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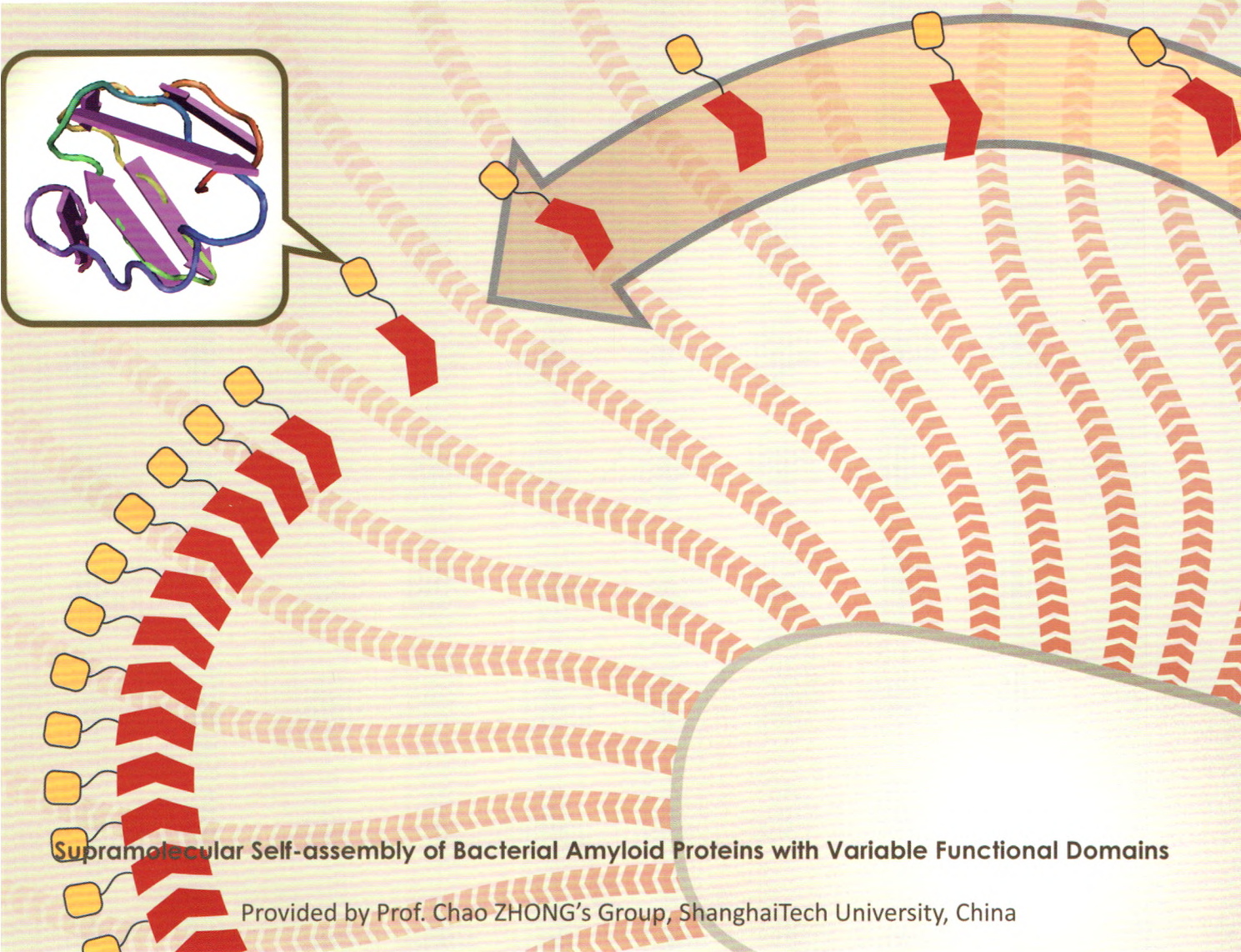


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Chinese Chemical Letters

| Volume 28 | Number 5 | MAY 2017 |



Supramolecular Self-assembly of Bacterial Amyloid Proteins with Variable Functional Domains

Provided by Prof. Chao ZHONG's Group, ShanghaiTech University, China



ORIGINAL ARTICLE

Jia-Yi Zhu, Lin Zhang et al.
Facile synthesis of nitrogen-doped graphene aerogels functionalized with chitosan for supercapacitors with excellent electrochemical performance

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Chinese Chemical Society

万方数据 Institute of Materia Medica, Chinese Academy of Medical Sciences

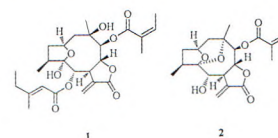


Graphical Abstracts/Chin Chem Lett 28 (2017) iii-xii

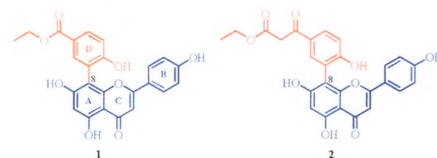
Original Articles

Cytotoxic germacrane-type sesquiterpene lactones from the whole plant of *Inula cappa*Jie-Wei Wu^{a,b}, Chun-Ping Tang^a, Yao-Yao Cai^c, Chang-Qiang Ke^a, Li-Gen Lin^d, Sheng Yao^a, Yang Ye^{a,e}^aState Key Laboratory of Drug Research, and Natural Products Chemistry Department, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 201203, China^bUniversity of Chinese Academy of Sciences, Beijing 100049, China^cDepartment of NMR Technology Services, Public Technical Service Center, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 201203, China^dState Key Laboratory of Quality Research in Chinese Medicine, Institute of Chinese Medical Sciences, University of Macau, Macao 999078, China^eSchool of Life Science and Technology, ShanghaiTech University, Shanghai 201203, ChinaTwo new germacrane-type sesquiterpene lactones, named ineupatolides D and E (**1** and **2**), were isolated from the whole plant of *Inula cappa*. Compound **2** is the first example of germacrane-type sesquiterpene lactone with both a 2,5-epoxide and a 5,10-epoxide linkages.

