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### An Endeavour to Enhance the Yield of Adjuvant (Active Vaccine Emulsifier) from Esterification

\*Savita Belwal, N.Narasimha Naidu, V.S.Aravindand M. Bhagvanth Rao

Department of Chemistry, Department of Chemical Engineering, Anurag Group of Institutions, Hyderabad, Telangana (India)

**Abstract :** An effort has been made to enhance the yield by changing the parameters of the experiment for the literature reported novel adjuvant-active compound which is used to increase the immunogenicity of many kinds of antigens and used as active vaccine emulsifier. The compound, novel adjuvant-active saccharide oleate ester was isolated, characterized and its yield has been verified and compared with the literature. The compound is separated from the product mixture synthesized from mannitol and oleic acid esterification. The mixture, which contained many kinds of mannide mono- and dioleates and their derivatives, was fractionated by liquid chromatography (LC) and  $R_f$  values of all the three fractions were obtained by TLC method.

By changing the range of temperature and using four different catalysts (sulphuric acid, phosphoric acid, methane sulphonic acid, p-toluene sulphonic acid) different results are obtained. It has been observed that yield has been increased for the p- toluene sulphonic acid catalytic reaction after the rotary evaporation for the fraction three (3) which is obtained after the column chromatography. Characterization of the compound has been done with the help of UV, IR, XRD, and HPLC.

**Keywords :** Mannidemonooleate; Oligosaccharide oleate ester, Column Chromatography, Rotary Evaporator, UV, IR, XRD, and HPLC.

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