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Chinese Journal of Organic Chemistry

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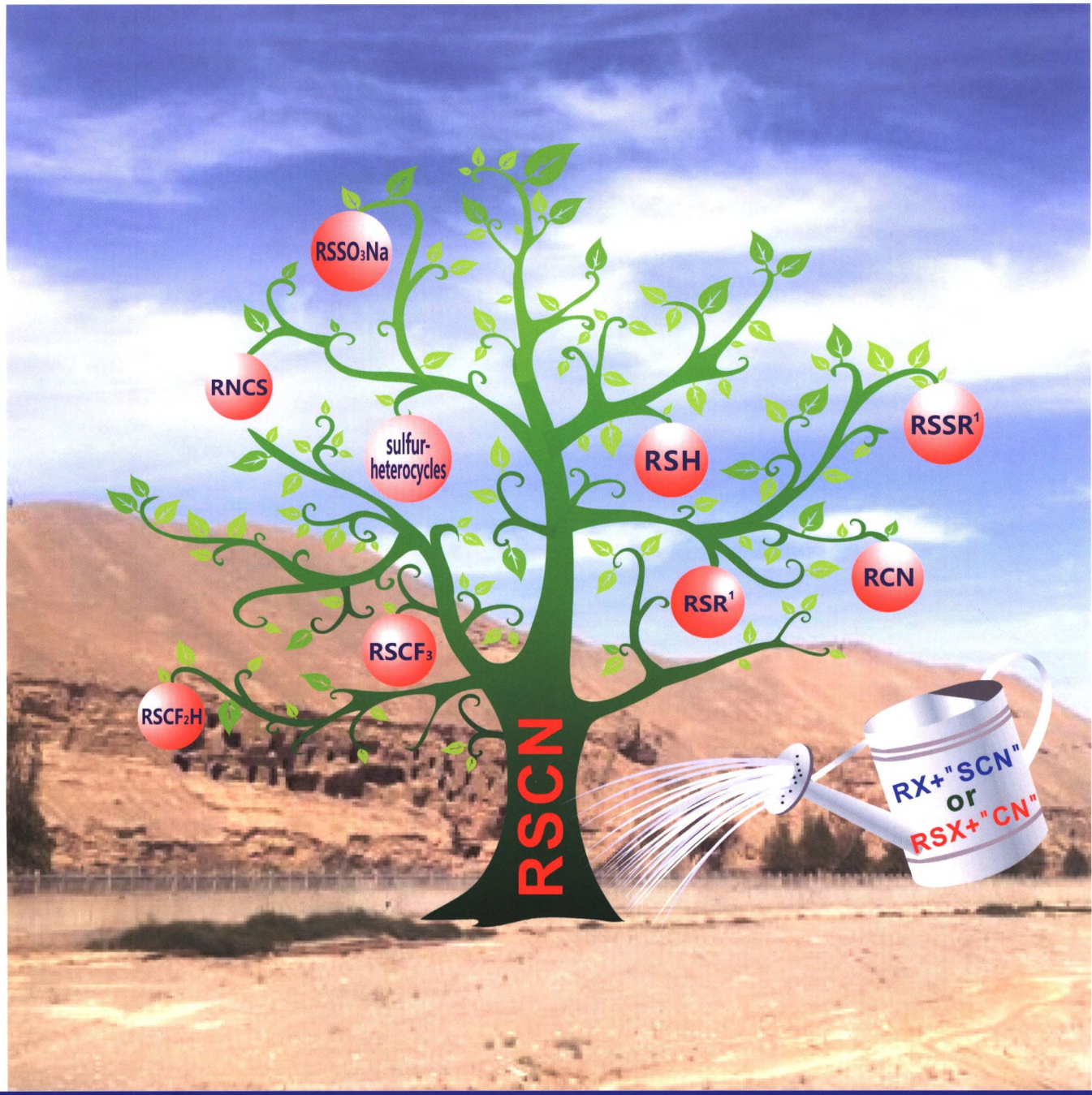

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综述与进展

研究论文

* 通讯联系人.

