

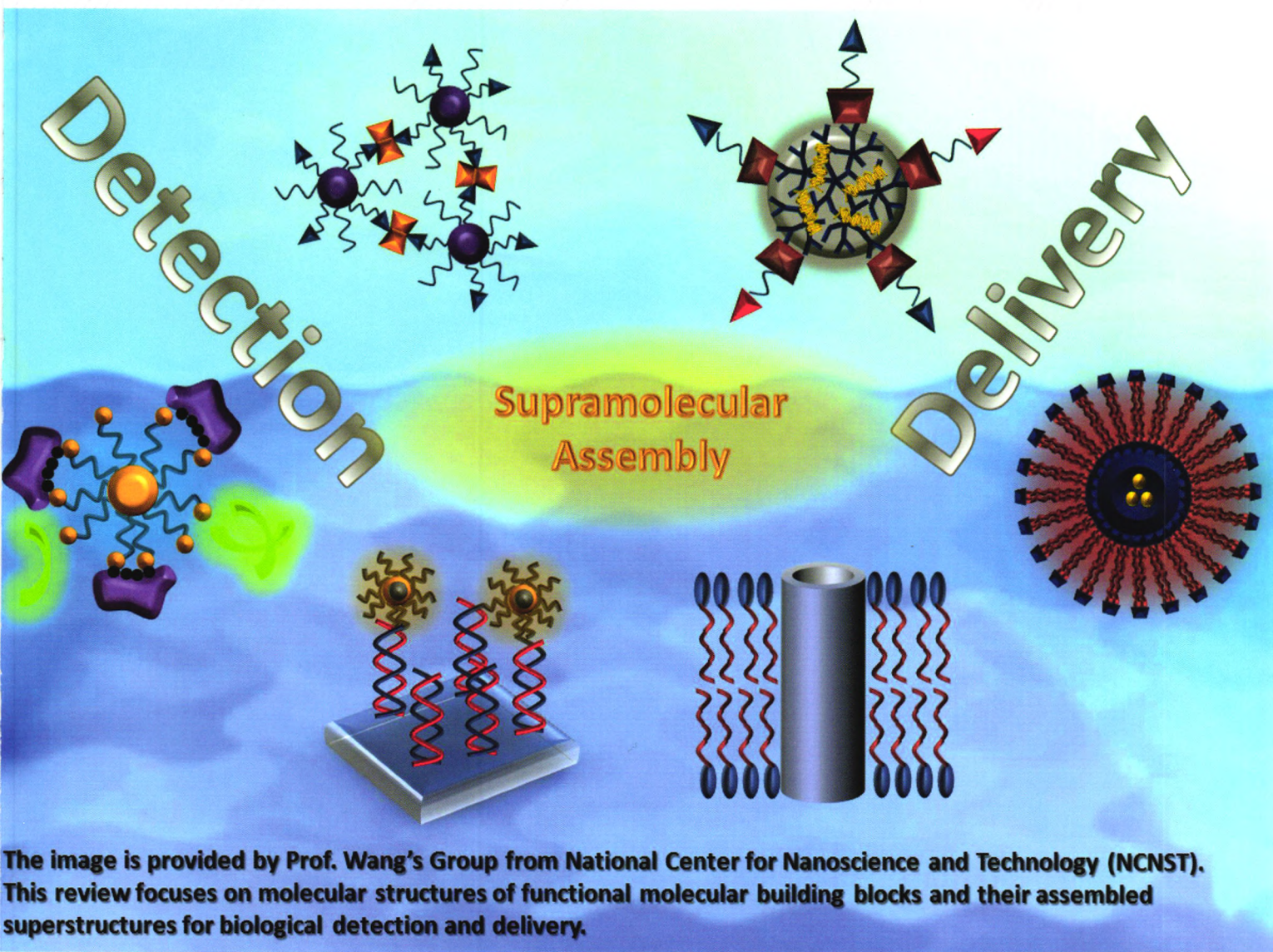
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## Chinese Chemical Letters

| Volume 24 | Number 5 | MAY 2013 |



### ORIGINAL ARTICLE

Xu-Hong Qian et al.  
A 4-aminonaphthalimide based environmentally sensitive fluorescence probe

