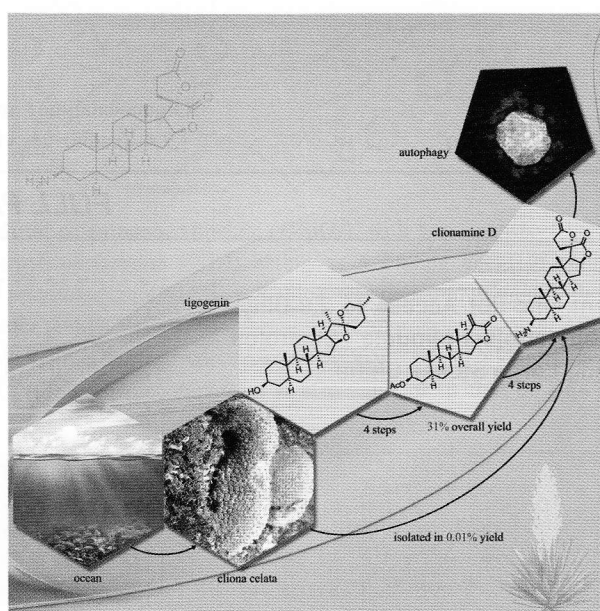


中国科学院科学出版基金资助出版

COVER PICTURE

The cover picture shows a short and efficient synthesis of clionamine D. Steroidal α -methylene- γ -lactones are versatile intermediates for synthesizing related natural products such as clionamines A–D, a family of marine natural alkaloids with potent autophagy bioactivities and unprecedented chemical structures. Employing single oxygen to break the C22–C23 double bond via a [2+2]/retro-[2+2] process, Shi and Tian *et al.* have developed a scalable, four-step procedure to prepare α -methylene- γ -lactone directly from steroidal saponogenin—needn't prepare dinorcholanic lactone first. A synthesis of clionamine D was therefore achieved in eight steps with an overall yield of 31%. More details are discussed in the article by Tian *et al.* on page 1235–1238.

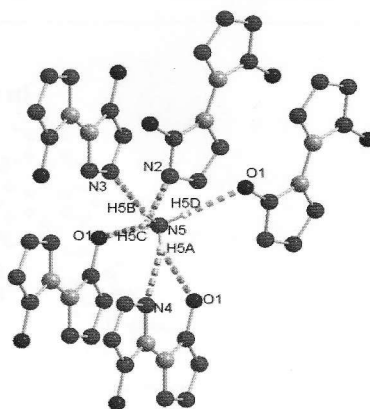


COMMUNICATIONS

1229

Preparation, Crystal Structure and Properties of a New Crystal Form of Diammonium 5,5'-bistetrazole-1,1'-diolate

Xiaojun Wang, Shaohua Jin, Chunyuan Zhang, Lijie Li, Shusen Chen, Qinghai Shu*

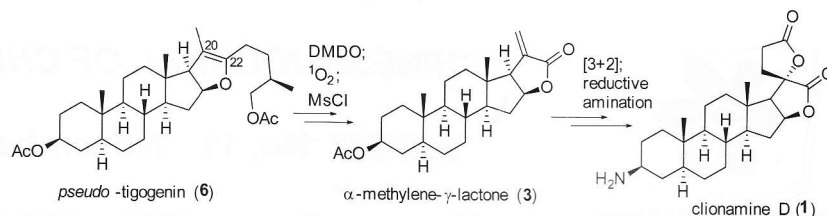


A new crystal form of diammonium 5,5'-bistetrazole-1,1'-diolate (**1**) was prepared by two different novel methods and found as monoclinic and space group of $P2_1/c$ (14). The thermal decomposition analysis and sensitivities test towards impact, friction of **1** indicated that **1** has much lower sensitivities than those of RDX/HMX and is comparable to those of TNT, which suggested that **1** could be used as a good candidate of new insensitive energetic compound.

CONTENT

1235

A Short Synthesis of Clonamine D

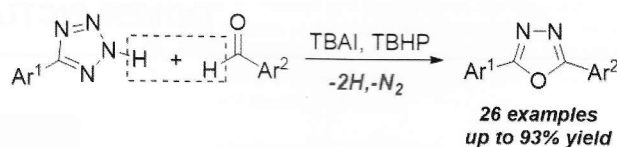


Xiang Hao, Jingjing Wu, Hailong Tian, Yong Shi,* Jingrong Lin, Weisheng Tian*

A convenient preparation of α -methylene- γ -lactone **3** from tigogenin was developed, which enabled an efficient synthesis of clonamine D, a natural aminosteroid with the autophagy bioactivity and an unprecedented spirobis lactone structure.

