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ORIGINAL ARTICLE

Yaming Yu, Peng Gao
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Yanbin Huang, Jun Xu et al.
Crystalline inclusion complexes formed between the drug diflunisal and block copolymers

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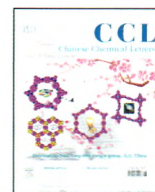
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Chinese Chemical Society

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Institute of Materia Medica, Chinese Academy of Medical Sciences



Graphical Abstracts/Chin Chem Lett 28 (2017) iii–xii

Perspective

Bioinspired approaches for medical devices

Chinese Chemical Letters 28 (2017) 1131

Zhi-Zhi Sheng^a, Xiao Liu^b, Ling-Li Min^a, Hong-Long Wang^c, Wei Liu^d, Miao Wang^d, Li-Zhi Huang^d, Feng Wu^d, Xu Hou^{a,d}

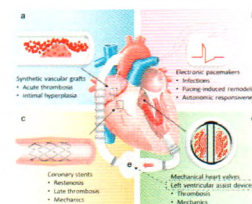
^aCollaborative Innovation Center of Chemistry for Energy Materials, College of Chemistry and Chemical Engineering, Pen-Tung Sah Institute of Micro-Nano Science and Technology, State Key Laboratory of Physical Chemistry of Solid Surface, College of Physical Science and Technology, Research Institute for Biomimetics and Soft Matter, Fujian Provincial Key Laboratory for Soft Functional Materials Research, Xiamen University, Xiamen 361005, China

^bKey Laboratory for Biomechanics and Mechanobiology of the Ministry of Education, School of Biological Science and Medical Engineering, Beihang University, Beijing 100191, China

^cTechnical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China

^dCollege of Physical Science and Technology, Research Institute for Biomimetics and Soft Matter, Fujian Provincial Key Laboratory for Soft Functional Materials Research, Xiamen University, Xiamen 361005, China

Nature brings us endless bioinspired physicochemical ideas to promote the development of novel artificial materials and medical devices that enable us to potentially overcome the problems such as thrombogenic, mechanical and electronic physiology.



Reviews

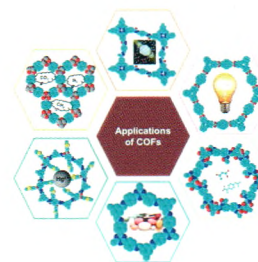
Applications of covalent organic frameworks (COFs): From gas storage and separation to drug delivery

Chinese Chemical Letters 28 (2017) 1135

Ming-Xue Wu, Ying-Wei Yang

International Joint Research Laboratory of Nano-Micro Architecture Chemistry (NMAC), College of Chemistry, Jilin University, Changchun 130012, China

This review introduces important research progress of covalent organic frameworks (COFs) and their applications in the field of gas storage and separation, catalysis, optoelectronics, sensing, small molecules adsorption, and drug delivery. Additionally, the challenges and development directions of such materials are discussed.



Development of electron and hole selective contact materials for perovskite solar cells

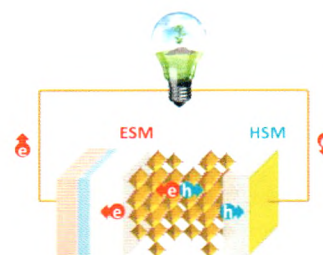
Chinese Chemical Letters 28 (2017) 1144

Yaming Yu^a, Peng Gao^b

^aCollege of Materials Science and Engineering, Huaqiao University, Xiamen 361021, China

^bXiamen Institute of Rare Earth Materials, Chinese Academy of Sciences, Xiamen 361024, China

Charge selective contact materials are critical components in perovskite solar cells, which determine both efficiency and stability of the final devices.



Original Articles

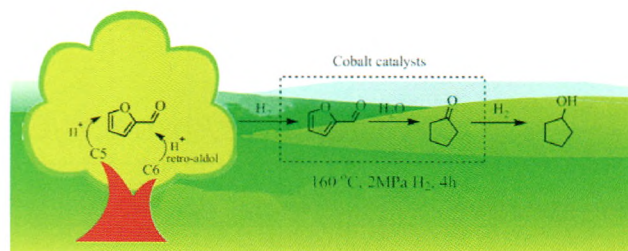
Selective conversion of furfural to cyclopentanol over cobalt catalysts in one step

Yan-Fu Ma, Hao Wang, Guang-Yue Xu, Xiao-Hao Liu, Ying Zhang, Yao Fu

iChEM, CAS Key Laboratory of Urban Pollutant Conversion, Anhui Province Key Laboratory for Biomass Clean Energy and Department of Chemistry, University of Science and Technology of China, Hefei 230026, China

A series of cobalt catalysts with different supports were prepared for the selective conversion of biomass-derived furfural to cyclopentanol in one step. The best CPL yield was 82 mol% at 160 °C, 2 MPa H₂, 4 h when cobalt was supported on tetragonal zirconia that can be obtained by doping La₂O₃.

Chinese Chemical Letters 28 (2017) 1153



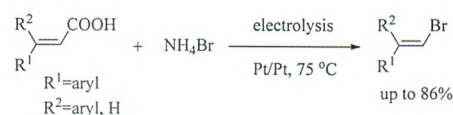
Decarboxylative bromination of α,β -unsaturated carboxylic acids via an anodic oxidation

Mei-Xiang Bi, Peng Qian, Yu-Kang Wang, Zheng-Gen Zha, Zhi-Yong Wang

Hefei National Laboratory for Physical Sciences at Microscale, CAS Key Laboratory of Soft Matter Chemistry and Department of Chemistry & Collaborative Innovation Center of Suzhou Nano Science and Technology, University of Science and Technology of China, Hefei 230026, China

A novel bromination of α,β -unsaturated carboxylic acids was developed via a decarboxylation by virtue of a direct anodic electro-oxidation. In this method, ammonium bromide was employed as a bromine source and the reaction features transition-metal-free, short time, and no additional supporting electrolyte.