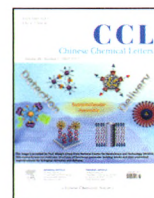
### ORIGINAL ARTICLE

Jin-Nan Wang et al.  
Preparation of new spongy adsorbent for removal of EDTA-Cu(II) and EDTA-Ni(II) from water

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Chinese Chemical Society



## Graphical Abstracts/Chin Chem Lett 24 (2013) iii–viii

## Review

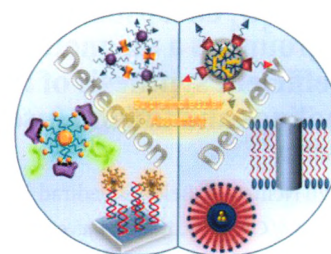
## Recent advances in biocompatible supramolecular assemblies for biomolecular detection and delivery

Chinese Chemical Letters 24 (2013) 351

Lei Wang, Li-Li Li, Horse L. Ma, Hao Wang

CAS Key Laboratory for Biological Effects of Nanomaterials and Nanosafety, National Center for Nanoscience and Technology (NCNST), Beijing 100190, China

With increasing development of biological technology, supramolecular chemistry has shown wide applications in the multidisciplinary fields of material and biomedical sciences. This review will focus on molecular structures of functional molecular building blocks and their assembled superstructures for biological detection and delivery.



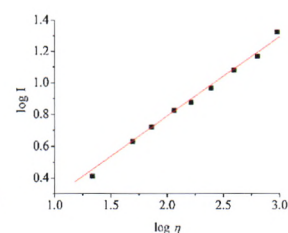
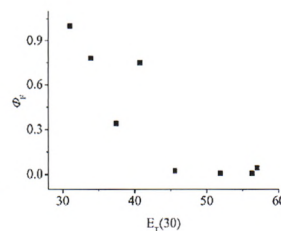
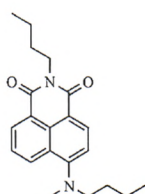
## Original articles

## A 4-aminonaphthalimide based environmentally sensitive fluorescence probe

Chinese Chemical Letters 24 (2013) 359

Zhi-Yong Wu<sup>a</sup>, Jing-Nan Cui<sup>a</sup>, Xu-Hong Qian<sup>b</sup>, Tian-Yu Liu<sup>a</sup><sup>a</sup>State Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian 116012, China<sup>b</sup>Shanghai Key Laboratory of Chemical Biology, East China University of Science and Technology, Shanghai 200237, China

A simply synthesized, small sized 4-aminonaphthalimide derivative exhibits diverse environmentally sensitive fluorescence spectra.

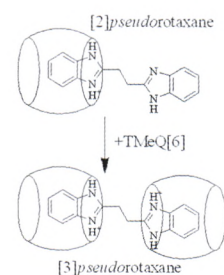
Complexation of *sym*-bis(benzimidazole)-2,2'-ethylene salts with cucurbit[6]uril derivatives: A potential axle molecule for pseudorotaxanes

Chinese Chemical Letters 24 (2013) 362

Jun-Ming Yi, Xin-Long Ni, Xin Xiao, Li-Bing Lu, Sai-Feng Xue, Qian-Jiang Zhu, Zhu Tao

Key Laboratory of Macrocyclic and Supramolecular Chemistry of Guizhou Province, Guizhou University, Guiyang 550025, China

We described here in that *sym*-bis(benzimidazole)-2,2'-ethylene cations act as a new axle template for threading cucurbit[6]uril derivatives on, forming [2]pseudorotaxane and [3]pseudorotaxane.



