

CONTENTS

Preface	ix
1. Immobilized Microbial Cells in Complex Biocatalysis	1
W. R. Vieth and K. Venkatsubramanian	
2. Pore Dimensions for Accumulating Biomass	13
R. A. Messing, R. A. Opperman, and F. B. Kolot	
3. The Biophysics of Cellular Adhesion	29
D. F. Gerson and J. E. Zajic	
4. Production of Antibiotics and Enzymes by Immobilized Whole Cells	59
S. Suzuki and I. Karube	
5. Dentrification and Removal of Heavy Metals from Waste Water by Immobilized Microorganisms	73
J. Holló, J. Tóth, R. P. Tengerdý, and J. E. Johnson	
6. Synthesis of Coenzyme A by Immobilized Bacterial Cells	87
S. Shimizu, Y. Tani, and H. Yamada	
7. Phenol Degradation by <i>Candida tropicalis</i> Whole Cells Entrapped in Polymeric Ionic Networks	101
J. Klein, U. Hackel, and F. Wagner	
8. Facile Methods for the Immobilization of Microbial Cells without Disruption of Their Life Processes	119
J. F. Kennedy	
9. Enzymatic Synthesis of Pantothenic Acid by <i>Escherichia coli</i> Cells	133
Y. Kawabata and A. L. Demain	
10. The Use of Whole Cell Immobilization for the Production of Glucose Isomerase	139
S. J. Bungard, R. Reagan, P. J. Rodgers, and K. R. Wyncoll	
11. Temperature Dependence of the Stability and the Activity of Immobilized Glucose Isomerase	147
J. A. Roels and R. van Tilburg	
12. Evaluation of a Novel Microporous PVC-Silica Support for Immobilized Enzymes—Its Use in a Flow-Through Reactor System for Production of Fructose	173
B. S. Goldberg, A. G. Hausser, K. R. Gilman, and R. Y. Chen	
13. Immobilized Microbial Cells with Polyacrylamide Gel and Carrageenan and Their Industrial Applications	187
I. Chibata	

14. Application of Immobilized Whole Cells in Analysis	203
B. Mattiasson	
15. Microbial Electrode Sensors for Cephalosporins and Glucose	221
S. Suzuki and I. Karube	
16. Hollow Fiber Entrapped Microsomes as a Liver Assist Device in Drug Overdose Treatment	237
P. R. Kastl, W. H. Baricos, R. P. Chambers, and W. Cohen	
Index	251