PENGARUH JENIS PREKURSOR KATALIS ZrO_2/ SiO_2 TERHADAP AKTIVITAS KATALITIK CITRONELLAL DARI MINYAK SEREH WANGI MENJADI ISOPULEGOL

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ABSTRACT

In this study citronellal conversion has been carried out into isopulegol through the mechanism of cyclization reaction with precurso type of ZrO_2/SiO_2 catalyst. Citronellal was isolated from lemon grass oil with a reduced pressure fractionation distillation method. Citronellal with the highest levels was obtained in fraction III with a pressure of 10 kpa, which was 20.23%. characterization of precursors of ZrO2 / SiO2 catalysts was carried out by XRD, BET analysis and acidity analysis using FTIR. The product characterization of the reaction was carried out using gas chromatography (GC) based on the results of the study. Cytronelal conversion to isopulegol was carried out using precursors of ZrO_2/SiO_2 catalysts and time variations for each precursor type. The highest isopulegol level was obtained at 2 hours reflux time of 99.72% by using the precursor type of $ZrOCl_2$. Cytronelal cyclization into isopulegol was carried out using a variety of precursor types. Where isopulegol with the highest level is obtained by using the type of precursor from $ZrOCl_2$. That is produced by Isopulegol as well as 99.72%.

Keywords: ***Lemon grass oil, citronellal, precursor type of ZrO2 / SiO2 catalyst, Isopulegol***