

عنوان مقاله:

Microwave assisted nano-coconut shell-BF₃ as heterogenous new catalyst for multicomponent synthesis of 4H-chromene derivatives

محل انتشار:

چهارمین کنفرانس بین المللی یافته های نوین در علوم کشاورزی، منابع طبیعی و محیط زیست (سال: 1397)

تعداد صفحات اصل مقاله: 9

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خلاصه مقاله:

The reaction of nano-coconut shell and boron trifluoride in diethyl ether gave nano-coconut shell-BF₃. Also nanococonut shell-BF₃ has been characterized by Fourier transform infrared spectroscopy (FT-IR), Field Emission Scanning Electron Microscopy (FESEM) and transmission electron microscopy (TEM). Nano-coconut shell-BF₃ has been applied as a new catalyst for synthesis of 4H-chromene derivatives from the simple one-pot reaction between aryl aldehydes, cyclic 1,3-diketone and malononitrile. Cleanliness, simple methodology, short time, and excellent yields of products are some advantages of this method.

کلمات کلیدی:

4H-chromene, boron trifluoride, nanocatalyst, multicomponent reaction, coconut shell

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