

## عنوان مقاله:

Comparison of Nano Catalysts in Synthesis of Tetrahydrobenzo [ $\alpha$ ] Xanthene-11-One

## محل انتشار:

پنجمین همایش بین المللی علوم و تکنولوژی با رویکرد توسعه پایدار (سال: 1398)

تعداد صفحات اصل مقاله: 5

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## خلاصه مقاله:

Fe<sub>3</sub>O<sub>4</sub> / SiO<sub>2</sub>/HClO<sub>4</sub> nanoparticles were used as support for solid acid to synthesise the Multi-component reaction of tetrahydrobenzo[a] xanthene-11-ones in solvent-free conditions and the desired products at a good to high yield were obtained. The Fe<sub>3</sub>O<sub>4</sub> / SiO<sub>2</sub>/HClO<sub>4</sub> NPs were thoroughly characterized by using SEM, FT-IR. The results showed that the catalyst has a high activity, is environmentally friendly, heterogeneous and easy to recover from the reaction mixture without losing its catalytic activity.

## کلمات کلیدی:

.Multicomponent reaction; Green chemistry; Nano-catalyst; solid acid

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/967314>

