

## INTISARI

**NIRWANI, L.S., 2018, SINTESIS SENYAWA 1-(2,4-DIHIDROKSI)-3-(3,4-DIMETOKSIFENIL)PROP-2-EN-1-ON, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA.**

Kalkon merupakan suatu prekursor flavonoid yang terdiri dari dua cincin aromatik yang dihubungkan oleh tiga karbon dalam sistem  $\alpha,\beta$ -tidak jenuh karbonil. Senyawa kalkon dan turunannya dilaporkan mempunyai berbagai macam aktivitas biologis antara lain sebagai antibakteri, antikanker, antifungi, antiinflamasi, dan antioksidan. Penelitian ini bertujuan untuk mensintesis senyawa 1-(2,4-dihidroksi)-3-(3,4-dimetoksifenil)prop-2-en-1-on yang merupakan senyawa turunan kalkon.

Penelitian dimulai dengan mensintesis senyawa 2,4-dihidroksiasetofenon melalui reaksi asilasi Friedel-Crafts dari resorsinol. Senyawa 1-(2,4-dihidroksi)-3-(3,4-dimetoksifenil)prop-2-en-1-on disintesis melalui reaksi kondensasi Claisen-Schmidt menggunakan material awal 2,4-dihidroksiasetofenon dan 3,4-dimetoksibenzaldehid dengan katalis NaOH 50%. Hasil sintesis dianalisis menggunakan kromatografi gas, spektrometer massa, dan spektrofotometer inframerah.

Hasil sintesis pertama berupa padatan jingga yang memiliki % *yield* 86,14 %. Hasil analisis menunjukkan bahwa senyawa tersebut adalah senyawa 2,4-dihidroksiasetofenon. Hasil sintesis kedua padatan kuning dengan % *yield* 51,32 % dan hasil analisis menunjukkan bahwa senyawa tersebut adalah senyawa 1-(2,4-dihidroksi)-3-(3,4-dimetoksifenil)prop-2-en-1-on.

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Kata kunci : 2,4-dihidroksiasetofenon; 3,4-dimetoksibenzaldehid; kalkon

## ABSTRACT

**NIRWANI, L.S., 2018, SYNTHESIS OF 1-(2,4-DIHYDROXY)-3-(3,4-DIMETHOXYPHENYL)PROP-2-EN-1-ONE, THESIS, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA.**

Chalcones are considered as the precursors of flavonoids which consist of two aromatic rings linked by a three-carbon  $\alpha,\beta$ -unsaturated carbonyl system. Chalcone and its analogues have been reported to possess various biological activities such as antibacterial, anticancer, antifungal, anti-inflammatory and antioxidant. The aim of this study was to synthesize 1-(2,4-dihydroxy)-3-(3,4-dimethoxyphenyl)prop-2-en-1-one is a derivative of chalcone.

The research was started by synthesizing 2,4-dihydroxyacetophenon through Friedel-Crafts acylation from resorsinol. Product of acetophenon was then reacted with 3,4-dimethoxybenzaldehyde in presence of NaOH 50% through Claisen-Schmidt condensation to collect 1-(2,4-dihydroxy)-3-(3,4-dimethoxyphenyl)prop-2-en-1-on. Then the solid obtained was recrystallized using methanol. Thin layer and gas chromatography were used as purity test method. The structure of the compound was elucidated using mass spectrometer and infrared spectrophotometer.

The results showed that product was succesfully synthesized. Yellowish-orange solid was obtained from the first synthesis with 86,14% of yield and it was confirmed as 2,4-dihydroxyacetophenone. Yellow solid was collected from the second synthesis with 51,32% of yield. It was confirmed as 1-(2,4-dihydroxy)-3-(3,4-dimethoxyphenyl)prop-2-en-1-one. Structure elucidation showed that the chemical structure was appropriate to estimated chemical structure.

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Keyword : 2,4-dihydroxyacetophenone; 3,4-dimethoxybenzaldehyde;  
chalcone