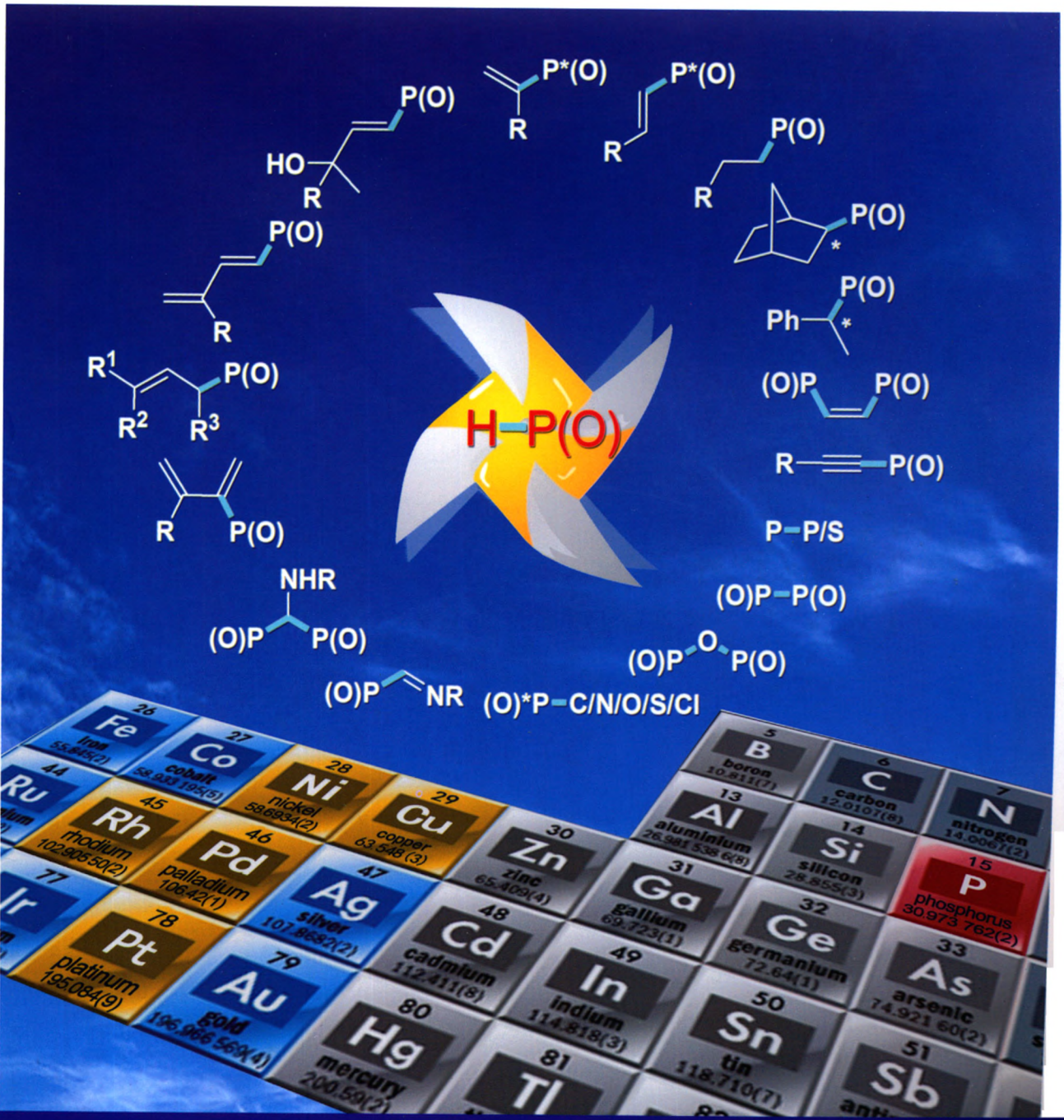
http://sioc-journal.cn

有机化学

Youji Huaxue

Chinese Journal of Organic Chemistry

第32卷 第10期 Vol. 32 No. 10 2012



ISSN 0253-2786

9 770253 278129 10>

中国化学会
中国科学院上海有机化学研究所 主办

有 机 化 学 (月刊)

Chinese Journal of Organic Chemistry

(YOUJI HUAXUE)

第 32 卷 第 10 期 (总 287 期) 2012 年 10 月*

目 次

* 通讯联系人.

