

ISSN 1001-8417

CN 11-2710/O6



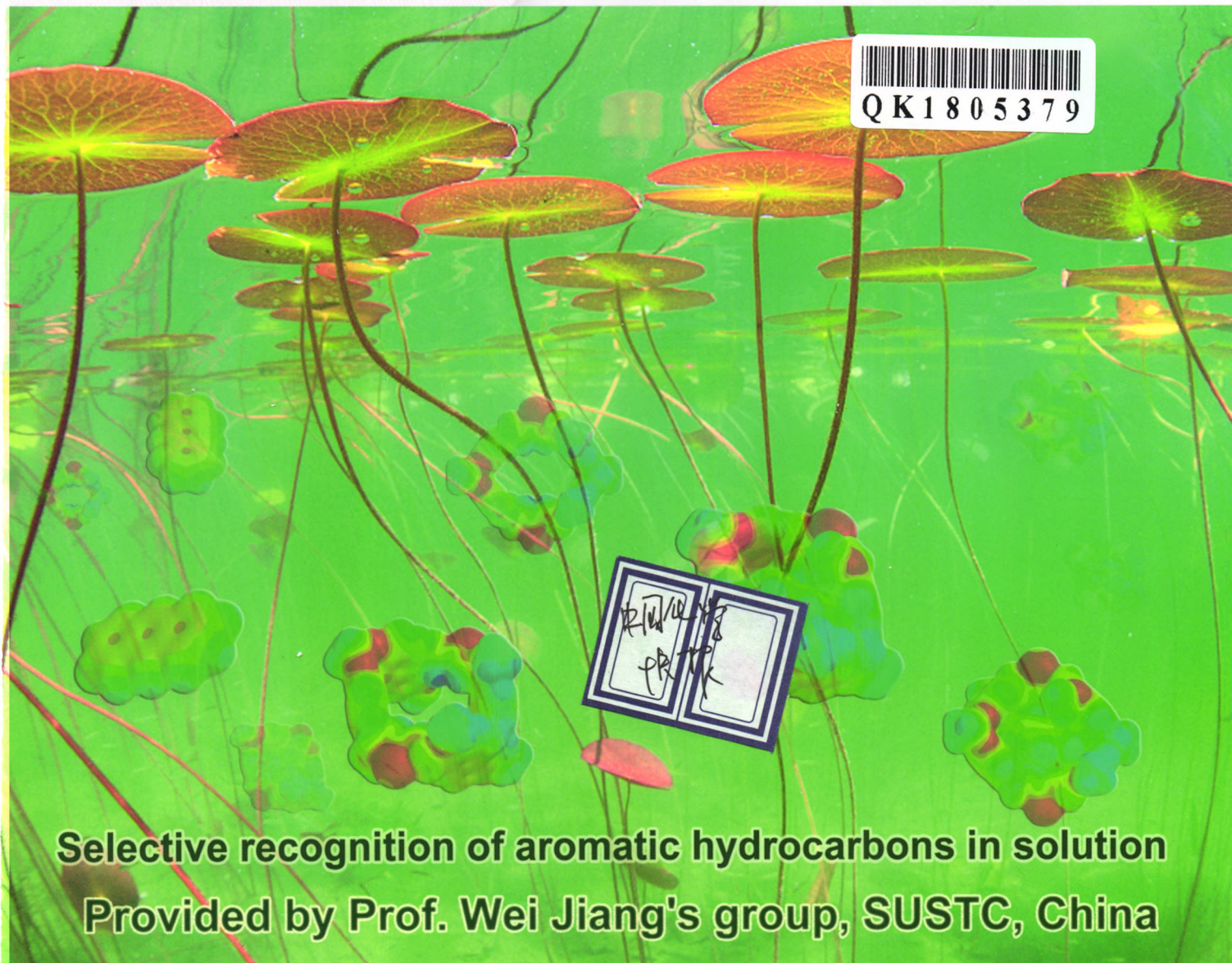
CCL

Chinese Chemical Letters

Volume 29 | Number 1 | JANUARY 2018 |



QK1805379



Selective recognition of aromatic hydrocarbons in solution
Provided by Prof. Wei Jiang's group, SUSTC, China



REVIEW

Guo-Wen Xing et al.
Modulation of the stereoselectivity and reactivity of glycosylation via (*p*-Tol)₂SO/Tf₂O preactivation strategy: From O-, C-sialylation to general O-, N-glycosylation

COMMUNICATION

Qin Li, Xin-Shan Ye et al.
N-9 Alkylation of purines via light-promoted and metal-free radical relay

ISSN 1001-8417



9 771001 841138

Chinese Chemical Society

万方数据

Institute of Materia Medica, Chinese Academy of Medical Sciences



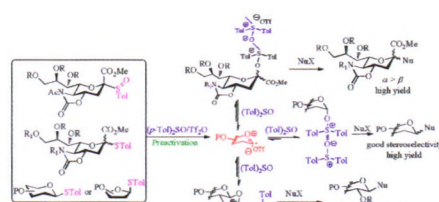
Graphical Abstracts/Chin Chem Lett 29 (2018) iii–xiv

Reviews

Modulation of the stereoselectivity and reactivity of glycosylation via $(p\text{-Tol})_2\text{SO}/\text{Tf}_2\text{O}$ preactivation strategy: From *O*-, *C*-sialylation to general *O*-, *N*-glycosylation

Guang-Jian Liu^a, Cui-Yun Li^a, Xiao-Tai Zhang^{a,b}, Wei Du^a, Zhen-Yuan Gu^a, Guo-Wen Xing^a^a College of Chemistry, Beijing Normal University, Beijing 100875, China^b The Institute of Seawater Desalination and Multipurpose Utilization, State Oceanic Administration, Tianjin 300192, ChinaWe make a review on the progress of the $(p\text{-Tol})_2\text{SO}/\text{Tf}_2\text{O}$ preactivation strategy for general glycosylation using thioglycosides or sialyl sulfoxide as donors.

Chinese Chemical Letters 29 (2018) 1



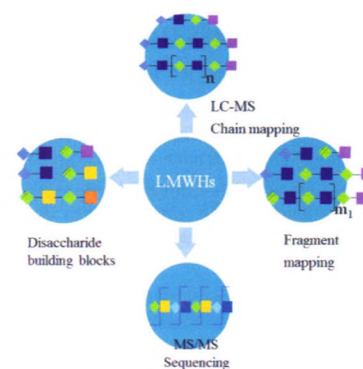
Recent advances in mass spectrometry analysis of low molecular weight heparins

Zhangjie Wang, Lianli Chi

National Glycoengineering Research Center, Shandong University, Ji'nan 250100, China

Low molecular weight heparins (LMWHs) are the most widely used anticoagulant drugs produced by chemical or enzymatic modification of parent heparin polysaccharides. The present article reviews recent advances in orthogonal and complementary mass spectrometry (MS) methodologies towards complete elucidation of natural and modified structures in LMWHs that possibly affect the drug quality, safety and efficacy.

