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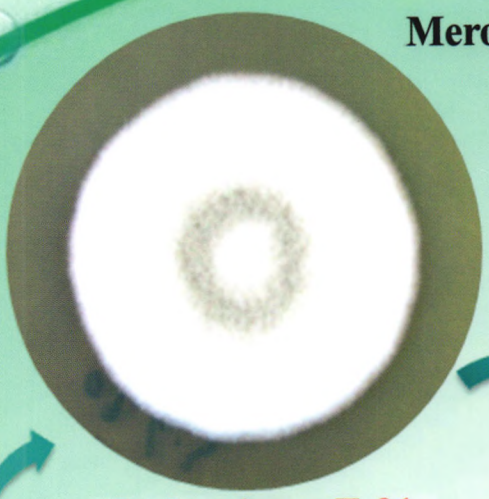
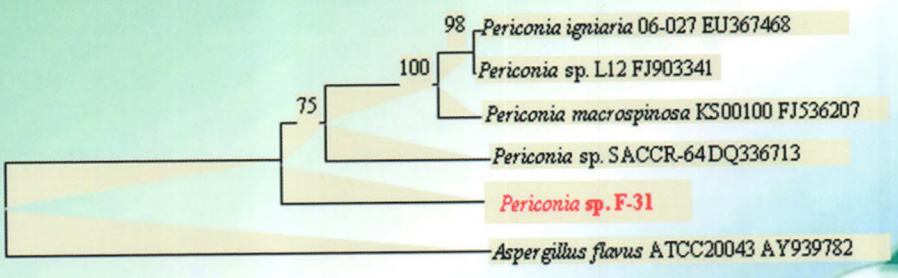
Chinese Chemical Letters

| Volume 28 | Number 2 | FEBRUARY 2017 |

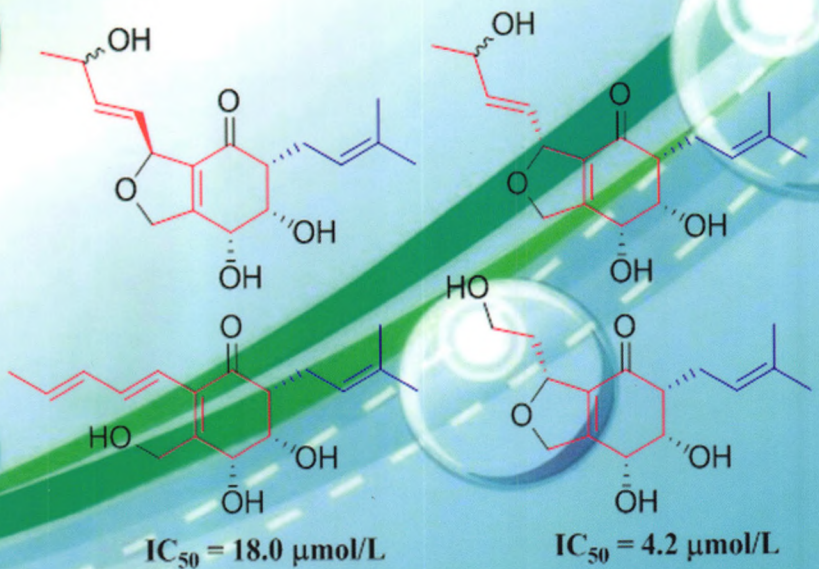
Meroterpenoids from endophytic fungus *Periconia* sp. F-31



Periconia sp. F-31



Annona muricata



Provided by Dr. Jun-Gui Dai's group

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ORIGINAL ARTICLE
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ORIGINAL ARTICLE
Si-Chong Chen
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Graphical Abstracts/Chin Chem Lett 28 (2017) iii-xviii

Original Articles

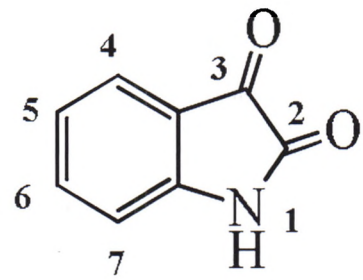
Chinese Chemical Letters 28 (2017) 159

Isatin hybrids and their anti-tuberculosis activity

Zhi Xu[a], Shu Zhang[b], Chuan Gao[c], Jing Fan[d], Feng Zhao[c], Zao-Sheng Lv[a], Lian-Shun Feng[a,c,e]

[a]*Wuhan University of Science and Technology, 430081, China*
[b]*Pony Testing International Group, Wuhan 430034, China*
[c]*WuXi AppTec, Wuhan 430075, China*
[d]*Hengshui University, Hengshui 053000, China*
[e]*Synthetic and Functional Biomolecules Center, Peking University, Beijing 100871, China*

This review outlines the advances in the application of isatin hybrids as antimycobacterial agents and the critical aspects of design and structure–activity relationship of these derivatives.



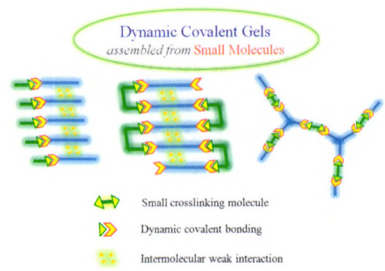
Chinese Chemical Letters 28 (2017) 168

Dynamic covalent gels assembled from small molecules: from discrete gelators to dynamic covalent polymers

Jian-Yong Zhang, Li-Hua Zeng, Juan Feng

Sun Yat-Sen University, Lehn Institute of Functional Materials, MOE Key Laboratory of Polymeric Composite and Functional Materials, Guangzhou 510275, China

This article reviews the progress in the research and development of dynamic covalent chemistry in low molecular weight gels and dynamic covalent polymer gels assembled from small molecules.



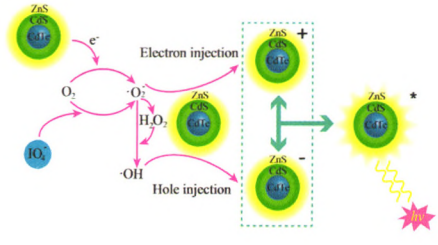
Chinese Chemical Letters 28 (2017) 184

Enhanced chemiluminescence from reactions between CdTe/CdS/ZnS quantum dots and periodate

Yu Li, Yong-Zan Zheng, Ding-Kun Zhang, Hai-Fang Li, Yuan Ma, Jin-Ming Lin

Beijing Key Laboratory of Microanalytical Methods and Instrumentation, Department of Chemistry, Tsinghua University, Beijing 100084, China

A novel chemiluminescence (CL) system of CdTe/CdS/ZnS quantum dots (QDs) and periodate (KIO_4) was studied. Strong and fast CL performance appeared when KIO_4 solution was injected into CdTe/CdS/ZnS QDs directly and relevant CL mechanism was speculated to be radiative recombination of injected holes and electrons.



doi:10.1016/S1001-8417(16)30431-4

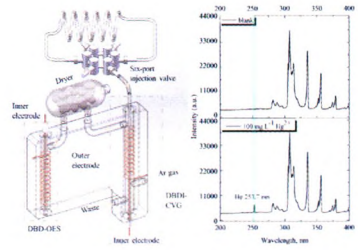
A sensitive and compact mercury analyzer by integrating dielectric barrier discharge induced cold vapor generation and optical emission spectrometry

Chinese Chemical Letters 28 (2017) 189

An-Qin Leng[a], Yun-Fei Tian[b], Ming-Xuan Wang[a], Li Wu[b], Kai-Lai Xu[a], Xian-Deng Hou[a,b], Cheng-Bin Zheng[a]

[a]*College of Chemistry, Sichuan University, Chengdu 610064, China*
[b]*Analytical & Testing Center, Sichuan University, Chengdu 610064, China*

A robust and compact mercury analyzer integrating a thin film dielectric barrier discharge induced cold vapor generator and a dielectric barrier discharge optical emission spectrometer was developed for the determination of mercury in water samples.



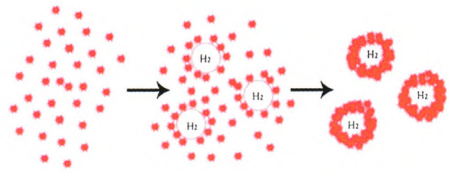
One-step synthesis of hollow UO_2 nanospheres *via* radiolytic reduction of ammonium uranyl tricarbonate

Chinese Chemical Letters 28 (2017) 197

Yong-Ming Wang, Qing-De Chen, Xing-Hai Shen

Beijing National Laboratory for Molecular Sciences, Fundamental Science on Radiochemistry and Radiation Chemistry Laboratory, Department of Applied Chemistry, College of Chemistry and Molecular Engineering, Peking University, Beijing 100871, China

Hollow nanospheres (ϕ: 30–50 nm, wall thickness: 8–15 nm, cavity diameter: 10–20 nm), consisted of UO_2 nanoparticles (ϕ: 3–5 nm), were successfully obtained by the radiolytic reduction of ammonium uranyl tricarbonate in the $HCOONH_4$ aqueous solution through gas-bubble assembly mechanism.