研究简报

Chinese Journal of Organic Chemistry

Vol. 32 No. 10 October 2012

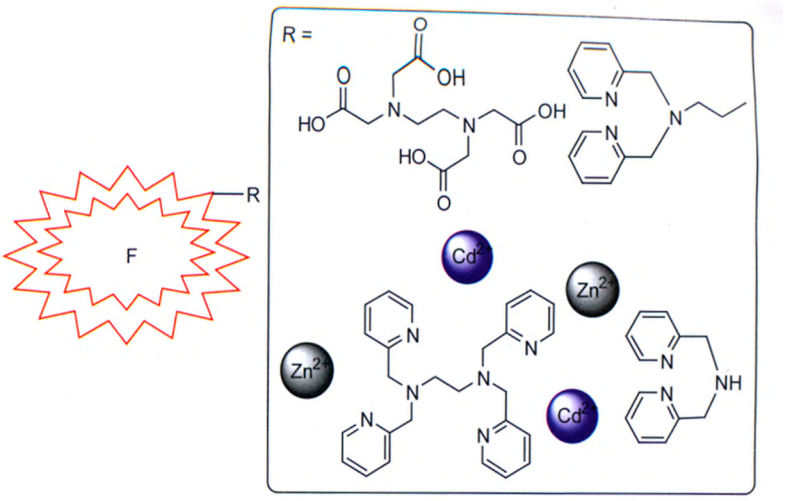
On the Cover

The recent progresses in transition metal-catalyzed regio- and stereo-selective additions of P(O)—H bonds to carbon-carbon unsaturated compounds, asymmetric hydrophosphorylation reactions, and oxidative couplings of P(O)—H bonds with C—H and heteroatom—H bonds are reviewed by Xu, Zhao, Zhou, Yin, and Han on page 1761. These reactions provide efficient and atom economic, general and green ways for the preparation of the versatile organophosphorus compounds.

REVIEWS

CONTENT

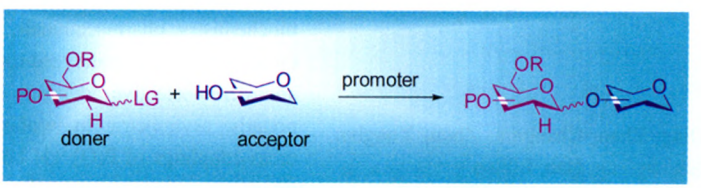
Recent Progress in Fluorescent Probes for Zn^{2+}/Cd^{2+} Based on Small Organic Molecules



The recent progress in Zn^{2+}/Cd^{2+} fluorescent probes based on small organic molecules is reviewed. The review summarizes the effects of receptors (R) structures on detecting Zn^{2+}/Cd^{2+}, and highlights the principles and applications of one fluorescent probe molecule for detecting both Zn^{2+} and Cd^{2+}. The future developing prospects of Zn^{2+}/Cd^{2+} fluorescent probes are also discussed.

Jia, Jia; Tang, Xi; He, Yingfang; Zhang, Mengyu; Xing, Guowen*
Chin. J. Org. Chem. **2012**, *32*(10), 1803

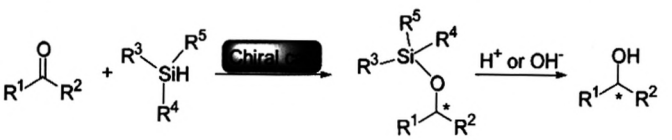
Progress in the Chemical Synthesis of 2-Deoxy-glycosides



The recent advances in organic synthesis of 2-deoxy-glycosides are summarized mainly focusing on direct etherification, direct glycosidic bond formation, temporary protecting groups, synthesis from non-sugar and so on.

Li, Zhongzhen; Ding, Ning*; Zhang, Wei; Wang, Peng; Li, Ming; Li, Yingxia
Chin. J. Org. Chem. **2012**, *32*(10), 1812

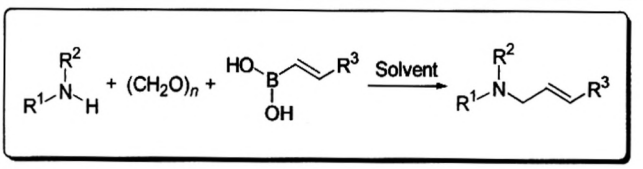
Progress in Asymmetric Hydrosilylation of Ketones by Non-precious Metal Catalyst



As important intermediates for the development of biologically active molecules and fragrance *etc.*, chiral secondary alcohols are synthesized through asymmetric hydrogenation. Recently, the asymmetric hydrosilylation process has been attracted because of its mild reaction conditions as well as inexpensive and safer reagent system. In this paper, some information about the recent development of the catalysts of the non-precious metal (Zn, Cu and so on) for asymmetric hydrosilylation reaction of prochiral ketones is briefly reviewed.

