

C O N T E N T S

	Page
ACKNOWLEDGEMENT ..	I
SUMMARY ..	III

P. A R T - I

<u>Introduction</u> ..	
Application of Organotin Compounds and Environmental aspects ..	1
A short review on preparation of Organotin chlorides by	
(a) Direct Synthesis	6
(b) Cleavage reactions	12
(c) Redistribution reactions	17
(d) Displacement	18
(e) Involving Grignard reagent	20
(f) Alkylation of stannous chloride	22
(g) Hydrostannation route	23
(h) Other related methods	40

Scope and Objectives

Experimental

Methods and materials ..	49
<u>Preparation of starting materials</u>	
(1) Benzylideneacetophenone (chalcone)	52
(2) Dibenzylideneacetone ..	53
(3) Anhydrous stannous chloride	54
(4) Dry hydrogen chloride ..	54

	Page.
<u>Preparation of β-keto-organotin chlorides</u>	
(5) β -benzoyl- α -phenylethyltin trichloride ..	57
(6) β -acetyl- α -phenylethyltin trichloride	65
(7) Preparation of β -styryl- ^{carbonyl} α -phenylethyltin trichloride and other products from the reaction of dibenzylideneacetone, stannous chloride and hydrogen chloride and few of their derivatives (chlorostannation)	75
(8) Discussion ..	86
(9) References ..	126

P A R T - II

Introduction

Lewis acidity of Organotin Compounds	151
Organotin adducts and related compounds	152
Organotin coordination compounds with bi- and polydentate ligands ..	157
Cleavage reactions involving tin-carbon bond ..	165
<u>Scope and Objectives</u> ..	175

Experimental

Methods, material; and preparation of starting materials ..	176
Reactions of β -carboethoxyethyltin trichloride	
(a) With 1,5-diphenylthiocarbazone (dithizone) ..	177
(b) With 8-hydroxyquinoline (oxine)	178
(c) With pyridine ..	179
(d) With picolines ..	180

	Page
(e) With isoquinoline ..	182
(f) With triphenylphosphine ..	183
(g) With 1,10-phenanthroline (monohydrate) ..	184
(h) With 2,2'-bipyridyl ..	185
(i) With propylenediamine (1,3-diamino- propane) ..	186
(j) With 1,5-diphenylcarbazone ..	187
Reactions of β -benzoyl- α -phenylethyltin trichloride	
(a) With pyridine ..	189
(b) With picolines ..	190
(c) With triethylamine ..	192
(d) With triethanolamine ..	193
(e) With 2,2'-bipyridyl ..	194
(f) With 1,10-phenanthroline ..	195
(g) With 1,5-diphenylthiocarbazone (dithizone) ..	196
(h) With 1,5-diphenylcarbazone ..	198
Reactions of β -acetyl- α -phenylethyltin trichloride with	
(a) With pyridine ..	199
(b) With picolines ..	200
(c) With triethylamine ..	201
(d) With triethanolamine ..	202
(e) With 2,2'-bipyridyl ..	203
(f) With 1,10-phenanthroline ..	204
(g) With 1,5-diphenylthiocarbazone (dithizone) ..	205
(h) With 1,5-diphenylcarbazone ..	206
<u>Discussion</u> ..	208
<u>References</u> ..	236