Chinese Chemical Letters 28 (2017) 1159



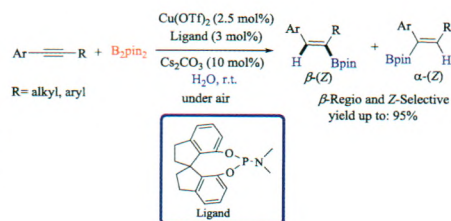
Spiro(phosphoamidite) ligand (SIPHOS)/Cu(OTf)₂-catalyzed highly regio- and stereo-selective hydroborations of internal alkynes with diborane in water

Qing-Qing Xuan, Ya-Hui Wei, Qiu-Ling Song

Institute of Next Generation Matter Transformation, College of Chemical Engineering and College of Material Sciences at Huaqiao University, Xiamen 361021, China

The highly regio- and Z-stereoselective hydroborations of unactivated internal alkynes with diboron compound catalyzed by Cu(OTf)₂ with spiro(phosphoamidite) as ligand in the presence of Cs₂CO₃ in water was developed. This protocol was applied efficiently in the aqueous synthesis of multi-substituted vinylboranes.

Chinese Chemical Letters 28 (2017) 1163



A supramolecular bottlebrush polymer assembled on the basis of cucurbit[8]uril-encapsulation-enhanced donor-acceptor interaction

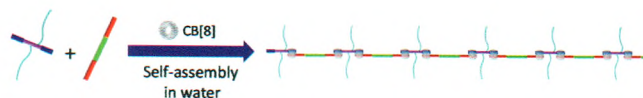
Zhi-Jian Yin^{a,b}, Zong-Quan Wu^a, Feng Lin^b, Qiao-Yan Qi^b, Xiao-Na Xu^b, Xin Zhao^b

^aDepartment of Polymer Science and Engineering, School of Chemistry and Chemical Engineering, Hefei University of Technology, Hefei 230009, China

^bKey Laboratory of Synthetic and Self-assembly Chemistry for Organic Functional Molecules, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

A supramolecular bottlebrush polymer has been constructed in water through cucurbit[8]uril-mediated self-assembly of a rigid electron-deficient building block and an electron-rich monomer which bears two tetraethylene glycol chains.

Chinese Chemical Letters 28 (2017) 1167



Six-step synthesis of Leonurine and toxicity study on zebrafish

Hui Zhao^{a,d}, Xiang-Guo Hu^b, Min-Jie Xu^c, Qun-Xing Cai^d, Yu-Jun Liu^d, Duo-Meng Su^a, Shi-Jin Chen^d, Kai Wang^a, Zhu-Nan Gong^c

^aAnhui Engineering Technology Research Center for Extraction and Isolation of Active Components, Anhui Academy of Applied Technology, Hefei 230031, China

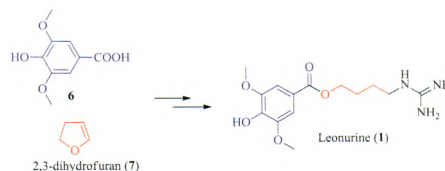
^bNational Engineering Research Center for Carbohydrate Synthesis, Jiangxi Normal University, Nanchang 330022, China

^cSchool of Life Science, Nanjing Normal University, Nanjing 210023, China

^dAnhui Academy of Science and Technology, Hefei 230031, China

An efficient synthesis of Leonurine have been achieved by using compound **6** and 2,3-dihydrofuran (**7**) as starting materials, in which the atom economy seems to be the best of all the synthesis. And the first toxicity study on zebrafish had also been performed.

Chinese Chemical Letters 28 (2017) 1172



An attempted approach to the tricyclic core of haliclونin A: Structural elucidation of the final product by 2D NMR

Yan-Jiao Gao, Shi-Peng Luo, Jian-Liang Ye, Pei-Qiang Huang

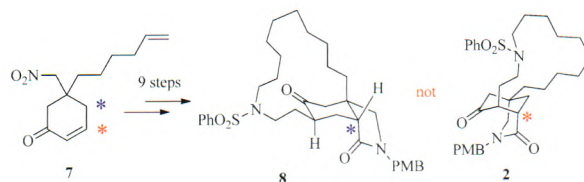
Department of Chemistry, Fujian Provincial Key Laboratory of Chemical Biology,

iChEM (Collaborative Innovation Center of Chemistry for Energy Materials),

College of Chemistry and Chemical Engineering, Xiamen University,

Xiamen 361005, China

As revealed by means of 2D NMR techniques, a synthetic approach designed for the concise construction of the tricyclic core (**2**) of haliclونin A, resulted in the unexpected di-aza-tricyclic compound **8**.



Chinese Chemical Letters 28 (2017) 1176

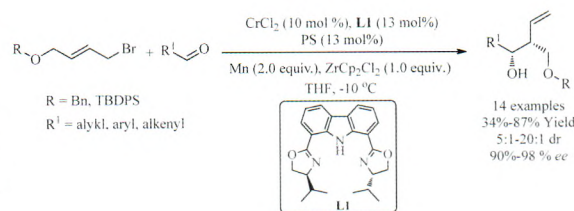
Chromium-catalyzed asymmetric synthesis of 1, 3-diols

Hong-Tao Ji^a, Qing-Shan Tian^b, Jian-Nan Xiang^a, Guo-Zhu Zhang^b

^aCollege of Chemistry and Chemical Engineering, Hunan University, Changsha 410082, China

^bState Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

An efficient, chromium-catalyzed highly enantioselective preparation of protected 1, 3-diols has been achieved. In the presence of a chiral chromium catalyst using the carbazole-based bisoxazoline as the chiral ligand, a variety of optically pure 1,3-diols were synthesized in 34%–87% yields with up to 98% *ee*. The benzyl as well as silyl ethers were suitable substitutions for the hydroxyl group. Meanwhile, aromatic, aliphatic and α , β -unsaturated aldehydes are well tolerated under the mild reaction conditions.



