1. Record Nr. UNINA9910754091103321

Titolo	Cell-free Macromolecular Synthesis / / edited by Yuan Lu, Michael C. Jewett
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2023
ISBN	3-031-41287-7
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (154 pages)
Collana	Advances in Biochemical Engineering/Biotechnology, , 1616-8542 ; ; 185
Disciplina	660.63
Soggetti	Biotechnology Proteins Analytical chemistry Chemical Bioengineering Protein Biochemistry Analytical Chemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Bottom-up synthetic biology using cell-free protein synthesis -- New development in cell-free protein synthesis and immobilization -- Cell-free synthesis of metalloproteins -- Application of cell-free protein synthesis system for the biomolecules evolution -- Cell Free Production Systems in Droplet Microfludics -- eCell technology for cell-free protein synthesis, bio-sensing and remediation.
Sommario/riassunto	This book reviews cell-free production systems, exploring the frontiers in cellular engineering and biotechnology. With contributions from experts in the field, the book offers a comprehensive and up-to-date account of the latest advancements and practical applications. The volume covers a diverse range of topics, beginning with an in-depth analysis of cell-free display techniques for protein evolution, shedding light on the methodologies used to engineer proteins for diverse purposes, followed by an examination of bottom-up synthetic biology employing cell-free protein synthesis. Additionally, it investigates the intricacies of the cell-free synthesis of metalloproteins, elucidating the unique properties and functionalities of these biologically important

molecules. In this book, particular attention is given to the integration of cell-free production systems with droplet microfluidics, a pioneering approach that has revolutionized research activities in both academic and industrial settings. Readers will also discover the latest advancements in cell-free protein synthesis and immobilization, and find out more about the eCell technology, which combines cell-free protein synthesis with bio-sensing and remediation, revolutionizing critical areas of study in biotechnology. Together with the companion volume entitled “Cell-free Production: System Development”, both books highlight the research progresses on the basic and applied research of cell-free production systems in the last few years, and are invaluable resources for scholars, researchers, and bioengineers. This book also appeals to enthusiasts of synthetic biology. .