Chinese Chemical Letters 28 (2017) 927

New cytotoxic apigenin derivatives from *Selaginella doederleinii*Zhen-Xing Zou^{a,b}, Gui-Shan Tan^{a,b}, Guo-Gang Zhang^a, Xia Yu^b, Ping-Sheng Xu^a, Kang-Ping Xu^b^aXiangya Hospital of Central South University, Changsha 410008, China^bXiangya School of Pharmaceutical Sciences, Central South University, Changsha 410013, ChinaTwo new apigenin derivatives, doederflavones A and B (**1** and **2**), together with ten known compounds (**3–12**) were isolated from the whole herbs of *Selaginella doederleinii*. Compounds **1** and **2** bear an aryl substituent at C-8 of apigenin skeleton. A postulated biosynthetic pathway of **1** and **2** was also discussed. These two new compounds exhibited considerable cytotoxicity against human cancer A549 cell lines with IC₅₀ values of 0.82 μmol/L and 1.32 μmol/L, respectively.

Chinese Chemical Letters 28 (2017) 931

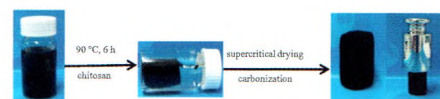


Facile synthesis of nitrogen-doped graphene aerogels functionalized with chitosan for supercapacitors with excellent electrochemical performance

Yong Zhang^{a,b,c}, Jia-Yi Zhu^b, Hong-Bo Ren^b, Yu-Tie Bi^b, Lin Zhang^{a,b,c}^aDepartment of Physics, University of Science and Technology of China, Hefei 230026, China^bJoint Laboratory for Extreme Conditions Matter Properties, Southwest University of Science and Technology and Research Center of Laser Fusion, Mianyang, 621010, China^cScience and Technology on Plasma Physics Laboratory, Research Center of Laser Fusion, China Academy of Engineering Physics, Mianyang 621900, China

We novelly prepared three-dimensional porous nitrogen-doped graphene aerogels (NGAs) by using GO and chitosan via an easy and rapid method. When working as a supercapacitor electrode, NGA-900 exhibited a high specific capacitance (244.4 F/g at a current density of 0.2 A/g), superior rate capability (51.0% capacity retention) and excellent cycling life (96.2% capacitance retained after 5000 cycles).

Chinese Chemical Letters 28 (2017) 935



DABCO-catalyzed multi-component domino reactions for green and efficient synthesis of novel 3-oxo-3H-benzo[a]pyrano[2,3-c]phenazine-1-carboxylate and 3-(5-hydroxybenzo[a]phenazin-6-yl)acrylate derivatives in water

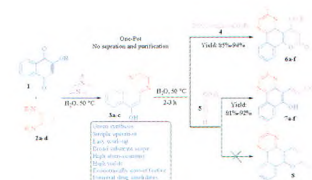
Razieh Mohebat^a, Afshin Yazdani-Elah-Abadi^b, Malek-Taher Maghsoodlou^b, Nourallah Hazeri^b

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

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

An efficient, convenient and environmentally benign procedure for the synthesis of novel 3-oxo-3H-benzo[a]pyrano[2,3-c]phenazine-1-carboxylate and 3-(5-hydroxybenzo[a]phenazin-6-yl)acrylate derivatives has been developed by domino three-component condensation reaction between 2-hydroxynaphthalene-1,4-dione, benzene-1,2-diamines and acetylenic esters in the presence of a catalytic amount of DABCO as an expedient, eco-friendly and reusable base catalyst in water. This green process produces biologically and pharmacologically significant heterocycles in a one-pot single operation and offers considerable advantages such as: operational simplicity, short reaction time, high yields, reusability of catalyst, absence of any tedious workup or purification and avoids hazardous reagents/solvents.

Chinese Chemical Letters 28 (2017) 943



Thermo-oxidative degradation of Nylon 1010 films: Colorimetric evaluation and its correlation with material properties

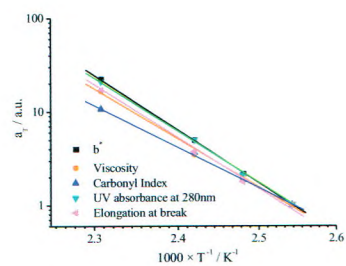
Li-Hai Cai^a, Zhi-Guo Qj^a, Jun Xu^a, Bao-Hua Guo^a, Zhong-Yao Huang^b

^aKey Laboratory of Advanced Materials of Ministry of Education, Department of Chemical Engineering, Tsinghua University, Beijing 100084, China

^bInstitute of Petroleum, Logistical Support Department, CMC, Beijing 102300, China

The changes of physical and chemical properties at different b' values are derived by constructing the relationship between the b' values and the relative viscosity, carbonyl index, UV absorbance at 280 nm and elongation at break. Since the b' values can be quickly determined by using a portable spectrophotometer, the on-line evaluation of the thermo-oxidative aging of Nylon 1010 can be realized.

Chinese Chemical Letters 28 (2017) 949



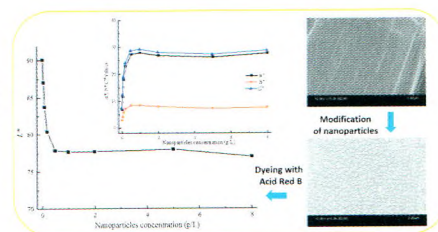
A novel approach for Apocynum venetum/cotton blended fabrics modification by cationic polymer nanoparticles

Xiu-Ming Liu, Cai-Yan Li, Kuan-Jun Fang, Da-Wu Shu

School of Textiles, Tianjin Polytechnic University, Tianjin 300387, China

Apocynum venetum/cotton blends were treated with nanoparticles followed by dyeing with Acid Red B. The results indicated that the 0.5 g/L nanoparticles concentration, 60 min treating time, 60 °C treating temperature and pH 6–8 are the optimum modification process to improve the dyeability, and the SEM images showed that nanoparticles can be adsorbed on the surface of modified *A. venetum* or cotton fibers uniformly.

