

ABSTRACT

Synthesis of 2-(benzoyloxy)-5-methoxybenzoate and Analgesic Activity Test in Mice (*Mus musculus*)

Ade Fili Sophia

In an effort to enhance the analgesic activity of acetosal, the structural modification of acetosal was performed by synthesizing derivative 2- (benzoyloxy) -5-methoxy benzoate. The compound 2- (benzoyloxy) -5-methoxy benzoate is salicylic acid derivative was synthesized and tested using a *writhing test* in mice (*Mus musculus*).

Synthesis reaction is a *Schotten-Baumann* reaction using reagent 5-methoxy salicylic acid and benzoyl chloride in THF as a solvent. For the alkaline condition is used pyridine which also serves as a catalyst and neutralize HCl. The result was obtained by the synthesis is 52.4% in the form of a solid white powder that was insoluble in water. Its purity was tested by melting point test and Thin Layer Chromatography (TLC). The structure was confirmed by UV-Visible spectrophotometry, infrared spectrophotometry and ¹H-NMR spectrometry. The result of analgesic activity was showed that the compound 2- (benzoyloxy) -5-methoxy benzoate had lower ED₅₀ than acetosal. ED₅₀ of 2- (benzoyloxy) -5-methoxy benzoate is 49.56 mg/kg body-weight and ED₅₀ acetosal is 80.28 mg/kg body-weight. It concluded that 2- (benzoyloxy) -5-methoxy benzoate have higher analgesic activity than acetosal.

Keyword: synthesis, 2- (benzoyloxy) -5-methoxy benzoate, analgesic activity