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Descrizione fisica	1 online resource (390 pages)
Collana	Microbiology Monographs, , 1862-5576 ; ; 16
Disciplina	589.92 579.37
Soggetti	Bacteriology Microbiology Biochemistry Applied Microbiology Biochemistry, general
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Refined Systematics of the Genus Rhodococcus Based on Whole Genome Analyses -- Genomics of Rhodococcus -- Central Metabolism of Species of the Genus Rhodococcus -- Oligotrophic Growth of Rhodococcus -- Adaptation of Rhodococcus to Organic Solvents -- Degradation of Alkanes in Rhodococcus -- Biodegradation of Nitriles by Rhodococcus -- The Desulfurization Pathway in Rhodococcus -- Bioremediation of Contaminated Environments Using Rhodococcus -- Production of Trehalolipid Biosurfactants by Rhodococcus -- Biology of Triacylglycerol Accumulation by Rhodococcus -- Interaction of Rhodococcus with Metals and Biotechnological Applications -- Plant-Associated Rhodococcus Species, for Better and for Worse.
Sommario/riassunto	Rhodococcus, a metabolically versatile actinobacterium which is frequently found in the environment, has gained increasing interest due to its potential biotechnological applications. This Microbiology Monographs volume provides a thorough review of the various aspects of the biochemistry, physiology and genetics of the Genus Rhodococcus. Following an overview of its taxonomy, chapters cover the structural aspects of rhodococcal cellular envelope, genomes and

plasmids, metabolic and catabolic pathways, such as those of aromatic compounds, steroids and nitriles, and desulfurization pathways, as well as adaption to organic solvents. Further reviews discuss applications of Rhodococcus in the bioremediation of contaminated environments, in triacylglycerols accumulation, and in phytopathogenic strategies, as well as the potential of biosurfactants. In addition, properties of these bacteria to thrive and survive in oligotrophic environments are also discussed. A final chapter describes the sole pathogenic Rhodococcus member, R. equi. This book is intended for undergraduate, graduate and postdoc researchers and students interested in a wide range of areas of knowledge related to the bacteria of the genus Rhodococcus. In addition, this work will be useful for professionals who work in companies related to biotechnology and commercial use of microorganisms.