Chinese Chemical Letters 29 (2018) 11



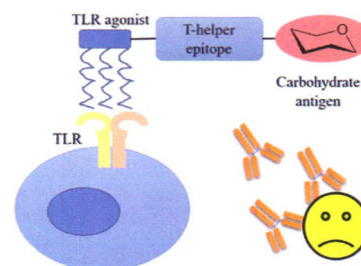
Recent progress of fully synthetic carbohydrate-based vaccine using TLR agonist as build-in adjuvant

Zhifang Zhou, Han Lin, Chen Li, Zhimeng Wu

Key Laboratory of Carbohydrate Chemistry & Biotechnology, Ministry of Education, School of Biotechnology, Jiangnan University, Wuxi 214122, China

This review highlights recent advances in developing full synthetic carbohydrate antigen based vaccines, with an emphasis on the structure-activity relationships that provide a primary basis for future vaccine design and immunotherapy developing.

Chinese Chemical Letters 29 (2018) 19



Applications of controlled inversion strategies in carbohydrate synthesis

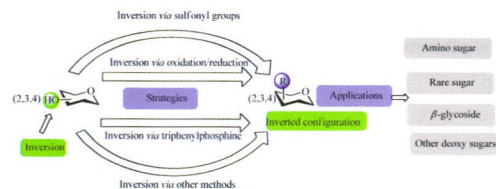
Chinese Chemical Letters 29 (2018) 27

Wuqiong Song^a, Juntao Cai^a, Xiaopeng Zou^a, Xiaoli Wang^a, Jing Hu^b, Jian Yin^a

^a Key Laboratory of Carbohydrate Chemistry and Biotechnology, Ministry of Education, School of Biotechnology, Jiangnan University, Wuxi 214122, China

^b Wuxi School of Medicine, Jiangnan University, Wuxi 214122, China

Inversion strategies via sulfonyl groups, oxidation/selective reduction, etc. have been widely used in introducing functionalities like amino group, abundantly synthesizing rare sugars and constructing the β -configurations in glycosylation.



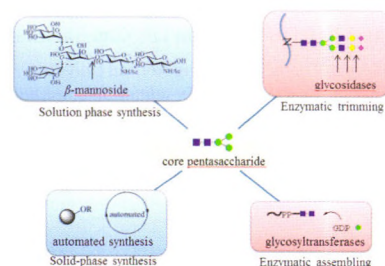
Approaches towards the core pentasaccharide in N-linked glycans

Chinese Chemical Letters 29 (2018) 35

Ning Wang, Sheng-Tao Li, Tian-Tian Lu, Hideki Nakanishi, Xiao-Dong Gao

Key Laboratory of Carbohydrate Chemistry and Biotechnology, Ministry of Education, School of Biotechnology, Jiangnan University, Wuxi 214122, China

This review focuses on the progresses and challenges in the preparation of Man3GlcNAc2 (M3) which is the core structure in the N-glycan biological pathway. Representative methods and recent reported findings, especially research advances in chemoenzymatic synthesis, are highlighted.



Recent progress on multidimensional construction of helicenes

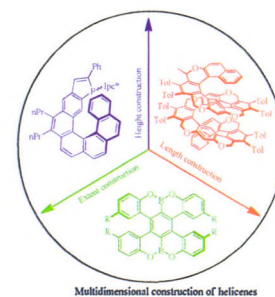
Chinese Chemical Letters 29 (2018) 40

Wei-Bin Lin^{a,b}, Meng Li^{a,b}, Lei Fang^{a,b}, Chuan-Feng Chen^{a,b}

^a Beijing National Laboratory for Molecular Sciences, CAS Key Laboratory of Molecular Recognition and Function, Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

^b University of Chinese Academy of Sciences, Beijing 100049, China

Helicenes with unique π -conjugated helical structure and excellent chiroptical properties have received more and more attention. In this review, the idea of multidimensional construction of helicenes and their derivatives was proposed, and the related recent progress was summarized comprehensively



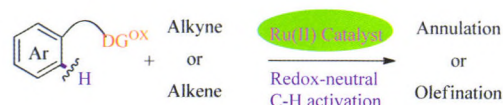
Recent progress in Ru(II)-catalyzed C–H activations with oxidizing directing groups

Chinese Chemical Letters 29 (2018) 47

Zhenrong Wang, Peipei Xie, Yuanzhi Xia

College of Chemistry and Materials Engineering, Wenzhou University, Wenzhou 325035, China

The recent development in Ru(II)-catalyzed C–H activations under redox neutral conditions is reviewed. The features and plausible mechanisms for new annulation and olefination reactions are highlighted.



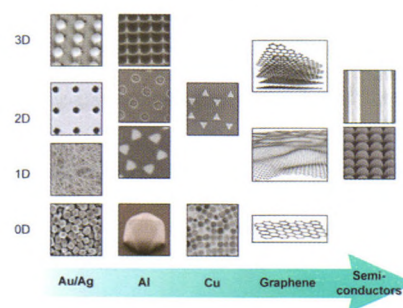
Plasmonic biosensing based on non-noble-metal materials

Jianhua Zhou, Yangyang Wang, Li Zhang, Xuemeng Li

Key Laboratory of Sensing Technology and Biomedical Instruments of Guangdong Province, Department of Biomedical Engineering, School of Engineering, Sun Yat-sen University, Guangzhou 510275, China

This review focuses on the research progress of non-noble-metal materials with nanostructures for plasmonic biosensing. Firstly, the physical and sensing principles of localized surface plasmon resonance (LSPR) sensors are briefly introduced; then non-noble-metal materials, such as copper, aluminum, semiconductor, graphene and other materials, for plasmonic sensing are categorized and presented. Finally, a rational discussion about the future prospective of novel materials for plasmonic sensing is given.

Chinese Chemical Letters 29 (2018) 54



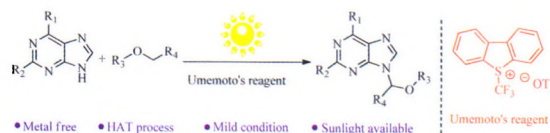
Communications

N-9 Alkylation of purines via light-promoted and metal-free radical relay

Runze Mao, Lifeng Sun, Yong-Shi Wang, Min-Min Zhou, De-Cai Xiong, Qin Li, Xin-Shan Ye

State Key Laboratory of Natural and Biomimetic Drugs, School of Pharmaceutical Sciences, Peking University, Beijing 100191, China

A light-promoted approach to the synthesis of N-9 alkylated purine nucleoside derivatives has been developed.



Chinese Chemical Letters 29 (2018) 61

Facile fabrication of branched-chain carbohydrate chips for studying carbohydrate-protein interactions by QCM biosensor

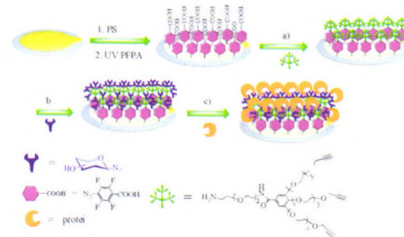
Yuchao Lu^{a,1}, Siyu Song^{a,1}, Chenxi Hou^a, Shuang Pang^a, Xueming Li^a, Xiaowen Wu^a, Chen Shao^a, Yuxin Pei^a, Zhichao Pei^{a,b}

^a Shaanxi Key Laboratory of Natural Products & Chemical Biology, College of Chemistry and Pharmacy, Northwest A&F University, Yangling 712100, China

^b Attana, SE-11419 Stockholm, Sweden

A novel approach for fabricating branched-chain (BC) carbohydrate chips to study carbohydrate-protein interactions using quartz crystal microbalance (QCM) biosensor was developed. This approach utilizes functional alkynyl-branch molecule modified chip surfaces, which is functionalized with terminal alkynyl group for covalent linking of unprotected azide-carbohydrates via click chemistry.

