# CHAPTER IV

## CONCLUSION AND SUGGESTION

The organotin monomers were synthesized by the reaction of a di-Grignard reagent and suitable diorganotin dichlorides. In case of the di-Grignard reagent derived from 1,4-dibromobenzene where the direct di-Grignard synthesis failed, the technique of "entrainment" using dibromoethane were used. Control quantity of magnesium and organotin dihalide were important to prevent side reaction which magnesium may be reacted with organotin dihalides.

These monomers can be reacted with many substances. This research studies the polymerization of the monomers to form organotin polyesters and also the reaction of these monomers with sodium hydroxide to form organotin polyoxides.

The organotin polyesters, synthesize to be a model, was Poly(1,4-butylene-bis(dibutyltin) adipate which was carried out by reaction of 1,4-butylene bis (dibutyltin chloride) with adipic acid. The yield of polymers depended on time and mole ratio between 1,4-butylene-bis(dibutyltin chloride) and adipic acid. The best yield was obtained when the ratio was 1:1. The molecular weight of polymers were not obtained because of the insolubility of the polymers in most solvents. If o-dichlorobenzene was used as eluant in Gel Permeation Chromatography (G.P.C.), the oven temperature was 90°C (27).

The di-organotin oxide polymers were easily prepared by alkaline hydrolysis of the organotin monomers. The polymers were insoluble in any solvents, therefore, their characterization in solution could not be carried out.