Chinese Chemical Letters 28 (2017) 1182

Gastradefurphenol, a minor 9,9'-neolignan with a new carbon skeleton substituted by two *p*-hydroxybenzyls from an aqueous extract of “tian ma”

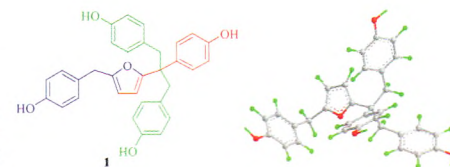
Xue Zhou, Qing-Lan Guo, Cheng-Gen Zhu, Cheng-Bo Xu, Ya-Nan Wang, Jian-Gong Shi

State Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica,

Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China

A minor 9,9'-neolignan with a novel carbon skeleton substituted by two *p*-hydroxybenzyls, named gastradefurphenol, was isolated from an aqueous extract of the *Gastrodia elata* rhizomes (tian ma). Solvent-dependent free rotational restriction of bonds and equilibrium of two molecular states are discussed by comparison of the NMR spectroscopic data of **1** in acetone-*d*₆ with those in CD₃OD. A plausible biosynthetic pathway of **1** is postulated to be associated with metabolic processes of L-tyrosine.

Chinese Chemical Letters 28 (2017) 1185



5-Alkylpyrrole-2-carboxaldehyde derivatives from the Chinese sponge *Mycale lissochela* and their PTP1B inhibitory activities

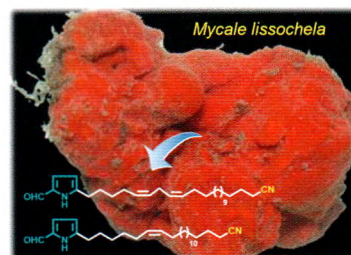
Duo-Qing Xue^a, Hai-Li Liu^a, Si-Han Chen^a, Ernesto Mollo^b, Margherita Gavagnin^b, Jia Li^a, Xu-Wen Li^a, Yue-Wei Guo^a

^aState Key Laboratory of Drug Research, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 201203, China

^bInstitute of Biomolecular Chemistry (ICB) of the National Research Council (CNR), Via Campi Flegrei 34, 80078, Pozzuoli, Napoli, Italy

Two new 5-alkylpyrrole-2-carboxaldehyde derivatives, mycalenitrile-15 (**1**) and mycalenitrile-16 (**2**), were isolated from the South China Sea sponge *Mycale lissochela*, and were found to exhibit significant PTP1B inhibitory activities.

Chinese Chemical Letters 28 (2017) 1190



Alkaloids from the endophytic fungus *Penicillium brefeldianum* and their cytotoxic activities

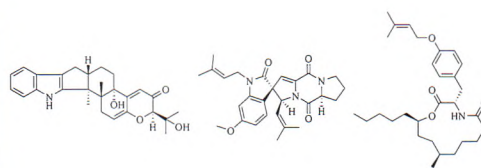
Na Gao, Zhi-Chun Shang, Pei Yu, Jie Luo, Kai-Li Jian, Ling-Yi Kong, Ming-Hua Yang

State Key Laboratory of Natural Medicines, Department of Natural Medicinal Chemistry, China Pharmaceutical University, Nanjing 210009, China

Three new (**1–3**) and 8 known alkaloids were isolated from the cultures of an endophytic fungus *Penicillium brefeldianum*. The circular dichroism (CD) exciton chirality method was used to determine the absolute configurations of **1** and **2**. These metabolites showed different cytotoxic activities to three human tumor cell lines.



Chinese Chemical Letters 28 (2017) 1194



Microbial transformation of glycyrrhetic acid and potent neural anti-inflammatory activity of the metabolites

Yuan Ma^{a,b}, Ji-Mei Liu^a, Ri-Dao Chen^{a,c}, Xi-Qiang An^b, Jun-Gui Dai^{a,c}

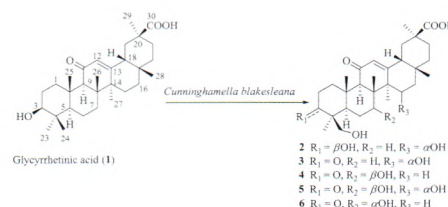
^aState Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences & Peking Union Medical College, Beijing 100050, China

^bXinjiang Institute of Materia Medica, Urumqi 830004, China

^cBeijing Key Laboratory of Non-Clinical Drug Metabolism and PK/PD Study, Institute of Materia Medica, Chinese Academy of Medical Sciences & Peking Union Medical College, Beijing 100050, China

The microbial transformation of glycyrrhetic acid (**1**) by *Cunninghamella blakesleana* CGMCC 3.970 led to the production of five new metabolites (**2–6**). Compounds **2**, **5**, and **6** showed significant neural anti-inflammatory activity by inhibiting lipopolysaccharide-induced NO production in mouse microglia BV2 cells with IC₅₀ values of 0.76, 0.94, and 0.16 μmol/L, respectively.

