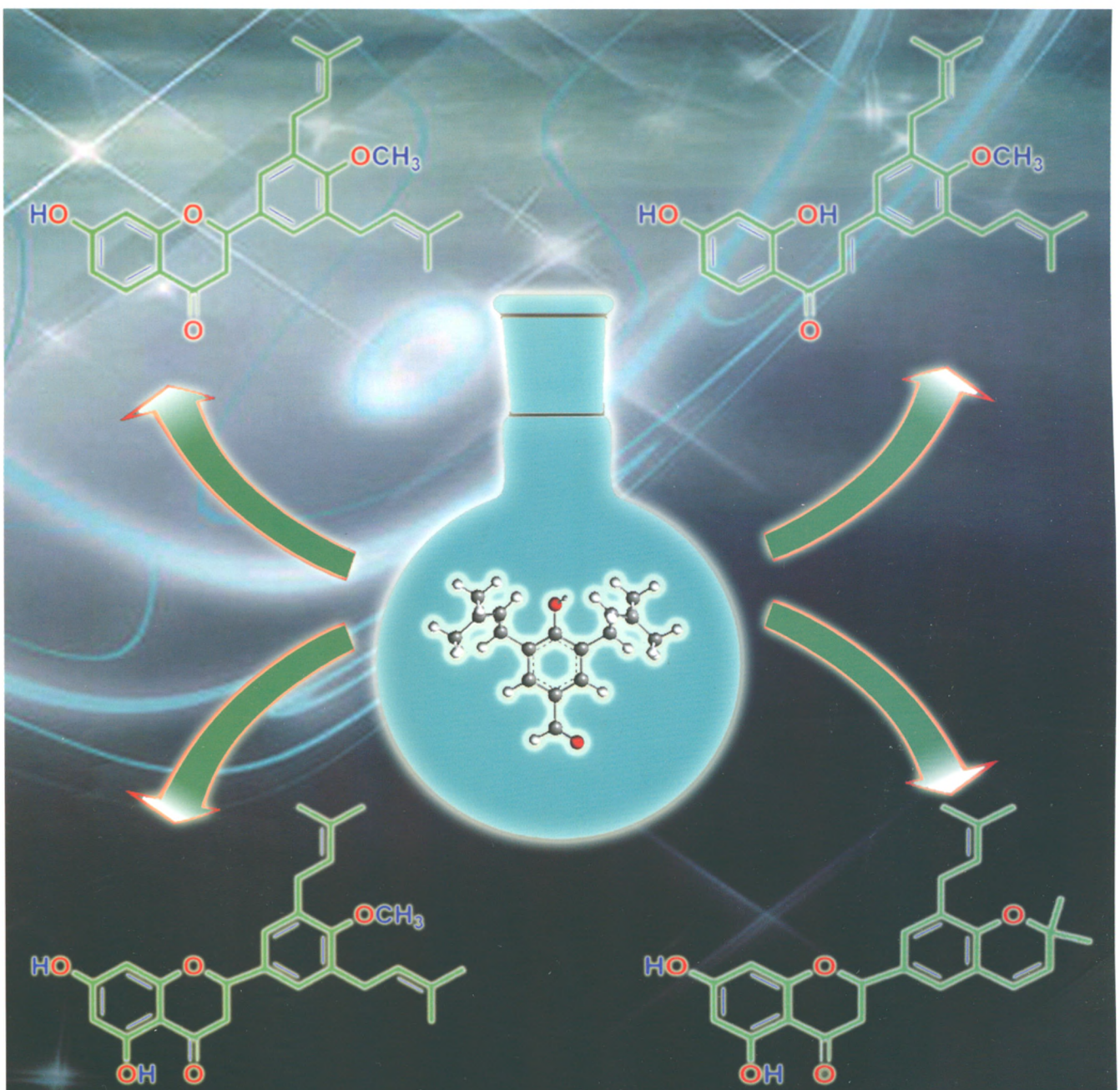
http://sioc-journal.cn

有机化学

Youji Huaxue

Chinese Journal of Organic Chemistry

第32卷 第12期 Vol. 32 No. 12 2012



ISSN 0253-2786

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 12 期 (总 289 期) 2012 年 12 月*

目 次

综述与进展

研究论文

* 通讯联系人.

