PREFACE

The work described in this thesis was undertaken as a part of a general programme aimed at the synthesis and study of three coordinated organomercury chelates which are relatively few in number.

The thesis is divided into four chapters. A survey of the organomercury chemistry with emphasis on their complexes is presented in Chapter I while organomercury carboxylates are reviewed in Chapter II.

The synthesis of a number of o- and p-(arylazo)benzoic acids and their organomercury derivatives constitute the subject matter of Chapter III. The structure of the organomercury derivatives has been discussed using IR and NMR data on these compounds. Comparison of the IR spectra and ^{1}H NMR spectra of the o- and p-(arylazo)benzoic acids with those of the corresponding organomercury derivatives shows the organomercury derivatives to be chelates in which -COO group forms a part of the chelate ring. Evidence for formulating the organomercury [o-(o'-hydroxybenzeneazo)] benzoates as four co-ordinated organomercury compounds has also been presented.

The electronic absorption spectra and effect of solvents have been discussed in some detail in Chapter IV.

The absorption spectra support the presence of N→Hg co-ordinate link in the organomercury derivatives. Azo-hydrazone tautomerism which is quite well-known in 4- and 2- hydroxyazobenzene derivatives is also exhibited by some of the ligands and their organomercury derivatives. Equilibrium constant for this tautomeric equilibrium and the effect of the organomercury group on the azo-hydrazone tautomeric equilibrium has also been discussed.