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Piezofluorochromic

Piezochromic luminescence and aggregation

induced emission of 9,10-bis[2-(2-alkoxynaphthalen-1-yl)vinyl]anthracene derivatives

Provided by Prof. Ligong Chen's group, Tianjin University, China



ORIGINAL ARTICLE

Shu-Jun Zhen, Cheng-Zhi Huang et al.
Preparation of highly luminescent nitrogen
and sulfur co-doped carbon nanoparticles
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万方数据 Institute of Materia Medica, Chinese Academy of Medical Sciences



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

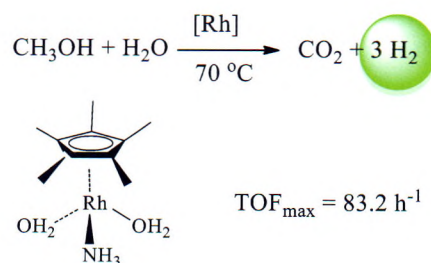
Original Articles

Hydrogen generation from methanol reforming under unprecedented mild conditions

Yu-Lu Zhan^{a,b}, Yang-Bin Shen^{b,c}, Shu-Ping Li^{b,c}, Bao-Hua Yue^a, Xiao-Chun Zhou^b^aDepartment of Chemistry, College of Science, Shanghai University, Shanghai 200444, China^bDivision of Advanced Nanomaterials, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences, Suzhou 215125, China^cUniversity of Chinese Academy of Sciences, Beijing 100049, China

A homogeneous catalyst $[\text{Cp}^*\text{Rh}(\text{NH}_3)(\text{H}_2\text{O})_2]^{3+}$ has been found for the clean conversion of methanol and water to hydrogen and carbon dioxide. The simple and easily available reaction steps can circumvent the formation of CO_2 , therefore, making it possible to avoid inactivating catalysts and contaminating the hydrogen fuel. Different from conventional reforming method for hydrogen production, no additional alkaline or organic substances are required in this method.

Chinese Chemical Letters 28 (2017) 1353



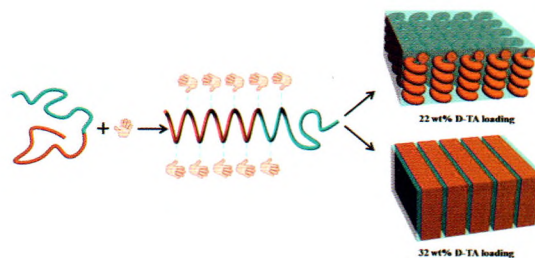
Spectroscopic investigation on chirality transfer in additive-driven self-assembly of block polymers

Li-Hua Pang, Jing-Min Li, Xue-Min Lu, Qing-Hua Lu

School of Chemistry and Chemical Engineering, State Key Laboratory of Metal Matrix Composites, Shanghai Jiao Tong University, Shanghai 200240, China

Helical structure with clear handedness was formed by the additive-driven self-assembly of block copolymer and the chirality was transferred to both the segments of block copolymer irrespective of the interaction with the chiral additives.

Chinese Chemical Letters 28 (2017) 1358



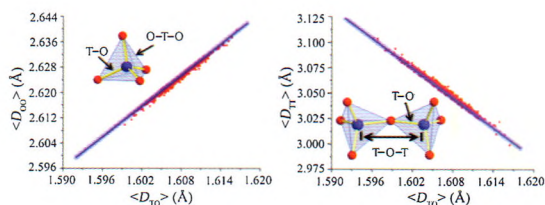
Accelerating the detection of unfeasible hypothetical zeolites via symmetric local interatomic distance criteria

Jun-Ran Lu, Chao Shi, Yi Li, Ji-Hong Yu

State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, College of Chemistry, Jilin University, Changchun 130012, China

The symmetric LiD_{sym} criteria detect unfeasible hypothetical zeolite structures one order of magnitude faster than the original non-symmetric LID criteria.

Chinese Chemical Letters 28 (2017) 1365



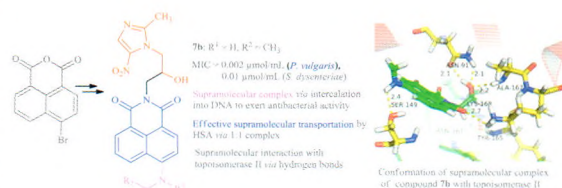
Novel potentially antibacterial naphthalimide-derived metronidazoles: Design, synthesis, biological evaluation and supramolecular interactions with DNA, human serum albumin and topoisomerase II

Jie Kang^a, Vijai Kumar Reddy Tangadanchu^a, Lavanya Gopala^a, Wei-Wei Gao^a, Yu Cheng^a, Han-Bo Liu^a, Rong-Xia Geng^a, Shuo Li^b, Cheng-He Zhou^a

^aInstitute of Bioorganic & Medicinal Chemistry, Key Laboratory of Applied Chemistry of Chongqing Municipality, School of Chemistry and Chemical Engineering, Southwest University, Chongqing 400715, China

^bSchool of Chemical Engineering, Chongqing University of Technology, Chongqing 400054, China

A series of novel naphthalimide-derived metronidazoles as new antibacterial agents were developed. Relational supramolecular interactions with DNA, human serum albumin and topoisomerase II were investigated for the evaluation of antibacterial potentiality.



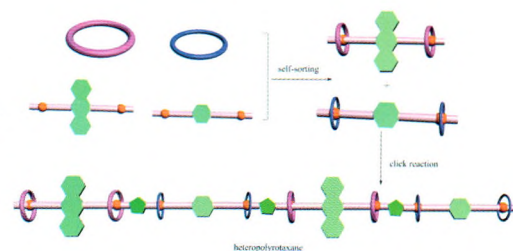
Chinese Chemical Letters 28 (2017) 1369

One-pot synthesis of well-organized heteropolyrotaxane via self-sorting strategy

Man-Hua Ding, Xiao-Ming Chen, Lin-Li Tang, Fei Zeng

Department of Biology and Chemistry, Hunan University of Science and Engineering, Key Laboratory Comprehensive Utilization of Dominant Plants Resources in South Hunan, Yongzhou 425199, China

Two novel [3]pseudorotaxanes can be selectively synthesized from four components through self-sorting processes, which provides a new strategy for the construction of a well-organized heteropolyrotaxane.



Chinese Chemical Letters 28 (2017) 1375

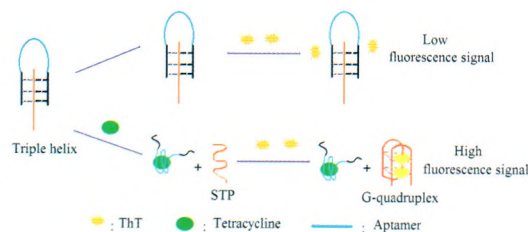
Label-free fluorescent strategy for sensitive detection of tetracycline based on triple-helix molecular switch and G-quadruplex

Tian-Xiao Chen^a, Feng Ning^b, Hai-Sheng Liu^b, Ke-Feng Wu^b, Wei Li^a, Chang-Bei Ma^b

^aSchool of Chemistry and Biological Engineering, Changsha University of Science and Technology, Changsha 410004, China

^bState Key Laboratory of Medical Genetics & School of Life Sciences, Central South University, Changsha 410013, China

A sensitive and simple aptamer-based fluorescent sensing platform based on triple-helix molecular switch and G-quadruplex was developed for the detection of tetracycline.