研究简报

全年索引

CONTENT

Chinese Journal of Organic Chemistry

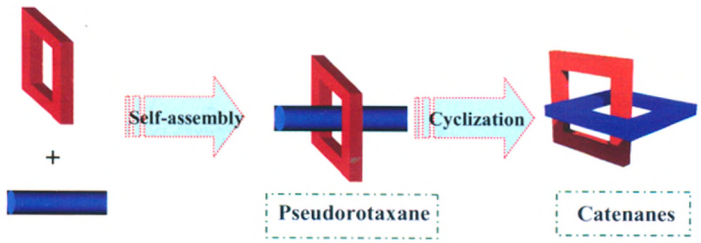
Vol. 32 No. 12 December 2012

On the Cover

The total synthesis of prenylated flavonoids, (±)-abyssinone-VI-4-*O*-methyl ether, (±)-abyssinone-IV-4'-*O*-methyl ether, (±)-abyssinone-V-4'-*O*-methyl ether and (±)-sigmoidin E has been described by Zuo *et al.* on page 2276. The key intermediate 4-hydroxy-3,5-di-(3-methylbut-2-enyl)benzaldehyde (**6**) was synthesized that features regioselective prenylation of 4-hydroxybenzaldehyde and crystallizing with petroleum ether from the reaction mixture by freeze-out effect.

REVIEWS

Supramolecular Catenane Chemistry Based on Crown Ether Derivatives

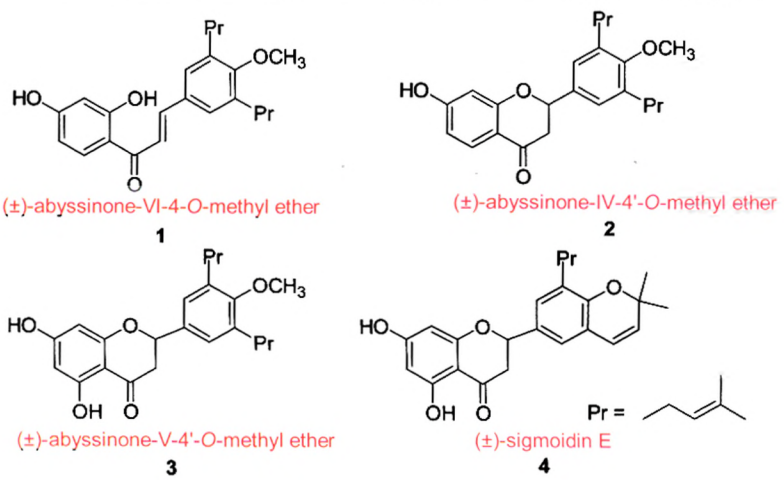


Shen, Jianfeng; Yu, Xuetao; Ye, Yuyuan; Chen, Rener*; Jiang, Huajiang; Zhou, Qi-zhong*
Chin. J. Org. Chem. **2012**, *32*(12), 2265

Template-directed protocols have facilitated the efficient preparations of various kinds of catenanes. Thereinto, as the first macrocyclic host, crown ether derivatives have been widely used to prepare catenanes. Therefore, the development of supramolecular catenane chemistry based on crown ether derivatives is systematically addressed.

ARTICLES

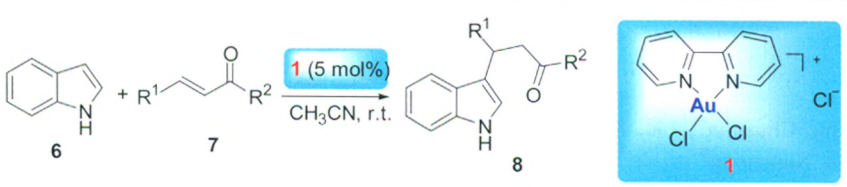
Study on Total Synthesis of Four Natural Prenylated Flavonoids



Zuo, Wubiao; Yang, Jinhui*; Li, Hongjun; Guo, Dongdong; Luo, Junshan; Huang, Wenqian
Chin. J. Org. Chem. **2012**, *32*(12), 2276

A facile approach for the total synthesis of prenylated flavonoids, (±)-abyssinone-VI-4-*O*-methyl ether (**1**), (±)-abyssinone-IV-4'-*O*-methyl ether (**2**), (±)-abyssinone-V-4'-*O*-methyl ether (**3**) and (±)-sigmoidin *E* (**4**), has been described. The key intermediate 4-hydroxy-3,5-di-(3-methylbut-2-enyl)benzaldehyde (**6**) was synthesized that features regioselective prenylation of 4-hydroxybenzaldehyde and crystallizing with petroleum ether from the reaction mixture by freeze-out effect.