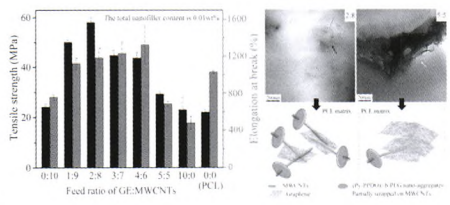
Preparation of polymer nanocomposites with enhanced mechanical properties using hybrid of graphene and partially wrapped multi-wall carbon nanotube as nanofiller

Chinese Chemical Letters 28 (2017) 201

Jiao You, Jiang-Yong-Quan Cao, Si-Chong Chen, Yu-Zhong Wang

Center for Degradable and Flame-Retardant Polymeric Materials, State Key Laboratory of Polymer Materials Engineering, College of Chemistry, National Engineering Laboratory of Eco-Friendly Polymeric Materials (Sichuan), Sichuan University, Chengdu 610064, China

The PCL nanocomposite films prepared by using GE/(Py-PPDO)2-b-PEG@MWCNTs as hybrid nanofiller exhibited a greatly improved mechanical property at very low hybrid nanofiller content.



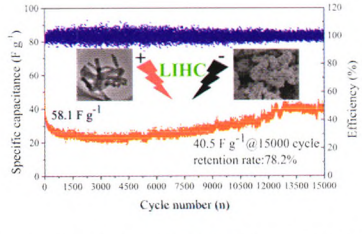
Synthesis of Co–Ni oxide microflowers as a superior anode for hybrid supercapacitors with ultralong cycle life

Chinese Chemical Letters 28 (2017) 206

Ling-Yang Liu[a,c], Xu Zhang[c], Hong-Xia Li[c], Bao Liu[c], Jun-Wei Lang[c], Ling-Bin Kong[a,b], Xing-Bin Yan[c]

[a]*State Key Laboratory of Advanced Processing and Recycling of Non-ferrous Metals, Lanzhou University of Technology, Lanzhou 730050, China*
[b]*School of Materials Science and Engineering, Lanzhou University of Technology, Lanzhou 730050, China*
[c]*Laboratory of Clean Energy Chemistry and Materials, State Key Laboratory of Solid Lubrication, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, China*

As a typical battery-type material, Co–Ni oxide (CoNiO) which was synthesized by a simple co-precipitation method and capacitor-type activated polyaniline-derived carbon (APDC) were used to assemble LIHCs as the anode and cathode electrode materials, respectively. The assembled LIHC exhibits excellent cycle stability with the capacitance retention of ~78.2% after 15,000 cycles at a current density of 0.5 A g^{-1}.



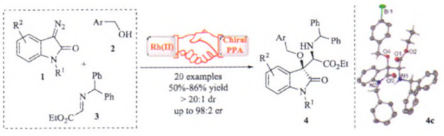
Chinese Chemical Letters 28 (2017) 213

Enantioselective trapping of oxonium ylide intermediates by *N*-benzhydryl-α-imino ester: Synthesis of β-tetrasubstituted α-amino acids

Shi-Kun Jia, Yu-Bing Lei, Long-Long Song, Shun-Ying Liu, Wen-Hao Hu

Shanghai Engineering Research Center of Molecular Therapeutics and New Drug Development, School of Chemistry and Chemical Engineering, East China Normal University, Shanghai 200062, China

A synergistic rhodium(II)/phosphoric acid catalyzed three component reaction is developed to construction of chiral β-alkoxy C^{β}-tetrasubstituted α-amino acid derivatives.



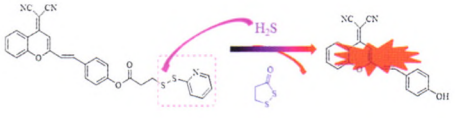
Chinese Chemical Letters 28 (2017) 218

A near-infrared fluorescent probe for monitoring fluvastatin-stimulated endogenous H_2S production

Li-Li Zhang[a], Hui-Kun Zhu[b], Chun-Chang Zhao[a], Xian-Feng Gu[b]

[a]*Key Laboratory for Advanced Materials and Institute of Fine Chemicals, East China University of Science and Technology, Shanghai 200237, China*
[b]*Department of Medicinal Chemistry, School of Pharmacy, Fudan University, Shanghai 201203, China*

A new fluorescent probe was designed for H_2S, which showed significant NIR fluorescence turn-on response to H_2S with high selectivity. Importantly, the probe has been successfully applied in monitoring the endogenous production of H_2S in raw264.7 macrophages upon stimulation with fluvastatin.



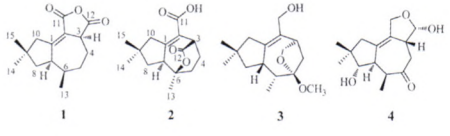
Chinese Chemical Letters 28 (2017) 222

Two new tremulane sesquiterpenes from a mangrove endophytic fungus, *Coriolopsis* sp. J5

Liang-Liang Chen, Fan-Dong Kong, Pei Wang, Jing-Zhe Yuan, Zhi-Kai Guo, Hao Wang, Hao-Fu Dai, Wen-Li Mei

Key Laboratory of Biology and Genetic Resources of Tropical Crops, Ministry of Agriculture, Institute of Tropical Bioscience and Biotechnology, Chinese Academy of Tropical Agricultural Sciences, Haikou 571101, China

Two new tremulane sesquiterpenes coriolopsin A (**1**) and coriolopsin B (**2**), together with two known ones conocenol C (**3**) and ceriponol E (**4**), were isolated from the fermentation extract of endophytic fungus *Coriolopsis* sp. J5 from *Ceriops tagal*.



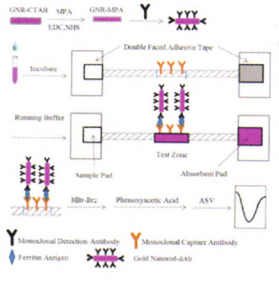
Chinese Chemical Letters 28 (2017) 226

Electrochemical detection of human ferritin based on gold nanorod reporter probe and cotton thread immunoassay device

Ting-Ting Song[a], Wei Wang[b], Li-Li Meng[a], Yan Liu[a], Xiao-Bo Jia[a], Xun Mao[a]

[a]*Key Laboratory of Synthetic and Natural Functional Molecule Chemistry of Ministry of Education, College of Chemistry & Materials Science, Northwest University, Xi'an 710127, China*
[b]*Center of Analysis, Guangdong Medical College, Dongguan 523808, China*

An electrochemical immunoassay strategy was developed using a natural cotton thread immunoassay device combined with gold nanorod reporter probe. Quantitative detection can be realized by anodic stripping voltammetry (ASV) testing of the dissolved gold ions (III) after oxidative treatment to release the pre-immobilized complex of the purple band test zone by the HBr-Br_2 solution.



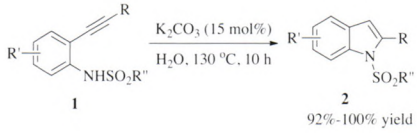
Chinese Chemical Letters 28 (2017) 231

Facile synthesis of indoles by K_2CO_3 catalyzed cyclization reaction of 2-ethynylanilines in water

Zhi Chen, Xiao-Xiao Shi, Dong-Qin Ge, Zhen-Zhen Jiang, Qi-Qi Jin, Hua-Jiang Jiang, Jia-Shou Wu

School of Pharmaceutical and Chemical Engineering, Taizhou University, Taizhou 318000, China

The cyclization reaction of 2-ethynyl-*N*-sulfonylanilides proceeded efficiently in water with the presence of a catalytic amount of K_2CO_3 under transition metal-free condition to give indoles in high yields. The recovery and reusability of the present catalytic system were investigated.



Chinese Chemical Letters 28 (2017) 235

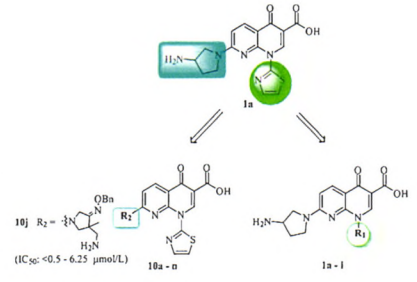
Synthesis and *in vitro* antitumor activity of novel naphthyridinone derivatives

Xue-Dong Jia[a,b], Shuo Wang[a], Ming-Hua Wang[a], Ming-Liang Liu[a], Gui-Min Xia[a], Xiu-Jun Liu[a], Yun Chai[a], Hong-Wei He[a]

[a]*Institute of Medicinal Biotechnology, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China*

[b]*The First Affiliated Hospital of Zhengzhou University, Zhengzhou 450052, China*

A series of naphthyridinone derivatives based on **1a** (a precursor of Voreloxin) were synthesized. **10j** exhibits broad-spectrum antitumor activity against all of the cell lines including Etoposide- and/or **1a**-resistant ones.