Chinese Chemical Letters 28 (2017) 1200



Three new dimeric diterpenes from *Rhododendron molle*

Shuai-Zhen Zhou^{a,b}, Chun-Ping Tang^{a,b}, Chang-Qiang Ke^{a,b}, Sheng Yao^{a,b}, Ge Lin^{b,c}, Yang Ye^{a,b,d}

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

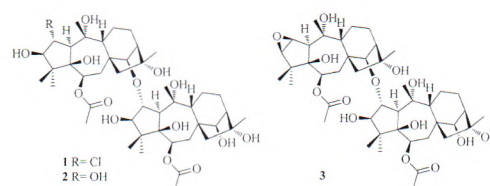
^bSIMM-CUHK Joint Research Laboratory for Promoting Globalization of Traditional Chinese Medicines between Shanghai Institute of Materia Medica, Chinese Academy of Sciences and The Chinese University of Hong Kong, China

^cSchool of Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong, China

^dSchool of Life Science and Technology, ShanghaiTech University, Shanghai 201203, China

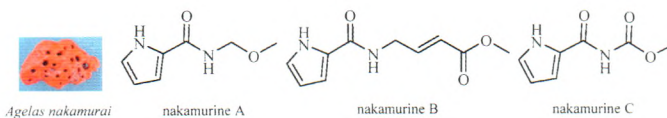
The first examples of dimeric diterpenoids from the Ericaceae family, birhodomolleins A–C (**1–3**), which dimerized from two grayanane diterpenes through a C–O–C bond, were isolated from the flowers of *Rhododendron molle*. Their structures were elucidated by interpretation of their 1D and 2D NMR and other spectroscopic data.

Chinese Chemical Letters 28 (2017) 1205



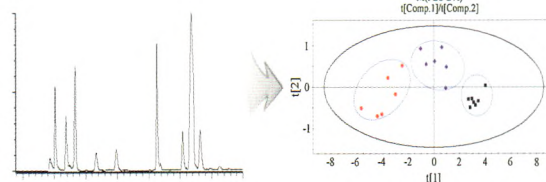
Three new non-brominated pyrrole alkaloids from the South China Sea sponge *Agelas nakamurai*

Chinese Chemical Letters 28 (2017) 1210

Mei-Jun Chu^{a,b}, Xu-Li Tang^c, Guo-Fei Qin^{a,b}, Nicole J. de Voogd^d, Ping-Lin Li^{a,b}, Guo-Qiang Li^{a,b}^aKey Laboratory of Marine Drugs, Chinese Ministry of Education, School of Medicine and Pharmacy, Ocean University of China, Qingdao 266003, China^bLaboratory of Marine Drugs and Biological Products, National Laboratory for Marine Science and Technology, Qingdao 266235, China^cCollege of Chemistry and Chemical Engineering, Ocean University of China, Qingdao 266100, China^dNational Museum of Natural History, 2300 RA Leiden, The NetherlandsThree new pyrrole alkaloids, nakamurines A–C were isolated from the South China Sea sponge *Agelas nakamurai*.

Quantitative analysis of urinary endogenous markers for the treatment effect of *Radix Scutellariae* on type 2 diabetes rats

Chinese Chemical Letters 28 (2017) 1214

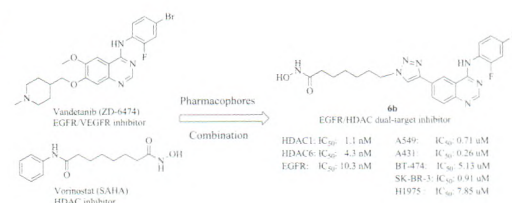
Guang-Yue Hou^a, Li-Hui Men^b, Lu Wang^a, Zhong Zheng^a, Zhi-Qiang Liu^a, Feng-Rui Song^a, Zhong-Ying Liu^b^aNational Center for Mass Spectrometry in Changchun & Jilin Province Key Laboratory of Chinese Medicine Chemistry and Mass Spectrometry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China^bSchool of Pharmaceutical Sciences, Jilin University, Changchun 130012, ChinaLC–MS/MS quantitative analysis combined with multivariate statistical analysis is used for evaluating the metabolic response of *Radix Scutellariae* treated DM2 rats.

Discovery of ErbB/HDAC inhibitors by combining the core pharmacophores of HDAC inhibitor vorinostat and kinase inhibitors vandetanib, BMS-690514, neratinib, and TAK-285

Chinese Chemical Letters 28 (2017) 1220

Chao Ding^{a,b}, Dan Li^{a,b}, Yan-Wei Wang^{a,b}, Sai-Sai Han^{a,b}, Chun-Mei Gao^b, Chun-Yan Tan^b, Yu-Yang Jiang^{a,c}^aDepartment of Chemistry, Tsinghua University, Beijing 100084, China^bThe State Key Laboratory Breeding Base-Shenzhen Key Laboratory of Chemical Biology, The Graduate School at Shenzhen, Tsinghua University, Shenzhen 518055, China^cDepartment of Pharmacology and Pharmaceutical Sciences, School of Medicine, Tsinghua University, Beijing 100084, China

By merging the critical pharmacophore of kinase and HDAC inhibitors into one compound, a novel series of 6-(1,2,3-triazol-4-yl)-4-aminoquinazolin derivatives possessing hydroxamic acid moiety were synthesized as ErbB and HDAC dual-targeted inhibitors.

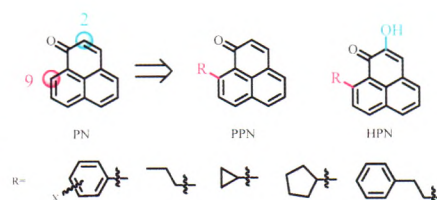


Synthesis and insecticidal evaluation of phytoalexin phenalenones derivatives

Chinese Chemical Letters 28 (2017) 1228

Ya-Nan Zhang, Yi-An Feng, Zhong Li, Xu-Sheng Shao

Shanghai Key Laboratory of Chemical Biology, School of Pharmacy, East China University of Science and Technology, Shanghai 20037, China

A set of derivatives encompassing structural modifications on the privileged phenalenone scaffold were synthesized through introduction of phenyl and hydroxyl substitutes at 9-position and 2-position and assessed their insecticidal activities against armyworm (*Mythimna separata* Walker) and cowpea aphids (*Aphis craccivora*).