Chinese Chemical Letters 28 (2017) 955



Preparation of porous carbon directly from hydrothermal carbonization of fructose and phloroglucinol for adsorption of tetracycline

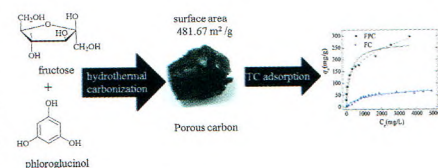
Chen-Xi Bai^{a,b}, Feng Shen^b, Xin-Hua Qi^b

^aCollege of Environmental Science and Engineering, Nankai University, Tianjin 300071, China

^bAgro-Environmental Protection Institute, Chinese Academy of Agricultural Sciences, Tianjin 300191, China

Porous carbonaceous material with large surface area (481.7 m²/g) and pore volume (0.73 cm³/g) was prepared directly from hydrothermal carbonization of fructose and phloroglucinol in hydroalcoholic mixture, which provides a green and efficient method to fabricate porous carbonaceous adsorbent that has great potential applications in chemical and environmental fields.

Chinese Chemical Letters 28 (2017) 960



Fluorescence characterization of the thermal stability of collagen mimic peptides

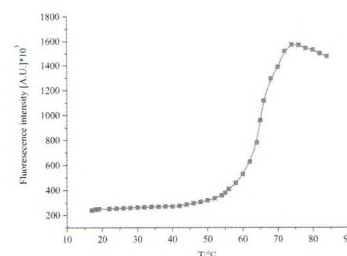
Xiu-Xia Sun^{a,b}, Jun Fan^a, Yan-Nan Hou^a, Shuo Liang^a, Yu-Ping Zhang^a, Jian-Xi Xiao^{a,b}

^aState Key Laboratory of Applied Organic Chemistry, Key Laboratory of Nonferrous Metal Chemistry and Resources Utilization of Gansu Province, College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, China

^bKey Laboratory of Magnetic Resonance in Biological Systems, State Key Laboratory of Magnetic Resonance and Atomic and Molecular Physics, Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences, Wuhan, 430071, China

A highly sensitive fluorescence self-quenching assay has been developed to detect the thermal stability of collagen mimic peptides under different circumstances. This assay will greatly expedite the studies of sequence-dependent properties of collagen mimic peptides.

Chinese Chemical Letters 28 (2017) 963



Unexpected Grob-type fragmentation of vinylogous β -silyloxy-cyclobutanone into γ -lactone

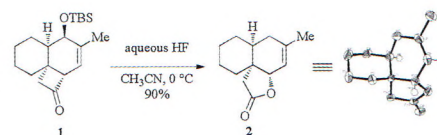
Xiang Wu^a, Wei-Dong Z. Li^b

^aSchool of Chemistry and Chemical Engineering, Hefei University of Technology, Hefei 230009, China

^bInnovative Drug Research Centre, Chongqing University, Chongqing 401331, China

An unusual formal oxy transposition of vinylogous β -silyloxy-cyclobutanone **1** under mild acidic conditions to the decalinic γ -lactone **2** was described. A plausible mechanistic pathway involving the Grob-type fragmentation and intramolecular γ -lactonization was proposed.

Chinese Chemical Letters 28 (2017) 968



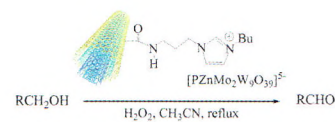
Selective oxidation of alcohols with H₂O₂ catalyzed by zinc polyoxometalate immobilized on multi-wall carbon nanotubes modified with ionic liquid

Robabeh Hajian, Zahra Alghour

Department of Chemistry, Yazd University, Yazd 89195-741, Iran

The selective oxidation of various alcohols with hydrogen peroxide catalyzed by [PZnMo₂W₉O₃₉]⁵⁻, ZnPOM, supported on ionic liquids-modified with MWCNTs, MWCNT-APIB, is reported. The major advantages of ionic liquid-supported catalyst were its high catalytic activity reusability.

Chinese Chemical Letters 28 (2017) 971



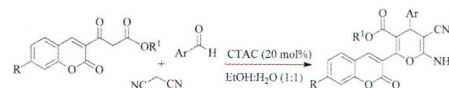
Cetyltrimethylammonium chloride (CTAC) catalyzed one-pot synthesis of novel coumarin-4H-pyran conjugates in aqueous media

Adil Omar, Keyume Ablajan, Mawjvda Hamdulla

Key Laboratory of Oil & Gas Fine Chemicals, Ministry of Education & Xinjiang Uyghur Autonomous Region, College of Chemistry and Chemical Engineering, Xinjiang University, Urumqi 830046, China

Novel fluorescent coumarin-4H-pyran conjugates were achieved by three-component reactions of various beta-ketoesters with aldehydes and malononitrile in aqueous media.

Chinese Chemical Letters 28 (2017) 976



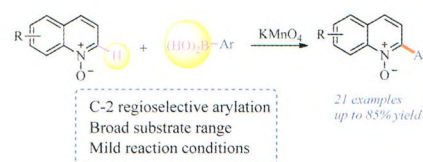
KMnO₄-mediated direct selective radical cross-coupling: An effective strategy for C2 arylation of quinoline N-oxide with arylboronic acids

Jin-Wei Yuan, Ling-Bo Qu

School of Chemistry & Chemical Engineering, Henan University of Technology, Academician Workstation for Natural Medicinal Chemistry of Henan Province, Zhengzhou 450001, China

A direct C–H functionalization of quinoline N-oxides with arylboronic acids is achieved using KMnO₄ as the sole and efficient oxidative system in mild conditions with moderated to good yields.

