

ABSTRACT

The Influence of Hydroxyl Group of 2,4-dihydroxyacetophenone on Synthesis of 2',4'-dihydroxychalcone

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Chalcone and 2',4'-dihydroxychalcone were synthesized from Benzaldehyde and Acetophenone or 2,4-dihydroxyacetophenone through *Claisen Schmidt* condensation mechanism reaction. The aim of this research is to determine the influence of hydroxyl group of 2,4-dihydroxyacetophenone on synthesis of 2',4'-dihydroxychalcone. The synthesis of both compounds was carried under microwave irradiation with the same condition and the structures of synthesized compounds were confirmed by UV-Vis spectrophotometry, IR spectrophotometry, and ¹H-NMR spectrometry.

The synthesis of Chalcone under microwave irradiation (400 watt, nine minutes) produced pale yellow crystal (1,72%) and its melting point is 51°C. The yield was poor due to low degree of catalyst purity (Bentonite). The synthesis of 2',4'-dihydroxychalcone with the same condition was unsuccessful. It might be due to overheat causing polymerization and producing reddish purple crystal which has melting point above 300°C.

Keywords: Chalcone, *Claisen Schmidt* condensation, hydroxyl group, microwave irradiation