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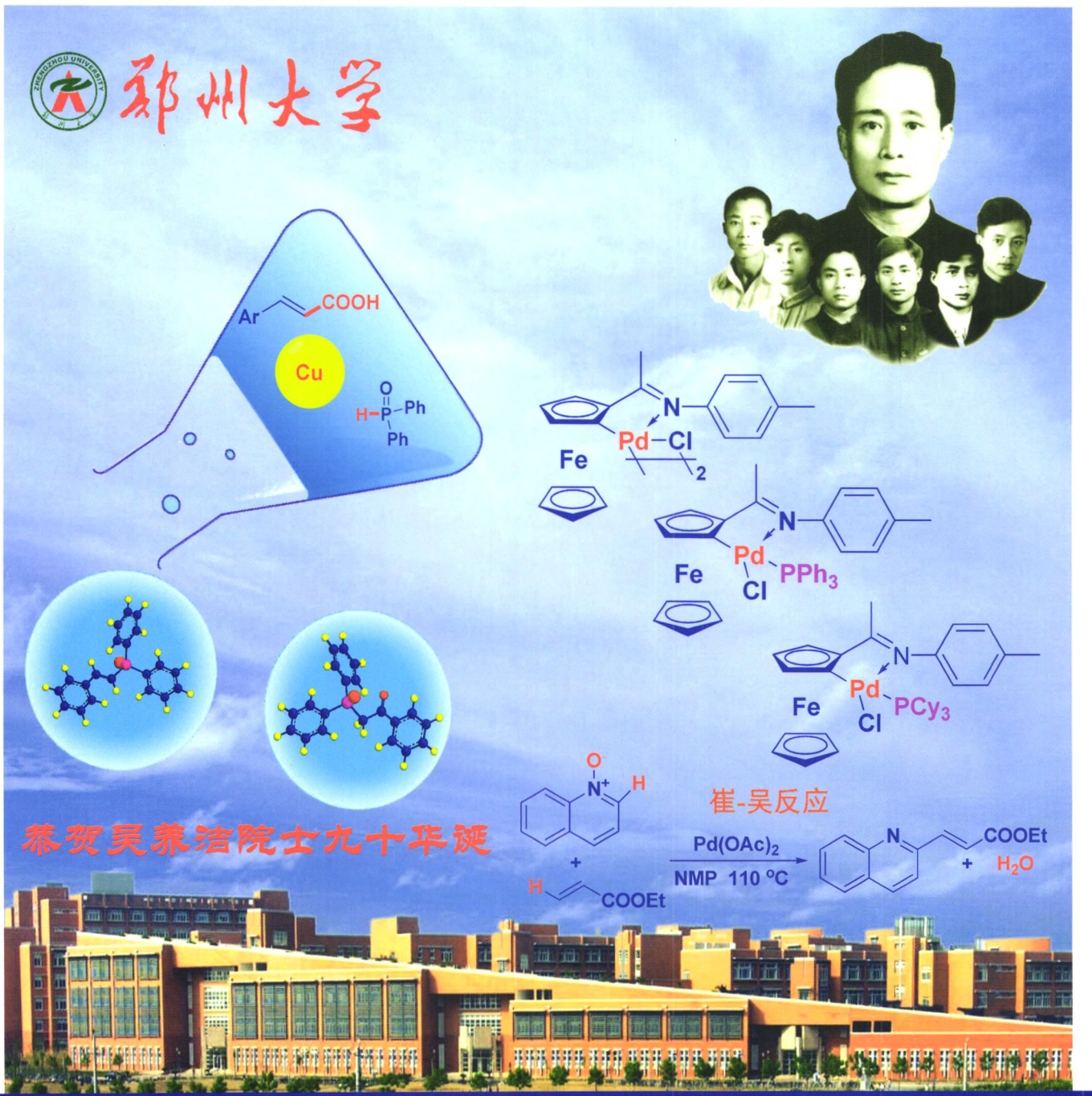

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综述与进展

研究论文

* 通讯联系人.

