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Nota di contenuto	Asymmetric Catalysis on Industrial Scale; Contents; List of Contributors; Introduction; Part I New processes for Existing Active Compounds (APIs); 1 Some Recent Examples in Developing Biocatalytic Pharmaceutical Processes; 2 Enantioselective Hydrogenation: Applications in Process R&D of Pharmaceuticals; 3 Chiral Lactones by Asymmetric Hydrogenation - a Step Forward in (+)-Biotin Production; 4 Biocatalytic Asymmetric Oxidation for the Production of Bicyclic Proline Peptidomimetics 10 Development of Efficient Technical Processes for the Production of Enantiopure Amino Alcohols in the Pharmaceutical Industry 11 The Asymmetric Hydrogenation of Enones - Access to a New L-Menthol Synthesis; 12 Eliminating Barriers in Large-Scale Asymmetric Synthesis; 13 Catalytic Asymmetric Ring Opening: A Transfer from Academia to Industry; 14 Asymmetric Baeyer-Villiger Reactions Using Whole-Cell Biocatalysts; 15 Large-Scale Applications of Hydrolases in Biocatalytic Asymmetric Synthesis; 16 Scale-Up Studies in Asymmetric Transfer

Hydrogenation

17 2,2,5,5-Tetramethyl-4,4-bis(diphenylphosphino)-3,3-

bithiophene: A Very Efficient Chiral Ligand for Ru-Catalyzed

Asymmetric Hydrogenations on the Multi-Kilograms Scale¹⁸ The Power

of Whole-Cell Reaction: Efficient Production of Hydroxyproline, Sugar

Nucleotides, Oligosaccharides, and Dipeptides; ¹⁹ Enantioselective

Ketone Hydrogenation: from Research to Pilot Scale with Industrially

Viable Ru-(Phosphine-Oxazoline) Complexes; Part III Processes for New

Chemical Entities (NCEs); ²⁰ Enabling Asymmetric Hydrogenation for

the Design of Efficient Synthesis of Drug Substances

²¹ Scale-up of a Telescoped Enzymatic Hydrolysis Process for an

Intermediate in the Synthesis of a Factor Xa Inhibitor²² An Efficient,

Asymmetric Synthesis of Odanacatib, a Selective Inhibitor of Cathepsin

K for the Treatment of Osteoporosis, Using an Enzyme-Mediated

Dynamic Kinetic Resolution; ²³ Biocatalytic Routes to the GPIIb/IIIa

Antagonist Lotrafiban, SB 214857; ²⁴ Discovery and Development of a

Catalytic Asymmetric Conjugate Addition of Ketoesters to Nitroalkenes

and Its Use in the Large-Scale Preparation of ABT-546

²⁵ The Kagan Oxidation - Industrial-Scale Asymmetric Sulfoxidations

in the Synthesis of Two Related NK1/NK2 Antagonists

Sommario/riassunto

This second edition of the pioneering work on this hot topic captures the major trends and latest achievements in the art of asymmetric catalysis on an industrial scale. A number of completely new real-life case studies written by the world leaders in their respective areas provide a compact and qualified insight into this developing field. The resulting ready reference and handbook collates first-hand and valuable information within a context where it can be easily found. The high-quality contributions illustrate the relevant environments and situations, such as time pressure, how the cata
