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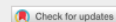
Multi-component reaction synthesis of 3-(triphenyl phosphoranylidene) propanoate derivatives *via* triphenylphosphine and propylate using magnetic $\text{CuFe}_2\text{O}_4@\text{MIL-101}(\text{Fe})$ nanoparticles at room temperature

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Pages 1132-1144 | Received 24 Dec 2023, Accepted 25 Mar 2024, Published online: 31 May 2024

Cite this article

<https://doi.org/10.1080/00958972.2024.2353299>



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Abstract

A simple, one-pot synthesis of 3-(triphenyl phosphoranylidene) propanoate derivatives has been achieved in moderate to good yields *via* a multi-component reaction of triphenylphosphine and propylate using $\text{CuFe}_2\text{O}_4@\text{MIL-101}(\text{Fe})$ nanoparticle at room temperature conditions. The structure of the prepared nanocomposite was confirmed by energy dispersive X-ray spectroscopy (EDX), scanning electron microscopic analysis (SEM), X-ray diffraction (XRD), thermal gravimetry (TGA), and pore size distribution. The catalyst can be recovered magnetically and reused at least four times without significant loss of activity. Our approach demonstrates facile preparation using simple and readily available precursors, with catalysis occurring with good to high yields. This method has advantages in that the reactions are carried out under normal conditions and at room temperature, and the materials are mixed without purification and activation.

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