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学术动态

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(YOUJI HUAXUE)

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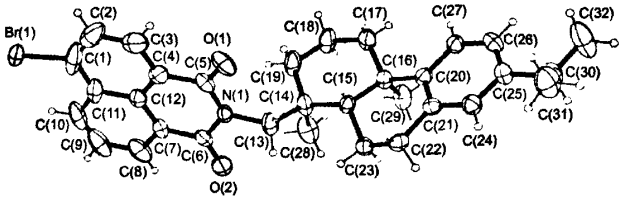
CONTENTS

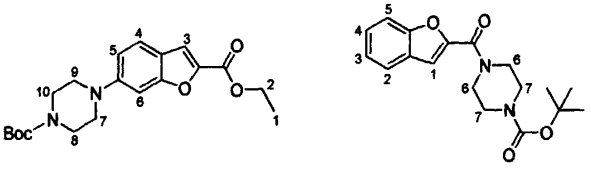
Synthesis of Some Novel 1,8-Naphthalimides Bearing Dehydroabietyl Rosin Skeleton and Their Anion Recognition



Some novel 1,8-naphthalimide derivatives bearing dehydroabietyl skeleton were synthesized from dehydroabietylamine. The abilities of anion recognition by these 1,8-naphthalimide derivatives had been investigated. The compound **2b** was characterized by X-ray diffraction method.

Zhang, Ye; Feng, Shaobo; Pan, Yingming; Yi, Xianghui; Wang, Hengshan*
Chin. J. Org. Chem. **2010**, *31*(2), 197

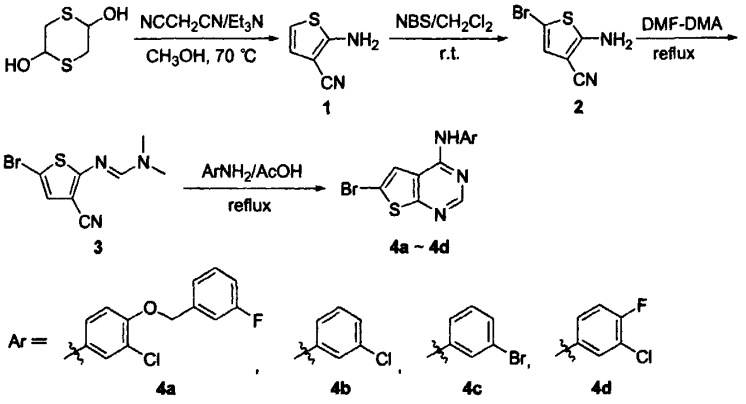
Synthesis of Ethyl 5-(4-*tert*-Butyloxycarbonyl-1-piperazinyl)benzofuran-2-carboxylate



Buchwald-Hartwig coupling reaction between ethyl 5-bromobenzofuran-2-carboxylate and *tert*-butyl piperazine-1-carboxylate was studied.

Feng, Jing; Wang, Chengyun; Zhou, Changkai; Zuo, Hujin; Shen, Yongjia*
Chin. J. Org. Chem. **2011**, *31*(2), 203

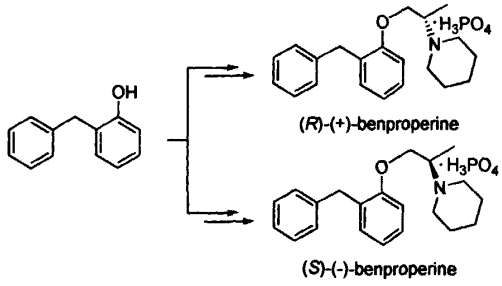
A Novel Synthetic Method for 6-Bromo-*N*-arylthieno[2,3-*d*]pyrimidin-4-amines



A novel synthetic method for 6-bromo-*N*-[3-chloro-4-(3-fluorobenzyloxy)phenyl]-thieno[2,3-*d*]pyrimidin-4-amine was reported, which began from cheap 2,5-dihydroxy-1,4-dithiane and malononitrile, following Gewald reaction, aromatic ring bromonation, condensation, cyclization and then Dimroth rearrangement reaction. The over yield was 56.9%. The structures of synthesized compounds were determined by ^{1}H NMR, IR, MS and HRMS techniques.

