

ACETYLATION

44

FF.2365

Tul

P

# SKRIPSI

ELLI YULIANI

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

MILIK  
PERPUSTAKAAN  
UNIVERSITAS AIRLANGGA  
SURABAYA



FAKULTAS FARMASI UNIVERSITAS AIRLANGGA  
BAGIAN KIMIA FARMASI  
SURABAYA  
2004

**Lembar Pengesahan**

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

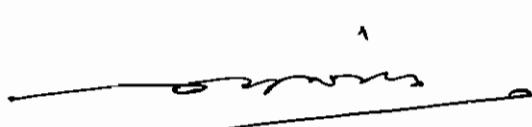
**SKRIPSI**

Dibuat untuk Memenuhi Syarat Mencapai Gelar Sarjana Farmasi pada  
Fakultas Farmasi Universitas Airlangga  
2004

**Oleh :**

**ELLI YULIANI  
050012227**

Disetujui Oleh :



Dr. H. Hadi Siswono  
Pembimbing Utama



Drs. Heru Wibowo, MS.  
Pembimbing Serta

## 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 compound was white and odourless crystal having melting range of 138-140°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<sup>-1</sup> and C-O group at 1174,75 cm<sup>-1</sup>. The peak of OH group disappears. Analysis by <sup>1</sup>H-NMR spectrometry shown that the compound has proton from acetic substituent 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 <sup>1</sup>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