

BIOMOLECULAR ENGINEERING SOLUTIONS FOR RENEWABLE SPECIALTY CHEMICALS

MICROORGANISMS, PRODUCTS, AND PROCESSES

EDITED BY

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Biomolecular Engineering Solutions for Renewable Specialty Chemicals

**Microorganisms, Products, and
Processes**

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This edition first published 2022
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111 River Street, Hoboken, NJ 07030, USA

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Library of Congress Cataloging-in-Publication Data applied for:

ISBN: 9781119771920

Cover design by Wiley

Cover image: © Vetre/Shutterstock

Preface

Biocommodity Engineering

Microorganisms have been realized as promising sources for production of biocommodities such as biofuels, pharmaceuticals, organic acids, amino acids, vitamins, biopolymers, surfactants, detergents, and enzymes. They offer several advantages over the conventional chemical processes including mild operating conditions, stereospecificity of the products, environmentally benign nature, and ecofriendly. Translating the bioproducts from laboratory to the industry remains a bottleneck.

Biocommodity and biomolecular engineering approaches help in overcoming these limitations, developing new products, and improving the processes.

Considering the importance of the field, this book is specifically focused on potential technologies that can help in commercializing the processes. The objective of the book is to provide advanced technologies in producing different products using improved microorganisms/enzymes. This book will also discuss on improving the microbes or enzymes using protein engineering, metabolic engineering, and systems biology approaches for converting the wastes to value-added products.

Overall, this would be an ideal textbook for bioprocess, biorefinery, biomolecular, and biocommodity engineering courses for chemical, biochemical, and environmental engineering students. We have also included glossary and reasoning type questions at the end of each chapter. This book will also help the scientists to understand the advanced concepts in biomanufacturing. This book

discusses the promising strategies that will help overcome the current limitations in the biochemical synthesis processes. The book will help the readers working in industry or research to know about the new ways for improving the efficiency of the biochemical synthesis processes.

The editors would like to thank all the authors for their valuable contribution and the Wiley editorial team for their support.

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