Design and synthesis of chitin synthase inhibitors as potent fungicides

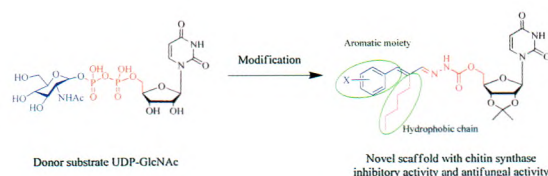
Qi Chen^a, Ji-Wei Zhang^{b,c}, Lu-Lu Chen^b, Jun Yang^a, Xin-Ling Yang^b, Yun Ling^b, Qing Yang^a

^aState Key Laboratory of Fine Chemical Engineering and School of Life Science and Biotechnology, Dalian University of Technology, Dalian 116024, China

^bKey Laboratory of Pesticide Chemistry and Application, Ministry of Agriculture, Department of Applied Chemistry, College of Science, China Agricultural University, Beijing 100193, China

^cCentral Research Institute of China Chemical Science & Technology, Beijing 100083, China

According to the structure of chitin synthase donor substrate, UDP-GlcNAc, as well as the modelled structure of the bacterial chitin synthase NodC, a novel scaffold with chitin synthase inhibitory activity and antifungal activity was developed.



Chinese Chemical Letters 28 (2017) 1238

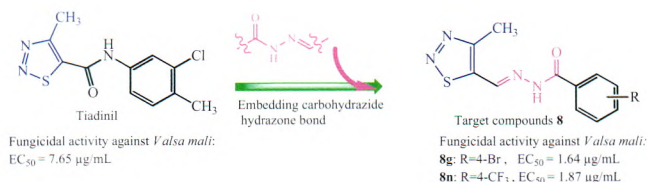
Synthesis and biological evaluation of 4-methyl-1,2,3-thiadiazole-5-carboxaldehyde benzoyl hydrazone derivatives

Jing-Peng Zhang^a, Xiang-Yang Li^b, Ya-Wen Dong^a, Yao-Guo Qin^a, Xin-Lu Li^a, Bao-An Song^b, Xin-Ling Yang^a

^aDepartment of Applied Chemistry, College of Science, China Agricultural University, Beijing 100193, China

^bKey Laboratory of Green Pesticide and Agricultural Bioengineering, Ministry of Education, Research and Development Center for Fine Chemicals, Guizhou University, Guiyang 550025, China

A series of novel 4-methyl-1,2,3-thiadiazole-5-carboxaldehyde benzoyl hydrazone derivatives designed and synthesized. They were exhibited moderate to strong fungicidal activity against six fungi *in vitro* at 50 µg/mL, and some of them presented good curative activity against TMV *in vivo* at 500 µg/mL.



Chemoselective synthesis and cytotoxic activity of a series of novel benzo[1,4]oxazin-3-one derivatives

Peng Wang^a, Fei Liu^a, Qiu Zhong^{b,c}, Shi-Long Zheng^{b,c}, Yue Chen^d, Guang-Di Wang^{b,c}, Ling He^a

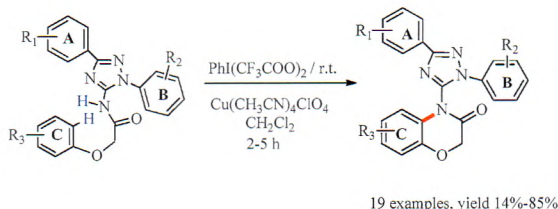
^aKey Laboratory of Drug-Targeting and Drug-Delivery Systems of the Ministry of Education, Department of Medicinal Chemistry, West China School of Pharmacy, Sichuan University, Chengdu 610041, China

^bRCMI Cancer Research Center, Xavier University of Louisiana, New Orleans 70125, USA

^cDepartment of Chemistry, Xavier University of Louisiana, New Orleans 70125, USA

^dDepartment of Nuclear Medicine Affiliated Hospital, Luzhou Medical College, Luzhou 646000, China

Effects of substituent on the activity and selectivity have been investigated. The substituent group in the *meta*-position of arene gave corresponding six-membered heterocyclic products.



Chinese Chemical Letters 28 (2017) 1248

Design, synthesis and insecticidal activities of novel anthranilic diamides containing fluorinated groups as potential ryanodine receptors activators

Chang-Chun Wu, Bao-Lei Wang, Jing-Bo Liu, Wei Wei, Yu-Xin Li, Yang Liu, Ming-Gui Chen, Li-Xia Xiong, Na Yang, Zheng-Ming Li

State Key Laboratory of Elemento-Organic Chemistry, Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Nankai University, Tianjin 300071, China

A series of anthranilic diamides containing various fluorinated groups were designed, synthesized and characterized. Their insecticidal activities against oriental armyworm and diamondback moth were evaluated accordingly. The preliminary structure-activity relationship (SAR) was also discussed.



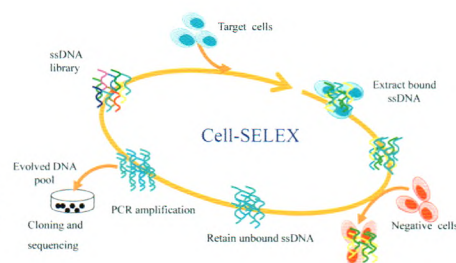
DNA aptamer selected for specific recognition of prostate cancer cells and clinical tissues

Zhi-Xiang Huang, Qin Xie, Qiu-Ping Guo, Ke-Min Wang, Xiang-Xian Meng, Bao-Yin Yuan, Jun Wan, Yuan-Yuan Chen

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

SELEX process for human prostate cancer cell line PC-3M-1E8 and PC-3M-2B4. The obtained aptamers recognize PC-3M cells with good affinity in the low nanomolar range. Moreover, the tissue imaging results showed that truncated sequence named Xq-2-C1 had better recognition ratio for clinical prostate cancer tissue samples compared to the random sequence.

