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STM Image

STM Model

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Graphical Abstracts/Chin Chem Lett 24 (2013) iii-ix

Review

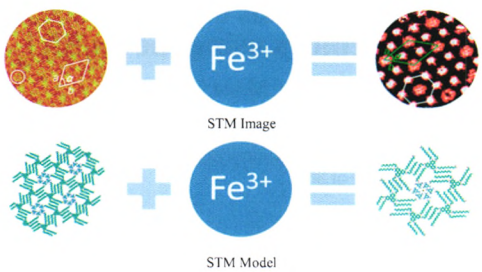
Construction of two-dimensional (2D) H-bonded supramolecular nanostructures studied by STM

Chinese Chemical Letters 24 (2013) 177

Jing Xu, Qing-Dao Zeng

National Center for Nanoscience and Technology (NCNST), Beijing 100190, China

In this review, a group of two-dimensional (2D) hydrogen-bonded supramolecular networks developed in our laboratory are discussed. Our attention is mainly focused on: (1) recognition of Fe^{3+} through two-component molecular networks; (2) site-selective fabrication of 2D fullerene arrays; and (3) fabrication of the nanoporous structure regulated by photoisomerization reaction process.



Original articles

Synthesis and antibacterial activity of novel 10,11-epoxy acylide erythromycin derivatives

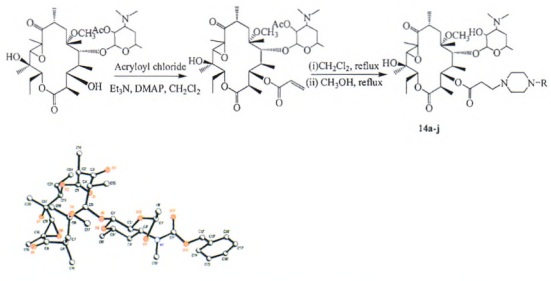
Chinese Chemical Letters 24 (2013) 183

Ying Nie[a], Yin Sun[b], Qi-Dong You[b]

[a]*Experimental Center of Pharmaceutical Science, China Pharmaceutical University, Nanjing 210009, China*

[b]*Jiangsu Key Laboratory of Drug Design and Optimization, China Pharmaceutical University, Nanjing 210009, China*

We have discovered a novel series of acylide antibiotics that employ a C-3 carbamate for attachment of the aryl-piperzine sidechain with 10,11-epoxy moiety. Meanwhile, the stereo configurations of the two chiral carbons in the cyclic formation are 10*R*, 11*S* based on the evidence from the X-ray crystallography.



Synthesis and cytotoxicity of dinuclear platinum(II) complexes of (1*S*, 3*S*)-1,2,3,4-tetrahydroisoquinolines

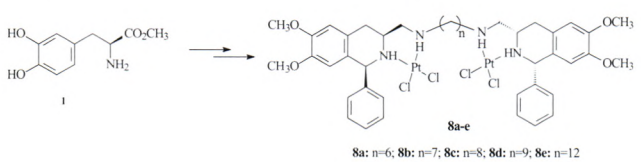
Chinese Chemical Letters 24 (2013) 186

Geng Xu[a], Ju Guo[a], Zheng Yan[b], Nan Wang[b], Zhan-Zhu Liu[a,b]

[a]*State Key Laboratory of Bioactive Substances and Functions of Natural Medicines, Institute of Materia Medica, Peking Union Medical College and Chinese Academy of Medical Sciences, Beijing 100050, China*

[b]*Beijing Key Laboratory of Active Substance Discovery and Druggability Evaluation, Institute of Materia Medica, Peking Union Medical College and Chinese Academy of Medical Sciences, Beijing 100050, China*

A series of novel dinuclear platinum(II) complexes with (1*S*, 3*S*)-1,2,3,4-tetrahydroisoquinolines as the ligands were synthesized and their cytotoxicity were screened.