Chinese Chemical Letters 28 (2017) 981



Hyperisampsins N and O, two new benzoylated phloroglucinol derivatives from *Hypericum sampsonii*

Hu-Cheng Zhu^a, Chun-Mei Chen^a, Jin-Wen Zhang^b, Yi Guo^a, Dong-Dong Tan^a, Guang-Zheng Wei^a, Jing Yang^c, Jian-Ping Wang^a, Zeng-Wei Luo^a, Yong-Bo Xue^a, Yong-Hui Zhang^a

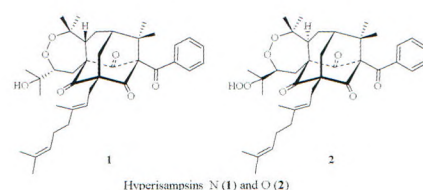
^aHubei Key Laboratory of Natural Medicinal Chemistry and Resource Evaluation, School of Pharmacy, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, China

^bTongji Hospital, 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

Hyperisampsins N and O (**1** and **2**), two new benzoylated phloroglucinol derivatives bearing a homoadamantyl framework, were isolated from the aerial parts of *Hypericum sampsonii*. Compound **2** exhibited significant cytotoxic activity toward HL-60 cell.

Chinese Chemical Letters 28 (2017) 986



Identification of hydrazone moiety-bearing aminopyrimidines as potent antitumor agents with selective inhibition of gefitinib-resistant H1975 cancer cells

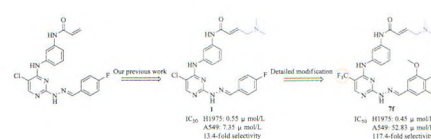
Ming-Ze Qin^a, Lei Wang^a, Shuang Yan^a, Jun-Jie Ma^b, Ye Tian^a, Yan-Fang Zhao^a, Ping Gong^a

^aKey Laboratory of Structure-Based Drug Design and Discovery (Shenyang Pharmaceutical University), Ministry of Education, Shenyang 110016, China

^bSchool of Biomedical Sciences, Huaqiao University, Quanzhou 362021, China

Some aminopyrimidine analogs were identified as potent agents in inhibition of gefitinib-resistant H1975 NSCLC cells.

Chinese Chemical Letters 28 (2017) 991



Conventional and microwave irradiated synthesis, biological activity evaluation and molecular docking studies of highly substituted piperazine-azole hybrids

Arif Mermer^a, Serpil Demirci^b, Serap Basoglu Ozdemir^a, Ahmet Demirbas^a, Serdar Ulker^c, Faik Ahmet Ayaz^d, Fatma Aksakal^e, Neslihan Demirbas^a

^aKaradeniz Technical University, Department of Chemistry, Trabzon 61080, Turkey

^bGiresun University, School of Applied Science, Department of Crop Production and Technology, Giresun 28000, Turkey

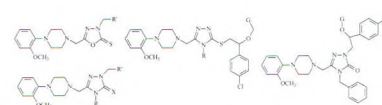
^cRecep Tayyip Erdoğan University, Department of Biology, Rize 53100, Turkey

^dKaradeniz Technical University, Department of Biology, Trabzon 61080, Turkey

^eDepartment of Chemistry, Faculty of Science, Gebze Technical University, Kocaeli 41400, Turkey

New hybrid molecules consisting of fluoroquinolone, methoxyphenylpiperazine andazole moieties were synthesized by microwave irradiated and conventional methods. The newly synthesized compounds were screened for their antimicrobial, antiurease, antidiurease and antioxidant activities. Also, molecular docking studies were performed.

Chinese Chemical Letters 28 (2017) 995



Facile synthesis of enzyme functional metal-organic framework for colorimetric detecting H_2O_2 and ascorbic acid

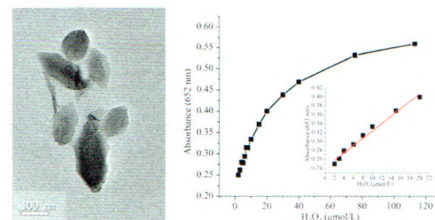
Cunji Gao^a, Hongmei Zhu^b, Jia Chen^a, Hongdeng Qiu^a

^aKey Laboratory of Chemistry of Northwestern Plant Resources, Key Laboratory for Natural Medicine of Gansu Province, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, China

^bInstitute of Microbiology and Biochemical Pharmacy, School of Pharmacy, Lanzhou University, Lanzhou 730000, China

A material MIL-88 was firstly found possessing catalytic activities similar to peroxidase enzyme, which can be used as a catalyst to detect H_2O_2 and ascorbic acid.

Chinese Chemical Letters 28 (2017) 1006



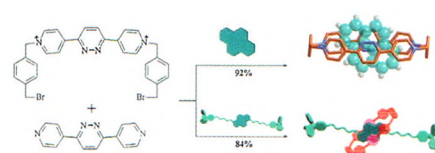
Template-directed synthesis of pyridazine-containing tetracationic cyclophane for construction of [2]rotaxane

Qiu-Sheng Fang, Ling Chen, Qing-Yan Liu

Department College of Chemistry and Chemical Engineering, Key Laboratory of Functional Small Organic Molecules, Ministry of Education, Institution Jiangxi Normal University, Nanchang 330022, China

A new 3,6-pyridazinyl contained tetracationic cyclophane which has high template effect during macrocyclization and synthesis of [2]rotaxane, this is benefited from the bent molecular geometry of the cyclophane.

Chinese Chemical Letters 28 (2017) 1013



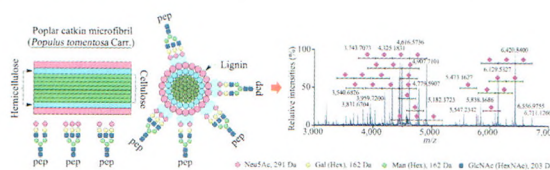
Poplar catkin: A natural biomaterial for highly specific and efficient enrichment of sialoglycopeptides

Xiao-Dong Wang, Yu-Jie Liu, Fen-Jie Li, Zhi-Li Li

Department of Biophysics and Structural Biology, Institute of Basic Medical Sciences, Chinese Academy of Medical Sciences & School of Basic Medicine, Peking Union Medical College, Beijing 100005, China

We employed a natural biomaterial, poplar catkin derived from white poplar tree (*Populus tomentosa* Carr.), to develop a novel capturing microtip for selective and efficient enrichment of sialoglycopeptides, without losses of sialic acid residues and water molecules from sialoglycopeptides.

