ABSTRACT

The Effect of Pyridine and Triethylamine Catalysts on Synthesis of 4-benzoyloxy-3-methoxycinnamic Acid Through Microwave Irradiation

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This research aims to observe the effect of pyridine and 4-benzoyloxy-3the synthesis of triethylamine catalysts on methoxycinnamic acid. It was formed from ferulic acid and benzoyl chloride through acyl substitution nucleophilic reaction by microwave irradiation. This reaction was conducted under 540 W microwave irradiation for 3 minutes (30 second x 6) for both catalysts. The result showed that triethylamine catalyst significantly provided higher yield percentage (71.8%), compared to pyridine (65.3%). This is considerably due to the inductive effect of ethyl on TEA and resonance effect of pyridine which related to its basicity. FT-IR spectrophotometry and ¹H-NMR spectrometry profile confirmed that the product for both condition was 4benzoyloxy-3-methoxycinnamic acid. The purity of the product for both reaction condition was then determined by melting point test, thin layer chromatography (TLC), showed that the product was pure.

Keywords: 4-benzoyloxy-3-methoxycinnamic acid, pyridine, triethylamine microwave irradiation, catalyst

SKRIPSI

PENGARUH KATALIS PIRIDIN...