Chinese Chemical Letters 28 (2017) 1380

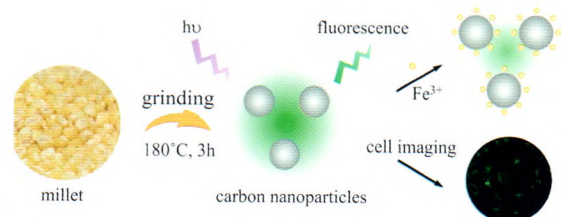
Preparation of highly luminescent nitrogen and sulfur co-doped carbon nanoparticles for iron (III) ions detection and cell imaging

Cheng Chen^a, Zhu-Lian Wu^a, Ting-Ting Wang^b, Xiao-Yan Wan^b, Shu-Jun Zhen^a, Cheng-Zhi Huang^{a,b}

^aKey Laboratory of Luminescent and Real-Time Analytical Chemistry (Southwest University), Ministry of Education, College of Chemistry and Chemical Engineering, Southwest University, Chongqing 400715, China

^bCollege of Pharmaceutical Sciences, Southwest University, Chongqing 400716, China

By using millet powder as carbon source, photoluminescent nitrogen and sulfur co-doped carbon nanoparticles were prepared with a quantum yield of 30.4% through one-pot hydrothermal synthesis, which are highly photostable, low toxic, suitable for bioimaging and detection of Fe^{3+} .



Chinese Chemical Letters 28 (2017) 1385

Theranostic gold cluster nanoassembly for simultaneous enhanced cancer imaging and photodynamic therapy

Hao-Dong Cui^{a,b}, De-Hong Hu^{a,c}, Jing-Nan Zhang^a, Guan-Hui Gao^d, Cui-Fang Zheng^a, Ping Gong^a, Xing-Hua Xi^e, Zong-Hai Sheng^{a,c}, Lin-Tao Cai^a

^aGuangdong Key Laboratory of Nanomedicine, Institute of Biomedicine and Biotechnology, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen 518055, China

^bDepartment of Nano Science and Technology Institute, University of Science and Technology of China, Suzhou 215123, China

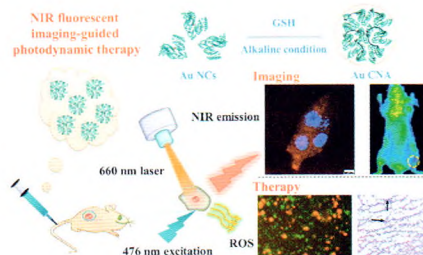
^cPaul C. Lauterbur Research Center for Biomedical Imaging, Institute of Biomedical and Health Engineering, Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences, Shenzhen 518055, China

^dPaul-Drude-Institut für Festkörperelektronik, Berlin 10117, Germany

^eDepartment of Ophthalmology, Shenzhen People's Hospital, 2nd Clinical Medical College of Jinan University, Shenzhen 518020, China

The well-defined gold clusters nanoassembly (Au CNA) were employed for near-infrared (NIR) fluorescent (FL) imaging and photodynamic therapy (PDT) *in vitro/vivo*.

Chinese Chemical Letters 28 (2017) 1391



Organic-inorganic hybrid fluorescent sensor thin films of rhodamine B embedded Ag-SBA15 for selective recognition of Hg (II) ions in water

Banupriya Cinnasamy^a, Srinivasan Krishnan^a, Rajasekar Aruliah^b, Murugan Kadarkarai^c, Giovanni Benelli^{d,e}, Dinakaran Kannaiyan^a

^aDepartment of Chemistry, Thiruvalluvar University, Vellore 632 115, India

^bDepartment of Biotechnology, Thiruvalluvar University, Vellore 632 115, India

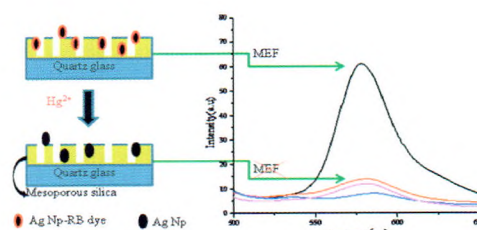
^cDepartment of Zoology, Bharathiar University, Coimbatore 641 046, India

^dDepartment of Agriculture, Food and Environment, University of Pisa, Pisa 56124, Italy

^eTheBioRobotics Institute, Sant'Anna School of Advanced Studies, Pontedera 56025, Italy

Metal enhanced fluorescence based assay employing rhodamine B embedded Ag-SBA15 was developed to rapidly detect Hg (II) ions in water.

Chinese Chemical Letters 28 (2017) 1399



Simple and cost-effective determination of ciprofloxacin hydrochloride by electrical micro-titration

Xu-Zhi Zhang^a, Meng-Shi Huang^{a,b}, Qian-Qian Yang^{a,b}, Dong-Sheng Ding^a, Jun Zhao^a, Wen-Rong Yang^c, Ke-Ming Qu^a

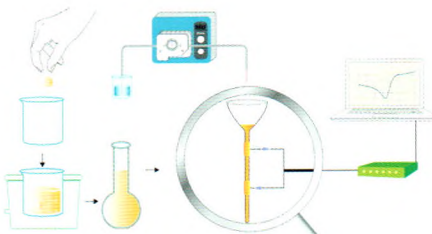
^aYellow Sea Fisheries Research Institute, Chinese Academy of Fishery Sciences, Qingdao National Laboratory for Marine Science and Technology, Qingdao 266071, China

^bCollege of Marine Sciences, Shanghai Ocean University, Shanghai 201306, China

^cSchool of Life and Environmental Sciences, Deakin University, Geelong, VIC 3217, Australia

By employing an electrical micro-titration system, in which a capacitively coupled contactless conductivity detector is used to monitor the reaction process in real time, ciprofloxacin hydrochloride in tablet samples is determined. Because the reaction solutions are isolated from the working electrodes, it shows significant simplicity and cost-effectiveness, by eliminating the requirements for detector exchange/renewal between measurements, and by involving no auxiliary chemicals.

Chinese Chemical Letters 28 (2017) 1406



Hydrophobic terminal group of surfactant initiating micellization as revealed by ¹H NMR spectroscopy

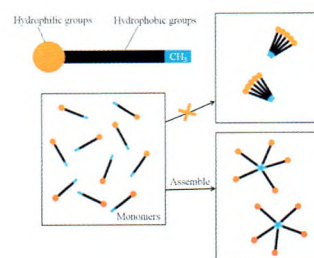
Gang-Jin Yu^{a,b}, Xiao-Ying Chen^{a,b}, Shi-Zhen Mao^a, Mai-Li Liu^a, You-Ru Du^a

^aState Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan 430071, China

^bUniversity of Chinese Academy of Sciences, Beijing 100029, China

Terminal methyl groups (in blue) aggregate firstly during micellization, they initiate the micelle formation.

