

Short Note

2*E*,2'*E*-3,3'-(1,4-Phenylene)bis(1-(2,5-dimethylfuran-3-yl)prop-2-en-1-one

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Abstract: A bis-chalcone has been synthesized by reaction of 3-acetyl-2,5-dimethylfuran and terephthalaldehyde in ethanolic NaOH at room temperature: (2*E*,2'*E*)-3,3'-(1,4-phenylene)bis(1-(2,5-dimethylfuran-3-yl)prop-2-en-1-one) (**3**) was obtained in high yield. The structure of this compound was established by elemental analysis, IR, ¹H NMR, ¹³C NMR and EI-MS spectral analysis.

Keywords: chalcone; terephthalaldehyde; 3-acetyl-2,5-dimethylfuran

The Claisen-Schmidt condensation is the most important reaction for the formation of 1,3-diphenyl-2-propene-1-ones. The products, also known as chalcones, generally are synthesized by this method from suitable acetophenones and benzaldehydes. Chalcones are considered to be precursors of flavonoids when found as naturally-occurring compounds. The chemical importance of chalcones is extended in two branches: their biological activity, including anti-inflammatory [1], antimetabolic [2], anti-leishmanial [3], anti-invasive [4], anti fungal [5], antimalarial [6] and anti-tumor [7] properties; as well as their recognized synthetic utility in the preparation of pharmacologically interesting heterocyclic systems such as thiazines, pyrimidines, and pyrazoles. Here we are reporting a novel bis-chalcone prepared from 3-acetyl-2,5-dimethylfuran and terephthalaldehyde. The product is assumed to exist as one *E,E*-diastereomer, since in the the ¹H-NMR spectrum the olefinic protons display coupling constants of 15.6 Hz indicative of the *E*-configuration.