



ABSTRACT

The aim of this study is to find the economical procedure for the synthesis of the complex lipid esters such as cholesteryl esters in vitro. The cholesterol was extracted from animal brain tissue and the lipase from *Rhizopus Oryzae* was immobilized on bentonite dry resin. These preparations were carried out for the synthesis of cholesteryl oleate in organic media. Biocatalysis in organic media is becoming increasingly important in organic synthesis. Lipases are the most used enzymes, especially in esterification reactions. However, in the last years the esterification reaction catalyzed by lipases has also been shown to be a useful tool for the organic chemists. In this thesis, we discussed the possibilities of the enzymatic esterification reaction for the preparation of cholesteryl esters. The conversion of the unsaturated fatty acids to lipid esters can be accomplished efficiently by enzymatic catalysis. Hence, the esterification of oleic acid with cholesterol was studied in organic media using immobilized lipase.