Chinese Chemical Letters 28 (2017) 1252



A Rhodamine-based fluorescent sensor for chromium ions and its application in bioimaging

Xue-Mei Li^a, Rui-Rui Zhao^b, Yan Yang^b, Xue Wei Lv^b, Yu-Ling Wei^a, Rui Tan^c, Jun-Feng Zhang^c, Ying Zhou^b

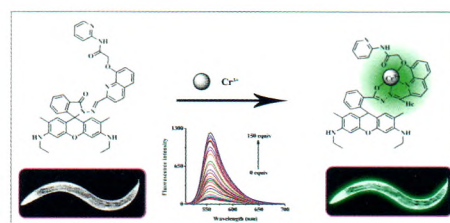
^aDepartment of Safety Evaluation, Technology Center of China Tobacco Yunnan Industrial Co., Ltd., Kunming 650231, China

^bCollege of Chemical Science and Technology, Yunnan University, Kunming 650091, China

^cCollege of Chemistry and Chemical Engineering, Yunnan Normal University, Kunming 650500, China

A rhodamine-based sensor has been developed for the detection of chromium ions, with a significant fluorescence enhancement of up to 13-fold. This sensor was a low toxic compound, and was successfully applied in the *in vivo* imaging of Cr³⁺ in *C. elegans*.

Chinese Chemical Letters 28 (2017) 1258



Synthesis of fluorescent bisboronic acid sensors and their recognition of mono-/oligo-saccharides

Yan-En Wang^{a,b}, Rui-Xue Rong^{a,c}, Hua Chen^a, Meng-Yuan Zhu^d, Bing-He Wang^d, Xiao-Liu Li^a

^aKey Laboratory of Chemical Biology of Hebei Province, College of Chemistry and Environmental Science, Hebei University, Baoding 071002, China

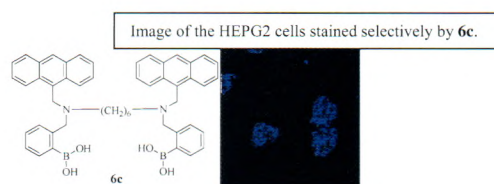
^bCollege of Science, Agricultural University of Hebei, Baoding 071001, China

^cMedical School, Hebei University, Baoding 071002, China

^dDepartment of Chemistry and Center for Diagnostics and Therapeutics, Georgia State University, Atlanta, GA 30303, USA

Anthracene-based bisboronic acids as fluorescent sensors for mono-/oligosaccharides were designed and synthesized.

Chinese Chemical Letters 28 (2017) 1262



Crystalline inclusion complexes formed between the drug diflunisal and block copolymers

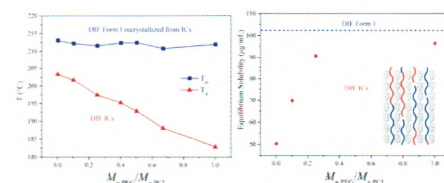
Zhi Zhong^a, Xiaotong Yang^a, Xiao-Bin Fu^b, Ye-Feng Yao^b, Bao-Hua Guo^a, Yanbin Huang^a, Jun Xu^a

^aKey Laboratory of Advanced Materials (MOE), Department of Chemical Engineering, Tsinghua University, Beijing 100084, China

^bShanghai Key Laboratory of Magnetic Resonance, Institute of Functional Materials, School of Physics and Materials Science, East China Normal University, Shanghai 200062, China

PCL-*b*-PEG block copolymers were adopted to form inclusion complex crystals (ICs) with drug diflunisal (DIF). The ability to form inclusion complex crystals increased and the equilibrium solubility of the complex decreased with arising PCL block length when the PEG block length was fixed.

Chinese Chemical Letters 28 (2017) 1268

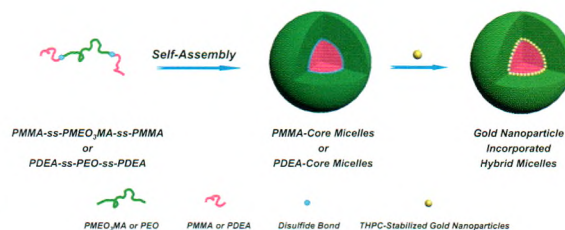


Chinese Chemical Letters 28 (2017) 1276

Precisely installing gold nanoparticles at the core/shell interface of micellar assemblies of triblock copolymers

Kangning Zhu^a, Zhiyuan Zhu^a, Haiou Zhou^b, Jingyan Zhang^{a,b}, Shiyong Liu^a^aCAS Key Laboratory of Soft Matter Chemistry, Hefei National Laboratory for Physical Sciences at the Microscale, iChem (Collaborative Innovation Center of Chemistry for Energy Materials), Department of Polymer Science and Engineering, University of Science and Technology of China, Hefei 230026, China^bSchool of Materials and Chemical Engineering, Anhui Jianzhu University, Hefei 230022, China

Supramolecular self-assembly of the triblock copolymers and precisely install the gold nanoparticles at the core/shell interface of the micelles.



Chinese Chemical Letters 28 (2017) 1285

Effect of acidity on morphologies and photodimerization kinetics in Langmuir-Blodgett monolayers of styrylquinoline derivatives

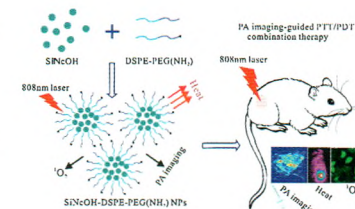
Yingxue Ma^{a,b}, Lu Lin^c, Li Zhang^a, Minghua Liu^a, Yuan Guo^{a,b}, Zhou Lu^{a,b}^aBeijing National Laboratory for Molecular Sciences, CAS Research/Education Center for Excellence in Molecular Sciences, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China^bUniversity of Chinese Academy Sciences, Beijing 100049, China^cNational Center for Nanoscience and Technology, Beijing 100190, China

The real-time second harmonic generation was employed to reveal the acidic effect on the photodimerization kinetics of styrylquinoline derivatives in Langmuir-Blodgett monolayers.