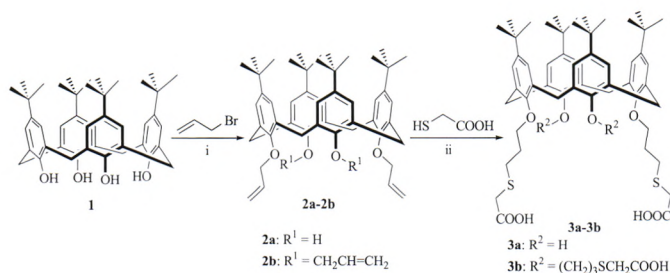
Chinese Chemical Letters 24 (2013) 367

## Efficient synthesis of water-soluble calix[4]arenes via thiol-ene "click" chemistry

Hong Chen, Zhi-Long Zou, Shi-Liang Tan, Jia-Hai Bi, De-Mei Tian, Hai-Bing Li

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

Several water-soluble calix[4]arenes were synthesized via radical addition reaction between thiols and alkenes under UV lamp irradiation ( $\lambda = 365$  nm) in good yields. The structures of these compounds synthesized herein were fully confirmed by  $^1\text{H}$  NMR, ESI-MS and elemental analysis.

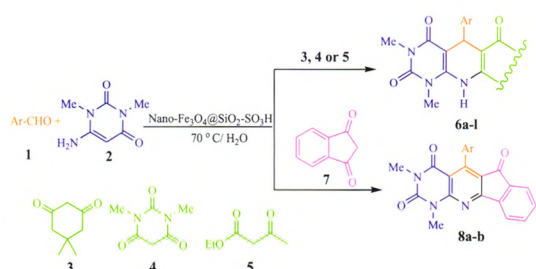


## Nano- $\text{Fe}_3\text{O}_4$ encapsulated-silica particles bearing sulfonic acid groups as a magnetically separable catalyst for green and efficient synthesis of functionalized pyrimido[4,5-*b*]quinolines and indeno fused pyrido[2,3-*d*]pyrimidines in water

Firouzeh Nemati, Raheleh Saedirad

Department of Chemistry, Semnan University, Semnan 35131-19111, Iran

The application of  $\text{Fe}_3\text{O}_4@(\text{SiO}_2-\text{SO}_3\text{H})$  as a nano-magnetic acid catalyst for synthesis of functionalized pyrimido[4,5-*b*]quinolines and indeno fused pyrido[2,3-*d*]pyrimidines in an aqueous medium and mild reaction condition, has been reported.



Chinese Chemical Letters 24 (2013) 370

## Efficient photocatalytic properties of a dinuclear iron complex with bis[2-hydroxybenzaldehyde]hydrazonate ligand

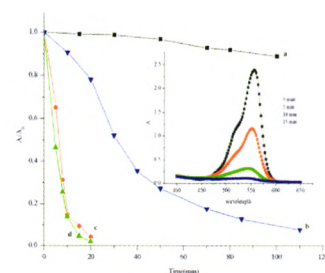
Jing-Wen Ran<sup>a</sup>, Shao-Wen Liu<sup>a</sup>, Peng Wu<sup>a</sup>, Jun Pei<sup>b</sup>

<sup>a</sup>Chemical Engineering College, Huanggang Normal University, Huanggang 438000, China

<sup>b</sup>Education Science and Technology College, Huanggang Normal University, Huanggang 438000, China

A novel iron (III) complex has been prepared. It exhibits very high oxidation activities for the degradation of toxic organic pollutants at room temperature.

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## Multicomponent reactions for the synthesis of functionalized 1,4-oxathiane-3-thiones under microwave irradiation in water

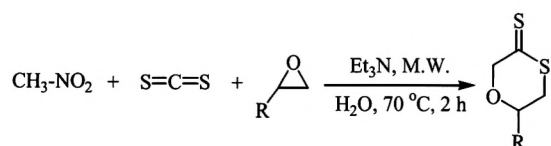
Zinatossadat Hossaini<sup>a</sup>, Faramarz Rostami-Charati<sup>b</sup>, Samereh Seyfi<sup>a</sup>, Mehdi Ghambarian<sup>c</sup>

<sup>a</sup>Department of Chemistry, Qaemshahr Branch, Islamic Azad University, Qaemshahr, Iran

<sup>b</sup>Department of Chemistry, Faculty of Science, Gonbad Kavous University, P.O. Box 163, Gonbad, Iran

<sup>c</sup>Department of Chemistry, Karaj Branch, Islamic Azad University, Karaj, Iran

A series of substituted 1,4-oxathiane-3-thione derivatives were synthesized via one-pot multicomponent reactions of oxiranes.