1239

Organocatalytic Oxidative Amidation of Aldehydes with Tetrazoles to Construct 2,5-Diaryl 1,3,4-Oxadiazoles



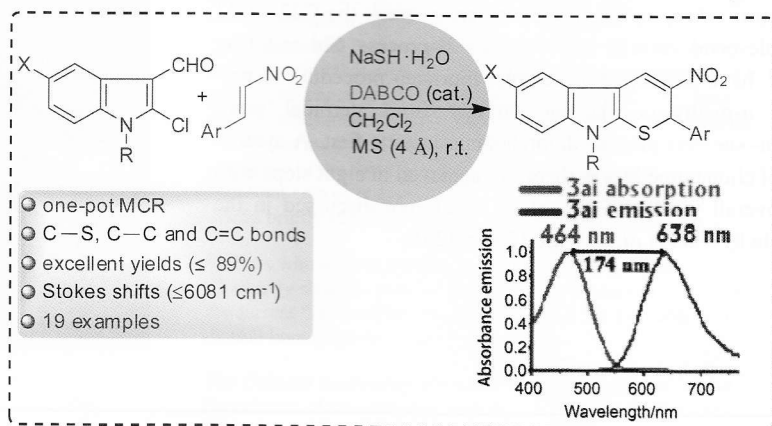
Jing Cao, Lian Wang*

Organocatalytic oxidative amidation of aldehydes with tetrazoles to deliver 1,3,4-oxadiazoles via one-pot fashion using TBAI/TBHP system is developed.

FULL PAPERS

1244

Efficient One-Pot Access to 2,9-Dihydrothiopyrano[2,3-*b*]indole Scaffolds Showing Large Stokes Shifts

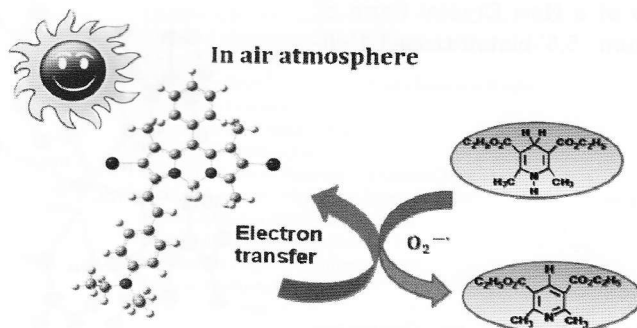


Shivendra Singh, Sampak Samanta*

A wide range of functionalized 2,9-dihydrothiopyrano[2,3-*b*]indoles were realized in good to high yields. Interestingly, these compounds have shown large Stokes shift values ranging from $5750\text{--}6081\text{ cm}^{-1}$.

1251

Intramolecular Charge Transfer-Enhanced BODIPY Photosensitizer in Photoinduced Electron Transfer and Its Application to Photooxidation under Mild Condition

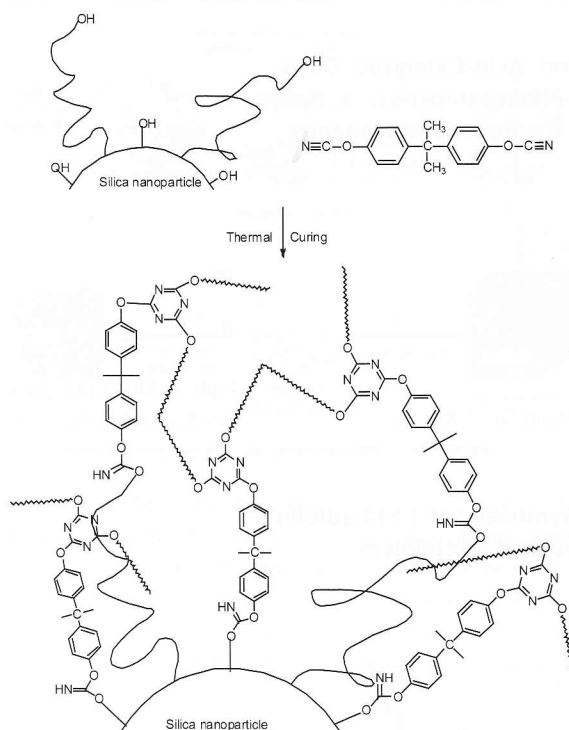


Ruiqin Wang, Ying Geng, Lili Zhang, Wenting Wu,* Weiyu Fan, Zhongtao Li, Lizhuo Wang, Liying Zhan, Xueyan Wu, Mingbo Wu*

In air atmosphere, photosensitizer **B-3** can generate superoxide anion radical more rapidly as a consequence of enhanced photoinduced electron transfer process. As expected, the conversion rate of 1,4-DHP can reach to 98.2% within 28 min.

