

Bioseparation Process in Foods



P. B. Bansal

countries and aimed to bring the latest information in the field of bioseparation of enzymes and proteins. It aims to systematically promote and enforce an essential integration between bioseparation processes and biological/chemical and engineering sciences through a series of case studies focusing on separations and separation processes in the context of industrial practice.

*Editor***Contents**

<i>Preface</i>	v
1. Bioseparation Process	1
2. Bioprocess Design	16
3. Enzyme Preparation	58
4. Protein Purification	88
5. Protein Crystal Technology	121
6. Membrane Separation Processes	151
7. Separation and Production of Bioactive Molecules	175
8. Affinity Chromatography	188
9. Nanoscale Science and Engineering	211
10. Biosafety	231
<i>Bibliography</i>	276
<i>Index</i>	277

Index

Bibliography

- B. Ekberg, K. Mosbach, "Molecular imprinting: a technique for producing separation materials", *Trends Biotechnol.* 7, 1989.
J. Silva, G. Weber, *Pressure stability of proteins*, Annu. Rev. Phys. Chem. 44, 1993.
M. Wilchek, T. Miron, J. Kohn, "Affinity chromatography", *Methods Enzymol.*, 1984.
M.A. Vijayalakshmi, *Pseudobiospecific ligand affinity chromatography*, 7, 1989.
M.L. Yarmush, A.M. Weiss, K.P. Antonsen, D.J. Odde, D.M. Yarmush, "Immunoaffinity purification: basic principles and operational considerations", *Biotechnol. Adv.* 10, 1992.
P. Cuatrecasas, M. Wilchek, "Single-step purification of avidin from egg white by affinity chromatography on biocytin-Sepharose columns", *Biochem. Biophys. Res. Commun.* 33, 1968.
P. Cuatrecasas, M. Wilchek, C.B. Anfinsen, *Selective enzyme purification by affinity chromatography*, Proc. Natl. Acad. Sci. USA 61, 1968.

- Aqueous biphasic systems 66,
74
Aspergillus species 59
- Baro-immunodesorption 177
Bead mills 83
Bioanalytical nanosensors 214
Biological products 2
BioMEMS 212
Bioproduction 184
Biopurification 184
Biosensor 150
Biotechnological processes 1
- Cell debris 73
Cell disruption 79
Cellular iology 225
Centrifugation 67
Coagulation 71
Commercial enzymes 59
Controlled Environment
Agriculture (CEA) 219
Cross-linked hydroxynitrile
lyase crystals 144
Cross-linked protein crystals
(CLPCs) 122
Crosslinked thermolysin
crystals 138
- Cross-linked Xylose Isomerase
(CLXIC) 143
- Dyno-mill 83
- Enzymes preparation 65
Extracellular enzymes 59
- Filtration 72
Flocculation 71
Freeze-presses 85
- High pressure homogenisers 81
High resolution-low 6
- Integrated Pest Management
(IPM) 218
- Intracellular enzymes 77
- Large-scale purification proc-
esses 1
- Lipases 139
Lytic methods 85
- Meat and poultry processing
12
- Membrane-bound enzymes 87
- Microelectromechanical

- Systems (MEMS) 212
Microfluidics 211
Microscopic cells 211
Microscopic scale 211
Microstreaming 80
Molecular Imprinted Polymer (MIP) 182, 221
Multichamber disc-stack centrifuges 70
- Nanobioprocessing 214
Nano-Electromechanical Systems (NEMS) 225
Nanomaterials 214
Nanometers (nm) 211
Nanosensors 219
Nanotechnological feats 211
Non-animal Origin 182
Novel enzymes 60
Nucleic acid bioengineering 213
- Oil processing 14
- Plant management practices 8
- Proteases 137
Protein crystallisation 122
Protein crystals 125
Protein Data Bank (PDB) 124
Purification and Polishing (PP) 5
Recovery and Isolation (RI) 5
- Screening process 63
Smart systems integration 225
Smart treatment delivery systems 213, 223
Solid/liquid separation 66
- Thermal separation processes 1
Triclinic lysozyme crystals 126
- Waste prevention techniques 9
Water conservation 9
Water-miscible solvents 138
- X-ray crystallography 121, 147



Gene-Tech Books

4762-63/23, Ansari Road, Darya Ganj,
NEW DELHI - 110 002
Phone: 41562849
E-mail: genetechbooks@yahoo.co.in

ISBN 81-89729-03-9

A standard linear barcode representing the ISBN number 81-89729-03-9.

9 788189 729035

Rs 250.00