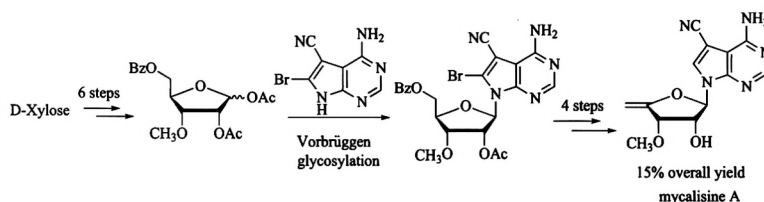
Chinese Chemical Letters 24 (2013) 376

## A total synthesis of mycalisine A

Yan-Hui Dou, Hai-Xin Ding, Ru-Chun Yang, Wei Li, Qiang Xiao

Jiangxi Key Laboratory of Organic Chemistry, Jiangxi Science & Technology Normal University, Nanchang 330013, China

In this paper, we report a total synthesis of a naturally occurring pyrrolo[2,3-d]pyrimidine nucleoside, mycalisine A. Our synthetic strategy uses D-xylose as the starting material and Vorbrüggen glycosylation as the key step.

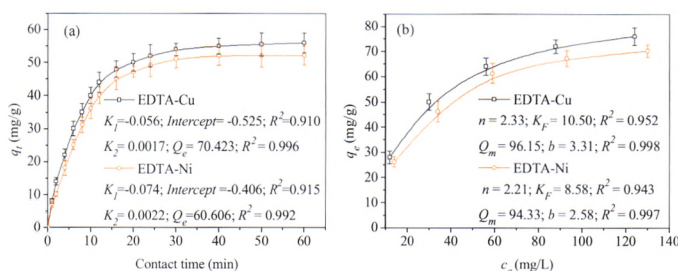


## Preparation of new spongy adsorbent for removal of EDTA-Cu(II) and EDTA-Ni(II) from water

Xin Yang, Jin-Nan Wang, Cheng Cheng

State Key Laboratory of Pollution Control and Resource Reuse & School of the Environment Nanjing University, Nanjing 210023, China

More than 85% of the equilibrium adsorption amount of EDTA-Cu(II) and EDTA-Ni(II) occurred within the initial 30 min. The monolayer saturation adsorption capacities of PU-DTC for EDTA-Cu(II) and EDTA-Ni(II) were up to 96.15 mg/g and 94.33 mg/g, respectively.

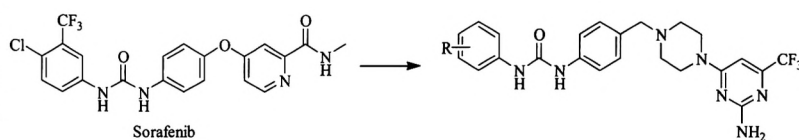


## Synthesis and *in vitro* antitumor activity of novel diaryl urea derivatives

Yan-Fang Zhao, Zi-Jian Liu, Xin Zhai, Dan-Dan Ge, Qiang Huang, Ping Gong

Key Lab of New Drugs Design and Discovery of Liaoning Province, School of Pharmaceutical Engineering, Shenyang Pharmaceutical University, Shenyang 110016, China

A series of novel diaryl ureas containing 4-[(2-amino-6-trifluoromethyl)pyrimidine-4-yl]piperazine-1-yl group were synthesized and evaluated for their cytotoxic activities in a panel of human cancer cell lines. Among them, compound **2p** demonstrated significant inhibitory activities against MDA-MB-231, HT-29 and MCF-7 cell lines with  $IC_{50}$  values of 0.016, 0.63, 0.001  $\mu\text{mol/L}$ , respectively.



