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Nota di contenuto	Asymmetric Synthesis with Chemical and Biological Methods; Foreword; Contents; Preface; List of Contributors; 1 Stoichiometric Asymmetric Synthesis; 1.1 Development of Novel Enantioselective Synthetic Methods; 1.1.1 Introduction; 1.1.2 -Silyl Ketone-Controlled Asymmetric Syntheses; 1.1.2.1 Regio- and Enantioselective - Fluorination of Ketones; 1.1.2.2 -Silyl Controlled Asymmetric Mannich Reactions; 1.1.3 Asymmetric Hetero-Michael Additions; 1.1.3.1 Asymmetric Aza-Michael Additions; 1.1.3.2 Asymmetric Oxa-Michael Additions; 1.1.3.3 Asymmetric Phospha-Michael Additions 1.1.4 Asymmetric Syntheses with Lithiated -Aminonitriles1.1.4.1 Asymmetric Nucleophilic -Aminoacylation; 1.1.4.2 Asymmetric Nucleophilic Alkenoylation of Aldehydes; 1.1.5 Asymmetric Electrophilic -Substitution of Lactones and Lactams; 1.1.6 Asymmetric Synthesis of -Phosphino Ketones and 2-Phosphino Alcohols; 1.1.7 Asymmetric

Synthesis of 1,3-Diols and anti-1,3-Polyols; 1.1.8 Asymmetric Synthesis of  $\alpha$ -Substituted Sulfonamides and Sulfonates; 1.2 Asymmetric Synthesis of Natural Products Employing the SAMP/RAMP Hydrazone Methodology; 1.2.1 Introduction; 1.2.2 Stigmatellin A 1.2.3 Callistatin A 1.2.4 Dehydroiridodiol(diol) and Neonepetalactone; 1.2.5 First Enantioselective Synthesis of Dendrobatid Alkaloids Indolizidine 209I and 223J; 1.2.6 Efficient Synthesis of (2S,12 R)-2-(12 -Aminotridecyl)pyrrolidine, a Defense Alkaloid of the Mexican Bean Beetle; 1.2.7 2-epi-Deoxoprosopinine; 1.2.8 Attenol A and B; 1.2.9 Asymmetric Synthesis of (+)- and (-)-Streptenol A; 1.2.10 Sordidin; 1.2.11 Prelactone B and V; 1.3 Asymmetric Synthesis Based on Sulfonimidoyl-Substituted Allyltitanium Complexes; 1.3.1 Introduction 1.3.2 Hydroxyalkylation of Sulfonimidoyl-Substituted Allyltitanium Complexes 1.3.2.1 Sulfonimidoyl-Substituted Bis(allyl)titanium Complexes; 1.3.2.2 Sulfonimidoyl-Substituted Mono(allyl)tris (diethylamino)titanium Complexes; 1.3.3 Aminoalkylation of Sulfonimidoyl-Substituted Allyltitanium Complexes; 1.3.3.1 Sulfonimidoyl-Substituted Bis(allyl)titanium Complexes; 1.3.3.2 Sulfonimidoyl-Substituted Mono(allyl)tris(diethylamino)titanium Complexes; 1.3.4 Structure and Reactivity of Sulfonimidoyl-Substituted Allyltitanium Complexes; 1.3.4.1 Sulfonimidoyl-Substituted Bis(allyl) titanium Complexes 1.3.4.2 Sulfonimidoyl-Substituted Mono(allyl)titanium Complexes 1.3.5 Asymmetric Synthesis of Homopropargyl Alcohols; 1.3.6 Asymmetric Synthesis of 2,3-Dihydrofurans; 1.3.7 Synthesis of Bicyclic Unsaturated Tetrahydrofurans; 1.3.8 Asymmetric Synthesis of Alkenyloxiranes; 1.3.9 Asymmetric Synthesis of Unsaturated Mono- and Bicyclic Prolines; 1.3.10 Asymmetric Synthesis of Bicyclic Amino Acids; 1.3.11 Asymmetric Synthesis of  $\alpha$ -Amino Acids; 1.3.12 Conclusion; 1.4 The "Daniphos" Ligands: Synthesis and Catalytic Applications; 1.4.1 Introduction; 1.4.2 General Synthesis 1.4.3 Applications in Stereoselective Catalysis

## Sommario/riassunto

Edited by two of the leading researchers in the field, this book provides a deep, interdisciplinary insight into stoichiometric and catalytic reactions in this continuously expanding area. A plethora of top German scientists with an international reputation covers various aspects, from classical organic chemistry to process development, and from the theoretical background to biological methods using enzymes. Throughout the focus is on the development of new synthetic methods in asymmetric synthesis, the synthesis of natural and bioactive compounds and the latest developments in both chemical a