

## INTISARI

Senyawa 2-(4'-hidroksibenzilidena)-sikloheksana-1,3-dion diharapkan dapat disintesis dari *starting material* sikloheksana-1,3-dion 0,336 gram (3 mmol) dan 4-hidroksibenzaldehida 0,366 gram (3 mmol) dengan katalis asam klorida berdasarkan reaksi kondensasi aldol silang. Analisis yang dilakukan terhadap senyawa hasil sintesis meliputi: pemeriksaan organoleptis, pemeriksaan kelarutan, pemeriksaan titik lebur, uji Kromatografi Lapis Tipis (KLT), uji *Gas Chromatography (GC)*, elusidasi struktur dengan spektrofotometri inframerah (IR), spektrometri massa, dan perhitungan rendemen.

Senyawa hasil sintesis berupa serbuk kristal, berwarna kuning muda, tidak berbau, larut dalam kloroform, agak larut dalam etanol, etil asetat, heksana, dan tidak larut dalam aquadest dan eter, memiliki jarak lebur 299,3-299,6<sup>0</sup>C dan rendemen 24,5%. Hasil uji KLT dengan fase diam silika gel GF<sub>254</sub> dan fase gerak etil asetat : heksana (1:4) diperoleh bercak tunggal dengan R<sub>f</sub> 0,24. Kromatogram GC menunjukkan senyawa memiliki kemurnian 97,9%. Hasil spektra IR dan MS menunjukkan senyawa hasil sintesis adalah 4-(4'-hidroksibenzilidena)-2-(3-oksosikloheks-1-enil)-sikloheksana-1,3-dion.

Kata Kunci : sikloheksana-1,3-dion, 4-hidroksibenzaldehida, inhibitor *angiogenesis*, reaksi kondensasi aldol silang

**ABSTRACT**

The compound 2-(4'-hydroxybenzylidene)-cyclohexane-1,3-dione is hopely could be synthesized from the starting material cyclohexane-1,3-dione 0.336 g (3 mmol) and 4-hydroxybenzaldehyde 0.366 g (3 mmol) with hydrochloric acid catalyst based on cross-aldol condensation reaction. The analysis conducted on the compounds synthesized include: examination organoleptis, examination solubility, melting point checks, Thin Layer Chromatography tests (TLC), Gas Chromatography test (GC), structure elucidation by infrared spectrophotometry (IR), mass spectrometry, and calculation of yield.

Compounds synthesized in the form of crystalline powder, pale yellow, odorless, soluble in chloroform, slightly soluble in ethanol, ethyl acetate, hexane, and insoluble in distilled water and ether, has a melting point range from 299.3 to 299.6<sup>0</sup>C and the yield obtained 24.516%. Test results of TLC with silica gel GF<sub>254</sub> stationary phase and mobile phase ethyl acetate: hexane (1:4) obtained single spots at R<sub>f</sub> 0.24. The GC chromatogram showed the compound has a purity of 97.9%. The results of IR and MS spectra showed compounds synthesized is 4-(4'-hydroxybenzylidene)-2-(3-oxocyclohex-1-enyl)-cyclohexane-1,3-dione.

Keywords: cyclohexane-1,3-dione, 4-hydroxybenzaldehyde, angiogenesis inhibitor, cross aldol condensation reaction