Thesis Title	Improvement in Method of Analysis of Vitamin E in Rice Bran Oil by Using Maleic Anhydride and Oxalyl Chloride
Thesis Credits	12
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Degree of Study	Master of Science
Department	Biochemtechnology
Academic Year	2001

Abstract

A comparative study on the reactions between maleic anhydride and oxalyl chloride with vitamin E in rice bran oil shows that oxalyl chloride can better react with vitamin E than maleic anhydride under similar experimental conditions. Among several solvents tested, toluene is a good solvent for the reaction between oxalyl chloride and vitamin E. The optimal condition for the esterification is 0.1 g of vitamin E and 0.4 ml of oxalyl chloride in 1 g of olive oil and 2 ml of toluene in the presence of 0.4 ml of pyridine. When the same amount of oxalyl chloride is allowed to react with vitamin E in crude rice bran oil in 2 ml of toluene and 0.4 ml of pyridine, there is no detectable vitamin E left in the reaction. It is assumed that all vitamin E is transformed into oxalyl derivative. Thus, this reaction may be used for quantification of vitamin E in rice bran oil.