研究简报

Chinese Journal of Organic Chemistry

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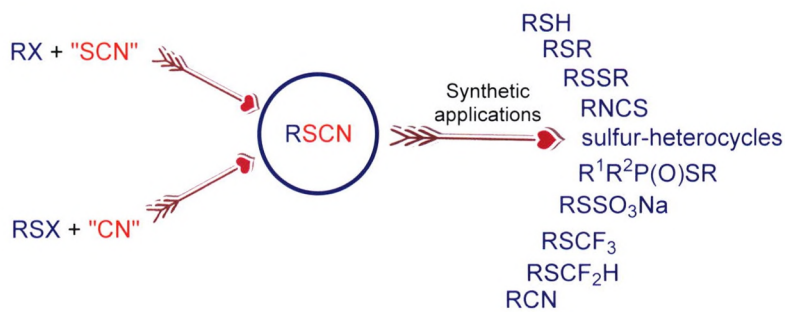
On the Cover

Thiocyanates (RSCN) are very useful and important chemical intermediates to access valuable sulfur-containing compounds. Different preparation and transformation about this class of compounds have achieved great a advance. The recent progresses on the synthesis and synthetic applications of thiocyanates are summarized by Xu, Zhang, Feng and Jin on page 287, which may provide assistance for the studies of thiocyanates in this area.

REVIEWS

Progress on the Synthesis and Applications of Thiocyanates

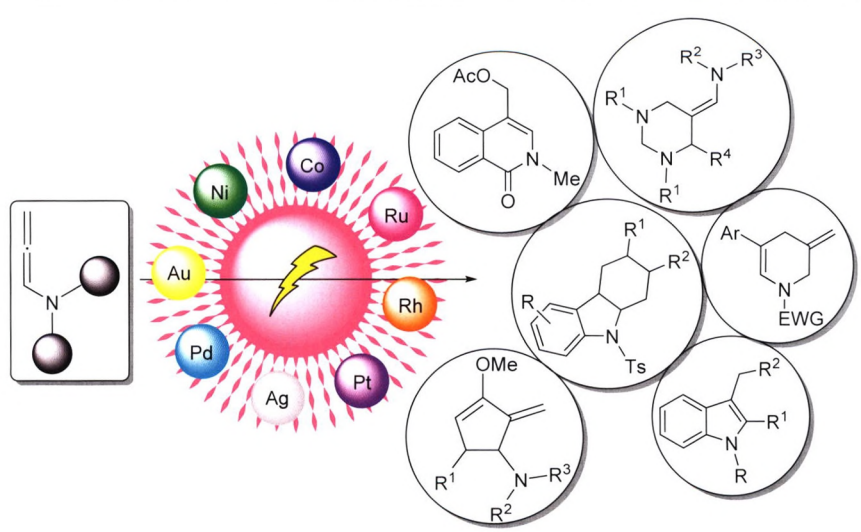


Thiocyanates (RSCN) are important synthetic intermediates, which have been widely used for the synthesis of pesticides, medicines and materials. In recent years, great advances in the synthesis and transformations of this class of compounds have been made, and many synthetic applications of those compounds have been emerged. In this review, the synthetic methods and transformations of thiocyanates are introduced systematically, which may provide assistance for the studies of thiocyanates in this area.

Xu, Qing; Zhang, Lianyang; Feng, Gaofeng; Jin, Cheng'an*

Chin. J. Org. Chem. **2019**, *39*(2), 287

Recent Advances on Transition-Metal-Catalyzed Allenamides Cyclization



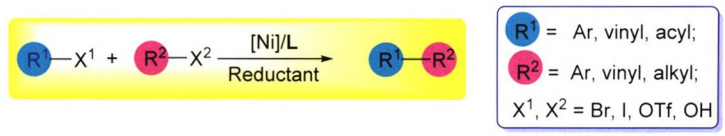
The recent progress in transition-metal-catalyzed allenamides cyclization is reviewed. For most of these transformations, the plausible mechanisms are demonstrated in details. Clarification of these issues is the key point for understanding this field and developing new high performance methodologies.

