

1. Record Nr.	UNINA9911020167103321
Titolo	Asymmetric catalysis on industrial scale : challenges, approaches and solutions / / edited by Hans Ulrich Blaser, Hans-Jurgen Federsel
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, c2010
ISBN	9786612783883 9781282783881 1282783882 9783527642168 3527642161 9783527630646 3527630643 9783527630639 3527630635
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (582 p.)
Altri autori (Persone)	BlaserH. U FederselHans-Jurgen
Disciplina	547.1395
Soggetti	Enantioselective catalysis Enantioselective catalysis - Industrial applications
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	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 Industry11 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 Scale  
 18 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 Inhibitor  
 22 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

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## 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

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