Record Nr.	UNINA9910828619203321
Titolo	Redox biocatalysis [[electronic resource] ] : fundamentals and applications / / Daniela Gamenara [et al.]
Pubbl/distr/stampa	Hoboken, N.J., : Wiley, 2012
ISBN	1-118-40932-9 1-283-64617-X 1-118-40934-5 1-118-40929-9
Edizione	[1st ed.]
Descrizione fisica	1 online resource (549 p.)
Altri autori (Persone)	GamenaraDaniela <1964->
Disciplina	660.6/34
Soggetti	Environmental chemistry - Industrial applications Environmental chemistry Enzymes Oxidation-reduction reaction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	REDOX BIOCATALYSIS; CONTENTS; PREFACE; 1. Enzymes Involved in Redox Reactions: Natural Sources and Mechanistic Overview; 1.1 Motivation: Green Chemistry and Biocatalysis; 1.2 Sources of Biocatalysts; 1.2.1 Plants and Animals as Sources of Redox Biocatalysts; 1.2.2 Wild-Type Microorganisms; 1.2.2.1 Yeasts; 1.2.2.2 Fungi; 1.2.2.3 Bacteria; 1.2.3 Metagenomic Assessments; 1.3 Overview of Redox Enzymes; 1.3.1 Dehydrogenases; 1.3.1.1 Zn-Dependent Dehydrogenases; 1.3.1.2 Flavin-Dependent Dehydrogenases; 1.3.1.3 Pterin-Dependent Dehydrogenases; 1.3.1.4 Quinoprotein Dehydrogenases 1.3.1.5 Dehydrogenases; 1.3.2.2 Dioxygenases; 1.3.3 Oxidases; 1.3.2.1 Monooxygenases; 1.3.2.2 Dioxygenases; 1.3.3 Oxidases; 1.3.3.1 Iron-Containing Oxidases; 1.3.3.2 Copper-Containing Oxidases; 1.3.3.3 Flavin-Dependent Oxidases; 1.3.4 Peroxidases; 1.4 Concluding Remarks; References; 2. Natural Cofactors and Their Regeneration Strategies; 2.1 Types of Natural Cofactors-Mechanisms; 2.2 Cofactor Regeneration; 2.2.1 Enzymatic Regeneration of Reduced

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Sommario/riassunto	Paves the way for new industrial applications using redox biocatalysis Increasingly, researchers rely on the use of enzymes to perform redox processes as they search for novel industrial synthetic routes. In order to support and advance their investigations, this book provides a comprehensive and current overview of the use of redox enzymes and enzyme-mediated oxidative processes, with an emphasis on the role of redox enzymes in chemical transformations. The authors examine the full range of topics in the field, from basic principles to new and emerging research and application