1259

Cyanate Ester/Functionalized Silica Nanocomposite: Synthesis, Characterization and Properties

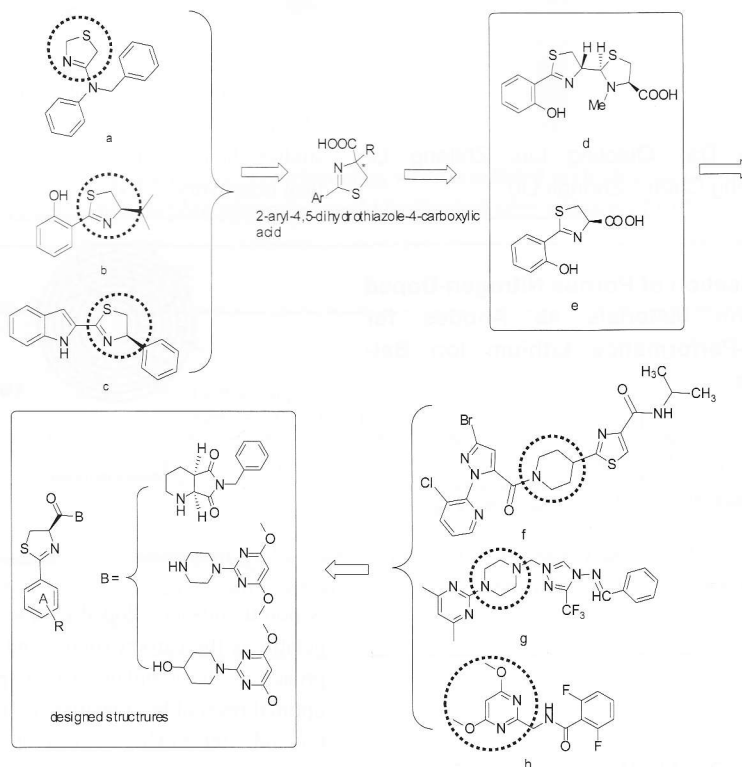


A novel functionalized silica nanocomposite (F-SiO₂), with 5-isocyanato-1-isocyanato-methyl-1,3,3-trimethylcyclohexane (IPDI) acting as a linking agent to connect hydroxyl-terminated polybutadiene (HTPB) and silica, was prepared to modify the bisphenol A dicyanate ester (BADCy). The incorporation of appropriate content of modified F-SiO₂ can enhance the mechanical properties of BADCy resin. In addition, the thermal stability of BADCy/F-SiO₂ nanocomposites is also superior to that of pure BADCy resin.

Jiapeng Li, Qihui He, Renfu Xu, Baixing Hu*

1269

Design, Synthesis, Antifungal Activities and SARs of (*R*)-2-Aryl-4,5-dihydrothiazole-4-carboxylic Acid Derivatives



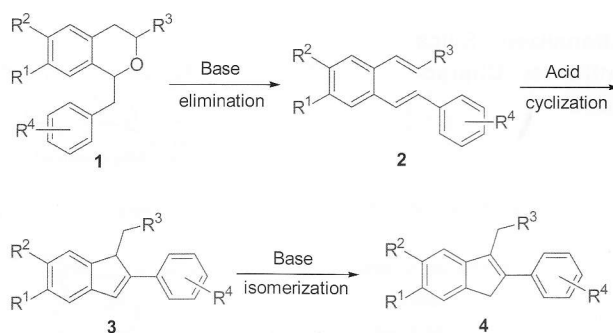
Jingbo Liu, Yuxin Li,* Youwei Chen, Xuewen Hua, Yingying Wan, Wei Wei, Haibin Song, Shujing Yu, Xiao Zhang, Zhengming Li*

A series of (*R*)-2-phenyl-4,5-dihydrothiazole-4-carboxylic acid derivatives were designed, synthesized, and tested for their antifungal activities.