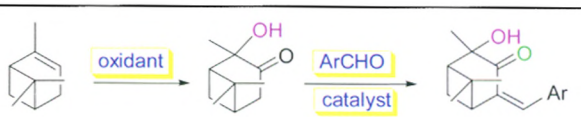
Highly Efficient Michael-Type Friedel-Crafts Reactions Catalyzed by Gold-bipyridine Complexes



Zhang, Yan*; Zhu, Chengjian
Chin. J. Org. Chem. **2012**, *32*(12), 2283

A novel highly efficient gold-bipyridine catalyst system has been tested for Michael-type Friedel-Crafts reactions.

Synthesis and Ultraviolet Absorption Characteristics of 4-Arylidene-2-hydroxy-3-pinanones

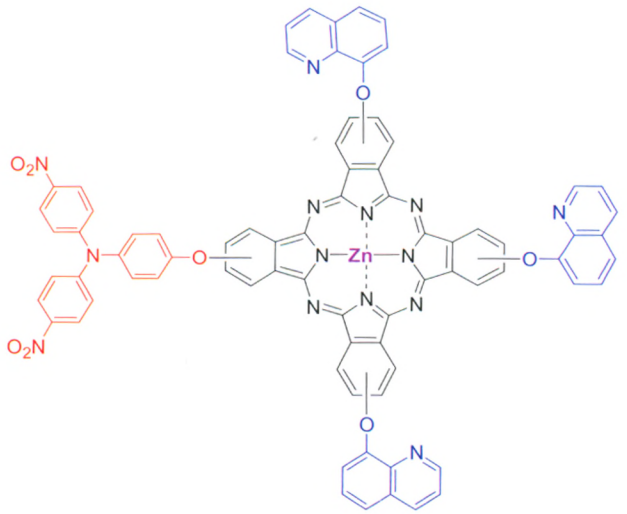


Wei, Baisong; Xu, Xu; Yang, Yiqin; Cao, Xiaoqin; Wang, Shifa*
Chin. J. Org. Chem. **2012**, *32*(12), 2287

A new series of 4-arylidene-2-hydroxy-3-pinanones were synthesized from (−)-α-pinene. (+)-2-Hydroxy-3-pinanone was obtained from (−)-α-pinene by selective oxidation with potassium permanganate, and it was reacted with aromatic aldehydes including benzaldehyde, *p*-methylbenzaldehyde, *p*-methoxybenzaldehyde, *p*-hydroxybenzaldehyde, *p*-chlorobenzaldehyde, *p*-nitrobenzaldehyde, and furfural catalyzed with alkali catalysts to get optical activity 4-arylidene-2-hydroxy-3-pinanones.

CONTENT

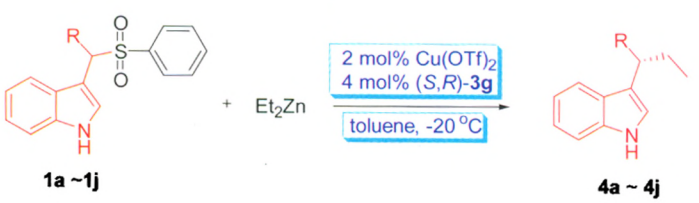
Synthesis and Study of Properties for Asymmetric Triphenylamine-Zinc Phthalocyanine



Mao, Lijun; Tan, Qinglong; Xin, Guanqiong; Han, Mingliang; Zhang, Xuejun*
Chin. J. Org. Chem. **2012**, *32*(12), 2315

It is the structure of triphenylamine-quinoline-zinc phthalocyanine based sensitizer for dye-sensitized solar cells. The properties of the two sensitizers-triphenylamine and phthalocyanine are combined.