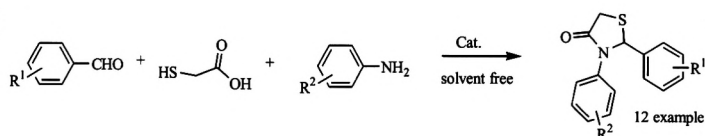
## One-pot synthesis of 1,3-thiazolidin-4-one using $\text{Bi}(\text{SCH}_2\text{COOH})_3$ as catalyst

Naser Foroughifar<sup>a</sup>, Sattar Ebrahimi<sup>b</sup>

<sup>a</sup>Faculty of Chemistry, North Tehran Branch, Islamic Azad University, Tehran, Iran

<sup>b</sup>Department of Chemistry Malayer Branch, Islamic Azad University, Malayer, Iran

A catalytic multi-component reaction involving aromatic amine, aromatic aldehydes, mercapto acid as substrates and  $\text{Bi}(\text{SCH}_2\text{COOH})_3$  as catalyst under solvent free conditions afforded thiazolidin-4-one in good yields.



Chinese Chemical Letters 24 (2013) 392

## Synthesis of novel copolymer: Poly(*p*-dioxanone-co-L-phenylalanine)

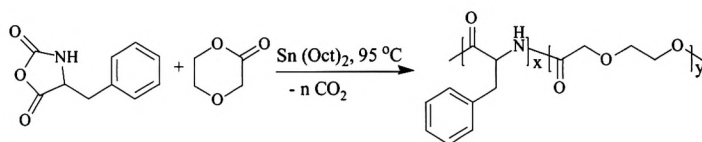
Bing Wang<sup>a,b</sup>, Chi Ma<sup>a,b</sup>, Zuo-Chun Xiong<sup>a</sup>, Cheng-Dong Xiong<sup>a</sup>, Quan-Hua Zhou<sup>c</sup>, Dong-Liang Chen<sup>a</sup>

<sup>a</sup>Chengdu Institute of Organic Chemistry, Chinese Academy of Sciences, Chengdu 610041, China

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

<sup>c</sup>Sichuan Staff University of Science and Technology, Chengdu 610041, China

A novel copolymer composed of *p*-dioxanone (PDO) and L-phenylalanine (L-Phe) was synthesized successfully by one-step, melted copolymerization of PDO and L-phenylalanine *N*-carboxyanhydride. The mechanism of the copolymerization was investigated and confirmed by FTIR and <sup>1</sup>H NMR.



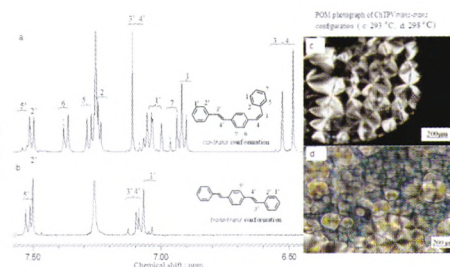
## Effects of molecular configuration of a chiral trimeric phenylene vinylene on its liquid crystalline properties

Ping Yu, Zhen-Lin Zhang, Lei Wang, Chun-Luan Liu, Shi-Min Liu, Hai-Quan Zhang

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

Chiral trimeric phenylene vinylene derivatives (ChTPV) with *trans*-*cis* and *trans*-*trans* configurations were obtained using a Wittig coupling reaction following by refluxing in toluene with iodine as a catalyst. Two isomers of ChTPV showed different thermal properties, and the ChTPV with a *trans*-*trans* configuration showed the typical liquid-crystalline texture of the smectic A in the heating process.

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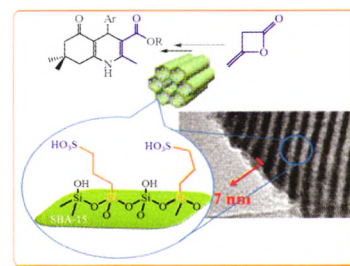
## The SBA-15/SO<sub>3</sub>H nanoreactor as a highly efficient and reusable catalyst for diketene-based, four-component synthesis of polyhydroquinolines and dihydropyridines under neat conditions

Sadegh Rostamnia, Fatemeh Pourhassan

Organic and Nano Group (ONG), Department of Chemistry, Faculty of Science, University of Maragheh, P.O. Box 55181-83111, Maragheh, Iran

A single-step, diketene ring-opening synthesis of polyhydroquinoline derivatives using SBA-15 sulfonic acid modified porous nanoreactor is reported.