Zhan, Dongmei; Li, Siyuan; Zhao, Hongli; Lan, Minbo*
Chin. J. Org. Chem. **2011**, *31*(2), 207

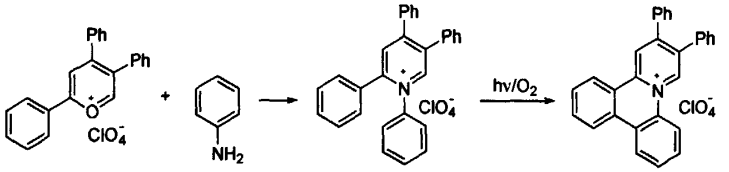
A New Method for Synthesis of (*R*)-(+) and (*S*)-(−)-Benproperine Phosphate Enantiomers



A new and practical procedure is described for the preparation of benproperine phosphate enantiomers from the source of *o*-benzylphenol and (*S*)-epichlorohydrin. The improved method was suitable for manufacturing in commercial scale because of mild reaction conditions, simple operation and high yields.

Wang, Xiaojuan; Guo, Linlin; Chen, Guanwei; Xu, Yonggang; Guo, Xiao; Xu, Haiwei; Liu, Hongmin*
Chin. J. Org. Chem. **2011**, *31*(2), 212

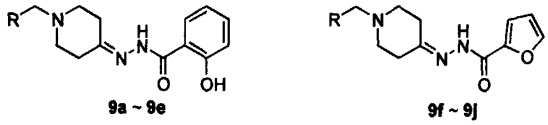
Synthesis of α-Monosubstituted Pyridinium Salts and Their Photochemical Reaction



α-Monosubstituted pyridinium was synthesized via a novel reaction of 2,4,5-triphenylpyrylium with primary amines. Phenanthridinium was synthesized via photochemical reaction of α-monosubstituted pyridinium. The effect of N-substituents and molecular structure on the fluorescence properties was studied.

Li, Gang; Gong, Weitao; Ye, Junwei; Lin, Yuan; Ning, Guiling*
Chin. J. Org. Chem. **2011**, *31*(2), 216

Synthesis and Anti-leukemia Activity of 1-Substituted Piperidin-4-one Arylformylhydrazones



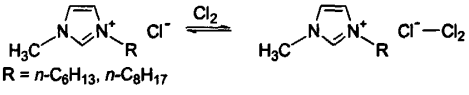
9a ~ 9e **9f ~ 9j**

9a: R = 4-MeC_6H_4; **9b**: R = 4-$MeOC_6H_4$; **9c**: R = 4-FC_6H_4; **9d**: R = 4-BrC_6H_4;
9e: R = 2-Tetrahydrofuryl; **9f**: R = 4-MeC_6H_4; **9g**: R = 4-$MeOC_6H_4$; **9h**: R = 4-FC_6H_4;
9i: R = 4-BrC_6H_4; **9j**: R= 2-Tetrahydrofuryl

Ten novel 1-substituted piperidin-4-one arylformylhydrazones **9a**~**9j** were synthesized with substituted benzylamines or primary amines as raw materials via a series of Michael addition, Dieckmann condensation, hydrolytic decarboxylation reactions and hydrazone formation reactions. Their structures were elucidated and confirmed by ^1H NMR, IR, MS techniques and elemental analysis. The preliminary biologic activity tests indicate that some of the target compounds have good antiproliferative activities against K562 cells and have potential anti-leukemia bioactivity.

Ni, Zhenjie; Xue, Sijia*; Wang, Jing; Meng, Weng
Chin. J. Org. Chem. **2011**, *31*(2), 222

Alkylimadazolium Chlorode: A Medium of Chlorine Absorption and Chlorination

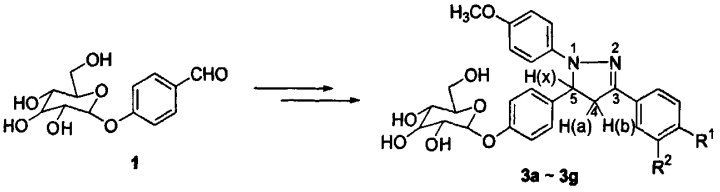


R = *n*-C_6H_{13}, *n*-C_8H_{17}

The ionic liquids containing trichloride ion, 1-methyl-3-*n*-hexylimadazolium trichloride ([HeMIM][Cl_3]) and 1-methyl-3-*n*-octylimadazolium trichloride ([OcMIM][Cl_3]), were synthesized by bubbling purified chlorine gas into the ionic liquids containing chloride ion, 1-methyl-3-*n*-hexylimadazolium chloride ([HeMIM]Cl) and 1-methyl-3-*n*-octylimadazolium chloride ([OcMIM]Cl), at room temperature and possess an excellent performance as chlorinating agent for the chlorination of some organic substrates including alkenes, ketones and arenes.