Chinese Chemical Letters 28 (2017) 1413



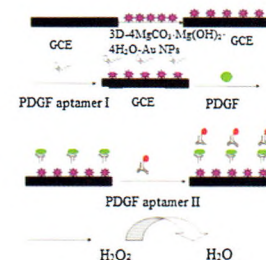
A novel aptasensor based on 3D-inorganic hybrid composite as immobilized substrate for sensitive detection of platelet-derived growth factor

Chun-Ling Zhao, Mei Hua, Can-Yu Yang, Yun-Hui Yang

College of Chemistry and Chemical Engineering, Yunnan Normal University, Kunming 650092, China

3D-4MgCO₃·Mg(OH)₂·4H₂O–Au NPs inorganic hybrid composite was utilized as immobilized substrate and Pt–Au bimetallic nanoparticles were labelled on PDGF aptamer to construct an aptasensor for sensitive PDGF detection. The detection limit of this aptasensor was 1.2 fmol/L, much lower than that of other electrochemical aptasensors.

Chinese Chemical Letters 28 (2017) 1417



Magnetic and electro-catalytic properties of a copper complex with 2-(pyridylmethyl)amino-*N,N*-bis(2-methylene-4,6-difluorophenol)

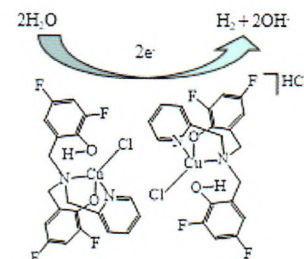
Dong Li^a, Chen-Neng Lin^a, Shu-Zhong Zhan^a, Chun-Lin Ni^b

^aCollege of Chemistry & Chemical Engineering, South China University of Technology, Guangzhou 510640, China

^bCollege of Materials and Energy, Institute of Biomaterial, South China Agricultural University, Guangzhou 510642, China

A new material for both magnetic coupling and electrocatalytic hydrogen generation based on a copper complex, [(HL)CuCl–CuCl(HL)]HCl is prepared by the reaction of 2-(pyridylmethyl)amino-*N,N*-bis(2-methylene-4,6-difluorophenol) (H₂L) and CuCl₂·2H₂O.

Chinese Chemical Letters 28 (2017) 1424



Fabrication of the electrochemically reduced graphene oxide-bismuth nanoparticles composite and its analytical application for an anticancer drug gemcitabine

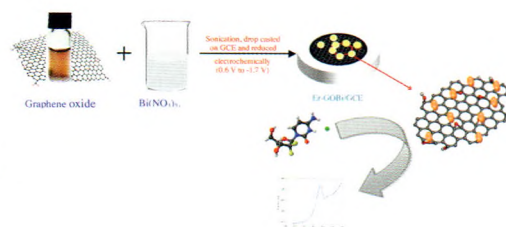
Ranjita Tandel^a, Nagappa Teradal^a, Ashis Satpati^b, Seetharamappa Jaldappagari^a

^aDepartment of Chemistry, Karnatak University, Dharwad 580 003, India

^bAnalytical Chemistry Division, Bhabha Atomic Research Center, Trombay, Mumbai 400 085, India

Reduced graphene oxide-bismuth nanoparticles composite was prepared, characterized and used as an electrode material for the sensing of an anticancer drug, gemcitabine at micro molar levels in injection and urine samples.

Chinese Chemical Letters 28 (2017) 1429



Electrochemical properties of niobium and phosphate doped spherical Li-rich spinel LiMn₂O₄ synthesized by ion implantation method

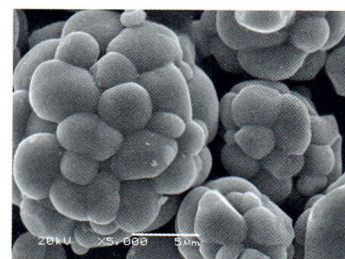
Wei Li^a, Gao-Wa Siqin^a, Zhi Zhu^b, Lu Qi^b, Wen-Huai Tian^a

^aDepartment of Materials Physics and Chemistry, School of Materials Science and Engineering, University of Science and Technology, Beijing 100083, China

^bNew Energy Materials and Technology Laboratory, Department of Applied Chemistry, College of Chemistry and Molecular Engineering, Peking University, Beijing 100871, China

Spherical Li-rich lithium manganese oxide spinel material was synthesized by an ion implanted method assisted by polyalcohol doped with Niobium and Phosphate simultaneously. The prepared Li_{1.09}Mn_{1.87}Nb_{0.031}O_{3.99}(PO₄)_{0.021} delivers a discharge capacity of 119 mAh g⁻¹ at 0.2 °C (1 °C = 148 mA g⁻¹) and 112.8 mAh g⁻¹ at 10 °C, the discharge capacity retention reaches 98% at 1 °C after 50 cycles at 25 °C and 94% at 55 °C.

Chinese Chemical Letters 28 (2017) 1438



Understanding the thermal stability of human serum proteins with the related near-infrared spectral variables selected by Monte Carlo-uninformative variable elimination

Xiu-Wei Liu^a, Xiao-Yu Cui^a, Xiao-Ming Yu^b, Wen-Sheng Cai^a, Xue-Guang Shao^{a,c,d,e}

^aResearch Center for Analytical Sciences, College of Chemistry, Nankai University, Tianjin 300071, China

^bLaboratory of Clinic, People's Hospital of Gaomi City, Shandong 261000, China

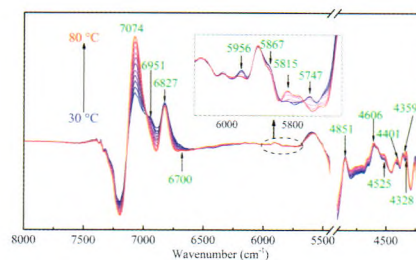
^cTianjin Key Laboratory of Biosensing and Molecular Recognition, Tianjin 300071, China

^dState Key Laboratory of Medicinal Chemical Biology, Tianjin 300071, China

^eCollaborative Innovation Center of Chemical Science and Engineering, Tianjin 300071, China

The temperature dependent near-infrared spectra of human serum samples were collected from 30 °C to 80 °C. The variables related to proteins and water were selected by Monte Carlo-uninformative variable elimination (MC-UVE) from the transformed spectra by continuous wavelet transform (CWT).

Chinese Chemical Letters 28 (2017) 1447



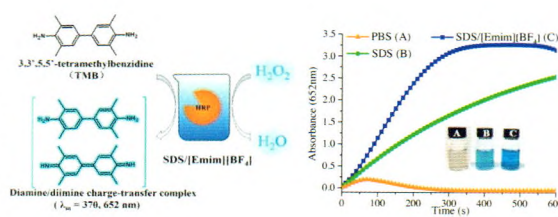
A novel efficient medium for chromogenic catalysis of tetramethylbenzidine with horseradish peroxidase

Meng Li, Xiang-Rong Huang, Yi Guo, Ya-Zhuo Shang, Hong-Lai Liu

Key Laboratory for Advanced Materials, School of Chemistry & Molecular Engineering, East China University of Science and Technology, Shanghai 200237, China

The traditional surfactant sodium dodecyl sulfate (SDS) and ionic liquid 1-ethyl-3-methylimidazolium tetrafluoroborate ([Emim][BF₄]) have been combined to create a novel efficient medium for chromogenic catalysis of 3,3',5,5'-tetramethylbenzidine (TMB) with horseradish peroxidase (HRP) in presence of hydrogen peroxide (H₂O₂). The SDS/[Emim][BF₄] combination not only enhance catalytic activity of HRP remarkably but also stabilize the blue chromogen formed in the HRP oxidation of the substrate TMB compared to the conventional medium.

