

Table of Contents

Preface

Chapter 1: Applied Biotechnologies

Predesign of Rice Straw-Based Cellulose Plant with Steam Explosion Method R.P. Anugraha, N.N.K.K. Dewi, A. Fadzlina and R. Renanto	3
Fractionation of Oil Palm Fiber Using Green Solvent for Lignin Separation Y. Yesika, T. Hudaya, K.A. Hawboldt, H. Rusli and J.N.M. Soetedjo	11
The Study on the Effect of Acid Concentration, Temperature, and Time on the Dehydration of Xylose to Furfural in Ethanol Solvent J.N.M. Soetedjo, R. Gunawan, B.C.N. Tambunan, J.C. Oey and H. Rusli	23
Modeling and Simulation of Precipitation Process of Various Salt Components during Sea Salt Production H. Santoso, C. Harris, J.R. Witono and K.C. Wanta	33

Chapter 2: Biofuel Production

Microfiltration Performance of α-Alumina Membrane for Removal of Glycerol from Biodiesel S.P. Kusumocahyo, N.S. Maharani and S. Yusri	45
Challenges in Syngas Fermentation for Bioethanol Production: Syngas Composition R. Mukti, M.T.A.P. Kresnowati and T. Setiadi	53
Enhance the Growth of <i>Clostridium ljungdahlii</i> Microbial Cells by Modifying the Medium Composition and Trace Metals N.A. Istiqomah, G.M. Krista, R. Mukti, M.T.A.P. Kresnowati and T. Setiadi	65
Determination of Data Driven Soft Sensors in Dimethyl Ether Production by Reactive Distillation Column B.H. Bisowarno, P. Ramadhany and T.G.S. Wibowo	75

Chapter 3: Biowaste Recycling

Coconut Shell Liquid Smoke Production Quality from Size and Power Using Microwave-Assisted Pyrolysis S.P.A. Anggraini, Mahfud, S.R. Juliastuti and Suprpto	85
Synthesis and Electrochemical Properties of ZnO/ Activated Carbon from Vetiver Distillation Waste R.E. Haraki, A.A. Arie, R.F. Susanti, H.S. Oktaviano and A. Nugroho	95

Chapter 4: Environmental Protection

Optimization of Methylene Blue Ultrasound-Assisted Adsorption onto Magnetic Sugarcane Bagasse Activated Carbon Using Response Surface Methodology M.F. Rizkiana, B.A. Fachri, S. Gunawan, M. Nor, I. Iswahyono, B. Palupi, I. Rahmawati and H.W. Amini	105
LDPE Film Waste Treatment into Liquid Fuel Using Catalytic Cracking J.N.M. Soetedjo, M. Osborn, L.A. Setiawan, F.A. Fadillah, F. Tjandra, K.F. Mulya, E.R. Nehemia and T. Hudaya	115