Shi, Shenyi; Kong, Aiguo; Shan, Yongkui*
Chin. J. Org. Chem. **2011**, *31*(2), 227

Synthesis and Calm Activity of Helicid-Pyrazoline Derivatives

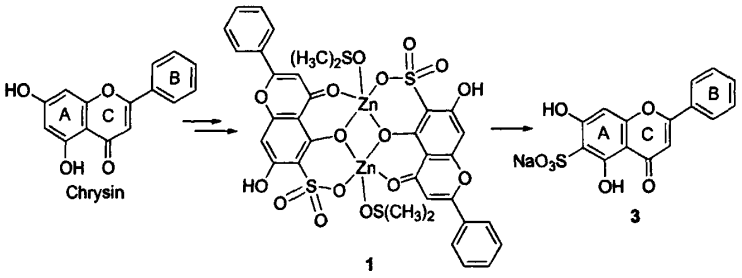


1 **3a ~ 3g**

Seven novel helicid-pyrazoline derivatives **3a**~**3g** were designed and synthesized via condensation of helicid, substituted hypnone and 4-methoxy-phenylhydrazine. Their chemical structures were confirmed by ^1H NMR, IR and HRMS technique, and the calm activity was studied as well. The preliminary bioassay test showed that some of the compounds had good calm activity.

Chen, Huafeng; Chen, Huawen; Bai, Xue; Li, Ying; Yin, Shufan*
Chin. J. Org. Chem. **2011**, *31*(2), 231

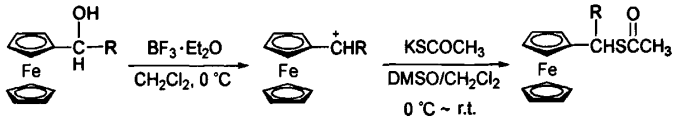
Coordination and Fluorescence of Chrysin-6-sulfonate with Al(III)



The mixture of sodium chrysin-6-sulfonate and chrysin-8-sulfonate was obtained by sulfonating chrysin and then reacted with $ZnSO_4$ to get the corresponding Zn derivatives, which were separated according to the difference of their solubility in hot water. The pure Zn chrysin-6-sulfonate was transfered to the corresponding pure sodium sulfonate by the coordination and depolymerization procedures. Sodium 5,7-bihydroxyflavone-6-sulfonate (sodium chrysin-6-sulfonate) as a ligand reacted with Al(III) to afford a aluminium complex. And the fluorescence of the aluminium complex is explored as well.

Shi, Juan
Chin. J. Org. Chem. **2011**, *31*(2), 235

Studies on the Reaction of α-Ferrocenylalkyl Carbocations with Potassium Thioacetate



A convenient method for the preparation of α-ferrocenylthioacetate derivatives is reported. Ferrocenylmethanol derivatives were treated with $BF_3 \cdot Et_2O$ in CH_2Cl_2 to generate the corresponding carbocations, which reacted with potassium thioacetate to afford α-ferrocenylthioacetate products.

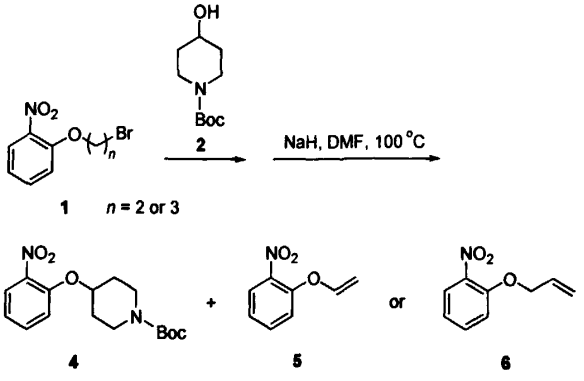
Chen, Shufeng; Jiao, Lizhou; Li, Baoguo*
Chin. J. Org. Chem. **2011**, *31*(2), 239

Synthesis of 5-Arylidene-2,3-diaryl-4-thiazolidinones under Microwave Irradiation

A series of new 5-arylidene-2,3-diaryl-4-thiazolidinone derivatives were synthesized by the reaction of aromatic aldehydes with 4-thiazolidinone using TBAB as catalyst in aqueous media under microwave irradiation. The procedure has the advantages of short reaction time, high yield, environmental benign and easy workup. Their structures were confirmed by ^1H NMR, IR, MS techniques and elemental analysis, and compound **4a** was analyzed by X-ray single-crystal diffraction.

