Biocatalysis for Green Chemistry and Chemical Process Development
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DESCRIPTION

This book describes recent progress in enzyme-driven green syntheses of industrially important molecules. The first three introductory chapters overview recent technological advances in enzymes and cell-based transformations, and green chemistry metrics for synthetic efficiency. The remaining chapters are directed to case studies in biotechnological production of pharmaceuticals (small molecules, natural products and biologics), flavors, fragrance and cosmetics, fine chemicals, value-added chemicals from glucose and biomass, and polymeric materials.

The book is aimed to facilitate the industrial applications of this powerful and emerging green technology, and catalyze the advancement of the technology itself.

ABOUT THE AUTHOR

JUNHUA (Alex) TAO is currently CEO of Metabomics, Inc. Prior to that; he was the CSO of Elevance Renewable Sciences, and the creator and head of the Biotransformations Group at Pfizer, where he was also a core member of the API Development Team. He co-authored over 60 publications including “Biocatalysis for the Pharmaceutical Industry” (Wiley, 2009) and co-invented over 20 patents. In addition, he was the recipient of the Pfizer Achievement Award, the Pfizer Green Chemistry Award, and a key member of the Lyrica process development team, which won the IChemE Award for Excellence in Green Chemistry and Engineering (2006).
ROMAS JOSEPH KAZLAUSKAS is Professor of Biochemistry, Molecular Biology and Biophysics at the BioTechnology Institute of the University of Minnesota, Twin Cities. He is the coauthor of over eighty papers and reviews, and the book Hydrolases in Organic Synthesis. He also served as the co-chair of two Gordon Research Conferences, one on biocatalysis and one on green chemistry.

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