Chinese Chemical Letters 29 (2018) 65



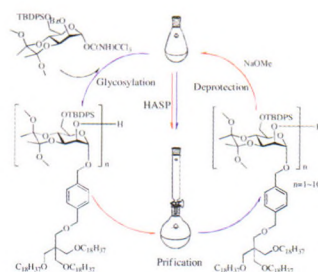
The rapid assembling of oligosaccharides by the developed HASP strategy

Yunhe Wang¹, Shuai Meng¹, Tingting Yue, Shuchun Li, Zhongjun Li

State Key Laboratory of Natural and Biomimetic Drugs, Department of Chemical Biology, School of Pharmaceutical Sciences, Peking University, Beijing 100191, China

A nona-mannoside has been assembled rapidly by using a new hydrophobic carrier based on the hydrophobically assisted switching phase strategy.

Chinese Chemical Letters 29 (2018) 69



Synthesis of N-alkyl substituted iminosugars from D-ribose

Haibo Wang^{a,c,d}, Yang Pan^{a,d}, Qin Tang^{a,d}, Wei Zou^b, Huawu Shao^a

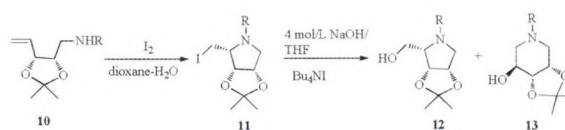
^a Natural Products Research Center, Chengdu Institute of Biology, Chinese Academy of Sciences, Chengdu 610041, China

^b Institute for Biological Sciences, National Research Council of Canada, Ottawa K1A 0R6, Canada

^c Zhejiang Hongyuan Pharmaceutical Co., Ltd., Linhai 317000, China

^d Graduate School of Chinese Academy of Sciences, Beijing 100049, China

An effective and facile method for the synthesis of N-alkylated hydroxypyrrolidine and hydroxypiperidine is described. A number of N-alkyl substituted iminosugars were prepared using iodine-induced intramolecular cyclization of acyclic alkenylamines as key step.



Chinese Chemical Letters 29 (2018) 76

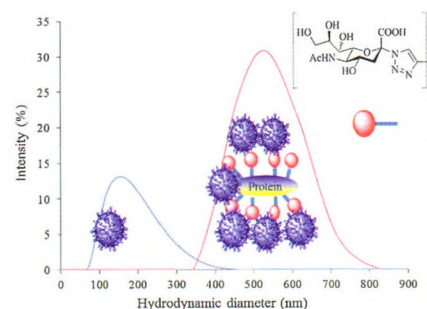
Multivalent neuraminidase hydrolysis resistant triazole-sialoside protein conjugates as influenza-adsorbents

Xin Meng^a, Meibing Yang^a, Yang Li^a, Xiaobin Li^a, Tianwei Jia^a, Haojie He^a, Qun Yu^a, Na Guo^a, Yun He^b, Peng Yu^a, Yang Yang^a

^a China International Science and Technology Cooperation Base of Food Nutrition/Safety and Medicinal Chemistry, College of Biotechnology, Tianjin University of Science and Technology, Tianjin 300457, China

^b Research Institute of Tsinghua University in Shenzhen, Shenzhen 518057, China

Triazole-sialoside tailored proteins with high hemagglutinin (HA) and neuraminidase (NA) binding affinity are prepared. Dynamic light scattering shows that these pseudo-sialylated proteins are ideal virus capture macromolecules.



Synthesis and anti-inflammatory activity of gold-nanoparticle bearing a dermatan sulfate disaccharide analog

Chengxiang Shang^{a,b}, Chao Cai^{a,c}, Cuixia Zhao^{a,b}, Yuguo Du^a

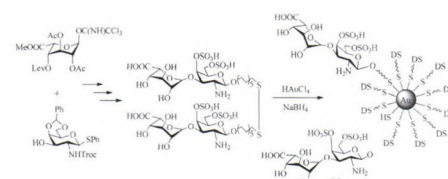
^a State Key Laboratory of Environmental Chemistry and Ecotoxicology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing 100085, China

^b School of Chemistry and Chemical Engineering, Graduate University of Chinese Academy of Sciences, Beijing 100049, China

^c Key Lab of Marine Drugs, Ministry of Education of China, School of Medicine and Pharmacy, Ocean University of China, Qingdao 266003, China

A novel gold glyconanoparticle coating with DS disaccharide analog has been synthesized, and the potential anti-inflammatory activity was studied using carrageenan-induced paw edema model.

Chinese Chemical Letters 29 (2018) 81



A polysaccharide/tetraphenylethylene-mediated blue-light emissive and injectable supramolecular hydrogel

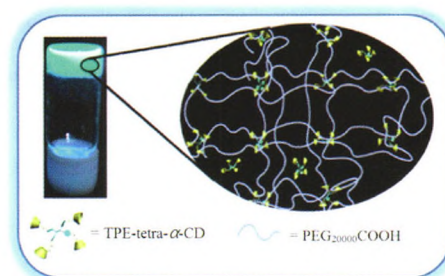
Qian Zhao^a, Yong Chen^a, Yu Liu^{a,b}

^a College of Chemistry, State Key Laboratory of Elemento-Organic Chemistry, Nankai University, Tianjin 300071, China

^b Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Nankai University, Tianjin 300071, China

A luminescent and injectable supramolecular hydrogel was successfully constructed through the non-covalent cross-linking of polymers mediated by tetraphenylethylene-bridged cyclodextrin oligomers, presenting the strong blue fluorescence, the reversible gelation behavior responsive to various external stimuli and the good mechanical property of shear thinning.

Chinese Chemical Letters 29 (2018) 84



Switched enantioselectivity by solvent components and temperature in photocyclodimerization of 2-anthracenecarboxylate with 6^A,6^X-diguandio- γ -cyclodextrins

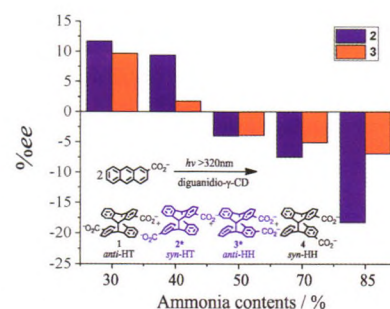
Jigao Yi^a, Wenting Liang^b, Xueqin Wei^a, Jiabin Yao^a, Zhiqiang Yan^a, Dan Su^a, Zhihui Zhong^a, Guowei Gao^a, Wanhua Wu^a, Cheng Yang^a

^a Key Laboratory of Green Chemistry & Technology, College of Chemistry and State Key Laboratory of Biotherapy, West China Medical Center, Sichuan University, Chengdu 610064, China

^b Institute of Environmental Sciences, Department of Chemistry, Shanxi University, Taiyuan 030006, China

A series of 6A,6X-diguandio- γ -cyclodextrins (CDs) were synthesized as chiral hosts for mediating the enantiodifferentiating [4+4] photocyclodimerization of 2-anthracenecarboxylic acid (AC). Variation of the temperature and the ammonia contents led to greatly enhanced head-to-head photodimers 3 and 4, accompanying by inversion of product chirality.