Sun, Xiaojun*; Zhou, Jianfeng; Zhu, Huiqin
Chin. J. Org. Chem. **2011**, *31*(2), 242

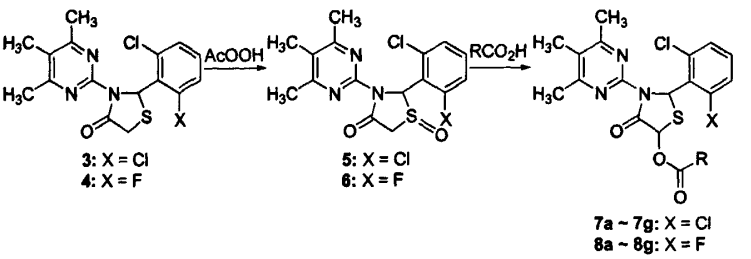
Unexpected Substitution of Alkyloxy-nitrobenzene



The unexpected product from reaction of 2-(2-nitrophenoxy)-1-bromoethane or 3-(2-nitrophenoxy)-1-bromopropane with *N*-Boc-4-hydroxypiperidine was obtained and the data of ^1H NMR, ^{13}C NMR and LC-MS of the product indicated that no Williamson reaction happened, instead, the alkyloxy in alkyloxy-nitrobenzene was substituted by *N*-Boc-4-hydroxypiperidine. Based on the fact, possible mechanism of the reaction was discussed.

Zhang, Pei; Tong, Yuanfeng; Wang, Dongmei; Wu, Song*
Chin. J. Org. Chem. **2011**, *31*(2), 246

Synthesis of 2-(2,6-Dihalophenyl)-3-(4,5,6-trimethyl-pyrimidin-2-yl)-4-oxothiazolidin-5-yl Carboxylates by Pummerer Reaction



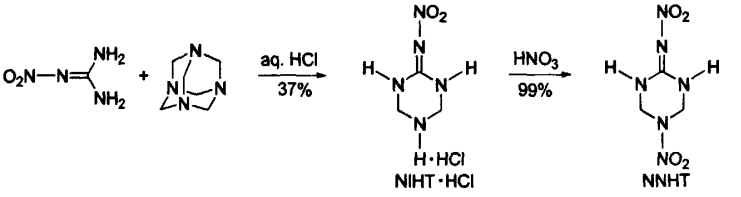
a R = CH_3; **b** R = CH_2CH_3; **c** R = $(CH_2)_2CH_3$; **d** R = $(CH_2)_4CH_3$; **e** R = $(CH_2)_6CH_3$; **f** R = $(CH_2)_8CH_3$; **g** R = $(CH_2)_{10}CH_3$

Chen, Hua*; Guo, Zaihong; Yin, Qingmei; Li, Xiaoliu*

Chin. J. Org. Chem. **2011**, *31*(2), 249

A series of novel 2-(2,6-dihalophenyl)-3-(4,5,6-trimethyl-pyrimidin-2-yl)-4-oxothiazolidin-5-yl carboxylates (**7a**~**7g** and **8a**~**8g**) were synthesized by Pummerer reaction in good yields (62.2~85.5%) using the corresponding fatty acid as the reagent, catalyst, and solvent.

A Novel Synthetic Method of 2-Nitroimino-5-nitro-hexahydro-1,3,5-triazine (NNHT)

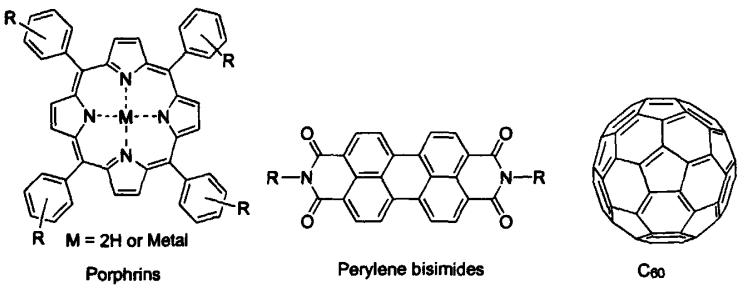


Li, Yongxiang; Wang, Jianlong*; Wang, Yanhong; Cao, Duanlin; Li, Jiandong; Yu, Yanrong

Chin. J. Org. Chem. **2011**, *31*(2), 256

A novel synthetic method of 2-nitroimino-5-nitro-hexahydro-1,3,5-triazine (NNHT) was described. NNHT was synthesized using nitroguanidine, urotropine, concentrated hydrochloric acid as row material.

New Progress in Study of Organic Solar Cell Materials



Zhang, Tianhui; Piao, Lingyu*; Zhao, Suling*; Xu, Zheng; Yang, Lei; Liu, Xiangzhi; Ju, Siting

Chin. J. Org. Chem. **2011**, *31*(2), 260

The background, principle and sorts of organic solar cell have been reviewed. The organic solar cell materials are presented in detail, which includes small molecule solar cell material, macromolecule solar cell material, D-A material and inorganic/organic hybrid material.

Highlights

Chin. J. Org. Chem. **2011** *31*(2), 273