Chinese Chemical Letters 28 (2017) 240

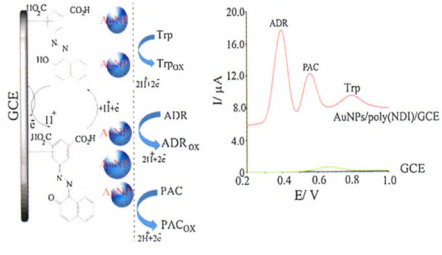
Synthesis of 5-[(2-hydroxynaphthalen-1-yl)diazenyl]isophthalic acid and its application to electrocatalytic oxidation and determination of adrenaline, paracetamol, and tryptophan

Masoumeh Taei[a], Foroozan Hasanpour[a], Mohammad Dinari[b], Nasrin Sohrabi[a], Mohammad Sadegh Jamshidi[a]

[a]*Department of Chemistry, Payame Noor University (PNU), Tehran 19395-4697, Iran*

[b]*Department of Chemistry, Isfahan University of Technology, Isfahan 84156-83111, Iran*

Simultaneous determination of adrenaline, paracetamol and tryptophan using AuNPs/poly(NDI) modified electrode



Chinese Chemical Letters 28 (2017) 248

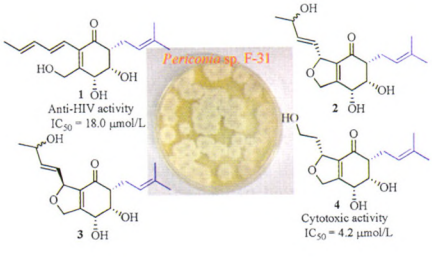
Periconones B–E, new meroterpenoids from endophytic fungus *Periconia* sp.

Ji-Mei Liu[a], De-Wu Zhang[a,b], Min Zhang[a], Ri-Dao Chen[a], Zheng Yan[a], Jian-Yuan Zhao[b], Jin-Lian Zhao[a], Nan Wang[a], Jun-Gui Dai[a]

[a]*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*

[b]*Institute of Medicinal Biotechnology, Chinese Academy of Medical Sciences and Peaking Union Medical College, Beijing 100050, China*

Periconones B–E (**1–4**), four new polyketide–terpenoid hybrid molecules were isolated from the endophytic fungus *Periconia* sp. F-31. Compound **1** exhibited anti-HIV activity with an IC_{50} value of 18.0 μmol/L and compound **4** displayed cytotoxicity against the human MCF-7 tumor cell line with an IC_{50} value of 4.2 μmol/L.



Chinese Chemical Letters 28 (2017) 253

Synthesis and bioactivities of novel 2-(thioether/sulfone)-5-pyrazolyl-1,3,4-oxadiazole derivatives

Yu-Tao Zheng[a], Teng-Teng Zhang[a], Pei-Yi Wang[a], Zhi-Bing Wu[a], Lei Zhou[a], Yi-Qiang Ye[a], Xiang Zhou[a], Ming He[a], Song Yang[a,b]

[a]*State Key Laboratory Breeding Base of Green Pesticide and Agricultural Bioengineering, Key Laboratory of Green Pesticide and Agricultural Bioengineering, Ministry of Education, Center for R&D of Fine Chemicals, Guizhou University, Guiyang 550025, China*

[b]*College of Pharmacy, East China University of Science & Technology, Shanghai 550025, China*

By introducing the pyrazole moiety into the 5-position of 1,3,4-oxadiazole, a series of novel 2-(thioether/sulfone)-5-pyrazolyl-1,3,4-oxadiazole derivatives were synthesized. Among them, the EC_{50} values of **6c, 7a, 7b** and **7c** against *Xanthomonas oryzae* pv. *oryzae* were within 16.6 and 65.7 μg/mL, which were better than those of commercial agricultural antibacterial product bismerthiazol and thiodiazole copper. While compounds **7a, 7b,** and **7c** exerted comprehensive antifungal activity toward five plant fungi, which were comparable with that of hymexazol.

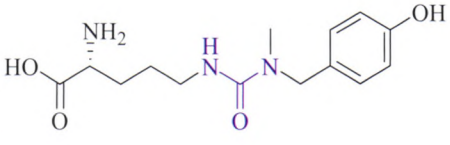
Chinese Chemical Letters 28 (2017) 257

A new ureido-substituted amino acid from the tubers of *Gymnadenia conopsea*

Peng-Cheng Lin[a], Jing Yao[a], Jiang Wu[a], Jin Tian[a], Yi Bao[a], Sheng Lin[a,b]

[a]*College of Pharmaceutical Sciences, Qinghai University for Nationalities, Xining 810000, China*

[b]*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*



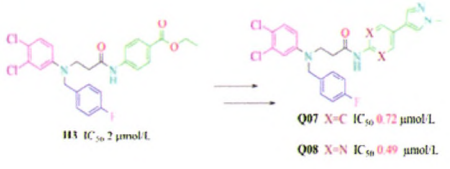
A new ureido-substituted amino acid, conopsamide A (**1**), has been isolated from an ethanolic extract of the tubers of *Gymnadenia conopsea*. Its structure was elucidated by extensive spectroscopic analysis, and the absolute configuration was assigned by Marfey's method. The new compound was evaluated for *in vitro* assay for HDAC1 (Histone Deacetylase 1) inhibitory activity.

Chinese Chemical Letters 28 (2017) 260

Synthesis of novel β-propanamides to inhibit cholesteryl ester transfer protein (CETP)

Hong-Lei Xie, Chun-Chi Liu, Yi-Qun Li, Chang-Lin Bai, Chen-Zhou Hao, Jing Guo, Chang-Qun Luo, Dong-Mei Zhao, Mao-Sheng Cheng

Key Laboratory of Structure-Based Drug Design and Discovery of Ministry of Education, Shenyang Pharmaceutical University, Shenyang 110016, China



Structural modifications based on **H3** led to discovery of the successful CETP inhibitor, compound **Q08** was identified as a highly potent CETP inhibitor with an IC_{50} of 490 nmol/L *in vitro*.

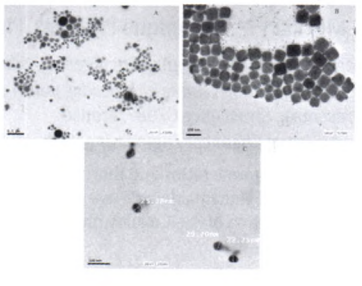
Chinese Chemical Letters 28 (2017) 264

Synthesis of newly cationic surfactant based on dimethylaminopropyl amine and their silver nanoparticles: Characterization; surface activity and biological activity

Samy M. Shaban[a], Ismail Aiad[a], Mohamed M. El-Sukkary[a], E.A. Soliman[b], Moshira Y. El-Awady[a]

[a]*Petrochemical Department, Egyptian Petroleum Research Institute, Nasr City 11727, Egypt*

[b]*Faculty of Science, Ain Shams University, Cairo 11566, Egypt*



Three cationic surfactants have been prepared and used in the synthesis of silver nanoparticles. The hydrophobic chain length effect on the stability and the amount of the formed silver nanoparticles. The silver nanoparticles enhanced the biological activity of the synthesized cationic surfactants.

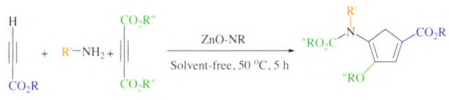
Chinese Chemical Letters 28 (2017) 274

Synthesis, characterization and antioxidant activities of highly functionalized cyclopentadienes catalyzed by ZnO-nanorod as economic and efficient heterogeneous nano catalyst

Hadi Sajjadi-Ghotbabadi[a], Shahrzad Javanshir[a], Faramarz Rostami-Charati[b]

[a]*Heterocyclic Chemistry Research Laboratory, Department of Chemistry, Iran University of Science and Technology, Tehran 16846-13114, Iran*
[b]*Department of Chemistry, Faculty of Science, Gonbad Kavous University, P.O. Box 163, Gonbad, Iran*

A three-component condensation was applied for the preparation of cyclopentadiene derivatives through the reaction of primary amines, alkyl propiolate, dialkyl acetylenedicarboxylate in the presence of catalytic amount of ZnO-nanorod (Zn-NR) under solvent-free conditions at 50 °C. Moreover, the antioxidant activity and free radical scavenging capacity of the newly synthesized derivatives was screened.



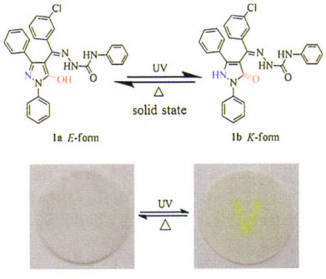
Chinese Chemical Letters 28 (2017) 280

Preparation and photochromic properties of pyrazolones/polyvinyl alcohol composite films

Ji-Xi Guo, Ming-Xi Guo, Dian-Zeng Jia, Yin-Hua Li

Key Laboratory of Energy Materials Chemistry, Ministry of Education; Key Laboratory of Advanced Functional Materials, Autonomous Region; Institute of Applied Chemistry, Xinjiang University, Urumqi 830046, China

A novel photochromic composite film has been successfully fabricated by dispersing pyrazolone derivative into hydrosol of polyvinyl alcohol. The composite films exhibited excellent fatigue resistance under alternating UV irradiation and heating.