Geng, Dianguo*

Chin. J. Org. Chem. **2019**, *39*(2), 301

CONTENT

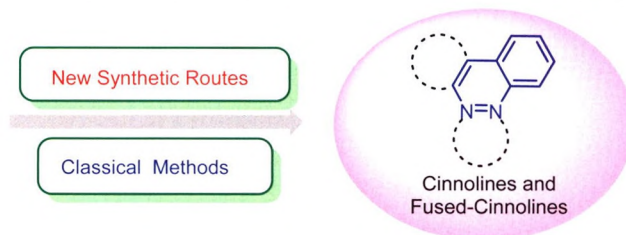
Recent Advance in Ni-Catalyzed Reductive Cross-Coupling to Construct C(sp^2)—C(sp^2) and C(sp^2)—C(sp^3) Bonds



Li, Yaqiong; Fan, Yuhang; Jia, Qianfa*
Chin. J. Org. Chem. **2019**, *39*(2), 350

The recent progress in the research of Ni-catalyzed cross-electrophile coupling of C(sp^2)—X with C(sp^2)—X/C(sp^3)—X is reviewed. The leaving groups, the effects of catalysts/ligands and the reaction mechanism are mainly discussed.

Progress in the Synthesis of Cinnoline Derivatives

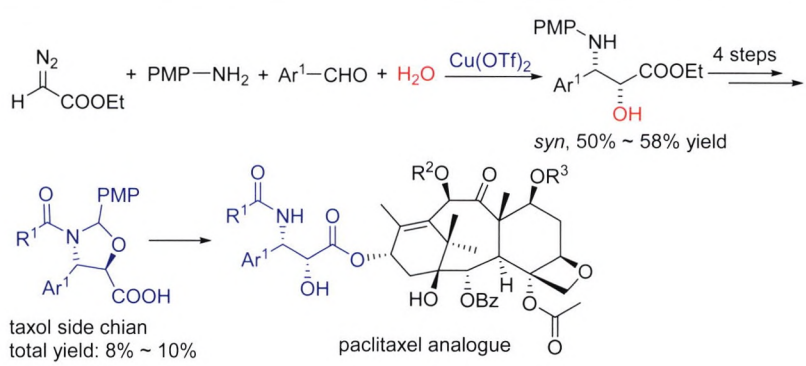


Su, Lin; Hou, Wei*
Chin. J. Org. Chem. **2019**, *39*(2), 363

Recent progress of the synthetic routes to cinnolines based on different synthetic strategies and raw materials is reviewed. Finally, the future development of synthetic methods and their application are also prospected.

ARTICLES

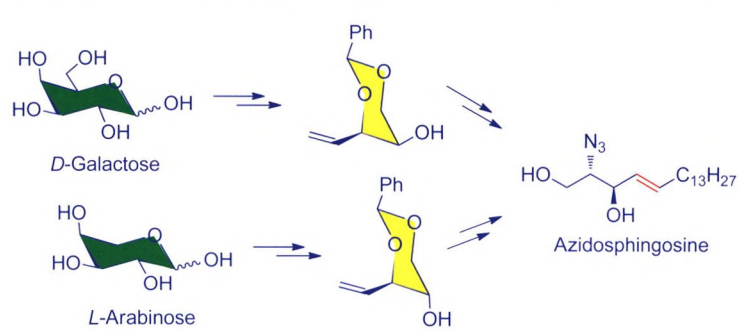
Synthesis of Paclitaxel Side Chain via Multi-Component Reaction and Its Application to the Synthesis of Paclitaxel Analogues



Sheng, Jiajun; Yu, Ya'nan; Wang, Xin; Qian, Yu; Fu, Liwu; Zhao, Yun; Ma, Mingliang*; Hu, Wenhao*
Chin. J. Org. Chem. **2019**, *39*(2), 377

A $Cu(OTf)_2$ catalyzed hydroxy ylide trapping based multi-component reaction which uses water as raw material is reported. A highly efficient method to synthesize taxol side chain derivatives and paclitaxel analogues is provided. Several novel paclitaxel analogues with excellent anti-tumor activity were discovered in this paper. This research is one of the good examples combining the methodology and application.

