

# CONTENTS

<b>CHAPTER - I : GENERAL INTRODUCTION</b>	<b>01-56</b>
• Introduction	... 01
• Background of Earlier Work on Acetophenones	... 02
• Background of Coumaran-3-ones (Aurones)	... 06
• Significance and Background of Coordination Chemistry, Spectrophotometry and Ultrasonic Interferometric Technique	... 12
• Spectrophotometric Technique	... 22
• Ultrasonic Interferometric Technique	... 25
• Object of the Present Work	... 32
• Present Work	... 36
• References	... 42
<b>CHAPTER - II : SYNTHESIS</b>	<b>57-86</b>
• Introduction	... 57
• Results and Discussion	... 60
<i>SECTION - A : Synthesis of 2-hydroxy-3H/substituted-5- methyl-<math>\alpha</math>-bromoacetophenones</i>	... 60
<i>SECTION - B : Synthesis of 2-(2'/4'-H/substituted) benzylidene-5-methyl-7-H/substituted coumaran-3-ones</i>	... 66
• Experimental	... 74
• References	... 84
<b>CHAPTER - III : SPECTROPHOTOMETRIC STUDIES</b>	<b>87-119</b>
• Introduction	... 87
<i>SECTION - A : Spectrophotometric Techniques</i>	... 88
• Jobs method of continuous variation	... 91
• Calculations of Stability Constants	... 93
<i>SECTION - B : Spectrophotometric Measurements</i>	... 95
• Introduction	... 95
• Experimental	... 97
• Results and Discussion	... 103
• References	... 117

<b>CHAPTER - IV : ULTRASONIC INTERFEROMETRIC STUDIES</b>	<b>120-165</b>
<i>SECTION - A : Ultrasonic Interferometric Techniques</i>	... 120
• Introduction	... 120
• General Aspects of Molecular Interactions	... 123
• Ultrasonic Velocity and Related Parameters	... 125
<i>SECTION - B : Ultrasonic Interferometric Measurements</i>	... 129
• Introduction	... 129
• Experimental	... 131
• Results and Discussion	... 137
• References	... 162
 <b>CHAPTER - V : ANTIMICROBIAL ACTIVITY</b>	 <b>166-191</b>
• Introduction	... 166
• Review of Literature	... 170
• Present Work	... 172
• Experimental	... 174
• Results and Discussion	... 180
• References	... 189
 <b>List of Papers</b>	 <b>192-193</b>