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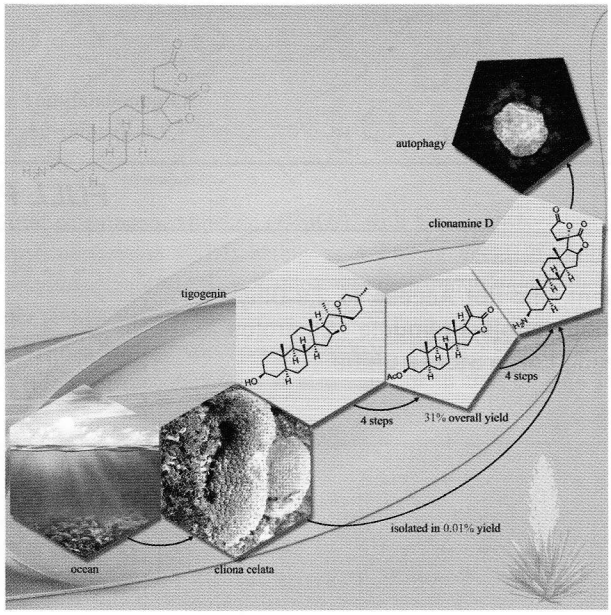
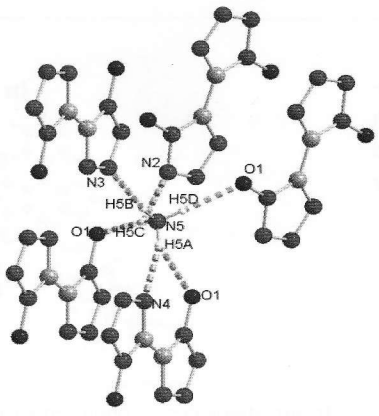
COVER PICTURE

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 sapogenin—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



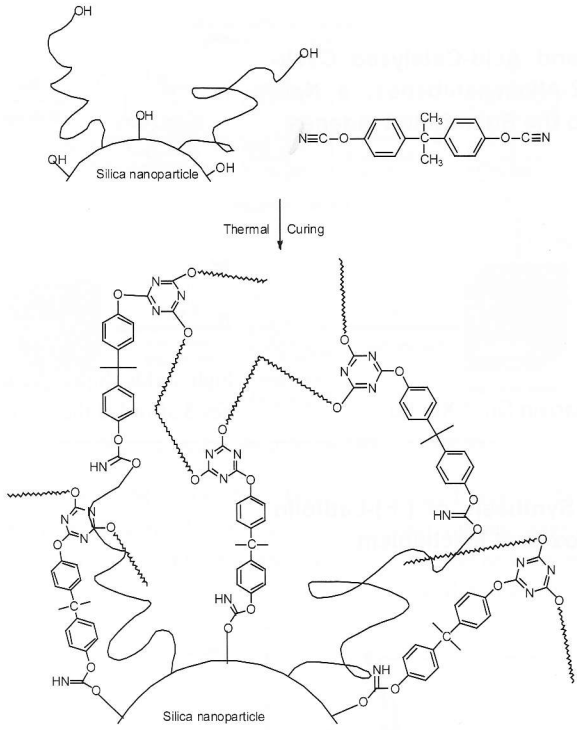
A new crystal form of diammonium 5,5'-bistetrazole-1,1'-diolate (**1**) was prepared by two different novel methods and found as monoclinic and space group of $P21/c$ (14). The thermal decomposition analysis and sensitivities test towards impact, friction of **1** indicated that **1** has much lower 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