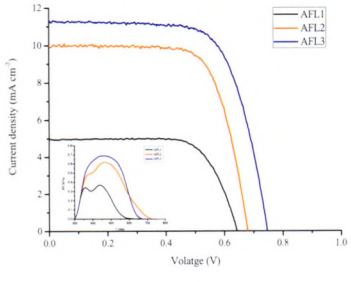
Chinese Chemical Letters 28 (2017) 285

Novel organic dye sensitizers containing fluorenyl and biphenyl moieties for solar cells

Yan Xie[a,b], Liang Han[a], Cheng-Sheng Ge[b], Yan-Hong Cui[a], Jian-Rong Gao[a]

[a]*College of Chemical Engineering, Zhejiang University of Technology, Hangzhou 310032, China*
[b]*College of Chemistry and Materials Engineering, Quzhou University, Quzhou 324000, China*

The light-harvesting capabilities and photovoltaic performance of AFL1-AFL3 were investigated systematically through comparison of different π-bridges. The dye with a furan linker exhibited a higher open-circuit voltage (V_{OC}) and monochromatic incident photon-to-current conversion efficiency (IPCE) compared to thiophene and benzene linkers.



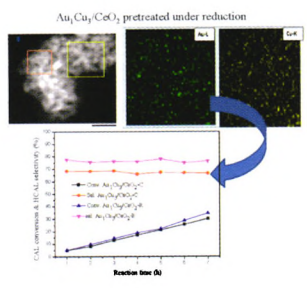
Chinese Chemical Letters 28 (2017) 293

Hydrogenation of cinnamaldehyde over bimetallic Au–Cu/CeO_2 catalyst under a mild condition

Xue-Mei Liao[a,b,c], Veronique Pitchon[b], Pham-Huu Cuong[b], Wei Chu[c], Valerie Caps[b]

[a]*College of Food and Biological Engineering, Xihua University, Chengdu 610039, China*
[b]*ICPEES, L'Institut de Chimie et Procedes pour l'energie, l'environnement et la santé, Université de Strasbourg, Strasbourg 67087, France*
[c]*Department of Chemical Engineering, Sichuan University, Chengdu 610065, China*

Effect of Au/Cu atomic ratios and thermal pretreatments on catalytic performance of AuxCuy/CeO_2 for selective hydrogenation of cinnamaldehyde was studied. Reduction pretreatment lead to the higher catalytic performances due to the formation of Au–Cu alloy phase resulting in a homogeneous distribution of Au and Cu.



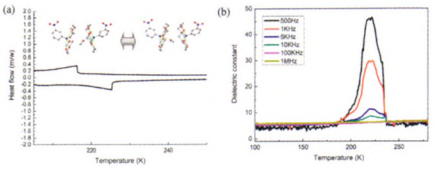
Chinese Chemical Letters 28 (2017) 297

Synthesis, characterization, and phase transition of an inorganic–organic hybrid compound, [(3-nitroanilinium$^+$)(18-crown-6)][IO_4^-](CH_3OH)

Zun-Qi Liu, Yang Liu, Yuan Chen, Wu-Qiang Zhao, Wei-Na Fang

Chemical Engineering College, Xinjiang Agricultural University, Urumqi 830052, China

A novel inorganic–organic hybrid supramolecular compound was prepared and characterized. The crystal displays a clear dielectric anomaly at around 220 K of heating, which matches the phase transition phenomena.



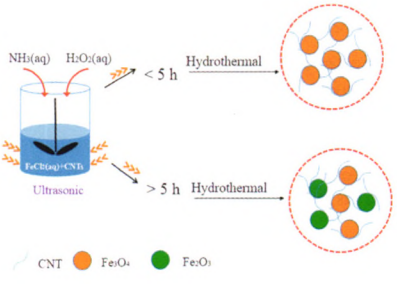
Chinese Chemical Letters 28 (2017) 302

Decoration of CNTs' surface by Fe_3O_4 nanoparticles: Influence of ultrasonication time on the magnetic and structural properties

Rui Yu[a,b], Cheng-Fa Jiang[a], Wei Chu[a], Mao-Fei Ran[c], Wen-Jing Sun[b]

[a]*Department of Chemical Engineering, Sichuan University, Chengdu 610065, China*
[b]*China-America Cancer Research Institute, Key Laboratory for Medical Molecular Diagnostics of Guangdong Province, Guangdong Medical University, Dongguan 523808, China*
[c]*College of Chemistry & Environment Protection Engineering, Southwest University for Nationalities, Chengdu 610041, China*

Magnetic CNTs were synthesized by anchoring magnetic particles onto CNT surfaces. By controlling ultrasonication time, the crystal phase of Fe oxide and the magnetic performance of the MC could be tuned.



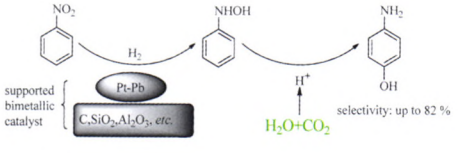
Chinese Chemical Letters 28 (2017) 307

Supported bimetallic catalyst Pt-Pb/SiO_2 for selective conversion of nitrobenzene to *p*-aminophenol in pressurized CO_2/H_2O system

Ting-Ting Zhang, Jing-Yang Jiang, Yan-Hua Wang

State Key Laboratory of Fine Chemicals, Faculty of Chemical, Environmental and Biological Science and Technology, Dalian University of Technology, Dalian 116024, China

Nitrobenzene was converted to *p*-aminophenol with the selectivity as high as 82% in the pressurized CO_2/H_2O system.



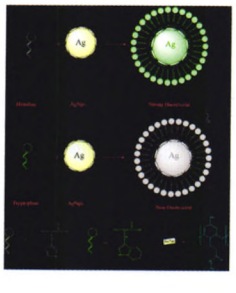
Chinese Chemical Letters 28 (2017) 312

Scrupulous recognition of biologically important acids by fluorescent "turn off-on" mechanism of thaicalix reduced silver nanoparticles

Savan M. Darjee[a], Keyur D. Bhatt[a,b], Urvi S. Panchal[a], Vinod K. Jain[a]

[a]*Department of Chemistry, School of Sciences, Gujarat University, Ahmedabad 380009, India*
[b]*Department of Chemistry, C.U. Shah University, Wadhwan 363030, India*

Water dispersible silver nanoparticles (AgNps) were prepared using thiacalix[4]arene tetrahydrazide (TCTH) as a reducing and stabilizing agent. TCTH-AgNps were able to effectively reduce the levels of gram-positive bacteria, gram-negative bacteria, and fungi. These properties argue for the potential use of TCTH-AgNps as detectors of histidine and tryptophan and as antibiotics.



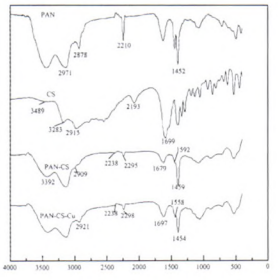
Optimization of polyacrylonitrile–cysteine resin synthesis and its selective removal of Cu(II) in aqueous solutions

Chinese Chemical Letters 28 (2017) 319

Yang Chang[a], Chen Shen[a], Pin-Yi Li[a], Lei Fang[b], Zai-Zai Tong[c,d], Min Min[a], Chun-Hua Xiong[a]

[a]*Department of Applied Chemistry, Zhejiang Gongshang University, Hangzhou 310012, China*
[b]*Department of Food Science and Human Nutrition, University of Florida, Bldg 475 Newell Drive, FL 32611, USA*
[c]*Zhejiang Provincial Key Laboratory of Fiber Materials and Manufacturing Technology, Hangzhou 310018, China*
[d]*Department of Materials Engineering, Zhejiang Sci-Tech University, Hangzhou 310018, China*

Polyacrylonitrile beads (PAN) cysteine (CS) was synthesized from polyacrylonitrile beads (PAN) and cysteine (CS), which can provide a potential application for selective removal of copper from waste solution.



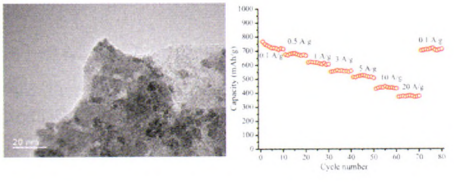
SnS_2/graphene nanocomposite: A high rate anode material for lithium ion battery

Chinese Chemical Letters 28 (2017) 324

Wei Wei[a,b], Fang-Fang Jia[a,c], Ke-Feng Wang[a], Peng Qu[a]

[a]*Henan Key Laboratory of Biomolecular Recognition and Sensing, School of Chemistry and Chemical Engineering, Shangqiu Normal University, Shangqiu 476000, China*
[b]*College of Chemistry and Molecular Engineering, Zhengzhou University, Zhengzhou 450001, China*
[c]*School of Information Engineering, Zhengzhou University, Zhengzhou 450001, China*

The sovolthermally synthesized SnS_2/graphene nanocomposites exhibit excellent high rate performance as anode materials for Li ion batteries.



