CONTENTS

Chapter one

A convenient one-pot synthesis of 3-aryl-, 4-methyl-3-phenyl-, and 3-aryl-4-phenylcoumarins

Introduction --- 01

1.1 Thermal reactions of 2-hydroxybenzaldehydes with phenylacetic acid and its analogues --- 11

1.2 Thermal reactions of 2'-hydroxyacetophenone and its derivatives with phenylacetic acid --- 19

1.3 Thermal reactions of 2'-hydroxyacetophenone and its derivatives with substituted phenylacetic acid --- 23

Experimental --- 57

References --- 82

Chapter two

A simple approach to half esters of malonic acid and their use in the synthesis of naturally occurring cinnamyl esters: potent sunscreen agents

Introduction --- 86

2.1 Synthesis of geranyl-3-(4-hydroxyphenyl)-2-propenoate, a constituent of Calocedrus Formasana and its methyl ether --- 93

2.2 Reaction of Meldrum's acid with alcohols: a simple approach to monomalonyl esters --- 96

2.3 Synthesis of 4-hydroxy- and 4-methoxy-cinnamyl esters of borneol, 2-ethylhexanol, stearyl alcohol, octyl alcohol and 2,3,6-trimethylphenol: a general approach --- 106

Experimental --- 128

References --- 139
### Chapter three

*Synthetic studies of some naturally occurring dimeric compounds*

3.1 Synthetic and structural studies of isocarvacrol (4-isopropyl-2-methyl phenol): Sodium periodate oxidation of isocarvacrol to hydrothymoquinone and 7-oxo-5-isopropyloct-3-en-2,5-olide

3.2 Experiments directed towards synthesis of Grandifloricin, a constituent of *Uvaria grandiflora*

3.3 Biogenetic type synthesis of dihemiacetal, cymbodiacetal isolated from *Cymbopogan martini*.

Experimental

References

---

### Chapter four

*Miscellaneous synthetic transformations*

4.1 Synthesis of olivacene, a constituent of *Archilejeuna olivacea*

4.2 Unusual KMnO₄ oxidation product of β-ionone: Confirmation of the assigned structure.

4.3 Synthesis of 4-amino-6,7-dimethoxycarbostyril

Experimental

References

Summary

References