

Study on the Carboxymethylation of Glucomannan from Porang

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Abstract : Chemical modification process on glucomannan from porang via carboxymethylation have been conducted. The process was done in two stages, the alkalization, and the carboxymethylation. The alkalization was done by adding NaOH solution into the medium which was contained glucomannan and then stirred it in ambient temperature for thirty minutes. The carboxymethylation process was done by adding sodium mono chloroacetate solution into the alkalization product. The carboxymethylation process was conducted for a certain time, and the product was then analyzed for determining the degree of substitution. In this research, the influence of medium to the degree of substitution was studied. Three different medium were used, namely water, 70% ethanol, and 90% ethanol. The results show that 70% ethanol was a better medium than two others because give a higher degree of substitution. Using 70% ethanol as a medium, the experiments for studying the influence of temperature on the carboxymethylation stages were conducted. The results show that the degree of substitution at 65°C is higher than at 45°C.

Keywords : carboxymethylation, degree of substitution, ethanol medium, glucomannan

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