研究简报

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Vol. 38 No. 1 January 2018

On the Cover

A simple and mild protocol for copper-catalyzed decarboxylative coupling of alkenyl acids with P(O)H compounds was developed by Qiao, Sun, Kang *et al.* on page 86, thereby providing a convenient access to vinylphosphorus compounds or *β*-ketophosphorus compounds as major products using TBHP or oxygen in air as an oxidant, respectively.

REVIEWS

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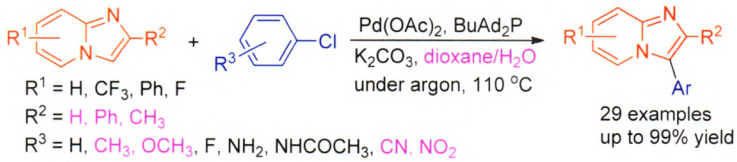
ARTICLES

Efficient Pd-Catalyzed Direct C—H Bond Arylation of Imidazo[1,2-*a*]pyridines with Aryl Chlorides in Aqueous Medium

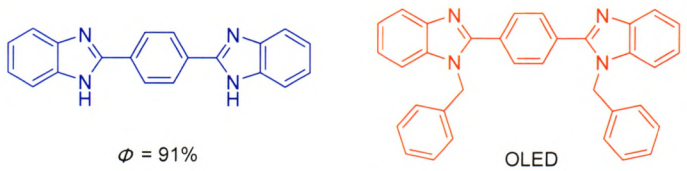


Mu, Bing; Li, Jingya; Zou, Dapeng; Wu, Yusheng*; Chang, Junbiao*; Wu, Yangjie*

Chin. J. Org. Chem. **2018**, *38*(1), 95

A facile, economic and efficient protocol for the synthesis of 3-arylimidazo[1,2-*a*]pyridines via palladium-catalyzed direct C—H bond arylation of various imidazo[1,2-*a*]-pyridines with electron-neutral, electron-poor, electron-rich, even sterically hindered aryl chlorides and heteroaryl chlorides in aqueous medium.

Luminescence Properties of the Conjugated System Containing Benzoimidazole Structural Units and Its Organic Light-Emitting Diode (OLED)

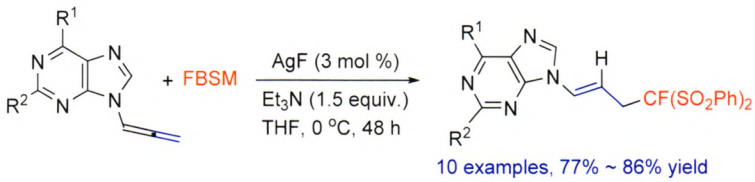


Lin, Danyan; Song, Senchuan; Chen, Zhiyong; Guo, Pengran; Chen, Jianghan; Shi, Huahong; Mai, Yuliang; Song, Huacan*

Chin. J. Org. Chem. **2018**, *38*(1), 103

A series of conjugated compounds containing imidazole structure units were designed and synthesized. Their structures were characterized by ^{1}H NMR, ^{13}C NMR, MS and elemental analysis. Their UV absorption wavelength (λ_a), fluorescence emission wavelength (λ_e), fluorescence quantum yield (Φ) and fluorescence lifetime (τ) were determined, and the relationships between the molecular structures and its spectral data were discussed.

Ag-Catalyzed Monofluoromethylation of Purin-9-yl Allenes with Fluorobis(phenylsulfonyl)methane

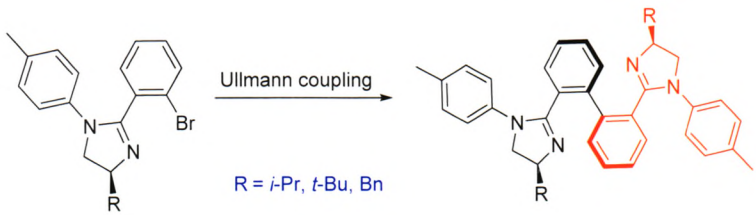


Guo, Zhen; Xie, Mingsheng; Han, Ruijie; Qu, Guirong*; Guo, Haiming*

Chin. J. Org. Chem. **2018**, *38*(1), 112

The monofluoromethylation of purin-9-yl allenes with fluorobis(phenylsulfonyl)-methane has been achieved. With AgF (3 mol%) as the catalyst, the fluorobis(phenylsulfonyl)methylated adducts could be afforded in excellent yields. The monofluoromethylation exhibited high chemoselectivities and *E*-selectivities.

