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PENGARUH WAKTU REAKSI TERHADAP PERSENTASE HASIL ASETILASI ANTARA ASAM *ORTO*-HIDROKSISINAMAT DENGAN ANHIDRIDA ASETAT

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ABSTRACT

In this research, *ortho*-coumaric acid was reacted with acetic anhydride in pyridine solvent. Pyridine was used to enhance basicity that is responsible in the rate of acetylation reaction. Besides, pyridine could protect carboxyl group (of *ortho*-coumaric acid) from attack of acetyl group, therefore, the acetyl attacks only hydroxyl group of *ortho*-coumaric acid. The reaction is run for 3 hours, 5 hours, and 8 hours (based on orientation). Finally, the time at which it gives the highest product/result is known.

The resulted coumpound was white and odourless crystal having melting range of 138-140^{0}C, it gives different Rf values by TLC. Analysis by UV-Vis spectrophotometry giving hypsochromic shift. Infrared spectrophotometry analysis showed the peaks of acetyl group. There are C=O group at the wave number of 1759,24 cm^{-1} and C-O group at 1174,75 cm^{-1}. The peak of OH group dissappears. Analysis by ^{1}H-NMR spectrometry shown that the compound has proton from acetic subtituent of δ 2,38 ppm and proton from aromatic ring of δ 6,36-7,94 ppm. According to analysis by TLC, melting point, UV-Vis spectrophotometry, FT-IR spectrophotometry and ^{1}H-NMR spectrometry, it can be summarized that acetyl group replaced H atom of OH group *ortho*-coumaric acid to give *ortho*-acetyl coumaric acid.

Keywords: *ortho*-coumaric acid, acetylation, time of reaction,highest product, spectrophotometry