Chinese Chemical Letters 28 (2017) 1018



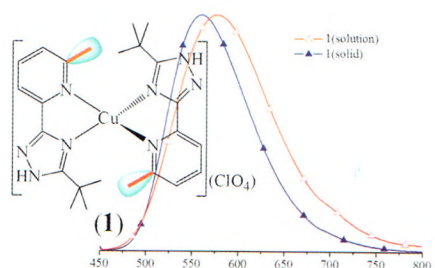
A highly stable and luminescent mononuclear Cu(I) bis-{5-tert-butyl-3-(6-methyl-2-pyridyl)-1H-1,2,4-triazole} complex

Yan-Sheng Luo, Jing-Lin Chen, Xue-Hua Zeng, Lu Qiu, Li-Hua He, Sui-Jun Liu, He-Rui Wen

School of Metallurgy and Chemical Engineering, Jiangxi University of Science and Technology, Ganzhou 341000, China

A new luminescent mononuclear Cu(I) bis-{5-tert-butyl-3-(6-methyl-2-pyridyl)-1H-1,2,4-triazole} complex has been synthesized and characterized. It is shown that the introduction of the methyl group at the *ortho*-position of the pyridyl ring is very important and helpful for improving the stability and luminescence properties of Cu(I) complexes.

Chinese Chemical Letters 28 (2017) 1027



A new approach for one-pot, green synthesis of new polycyclic indoles in aqueous solution

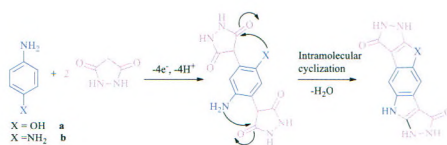
Mohsen Ameri^a, Alireza Asghari^a, Ali Amoozadeh^a, Mohammad Bakherad^b

^aDepartment of Chemistry, Semnan University, Semnan 35195-363, Iran

^bCollege of Chemistry, Shahrood University of Technology, Shahrood, Iran

Electro-oxidation of phenylamine derivatives have been studied in the presence of pyrazolidine-3,5-dione as a nucleophile in phosphate buffer solution mixed with ethanol, using voltammetric and spectroscopic techniques.

Chinese Chemical Letters 28 (2017) 1031



Total syntheses of bupleurynol and its analog

Kai-Qing Ma^a, Yan-Hong Miao^{a,d}, Xiao-Xia Gao^a, Jian-Bin Chao^c, Xiang Zhang^b, Xue-Mei Qin^a

^aModern Research Center for Traditional Chinese Medicine, Shanxi University, Taiyuan 030006, China

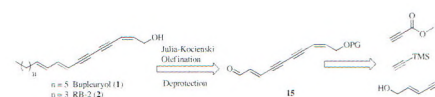
^bDepartment of Chemistry, University of Louisville, Louisville, KY 40208, USA

^cScientific Instrument Center, Shanxi University, Taiyuan 030006, China

^dCollege of Chemistry and Chemical Engineering, Shanxi University, Taiyuan 030006, China

An efficient route to the natural products bupleurynol and its analog (RB-2), isolated from *Bupleuri Radix*, was established based on versatile intermediate (**15**).

Chinese Chemical Letters 28 (2017) 1035



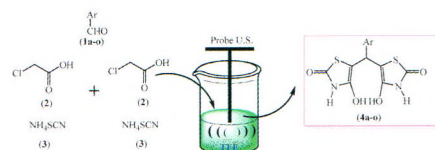
Effective preparation of 5,5'-(arylmethylene)bis(4-hydroxythiazole-2(3H)-one) in an aqueous fluoroalcohol solvent system under ultrasound irradiation at room temperature

Mohammad Reza Poor Heravi, Mozhdeh Naghilou

Department of Chemistry, Payame Noor University, PO Box 19395-3697, Tehran, Iran

A synthesis of 5,5'-(arylmethylene)bis(4-hydroxythiazole-2(3H)-one) using trifluoroethanol (TFE) as an efficient and recyclable medium in promoting one-pot, pseudo five component reaction is described.

Chinese Chemical Letters 28 (2017) 1039



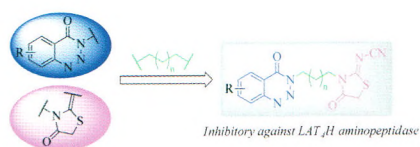
Synthesis and biological evaluation of novel 1,2,3-benzotriazin-4-one derivatives as leukotriene A₄ hydrolase aminopeptidase inhibitors

Fan Zhang, Dang Wu, Gao-Lei Wang, Shuang Hou, Ping Ou-Yang, Jin Huang, Xiao-Yong Xu

Shanghai Key Laboratory of Chemical Biology, School of Pharmacy, East China University of Science and Technology, Shanghai 200237, China

Novel 1,2,3-triazin-4-one derivatives incorporating 4-thiazolidinone moieties were designed and synthesized. Many of them exhibited moderate to good inhibitory activity against LTA₄H aminopeptidase at 10 μmol/L, the compound **IV-16** with best bioactivity was also tested the proliferation inhibitory activities in THP1 human AML cell line and its binding model with LTA₄H enzyme by molecular docking was studied. It indicated that 1,2,3-triazin-4-one was a very promising scaffold to study further.