FULL PAPERS

1259

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

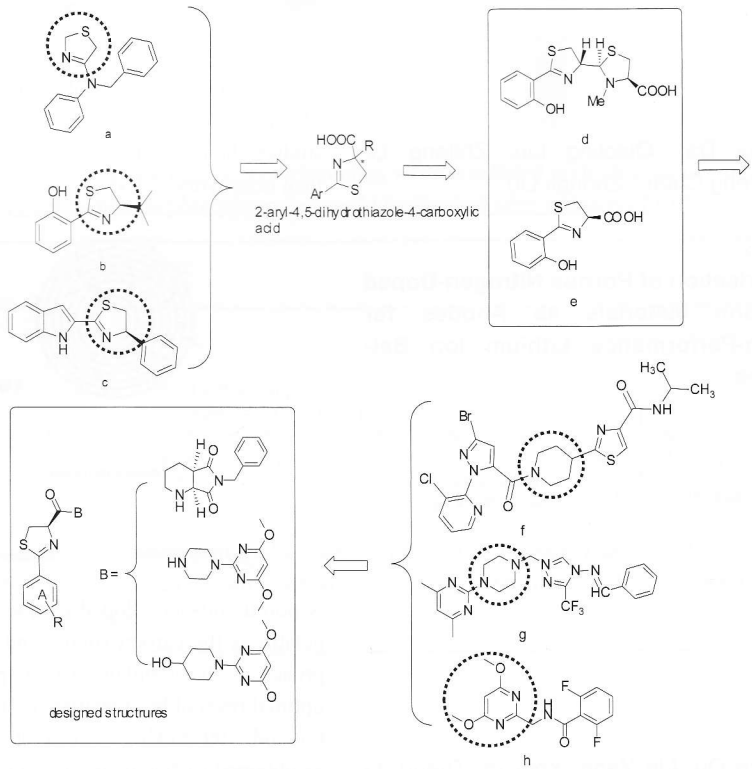


Jiapeng Li, Qihui He, Renfu Xu, Baixing Hu*

A novel functionalized silica nanocomposite (F-SiO_2), with 5-isocyanato-1-isocyanatomethyl-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-SiO_2 can enhance the mechanical properties of BADCy resin. In addition, the thermal stability of BADCy/F-SiO_2 nanocomposties is also superior to that of pure BADCy resin.

1269

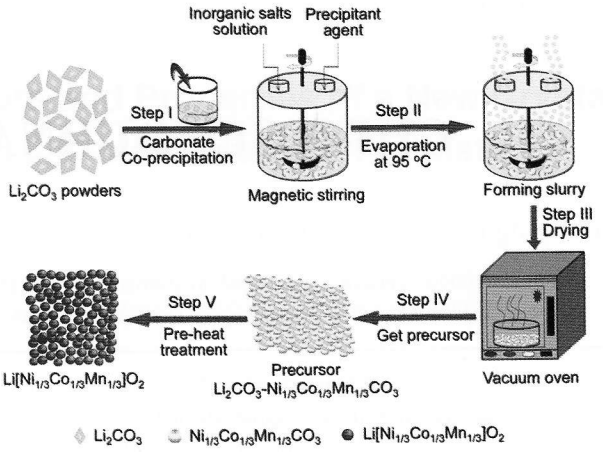
Design, Synthesis, Antifungal Activities and SARs of (*R*)-2-Aryl-4,5-dihydrothiazole-4-carboxylic Acid Derivatives



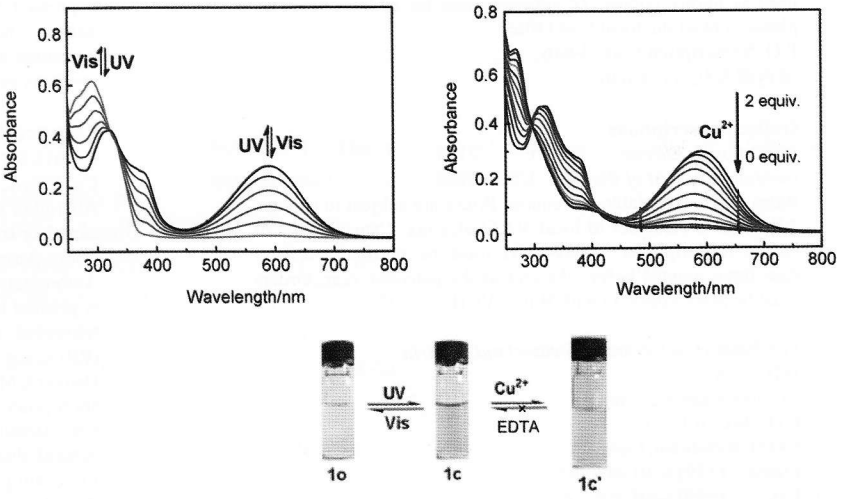
Jingbo Liu, Yuxin Li,* Youwei Chen, Xuewen Hua, Yingying Wan, Wei Wei, Haibin Song, Shujing Yu, Xiao Zhang, Zhengming Li*

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

CONTENT

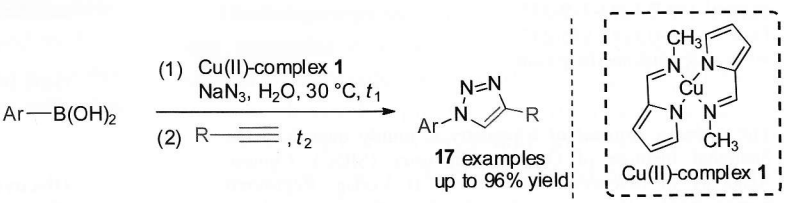


The porous $Li[Ni_{1/3}Co_{1/3}Mn_{1/3}]O_2$ has been synthesized via a facile carbonate co-precipitation method using Li_2CO_3 as template and lithium-source. The porous structure of $Li[Ni_{1/3}Co_{1/3}Mn_{1/3}]O_2$ can offer more Li^+ location and shorten the distance of Li^+ ion and electron, resulting in excellent electrochemical performance.



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



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.

