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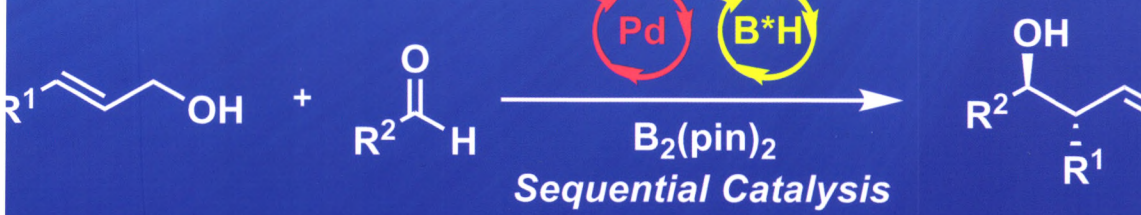

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目　次

综述

研究通讯

研究论文

* 通信联系人.

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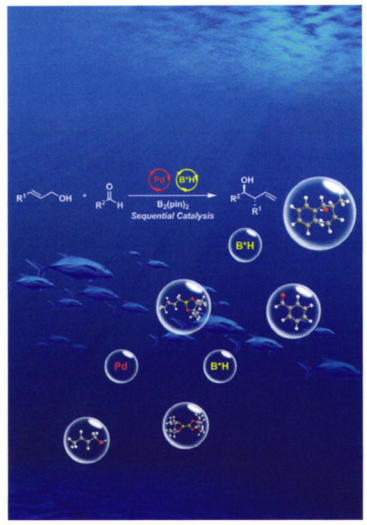
Vol. 75, No. 12 December 15, 2017

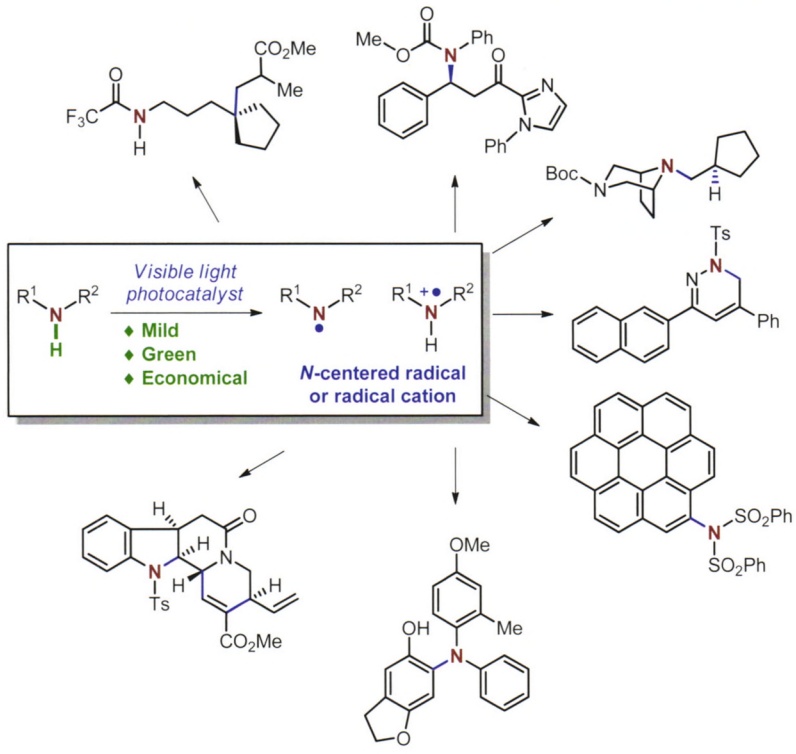
Contents



On the cover: An asymmetric carbonyl allylation of aldehydes with allylic alcohols in the presence of pinacol diborate has been established by the sequential catalysis of palladium complex and chiral phosphoric acid, leading to chiral homoallylic alcohols. A wide range of allylic alcohols and aldehydes participated in the carbonyl allylation reaction smoothly and delivered the desired homoallylic alcohol products in high yields and excellent levels of stereoselectivities. [Gong, Liu-Zhu *et al.* on page 1196-1201.]