Chinese Chemical Letters 28 (2017) 1044

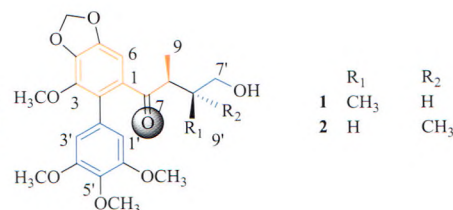


Chinese Chemical Letters 28 (2017) 1049

Two new neolignans from *Gymnotheca involucrata*

Shi-Ji Xiao^a, Mao-Sheng Zhang^a, Da-Le Guo^b, Fang Chen^c, Yan Zhou^b, Li-Sheng Ding^b^aSchool of Pharmacy, Zunyi Medical University, Zunyi 563000, China^bChengdu Institute of Biology, Chinese Academy of Sciences, Chengdu 610041, China^cCollege of Life Science, Sichuan University, Chengdu 610064, China

Two novel biphenyl butyl neolignan derivatives, named gymnothecaneolignans A (**1**) and B (**2**), were isolated from the whole parts of endemic medicinal plant of *Gymnotheca involucrata* (Saururaceae). The structures of the new compounds were elucidated by extensive NMR and MS data, and the absolutely configuration of compound **1** was confirmed by X-ray crystal diffraction analysis.

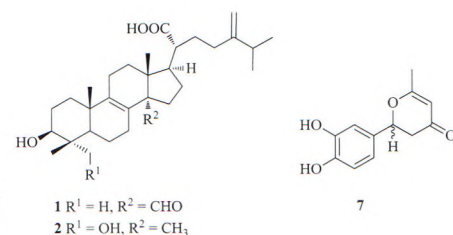


Chinese Chemical Letters 28 (2017) 1052

Triterpenoids and phenolics from the fruiting bodies of *Inonotus hispidus* and their activations of melanogenesis and tyrosinase

Qing Ren^{a,b}, Xue-Ying Lu^a, Jian-Xin Han^{a,b}, Haji Akber Aisa^a, Tao Yuan^a^aThe Key Laboratory of Plant Resources and Chemistry of Arid Zone, Chinese Academy of Sciences, State Key Laboratory of Xinjiang Indigenous Medicinal Plants Resource Utilization, Xinjiang Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Urumqi 830011, China^bUniversity of Chinese Academy of Sciences, Beijing 100049, China

Two new 24-methyl lanostane triterpenoids (**1** and **2**), and a new phenolic compound (**7**), along with nine known compounds (**3–6**, and **8–12**), were isolated from the fruiting bodies of *Inonotus hispidus*. All of the isolates were evaluated their activations of melanogenesis and tyrosinase in B16 melanoma cells.

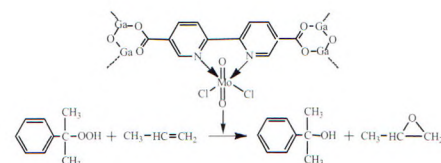


Chinese Chemical Letters 28 (2017) 1057

Synthesis, characterization and catalytic performance of Mo based metal-organic frameworks in the epoxidation of propylene by cumene hydroperoxide

Xiao-Lei Ni^a, Jing Liu^a, Ying-Ya Liu^a, Karen Leus^b, Hannes Depauw^b, An-Jie Wang^{a,c}, Pascal Van Der Voort^b, Jian Zhang^{a,d}, Yong-Kang Hu^{a,c}^aState Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian 116024, China^bDepartment of Inorganic and Physical Chemistry, COMOC–Center for Ordered Materials, Organometallics and Catalysis, Ghent University, Krijgslaan 281-S3, 9000 Ghent, Belgium^cLiaoning Key Laboratory of Petrochemical Technology and Equipments, Dalian 116024, China^dDalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, China

Two types of Mo containing metal-organic frameworks, Mo@COMOC-4 and PMA@MIL-101(Cr) were synthesized, their catalytic performance in the epoxidation of propylene using CHP was compared with MoO₃@SiO₂. Mo@COMOC-4 showed higher conversion (46.2%) and efficiency (87.4%) of the oxidant as an efficient catalyst for propylene epoxidation.

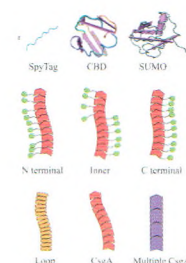


Chinese Chemical Letters 28 (2017) 1062

Self-assembly and morphological characterization of two-component functional amyloid proteins

Qi Qj^{a,b,c}, Tian-Xin Zhao^a, Bo-Lin An^a, Xuan-Yong Liu^b, Chao Zhong^a^aSchool of Physical Science and Technology, ShanghaiTech University, Shanghai 200120, China^bShanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China^cUniversity of Chinese Academy of Sciences, Beijing 100049, China

Using curli (major protein component of *Escherichia coli* biofilm) as a model representative of functional amyloid, we assess how varied fusion domains, fusion positions and subunits affect self-assembly and morphologies of two-component amyloid proteins.



Multiple-SO₃H functional ionic liquid as efficient curing agent for phthalonitrile-terminated poly(phthalazinone ether nitrile)

Zhi-Huan Weng^{a,b,c}, Yu Qi, Li-Shuai Zong^{b,c}, Cheng Liu^{a,b,c}, Jin-Yan Wang^{a,b,c}, Xi-Gao Jian^{a,b,c}

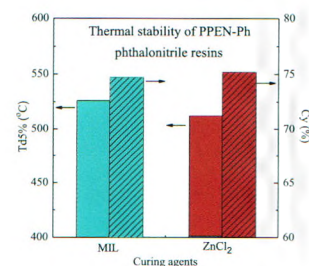
^aState Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian 116024, China

^bLiaoning High Performance Resin Engineering Research Center, Dalian University of Technology, Dalian 116024, China

^cDepartment of Polymer Science & Materials, Dalian University of Technology, Dalian 116024, China

A multiple-SO₃H functional ionic liquid (MIL) was employed as curing agent of phthalonitrile-terminated poly(phthalazinone ether nitrile) (PPEN-Ph), both the initial curing temperature T_{p0} and apparent activation energy E_a were reduced significantly over MIL than the common ZnCl₂, moreover, the thermal stability of resulting resin was better on former.