doi:10.1016/S1001-8417(13)00113-7

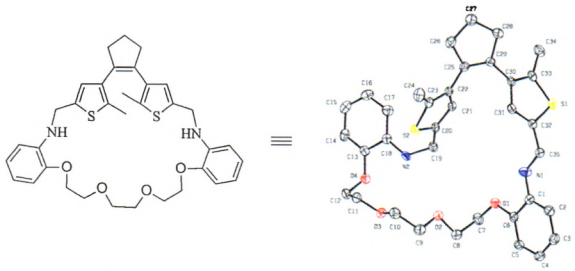
Chinese Chemical Letters 24 (2013) 189

Synthesis and properties of template-promoted switchable dithienylethene-based macrocycles

Zi-Yong Li[a], Wen Xue[a], Guo-Xing Liu[a], Di Wua, Ting-Ting Li[b], Sheng-Hua Liu[a], Jun Yin[a]

[a]*Key Laboratory of Pesticide and Chemical Biology, Ministry of Education, College of Chemistry, Central China Normal University, Wuhan 430079, China*
[b]*Institute of Hydrobiology, Chinese Academy of Sciences, Wuhan 430079, China*

Three switchable macrocycles based on photochromic dithienylethene were synthesized under the template of dibenzylammonium hexafluorophosphate. Their structure were well-confirmed by NMR, ESI-MS and X-ray diffraction. Their photochromism indicated that they showed good reversibility in solution. Additionally, the theoretical calculation suggested that photoirradiation can change the cavity of macrocycles.



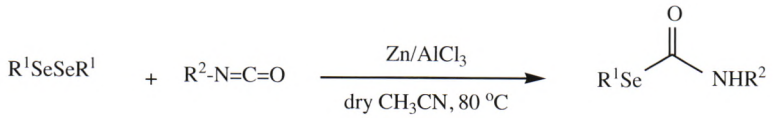
Chinese Chemical Letters 24 (2013) 192

One-pot synthesis of selenocarbamates from isocyanates and diselenides using the Zn/$AlCl_3$ system

Barahman Movassagh, Mona Moradi

Department of Chemistry, K.N. Toosi University of Technology, P.O. Box 16315-1618, Tehran, Iran

Several *N*-alkyl/aryl-*Se*-alkyl/(aryl)selenocarbamates were prepared from various isocyanates and diselenides by reductive cleavage of Se–Se bond with the Zn/$AlCl_3$ system in dry acetonitrile at 80 °C.



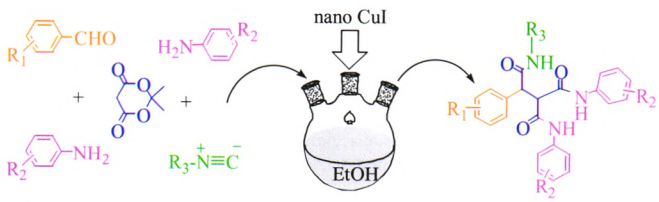
Chinese Chemical Letters 24 (2013) 195

Pseudo five-component process for the synthesis of functionalized tricarboxamides using CuI nanoparticles as reusable catalyst

Abolfazl Ziarati, Javad Safaei-Ghomi, Sahar Rohani

Department of Organic Chemistry, Faculty of Chemistry, University of Kashan, Kashan 51167, Islamic Republic of Iran

Reusable nano CuI catalyzed the preparation of tricarboxamides in high yields.



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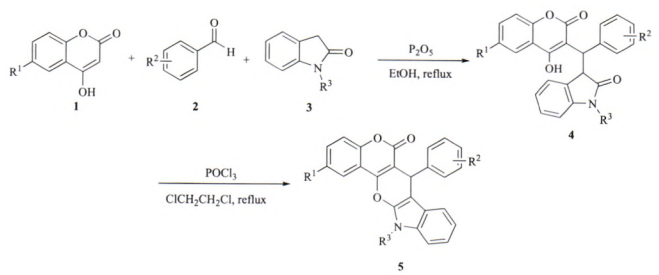
An efficient synthesis of novel chromeno[3′,4′:5,6] pyrano[2,3-*b*]indole derivatives

Zhi-Wei Chen, Na Zhang, Zhi-Hua Wang, Wei-Ke Su

Key Laboratory for Green Pharmaceutical Technologies and Related Equipment of Ministry of Education, College of Pharmaceutical Sciences, Zhejiang University of Technology, Hangzhou 310014, China

An efficient two-step method was described for the synthesis of chromeno[3′,4′:5,6] pyrano[2,3-*b*]indole derivatives. The three-component reaction of 4-hydroxy-coumarin, variously substituted benzaldehydes and indolin-2-one was promoted by P_2O_5 in refluxing ethanol to give trimolecular adducts, which were then cyclized in 1,2-dichloroethane under reflux when using $POCl_3$.