Synthesis of Azidosphingosine from *D*-Galactose or *L*-Arabinose

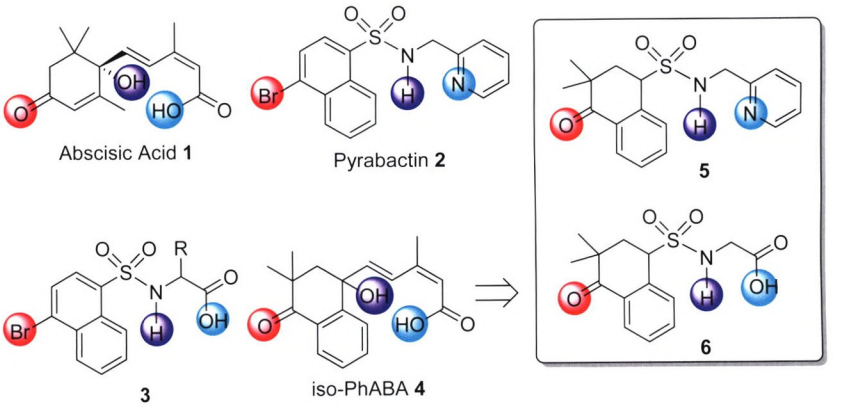


Gao, Yangguang*; Cao, Zhou; Han, Zhongxiang; Zhang, Qiang; Hu, Jie; Guo, Rui; He, Xianran; Ding, Fei; You, Qingliang; Zhang, Yongmin*
Chin. J. Org. Chem. **2019**, *39*(2), 390

Synthesis of azidosphingosine has been described from *D*-galactose or *L*-arabinose with an overall yields of 27% and 20%, respectively. Our strategy features olefin cross-metathesis reaction, radical-induced isomerization, Appel reaction, and azido replacement.

CONTENT

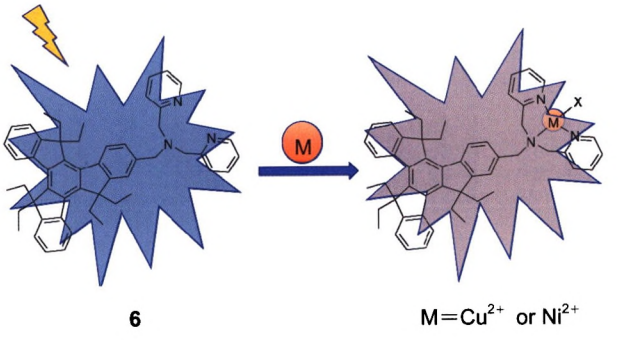
Design, Synthesis and Inhibition Activity of Seed Germination of Novel Pyrabactin Analogs



Che, Chuanliang; Hu, Yimin; Ding, Shanshan; Xiao, Yumei; Li, Jiqia; Qin, Zhaohai*
Chin. J. Org. Chem. **2019**, *39*(2), 419

The tetralone part of *iso*-PhABA with the sulfonamide moiety of pyrabactin was spliced, and 13 novel sulfonamide-based abscisic acid analogs were designed and synthesized. Bioassay results showed that some of the compounds exhibited good inhibition activity on seed germination at 50 μmol•L^{-1}.

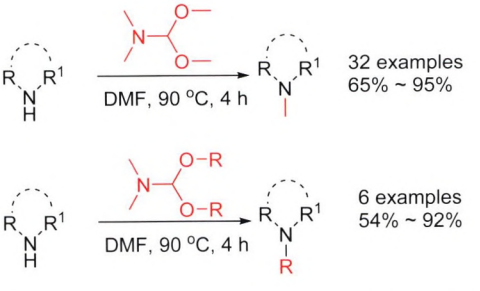
N,*N*-Bis(2-pyridylmethyl)amine-Based Truxene Derivative as a Highly Sensitive Fluorescence Sensor for Cu^{2+} and Ni^{2+} Ion



Zhu, Yangmin; Wang, Zhonglong; Yang, Jian; Xu, Xu; Wang, Shifa; Cai, Zhengchun; Xu, Haijun*
Chin. J. Org. Chem. **2019**, *39*(2), 427

A new turn-off probe **6** was synthesized from bis(pyridin-2-ylmethyl)amine and truxene derivatives. The recognition behaviors of **6** to various metal ions were investigated and the results show that **6** exhibited good selectivity and high sensitivity to Cu^{2+} and Ni^{2+} with good anti-interference. The probe **6** presented apparent fluorescence quenching in DMF/H_2O (*V*/*V*=8/2, pH=7.0) solution toward Cu^{2+} and Ni^{2+}.