Chinese Chemical Letters 28 (2017) 1453



Two pairs of chlorine-containing phenylpropanoid enantiomers from *Acorus tatarinowii*

Yuan-Yuan Lu^a, Xue-Peng Gong^a, Yong-Bo Xue^b, Hu-Cheng Zhu^b, Xiao-Nian Li^c, Lin-Zhen Hu^d, Jian-Kun Guan^a, Jin-Wen Zhang^a, Guang Du^a, Yong-Hui Zhang^b

^aTongji Hospital Affiliated to Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, China

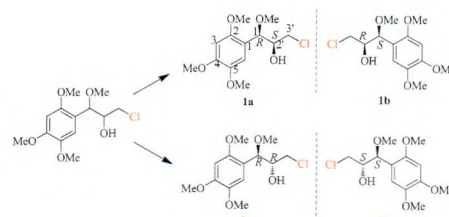
^bHubei Key Laboratory of Natural Medicinal Chemistry and Resource Evaluation, School of Pharmacy, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, China

^cState Key Laboratory of Phytochemistry and Plant Resources in West China, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming 650204, China

^dCollege of Life Science, Hubei University, Wuhan 430062, China

Two pairs of chlorine-containing phenylpropanoid enantiomers (**1a/1b** and **2a/2b**) were isolated from the rhizomes of *Acorus tatarinowii*. Interestingly, these optical isomers (**1a/1b** and **2a/2b**) were co-existed in the same plant, which were characterized as the first halogen-containing natural products from the genus *Acorus*.

Chinese Chemical Letters 28 (2017) 1460



Uncinatic acids A-C, three new carboxylated flavonoids from *Selaginella uncinata*

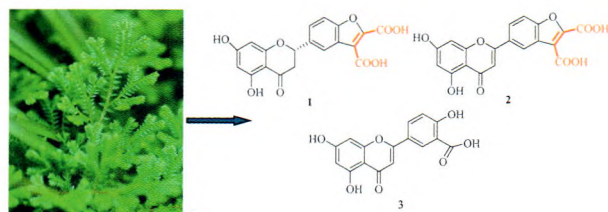
Rui Liu^{a,b}, Hui Zou^{a,b}, Ping-Sheng Xu^a, Zhen-Xing Zou^a, Jing Li^b, Fei Cheng^a, Rui-Huan Liu^b, Gan Zhou^a, Kang-Ping Xu^b, Gui-Shan Tan^{a,b}

^aXiangya Hospital of Central South University, Changsha 410008, China

^bXiangya School of Pharmaceutical Sciences, Central South University, Changsha 410013, China

Three new carboxylated flavonoids, uncinatic acids A-C (**1-3**), were isolated from the whole herb of *Selaginella uncinata*. This is the first report of the furanoflavonoids with dicarboxylic acid structural characteristics.

Chinese Chemical Letters 28 (2017) 1465



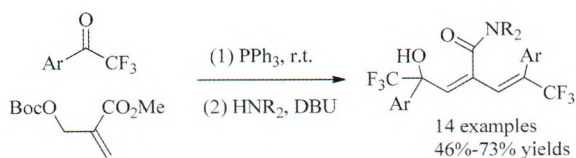
Facile synthesis of CF₃-substituted dienamides via one-pot tandem reactions

Zhe-Zhe Yuan^a, Xiang-Wen Kong^a, Li-Hua Liu^a, Hui-Xia Zhu^a, Hua Xiao^{a,b}

^aDepartment of Pharmaceutical Engineering, Hefei University of Technology, Hefei 230009, China

^bKey Laboratory of Synthetic Chemistry of Natural Substances, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai 200032, China

A tandem one-pot protocol involving phosphine-promoted annulation reactions of aryl trifluoromethyl ketones and MBH (Morita-Baylis Hillman) carbonates, followed by DBU-mediated aminolysis with secondary alkylamines, was developed. This protocol enables a mild and cost-effective access to a range of trifluoromethylated dienamides from simple starting materials with acceptable yields.



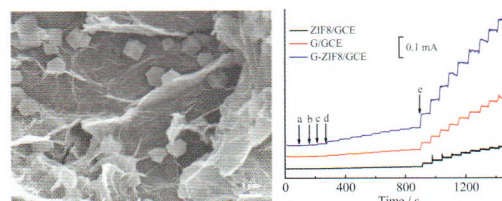
Chinese Chemical Letters 28 (2017) 1469

Detection of dopamine at graphene-ZIF-8 nanocomposite modified electrode

Yan-Yan Zheng, Chang-Xia Li, Xiao-Teng Ding, Qi Yang, Ya-Min Qi, Hui-Min Zhang, Liang-Ti Qu

School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing 100081, China

A hybrid graphene-ZIF-8 nanocomposite modified electrode was prepared and exhibits excellent electroanalytical performance for dopamine.



Chinese Chemical Letters 28 (2017) 1473

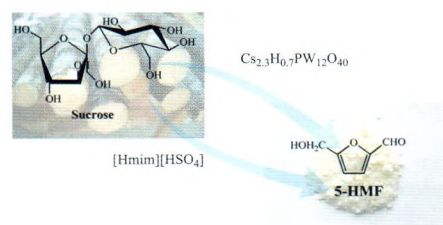
Highly efficient preparation of 5-hydroxymethylfurfural from sucrose using ionic liquids and heteropolyacid catalysts in dimethyl sulfoxide–water mixed solvent

Song-Bai Yu, Hong-Jun Zang, Xiao-Li Yang, Ming-Chuan Zhang, Rui-Rui Xie, Pei-Fei Yu

State Key Laboratory of Hollow Fiber Membrane Materials and Processes, Department of Environmental and Chemical Engineering, Tianjin Polytechnic University, Tianjin 300387, China

A remarkable 5-HMF yield of 91.8% was achieved catalyzed by Cs_{2.3}H_{0.7}PW₁₂O₄₀ within 3 h at 180 °C. The ionic liquid [Hmim][HSO₄] gave the 5-HMF in 82.2% yield from sucrose.

Chinese Chemical Letters 28 (2017) 1479



Piezochromic luminescence and aggregation induced emission of 9,10-bis[2-(2-alkoxynaphthalen-1-yl)vinyl]anthracene derivatives

Xin-Yu Teng^{a,b}, Xing-Chun Wu^{a,b}, Yu-Qi Cao^{a,b}, Yue-Hua Jin^c, Yang Li^{a,b,d}, Xi-Long Yan^{a,b,d}, Bo-Wei Wang^{a,b}, Li-Gong Chen^{a,b,d}

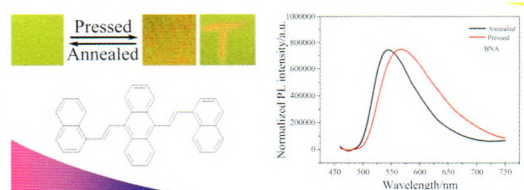
^aSchool of Chemical Engineering and Technology, Tianjin University, Tianjin 300350, China

^bCollaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, China

^cTianjin Bohai Fine Chemical Co., Ltd., Tianjin 300072, China

^dTianjin Engineering Research Center of Functional Fine Chemicals, Tianjin 300072, China

Four derivatives of 9,10-bis[2-(2-alkoxynaphthalen-1-yl)vinyl]anthracene (BNAs) were designed, successfully synthesized and characterized. It was found that these compounds exhibited aggregation-induced emission phenomenon. Moreover, these target compounds displayed reversible color change from yellow to orange upon pressing and annealing process.