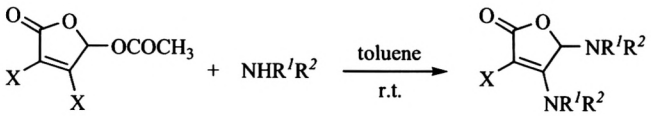
Chinese Chemical Letters 24 (2013) 202

Selective amination of the mucohalic acid derivatives

Tian-Cai Li[a], Cou-Xi Chen[a], Xue-Qiang Li[a,b], Xiao-Hui Gao[a]

[a]*School of Chemistry and Chemical Engineering, Ningxia University, Yinchuan 750021, China*
[b]*Ningxia Development Center of Natural Products and Medication, Ningxia University, Yinchuan 750021, China*

An efficient synthesis of 4,5-diamino-3-halofuran-2(5*H*)-ones was controlled by a regioselectivity of amination reaction under ambient temperature and without a catalyst.



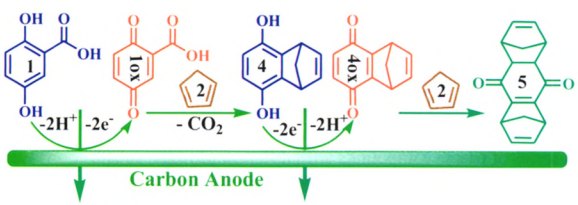
Chinese Chemical Letters 24 (2013) 205

Oxidative Diels–Alder reaction of 2,5-dihydroxybenzoic acid with 1,3-cyclopentadiene

Davood Nematollahi, Adel Ghorbani, Amene Amani, Hamid Salehzadeh, Hadi Beiginejad

Faculty of Chemistry, Bu-Ali Sina University, Hamedan 65178-38683, Iran

Compound **1** was converted into bis-adduct **5** *via* electrooxidation, Diels–Alder reaction, decarboxylation reaction, electrooxidation and Diels–Alder reaction.



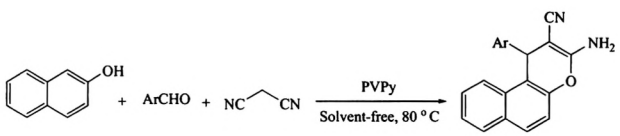
Chinese Chemical Letters 24 (2013) 208

Poly(4-vinylpyridine): As a green, efficient and commercial available basic catalyst for the synthesis of chromene derivatives

Jalal Albadi[a], Azam Mansournezhad[b], Mohammad Darvishi-Paduk[b]

[a]*College of Science, Behbahan Khatam Alanbia University of Technology, Behbahan, Iran*
[b]*Department of Chemistry, Gachsaran Branch, Islamic Azad University, Gachsaran, Iran*

Efficient synthesis of chromene derivatives catalyzed by poly(4-vinylpyridine) as a commercial basic catalyst is reported.



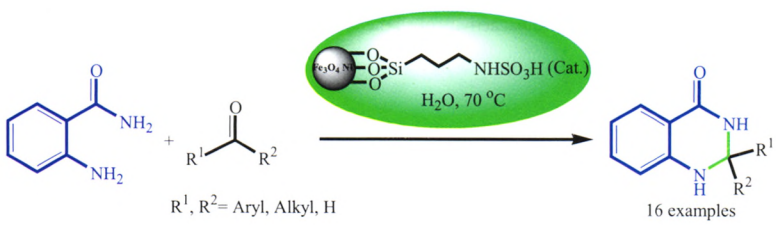
Chinese Chemical Letters 24 (2013) 211

Supported *N*-propylsulfamic acid on magnetic nanoparticles used as recoverable and recyclable catalyst for the synthesis of 2,3-dihydroquinazolin-4(1*H*)-ones in water