Chinese Chemical Letters 29 (2018) 87



Selective recognition of aromatic hydrocarbons by endo-functionalized molecular tubes via C/N-H... π interactions

Guo-Bao Huang^{a,b,c}, Wei-Er Liu^c, Arto Valkonen^d, Huan Yao^c, Kari Rissanen^d, Wei Jiang^c

^a College of Chemistry and Food Science, Yulin Normal University, Yulin 537000, China

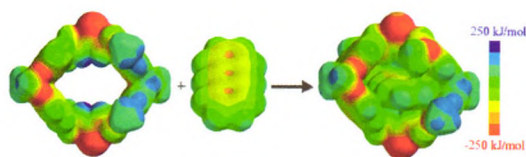
^b College of Chemistry and Environmental Engineering, Shenzhen University, Shenzhen 518060, China

^c Department of Chemistry, South University of Science and Technology of China, Shenzhen 518055, China

^d Department of Chemistry and Nanoscience Center, University of Jyväskylä, Jyväskylä, P.O. Box 3540014, Finland

Aromatic hydrocarbons can be selectively recognized by four endo-functionalized molecular tubes through C/N-H... π interactions in nonpolar media with binding constants up to 1580 L/mol.

Chinese Chemical Letters 29 (2018) 91



pH-Switched fluorescent pseudorotaxane assembly of cucurbit[7]uril with bispyridinium ethylene derivatives

Wei Wu^a, Sen Song^a, Xiaowei Cui^a, Tao Sun^b, Jian-Xin Zhang^c, Xin-Long Ni^a

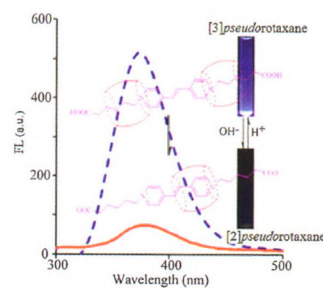
^a Key Laboratory of Macrocyclic and Supramolecular Chemistry of Guizhou Province, Guizhou University, Guiyang 550025, China

^b Key Laboratory of Guizhou High Performance Computational Chemistry, Guizhou University, Guiyang 550025, China

^c Key Laboratory of Chemistry for Natural Products of Guizhou Province, Guiyang 550002, China

¹H NMR spectra and fluorescence analysis revealed that the molecular shuttle and pseudorotaxane assembly of Q[7] with guest G²⁺ can be significantly switched via protonation and deprotonation of the terminal carboxylates of the guest.

Chinese Chemical Letters 29 (2018) 95



β to β Terpyridylene-bridged porphyrin nanorings

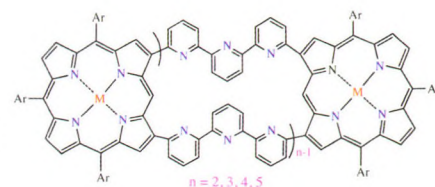
Bangshao Yin^a, Xu Liang^b, Weihua Zhu^b, Ling Xu^a, Mingbo Zhou^a, Jianxin Song^a

^a Key Laboratory of Chemical Biology and Traditional Chinese Medicine Research (Ministry of Education of China), Key Laboratory of the Assembly and Application of Organic Functional Molecules, Hunan Normal University, Changsha 410081, China

^b School of Chemistry and Chemical Engineering, Jiangsu University, Zhenjiang 212013, China

β to β Terpyridine bridged cyclic porphyrin dimer, trimer, tetramer and pentamer were obtained through one-pot Suzuki-Miyaura crossing coupling reaction in good yields with template free. These porphyrin nanorings possess high fluorescence quantum yields and large extinction coefficients.

Chinese Chemical Letters 29 (2018) 99



Simultaneous determination of bisphenols, benzophenones and parabens in human urine by using UHPLC-TQMS

Hongzhi Zhao^a, Jiufeng Li^a, Xinli Ma^{a,c}, Wenqian Huo^b, Shunqing Xu^b, Zongwei Cai^a

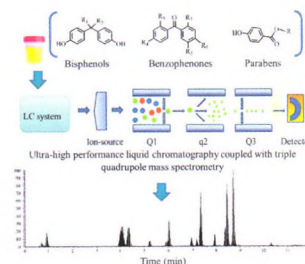
^a State Key Laboratory of Environmental and Biological Analysis, Department of Chemistry, Hong Kong Baptist University, Hong Kong, SAR, China

^b Key Laboratory of Environment and Health, Ministry of Education & Ministry of Environmental Protection, and State Key Laboratory of Environmental Health, School of Public Health, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430074, China

^c School of Life Sciences, Sun Yat-sen University, Guangzhou 510275, China

An analytical method for the simultaneous determination of six bisphenols, five benzophenones and seven parabens by using ultra-high performance liquid chromatography coupled with triple quadrupole mass spectrometry was developed and applied for human urine sample analysis.

Chinese Chemical Letters 29 (2018) 102



Three dimensional phytic acid-induced graphene as a solid-phase microextraction fiber coating and its analytical applications for nerolidol in tea

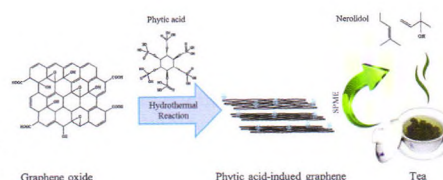
Shujun Xia^a, Jing Dong^a, Yiyi Chen^a, Yiru Wang^a, Xi Chen^{a,b}

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

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

Three dimensional phytic acid-induced graphene coating was prepared by hydrothermal synthesis and fabricated on a stainless-steel wire as a solid phase microextraction (SPME) coating. Compared with the commercial 100 μm PDMS and 85 μm CAR/PDMS fibers, the home-made SPME fiber exhibited excellent extraction efficiency for the analysis of nerolidol in tea samples.

Chinese Chemical Letters 29 (2018) 107



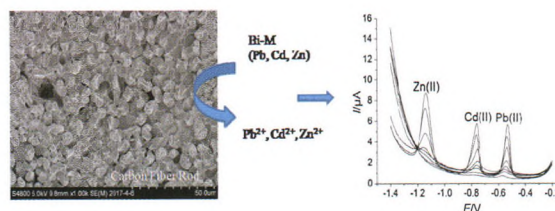
A voltammetric sensor for simultaneous determination of lead, cadmium and zinc on an activated carbon fiber rod

Wei-Jie Wang¹, Yan-Ling Cai¹, Bai-Chuan Li, Jun Zeng, Zhi-Yong Huang, Xiao-Mei Chen

College of Food and Biological Engineering, Jimei University, Xiamen 361021, China

A simple, low cost and sensitive voltammetric sensor was developed for the simultaneous detection of Pb²⁺, Cd²⁺, and Zn²⁺ based on a disposable carbon fiber rod (CFR). The important factors to enhance the sensing property were creation of a clean surface by dealing with CFR at a high potential and electrochemical deposition of Bi film to improve the accumulation of heavy metal ions.

