

TABLE OF CONTENTS

	Page No.
Acknowledgements	i-ii
Abstract	iii-xxiv
Table of contents	xxv-xxvii
General Remarks	xxiii-xxix
Abbreviations	xxx-xxxiii
Chapter I: Introduction to five and ten membered lactone natural products	
Introduction	1-16
References	17-20
Chapter II: First stereoselective total synthesis of Pectinolide H	
Introduction	21-22
Present work	23-31
Experimental	32-49
References	50-52
Spectra	
Chapter III: Asymmetric total synthesis of Stagonolide G	
Introduction	53-57

Present work	58-68
Experimental	69-88
References	89-90
Spectra	
Chapter IV: Development of new synthetic methodologies involving oxidative coupling.	
General introduction	91-93
Section 4.1. Metal-free oxidative C-C bond formation of active methylenic sp ³ C-H bonds with benzylic sp ³ C-H and allylic sp ³ C-H bonds mediated by DDQ.	
Introduction	94-97
Present work	98-106
Experimental	107-111
Section 4.2. DDQ-mediated direct oxidative coupling of amides with benzylic and allylic sp ³ C-H bonds under metal-free conditions.	
Introduction	112-119
Present work	120-127
Experimental	128-132

	Experimental	170-174
Chapter V	References	175-178
	Spectra	
	List of publications	179-181