Amin Rostami[a], Bahman Tahmasbi[b], Hoshyar Gholami[b], Hajir Taymorian[b]

[a]*Young Researchers and Elites Club, Sanandaj Branch, Islamic Azad University, Sanandaj, Iran*
[b]*Department of Chemistry, Faculty of Science, University of Kurdistan, Zip Code 66177-15175, Sanandaj, Iran*

MNPs-PSA was used as an interphase magnetically nanocatalyst for the synthesis of 2,3-dihydroquinazolin-4(1*H*)-ones in water. The catalyst was easily recovered and reused for 10 times without any significant loss in catalytic activity.



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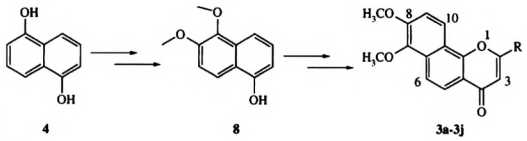
Design and synthesis of new 7,8-dimethoxy-α-naphthoflavones as CYP1A1 inhibitors

Jia-Hua Cui, Dagula Hu, Xu Zhang, Zheng Jing, Jing Ding, Ru-Bing Wang, Shao-Shun Li

School of Pharmacy, Shanghai Jiaotong University, Shanghai 200240, China

A series of new 7,8-dimethoxy-α-naphthoflavones were synthesized using 1,5-dihydroxynaphthalene as the starting material. These compounds exhibited potent inhibitory effects on recombined human CYP1A1 enzyme *in vitro*.



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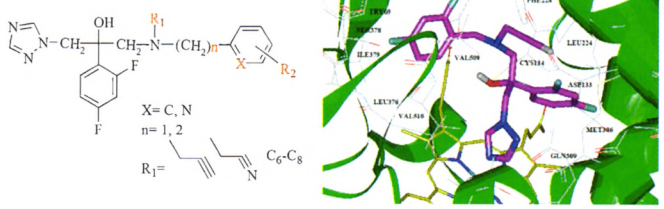
Synthesis and biological evaluation of novel triazole derivatives as antifungal agents

Hui Tang[b], Can-Hui Zheng[a], Xiao-Hui Ren[a], Jia Liu[a], Na Liu[a], Jia-Guo Lv[a], Ju Zhu[a], You-Jun Zhou[a]

[a]*School of Pharmacy, Second Military Medical University, Shanghai 200433, China*
[b]*Pharmacy, Provincial Hospital Affiliated to Shandong University, Jinan 250021, China*

A series of triazle compounds with different nitrogen substitutions were synthesized. Compound **6A8** showed the strongest antifungal activity.



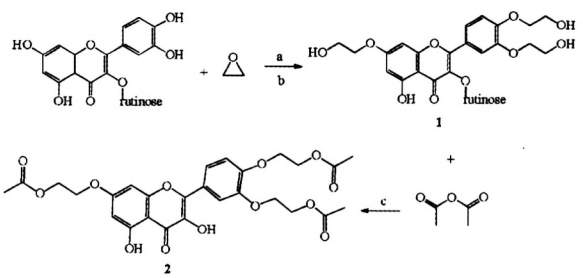
Chinese Chemical Letters 24 (2013) 223

Synthesis and antioxidant activities of flavonoids derivatives, troxerutin and 3', 4', 7-triacetoxyethoxyquercetin

Jian-Dong Xu, Li-Wei Zhang, Yu-Fa Liu

College of Chemistry, Chemical Engineering and Materials Science, Engineering Research Center of Pesticide and Medicine Intermediate Clean Production, Ministry of Education, Shandong Normal University, Jinan 250014, China

The compound **2** was synthesized for the first time by highly selective esterification reaction and fully characterized. The by-products of the reaction were complex, which brought out many considerable difficulties in separation and purification of the target product. Our work was the first in using the improved pyrogallol autoxidation method to test the antioxidant activities of these two flavonoids compounds *in vitro* and discovered that the compound **2** was much more effective as a free radical scavenger than the compound **1**.