Chinese Chemical Letters 28 (2017) 1485

Preparation of chitosan/N-doped graphene natively grown on hierarchical porous carbon nanocomposite as a sensor platform for determination of tartrazine

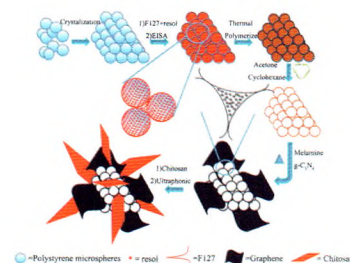
Zhen-Zhen An^a, Zhuang Li^a, Yong-Yang Guo^a, Xiao-Ling Chen^a, Kang-Ning Zhang^a, Dong-Xia Zhang^a, Zhong-Hua Xue^b, Xi-Bin Zhou^a, Xiao-Quan Lu^b

^aKey Laboratory of Bioelectrochemistry & Environmental Analysis of Gansu Province, College of Geography and Environment Science, Northwest Normal University, Lanzhou 730070, China

^bCollege of Chemistry and Chemical Engineering, Northwest Normal University, Lanzhou 730070, China

Chitosan and N-doped graphene natively grown on hierarchical porous carbon (N-PC-G/CS) nanocomposite was obtained by ultrasonic method, as a novel sensor platform for determination of tartrazine (TT).

Chinese Chemical Letters 28 (2017) 1492



The exploration of chiral N-cyano sulfiliminy dicarboxamides on insecticidal activities

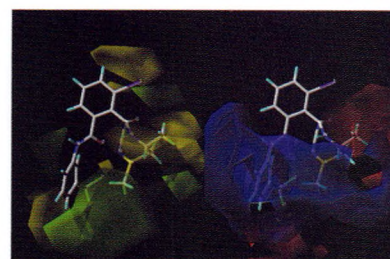
Sha Zhou^a, Shaa Zhou^a, Yong-Tao Xie^a, Ru-Yi Jin^b, Xiang-De Meng^a, Dong-Kai Zhang^a, Xue-Wen Hua^a, Ming Liu^a, Chang-Chun Wu^a, Li-Xia Xiong^a, Yu Zhao^a, Zheng-Ming Li^a

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

^bShenzhen Neptunus Bioengineering Co., Ltd., Shenzhen 518057, China

The results indicated that these groups such as 3-CF₃, 2-CH₃-4-Cl or 2, 3, 4-trifluoro were inefficient to replace heptafluoroisopropyl group for high larvicidal activity, which provided some guidance for the further modifications of sulfiliminy dicarboxamides.

Chinese Chemical Letters 28 (2017) 1499



Design, synthesis and neuroprotective effects of Fenazinel derivatives

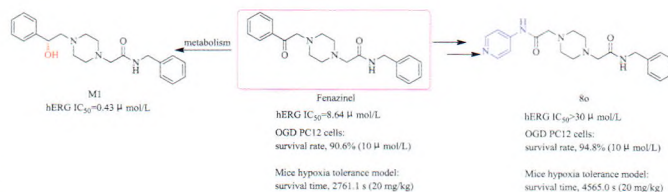
Qing-Wei Zhang^{a,b}, Ling Jiang^{a,b,c}, Guan Wang^{a,b}, Jian-Qi Li^{a,b}

^aNovel Technology Center of Pharmaceutical Chemistry, Shanghai Institute of Pharmaceutical Industry, Shanghai 201203, China

^bShanghai Engineering Research Center of Pharmaceutical Process, Shanghai 201203, China

^cSchool of Engineering, China Pharmaceutical University, Nanjing 211198, China

In search of novel neuroprotective agents with higher potency and lower hERG liability, a series of novel Fenazinel derivatives were designed and synthesized.



Chinese Chemical Letters 28 (2017) 1505

Design, synthesis and evaluation of novel cis-p-menthane type Schiff base compounds as effective herbicides

Shi-Chao Xu^{a,b,c,d,e,f}, Shou-Ji Zhu^{a,b,c,d}, Jing Wang^{a,b,c,d}, Liang-Wu Bi^{a,b,c,d,e,f}, Yu-Xiang Chen^{a,b,c,d,e}, Yan-Ju Lu^{a,b,c,d,e}, Yan Gu^{a,b,c,d}, Zhen-Dong Zhao^{a,b,c,d,e,f}

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^bKey Lab. of Biomass Energy and Material, Jiangsu Province, Nanjing 210042, China

^cNational Engineering Lab. for Biomass Chemical Utilization, Nanjing 210042, China

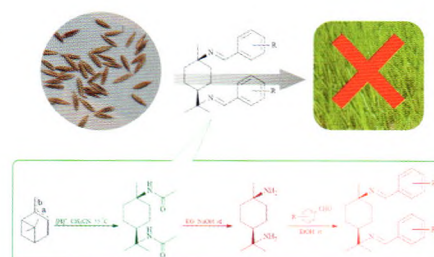
^dKey and Open Lab. on Forest Chemical Engineering, State Forestry Administration, Nanjing 210042, China

^eInstitute of Forestry New Technology, Chinese Academy of Forestry, Beijing 100091, China

^f2011 Collaborative Innovation Center of Jiangxi Typical Trees Cultivation and Utilization in Jiangxi Agricultural University, Nanchang 330045, China

A series of cis-p-menthane type Schiff base derivatives were designed and synthesized as novel herbicides. Most target compounds displayed excellent herbicidal activities against annual ryegrass in pre-emergence treatment.

Chinese Chemical Letters 28 (2017) 1509



Synthesis and structure-activity relationships study of α -aminophosphonate derivatives containing a quinoline moiety

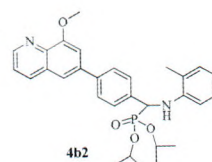
Xi-Feng Zhu^a, Jing Zhang^a, Shuo Sun^b, Yan-Chun Guo^a, Shu-Xia Cao^a, Yu-Fen Zhao^{a,c}

^aThe College of Chemistry and Molecular Engineering, The Key Laboratory of Chemical Biology and Organic Chemistry of Henan Province, Zhengzhou University, Zhengzhou 450001, China

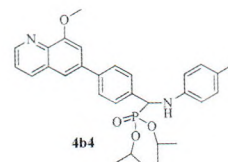
^bDepartment of Chemistry, International College of Zhengzhou University, Zhengzhou University, Zhengzhou 450001, China

^cDepartment of Chemistry, College of Chemistry and Chemical Engineering, The Key Laboratory for Chemical Biology of Fujian Province, Xiamen University, Xiamen 361005, China

Two series of α -aminophosphonate derivatives containing a quinoline moiety have been designed, synthesized and evaluated for cytotoxic activity against Eca109 and Huh7 cancer cell lines *in vitro*. Among them, compounds **4b2** and **4b4** were found to be more active than Sunitinib against both of two cancer cell lines.



