

1. Record Nr.	UNINA9910830522703321
Titolo	Metathesis in natural product synthesis [[electronic resource]] : strategies, substrates and catalysts // edited by Janine Cossy, Stellios Arseniyadis, and Christophe Meyer ; with a foreword by Robert H. Grubbs
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, c2010
ISBN	3-527-64208-0 1-283-51405-2 9786613826503 3-527-62963-7 3-527-62962-9
Descrizione fisica	1 online resource (414 p.)
Altri autori (Persone)	CossyJanine ArseniyadisS (Stellios) MeyerChristophe
Disciplina	547.2
Soggetti	Natural products - Synthesis Metathesis (Chemistry)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Metathesis in Natural Product Synthesis: Strategies, Substrates and Catalysts; Contents; Foreword; Preface; List of Catalysts; List of Contributors; Abbreviations; 1 Synthesis of Natural Products Containing Medium-size Carbocycles by Ring-closing Alkene Metathesis; 1.1 Introduction; 1.2 Formation of Five-membered Carbocycles by RCM; 1.3 Formation of Six-membered Carbocycles by RCM; 1.4 Formation of Seven-membered Carbocycles by RCM; 1.5 Formation of Eight-membered Carbocycles by RCM; 1.6 Formation of Nine-membered Carbocycles by RCM; 1.7 Formation of 10-membered Carbocycles by RCM 1.8 ConclusionReferences; 2 Natural Products Containing Medium-sized Nitrogen Heterocycles Synthesized by Ring-closing Alkene Metathesis; 2.1 Introduction; 2.2 Five-membered Nitrogen Heterocycles; 2.2.1 Dihydropyrroles; 2.2.2 Pyrrolidine Alkaloids; 2.2.2.1

Pyrrolidines; 2.2.2.2 Dipyrrolidines; 2.2.2.3 Polyhydroxypyrrolidines; 2.2.3 Indolizidine Alkaloids; 2.2.3.1 Polycyclic Indolizidines; 2.2.3.2 Polyhydroxyindolizidines; 2.2.4 Pyrrolizidine Alkaloids; 2.3 Six-membered Nitrogen Heterocycles; 2.3.1 Piperidine Alkaloids; 2.3.1.1 Piperidines; 2.3.1.2 Piperidine Carboxylic Acids 2.3.1.3 Piperidones 2.3.1.4 Polyhydroxypiperidines; 2.3.2 Indolizidine Alkaloids; 2.3.3 Quinolizidine Alkaloids; 2.4 Seven-membered Nitrogen Heterocycles; 2.5 Eight-membered Nitrogen Heterocycles; 2.6 Conclusion; References; 3 Synthesis of Natural Products Containing Medium-size Oxygen Heterocycles by Ring-closing Alkene Metathesis; 3.1 Introduction; 3.2 General RCM Approaches to Medium Rings; 3.3 Laurencin; 3.4 Eunicellins/Eleutherobin; 3.5 Helianane; 3.6 Octalactin A; 3.7 Microcarpalide and the Herbarums; 3.8 Marine Ladder Toxins; 3.8.1 Ciguatoxin; 3.8.2 Brevetoxin 3.8.3 Gambierol, Gambieric Acid, Olefinic-ester Cyclizations 3.9 Conclusion; Acknowledgments; References; 4 Phosphorus and Sulfur Heterocycles via Ring-closing Metathesis: Application in Natural Product Synthesis; 4.1 Introduction; 4.2 Synthesis and Reactivity of Sultones Derived from RCM; 4.3 Total Synthesis of the Originally Proposed Structure of (±)-Mycothiazole; 4.4 Synthesis and Reactivity of Phosphates from RCM; 4.5 Applications of Phosphate Tethers in the Synthesis of Dolabelide C; 4.6 Conclusion; Acknowledgment; References 5 Synthesis of Natural Products Containing Macrocycles by Alkene Ring-closing Metathesis 5.1 Introduction; 5.2 Organization of the Chapter; 5.3 Macrocyclic Polyketides; 5.3.1 Resorcinylic Macrolides; 5.3.2 Salicylate Macrolides; 5.3.3 Other Antibiotic Macrolides; 5.3.4 Macrocyclic Musk; 5.3.5 Epothilones; 5.3.6 Amphidinolides; 5.3.7 Other Polyketides; 5.3.8 Natural Cyclophanes; 5.4 Terpenoids; 5.4.1 Diterpenoids; 5.4.2 Macrocyclic Lipids; 5.5 Macrocycles of Amino Acid Origin; 5.5.1 Macrolactams; 5.5.2 Cyclodepsipeptides; 5.5.3 Alkaloids; 5.6 Macrocyclic Glycolipids; 5.7 Conclusions and Outlook References

Sommario/riassunto

Emphasizing the impact of metathesis in natural product synthesis through the different types of key reactions, this ready reference is clearly structured and packed with important information, including representative experimental procedures for practical applications.