

عنوان مقاله:

One-Pot Synthesis of β -Amino Ketones via Direct Mannich-type Reaction Catalyzed with $\text{CuFe}_2\text{O}_4@\text{SO}_3\text{H}$

محل انتشار:

بیست و ششمین سمینار شیمی آلی ایران (سال: 1397)

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خلاصه مقاله:

Mannich reactions are among the most important carbon-carbon bond forming reactions in organic synthesis. They provide β -amino carbonyl compounds, which are important synthetic intermediates for various pharmaceuticals and natural products [1]. Therefore, the development of new synthetic methods leading to β -amino carbonyl compounds or their derivatives has attracted much attention. However, the classic Mannich reaction has limited applications. Attempts have been made in the past to improve methodologies based on two-component reactions, where the imine as electrophile is formed and then reacted with nucleophiles such as enolates, enol ethers, and enamines [2]. However, in most cases these protocols use hazardous organic solvents, costly and non-recoverable catalysts, and requirement of special effort for catalyst preparation, and suffer from long reaction time with low yields [3]. Therefore, the development of modern versions of the reaction that work under mild conditions is of great importance. $\text{CuFe}_2\text{O}_4@\text{SO}_3\text{H}$ is an excellent acidic catalyst, which is frequently used to promote some important reactions. We report herein full details of a novel, convenient, and simple procedure to realize a one-pot three-component reaction of aldehydes, amines, and ketones, catalyzed by $\text{CuFe}_2\text{O}_4@\text{SO}_3\text{H}$, for the preparation of β -amino carbonyl compounds in EtOH.

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/913440>