Chinese Chemical Letters 29 (2018) 111



Chiral derivatization coupled with liquid chromatography/mass spectrometry for determining ketone metabolites of hydroxybutyrate enantiomers

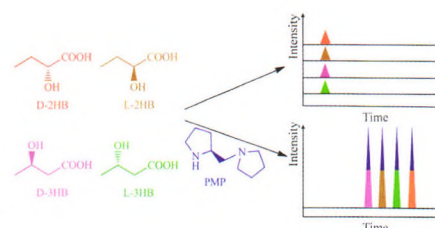
Qing-Yun Cheng^a, Jun Xiong^a, Fang Wang^{a,b}, Bi-Feng Yuan^a, Yu-Qi Feng^a

^a Key Laboratory of Analytical Chemistry for Biology and Medicine (Ministry of Education), Department of Chemistry, Wuhan University, Wuhan 430072, China

^b Department of Pharmacy, Dingxi Campus, Gansu University of Traditional Chinese Medicine, Dingxi 743000, China

With PMP chiral derivatization, the D/L-2HB and D/L-3HB enantiomers can be distinctly determined by reversed-phase chromatographic separation. In addition, the detection sensitivities were greatly enhanced by LC-ESI-MS analysis due to the introduction of easily ionizable tertiary amino group from PMP.

Chinese Chemical Letters 29 (2018) 115



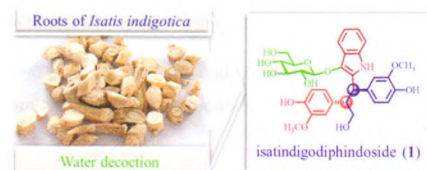
Isatindigodiphindoside, an alkaloid glycoside with a new diphenylpropylindole skeleton from the root of *Isatis indigotica*

Chinese Chemical Letters 29 (2018) 119

Ling-Jie Meng, Qing-Lan Guo, Cheng-Gen Zhu, Cheng-Bo Xu, Jian-Gong Shi

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

A novel indole alkaloid glycoside with an unprecedented 2-(diphenylpropyl)-indole skeleton, isatindigodiphindoside (**1**), was isolated from an aqueous extract of the roots of *Isatis indigotica*. The structure was determined by extensive spectroscopic studies, especially by 2D NMR data analysis combined with enzymatic hydrolysis and ECD calculations. Plausible biosynthetic pathways of compound **1** are also discussed.

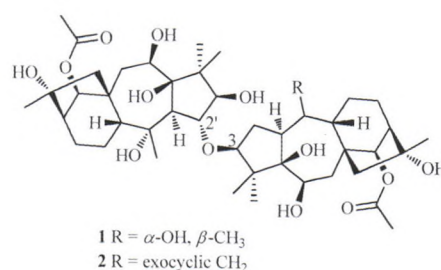


Birhodomolleins D and E, two new dimeric grayanane diterpenes with a 3-O-2' linkage from the fruits of *Rhododendron pumilum*

Chinese Chemical Letters 29 (2018) 123

Rui Zhang^{a,b,c}, Chunping Tang^{a,c}, Chang-Qiang Ke^{a,c}, Sheng Yao^{a,c}, Ge Lin^{c,d}, Yang Ye^{a,c,e}^a State Key Laboratory of Drug Research, and Natural Products Chemistry Department, Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 201203, China^b University of Chinese Academy of Sciences, Beijing 100049, China^c SIMM-CUHK Joint Research Laboratory for Promoting Globalization of Traditional Chinese Medicines between Shanghai Institute of Materia Medica, Chinese Academy of Sciences and The Chinese University of Hong Kong, Hong Kong SAR, China^d School of Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong SAR, China^e School of Life Science and Technology, ShanghaiTech University, Shanghai 201210, China

Two dimeric grayanane diterpenes with a novel 3-O-2' linkage, birhodomolleins D (**1**) and E (**2**), were isolated and structurally elucidated from the fruits of *Rhododendron pumilum*. Their structures were fully determined by comprehensive analysis of spectroscopic data.



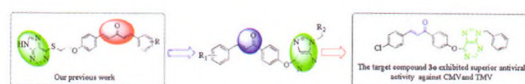
Synthesis and antiviral bioactivity of novel chalcone derivatives containing purine moiety

Chinese Chemical Letters 29 (2018) 127

Yan-Jiao Wang, Da-Gui Zhou, Fang-Cheng He, Ji-Xiang Chen, Yong-Zhong Chen, Xiu-Hai Gan, De-Yu Hu, 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 novel chalcone derivatives containing purine group was synthesized and evaluated for their antiviral activities against cucumber mosaic virus and tobacco mosaic virus. Compound **3o** exhibited remarkable antiviral activities and strong combining capacity to tobacco mosaic virus coat protein.



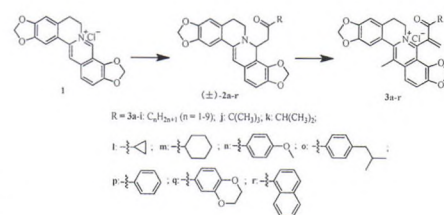
Synthesis of quaternary 8-(1-acylethene-1-yl)-13-methylcoptisine chlorides and their selective growth inhibitory activity between human cancer cell lines and normal intestinal epithelial cell-6

Chinese Chemical Letters 29 (2018) 131

Zhi-Hui Zhang, Yu Yan, An-Jun Deng, Hai-Jing Zhang, Zhi-Hong Li, Tian-Yi Yuan, Lian-Hua Fang, Lian-Qiu Wu, Guan-Hua Du, Hai-Lin Qin

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

Quaternary 8-(1-acylethene-1-yl)-13-methylcoptisine chlorides targeting TrxRs were designed and synthesized. An *in vitro* evaluation for the growth inhibitory activities against cancer cell lines and for the viability of the normal intestinal epithelial cell-6 cell line is reported.



A rapid method for the detection of humic acid based on the poly(thymine)-templated copper nanoparticles

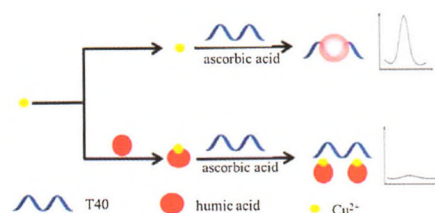
Changbei Ma^a, Mingjian Chen^a, Haisheng Liu^a, Kefeng Wu^a, Hailun He^a, Kemin Wang^b

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

^b State Key Laboratory of Chemo/Biosensing and Chemometrics, Hunan University, Changsha 410081, China

A label-free fluorescent method for sensitive detection of humic acid based on poly(thymine)-templated copper nanoparticles is reported.

