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Chapter 10: Rapid and Effective Oxidative Pretreatment of Woody Biomass at Mild Reaction Conditions and Low Oxidant LoadingsPart III: Metabolic Engineering; Chapter 11: Molecular Cloning and Expression of Cellulase and Polygalacturonase Genes in E. coli as a Promising Application for Biofuel Production; Chapter 12: Directed Evolution of an E. coli Inner Membrane Transporter for Improved Efflux of Biofuel Molecules; Chapter 13: Generating Phenotypic Diversity in a Fungal Biocatalyst to Investigate Alcohol Stress Tolerance Encountered during Microbial Cellulosic Biofuel Production
Chapter 14: Genome Replication Engineering Assisted Continuous Evolution (GREACE) to Improve Microbial Tolerance for Biofuels ProductionAuthor Notes

Sommario/riassunto

The world needs renewable and clean forms of energy. Biofuels offer an alternative to fossil fuels, but first-generation biofuels had many challenges to be overcome. One strategy that second-generation biofuels are employing is microbial technology.This compendium volume gathers together recent investigations within this vital field of research. It offers:An overview of the topicInvestigations into the varieties of microorganisms useful for this technologyPretreatment methodologiesGenetic engineering research that will further this technologyInternationally recognized experts contribute chapte