SUMMARY

Resins obtained by Friedel-Crafts reaction have specific characteristic properties and applications. Literature survey showed that polymers derived from monomers, such as phenol, substituted phenols, chloroacetyl chloride, 1,2-dichloroethane, dichloromethane by Friedel-Crafts reaction have not been reported and studied in detail. Hence synthesis of polyketones derived from the above mentioned monomers, under different experimental conditions and their characterization were undertaken.

The monomers obtained were polymerized with halogen compounds in presence of anhydrous aluminium chloride under different experimental conditions. Some of the resins obtained were soluble in acetone and few remained insoluble in acetone. All the resins are highly coloured compounds i.e. light brown to black. Their softening ranges are 80 to 163°C and chlorine contents are 7 to 19 %.

The number average molecular weight of these resins were determined by vapour pressure osmometry. Number average molecular weight was highest in case of polyketones synthesized from o-chlorophenol and was lowest for polyketones prepared from p-chlorophenol.
strains of bacteria, fungi and yeasts.

Some of the polyketones have shown promising activity.

1. Polyketones derived from phenol and substituted phenols with CAC are resistance to biodegradation.

2. Incorporation of DCE and DCM in polyketones render them biodegradable by bacteria, fungi and yeasts.

3. Polyketones synthesized from chloro substituted phenols inhibit the growth of microorganisms.
(d) Upon biochemical characterization specific microorganism can be used as analytical tool to characterize polymer with respect to physical and chemical properties.

(e) Process design can be made available to get both biodegradable as well as non-biodegradable polymers as desired by manufacturer for particular uses.

4. Study of pesticidal activity of the resins in the laboratory which can reopen wide applications in the actual field work.