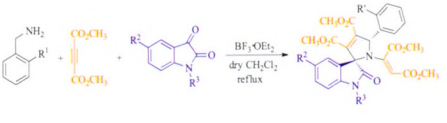
1,3-Dipolar cycloaddition reaction for diastereoselective synthesis of functionalized dihydrospiro[indoline-3,2′-pyrroles]

Chinese Chemical Letters 28 (2017) 329

Ping Wu[a], Hong Gao[b], Jing Sun[b], Chao-Guo Yan[b]

[a]*Department of Biochemical Engineering, Yangzhou Polytechnic University, Yangzhou 225000, China*
[b]*College of Chemistry & Chemical Engineering, Yangzhou University, Yangzhou 225002, China*

The BF_3OEt_2 catalyzed one-pot 1,3-dipolar cycloaddition reaction of benzylamines, isatins and dimethyl acetylenedicarboxylate in dry methylene dichloride afforded the functionalized spiro[indoline-3,2′-pyrroles] in moderate to good yields and with high diastereoselectivity.



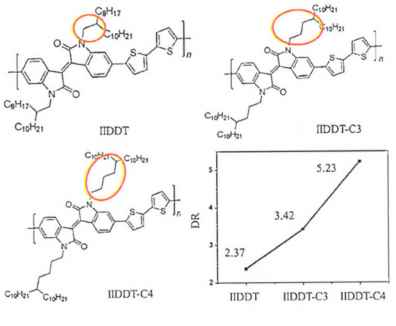
Influence of bifurcation position and length of side chains on the structure of isoindigo-based conjugated polymer thin films

Chinese Chemical Letters 28 (2017) 333

Shuai-Jie Chi[a,b], Liang Chen[a,b], Jian-Gang Liu[a], Xin-Hong Yu[a], Yan-Chun Han[a]

[a]*State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China*
[b]*University of the Chinese Academy of Sciences, Beijing 100049, China*

The better alignment was obtained in the isoindigo-based conjugated polymer films with the increasing of the side chain length and bifurcation away from the backbone.



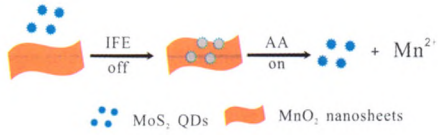
Switch-on fluorescence sensor for ascorbic acid detection based on MoS_2 quantum dots-MnO_2 nanosheets system and its application in fruit samples

Ya-Li Xu[a], Xiao-Ying Niu[a], Hong-Li Chen[a], Sheng-Guo Zhao[b], Xing-Guo Chen[a]

[a]*State Key Laboratory of Applied Organic Chemistry, College of Chemistry and Chemical Engineering, Key Laboratory of Nonferrous Metal Chemistry and Resources Utilization of Gansu Province, Lanzhou University, Lanzhou 730000, China*
[b]*Gansu Entry-Exit Inspection and Quarantine Bureau, Lanzhou 730020, China*

The "switch-on" fluorescence sensor based on MoS_2 QDs-MnO_2 nanosheets due to the inner filter effect was developed for the sensitive and selective detection of ascorbic acid in hawthorn and jujube samples with satisfactory results.

Chinese Chemical Letters 28 (2017) 338



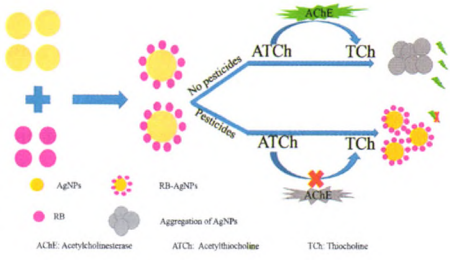
A highly sensitive, dual-signal assay based on rhodamine B covered silver nanoparticles for carbamate pesticides

Qing-Jiao Luo[a], Yong-Xin Li[a], Meng-Qian Zhang[a], Ping Qiu[a], Yong-Hui Deng[b]

[a]*Department of Chemistry, Nanchang University, Nanchang 330031, China*
[b]*Department of Chemistry, State Key Laboratory of Molecular Engineering of Polymers, Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, State Key Laboratory of ASIC & System, Collaborative Innovation Center of Chemistry for Energy Materials, Fudan University, Shanghai 200433, China*

AChE catalyzes the hydrolysis of ATCh to generate TCh, which turns the yellow RB-AgNPs solution gray and the unquenched fluorescence of RB simultaneously. On the other hand, the carbamate pesticides can inhibit the activity of AChE, which the color of RB-AgNPs solution remains yellow and the fluorescence of RB remains quenched.

Chinese Chemical Letters 28 (2017) 345



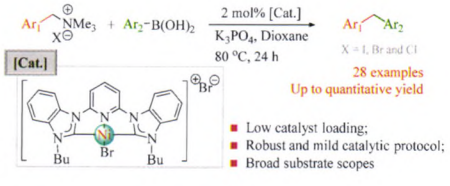
Efficient *N*-heterocyclic carbene nickel pincer complexes catalyzed cross coupling of benzylic ammonium salts with boronic acids

Xi-Yu Liu[a], Hai-Bo Zhu[a], Ya-Jing Shen[a], Jian Jiang[a], Tao Tu[a,b]

[a]*Department of Chemistry, Fudan University, Shanghai 200433, China*
[b]*State Key Laboratory of Organometallic Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China*

Pyridine-bridged bis-benzimidazolylidene nickel complex exhibited very high catalytic activity at low catalyst loading toward cross coupling of inactive (hetero)aryl benzylic ammonium salts with (hetero)aryl boronic acids under mild reaction conditions *via* C–N activation, and produced a broad number of diarylmethanes up to quantitative yields.

Chinese Chemical Letters 28 (2017) 350



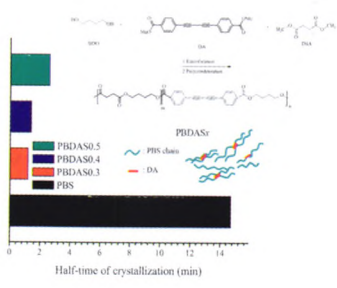
Synthesis and performances of poly(butylene-succinate) with enhanced viscosity and crystallization rate *via* introducing a small amount of diacetylene groups

Gui-Cheng Liu, Wen-Qiang Zhang, Xiu-Li Wang, Yu-Zhong Wang

Center for Degradable and Flame-Retardant Polymeric Materials (ERCPM-MoE), College of Chemistry, State Key Laboratory of Polymer Materials Engineering, National Engineering Laboratory of Eco-Friendly Polymeric Materials (Sichuan), Sichuan University, Chengdu 610064, China

Compared to neat PBS, the copolyesters containing a few of diacetylene groups (PBDASx) exhibit higher crystallization rate and viscosity.

Chinese Chemical Letters 28 (2017) 354



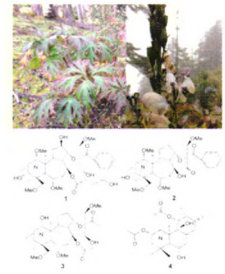
Chinese Chemical Letters 28 (2017) 358

Four new diterpenoid alkaloids with antitumor effect from *Aconitum nagarum* var. *heterotrichum*

Da-Ke Zhao[a], Xing-Qiao Shi[a], Li-Mei Zhang[b], Dong-Qiong Yang[c], Hua-Chun Guo[b], Yan-Ping Chen[b], Yong Shen[b]

[a]*School of Agriculture, Yunnan University, Kunming 650091, China*
[b]*College of Agriculture and Biotechnology, Yunnan Agricultural University, Kunming 650201, China*
[c]*State Key Laboratory of Phytochemistry and Plant Resources in West China, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming 650201, China*

Four new diterpenoid alkaloids, nagaconitines A-D (**1–4**), were isolated from the roots of *Aconitum nagarum* var. *heterotrichum*, one tranditional Chinese medicinal plan.



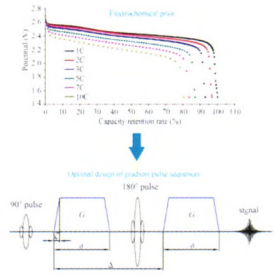
Chinese Chemical Letters 28 (2017) 362

In situ NMR diffusion coefficients assessment of lithium ion conductor using electrochemical priors and Arrhenius constraint—A computational study

Liang Deng[a,b], Wen-Hui Yang[b], Xing Lyu[b], Shu-Feng Wei[b], Zheng Wang[b], Hui-Xian Wang[b]

[a]*Beijing National Laboratory for Molecular Sciences, College of Chemistry and Molecular Engineering, Peking University, Beijing 100871, China*
[b]*Institute of Electrical Engineering, Chinese Academy of Sciences, Beijing 100190, China*

A model is proposed to estimate the parameters of NMR sequences using electrochemical priors. This approach provides a more effective way to observe diffusion or diffraction process in lithium ion liquid electrolytes, polymer conductors and solid conductors.