N-Alkylation of N—H Compounds in *N*,*N*-Dimethylformamide Dialkyl Acetal



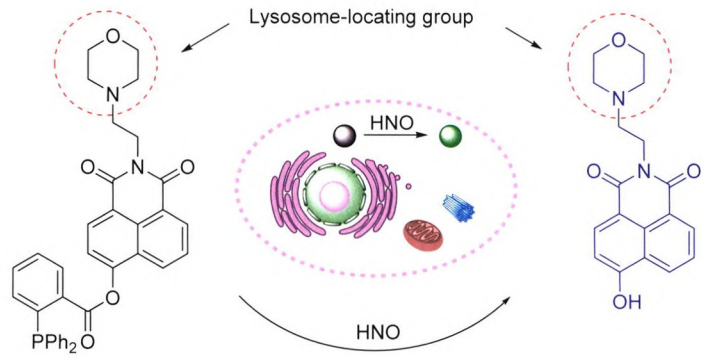
Advantages: simple operation, mild reaction conditions, good adaptability of substrate and no metal participation

Zhao, Hui; Zhu, Xiaoyun; Hu, Xiaoxia; Liu, Yange; Tang, Chunlei*; Feng, Bainian*
Chin. J. Org. Chem. **2019**, *39*(2), 434

The *N*,*N*-dimethylformamide dialkyl acetal was used as the alkyl source to achieve different nitrogen alkylation reactions of N—H compounds. By studying the effects of solvents, temperature, reaction time, and the amount of *N*,*N*-dimethylformamide dialkyl acetal on the reaction, the optimal reaction conditions were obtained. The effect of different *N*,*N*-dimethylformamide dialkyl acetals on the alkylation ability of the substrate was investigated.

CONTENT

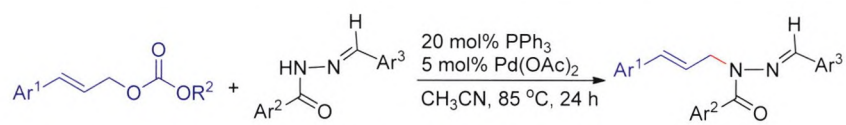
Lysosome-Targeted Dual-Photon Nitroxyl Fluorescent Probe: Synthesis and Application in Living Cell Imaging



A lysosome-targeted dual-photon nitroxyl fluorescent probe (Lyso-HNO), which used 1,8-naphthalimide as two-photon fluorophore, 4-(2-aminoethyl)morpholine as lysosomal-targetable groups, and triphenylphosphine as HNO reaction site, was synthesized and characterized. The probe exhibits good selectivity and sensitivity to HNO with fast response, and can be applied to bioimaging exogenous lysosomal HNO by two-photon fluorescence confocal microscopy.

Wang, Xiaofen; Wei, Chao*; Li, Xueyan; Zheng, Xueyang; Geng, Xiaowei; Zhang, Pingzhu; Li, Xiaoliu*
Chin. J. Org. Chem. **2019**, *39*(2), 469

Palladium Catalyzed Allylic Amination of Cinnamyl Carbonates with Acyl Hydrazones

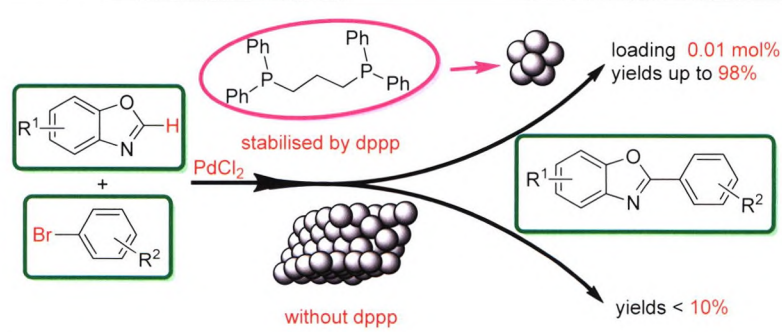


• Base free • Linear selective • 19 examples • yields up to 99%

The palladium catalyzed allylamination reaction of cinnamyl carbonates and acylhydrazone compounds proceeded smoothly under mild condition to give linear products in moderate to excellent yields.