CONTENT

1276

Synthesis and Acid-Catalyzed Cyclization of 2-Alkenylstilbenes: a New Approach to the Substituted Indenes

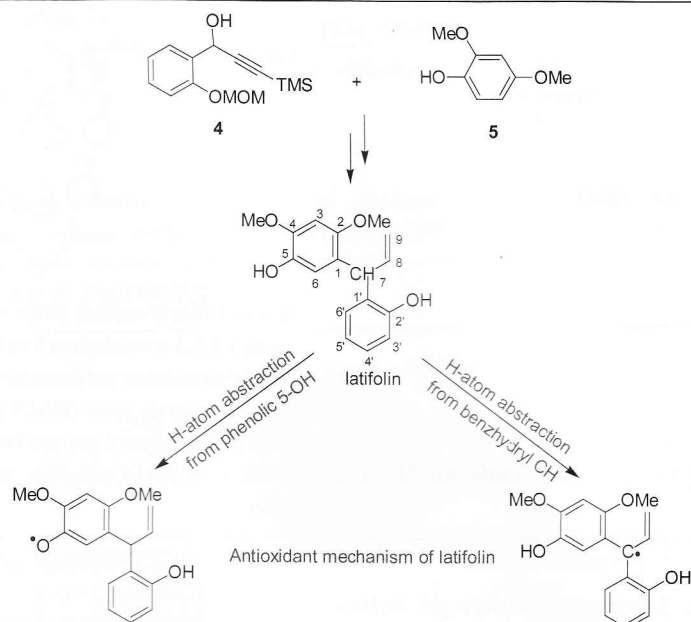


Wei Ding, Xiaoxin Shi,* Xia Lu

A base-catalyzed ring-opening of 1-benzylisochromans **1** firstly produced 2-alkenylstilbenes **2**, which then underwent a mild acid-catalyzed intramolecular cyclization to furnish 1,2-disubstituted indenes **3** in high yields. Subsequently, a base-catalyzed isomerization of the 1,2-disubstituted indenes **3** afforded the more stable 2,3-disubstituted indenes **4** in almost quantitative yields.

1287

First Total Synthesis of (±)-Latifolin and Its Antioxidant Mechanism

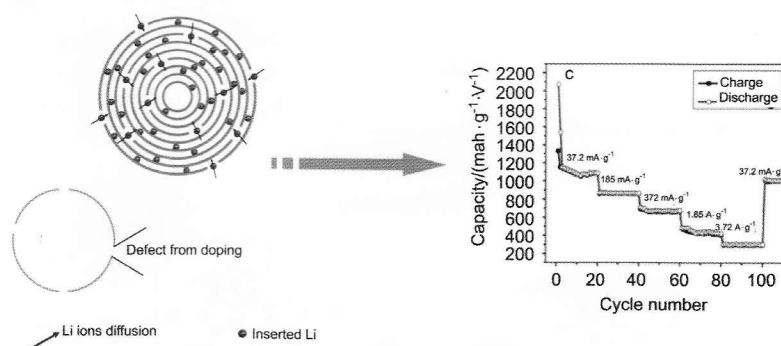


Yihua Dai, Qiaoling Liu, Zhifang Li, Weifeng Chen,* Zhongli Liu

The first total synthesis of (±)-latifolin has been accomplished in six steps and 47.8% overall yield. Based on DPPH-scavenging assay and density functional theory (DFT) studies, the H-atom abstraction of latifolin should take place in the phenolic 5-OH rather than benzhydryl 7-CH.

1293

Fabrication of Porous Nitrogen-Doped Carbon Materials as Anodes for High-Performance Lithium Ion Batteries