Chinese Chemical Letters 28 (2017) 1290

Polyethylene glycol phospholipids encapsulated silicon 2,3-naphthalocyanine dihydroxide nanoparticles (SiNcOH-DSPE-PEG(NH₂) NPs) for single NIR laser induced cancer combination therapy

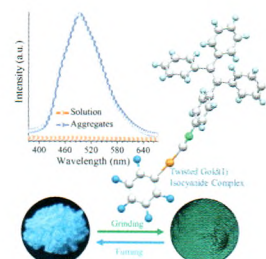
Jing-Ping Wei^a, Xiao-Lan Chen^a, Xiao-Yong Wang^b, Jing-Chao Li^a, Sai-Ge Shi^a, Gang Liu^b, Nan-Feng Zheng^a^aState Key Laboratory for Physical Chemistry of Solid Surfaces, Collaborative Innovation Center of Chemistry for Energy Materials and Department of Chemistry, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China^bState Key Laboratory of Molecular Vaccinology and Molecular Diagnostics Center for Molecular Imaging and Translational Medicine, School of Public Health, Xiamen University, Xiamen 361005, ChinaA novel theranostic nanoplatform (SiNcOH-DSPE-PEG(NH₂) NPs) has been successfully developed by coating silicon 2,3-naphthalocyanine dihydroxide (SiNcOH) with DSPE-PEG and DSPE-PEG-NH₂ for photoacoustic (PA) imaging-guided PTT and PDT tumor ablation.

Chinese Chemical Letters 28 (2017) 1300

Aggregation-induced phosphorescence and mechanochromic luminescence of a tetraphenylethene-based gold(I) isocyanide complex

Wen-Bo Li, Wei-Jian Luo, Kai-Xuan Li, Wang-Zhang Yuan, Yong-Ming Zhang

Shanghai Key Lab of Electrical Insulation and Thermal Aging, Shanghai Electrochemical Energy Devices Research Center, School of Chemistry and Chemical Engineering, Shanghai Jiao Tong University, Shanghai 200240, China

A new twisted gold(I) isocyanide complex based on tetraphenylethene exhibits aggregation-induced phosphorescence characteristics and reversible mechanochromism between crystalline and amorphous states. Such high contrast mechanism from crystals to amorphous solids upon grinding is resulted from conformation planarization, the enhancement of $\pi \cdots \pi$ stacking, and the emergence of aurophilic interactions.

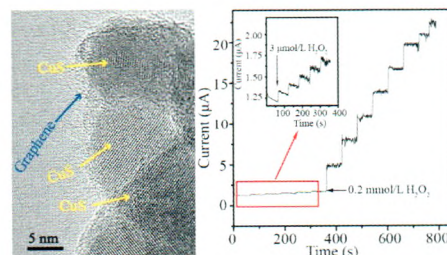
CuS/RGO hybrid by one-pot hydrothermal method for efficient electrochemical sensing of hydrogen peroxide

Wei Liu, Chaojun Lei, Hongxiu Zhang, Xiaolin Wu, Qing Jia, Denghong He, Bin Yang, Zhongjian Li, Yang Hou, Lecheng Lei, Xingwang Zhang

Key Laboratory of Biomass Chemical Engineering of Ministry of Education, College of Chemical and Biological Engineering, Zhejiang University, Hangzhou 310027, China

Using thiourea as reducing agent and sulfur donor, CuS/RGO hybrid was synthesized through a facile one-pot hydrothermal method. The as-prepared CuS/RGO hybrid showed excellent performance toward hydrogen peroxide detection.

Chinese Chemical Letters 28 (2017) 1306



Fabrication of porous graphitic carbon nitride-titanium dioxide heterojunctions with enhanced photo-energy conversion activity

Yan-Fei Shen^a, Cheng Zhang^b, Chun-Guang Yan^a, Hui-Qin Chen^c, Yuan-Jian Zhang^b

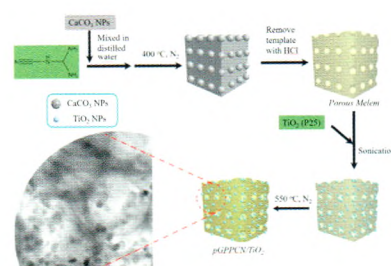
^aMedical School, Southeast University, Nanjing 210009, China

^bSchool of Chemistry and Chemical Engineering, Southeast University, Nanjing 210098, China

^cDepartment of Electronic Engineering, Southeast University Chengxian College, Nanjing 210088, China

Porous graphite-phase polymeric carbon nitride (GPPCN)/TiO₂ donor-acceptor heterojunction was facilely fabricated through the combination of a template technique with a co-calcination process, which exhibited much higher photoelectric activity compared to pristine carbon nitride and TiO₂.

Chinese Chemical Letters 28 (2017) 1312



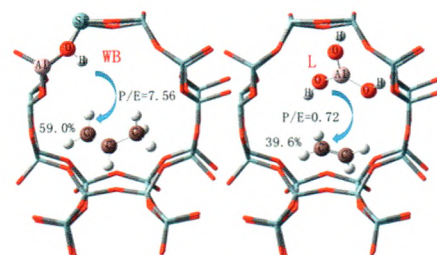
Flexible regulation of C₃*/C₂* ratio in methanol-to-hydrocarbons by delicate control of acidity of ZSM-5 catalyst

Shu-Fang Zhao, Xu-Ting Yao, Bing-Hui Yan, Li Li, Yue-Ming Liu, Ming-Yuan He

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

The acidity control of MTH catalyst is crucial to obtaining high C₂* + C₃* selectivity and adjustable C₃*/C₂* ratio.