Chinese Chemical Letters 28 (2017) 1069



A domino desulfurative coupling and decarboxylative coupling of 3,4-dihydropyrimidine-2-thiones with copper(I) carboxylates

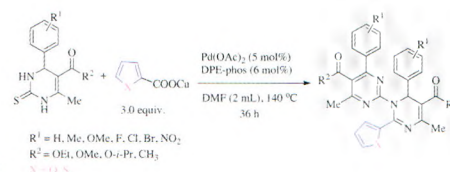
Zhang Zhang^{a,b}, Shi-Hong Lu^{a,b}, Bin Xu^{a,b}, Xi-Cun Wang^{a,b}

^aKey Laboratory of Eco-Environment-Related Polymer Materials, Ministry of Education of China, Lanzhou 730070, China

^bGansu Key Laboratory of Polymer Materials, College of Chemistry and Chemical Engineering, Northwest Normal University, Lanzhou 730070, China

A novel and general carbon-nitrogen and carbon-carbon cross-coupling reaction between dihydropyrimidinethiones and copper(I) carboxylates protocol was performed in the presence of palladium acetate. The copper(I) carboxylates act not only as desulfurative reagents but also as sources of carbon nucleophiles.

Chinese Chemical Letters 28 (2017) 1074



Clean synthesis of novel spiro[indene-2,2'-[1,3,5]-oxathiazine]-1,3-diones in water

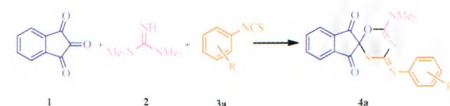
Mahboobeh Salehpour^a, Javad Azizian^a, Hassan Kefayati^b

^aDepartment of Chemistry, Science and Research Branch, Islamic Azad University, P.O. Box 19395-1775, Tehran, Iran

^bDepartment of Chemistry, Rasht Branch, Islamic Azad University, Rasht, Iran

An efficient and convenient method for the synthesis of novel spiro[indene-2,2'-[1,3,5]oxathiazine]-1,3-diones by the one-pot, three component condensation of tetramethyl guanidine, ninhydrin, and isothiocyanates in water was reported. Easy purification, green reaction conditions, easy performance and good yields are some advantages of this procedure.

Chinese Chemical Letters 28 (2017) 1079



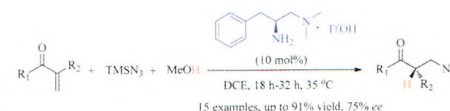
Asymmetric hydroazidation of α -substituted vinyl ketones catalyzed by chiral primary amine

Zai-Kun Xue, Nian-Kai Fu, San-Zhong Luo

Beijing National Laboratory for Molecular Sciences (BNLMS), CAS Key Laboratory of Molecular Recognition and Function, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

We report herein the first example of asymmetric hydroazidation of α -substituted vinyl ketones by using chiral primary amines as the catalysts. A simple chiral primary-tertiary diamine catalyst derived from L-phenylalanine was found to promote this aza-Michael addition reaction with enamine protonation as the key stereogenic step, thus enabling the effective synthesis of α -chiral β -azido ketones with good yields and moderate enantioselectivities.

Chinese Chemical Letters 28 (2017) 1083



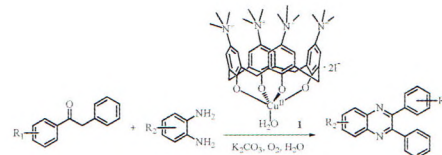
One-pot aqueous-phase synthesis of quinoxalines through oxidative cyclization of deoxybenzoins with 1,2-phenylenediamines catalyzed by a zwitterionic Cu(II)/calix[4]arene complex

Jun Gao^a, Zhi-Gang Ren^a, Jian-Ping Lang^{a,b}

^aCollege of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou 215123, China

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

The oxidative cyclization of deoxybenzoins with 1,2-phenylenediamines to form quinoxalines is catalyzed by a mononuclear copper(II) complex of zwitterionic calix[4]arene.



Chinese Chemical Letters 28 (2017) 1087

Discovery of lung squamous carcinoma biomarkers by profiling the plasma peptide with LC/MS/MS

Yu Liu, Xiao-Hong Xun, Jian-Ming Yi, Yang Xiang, Jie Hua

College of Chemistry and Chemical Engineering, Hunan Institute of Science and Technology, Yueyang 414006, China

Methods to prepare peptidome peptides from plasma samples have been improved by using acetonitrile precipitation associated with size exclusion chromatography (SEC), and a novel panel of biomarkers are found effective for the detection and treatment of lung cancer.

Chinese Chemical Letters 28 (2017) 1093



An efficient synthetic approach towards new 5,5'-diaryl-2,2'-bipyridine-based fluorophores

Alexey P. Krinochkin^a, Dmitry S. Kopchuk^{a,b}, Nikolay V. Chepchugov^a, Grigory A. Kim^{a,b}, Igor S. Kovalev^a, Matiur Rahman^a, Grigory V. Zyryanov^{a,b}, Adinath Majee^c, Vladimir L. Rusinov^{a,b}, Oleg N. Chupakhin^{a,b}

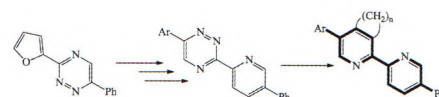
^aUral Federal University, Yekaterinburg 620002, Russian Federation

^bPostovsky Institute of Organic Synthesis of RAS (Ural Division), Yekaterinburg 620990, Russian Federation

^cDepartment of Chemistry, Visva-Bharati (A Central University), Santiniketan 731235, India

An efficient approach has been developed for the synthesis of 5,5'-diaryl-2,2'-bipyridines via their 1,2,4-triazine analogues. The notable advantages of the present method are: The possibility of varying the aromatic substituents in the positions 5 and 5' of bipyridine core and the possibility for obtaining 2,2'-bipyridines bearing a fused cyclopentene core to increase the solubility in organic solvents.