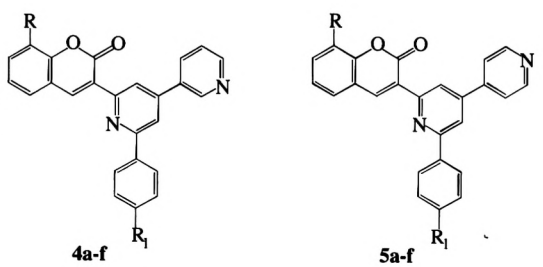
Chinese Chemical Letters 24 (2013) 227

An efficient synthesis of some new 3-bipyridinyl substituted coumarins as potent antimicrobial agents

Hemali B. Lad, Rakesh R. Giri, D.I. Brahmbhatt

Department of Chemistry, Sardar Patel University, Vallabh Vidyanagar 388120, Gujarat, India

The title compounds **4a–f** and **5a–f** were synthesized by reaction of appropriate 3-coumarinoyl methyl pyridinium salt **1a–b** with various pyridinyl chalcones **2a–c** and **3a–c**, respectively under Krohnke's reaction condition. Antimicrobial activity of all the synthesized compounds was carried out.



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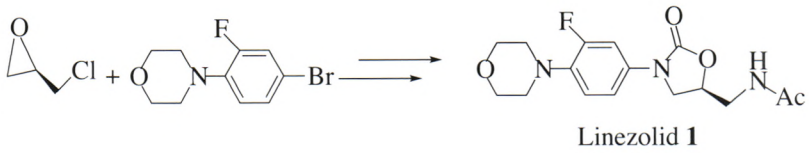
A facile synthesis of the oxazolidinone antibacterial agent linezolid

Yan-Wu Li, Yan Liu, Yun-Can Jia, Jian-Yong Yuan

Institute of Life Science & Pharmacy College, Chongqing Medical University, Chongqing 400016, China

A facile synthetic route of linezolid **1** has been developed from commercially available material (*R*)-epichlorohydrin. The synthetic route is easy to perform and can be scaled up.



Linezolid **1**

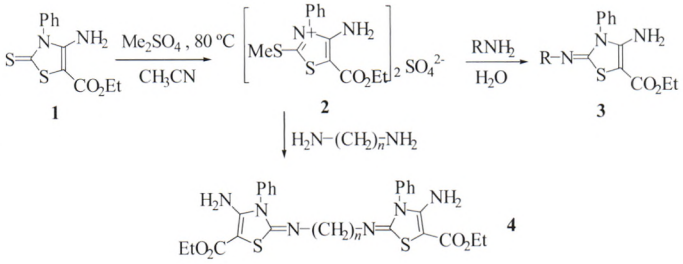
Chinese Chemical Letters 24 (2013) 233

Synthesis, characterization and herbicidal activity of new thiazoline derivatives

Jian-Chao Liu[a], Ying Liang[b], Hong-Wu He[a]

[a]*College of Chemistry, Central China Normal University, Wuhan 430079, China*
[b]*Hubei Biopesticide Engineering Research Center, Hubei Academy of Agricultural Science, Wuhan 430064, China*

A series of new thiazoline derivatives have been synthesized. Some target compounds exhibited high or moderate herbicidal activities.



1 **2** **3** **4**

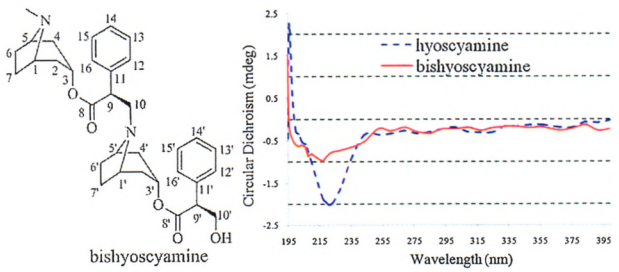
Chinese Chemical Letters 24 (2013) 236

Bishyoscyamine, one unusual dimeric tropane alkaloid from *Anisodus acutangulus*

Chang-An Geng, Yun-Bao Ma, Ji-Jun Chen

State Key Laboratory of Phytochemistry and Plant Resources in West China, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming 650201, China

One unusual tropane alkaloid dimer, bishyoscyamine, was isolated from the roots of *Anisodus acutangulus*.



