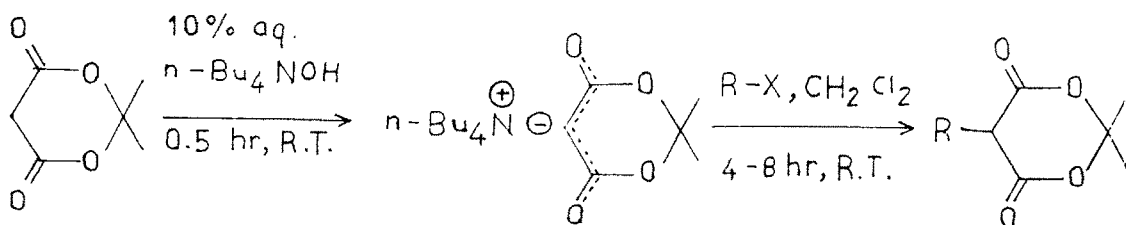


S Y N O P S I S

The dissertation entitled, "Applications of Phase Transfer Catalysts in Organic Synthesis", consists of three chapters and embodies accounts of : Chapter-1; a brief review of the applications of Phase Transfer Catalysts in organic synthesis. Chapter-2; Monoalkylation of Meldrum's acid under phase transfer catalyzed conditions. Chapter-3; Synthesis of aryloxyacetic acid esters under phase transfer catalyzed conditions.

The dissertation begins with a review on the structure, properties of different phase transfer catalysts (PTC) and their applications in organic synthesis (Chapter-1).

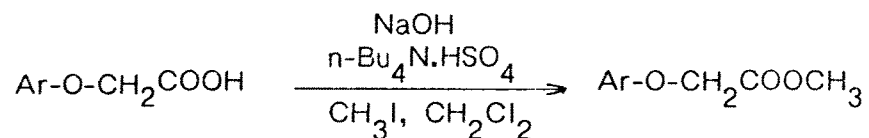
Monoalkylated Meldrum's acids are important synthetic intermediates. They can be easily converted into malonic esters or acids, ketones and barbiturates. They have also been used for generation of ketenes. In view of the importance of mono-alkylated Meldrum's acid in pharmaceuticals, a simple method is now reported for the mono-alkylation of Meldrum's acid under PT catalyzed conditions in Chapter-2.



This procedure avoids the excess of anion in the alkylating medium preventing bis-alkylation. It was observed that the secondary and higher primary halides give exclusively mono-alkylated products whereas lower

as well as highly reactive halides give a mixture of mono- and bis-alkylated products. Here the tetra-n-butyl ammonium hydroxide was found to be the better catalyst as it acts as a weak base as well as a PTC.

Chapter-3 describes the use of PTCs in the synthesis of aryloxy-acetic acid esters. Aryloxyacetic acid esters are used as flavouring agents.



PT catalyzed O-alkylation of aryloxyacetic acid by alkyl halide using tetra-n-butyl ammonium hydrogen sulfate provides a simple and efficient procedure for synthesis of aryloxyacetic acid esters. In addition to ease and simplicity of the method here the catalyst could be recovered.