Chinese Chemical Letters 29 (2018) 136



A pinacol boronate caged NIAD-4 derivative as a near-infrared fluorescent probe for fast and selective detection of hypochlorous acid

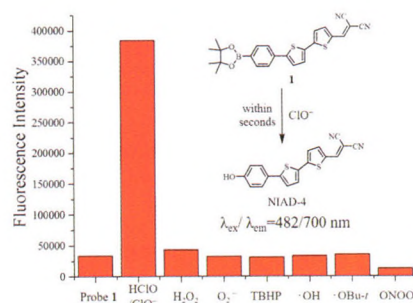
Hongjuan Tong^a, Yajun Zhang^a, Shengnan Ma^a, Minghao Zhang^a, Na Wang^a, Rui Wang^a, Kaiyan Lou^a, Wei Wang^{a,b}

^a Shanghai Key Laboratory of New Drug Design, Shanghai Key Laboratory of Chemical Biology, School of Pharmacy; State Key Laboratory of Bioengineering Reactor, East China University of Science & Technology, Shanghai 200237, China

^b Department of Chemistry and Chemical Biology, University of New Mexico, Albuquerque, NM 87131-0001, USA

A pinacol boronate caged NIAD-4 derivative was demonstrated to be a near-infrared fluorescent probe for fast and selective detection of hypochlorite over other ROS species.

Chinese Chemical Letters 29 (2018) 139



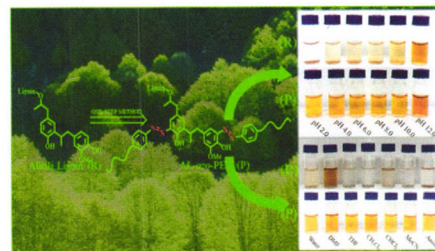
Synthesis and characterization of water-soluble PEGylated lignin-based polymers by macromolecular azo coupling reaction

Jilei Wang, Shang Li, Ruiqi Liang, Bing Wu, Yaning He

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

Water-soluble PEGylated lignin polymers were efficiently synthesized by macromolecular azo coupling reaction between alkali lignin and PEG based macromolecular diazonium salts in alkaline water.

Chinese Chemical Letters 29 (2018) 143



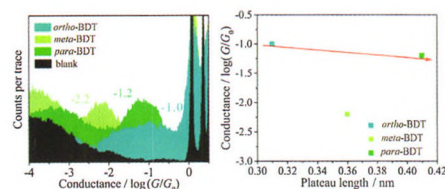
Quantum interference effect in the charge transport through single-molecule benzene dithiol junction at room temperature: An experimental investigation

Guogang Yang, Hao Wu, Junying Wei, Jueting Zheng, Zhaobin Chen, Junyang Liu, Jia Shi, Yang Yang, Wenjing Hong

State Key Laboratory of Physical Chemistry of Solid Surfaces, College of Chemistry and Chemical Engineering, Pen-Tung Sah Institute of Micro-Nano Science and Technology, Xiamen University, Xiamen 361005, China

The electrical characterization on single-molecule benzene dithiols with different connectivities showed that the meta-BDT has the lowest conductance, which suggested that there is destructive quantum

Chinese Chemical Letters 29 (2018) 147



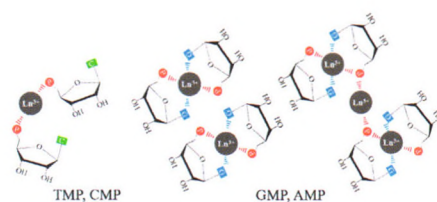
Chinese Chemical Letters 29 (2018) 151

Nucleotide coordination with 14 lanthanides studied by isothermal titration calorimetry

Zijie Zhang¹, Kiyoshi Morishita¹, Wei Ting David Lin, Po-Jung Jimmy Huang, Juewen Liu

Department of Chemistry, Waterloo Institute for Nanotechnology, University of Waterloo, Waterloo N2L 3G1, Canada

ITC reveals the increasingly importance of entropy for heavier lanthanides binding to nucleotides. The phosphate group forming chelating effect with purine bases but not with pyrimidines.



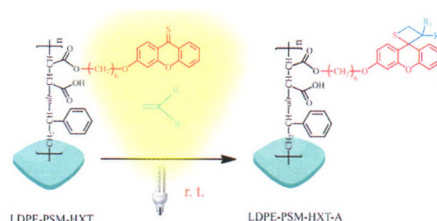
Chinese Chemical Letters 29 (2018) 157

Visible light-induced thione-ene cycloaddition reaction for the surface modification of polymeric materials

Li Wang, Yi Wang, Dong Chen, Wantai Yang

The State Key Laboratory of Chemical Resource Engineering, College of Materials Science and Engineering, Beijing University of Chemical Technology, Beijing 100029, China

A feasible method for the surface modification of polymeric materials with LDPE films as model substrates based on visible light-induced thione-ene cycloaddition reaction is proposed.



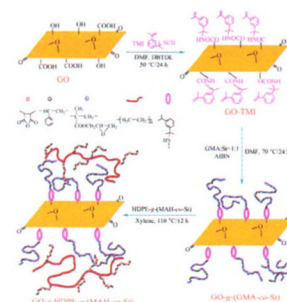
Polyolefin-functionalized graphene oxide and its GO/HDPE nanocomposite with excellent mechanical properties

Huanmin Li, Xu-Ming Xie

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

An effective strategy for the polyolefin-functionalized graphene oxide (fGO) using two-step methods has been reported for GO/HDPE nanocomposite with excellent mechanical properties.

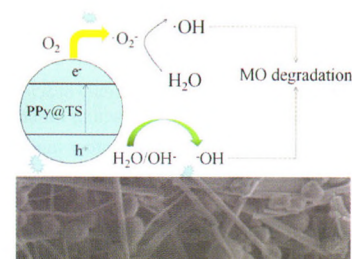
Chinese Chemical Letters 29 (2018) 161



In situ polypyrrole polymerization enhances the photocatalytic activity of nanofibrous TiO₂/SiO₂ membranes

Xiaoqiang Li^{a,b}, Jidong Wang^b, Zimu Hu^b, Mengjuan Li^b, Kenji Ogino^a^a Department of Organic and Polymer Materials Chemistry, Tokyo University of Agriculture & Technology, 2-24-16 Naka-cho, Koganei-city, Tokyo 184-8588, Japan^b College of Textile & Clothing, Jiangnan University, Wuxi 214122, ChinaPPy@TS nanocomposite with enhanced photocatalytic capability was prepared by *in situ* polymerizing polypyrrole on the surface of TiO₂/SiO₂ nanofibrous membrane.

Chinese Chemical Letters 29 (2018) 166



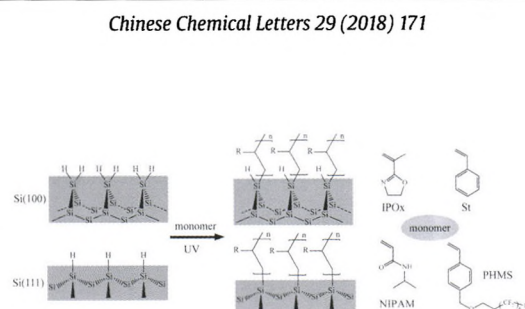
Polymer brushes on hydrogen-terminated silicon substrates *via* stable Si—C bond

Hang Bian^{a,b}, Xiaozhe Dong^b, Shanshan Chen^b, Dewen Dong^b, Ning Zhang^b

^a School of Material Science and Engineering, Jilin Jianzhu University, Changchun 130118, China

^b Key Laboratory of Synthetic Rubber, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, China

A universal and straightforward method for the preparation of polymer brushes via the formation of Si-C bond on silicon substrates through the UV-induced photopolymerization is demonstrated.



