9

Synthesis and Medicinal Uses of Triterpenoids

Biswa Mohan Sahoo*, Bimal Krishna Banik†, and Abhishek Tiwari

DOI: 10.1201/9781003008682-9

CONTENTS

9.1 Introduction 9.2 Synthesis of Triterpenoids 9.2.1 Biosynthesis of Tetracyclic Triterpenoid 9.2.1.1 Synthesis of Shionone 9.2.1.2 Synthesis of Lanosterol 9.2.1.3 Synthesis of Mogrosides 9.2.1.4 Synthesis of Dammarane-Type Triterpenoids 9.2.1.5 Biosynthesis of Cycloartane 11983@Anail.com 9.2.2 Biosynthesis of Pentacyclic Triterpenoid 9.2.2.1 Biosynthesis of Hopanoids 9.2.2.2 Biosynthesis of Oleanane and Ursane Triterpenoids 9.2.2.3 Biosynthesis of Taraxerol 9.2.2.4 Biosynthesis of Lupeol 9.2.2.5 Biosynthesis of Betulinic Acid 9.2.2.6 Biosynthesis of Friedelin 9.2.2.7 Biosynthesis of Celastrol 9.2.2.8 Biosynthesis of Oleanolic Acid 9.2.2.9 Biosynthesis of Glycyrrhizin 9.3 Medicinal Uses of Triterpenoids 9.3.1 Triterpenoids as Anticancer Agents 9.3.1.1 Lupeol as Anticancer Agent 9.3.1.2 Limonoids as Anticancer Agent 9.3.1.3 Tirucallane as Anticancer Agent 9.3.1.4 Cycloartane Triterpene as Anticancer Agent 9.3.1.5 Protostane Triterpene as Anticancer Agent 9.3.1.6 Ursolic Acid as Anticancer Agent 9.3.1.7 Betulinic Acid as Anticancer Agent 9.3.1.8 Ganoderic Acid D as Anticancer Agent 9.3.1.9 Dehydrotrametenolic Acid as Anticancer Agent 9.3.1.10 Impatienside A and Bivittoside D as Anticancer Agents 9.3.1.11 Ananosic Acid B as Anticancer Agents 9.3.1.12 Daedaleasides as Anticancer Agents 9.3.1.13 Inonotsuoxides as Anticancer Agent 9.3.1.14 CDDO-Me as Anticancer Agent 9.3.1.15 β-Escin as Anticancer Agent 9.3.1.16 Cimicifoetisides as Anticancer Agents 9.3.1.17 Nimbolide as Anticancer Agent 9.3.1.18 3-O-Acetyl-11-Keto-β-Boswellic Acid as Anticancer Agent 9.3.1.19 Asiatic Acid as Anticancer Agent