Liu, Lantao*; Chen, Yingying; Zhang, An'an; Liu, Xue; Zhang, Li; Bai, Jingru; Li, Heng; Mao, Guoliang*
Chin. J. Org. Chem. **2019**, *39*(2), 475

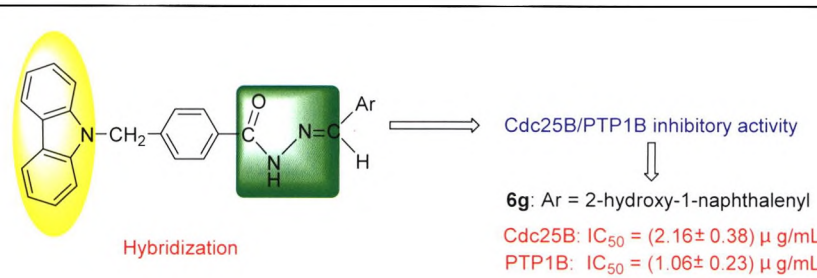
Pd/1,3-Bis(diphenylphosphino)propane Catalyzed Arylation of Benzoxazoles at C-2 Position with Aryl Bromides



Pd-dppp catalytic system achieves highly efficient arylation of benzoxazoles with aryl bromides at low catalyst loading without any co-catalysts or additives.

Wang, Yangdiandian; Yu, Xiaojun; Fu, Haiyan; Zheng, Xueli; Chen, Hua; Li, Ruixiang*
Chin. J. Org. Chem. **2019**, *39*(2), 482

Synthesis and Cdc25B/PTP1B Inhibitory Activity Evaluation of Novel Acylhydrazone Derivatives Containing Carbazole Moity



A series of novel acylhydrazone derivatives containing carbazole moity were synthesized by using carbazole and 4-cyanobenzyl chloride as starting materials via multi-step reactions. All synthesized target compounds were evaluated for the inhibitory activities against Cdc25B and PTP1B. 4-((Carbazol-9-yl)methyl)-*N'*-(2-hydroxy-1-naphthalenylmethylene)benzoyl hydrazide (**6g**) had the highest inhibitory activities against Cdc25B and PTP1B.

Li, Yingjun*; Wang, Siyuan; Jin, Kun; Gao, Lixin; Sheng, Li; Zhang, Nan; Liu, Jihong; Li, Jia*
Chin. J. Org. Chem. **2019**, *39*(2), 491

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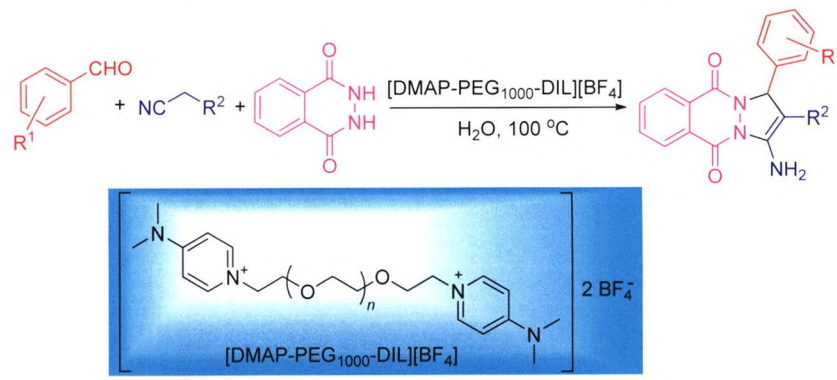
NOTES

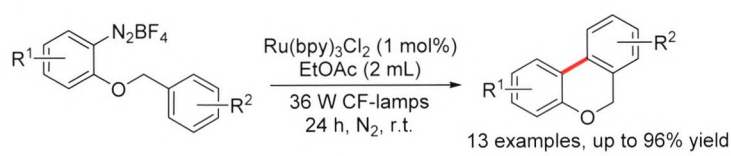
Synthesis of Pyrazolo[1,2-*b*]phthalazine-5,10-diones Catalyzed by Poly(ethylene glycol) Grafted 4-Dimethylaminopyridine Functionalized Ionic Liquid



A novel poly(ethylene glycol) grafted 4-dimethylaminopyridine functionalized ionic liquid ([DMAP-PEG$_{1000}$-DIL][BF$_4$]) was synthesized and used as an efficient and recyclable catalyst for the synthesis of pyrazolo[1,2-*b*]phthalazine-5,10-diones with excellent yields through the one-pot three-component reaction of aromatic aldehyde, malononitrile (or ethyl cyanoacetate) and phthalhydrazide in water.