IC₅₀: 4.00-6.67 μ mol/L



IC₅₀: 2.26-7.46 μ mol/L

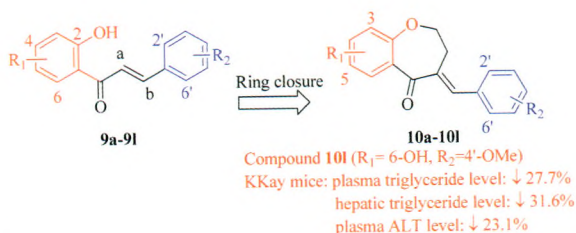
Design, synthesis and metabolic regulation effect of farnesoid X receptor (FXR) antagonistic benzoxepin-5-ones

Guo-Ning Zhang^{a,b}, Yi Huan^a, Xing Wang^a, Su-Juan Sun^a, Zhu-Fang Shen^a, Wei-Shuo Fang^a

^aState 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

^bInstitute of Medicinal Biotechnology, Chinese Academy of Medical Science, Peking Union Medical College, Beijing 100050, China

A series of benzoxepin-5-ones were designed and synthesized by the cyclization of chalcones which were previously found as FXR antagonists. The most potent target compound **10l** reduced the plasma and hepatic triglyceride and plasma ALT levels significantly in mice.



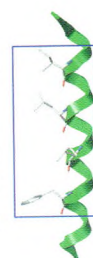
Discovery of novel inhibitors of anti-apoptotic Bcl-2 proteins derived from Bim BH3 domain

Chuan-Liang Zhang^{a,b}, Shan Liu^b, Xiao-Chun Liu^b, Jiang-Ming Gao^b, Shu-Lin Wang^{a,b}

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

^bMarine Biomedical Research Institute, Qingdao 266071, China

A series of peptides derived from Bim BH3 domain were synthesized and the *in vitro* binding affinity on anti-apoptotic Bcl-2 proteins and cell killing activity were evaluated. Of particular interest were the analogue SM-5 (K_D = 9.48 nmol/L for Bcl-2) and SM-6 (K_D = 0.08 nmol/L for Bcl-x_L), which exhibited improved binding affinity compared with the lead Bim (K_D = 16.90 nmol/L for Bcl-2 and 22.2 nmol/L for Bcl-x_L, respectively). Promising inhibitors of anti-apoptotic Bcl-2 proteins might be designed based on the active core.



SM-5 Ac-Ile-Ala-Gln-Glu-Arg-Arg-Ile-Gly-Asp-Glu-Phe-NH₂
 Affinity K_D = 16.9 nmol/L for Bcl-2

SM-6 mPEG-Ile-Ala-Gln-Glu-Arg-Arg-Ile-Gly-Asp-Glu-Phe-NH₂
 Affinity K_D = 0.08 nmol/L for Bcl-x_L

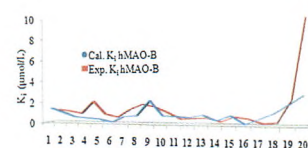
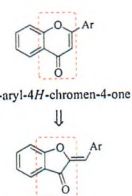
Design, synthesis and MAO inhibitory activity of 2-(arylmethylidene)-2,3-dihydro-1-benzofuran-3-one derivatives

Vishnu Nayak Badavath^a, Chandrani Nath^a, Narayana Murthy Ganta^a, Gulberk Ucar^b, Barij Nayan Sinha^a, Venkatesan Jayaprakash^a

^aDepartment of Pharmaceutical Sciences & Technology, Birla Institute of Technology, Mesra, Ranchi 835 215, Jharkhand, India

^bDepartment of Biochemistry, Faculty of Pharmacy, Hacettepe University, Sıhhiye 06100, Ankara, Turkey

Twenty synthetic aurones were tested for their hMAO-isoform inhibitory activity. Seventeen compounds with less bulkier Ar-group were found to be potent, selective and reversible inhibitors of hMAO-B.



Design, synthesis and bioactivity of chalcones and its analogues

Chinese Chemical Letters 28 (2017) 1533

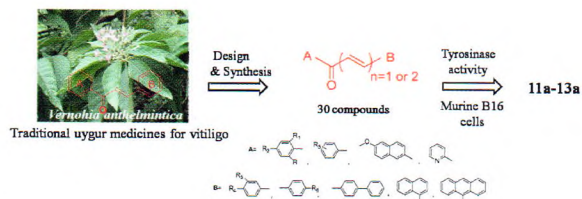
Chao Niu^{a,b}, Adila Tuerxuntay^{a,b}, Gen Li^{a,b}, Madina Kabas^{a,b}, Chang-Zhi Dong^a, Haji Akber Aisa^{a,b}

^aKey Laboratory of Plant Resources and Chemistry of Arid Zone, Chinese Academy of Sciences, Urumqi 830011, China

^bState Key Laboratory Basis of Xinjiang Indigenous Medicinal Plants Resource Utilization, Xinjiang Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Urumqi 830011, China

^cUniversité Paris Diderot, Sorbonne Paris Cité, ITODYS, UMR 7086 CNRS, 15 rue J-A de Baïf, 75205 Paris Cedex 13, France

Twenty-one chalcones and nine analogues were synthesized and evaluated for their activity on tyrosinase in cell-free system. Several compounds were more potent than the positive control 8-MOP and **13a** was further biologically investigated in B16 cells.



Synthesis, chemical nuclease activity, and *in vitro* cytotoxicity of benzimidazole-based Cu(II)/Co(II) complexes

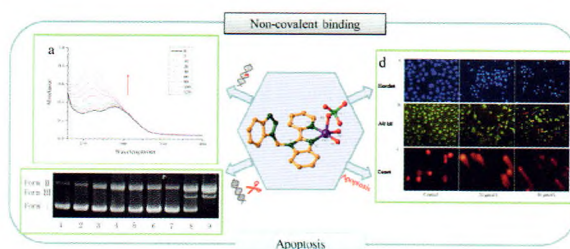
Chinese Chemical Letters 28 (2017) 1539

Jin-An Zhao^a, Huai-Bin Yu^b, Shuang-Cheng Zhi^b, Rui-Na Mao^b, Ji-Yong Hu^a, Xiao-Xiao Wang^a

^aCollege of Material and Chemical Engineering, Henan University of Urban Construction, Pingdingshan 467036, China

^bCollege of Chemistry and Molecular Engineering, Zhengzhou University, Zhengzhou 450052, China

Mono/di-nuclear Cu(II)/Co(II) complexes with a nitrogen heterocyclic benzimidazole-based ligand, Cu(p-2-bmb)(OH)(ClO₄) (**1**) and Co₂(p-2-bmb)₂Cl₄ (**2**) were synthesized and characterized. The chemical nuclease activity, and *in vitro* cytotoxicity studies in this paper showed benzimidazole-based metal complexes could be potential anti-cancer agents.