Review

Advances on Nitrogen-centered Radical Chemistry: A Photocatalytic N–H Bond Activation Approach

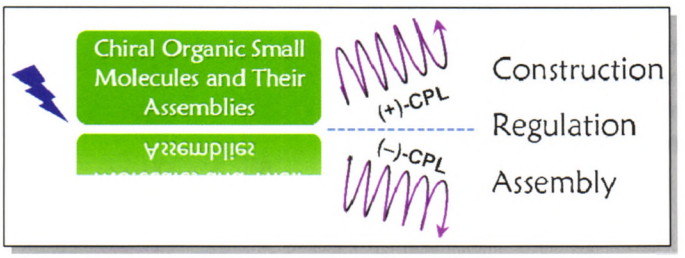


Song, Hao; Liu, Xiaoyu; Qin, Yong*

Acta Chim. Sinica **2017**, *75*(12), 1137-1149

Photocatalytic generation of nitrogen-centered radicals via activation of N—H bonds has recently emerged as a versatile approach to access various nitrogen-containing compounds. This highlight summarizes the advances in this research field that were reported since 2016.

Recent Progress on Circularly Polarized Luminescence of Chiral Organic Small Molecules

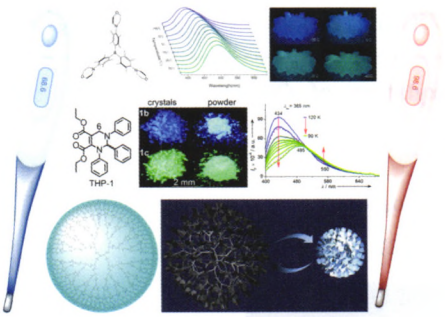


Li, Meng; Lin, Wei-Bin; Fang, Lei; Chen, Chuan-Feng*

Acta Chim. Sinica **2017**, *75*(12), 1150-1163

Construction, regulation and assembly of chiral organic small molecules with circularly polarized luminescence are summarized.

Progress in Organic Fluorescent Thermometers

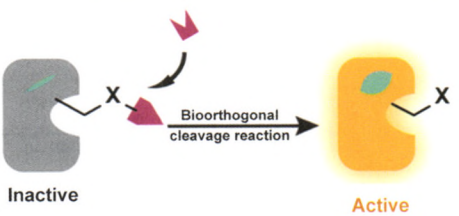


Qin, Tianyi; Zeng, Yi*; Chen, Jinping; Yu, Tianjun; Li, Yi*

Acta Chim. Sinica **2017**, *75*(12), 1164-1172

Fluorescent temperature sensing, as a new method for temperature measurement, has received much attention because of its high resolution, fast response and observation with bear eyes, *etc*. The recent advances of organic fluorescence thermometers mentioned above will be presented and the challenges and the future development will be discussed.

Development and Applications of Bioorthogonal Cleavage Reactions

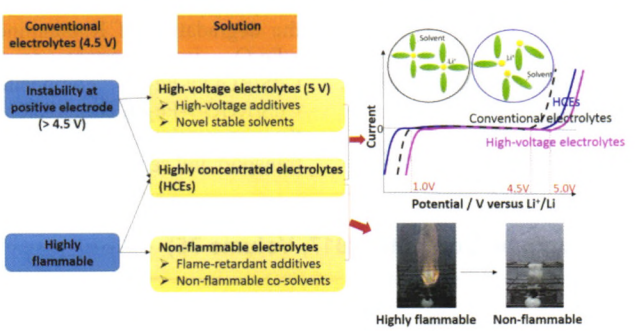


Wang, Jie; Chen, Peng*

Acta Chim. Sinica **2017**, *75*(12), 1173-1182

The activity and functions of biomolecules will be recused when the protecting group of a "key site" is removed via bioorthogonal cleavage reactions.