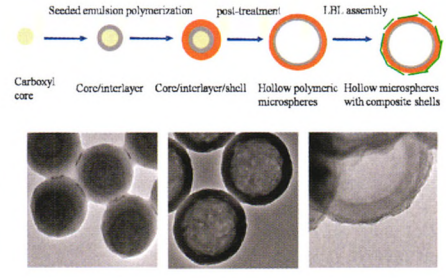
Chinese Chemical Letters 28 *(2017) 367*

Fabrication of polymeric–Laponite composite hollow microspheres *via* LBL assembly

Wei Deng[a], Hua-Chao Guo[a], Guo-An Li[a], Cheng-You Kan[b]

[a]*Key Laboratory of Engineering Dielectrics and Its Application, Ministry of Education, School of Material Science and Engineering, Harbin University of Science and Technology, Harbin 150080, China*
[b]*Key Laboratory of Advanced Materials of Ministry of Education, Department of Chemical Engineering, Tsinghua University, Beijing 100084, China*

With the combination of emulsion polymerization, osmotic swelling and electrostatic self-assembly, microspheres with core/shell structure, polymeric hollow structure and polymeric–Laponite composite hollow structure could be successfully prepared.



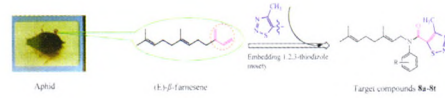
Chinese Chemical Letters 28 (2017) 372

Synthesis and biological activities of (*E*)-β-farnesene analogues containing 1,2,3-thiadiazole

Jing-Peng Zhang[a], Yao-Guo Qin[a], Ya-Wen Dong[a], Dun-Lun Song[b], Hong-Xia Duan[a], Xin-Ling Yang[a]

[a]*Department of Applied Chemistry, College of Science, China Agricultural University, Beijing 100193, China*
[b]*Department of Entomology, College of Plant Protection, China Agricultural University, Beijing 100193, China*

A series of novel (*E*)-β-farnesene analogues containing 1,2,3-thiadiazole were designed and synthesized by replacing unstable conjugated double bond of (*E*)-β-farnesene with1,2,3-thiadiazole ring. They are not only exhibited good stability but also showed strong repellent effects and aphicidal activities compared to the lead (*E*)-β-farnesene.



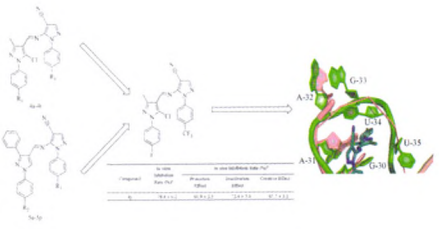
Chinese Chemical Letters 28 (2017) 377

Discovery of novel double pyrazole Schiff base derivatives as anti-tobacco mosaic virus (TMV) agents

Xian-Hai Lv[a], Zi-Li Ren[a], Dong-Dong Li[c,d], Ban-Feng Ruan[b], Qing-Shan Li[b], Ming-Jie Chu[a], Cheng-Ying Ai[a], Dao-Hong Liu[a], Kai Mo[a], Hai-Qun Cao[a]

[a]*School of Plant Protection, Anhui Agricultural University, Hefei 230036, China*
[b]*School of Biological and Medical Engineering, Hefei University of Technology, Hefei 230009, China*
[c]*School of Chemical Engineering, Nanjing Forestry University, Nanjing 210073, China*
[d]*State Key Laboratory of Pharmaceutical Biotechnology, Nanjing University, Nanjing 210093, China*

Two series of new double pyrazole Schiff base derivatives **4a–4t** and **5a–5p** as anti-TMV agents were designed and synthesized, in which compound **4j** showed the most potent anti-TMV activity. Molecular docking revealed 5-chloro-3-methyl-1*H*-pyrazole as scaffold of compound **4j** could insert into the nucleotide sequence (GAAGUU) of Ori-RNA target pocket stably.



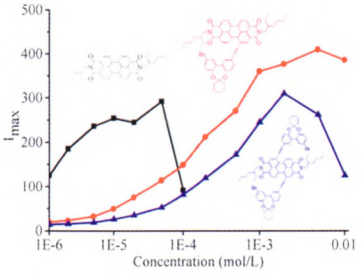
Chinese Chemical Letters 28 (2017) 383

Synthesis, characterization, photophysical and electrochemical properties of oxygen bridged twisted heptatomic biphenyl substituted perylene diimides

Jian-Min Wang, En-Fang He, Hai-Long Wang, Wen-Long Hou, Jing Xu, Lan Yu, Le-Le Zhao, Zhen-Lin Zhang, Hai-Quan Zhang

State Key Laboratory of Metastable Materials Science and Technology, Yanshan University, Qinhuangdao 066004, China

The aggregation behavior could characterize by concentration-dependent photoluminescence spectra. It can be seen that the introduction of the twisted substituent has definitely increased the critical concentrations.



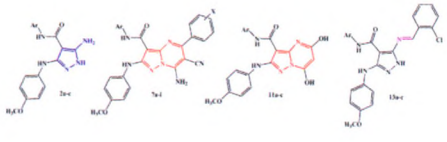
Chinese Chemical Letters 28 (2017) 388

Synthesis and antitumor activity of some new pyrazolo[1,5-*a*] pyrimidines

Ashraf S. Hassan[a], Mohamed F. Mady[b,c], Hanem M. Awad[d], Taghrid S. Hafez[a]

[a]*Department of Organometallic and Organometalloid Chemistry, National Research Centre, Dokki 12622, Cairo, Egypt*
[b]*Department of Green Chemistry, National Research Centre, Dokki 12622, Cairo, Egypt*
[c]*Department of Mathematics and Natural Science, Faculty of Science and Technology, University of Stavanger, N-4036 Stavanger, Norway*
[d]*Department of Tanning Materials and Leather Technology, National Research Centre, Dokki 12622, Cairo, Egypt*

A new series of pyrazolo[1,5-*a*]pyrimidine derivatives **7a–i, 11a–c** and their relevant Schiff bases **13a–c** were synthesized. All the newly synthesized compounds were screened for their *in vitro* antitumor activity against three human carcinoma cell lines, namely colorectal carcinoma (HCT116), prostate adenocarcinoma (PC-3) and liver carcinoma (HepG-2) using MTT cytotoxicity assay at 100 μg/mL.



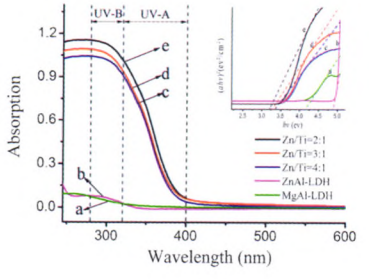
Chinese Chemical Letters 28 (2017) 394

Fabrication of Zn-Ti layered double hydroxide by varying cationic ratio of Ti^{4+} and its application as UV absorbent

Xin-Rui Wang[a], Yong Li[a], Li-Ping Tang[a], Wen Gan[a], Wei Zhou[a], Yu-Fei Zhao[b], Dong-Sheng Bai[a]

[a]*Beijing Key Lab of Plant Resource Research and Development/Department of Chemistry, School of Science, Beijing Technology and Business University, Beijing 100048, China*
[b]*Key Laboratory of Photochemical Conversion and Optoelectronic Materials, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China*

The obtained ZnTi-LDHs possess high crystallinity and hierarchical structure with improved UV-absorbance property, which is stronger and broader than that of both MgAl-LDH and ZnAl-LDH.



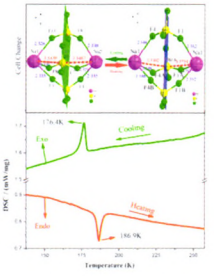
Two novel phase transition materials based on 1-isopropyl-1,4-diazabicyclo[2.2.2]octan-1-ium

Chinese Chemical Letters 28 (2017) 400

Li-Zhuang Chen, Xing-Xing Cao

School of Biology and Chemical Engineering, Jiangsu University of Science and Technology, Zhenjiang 212003, China

Two novel phase transition materials were synthesized based on 1-isopropyl-1,4-diazabicyclo[2.2.2]octan-1-ium. Differential scanning calorimetry (DSC) measurements detected that two compounds underwent a reversible phase transition, which were also confirmed by dielectric measurements. The formation of hydrogen bonds, along with the distortion of DABCO rings may drive the phase transition.



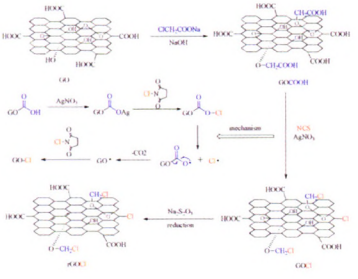
Preparation of chloro-functionalized reduced graphene oxide by silver-catalyzed radical reaction

Chinese Chemical Letters 28 (2017) 407

Rui-Guang Xing, Ya-Nan Li, Bang-Wen Zhang

School of Materials and Metallurgy, Inner Mongolia University of Science and Technology, Baotou 014010, China

We report the development of a new synthesis method of chloro-functionalized reduced graphene oxide (rGOCl). The rGOCl was prepared by radical reaction, and treatment of carboxyl graphene oxide (GOCOOH) with *N*-chlorosuccinimide (NCS) at 90 °C for 10 h under an atmosphere of nitrogen, using silver nitrate as catalyst.