Decoquinolate derivatives: A new class of potent antischistosomal agents against *Schistosoma japonicum*

Chinese Chemical Letters 28 (2017) 1547

Wen-Long Wang^{a,b}, Li-Jun Song^b, Bo-Chun Hu^a, Li Miao^a, Xiao-Yu Chen^a, Wen-Hua Fan^a, Xu-Ren Yin^b, Shuang Shen^b, Zhao-Feng Ding^d, Chuan-Xin Yu^{b,c}

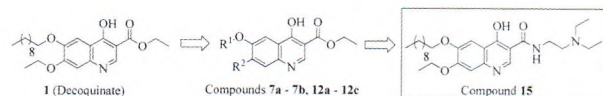
^aSchool of Pharmaceutical Science, Jiangnan University, Wuxi 214122, China

^bKey Laboratory of National Health and Family Planning Commission on Parasitic Disease Control and Prevention, Jiangsu Provincial Key Laboratory on Parasite and Vector Control Technology, Jiangsu Institute of Parasitic Diseases, Wuxi 214064, China

^cMedical School, Jiangnan University, Wuxi 214122, China

^dSuzhou Kemu Veterinary Pharmaceutical Co., Ltd., Meiyuan High-technology Development Zone, Suzhou 215225, China

Based on decoquinolate (**1**), a series of decoquinolate derivatives was designed, synthesized, evaluated as a new class of antischistosomal agents. Among them, compound **15** killed 100% of adult *S. japonicum* in 72 h at the concentration of 10 μmol/L *in vitro*, exhibited stronger worm-killing activity than that of PZQ.



Cerium (IV) ammonium nitrate (CAN)-mediated regioselective synthesis and anticancer activity of 6-substituted 5,8-dimethoxy-1,4-naphthoquinone

Chinese Chemical Letters 28 (2017) 1553

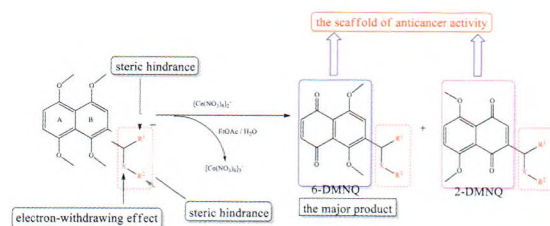
Guang Huang^{a,b}, Hui-Ran Zhao^c, Qing-Qing Meng^a, Wen-Zhou^a, Qi-Jing Zhang^a, Jin-Yun Dong^a, Jia-Hua Cui^a, Shao-Shun Li^a

^aSchool of Pharmacy, Shanghai Jiao Tong University, Shanghai 200240, China

^bShanghai Institute of Pharmaceutical Industry, Shanghai 201203, China

^cSchool of Pharmaceutical Sciences and Chemistry, Dali University, Dali 671000, China

6-Substituted 5, 8-O-dimethyl-, 4-naphthoquinones (6-DMNQ) were selectively generated by oxidative demethylation of 2-substituted 1,4,5,8-tetramethoxynaphthalenes with CAN using EtOAc/H₂O as the solvent system in comparatively high yields. The majority of the prepared 6-DMNQ displayed selective cytotoxic activities toward HCT-15 cells, together with no apparent cytotoxicities toward the normal cells.



Synthesis, characterization and antibacterial screening of some novel 1,2,4-triazine derivatives

Chinese Chemical Letters 28 (2017) 1559

Mohammad Arshad^{a,b}, Abdul Roouf Bhat^c, Kwon Kang Hoi^d, Inho Choi^d, Fareeda Athar^a

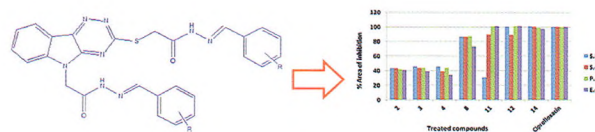
^aCentre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi 110025, India

^bCollege of Medicine Aldawadmi Shaqra University, Saudi Arabia

^cP.G. Department of Chemistry, Sri Pratap College, Srinagar, J&K, 190001, India

^dSchool of Biotechnology, Yeungnam University, Gyeongsan 712-749, South Korea

A new library of 1,2,4-triazine derivatives were synthesized and evaluated for antibacterial activity. The MIC was detected using the double dilution method. Selected compounds were subjected for MTT-assay using HepG2 cell line.



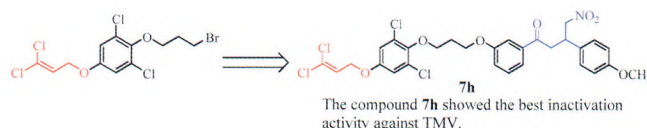
Study of the synthesis, antiviral bioactivity and interaction mechanisms of novel chalcone derivatives that contain the 1,1-dichloropropene moiety

Chinese Chemical Letters 28 (2017) 1566

Liang-Run Dong, De-Yu Hu, Zeng-Xue Wu, Ji-Xiang Chen, Bao-An Song

State Key Laboratory Breeding Base of Green Pesticide and Agricultural Bioengineering, Key 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 chalcone derivatives that contain the 1,1-dichloropropene moiety was synthesized and assayed for the antiviral activity against tobacco mosaic virus. Compound **7h** showed significant inactivation activity against TMV and strong interaction with the tobacco mosaic virus coat protein.



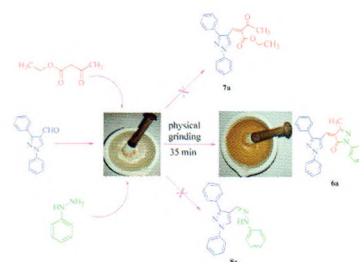
Sulfamic acid as a green, reusable catalyst for stepwise, tandem & one-pot solvent-free synthesis of pyrazole derivatives

Chinese Chemical Letters 28 (2017) 1571

Veera Swamy Konkala, Pramod Kumar Dubey

Department of Chemistry, Jawaharlal Nehru Technological University Hyderabad, College of Engineering, Kukatpally 500085, India

Sulfamic acid (SA) is a bi-functional, green and reusable catalyst for one-pot, three component synthesis of 4-(pyrazol-4-yl) methylenepyrazol-5(4H)-one derivatives under solvent-free conditions.



β -Cyclodextrin as a supramolecular catalyst for the synthesis of 2H-indazolo[2,1-b]phthalazine-trione derivatives in water and their antimicrobial activities

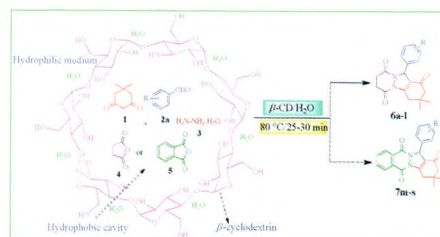
Chinese Chemical Letters 28 (2017) 1577

Asha V. Chate^a, Priyanka K. Bhadke^a, Manisha A. Khande^a, Jaiprakash N. Sangshetti^b, Charansingh H. Gill^a

^aDepartment of Chemistry, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad 431004, M.S., India

^bY. B. Chavan College of Pharmacy, Rafiq Zakaria Campus, Aurangabad 431 001, India

A mild and environmentally benign protocol was developed using β -cyclodextrins as a catalyst to significantly improve the yield of 2H-indazolo[2,1-b]phthalazine-trione derivatives. The β -cyclodextrin employed in the multi-component reaction satisfies the requirements for green chemistry.