Synthesis of Chiral Bis(imidazoline) Ligands with Biphenyl Backbone and Their Application in the Asymmetric Cyclopropanation Reaction

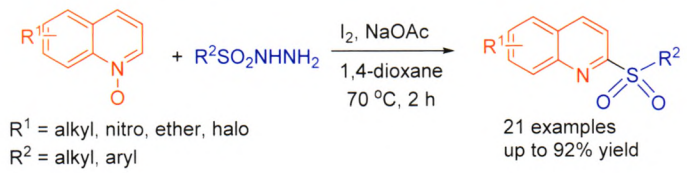


Zhu, Xinju; Niu, Junlong; Zhao, Xuemei; Hao, Xinqi*; Song, Maoping*

Chin. J. Org. Chem. **2018**, *38*(1), 118

A serial of biphenyl bisimidazolines containing both axial and central chirality have been synthesized for the first time via Ullmann coupling. The obtained ligands were further applied in the Cu-catalyzed asymmetric cyclopropanation.

Iodine-Catalyzed Regioselective Sulfonylation of Quinoline *N*-Oxides with Sulfonyl Hydrazides



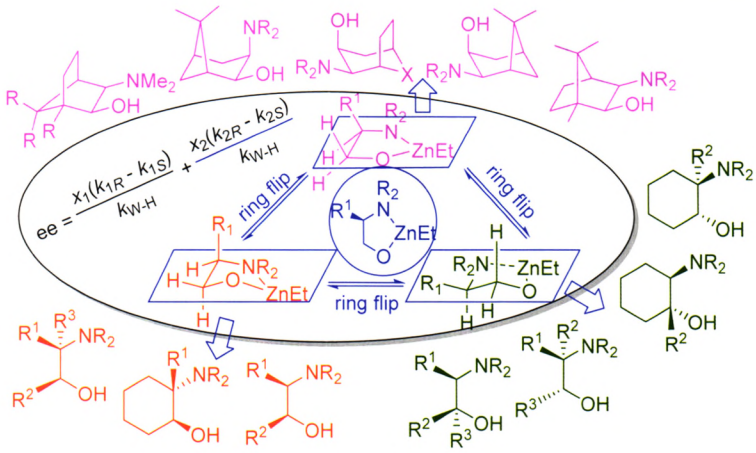
Yu, Haiyang; Pi, Chao; Wang, Yong; Cui, Xiuling*; Wu, Yangjie*

Chin. J. Org. Chem. **2018**, *38*(1), 124

A novel and simple protocol has been developed for the regioselective sulfonylation of quinolone *N*-oxides at their C-2 position. This method features with a simple system, high efficiency, environmental friendliness, and metal-free conditions. Aliphatic and aryl sulfonyl hydrazides smoothly undergo sulfonylation with quinoline *N*-oxides in good yields.

