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Sommario/riassunto	The use of biocatalysts, including enzymes and metabolically engineered cells, has attracted a great deal of attention in the chemical and bio-industry, because biocatalytic reactions can be conducted under environmentally-benign conditions and in more sustainable ways. The catalytic efficiency and chemo-, regio-, and stereo-selectivity of enzymes can be enhanced and modulated using protein engineering. Metabolic engineering seeks to enhance cellular biosynthetic productivity of target metabolites via controlling and redesigning metabolic pathways using multi-omics analysis, genome-scale modeling, metabolic flux control, and reconstruction of novel pathways. The aim of this book is to cover the recent advances in biocatalysis and metabolic engineering for biomanufacturing of biofuels, chemicals, biomaterials, and pharmaceuticals. Reviews and original research articles on the development of new strategies to improve the catalytic efficiency of enzymes, biosynthetic capability of cell factories, and their applications in production of various bioproducts and chemicals are included.