Chinese Chemical Letters 24 (2013) 401



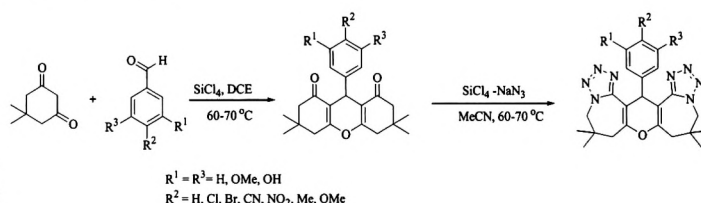
## Silicon-mediated highly efficient synthesis of 1,8-dioxo-octahydroxanthenes and their transformation to novel functionalized pyrano-tetrazolo[1,5-a]azepine derivatives

Hanan A. Soliman<sup>a</sup>, Tarek A. Salama<sup>b</sup>

<sup>a</sup>Photochemistry Department, National Research Center, Dokki, Cairo 12622, Egypt

<sup>b</sup>Chemistry Department, Faculty of Science, Mansoura University, Mansoura 35516, Egypt

A facile and highly efficient protocol for the synthesis of 1,8-dioxo-octahydroxanthenes has been achieved utilizing SiCl<sub>4</sub> as catalyst under mild conditions. Reaction of the titled compounds with SiCl<sub>4</sub>-NaN<sub>3</sub> giving novel functionalized pyrano[3,2-c]tetrazolo[1,5-a]azepine derivatives has also been described.



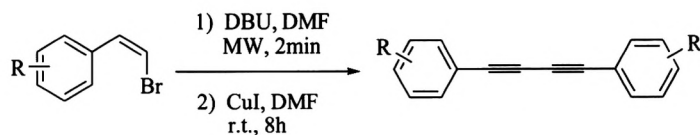
Chinese Chemical Letters 24 (2013) 404

Chinese Chemical Letters 24 (2013) 407

## Synthesis of symmetrical 1,3-diynes via tandem reaction of (Z)-arylviny bromides in the presence of DBU and CuI

Wen-Sheng Zhang<sup>a</sup>, Wen-Jing Xu<sup>a</sup>, Fei Zhang<sup>b</sup>, Gui-Rong Qu<sup>c</sup><sup>a</sup>School of Science, Jiaozuo Teachers' College, Jiaozuo 450001, China<sup>b</sup>Jiaozuo Vocational Education Center, Jiaozuo 450001, China<sup>c</sup>College of Chemical and Environmental Engineering, Henan Normal University, Xinxiang 453007, China

Synthesis of symmetrical 1,3-diynes from (Z)-arylviny bromides.

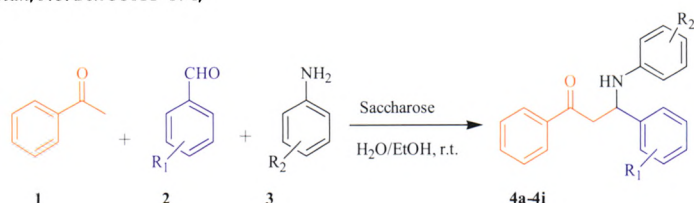


Chinese Chemical Letters 24 (2013) 411

## Entirely green protocol for the synthesis of $\beta$ -aminoketones using saccharose as a homogenous catalyst

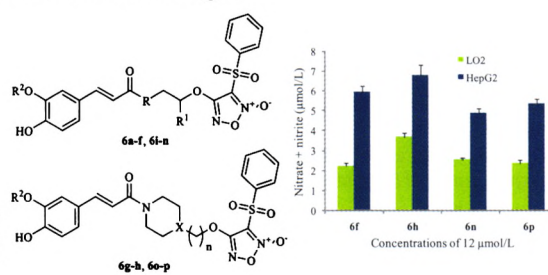
Mir Rasul Mousavi, Nourallah Hazeri, Malek Taher Maghsoodlou, Sajjad Salahi, Sayyed Mostafa Habibi-Khorassani

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

Saccharose was applied as an efficient and homogenous catalyst for a one-pot, three-component Mannich reaction for the formation of  $\beta$ -aminoketones from aromatic aldehydes, anilines, and acetophenone at ambient temperature in excellent yields.