Chinese Chemical Letters 28 (2017) 1099



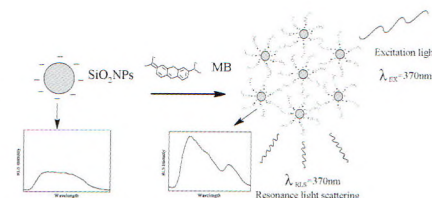
Determination of methylene blue by resonance light scattering method using silica nanoparticles as probe

Jin Fan, Zhi-Hai Xie, Xiao-Xiao Teng, Yu Zhang

Key Laboratory of Synthetic & Natural Functional Molecular Chemistry of The Ministry of Education, College of Chemistry & Material Science, Northwest University, Xi'an 710127, China

A novel method was developed to determine methylene blue (MB) by resonance light scattering using silica nanoparticles as the probe and was applied for determination of MB in aquaculture samples.

Chinese Chemical Letters 28 (2017) 1104



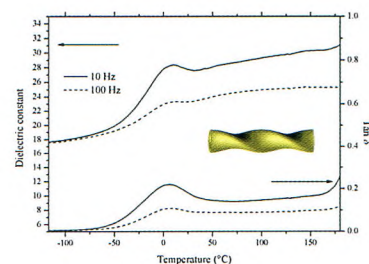
Preparation of optical active single-handed helical barium titanate nanotubes and characterization of dielectric properties

Shu-Wei Lin, Wen-Hu Qian, Hong-Jing Huo, Bao-Zong Li, Yi Li, Yong-Gang Yang

Jiangsu Key Laboratory of Advanced Functional Polymer Design and Application, Department of Polymer Science and Engineering, State and Local Joint Engineering Laboratory for Novel Functional Polymeric Materials, College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou 215123, China

Optical active single-handed helical barium titanate nanotubes constructed by nanoparticles with a partially crystalline structure are prepared with the impregnation of $\text{Ba}(\text{OH})_2$ into single-handed helical titania nanotubes. Both the dielectric constant and $\tan\delta$ decrease with increasing the frequency. At 10 and 100 Hz, one dielectric constant peak at 9.6 °C and one $\tan\delta$ peak at 5.0 °C are observed at -120 °C to 180 °C.

Chinese Chemical Letters 28 (2017) 1111



First synthesis and *in vitro* biological assessment of isosideroxylin, 6,8-dimethylgenistein and their analogues as nitric oxide production inhibition agents

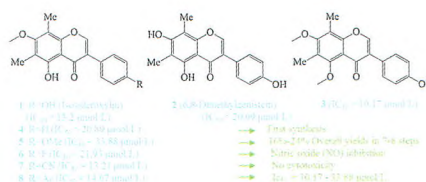
Jong-Woon Jung^a, Kongara Damodar^a, Jin-Kyung Kim^b, Jong-Gab Jun^a

^aDepartment of Chemistry and Institute of Applied Chemistry, Hallym University, Chuncheon 24252, South Korea

^bDepartment of Biomedical Science, College of Natural Science, Catholic University of Daegu, Gyeongsan-Si 38430, South Korea

A modular and efficient first synthesis of the biologically active C-methylisoflavones isosideroxylin (**1**), 6,8-dimethylgenistein (**2**) and their analogues (**3–8**) is achieved in 7–8 steps with overall yields of 16%–24%. Next, in their nitric oxide (NO) production inhibition assay in lipopolysaccharide-induced RAW 264.7 macrophages as an indicator of anti-inflammatory activity, all compounds showed moderate to good inhibitory activity in a concentration-dependent manner without notable cytotoxicity and IC_{50} values are found in the range from 10.17 $\mu\text{mol/L}$ to 33.88 $\mu\text{mol/L}$.

Chinese Chemical Letters 28 (2017) 1114



The synthesis of B, N-carbon dots by a combustion method and the application of fluorescence detection for Cu^{2+}

Ming-Cong Rong^a, Ke-Xin Zhang^c, Yi-Ru Wang^a, Xi Chen^{a,b}

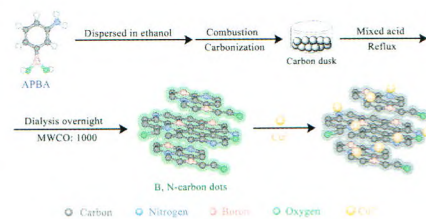
^aDepartment of Chemistry and the MOE Key Laboratory of Spectrochemical Analysis & Instrumentation, College of Chemistry and Chemical Engineering, Xiamen University, Xiamen 361005, China

^bState Key Laboratory of Marine Environmental Science, Xiamen University, Xiamen 361005, China

^cKey Laboratory of Global Change and Marine-Atmospheric Chemistry, Third Institute of Oceanography, State Oceanic Administration, Xiamen 361005, China

Novel green fluorescent B, N-carbon dots were obtained by a combustion method using aminophenylboronic acid as both carbon and nitrogen sources, and a fluorescence approach was developed for Cu^{2+} detection.

Chinese Chemical Letters 28 (2017) 1119



Cu_2O nanocrystals with various morphology: Synthesis, characterization and catalytic properties

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^aChemistry Department, Sharif University of Technology, Tehran, P.O. Box 11155-3615, Iran

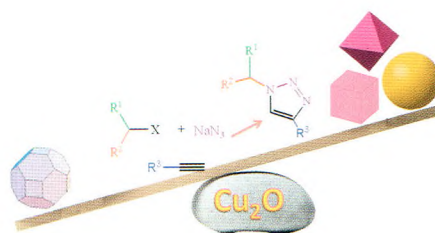
^bDepartment of Chemistry, Faculty of Science, University of Maragheh, Maragheh, Iran

^cDr. SSBhatnagar, University Institute of Chemical Engineering & Technology (SSB UICET), Panjab University, Chandigarh 160-014, India

^dAdvanced Analysis Center, Korea Institute of Science and Technology, Seoul 136-791, South Korea

Cu_2O nanocubes, octahedra, spheres and truncated rhombic dodecahedral were successfully employed to catalyze the 1,3-dipolar cycloaddition reaction for the synthesis of 1,4-disubstituted triazoles.

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