Liu, Shuai; Peng, Jiajian*; Li, Jiayun; Bai, Ying; Xiao, Wenjun; Lai, Guoqiao*
Chin. J. Org. Chem. **2012**, *32*(10), 1827

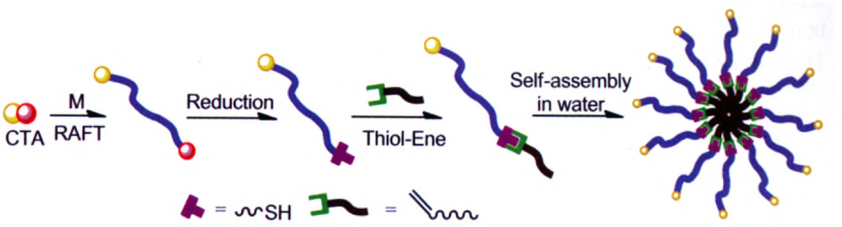
Progress in Petasis Reaction



Petasis reaction is a powerful method for the synthesis of α-amino acids, β-amino alcohols and their derivatives. Chiral Petasis reaction has been applied in synthesis of nature products and drugs. This review describes the mechanism, reaction components and reaction conditions of Petasis reaction, and the applications of Petasis reaction were also discussed.

Yu, Tao; Li, Hui; Wu, Xinyan*; Yang, Jun*
Chin. J. Org. Chem. **2012**, *32*(10), 1836

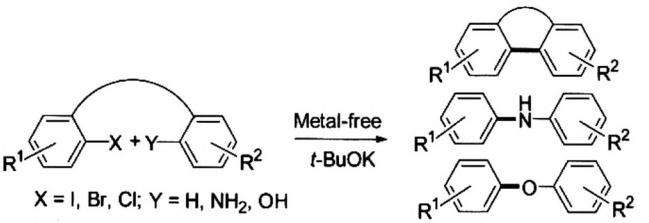
Progress in Thiol-Ene/Yne Click Chemistry



This review highlights the recent research on the preparation of functional polymeric microsphere, amphipathic block well-defined polymer, materials employed in the molecular device, desired dendritic polymers and chemistry modification via thiol-ene/yne click chemistry. Moreover, the problems and solutions are given for the future development of thiol-ene/yne click chemistry.

Liu, Qing; Zhang, Qiuyu*; Chen, Shaojie; Zhou, Jian; Lei, Xingfeng
Chin. J. Org. Chem. **2012**, *32*(10), 1846

Recent Progress in the Research of the *t*-BuOK-Mediated Coupling Reactions to Form Carbon-Carbon and Carbon-Heteroatom Bonds

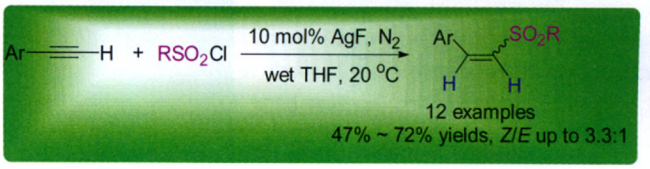


The recent development of the *t*-BuOK-mediated cross-coupling reactions is reviewed, which includes the formation of carbon-carbon, carbon-nitrogen and carbon-oxygen bonds.