Enantioselective Conjugate Addition of Diethylzinc to Vinylogous Imines Generated *in situ* from Sulfonyl Indoles

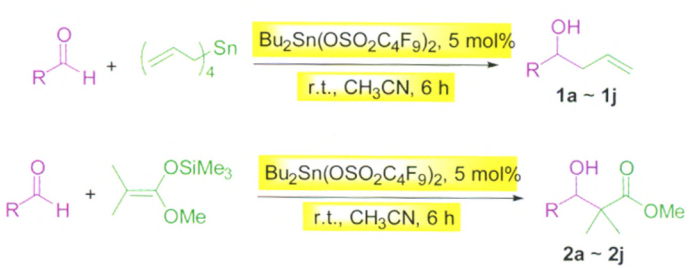


Ni, Chengyan; Li, Wenke; He, Long*; Liu Quanzhong*; Kang Tairan
Chin. J. Org. Chem. **2012**, *32*(12), 2322

Enantioselective conjugate addition of diethyl zinc to vinylogous imines generated *in situ* from sulfonyl indoles was developed. Various sulfonyl indoles reacted with diethyl zinc in the presence of chiral phosphoramidites in combination with copper triflate affording the corresponding indole substituted alkanes in up to 99% yield with moderate to good enantioselectivity (up to 80% *ee*).

NOTES

Bisperfluorobutylsulfonate Bisbutyltin Catalyzed Allylation and Mukaiyama-aldol Reaction of Aldehyde

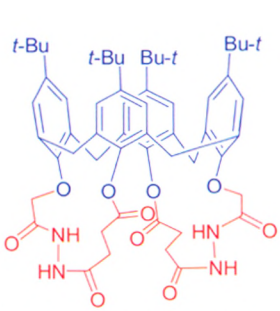


Liu, Yi; Wang, Xie; Chen, Jinyang; Li, Ningbo; Xu, Xinhua*
Chin. J. Org. Chem. **2012**, *32*(12), 2328

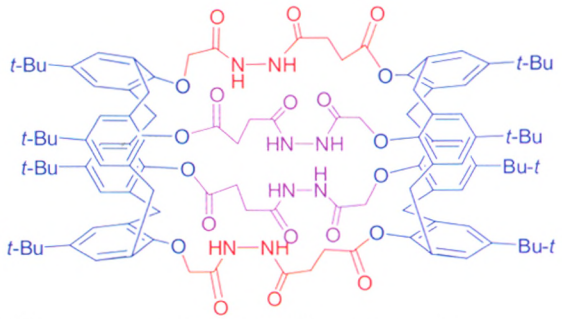
Bisperfluorobutylsulfonate bisbutyltin complex was successfully synthesized by treating $C_4F_9SO_3Ag$ with Bu_2SnCl_2 in acetone at room temperature. When the complex was exposed to air two days, ^1H NMR spectra showed that its structure had no change. TG-DSC showed that the complex was stable below 220 ℃. The complex had a good solubility in polar solvents, such as ethyl acetate, acetone, acetonitrile, THF, ethyl ether. But it was poor soluble in hexane, CH_2Cl_2, toluene at room temperature. In the presence of 1.0 and 5.0 mol% of bisperfluorobutylsulfonate bisbutyltin respectively, allylation of aldehyde and Mukaiyama aldol reaction could efficiently occur in CH_3CN at room temperature and give high yield of the corresponding products.

CONTENT

Convenient Synthesis of Novel Tetra-bridged Biscalix[4]tube and 1,2-3,4-Bis-bridged Calix[4]arene



1,2-3,4-Bis-bridged calix[4]arene **5**



Tetra-bridged biscalix[4]tube **6**

Zhang, Yingme; Yang, Fafu*; Bai, Xiaoyan; Liu, Zhiqiang; Guo, Hongyu
Chin. J. Org. Chem. **2012**, *32*(12), 2350

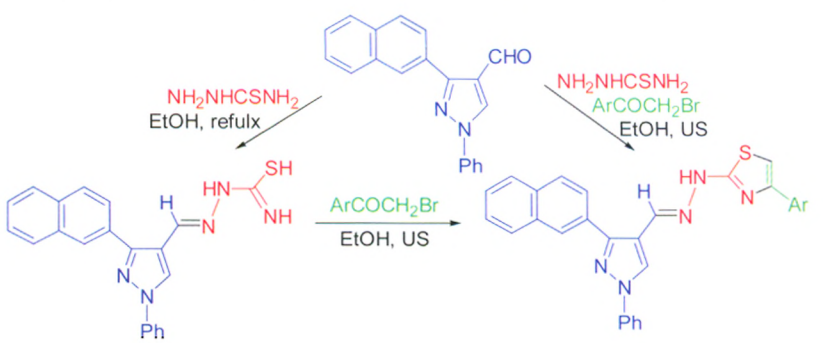
Novel tetra-bridged calix[4]tube and 1,2-3,4-bis-bridged calix[4]arenes were conveniently synthesized.