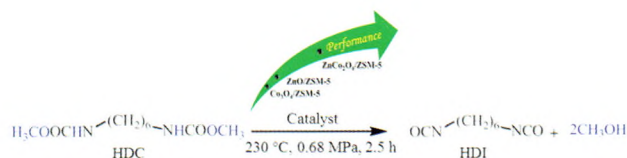
Zn-Co bimetallic supported ZSM-5 catalyst for phosgene-free synthesis of hexamethylene-1,6-diisocyanate by thermal decomposition of hexamethylene-1,6-dicarbamate

Muhammad Ammar^{a,b}, Yan Cao^a, Peng He^a, Li-Guo Wang^a, Jia-Qiang Chen^a, Hui-Quan Li^a

^aKey Laboratory of Green Process and Engineering, National Engineering Laboratory for Hydrometallurgical Cleaner Production Technology, Institute of Process Engineering, CAS, Beijing 100190, China

^bUniversity of Chinese Academy of Sciences, Beijing 100049, China

In this study, a phosgene-free route for the thermal decomposition of HDC to HDI was demonstrated over Zn-Co bimetallic supported ZSM-5 catalyst. Bimetallic supported ZSM-5 catalyst revealed the deposition of ZnCo₂O₄ on the ZSM-5 support. Furthermore, bimetallic supported ZSM-5 catalyst exhibited greater performance for the thermal decomposition of HDC to HDI than monometallic supported ZSM-5 catalyst.



Chinese Chemical Letters 28 (2017) 1583

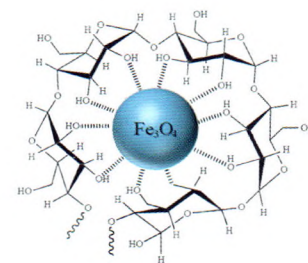
A facile and green synthetic approach toward fabrication of starch-stabilized magnetite nanoparticles

Nurul Hidayah Abdullah^a, Kamyar Shameli^a, Ezzat Chan Abdullah^a, Luqman Chuah Abdullah^b

^aDepartment of Environmental Engineering and Green Technology (EGT), Malaysia-Japan International Institute of Technology (MJIIT), Universiti Teknologi Malaysia (UTM), Jalan Sultan Yahya Petra, Kuala Lumpur 54100, Malaysia

^bDepartment of Chemical and Environmental Engineering, Faculty of Engineering, Universiti Putra Malaysia, Serdang Selangor 43400, Malaysia

Highly dispersed spherical starch/Fe₃O₄-NPs can be synthesized by ultrasonic assisted co-precipitation method. Starch was used as a stabilizer for controlled size of Fe₃O₄-NPs.



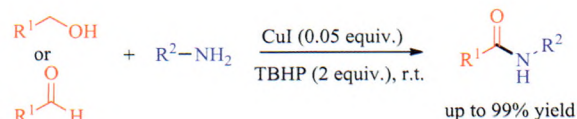
Chinese Chemical Letters 28 (2017) 1590

Transformation of aldehydes or alcohols to amides at room temperature under aqueous conditions

Dao-Qing Dong, Shuang-Hong Hao, Hui Zhang, Zu-Li Wang

College of Chemistry and Pharmaceutical Sciences, Qingdao Agricultural University, Qingdao 266109, China

A novel and efficient method for the synthesis of amide has been developed. The reactions proceeded smoothly under aqueous conditions at room temperature and generated the corresponding products in good to excellent yields. It is noteworthy to note that alkyl amines which did not react in known approaches are well tolerated in our system.



Chinese Chemical Letters 28 (2017) 1597

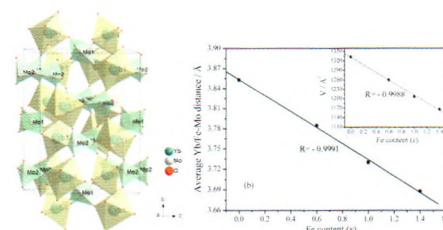
Effects of doping Fe cations on crystal structure and thermal expansion property of Yb₂Mo₃O₁₂

Ying-Zhi Cheng^{a,b}, Xiu-Yu Sun^a, Xiao-Ling Xiao^b, Xiang-Feng Liu^b, Li Xue^a, Zhong-Bo Hu^b

^aSchool of Chemical Engineering, Shandong University of Technology, Zibo 255049, China

^bCollege of Materials Science and Opto-Electronic Technology, University of Chinese Academy of Sciences, Beijing, 100049, China

MoO₄ tetrahedra are playing more roles in the NTE of Yb₂Mo₃O₁₂ than MoO₄ tetrahedra. The change of average Yb/Fe nonbonded distances as a function of Fe content is kind of linear relationship.



Chinese Chemical Letters 28 (2017) 1600

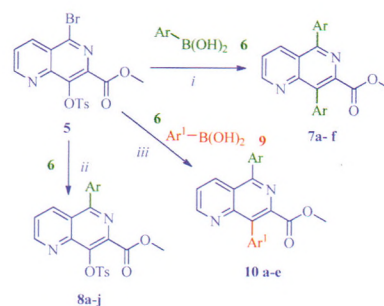
Chemo-selective Suzuki–Miyaura reactions: Synthesis of highly substituted [1,6]-naphthyridines

Suneel Kumar, Yadavalli Nawaz Khan, Fazlur-Rahman

Organic and Medicinal Chemistry Research Laboratory, School of Advanced Sciences, VIT-University, Vellore 632 014, India

The Suzuki–Miyaura reaction of methyl-5-bromo-8-(tosyloxy)-1,6-naphthyridine-7-carboxylate, **5** with 2 equiv. of arylboronic acids gave diarylated product, 5,8-diaryl-1,6-naphthyridine-7-carboxylate **7**, whereas 1 equiv. of arylboronic acid resulted in site-selective formation of 5-aryl-8-(tosyloxy)-1,6-naphthyridine-7-carboxylate **8**.

Chinese Chemical Letters 28 (2017) 1607



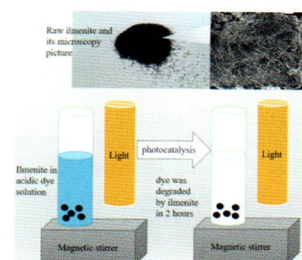
Ilmenite: Properties and photodegradation kinetic on Reactive Black 5 dye

Ru-Bin Lee, Joon-Ching Juan, Chin-Wei Lai, Kian-Mun Lee

Nanotechnology & Catalysis Research Centre (NANOCAT), Institute of Graduate Studies (IPS), University of Malaya, Kuala Lumpur 50603, Malaysia

Natural ilmenite has good photo-catalytic activity under acidic conditions when irradiated under artificial sunlight.

Chinese Chemical Letters 28 (2017) 1613

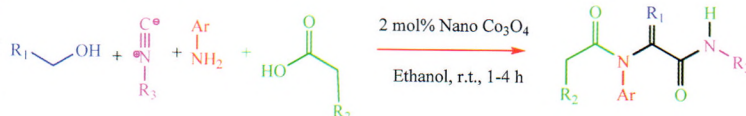


Nano structured spinel Co_3O_4 -catalyzed four component reaction: A novel synthesis of Ugi adducts from aryl alcohols as a key reagent

Priya Chacko, Kalegowda Shivashankar

P.G. Department of Chemistry, Central College Campus, Bangalore University, Bangalore 560 001, Karnataka, India

A simple one pot procedure for the synthesis of α -amino acyl amide with chromone, indole, and naphthalene substitution pattern is presented. This protocol involves the nano structured spinel Co_3O_4 catalysed coupling of aryl alcohols, anilines, carboxylic acids and *tert*-butyl isocyanide. The salient features of this protocol were simple procedure, mild reaction condition and high yield.



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The symmetric LID_{sym} criteria detect unfeasible hypothetical zeolite structures one order of magnitude faster than the original non-symmetric LID criteria.

Provided by Prof. Jihong Yu's group, Jilin University, China.

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