CONTENT

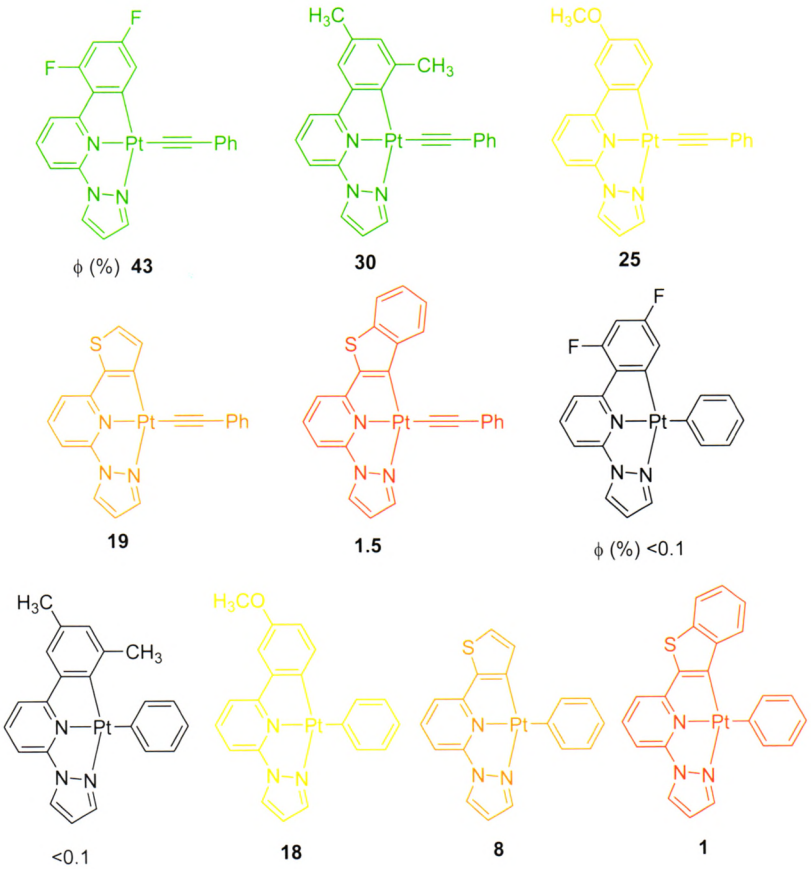
Enantioselective Analysis: Logic of Chiral Ligand Design for Asymmetric Addition of Diethylzinc to Benzaldehyde



A detailed logic-guided approach towards chiral ligands design is described via the enantioselective analysis of the dynamic conformational behaviors of catalyst, which is based on a mathematical relationship between conformations and enantioselectivity, for asymmetric addition of diethylzinc to benzaldehyde. Following this logic thought, 94 examples, almost all highly enantioselective *β*-aminoalcohol ligands reported, can be rationally devised by the logic control of the dynamic conformational behaviors of the catalyst from the simplest *β*-aminoalcohol with one single chiral center as starting point.

Wang, Mincan*
Chin. J. Org. Chem. **2018**, *38*(1), 162

A Comparative Study on Phosphorescent Cycloplatinated Complexes Based on Tridentate C^N^N-Coordinating Ligands and Phenylethynyl or Phenyl Ligand

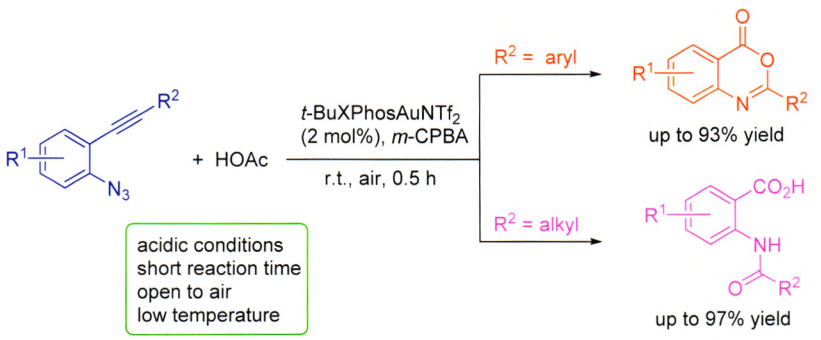


The photoluminescent quantum efficiencies of platinum complexes based on the tridentate cyclometalating ligands 2-aryl-6-(1*H*-pyrazol-1-yl)pyridines are controlled by the ancillary monodentate ligands. The phenylethynyl-substituted complexes exhibit much higher quantum yields, while the phenyl-substituted counterparts display lower quantum yields and behave very differently depending upon their emission energy.