Synthesis of Benzene-Bridged Bis(thiazolo[4,5-*d*]pyrimidin-7(6*H*)-one) Derivatives

Fang, Zhengdong*; Yuan, Yi; Ye, Hualing
Chin. J. Org. Chem. **2012**, *32*(12), 2354

Bis-aza-Wittig reactions of ethyl 4-[(triphenylphosphanylidene)amino]-2,3-dihydro-3-phenyl-2-thioxothiazole-5-carboxylate with aromatic diisocyanate and nucleophilic reagents produced novel benzene-bridged bis(thiazolo[4,5-*d*]pyrimidin-7(6*H*)-one) derivatives in the presence of EtONa in 56%~92% yields.

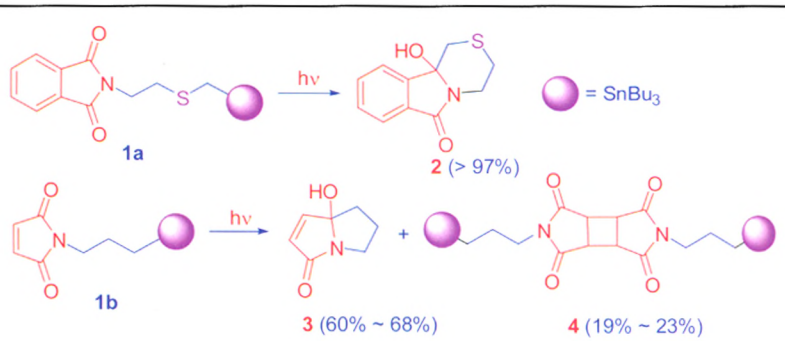
Convenient Synthesis and Characterization of Hydrazone Derivatives of 3-(2-Naphthyl)-1-phenyl-pyrazole-4-carbaldehyde



Ablajan, Keyume*; Wang, Liju
Chin. J. Org. Chem. **2012**, *32*(12), 2358

A series of 1-(3-β-naphthyl-1-phenylpyrazole-4-methylene)-2-(4-arylthiazol-2-yl)hydrazones were synthesized via two different methods including multi step reactions and one-pot synthetic route. The products were obtained in good yield under ultrasonic irradiation condition rather than heating.

Photoinduced Single Electron Transfer Cyclization Reactions of *N*-(Trimethylstannyl terminated substituent group)-imide

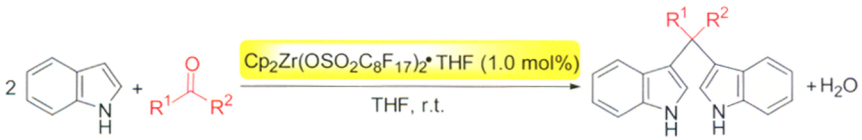


Jin, Yingxue; Wang, Xin; Qu, Fengyu; Tan, Guanghui; Yue, Qunfeng*
Chin. J. Org. Chem. **2012**, *32*(12), 2363

Two novel intramolecularly electronical donor-acceptor systemes, *N*-[2-(2-tributylstannylmethylsulfenyl)ethyl]phthalimide (**1a**) and *N*-(3-tributylstanylpropyl)maleimide (**1b**), were synthesized, and their photoinduced single electron transfer (SET) reactions in MeOH, CH_3CN-30% H_2O and pure CH_3CN were carried out, respectively.

CONTENT

Zirconocene Bis(perfluorooctanesulfonate)s-Catalyzed the Reaction of Indoles and Carbonyl Compounds



Yi, Weiguo; Jia, Zhenyong; Li, Ningbo; Qui, Renhua; Chen, Jinyang; Xu, Xinhua*
Chin. J. Org. Chem. **2012**, *32*(12), 2390

In the presence of 1.0 mol% zirconocene bis(perfluorooctanesulfonate)s, indoles reacted with aldehyde/ketone at room temperature in tetrahydrofuran for 10～25 min to give diindolylmethane derivatives in 86%～96% yields. The catalyst zirconocene bis- (perfluorooctanesulfonate)s can be reused 6 times, and the conversion rate is still as high as 90%. This reaction does not require strict anhydrous conditions. This procedure provides a new and efficient way for preparing diindolylmethane derivatives.

HIGHLIGHTS