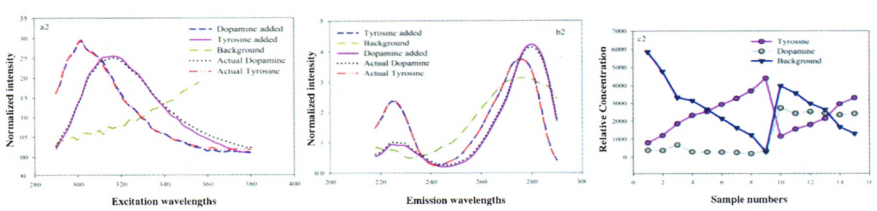
bishyoscyamine

Chinese Chemical Letters 24 (2013) 239

Simultaneous determination of tyrosine and dopamine in urine samples using excitation–emission matrix fluorescence coupled with second-order calibration

Shan-Shan Li, Hai-Long Wu, Ya-Juan Liu, Hui-Wen Gu, Ru-Qin Yu

State Key Laboratory of Chemo/Biosensing and Chemometrics, College of Chemistry and Chemical Engineering, Hunan University, Changsha 410082, China



In this study, we have successfully developed a "green" and fast method for quantitative analysis of tyrosine and dopamine in human urine samples by using second-order calibration methods, for the excitation–emission matrix fluorescence (EEM) data, based on both the parallel factor analysis (PARAFAC) and the self-weighted alternating trilinear decomposition (SWATLD) algorithms.

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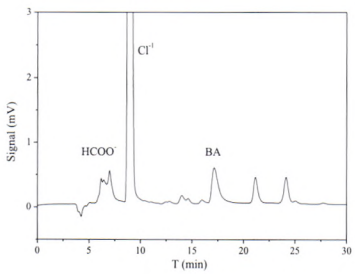
Determination of benzoic acid in milk by solid-phase extraction and ion chromatography with conductivity detection

Zong-Hua Wang[a], Jian-Fei Xia[a], Fu-Yong Zhao[a,b], Qiang Han[a], Xin-Mei Guo[a], Hui Wang[c], Ming-Yu Ding[c]

[a]*Laboratory of Fiber Materials and Modern Textile, The Growing Base for State Key Laboratory, College of Chemical and Environment Engineering, Qingdao University, Qingdao 266071, China*
[b]*Metrohm China Ltd., Beijing 100005, China*
[c]*Beijing Key Laboratory for Microanalytical Methods and Instrumentation, Department of Chemistry, Tsinghua University, Beijing 100084, China*

A simple, fast, precise and eco-friendly method, based on ion chromatography (IC) with a suppressed conductivity detector, was proposed for the determination of benzoic acid (BA) in milk in this paper.



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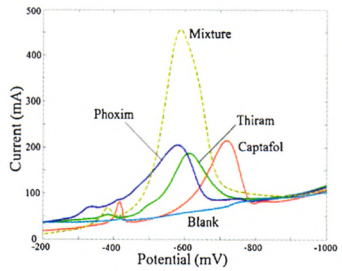
Application of artificial neural networks to the determination of pesticides by linear sweep stripping voltammetry

Ping Qiu[a], Yong-Nian Ni[a,b], Serge Kokot[c]

[a]*Key Laboratory of Food Science and Technology, Nanchang University, Nanchang 330047, China*
[b]*Department of Chemistry, Nanchang University, Nanchang 330031, China*
[c]*School of Chemistry, Physics and Mechanical Engineering, Faculty of Science and Engineering, Queensland University of Technology, Brisbane 4001, Australia*

Artificial neural network, a chemometric approach, was applied to determine three pesticides in mixtures by linear sweep stripping voltammetry.