Research Progress and Perspectives on High Voltage, Flame Retardant Electrolytes for Lithium-Ion Batteries



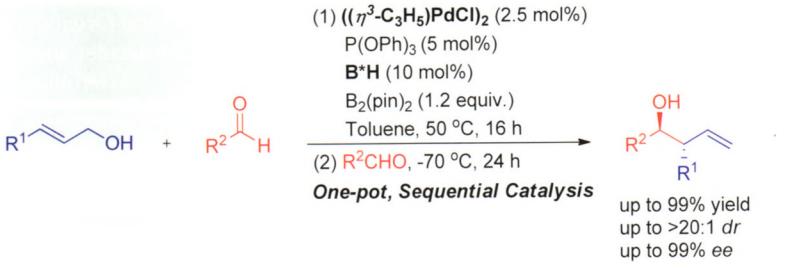
Xia, Lan; Yu, Linpo; Hu, Di; Chen, Z. George*

Acta Chim. Sinica **2017**, *75*(12), 1183-1195

There are two major challenges to using carbonate-based electrolytes in recent lithium ion batteries (LIBs) to further increase the energy density of the devices without compromising the safety. One is that carbonate-based electrolytes are not sufficiently stable at the positive electrode, and the other is their relatively high flammability. In this paper, we review the recent progress and challenges in new electrolytes, focusing on high-voltage electrolytes, flame retardant electrolytes and highly concentrated electrolytes.

Communication

Asymmetric Carbonyl Allylation of Aldehydes with Allylic Alcohols under the Sequential Catalysis of Palladium Complex and Chiral Phosphoric Acid

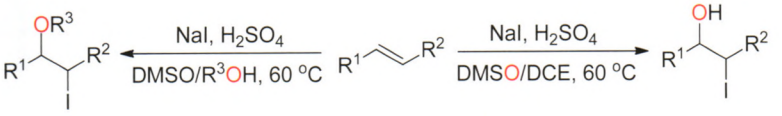


Zhang, Zi-Jing; Tao, Zhong-Lin; Arafate, Adele; Gong, Liu-Zhu*

Acta Chim. Sinica **2017**, *75*(12), 1196-1201

An asymmetric carbonyl allylation of aldehydes with allylic alcohols in the presence of pinacol diborate has been established by the sequential catalysis of palladium complex and chiral phosphoric acid, leading to chiral homoallylic alcohols in high yields and excellent levels of stereoselectivities.

Oxidative Iodohydroxylation of Olefins with DMSO

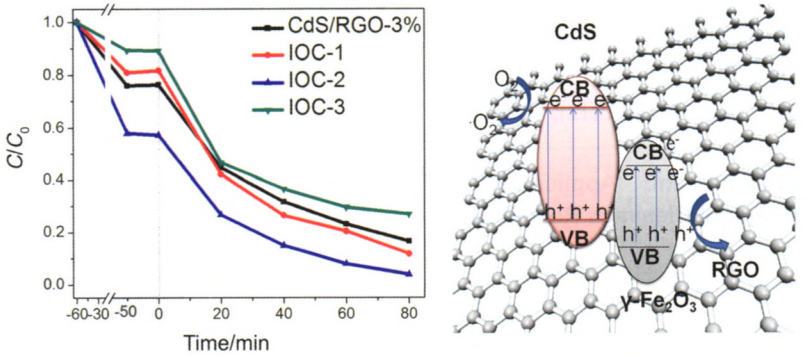


Li, Xinwei; Song, Song*; Jiao, Ning*

Acta Chim. Sinica **2017**, *75*(12), 1202-1206

Article

Synthesis of γ-Fe_2O_3 Nanocubes Decorated Graphene/CdS Nanocomposites with Enhanced Photocatalytic Performance



Wu, Jiajia; Ji, Zhenyuan; Shen, Xiaoping*; Miao, Xuli; Xu, Keqiang

Acta Chim. Sinica **2017**, *75*(12), 1207-1214

In this work, with Prussian blue (PB) as the precursor for γ-Fe_2O_3, the tri-component CdS/RGO/γ-Fe_2O_3 photocatalyst was prepared through loading PB nanocubes and CdS nanoparticles on graphene oxide (GO) nanosheets, followed by a calcination process in inert atmosphere (N_2). In comparison with CdS/RGO composites, the CdS/RGO/γ-Fe_2O_3 composites exhibit remarkably enhanced visible-light-driven photocatalytic activity for the degradation of Rhodamine B. It was revealed that a suitable loading amount of γ-Fe_2O_3 is important to optimize the photocatalytic performance of the CdS/RGO/γ-Fe_2O_3 composites. The enhanced photocatalytic performance of CdS/RGO/γ-Fe_2O_3 composites can be ascribed to the excellent conductivity of RGO and the construction of type-Z heterostructure between CdS and γ-Fe_2O_3, which facilitate the transport and separation of photogenerated carriers.

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