Chinese Chemical Letters 28 (2017) 1318



Synthesis of MnO₂/N-doped ultramicroporous carbon nanospheres for high-performance supercapacitor electrodes

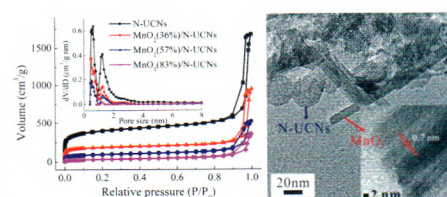
Wen-Jing Lu^a, Shi-Ze Huang^b, Ling Miao^a, Ming-Xian Liu^a, Da-Zhang Zhu^a, Liang-Chun Li^a, Hui Duan^a, Zi-Jie Xu^a, Li-Hua Gan^a

^aShanghai Key Lab of Chemical Assessment and Sustainability, School of Chemical Science and Engineering, Tongji University, Shanghai 201804, China

^bKey Laboratory of Road and Traffic Engineering of Ministry of Education, Tongji University, Shanghai 200092, China

A simple and highly efficient strategy to synthesize MnO₂/nitrogen-doped ultramicroporous carbon nanospheres (MnO₂/N-UCNs) was demonstrated. MnO₂/N-UCNs have regular ultramicropores, high surface area, nitrogen heteroatom, and high content of MnO₂, and thus exhibit excellent electrochemical performance for supercapacitor electrodes.

Chinese Chemical Letters 28 (2017) 1324



Pd/C modified with Sn catalyst for liquid-phase selective hydrogenation of maleic anhydride to gamma-butyrolactone

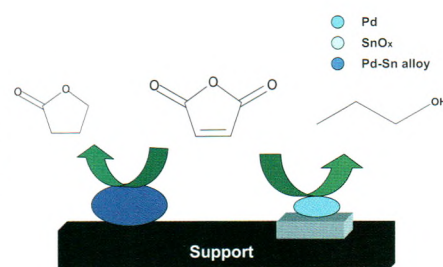
Rongrong Li^{a,b}, Jia Zhao^a, Deman Han^b, Xiaonian Li^a

^aIndustrial Catalysis Institute of Zhejiang University of Technology, Hangzhou 310014, China

^bSchool of Pharmaceutical and Chemical Engineering, Tai Zhou University, Taizhou 317000, China

The types of alloy phase and the amounts of the surface Pd-SnO(x) sites altered along with Sn/Pd mass ratios from 0–1.0 synthesized in the process of preparation. The maximum reaction rate was 0.57 mol-GBL/(mol-Pd min) and selectivity was 95.94% when the Sn/Pd mass ratio was 0.6. It might be attributed to the formation of Pd₂Sn alloy and less amounts of Pd-SnO(x) sites.

Chinese Chemical Letters 28 (2017) 1330



Direct synthesis of nitriles by Cu/DMEDA/TEMPO-catalyzed aerobic oxidation of primary amines with air

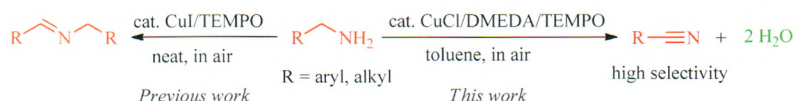
Xian-Tao Ma^{a,b}, Hao Xu^b, Ying-Lin Xiao^a, Chen-Liang Su^{a,b}, Jian-Ping Liu^b, Qing Xu^{a,b}

^aSZU-NUS Collaborative Innovation Center for Optoelectronic Science & Technology, Key Laboratory of Optoelectronic Devices and Systems of Ministry of Education and Guangdong Province, College of Optoelectronic Engineering, Shenzhen University, Shenzhen 518060, China

^bCollege of Chemistry and Materials Engineering Department, Wenzhou University, Wenzhou 325035, China

A simple and readily available CuCl/DMEDA/TEMPO system-catalyzed aerobic oxidation of primary amines using air as an advantageous oxidant is developed for direct and selective synthesis of the useful nitriles under mild conditions.

Chinese Chemical Letters 28 (2017) 1336



Caffeine catalyzed green synthesis of novel benzo[a][1,3]oxazino[6,5-c]phenazines via a one-pot multi-component sequential protocol in a basic ionic liquid

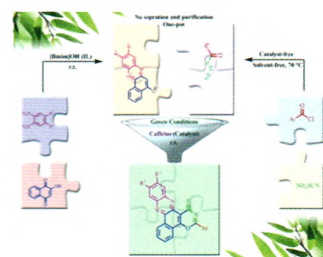
Razieh Mohebat^a, Afshin Yazdani-Elah-Abadi^b

^aYoung Researchers and Elite Club, Yazd Branch, Islamic Azad University, Yazd, Iran

^bDepartment of Biology, Science and Art University, Yazd, Iran

Caffeine was applied as a green and natural catalyst for the one-pot, four-component sequential condensation between 2-hydroxy-1,4-naphthoquinone, aromatic 1,2-diamines, ammonium thiocyanate and acid chlorides in the presence of a basic ionic liquid (1-butyl-3-methylimidazolium hydroxide) to afford the corresponding benzo[a][1,3]oxazino[6,5-c]phenazine derivatives.

Chinese Chemical Letters 28 (2017) 1340



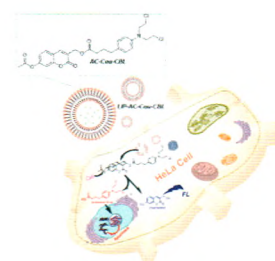
Intracellular enzyme-activatable prodrug for real-time monitoring of chlorambucil delivery and imaging

Meng Ni, Wen-Jun Zeng, Xin Xie, Ze-Lin Chen, Hao Wu, Chang-Min Yu, Bo-Wen Li

College of Materials Science & Engineering, South China University of Technology, Guangzhou 510640, China

A new carboxylesterase-activatable prodrug has been developed for enzyme-biomarker-triggered drug release and *in situ* monitoring of drug release, therapeutic effect and biomarker level.

Chinese Chemical Letters 28 (2017) 1345



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