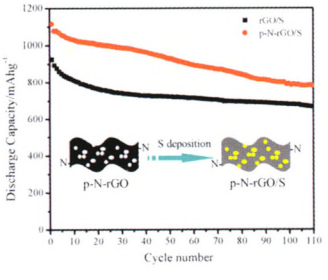
A nanoporous nitrogen-doped graphene for high performance lithium sulfur batteries

Chinese Chemical Letters 28 (2017) 412

Shuang-Ke Liu, Xiao-Bin Hong, Yu-Jie Li, Jing Xu, Chun-Man Zheng, Kai Xie

College of Aerospace Science and Engineering, National University of Defense Technology, Changsha 410073, China

A dual modification of nanopores and N-doping for graphene is present to encapsulate sulfur for lithium sulfur batteries. The p-N-rGO/S cathode delivers a high discharge capacity of 1110 mAh g^{-1} at 1C rate. The improvement is ascribed to the rational combination of nanopores and N-doping.



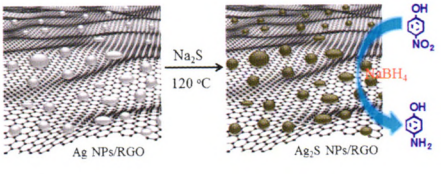
Novel Ag_2S nanoparticles on reduced graphene oxide sheets as a super-efficient catalyst for the reduction of 4-nitrophenol

Chinese Chemical Letters 28 (2017) 417

Bin Lang, Hong-Kun Yu

College of Material Science and Engineering, Fudan University, Shanghai 200433, China

Ag_2S nanoparticles on reduced graphene oxide sheets can act as a super-efficient catalyst for the reduction of 4-nitrophenol.



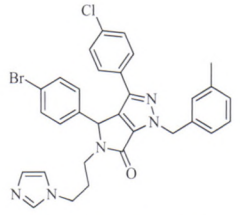
Chinese Chemical Letters 28 (2017) 422

Design, synthesis and structure–activity relationship of 4,5-dihydropyrrolo[3,4-*c*]pyrazol-6(1*H*)-ones as potent p53-MDM2 inhibitors

Wei-Huang Zhou[a,b], Xi-Guo Xu[a,b], Jin Li[b], Xiao Min[b], Jian-Zhong Yao[b], Guo-Qiang Dong[b], Chun-Lin Zhuang[b], Zhen-Yuan Miao[b], Wan-Nian Zhang[a,b]

[a]*School of Pharmacy, Ningxia Medical University, Yinchuan 750004, China*
[b]*School of Pharmacy, Second Military Medical University, Shanghai 200433, China*

The optimization and structure–activity relationship of 4,5-dihydropyrrolo[3,4-*c*]pyrazol-6(1*H*)-ones were performed in this manuscript. Most of the compounds showed higher PPI inhibitory activities and antiproliferative activities.



5c, K_i = 0.392 umol/L
4-fold selectivity (U2 OS/Saos-2)

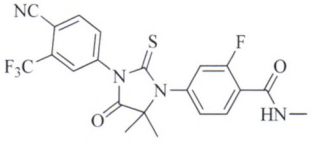
Chinese Chemical Letters 28 (2017) 426

An improved and practical route for the synthesis of enzalutamide and potential impurities study

Ai-Nan Zhou[a,b], Bonan Li[a], Lejun Ruan[a], Yeting Wang[a], Gengli Duan[b], Jianqi Li[a]

[a]*Novel Technology Center of Pharmaceutical Chemistry, Shanghai Institute of Pharmaceutical Industry, Shanghai 201203, China*
[b]*School of Pharmacy, Fudan University, Shanghai 201203, China*

New route for synthesis enzalutamide on kilo gram scale was reported in 35% total yield and over 99.8% purity, without high toxic reagent or multiple recrystallization process.



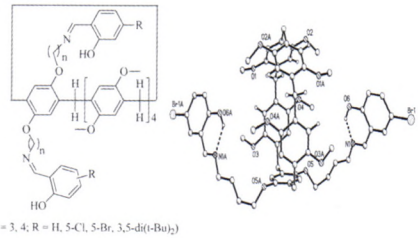
Chinese Chemical Letters 28 (2017) 431

Synthesis, crystal structures and complexing ability of difunctionalized copillar[5]arene Schiff bases

Chang-Bo Yin, Ying Han, Gui-Fei Huo, Jing Sun, Chao-Guo Yan

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

A series of difunctionalized copillar[5]arene Schiff bases from the condensation of salicylaldehyde and its 5-chloro, 5-bromo, 3,5-di(*t*-butyl) substituted derivatives with corresponding di-amino-functionalized pillar[5] arenes were successfully prepared. The single crystal structures and coordination properties to some transition metal ions were investigated.



(n = 3, 4; R = H, 5-Cl, 5-Br, 3,5-di(t-Bu)$_2$)

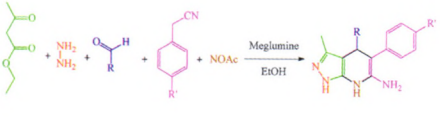
Chinese Chemical Letters 28 (2017) 437

Meglumine catalyzed one-pot green synthesis of novel 4,7-dihydro-1*H*-pyrazolo[3,4-b]pyridin-6-amines

Santhosh Govindaraju, Sumaiya Tabassum, Riyaz-ur-Rahaman Khan, Mohamed Afzal Pasha

Department of Studies in Chemistry, Central College Campus, Bangalore University, Bengaluru 560001, India

Meglumine efficiently catalyzes a one-pot, five-component reaction of hydrazine, ethyl acetoacetate, aryl aldehydes, substituted phenylacetonitriles and ammonium acetate in ethanol as a solvent at room temperature to afford novel 4,7-dihydro-1*H*-pyrazolo[3,4-b]pyridin-6-amine derivatives. The present approach offers several advantages such as shorter reaction durations, low cost, excellent yields, milder reaction condition, simple workup procedure and is environment friendly.



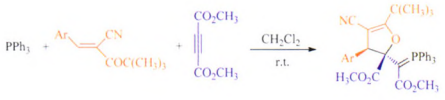
Three-component reaction of triphenylphosphine, dialkyl but-2-ynedioate and arylidene pivaloylacetonitrile for diastereoselective synthesis of densely substituted 2,3-dihydrofurans

Chinese Chemical Letters 28 (2017) 442

Wen-Jie Qi, Ying Han, Chang-Zhou Liu, Chao-Guo Yan

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

The three-component reaction of triphenylphosphine, dialkyl but-2-ynedioate and arylidene pivaloylacetonitrile in dry methylene dichloride at room temperature resulted in unexpected densely substituted 1-(triphenyl-λ⁵-phosphanylidene)ethyl)-2,3-dihydrofurans in satisfactory yields with high diastereoselectivity.



Theophylline as a new and green catalyst for the one-pot synthesis of spiro[benzo[*a*]pyrano[2,3-*c*]phenazine] and benzo[*a*]pyrano[2,3-*c*]phenazine derivatives under solvent-free conditions

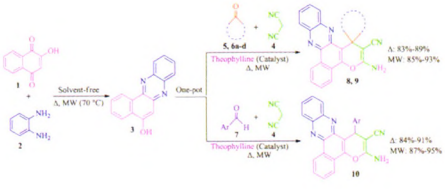
Chinese Chemical Letters 28 (2017) 446

Afshin Yazdani-Elah-Abadi[a], Malek-Taher Maghsoodlou[a], Razieh Mohebat[b], Reza Heydari[a]

[a]*Department of Chemistry, Faculty of Science, University of Sistan and Baluchestan, P.O. Box 98135-674, Zahedan, Iran*

[b]*Department of Chemistry, Yazd Branch, Islamic Azad University, Yazd, Iran*

A green, convenient, high yielding and one-pot procedure for the synthesis of novel spiro-[benzo[*a*]pyrano[2,3-*c*]phenazine] derivatives by domino multi-component condensation reaction between 2-hydroxynaphthalene-1,4-dione, benzene-1,2-diamines, ninhydrine, and malononitrile in the presence of theophylline as a solid base catalyst under thermal, microwave irradiation and solvent-free conditions. This procedure has also been applied successfully for the synthesis of benzo[*a*]pyrano[2,3-*c*] phenazines.



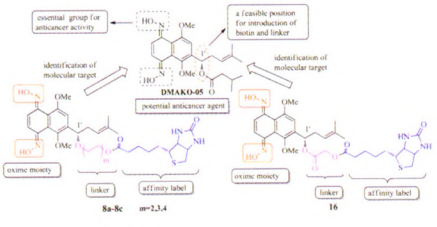
Design and synthesis of biotinylated dimethylation of alkannin oxime derivatives

Chinese Chemical Letters 28 (2017) 453

Guang Huang, Qing-Qing Meng, Wen Zhou, Qi-Jing Zhang, Jin-Yun Dong, Shao-Shun Li

School of Pharmacy, Shanghai Jiao Tong University, Shanghai 200240, China

To recognize the antineoplastic target(s) of DMAKO-05 and its analogs, four biotinylated DMAKO derivatives were designed and prepared. The biotin moiety was successfully introduced in the molecule through a modified Mitsunobu reaction, which conserved moderate to excellent anticancer activity.