Chinese Chemical Letters 24 (2013) 415

## Synthesis and *in vitro* biological evaluation of nitric oxide-releasing derivatives of hydroxycinnamic acids as anti-tumor agents

Ming-Dong Lu<sup>a</sup>, Xiao Zhou<sup>b</sup>, Yao-Jun Yu<sup>a</sup>, Pi-Hong Li<sup>a</sup>, Wei-Jian Sun<sup>a</sup>, Cheng-Guang Zhao<sup>c</sup>, Zhi-Qiang Zheng<sup>a</sup>, Tao You<sup>a</sup>, Fei-Hai Wang<sup>a</sup><sup>a</sup>Department of General Surgery, The Second Affiliated Hospital, Wenzhou Medical College, Wenzhou 325035, China<sup>b</sup>Department of Gynaecology and Obstetrics, The Second Affiliated Hospital, Wenzhou Medical College, Wenzhou 325035, China<sup>c</sup>School of Pharmacy, Wenzhou Medical College, Wenzhou 325035, ChinaNovel furoxan-based nitric oxide-releasing derivatives **6a-p** of hydroxycinnamic acids displayed more potent anti-tumor activities which were associated with high concentration of NO production in cancer cells and potentially synergistic effect of NO donor moieties and the bioactivity of hydroxycinnamic acids.

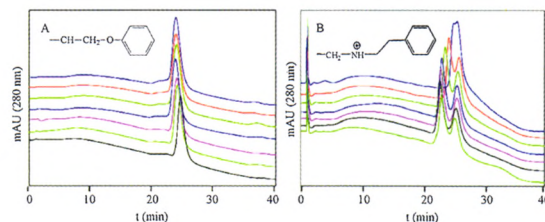
Chinese Chemical Letters 24 (2013) 419

## Resolution enhancement in hydrophobic interaction chromatography via electrostatic interactions

Dong Gao, Fu-Chun Tan, Wen-Peng Wang, Li-Li Wang

Key Laboratory of Synthetic and Natural Functional Molecular Chemistry of Ministry of Education, Shaanxi Key Laboratory of Modern Separation Science, Institute of Modern Separation Science, Northwest University, Xi'an 710069, China

For a mixture of two proteins with similar hydrophobicity, the resolution of traditional hydrophobic interaction chromatography can be enhanced via electrostatic interactions.



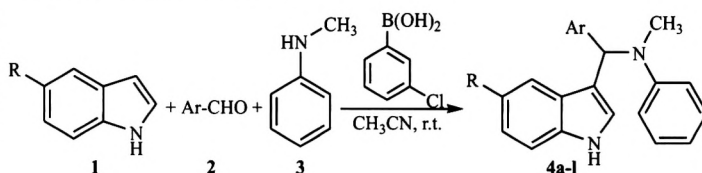
## A convenient one-pot three component synthesis of 3-aminoalkylated indoles catalyzed by 3-chlorophenylboronic acid

Chinese Chemical Letters 24 (2013) 422

Santosh V. Goswami, Prashant. B. Thorat, Vijay N. Kadam, Sachin A. Khiste, Sudhakar R. Bhusare

Department of Chemistry, Dnyanopasak College, Parbhani 431 401, MS, India

An efficient protocol was developed for the synthesis of 3-aminoalkylated indoles using 3-chlorophenylboronic acid as a catalyst under ambient temperature conditions. The three-component reaction of indoles, aromatic aldehydes and *N*-methyl aniline offered corresponding 3-aminoalkylated indoles in excellent yields.