Wang, Yinglei*; Wan, Zijuan; Luo, Jun
Chin. J. Org. Chem. **2019**, *39*(2), 521

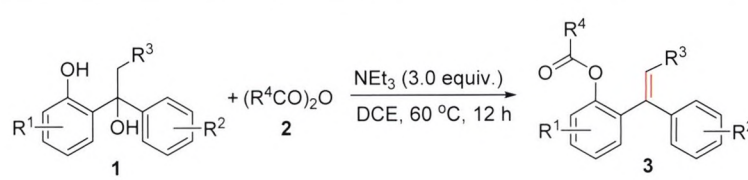
Visible-Light Mediated Synthesis of 6*H*-Benzo[*c*]chromenes



An effective visible-light mediated Ru-catalyzed protocol for accessing 6*H*-benzo[*c*]-chromenes from benzyloxybenzenediazonium salt via a sequence of dediazoniation, intramolecular radical cyclization and aromaticzation has been developed.

Bai, Qifan; He, Jingyao; Zhu, Xiaoqing; Feng, Gaofeng; Jin, Cheng'an*
Chin. J. Org. Chem. **2019**, *39*(2), 527

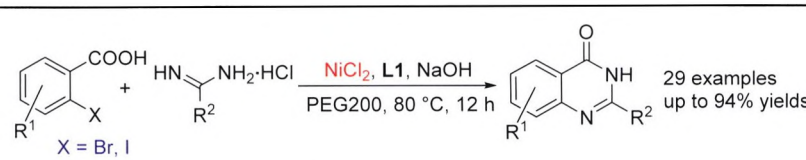
Anhydride Induced One-Pot Synthesis of *ortho*-Acyloxy Diarylalkenes from 2-(1-Hydroxy-1-arylalkyl)phenols



Anhydride induced reaction of 2-(1-hydroxy-1-phenylalkyl)phenols was reported to provide a practical and environmentally friendly way to the synthesis of *ortho*-acyloxy diarylalkenes.

Lü, Wenwen; He, Xinchun; Shi, Min; Wang, Feijun*
Chin. J. Org. Chem. **2019**, *39*(2), 532

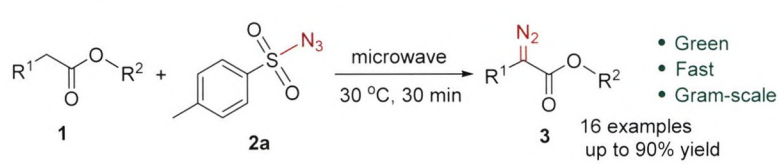
Nickel-Catalyzed Synthesis of Quinazolinone Derivatives in Polyethylene Glycol 200



A simple and economic method for synthesizing quinazolinone derivatives from substituted 2-halobenzoic acids and amidine hydrochlorides by nickel-catalyzed in polyethylene glycol 200 was reported.

Xu, Yiwen; Zhang, Peng; Liu, Caiqin; Lin, Chen; Lin, Xiaoyan; Ke, Fang*
Chin. J. Org. Chem. **2019**, *39*(2), 538

Microwave-Assisted Synthesis of α-Diazoesters



A new method of microwave-assisted synthesis of α-diazoesters from 2-phenylacetates and tosyl azide has been explored. This protocol provides a quick, efficient and green approach to various α-diazoesters compounds with up to 90% isolated yields at the gram scale in 30 min and a broad range of functional groups.

Yi, Xiangyan; Zhang, Zhipeng; Huang, He; Baell, Jonathan B.; Yu, Yang*; Huang, Fei*
Chin. J. Org. Chem. **2019**, *39*(2), 544

CONTENT

HIGHLIGHTS