SUMMARY

In the present investigation, adducts of polyalklarylamines with stoichiometric amounts of stannous chloride were obtained by the reaction of 1,2-dichloroethane with p-phenylenediamine, m-phenylenediamine and 4,4-diaminodiphenyl in the presence of hydrochloric acid and stoichiometric amounts of stannous chloride in methanol as a solvent to give adducts: poly (ethylene-co-p-phenylenediamine),(I), poly (ethylene-co-m-phenylenediamine), (II), and poly (ethylene-co-4,4-diaminodiphenyl),(III) respectively. Also, poly (chloromethyene-co-44-diaminodiphenyl),(IV), was obtained from the reaction of chloroform and benzidine by a similar method.

Adducts (I-IV) when reacted with aqueous solution of ammonium carbonate gave the corresponding polyalkylarylamine hydrochlorides (V-VIII). These polyalklarylamine hydrochlorides when neutralized with NaOH gave the corresponding free polymer (IX-XII).

The structre of these adducts was confirmed by IR spectroscopy, as well as X-ray diffractometery, ^{1}H NMR and thermal analysis.

Adducts (V),(VII) and (VIII) were used to remove turbidity from synthetic turbid water, prepared as fine clay suspension in tap water. These adducts displayed typical polyelectrolyte behaviour either alone or in combination with alum. They were put in comparison with-the nonionic polyelectrolyte-polyacrylamide in acidic (pH 3), neutral (pH 7) and basic (pH 10) mediums. Laboratory studies have shown that these adducts give good performance individually in acidic medium, where in neutral medium they were good, only, in combination with alum.