Mroz, Robert; Vezzu, Dileep A. K.; Wallace, Brian; Ravindranathan, Deepak; Carroll, Jeffrey; Pike, Robert D.; Huo, Shouquan*
Chin. J. Org. Chem. **2018**, *38*(1), 171

CONTENT

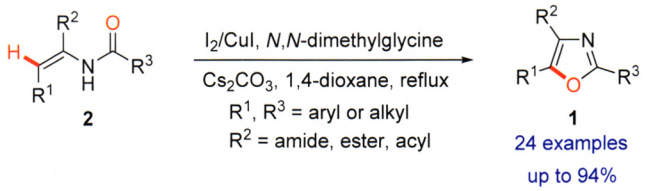
Rapid Access to 4*H*-3,1-Benzoxazin-4-ones via Gold-Catalyzed One-Pot Oxidative Rearrangement of 2-Alkynyl Arylazides



Zhang, Xiaoxiang*; Lü, Chang; Li, Ping; Yong, Wanxiong; Li, Jing; Zhu, Xinbao*
Chin. J. Org. Chem. **2018**, *38*(1), 208

A rapid access to 4*H*-3,1-benzoxazin-4-ones and anthranilic acids by gold-catalyzed one-pot one-step oxidative rearrangement of 2-alkynyl arylazides is developed.

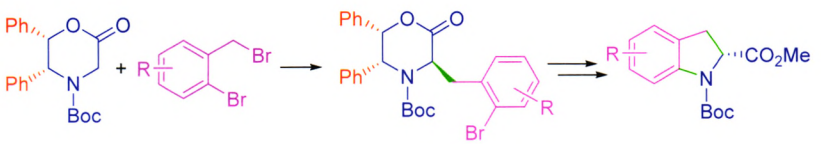
I_2/CuI-Mediated Oxidative Cyclization of Enamides to Polysubstituted Oxazoles



Yu, Wenquan; Chang, Junbiao*
Chin. J. Org. Chem. **2018**, *38*(1), 215

A variety of polysubstituted oxazoles were synthesized by I_2/CuI-mediated oxidative cyclization of readily accessible enamide substrates in satisfactory yields.

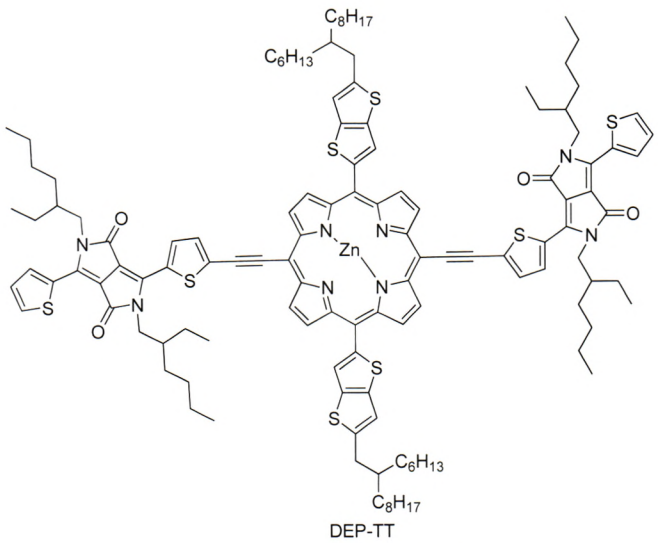
Asymmetric Synthesis of Methyl *N*-(*tert*-Butoxycarbonyl)indoline-2-carboxylates



Zhang, Qianqian; Ding, Qunshan; Song, Chuanjun*; Chang, Junbiao*
Chin. J. Org. Chem. **2018**, *38*(1), 221

A series of novel 3-phenyl propan-1-one oxime ethers bearing pyridine moiety were synthesized and their *in-vitro* antifungal activities against *S. sclerotiorum* and *B. cinerea* were evaluated. The results indicated that some compounds displayed high antifungal activity, which was even higher than that of the positive control, chlorothalonil.

An Efficient Ternary Organic Solar Cell with a Porphyrin Based Small Molecule Donor and Two Fullerene Acceptors



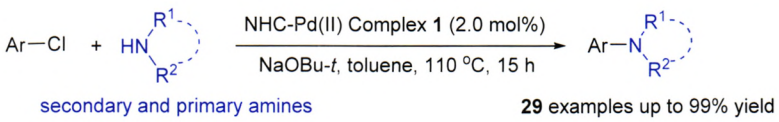
Sun, Yanna; Gao, Huanhuan; Zhang, Yamin; Wang, Yunchuang; Kan, Bin; Wan, Xiangjian; Zhang, Hongtao; Chen, Yongsheng*
Chin. J. Org. Chem. **2018**, *38*(1), 228

A thieno[3,2-*b*]thiphene-substituted porphyrin molecule flanked with two diketopyrrolopyrrole units by ethynylene bridges, namely DEP-TT, was designed and synthesized which was blended with $PC_{71}BM$ and ICBA to fabricate efficient ternary organic solar cells.

