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Sommario/riassunto

Biocatalysis is rapidly evolving into a key technology for the discovery and production of chemicals, especially in the pharmaceutical industry, where high yielding chemo-, regio-, and enantioselective reactions are critical. Taking the latest breakthroughs in genomics and proteomics into consideration, Biocatalysis for the Pharmaceutical Industry concisely yet comprehensively discusses the modern application of biocatalysis to drug discovery, development, and manufacturing. Written by a team of leading experts, the book offers deep insight into this cutting edge field. Covers a wide range of topics in a systematic manner with an emphasis on industrial applications Provides a thorough introduction to the latest biocatalysts, modern expression hosts, state-of-the-art directed evolution, high throughput screening, and bioprocess engineering Addresses frontier subjects such as emerging enzymes, metabolite profiling, combinatorial biosynthesis, metabolic engineering, and autonomous enzymes for the synthesis and development of chiral molecules, drug metabolites, and semi-synthetic medicinal compounds and natural product analogs Highlights the impact of biocatalysis on green chemistry Contains numerous graphics to illustrate concepts and techniques Biocatalysis for the Pharmaceutical Industry is an essential resource for scientists, engineers, and R&D policy makers in the fine chemical, pharmaceutical, and biotech industries. It is also an invaluable tool for academic researchers and advanced students of organic and materials synthesis, chemical biology, and medicinal chemistry.