

ABSTRAK

SINTESIS SENYAWA ANALOG KURKUMIN 1,3-BIS-(4-HIDROKSI-3-METOKSIBENZILIDIN)-ASETON DENGAN METODE CLASEN-SCHMIT

Sintesis senyawa analog kurkumin telah banyak dilakukan, Salah satu senyawa yang telah berhasil disintesis yaitu 2,6-bis-(4-hidroksi-3-metoksibenzilidin)-piperidin 4-on (monohidrat hidroklorida). Modifikasi tersebut dilakukan dengan mengganti gugus β -diketon menjadi monoketon. Berdasarkan analisis tersebut dapat dikembangkan sintesis senyawa analog kurkumin 1,3-bis-(4'-hidroksi-3'-metoksibenzilidin)-aseton dengan material awal vanillin dan aseton. Sintesis dilakukan berdasarkan reaksi kondensasi Claisen – Schmidt dalam suasana asam dilakukan dalam suhu optimum 50-60 °C. Kemurnian hasil sintesis ditetapkan berdasarkan uji kromatografi lapis tipis dengan eluen kloroform : etil asetat (5:1) dengan nilai Rf 0,6 dan Titik lebur senyawa hasil sintesis diperoleh 166,9 – 179,9 °C. Sedangkan analisis struktur senyawa hasil sintesis menggunakan spektra FTIR didapatkan identifikasi gugus fungsi karbonil keton C=O pada serapan panjang gelombang 1675,28 cm⁻¹ yang membendakannya dengan prekursor serapan gelombang senyawa vanilin.

Kata-kata kunci: analog kurkumin; FTIR; kondensasi Claisen-Schmidt; titik lebur.



ABSTRAK

SYNTHESIS COMOUNDS ANALOG KURKUMIN 1,3-BIS-(4-HIDROKSI-3-METOKSIBENZILIDIN)-ASETON METHOD CLASEN-SCHMIT

The synthesis of curcumin analog compounds has been a lot done, One compound that has been successfully synthesized is 2,6-bis-(4-hydroxy-3-methoxybenzilidin)-piperidine 4-on (monohidrat hidroklorida). The modification is done by replacing the beta-diketon group into a monocetone. Based on this analysis, a synthesis of curcumin 1,3-bis-(4'-hydroxy-3'-methoxybenzilidin)-acetone analog compounds could be developed with the starting material vanillin and acetone. Synthesis is based on the Claisen-Schmidt condensation reaction in an acidic atmosphere performed at an optimal temperature of 50-60 °C. The purity of the synthesis result was determined on the basis of a thin layer chromatography test with eluen chlorophrome: ethyl acetate (5:1) with a R_f value of 0.6 and the melting point of the synthetic compound was obtained 166.9 – 179.9 °C. While the analysis of the structure of the compounds resulting from synthesis using the FTIR spectrum obtained the identification of the function group of carbonyl ketone C=O at the absorption of a wavelength of 1675.28 cm⁻¹ that would it with the precursor of the absorbtion wave of the vanillin compound.

Keywords : curcumin analogue; FTIR; Claisen-Schmidt condensation; melting point.