Wang, Lianggui; Yan, Guobing*; Zhang, Xinyan
Chin. J. Org. Chem. **2012**, *32*(10), 1864

ARTICLES

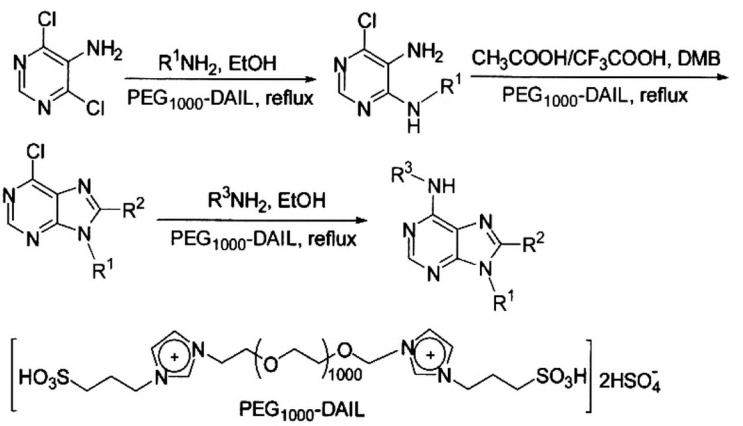
A Novel Silver(I)-Catalyzed Reaction of Terminal Arylacetylenes with Sulfonyl Chlorides



A novel reaction of terminal arylacetylenes with sulfonyl chlorides was performed in the presence of a silver(I) catalyst. Vinyl sulfones were obtained in 47%~72% yields. A free radical mechanism for the catalytic cycle has been proposed to account for the formation of products and the stereochemical outcome of vinyl sulfones.

Deng, Guisheng*; Sun, Tengfei; Zhou, Jia
Chin. J. Org. Chem. **2012**, *32*(10), 1872

Synthesis of 6-Amino-purine Derivatives Catalyzed by Polyethylene Glycol$_{1000}$-Dicationic Acidic Ionic Liquid

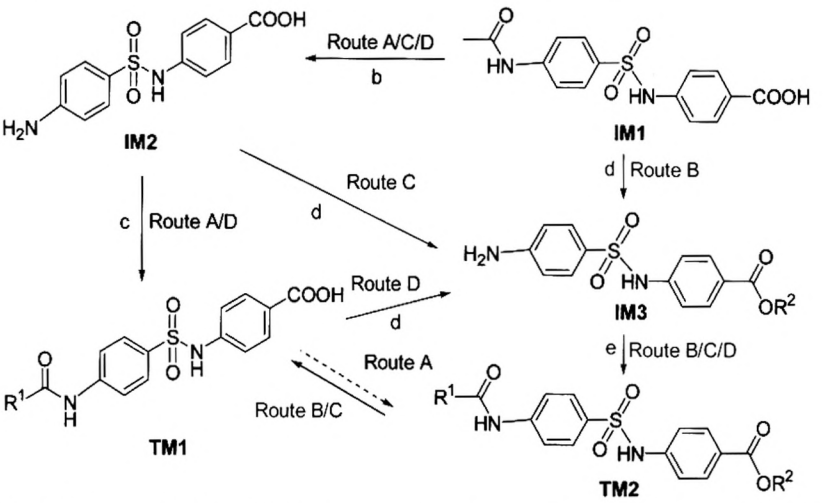


A series of 6-amino-purine derivatives were synthesized from 4,6-dichloro-5-pyrimidine via three step reactions: *N*-alkylation, cyclization and *N*-alkylation of purine. All the reactions were catalyzed by the polyethylene glycol$_{1000}$-dicationic acidic ionic liquid (PEG$_{1000}$-DAIL).

Lu, Hongfei*; Sun, Leilei; Wu, Dingming; Gao, Yuhua; Shi, Yali; Xue, Qin
Chin. J. Org. Chem. **2012**, *32*(10), 1880

CONTENT

Synthesis and Antidiabetic Activity of Novel Molecules Containing *p*-Aminobenzoic Acid and Benzenesulfonamide Moiety

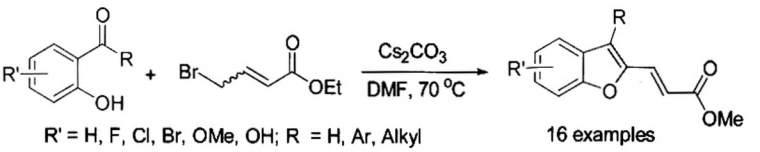


Based on the previously synthesized compounds with strong biological activities by the group, the authors designed the new class of target molecules containing *p*-aminobenzoic acid and benzene- sulfonamide moiety, and the facile preparative routes and practical procedures of both the intermediates of **IM1**～**IM3** and target molecules of **TM1** and **TM2** were established. A total of 26 designed compounds exhibited low antidiabetic activity.