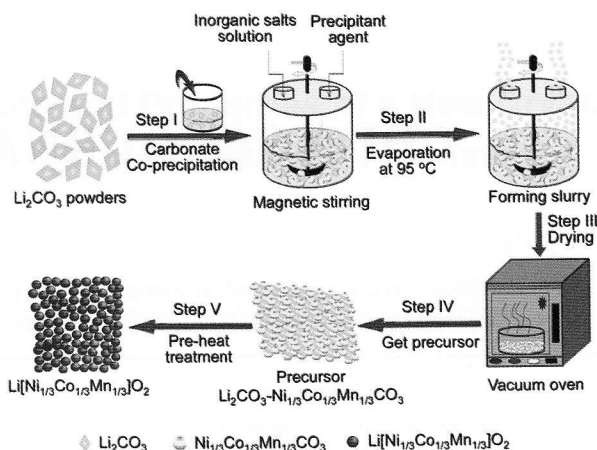


Junke Ou, Lin Yang, Yongzhi Zhang, Li Chen, Yong Guo, Dan Xiao*

A porous nitrogen-doped carbon material was fabricated by using nitrogen containing gelatin as the carbon source and nano-silica obtained by a simple flame synthesis approach as the template. The as-prepared carbons (especially the HNC-700) delivered optimal reversible capacities of $1084 \text{ mAh}\cdot\text{g}^{-1}$ at the current density of $37.2 \text{ mA}\cdot\text{g}^{-1}$ (0.1 C) and $309 \text{ mAh}\cdot\text{g}^{-1}$ even at $3.72 \text{ A}\cdot\text{g}^{-1}$ (10 C). These results suggest that the as-obtained carbon materials would be promising anode materials for lithium ion batteries.

1303

Preparation and Electrochemical Performance of $\text{Li}[\text{Ni}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}]\text{O}_2$ Synthesized Using Li_2CO_3 as Template

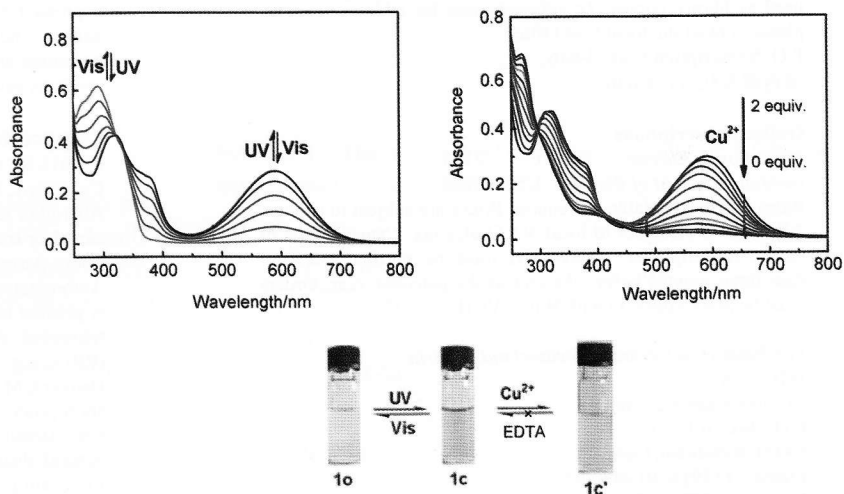


The porous $\text{Li}[\text{Ni}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}]\text{O}_2$ has been synthesized via a facile carbonate co-precipitation method using Li_2CO_3 as template and lithium-source. The porous structure of $\text{Li}[\text{Ni}_{1/3}\text{Co}_{1/3}\text{Mn}_{1/3}]\text{O}_2$ can offer more Li^+ location and shorten the distance of Li^+ ion and electron, resulting in excellent electrochemical performance.

Jibin Zhang, Yanjun Zhong, Xiaying Shi, Zhuo Zheng, Weibo Hua, Yanxiao Chen,* Wenyan Liu, Benhe Zhong

1310

A Highly Selective Chemosensor for Cu^{2+} Based on a Diarylethene Linking an Aminoquinoline Unit



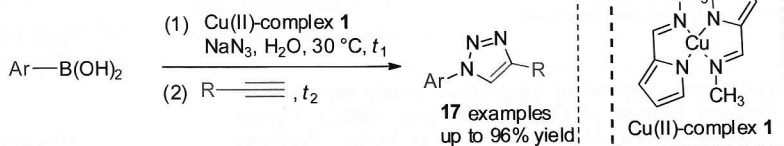
Congcong Zhang, Congbin Fan,* Shouzhi Pu,* Gang Liu

Diarylethene **1** can undergo photochromism when irradiated with 297 nm UV light and visible light while its photochromism could be blocked after addition of Cu^{2+} .

NOTE

1317

An Efficient Copper-Catalyzed One-Pot Synthesis of 1-Aryl-1,2,3-triazoles from Arylboronic Acids in Water under Mild Conditions



A new one-pot two-step procedure was developed to prepare 1-aryl-1,2,3-triazoles in good to excellent yields from arylboronic acids in water under mild and operationally simple conditions.

Changbo Hao, Changjian Zhou, Jianwei Xie,* Jie Zhang, Ping Liu, Bin Dai