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Titolo	Anaerobic utilization of hydrocarbons, oils, and lipids / / edited by Matthias Boll
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ISBN	3-319-50391-X
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Descrizione fisica	1 online resource : (82 illus., 49 illus. in color. eReference.)
Collana	Handbook of Hydrocarbon and Lipid Microbiology
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Soggetti	Anaerobic bacteria Hydrocarbons - Biodegradation
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part I: Biochemistry of Anaerobic Degradation of Hydrocarbons Anaerobic Degradation of Hydrocarbons: Mechanisms of Hydrocarbon Activation in the Absence of Oxygen -- Catabolic Pathways and Enzymes Involved in Anaerobic Methane Oxidation -- Catabolic Pathways Involved in the Anaerobic Degradation of Saturated Hydrocarbons -- Catabolic Pathways and Enzymes Involved in the Anaerobic Degradation of Monocyclic Aromatic Compounds -- Catabolic Pathways and Enzymes Involved in the Anaerobic Degradation of Polycyclic Aromatic Hydrocarbons -- Catabolic Pathways and Enzymes Involved in the Anaerobic Degradation of Terpenes -- Anaerobic Biodegradation of Steroids -- Part II: Functional Genomics of Anaerobic Degradation of Hydrocarbons Functional Genomics of Anaerobic Degradation of Hydrocarbons: An Introduction -- Functional Genomics of Denitrifying Bacteria Degrading Hydrocarbons -- Functional Genomics of Sulfate-Reducing Bacteria Degrading Hydrocarbons -- Functional Genomics of Metal-Reducing Microbes Degrading Hydrocarbons -- Part III: Ecophysiology and Diversity of Anaerobic Hydrocarbon Degradation Next-Generation Sequencing of Functional Marker Genes for Anaerobic Degraders of Petroleum Hydrocarbons in Contaminated Environments -- Protein-based Stable Isotope Probing (protein-SIP): Applications for Studying Aromatic Hydrocarbon Degradation in Microbial Communities -- Compound-

	Specific Isotope Analysis for Studying the Biological Degradation of Hydrocarbons -- Compound-specific Stable Isotope Analysis (CSIA) for Evaluating Degradation of Organic Pollutants - An Overview of Field Case Studies -- Signature Metabolite Analysis to Determine In Situ Anaerobic Hydrocarbon Biodegradation -- Anaerobic Methane Oxidation in Freshwater Environments.-.
Sommario/riassunto	The book uniquely covers all aspects of anaerobic biodegradation of the environmentally important hydrocarbons. The contributions by international experts cover the molecular characterization of unique biocatalysts for oxygen-independent C-H-bond functionalization, the identification of unifying concepts, and the presentation of state-of-the-art methodologies. The current knowledge of the global importance of anaerobic hydrocarbon degradation is highlighted.