

## ABSTRACT

**THE INFLUENCE OF *ORTO* METHOXY GROUP ON  
BENZALDEHYDE ON SYNTHESIS OF  
*TRANS*-1-PHENYL-3-(2-METHOXYPHENYL)-2-PROPEN-1-ONE  
USING K 10 MONTMORILLONITE AS CATALYST**

Evieta Rohana

The purpose of this research is cognizant of the influence of *orto* methoxy group on benzaldehyde in synthesis of chalcone's derivate [*trans*-1-phenyl-3-(2-methoxyphenyl)-2-propen-1-one]. That influence could be detected by comparing the percentage yield of synthesis products, chalcone (*trans*-1,3-diphenyl-2-propen-1-one) and [*trans*-1-phenyl-3-(2-methoxyphenyl)-2-propen-1-one], through Claisen-Schmidt condensation using K10 Montmorillonite as a catalyst. Enol form of acetophenone as a nucleophil attacks the carbonyl group of benzaldehyde to produce  $\beta$ -hydroxy ketone followed by dehydration. Methoxy group has influence to enhance the reactivity of aromatic ring of benzaldehyde, that build the positif center of carbonyl faster. It makes enol form of acetophenone attacks carbonyl easier. 1,3-diphenyl-2-propen-1-one is yellow crystal ( $1,72 \pm 0,035$  %) and is melting on 51-52°C. 1-phenyl-3-(2-methoxyphenyl)-2-propen-1-one is yellow crystal ( $4,98 \pm 0,68$  %) and is melting on 53-54°C. Although synthesis of 1-phenyl-3-(2-methoxyphenyl)-2-propen-1-one gave more yield than 1,3-diphenyl-2-propen-1-one, it could not be concluded that methoxy group on *orto* position in 2-methoxybenzaldehyde makes enol form of acetophenone attacks carbonyl easier due to the small amount of synthesis products.

Keywords : *o*-methoxybenzaldehyde, *trans*-1-phenyl-3-(2-methoxyphenyl)-2-propen-1-one, Claisen-Schmidt condensation