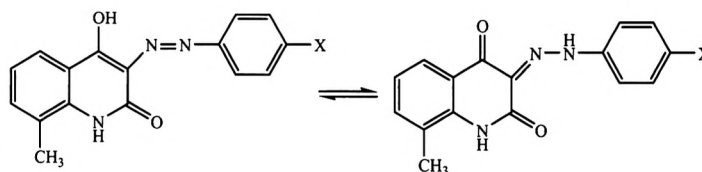


## Novel azo dyes derived from 8-methyl-4-hydroxyl-2-quinolone: Synthesis, UV-vis studies and biological activity

Chinese Chemical Letters 24 (2013) 425

E.O. Moradi Rufchahi<sup>a</sup>, H. Pouramir<sup>b</sup>, M.R. Yazdanbakhsh<sup>b</sup>, H. Yousefi<sup>b</sup>, M. Bagheri<sup>b</sup>, M. Rassa<sup>c</sup><sup>a</sup>Department of Chemistry, Faculty of Science, Lahijan Branch, Islamic Azad University, Lahijan, Iran<sup>b</sup>Department of Chemistry, Faculty of Sciences, University of Guilan, Rasht, Iran<sup>c</sup>Department of Biology, Faculty of Sciences, University of Guilan, Rasht, Iran

Some quinolone based azo disperse dyes were prepared and their solvatochromism and antibacterial activities were studied.

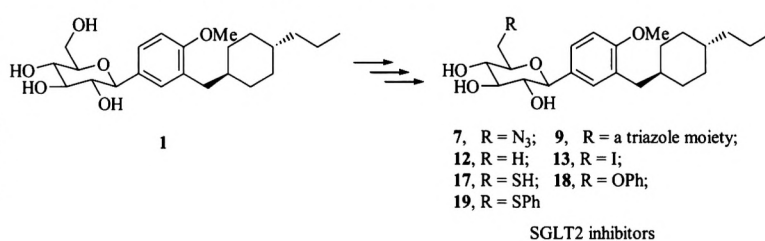


## Design, synthesis and biological activity of cyclohexane-bearing C-glycoside derivatives as SGLT2 inhibitors

Chinese Chemical Letters 24 (2013) 429

Shuo Zhang<sup>a,b</sup>, Yu-Li Wang<sup>b</sup>, Qun-Chao Wei<sup>b</sup>, Wei-Ren Xu<sup>b</sup>, Li-Da Tang<sup>b</sup>, Gui-Long Zhao<sup>b</sup>, Jian-Wu Wang<sup>a</sup><sup>a</sup>School of Chemistry and Chemical Engineering, Shandong University, Jinan 250100, China<sup>b</sup>Tianjin Key Laboratory of Molecular Design and Drug Discovery, Tianjin Institute of Pharmaceutical Research, Tianjin 300193, China

Seven new SGLT2 inhibitors were designed and synthesized based on a potent SGLT2 inhibitor **1** discovered previously. *In vitro* and *in vivo* evaluations revealed that 6-deoxy derivative **12** was the most potent SGLT2 inhibitor and could induce more urinary glucose in UGE than parent compound **1** and even dapagliflozin.

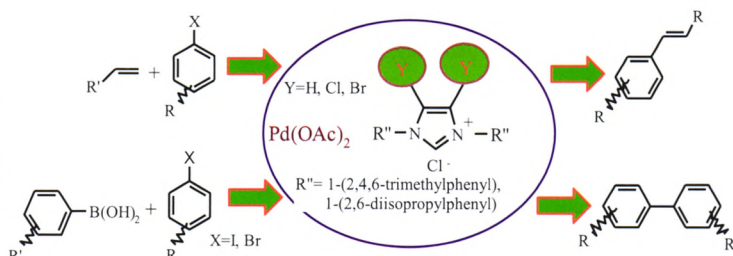


## Efficient imidazolium salts for palladium-catalyzed Mizoroki-Heck and Suzuki-Miyaura cross-coupling reactions

Chinese Chemical Letters 24 (2013) 433

Mojtaba Amini<sup>a</sup>, Mojtaba Bagherzadeh<sup>b</sup>, Sadegh Rostamnia<sup>a</sup><sup>a</sup>Department of Chemistry, Faculty of Science, University of Maragheh, Maragheh, P.O. Box 55181-8311731, Iran<sup>b</sup>Chemistry Department, Sharif University of Technology, Tehran, P.O. Box 11155-3615, Iran

The system, Pd(OAc)<sub>2</sub>/imidazolium salts (L<sub>2</sub>), was found as an efficient catalyst in the Heck coupling reaction of olefins with aryl halides and Suzuki reaction of various aryl halides with aryl boronic acids under aerobic conditions.



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