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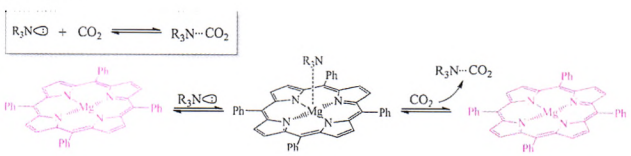
Supramolecular binding of amines with functional magnesium tetraphenylporphyrin for CO_2 capture

Fei Gao[a], Jian-Bin Zhang[a], Chun-Ping Li[a], Tian-Rui Huo[a], Xiong-Hui Wei[b]

[a]*College of Chemical Engineering, Inner Mongolia University of Technology, Huhhot 010051, China*
[b]*Department of Applied Chemistry, College of Chemistry & Molecular Engineering, Peking University, Beijing 100871, China*

Magnesium tetraphenyl porphyrin (MgTPP) serves as a renewable amine-fixing agent to reduce amine losses in CO_2 capture.



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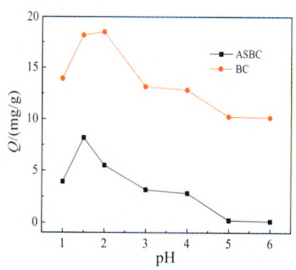
Characteristic and mechanism of Cr(VI) adsorption by ammonium sulfamate-bacterial cellulose in aqueous solutions

Min Lu[a], Xiao-Hui Guan[a], Xiao-Hui Xu[a], De-Zhou Wei[b]

[a]*School of Chemical Engineering, Northeast Dianli University, Jilin 132012, China*
[b]*School of Resources & Civil Engineering, Northeastern University, Shenyang 110004, China*

A new adsorbent, ammonium sulfamate-bacterial cellulose (ASBC) was prepared by taking ammonium sulfamate as a monomer. The process and mechanism of adsorbing Cr(VI) were measured and studied, which would offer a theoretical support for its practical applications.



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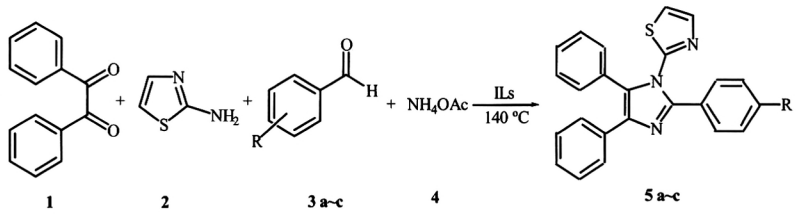
Synthesis, fluorescence properties and selective Cr(III) recognition of tetraaryl imidazole derivatives bearing thiazole group

Bing Zhao, Ya-Cui Zhou, Meng-Jiao Fan, Zhi-Yu Li, Li-Yan Wang, Qi-Gang Deng

Chemistry and Chemical Engineering Institute, Qiqihar University, Qiqihar 161006, China

Tetraaryl imidazole derivative bearing thiazole group displays high selectivity and sensitivity for Cr^{3+} ions. The complexation ratio of compound **5a** and Cr^{3+} is 1:1.



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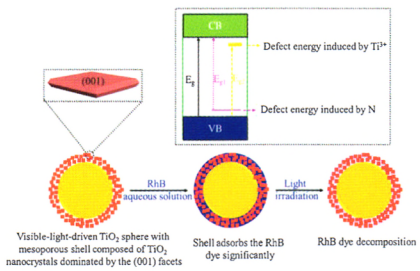
Synthesis of visible-light-driven TiO_2 yolk–shell spheres with {0 0 1} facets dominated mesoporous shells

Hui Wang, Bi-Li Wang, Shu-Yun Ma

Institute of Science, PLA University of Science & Technology, Nanjing 211101, China

Yolk–shell TiO_2 microspheres with its mesoporous shell consisted of {0 0 1} facets dominated nanocrystals were prepared. The unique structure of as-prepared TiO_2 photocatalyst gives high ability toward visible light absorption and organic pollutant degradation.



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