Yang, Long; Yan, Jufang; Fan, Li; Chen, Xin; Shangguan, Ruiyan; Wang, Linfa; Yang, Dacheng*

Chin. J. Org. Chem. **2012**, *32*(10), 1908

A Novel Strategy for the Synthesis of Benzofuran Derivatives

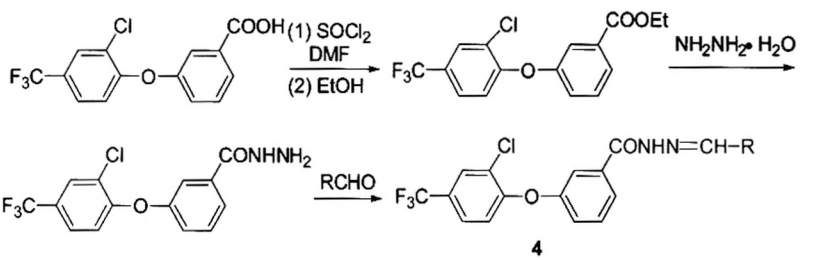


A novel method for the synthesis of benzofuran analogues via condensation of 2-hydroxybenzaldehyde or 2-hydroxyphenyl ketone with methyl 4-bromocrotonate was reported. Moderate to good yield was obtained with cesium carbonate as base in DMF at 70 ℃. The new-generated double bond was (*E*)-configuration determined by X-ray diffraction.

Zhao, Yunhui; Liu, Wenjie; Sun, Xingwen*; Lin, Guoqiang*

Chin. J. Org. Chem. **2012**, *32*(10), 1919

Synthesis and Pesticidal Activity of 3-(2-Chloro-4-trifluoromethyl)phenoxy Benzoylhydrazones

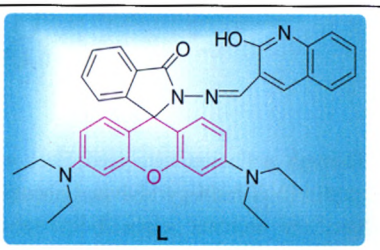


A series of new substituted benzaldehyde (or 2-furaldehyde) 3-(2-chloro-4-trifluoromethyl)phenoxy benzoylhydrazones **4** have been designed and synthesized by the reactions of substituted aldehydes with intermediate **3** in 64%～89% yields. The results of preliminary bioassay indicated that some compounds possess good fungicidal activities and moderate herbicidal activity.

Liu, Jianchao; Cui, Zeping; He, Hongwu*

Chin. J. Org. Chem. **2012**, *32*(10), 1925

Synthesis and Properties of Rhodamine B Derivative for Recognition of Cu^{2+} and Hg^{2+}



A novel rhodamine B derivative **L** was synthesized. The recognition properties of the probe **L** with metal ions had been investigated. Probe **L** exhibited the selective colorimetric recognition of Cu^{2+} and the fluorogenic recognition of Hg^{2+}.

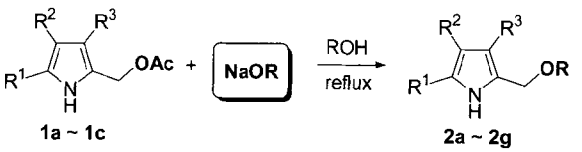
Chen, Jiaxuan; Tian, Yi; Xiang, Qingxiang*; Zhang, Liqun; Xiong, Junru

Chin. J. Org. Chem. **2012**, *32*(10), 1930

CONTENT

NOTES

Etherification of 2-Acetoxymethylpyrrole Derivative with Sodium Alkoxide

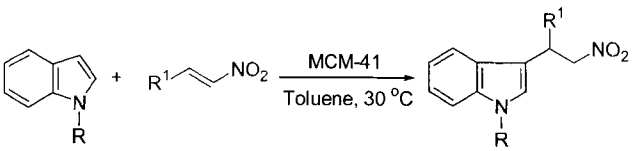


Yan, Zhaohua*; Yu, Zhangxin; Liu, Yongjie; Hu, Wei

Chin. J. Org. Chem. **2012**, *32*(10), 1965

Etherification of 2-acetoxymethylpyrrole derivative with sodium alkoxide at reflux was investigated in details resulting in the smooth formation of the corresponding 2-alkoxymethylpyrrole derivative in excellent yield. A plausible mechanism involving the generation of highly reactive azafulvene intermediate **3** was proposed to explain the observed phenomena.