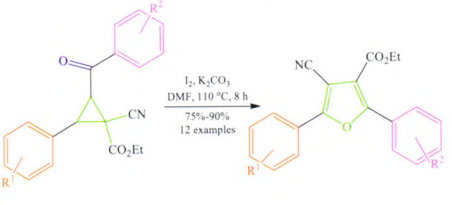
I_2/K_2CO_3-promoted ring-opening/cyclization/rearrangement/aromatization sequence: A powerful strategy for the synthesis of polysubstituted furans

Chinese Chemical Letters 28 (2017) 458

Jia-Ming Liu, Xing-Yu Liu, Xu-Shun Qing, Ting Wang, Cun-De Wang

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

4-Cyanofuran-3-carboxylate derivatives were synthesized efficiently *via* iodine/potassium carbonate-promoted ring-opening/cyclization/rearrangement domino reaction of 1-cyanocyclopropane-1-carboxylates.



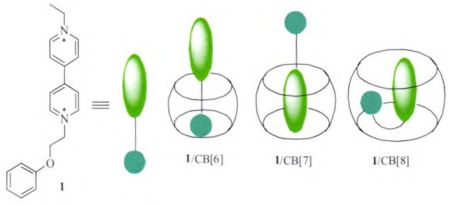
Chinese Chemical Letters 28 (2017) 463

Bromination of *N*-phenyloxypropyl-*N*′-ethyl-4,4′-bipyridium in cucurbit[8]uril molecular reactor

Tian-Tian Li[a], Lan-Lan Wen[a], Hai-Long Ji[a], Feng-Yu Liu[a], Shi-Guo Sun[b]

[a]*State Key Laboratory of Fine Chemicals, School of Chemistry, Dalian University of Technology, Dalian 116023, China*
[b]*Key Laboratory of Xinjiang Endemic Phytomedicine Resources, Ministry of Education, School of Pharmacy, Shihezi University, Shihezi 832000, China*

N-Phenyloxypropyl-*N*′-ethyl-4,4′-bipyridium (**1**) was designed to form a host–guest inclusion complex with CB[n] (n = 6–8), then the bromination reaction of **1** and its corresponding inclusion complexes was investigated in this paper. In the case of **1**/CB[8], the folded including mode is quite helpful to acquire 1-bormination product completely *via* intramolecular charge transfer (ICT), and CB[8] can provide a safe bromination environment for **1**.



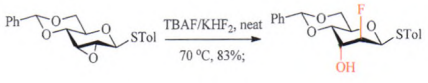
Chinese Chemical Letters 28 (2017) 467

Ring opening of sugar-derived epoxides by TBAF/KHF_2: An attractive alternative for the introduction of fluorine into the carbohydrate scaffold

Nan Yan[a], Zhi-Wei Lei[a], Jia-Kun Su[b], Wei-Lin Liao[a], Xiang-Guo Hu[a]

[a]*National Engineering Research Center for Carbohydrate Synthesis, Jiangxi Normal University, Nanchang 330022, China*
[b]*Center of R&D, China Tobacco Jiangxi Industrial Co., Ltd., Nanchang 330096, China*

A stable and commercially available reagent mixture, composed of tetrabutylammonium bifluoride/potassium bifluoride (TBAF/KHF_2), was found to be effective for the nucleophilic fluorine ring-opening of sugar-derived epoxides. Different sugar-derived epoxide precursors, including 1-thioglycosides can be ring-opened to afford fluorinated carbohydrate products in high yields and short reaction times.



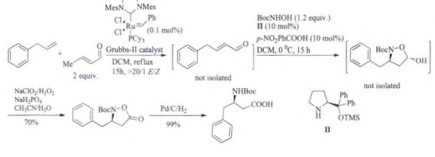
Chinese Chemical Letters 28 (2017) 471

Concise synthesis of valuable chiral *N*-Boc-β-benzyl-β-amino acid *via* construction of chiral *N*-Boc-3-benzyl-5-oxoisoxazolidine through cross-metathesis/conjugate addition/oxidation

Hong-Tao Jiang[a], Hao-Ling Gao[a], Cheng-Sheng Ge[a,b]

[a]*College of Chemical Engineering, Zhejiang University of Technology, Hangzhou 310014, China*
[b]*College of Chemistry and Materials Engineering, Quzhou University, Quzhou 324000, China*

Valuable chiral *N*-Boc-β-benzyl-β-amino acid was concisely synthesized *via* construction of chiral *N*-Boc-3-benzyl-5-oxoisoxazolidine through cross-metathesis/conjugate addition/oxidation. All of the starting materials for the synthesis of chiral β-benzyl-β-amino acid are cheap, and twostep short procedure make it easy for the rapid construction of various chiral β-arylmethyl-β-amino acids and important drugs, such as sitagliptin phosphate.



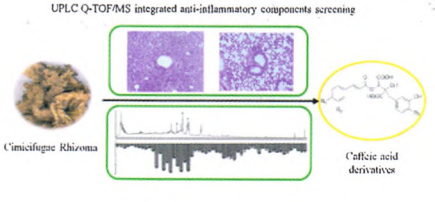
Chinese Chemical Letters 28 (2017) 476

Bioactivity-based UPLC/Q-TOF/MS strategy for screening of anti-inflammatory components from Cimicifugae Rhizoma

Zeng-Yong Wang[a], Qian Wang[a], Yan-Qi Han[b], Min Jiang[a], Jie Gao[a], Yan Miao[c], Gang Bai[a]

[a]*State Key Laboratory of Medicinal Chemical Biology, College of Pharmacy and Tianjin Key Laboratory of Molecular Drug Research, Nankai University, Haihe Education Park, Tianjin 300353, China*
[b]*Tianjin Engineering Laboratory of Quality Control Technology of Traditional Chinese Medicine, Tianjin Institute of Pharmaceutical Research, Tianjin 300193, China*
[c]*The Tianjin Engineering Center of Injection Package, China Otsuka Pharmaceutical Company Limited, Tianjin 300382, China*

Cimicifugae Rhizoma (CR) pretreatment ameliorated *Pseudomonas aeruginosa*-induced pneumonia. Based on bioactivity-guided UPLC/Q-TOF/MS strategy, the anti-inflammatory ingredients were identified as caffeic acid derivatives.



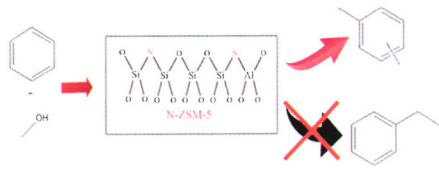
Chinese Chemical Letters 28 (2017) 482

Nitridation: A simple way to improve the catalytic performance of hierarchical porous ZSM-5 in benzene alkylation with methanol

Jing-Hui Lyu[a,b], Hua-Lei Hu[a], Jia-Yao Rui[a], Qun-Feng Zhang[a], Jie Cen[a], Wen-Wen Han[a], Qing-Tao Wang[a], Xiao-Kun Chen[a], Zhi-Yan Pan[b], Xiao-Nian Li[a]

[a]*Industrial Catalysis Institute of Zhejiang University of Technology, State Key Laboratory Breeding Base of Green Chemistry Synthesis Technology, Hangzhou 310032, China*
[b]*Department of Environmental Engineering, Zhejiang University of Technology, Hangzhou 310032, China*

The acidity of hierarchical porous ZSM-5 was effectively adjusted *via* nitridation and the catalytic performance in benzene alkylation with methanol was improved.



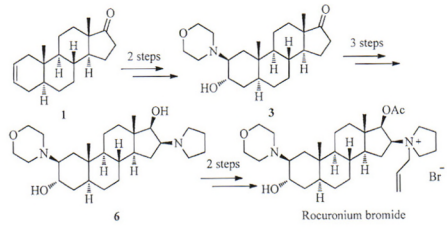
Chinese Chemical Letters 28 (2017) 487

A new and efficient method for the synthesis of rocuronium bromide

Xue-Ying Wu[a], Yao-Ling Wang[b], Li Hai[b], Ping Gong[a], Yong Wu[b]

[a]*Key Laboratory of Structure-Based Drug Design and Discovery of Ministry of Education, School of Pharmaceutical Engineering, Shenyang Pharmaceutical University, Shenyang 110016, China*
[b]*Key Laboratory of Drug Targeting and Drug Delivery Systems of Ministry of Education, West China School of Pharmacy, Sichuan University, Chengdu 610041, China*

A new and efficient route for preparing 2β-(4-morpholinyl)-16β-(1-pyrrolidinyl)-5α-androstan-3α,17β-diol (**6**) as the key intermediate for providing rocuronium bromide (**7**) was developed. The overall yield of compound **6** in 5 steps increased to 57.8%, which was higher than currently reported methods Extraordinarily, this method could avoid the generation of disubstituted impurities **E** and **F** which are difficult to remove.



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