CONTENT

NOTES

Buchwald-Hartwig Amination of Aryl Chlorides Catalyzed by Trinuclear *N*-Heterocyclic Carbene-Palladium(II) Complexes

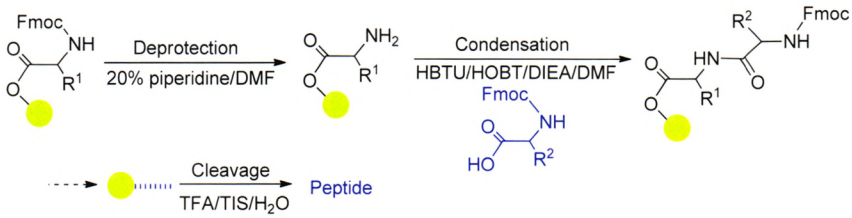


Wang, Tao*; Xu, Kai; Zhang, Anan; Wang, Wanli; Liu, Lantao*

Chin. J. Org. Chem. **2018**, *38*(1), 259

The trinuclear *N*-heterocyclic carbene-palladium(II) complexes were found to be the effective catalyst precursors for the Buchwald-Hartwig amination of aryl chlorides. With catalyst loading of 2.0 mol%, the amination of secondary and primary amines with a variety of electronically and structurally diverse aryl chlorides gave the desired products in moderate to high yields within hours.

Solid Phase Synthesis and Property of Signature Motif III in Peptide Transporter

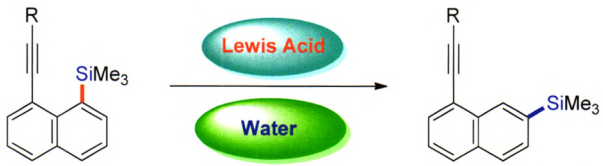


Zhao, Dongxin*; Lü, Mingxiu; Ma, Li; Lu, Kui*

Chin. J. Org. Chem. **2018**, *38*(1), 266

The solid-phase synthesis of signature motif III in peptide transporter and its mutants is reviewed. The interaction of the peptides with DNA detected using UV and fluorescence spectra is discussed for the future development and application of peptides.

Gold(I)-Catalyzed 1,2-Migration of a $SiMe_3$ Group on Naphthalene Rings

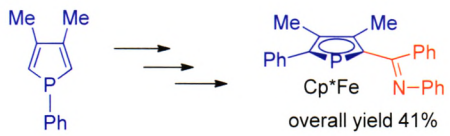


Yang, Qi; Liu, Liang; Zhang, Wen-Xiong; Xi, Zhenfeng*

Chin. J. Org. Chem. **2018**, *38*(1), 272

1,2-Silyl migration of 1,8-di-substituted naphthalene rings catalyzed by AuI was reported. Lewis acid and distilled water worked synergistically to give the best result. The mechanism of catalytic circle was also proposed.

Synthesis, Structure and Coordination Chemistry of an α-Iminophosphaferrocene



Hao, Yanwei; Tian, Rongqiang*; Wu, Di; Duan, Zheng*; Mathey, François*

Chin. J. Org. Chem. **2018**, *38*(1), 277

An 2-iminophospholide **1** can be obtained via two [1,5] shifts by reaction of potassium tertbutoxide with 3,4-dimethyl-1-phenylphosphole and an imidoyl chloride. The reaction of **1** with $[Cp^*FeCl]_n$ affords a 2-iminophosphaferrocene **2** which behaves as a P,N chelating ligand toward $Mo(CO)_4$ and $Rh(CO)_2]^+$. The X-ray crystal structures of **2** and its Mo complex have been recorded.

HIGHLIGHTS

Chin. J. Org. Chem. **2018**, *38*(1), 281