Friedel-Crafts Reaction of Indoles with Nitroalkenes Catalyzed by Mesoporous Material MCM-41

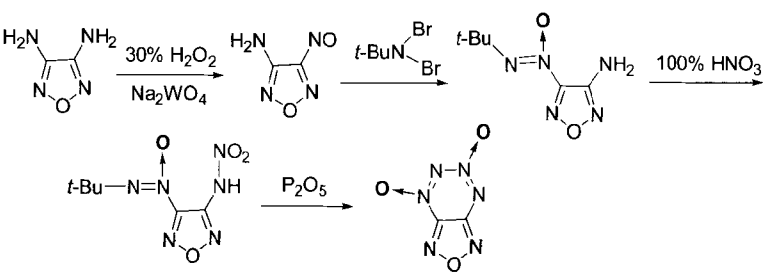


Chen, Yongcheng; Xie, Shaolei; Xie, Zhengfeng*

Chin. J. Org. Chem. **2012**, *32*(10), 1970

Under microwave irradiation, the three-component reaction of aromatic aldehydes, substituted acetophenones and urea in DMF resulted in 4,6-diaryl-3,4-dihydro-pyrimidin-2(1*H*)-ones in 68%~84% yields. In the presence of chlorotrimethylsilane, the three-component reactions gave the corresponding dehydrogenated 4,6-diaryl-pyrimidin-2(1*H*)-ones in satisfactory yields (66%~87%).

Novel Synthetic Route and Characterization of [1,2,5]oxadiazolo[3,4-*e*][1,2,3,4]-tetrazine 4,6-Di-*N*-oxide (FTDO)

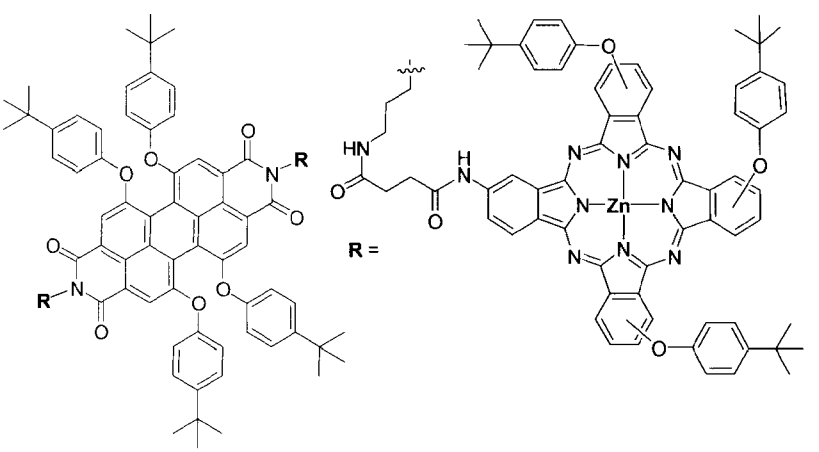


Li, Xiangzhi; Wang, Bozhou*; Li, Hui; Li, Yanan; Bi, Fuqiang; Huo, Huan; Fan, Xuezhong

Chin. J. Org. Chem. **2012**, *32*(10), 1975

Taking 3,4-diaminofurazan as a primary material, a new energetic material [1,2,5]oxadiazolo[3,4-*e*][1,2,3,4]tetrazine 4,6-di-*N*-oxide (FTDO) was synthesized via the reaction of oxidation, condensation, nitration and cyclization, and the title compound and its intermediates were characterized by means of NMR, IR, MS and elemental analysis *etc.*

Synthesis and Photovoltaic Performances of a Novel Phthalocyanine-perylene Molecular Heterojunction



Yu, Xiaowei; Zhang, Shanlin; He, Weiwei; Zhang, Zhigang; Guo, Fengqi*; Zhan, Chuanlang; Huang, Yan*

Chin. J. Org. Chem. **2012**, *32*(10), 1981

A novel phthalocyanine (Pc)-perylene diimide (PDI)-Pc donor-acceptor molecular heterojunction was synthesized through amidation of an asymemetric Pc-carboxylic acid and PDI-diamines, and it is well soluble in common solvent such as dichloromethane, chloroform, and tetrahydrofuran.

CONTENT

HIGHLIGHTS