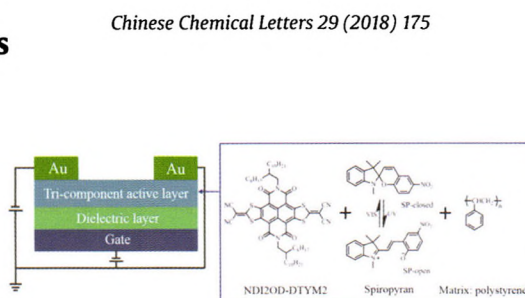
Photoresponsive n-channel organic field-effect transistors based on a tri-component active layer

Li-Na Fu^{a,b}, Bing Leng^b, Yong-Sheng Li^a, Xi-Ke Gao^b

^a Laboratory of Low-Dimensional Materials Chemistry, Key Laboratory for Ultrafine Materials of the Ministry of Education, School of Materials Science and Engineering, East China University of Science and Technology, Shanghai 200237, China

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

Photoresponsive OFETs were fabricated based on a tri-component active layer (NDI2OD-DTYM2, spiroopyran and polystyrene). The results demonstrated that these OFETs displayed photoresponsive feature to alternate UV and vis light due to the photoisomerization of spiroopyran between the closed-ring state and ionic open-ring state.

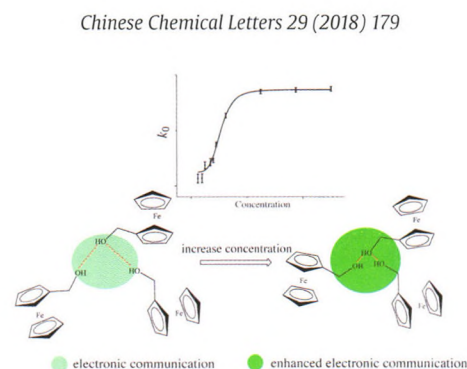


The enhanced electronic communication in ferrocenemethanol molecular cluster based on intermolecular hydrogen-bonding

Yifan Yang, Qing Zheng, Yuanyuan Yan, Yao Liu, Huibo Shao

Key Laboratory of Cluster Science (Ministry of Education) and Beijing Key Laboratory of Photoelectronic and Electrophotonic Conversion Materials, School of Chemistry and Chemical Engineering, Beijing Institute of Technology, Beijing 100081, China

The electronic communication has been enhanced by regulating the intermolecular hydrogen-bonding in ferrocenemethanol molecular clusters. This enhanced electronic communication facilitates the electron transfer of ferrocenemethanol and increases the standard rate constant of the electron transfer process.



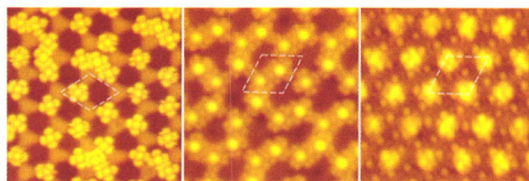
Densely packed overlayer of iron phthalocyanine molecules grown on single-layer graphene

Liwei Liu^a, Wende Xiao^{a,b}, Jinhai Mao^a, Haigang Zhang^a, Yuhang Jiang^a, Haitao Zhou^a, Kai Yang^a, Hongjun Gao^a

^a Institute of Physics, Chinese Academy of Sciences, Beijing 100190, China

^b Beijing Institute of Technology, Beijing 100081, China

The FePc molecules form a series of order superstructures on single-layer graphene grown on Ru(0001) with increasing molecular coverage.



Chinese Chemical Letters 29 (2018) 187

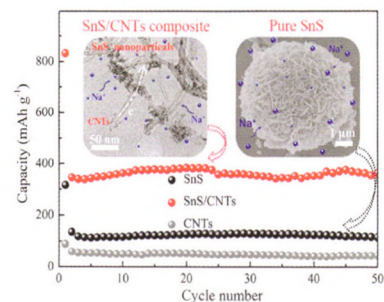
Enhanced electrochemical performance of SnS nanoparticles/CNTs composite as anode material for sodium-ion battery

Yuanyuan Chen^a, Bingjie Wang^a, Tianyi Hou^a, Xudong Hu^a, Xin Li^a, Xiaohong Sun^a, Shu Cai^a, Huiming Ji^a, Chunming Zheng^b

^a School of Materials Science and Engineering, Key Laboratory of Advanced Ceramics and Machining Technology of Ministry of Education, Tianjin University, Tianjin 300072, China

^b State Key Laboratory of Hollow-fiber Membrane Materials and Membrane Processes, School of Environmental and Chemical Engineering, Tianjin Polytechnic University, Tianjin 300387, China

SnS/CNTs composite as anode for SIBs exhibits high reversible capacity, good cyclability as well as rate performance, which is superior to that of pure SnS. The enhanced electrochemical performance can be attributed to the adding of CNTs as a flexible and conductive structure supporter and the formation of SnS nanoparticles with small diameter.



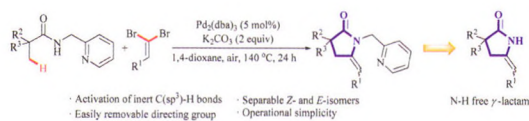
Chinese Chemical Letters 29 (2018) 191

Palladium-catalyzed 2-pyridylmethyl-directed β -C(sp³)-H activation and cyclization of aliphatic amides with *gem*-dibromoolefins: A rapid access to γ -lactams

Danni Zhou, Chunxia Wang, Mingliang Li, Zheng Long, Jingbo Lan

Key Laboratory of Green Chemistry and Technology of Ministry of Education, College of Chemistry, Sichuan University, Chengdu 610064, China

The direct Pd-catalyzed β -C(sp³)-H activation and cyclization of aliphatic amides bearing a removable 2-pyridylmethyl directing group with *gem*-dibromoolefins is described for the first time to construct a variety of γ -lactams.



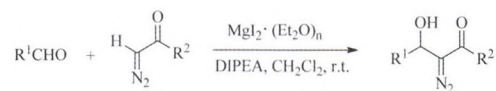
Chinese Chemical Letters 29 (2018) 194

Highly efficient and chemoselective direct aldol reaction of acyldiazomethane with aldehydes promoted by MgI₂ etherate

Weipeng Qi, Xiaoqiang Xie, Tengjiang Zhong, Xingxian Zhang

College of Pharmaceutical Sciences, Zhejiang University of Technology, Hangzhou 310032, China

MgI₂(Et₂O)_n-promoted aldol condensation of various aldehydes with acyldiazomethane was described in the presence of DIPEA in good to excellent yields under mild conditions with high chemoselectivity.



