

Short Note

(2E)-1-(2,5-Dimethyl-3-thienyl)-3-(4-nitrophenyl)propenone

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Abstract: The title compound, (2E)-1-(2,5-dimethyl-3-thienyl)3-(4-nitrophenyl)propenone (**3**) was synthesized in high yield by reaction of 3-acetyl-2,5-dimethylthiophene and 4-nitrobenzaldehyde in the presence of sodium hydroxide. The structure of the compound was fully characterized by IR, ¹H NMR, ¹³C NMR, GC-MS spectral analysis and elemental analysis.

Keywords: chalcone; condensation; 4-nitrobenzaldehyde

1,3-Diaryl-2-propen-1-ones (chalcones) are products of condensation of simple or substituted aromatic aldehydes with simple or substituted acetophenones in the presence of alkali [1]. Chalcones constitute an important group of natural products and some of them possess a wide range of biological activities such as antimicrobial, anticancer, antitubercular, antiviral, etc. Recent studies on biological evaluation of chalcones revealed their potential to be antimalarial [2], antifungal [3], anticancer [4], antioxidant [5], tyrosinase inhibitory [6], anti-inflammatory [7] and antibacterial [8]. Some derivatives of chalcones are used as sweeteners, drugs, and sunscreen agents [9]. They are also well-known intermediates for the synthesis of various heterocyclic compounds such as pyrimidines, pyrazolines, pyrazoles, or thiazines [10]. These observations led us to synthesize a new chalcone from 3-acetyl-2,5-dimethylthiophene and 4-nitrobenzaldehyde in analogy to a previous report [11].