

A Rapid and Green Method for Solvent-Free Synthesis of 1,8-Dioxodecahydroacridine Using Tetrabutylammonium Hexatungstate as a Reusable Heterogeneous Catalyst

Abolghasem DAVOODNIA*, Atefeh ZARE-BIDAKI, Hossein BEHMADI

Department of Chemistry, Mashhad Branch, Islamic Azad University, Mashhad, Iran

Abolghasem DAVOODNIA*, Atefeh ZARE-BIDAKI, Hossein BEHMADI

Department of Chemistry, Mashhad Branch, Islamic Azad University, Mashhad, Iran

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摘要 Tetrabutylammonium hexatungstate, [TBA]₂[W₆O₁₉], has been used as an efficient, inexpensive, and recyclable green catalyst for the one-pot three-component synthesis of 1,8-dioxodecahydroacridines by the reaction of dimedone with aromatic or aliphatic aldehydes in the presence of a nitrogen source (ammonium acetate or aromatic amines) under neat conditions. There are several advantages to the current process over the standard procedures available in the literature, including shorter reaction times (7 – 14 min), higher yields, facile work-up, and minimal environmental impact. Furthermore, the catalyst can be conveniently recovered and reused.

关键词: 1,8-dioxodecahydroacridine solvent-free condition tetrabutylammonium hexatungstate

Abstract: Tetrabutylammonium hexatungstate, [TBA]₂[W₆O₁₉], has been used as an efficient, inexpensive, and recyclable green catalyst for the one-pot three-component synthesis of 1,8-dioxodecahydroacridines by the reaction of dimedone with aromatic or aliphatic aldehydes in the presence of a nitrogen source (ammonium acetate or aromatic amines) under neat conditions. There are several advantages to the current process over the standard procedures available in the literature, including shorter reaction times (7 – 14 min), higher yields, facile work-up, and minimal environmental impact. Furthermore, the catalyst can be conveniently recovered and reused.

Keywords: 1,8-dioxodecahydroacridine, solvent-free condition, tetrabutylammonium hexatungstate

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