao^b, Bo Yao^{a,b}

^a MOE Key Laboratory of Cluster Science, Beijing Key Laboratory of Photoelectronic-Electrophotonic Conversion Materials, School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing 102488, China

^b Beijing National Laboratory for Molecular Sciences, CAS Key Laboratory of Molecular Recognition and Function, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

The first NH₂-directed γ-C(sp³)-H arylation of primary aliphatic amines with aryl iodides was developed.

Chinese Chemical Letters 31 (2020) 1327



- * The first NH₂-directed γ-C(sp³)-H arylation with ArI
- * No ligand, auxiliary and protecting group required
- * Compatible with a broad range of functional groups
- * Applicable to δ-C(sp³)-H bonds

Diastereoselective 2,3-diazidation of indoles via copper(II)-catalyzed dearomatization

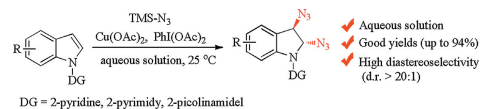
Jiang Liu^{a,1}, Zhongjin Fang^{b,1}, Xin Liu^a, Yandong Dou^a, Jianze Jiang^a, Fangfang Zhang^a, Jiaojiao Qu^a, Qing Zhu^a

^a Key Laboratory of Bioorganic Synthesis of Zhejiang Province, College of Biotechnology and Bioengineering, Zhejiang University of Technology, Hangzhou 310014, China

^b Zhejiang Zhong Cheng Medicine Co., Ltd., Hangzhou 310012, China

The copper-catalyzed directed dearomatization of indoles with the assistance of directing groups has been developed, which makes the synthesis of 2,3-diazido indolines with good yields and excellent diastereoselectivities in aqueous solution.

Chinese Chemical Letters 31 (2020) 1332



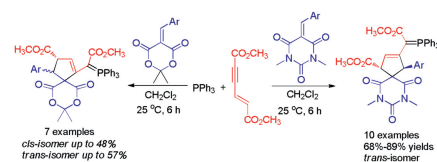
Molecular diversity of triphenylphosphine promoted reaction of electron-deficient alkynes and arylidene Meldrum acid (N,N'-dimethylbarbituric acid)

Ying Han, Hui Zheng, Yuan-Yuan Zhang, Chao-Guo Yan

College of Chemistry & Chemical Engineering, Yangzhou University, Yangzhou 225002, China

The *trans*-1,3-disubstituted or *cis/trans*-1,2-disubstituted 7,9-diazaspiro[4.5]dec-1-enes were selectively synthesized in high yield from triphenylphosphine promoted annulation reaction.

Chinese Chemical Letters 31 (2020) 1337



Formal Co(0), Fe(0), and Mn(0) complexes with NHC and styrene ligation

Wenwei Chen^{a,b}, Qi Chen^b, Yingjie Ma^b, Xuebing Leng^b, Sheng-Di Bai^a, Liang Deng^b

^a Institute of Applied Chemistry, Shanxi University, Taiyuan 030006, China

^b State Key Laboratory of Organometallic Chemistry, Center for Excellence in Molecular Synthesis, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

The use of styrene with *N*-heterocyclic carbene (NHC) as ligands allows the stabilization of three-coordinate formal cobalt(0), iron(0), and manganese(0) complexes in the form of (NHC)M(η²-CH₂CHPh)₂.

Chinese Chemical Letters 31 (2020) 1342