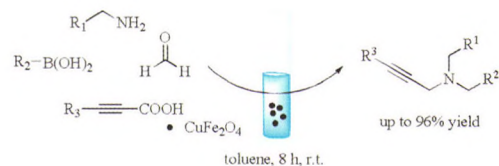
Chinese Chemical Letters 29 (2018) 197

Room temperature multicomponent synthesis of diverse propargylamines using magnetic CuFe₂O₄ nanoparticle as an efficient and reusable catalyst

Jia-Yu Zhang, Xi Huang, Qiao-Ying Shen, Jia-Yi Wang, Gong-Hua Song

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

We report the magnetic recoverable catalyst (CuFe₂O₄) catalyzed multicomponent reaction of aliphatic amines, formaldehyde, arylboronic acids and alkynyl carboxylic acids for the synthesis of diverse propargylamines at room temperature.



Magnetic nanoparticles supported cinchona alkaloids for asymmetric Michael addition reaction of 1,3-dicarbonyls and maleimides

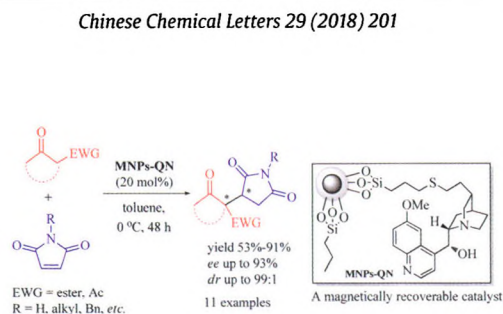
Shi-Xuan Cao^a, Jia-Xi Wang^a, Zheng-Jie He^{b,c}

^a School of Chemical Engineering and Technology, Hebei University of Technology, Tianjin 300130, China

^b The State Key Laboratory of Elemento-Organic Chemistry, Nankai University, Tianjin 300071, China

^c Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300071, China

New magnetically recoverable cinchona alkaloid organocatalysts have been successfully developed for the asymmetric Michael addition reaction of 1,3-dicarbonyls and maleimides.



The effect of NDGA-modified etchant on the enzymatic degradation resistance and mechanical properties of collagen matrix

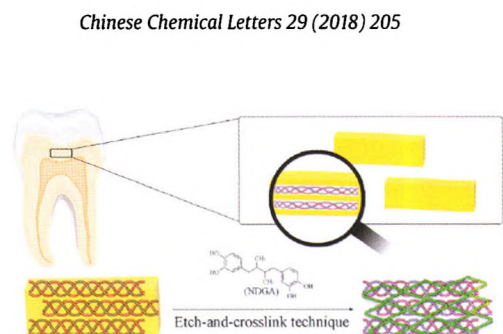
Shi-Qiang Gong^{a,1}, Zhen-Jie Xue^{b,1}, Shu-Teng Liao^a, Ya-Bo Wu^a, Yan Liu^c

^a Center of Stomatology, Tongji Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, China

^b Beijing National Laboratory for Molecular Science, Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, the Chinese Academy of Sciences, Beijing 100190, China

^c Laboratory of Biomimetic Nanomaterials, Department of Orthodontics, Peking University School and Hospital of Stomatology, National Engineering Laboratory for Digital and Material Technology of Stomatology, Beijing Key Laboratory of Digital Stomatology, Beijing 100081, China

Bio-modified etchant can significantly improve the biostability of demineralized dentin collagen matrix, which validates the concept of etch-andcrosslink in dentin bonding.



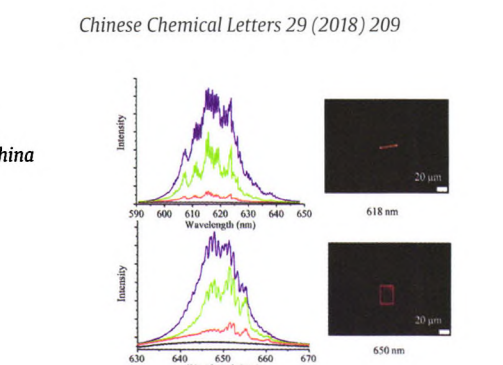
Tunable amplified spontaneous emissions by dimensional-controlled microcrystal synthesis

Hui-Ying Liu^a, Ye-Fen Li^a, Qing-Gang Gao^b, Zhen-Dong Liu^a, Hong-Bing Fu^a

^a School of Materials Science and Engineering, Beijing Institute of Fashion Technology, Beijing 100029, China

^b Beijing Key Laboratory for Optical Materials and Photonic Devices, Department of Chemistry, Capital Normal University, Beijing 100048, China

One-dimensional (1D) microwires and 2D microdisks of DMF-HPP0 have been selectively prepared by controlling the solution polarity. Tunable amplified spontaneous emissions are achieved and 1D microwire demonstrates sharp splitting photoluminescence peaks around 618 nm, while 2D microdisk shows a red-shifted emission central at 650 nm.



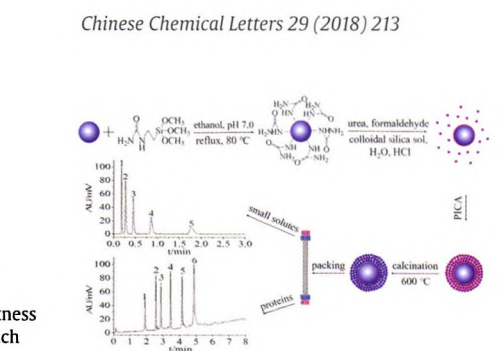
Synthesis of SiO₂@SiO₂ core-shell microspheres using urea-formaldehyde polymers as the templates for fast separation of small solutes and proteins

Guangping Wan, Hongjun Xia, Jun Wang, Jiawei Liu, Botao Song, Ying Yang, Quan Bai

^a Key Laboratory of Synthetic and Natural Functional Molecule Chemistry of Ministry of Education, Institute of Modern Separation Science, Key Lab of Modern Separation Science in Shaanxi Province, Northwest University, Xi'an 710069, China

^b Shaanxi Research Design Institute of Petroleum and Chemical Industry, Shaanxi Dangerous Chemical Supervision and Inspection Center, Xi'an 710054, China

The monodisperse superficially porous core-shell silica microspheres (CSSMs) with controllable shell thickness and pore size were synthesized by an improved polymerization-induced colloid aggregation (PICA) approach for fast separation of small solutes and proteins.



Responsible Institution: China Association for Science and Technology
Sponsor: Chinese Chemical Society
Institute of Materia Medica, Chinese Academy of Medical Sciences
Xuhong Qian
Editor-in-Chief:
Editor: Editorial Board of Chinese Chemical Letters
Address: Institute of Materia Medica, Chinese Academy of Medical Sciences
1 Xian Nong Tan Street, Beijing 100050, China
Tel: 86-10-63165638
E-mail: cclbj@imm.ac.cn
Website: www.chinchemlett.com.cn
Online Submission: www.ees.elsevier.com/ccllet
Publisher: Editorial Office of Chinese Chemical Letters
ELSEVIER B.V.

国内发行: 全国各地邮局

邮发代号: 2-915

定价: 50元/本; 600元/年

Available online at www.sciencedirect.com

ScienceDirect