

Table of Contents

Preface

Chapter 1: Inorganic and Physical Chemistry, Materials Properties and Technologies

A Facile Synthesis of HKUST-1 MOF through Reductive Electrosynthesis Method	3
S.U.M. Beladona, A. Rochliadi and A. Patah	
Effect of Nanocellulose on Water-Oil Interfacial Tension	13
M. Ledyastuti, J. Jason and R. Aditama	
Investigation on the Crystal Structures of Hematite Pigments at Different Sintering Temperatures	20
Ismunandar, N. Nurdini, M.M. Ilmi, E. Maryanti and G.T.M. Kadja	
Improving Photoresponsivity of ZnO Nanorods Film by a Combination Doping with Nickel and Adding Cu₂O Layer	28
A.F. Muyasaroh, N. Mufti, Sunaryono and Aripriharta	
Copper Amalgam Working Electrode for Voltammetric Determination of Selenite	35
R.S. Rahayu, M.K. Pramesti, A. Hasanawi, D.A. Setyorini and M.Y. Azis	
Improving the Viscosity of Partially Hydrolyzed Polyacrylamide (PHPAM) Solution for Enhanced Oil Recovery (EOR) Application	45
I. Arifin, G.T.M. Kadja and C.L. Radiman	
La(III) Ion Selective Electrode with PTFE Membrane Containing Tributyl Phosphate Ionophore	50
A. Saefurohman, Buchari and I. Noviandri	
Hydration and Proton Transfer Processes in Sulfonated Nata De Coco Membrane with Density Functional Theory	58
S. Rahmawati, C. Linaya Radiman, M. Abdulkadir Martoprawiro, S. Nuryanti, Pathuddin and A. Ma'ruf	

Chapter 2: Organic and Biophysics Chemistry, Materials Properties and Technologies

Catalytic Oxidation of Quinine Using Hydrogen Peroxide with Palladium as Catalyst	69
N.T. Berghuis, Y.M. Syah and D. Mujahidin	
Microwave Assisted Amidation of 5-Aminoisophtalic Acid Dimethyl Ester Catalyzed by Imidazolium Ionic Liquids	75
A. Alni and A.P. Putri	
Isolation and Characterization of Poly-(R)-3-hydroxybutyrate Produced by <i>Bacillus thuringiensis</i> TH-01	81
W.O.S. Rizki, Z. Sabiqoh, E. Ratnaningsih and R. Hertadi	
Molecular Dynamics Study of <i>Candida rugosa</i> Lipase in Water, Methanol, and Pyridinium Based Ionic Liquids	88
O.H. Cipta, A. Alni and R. Hertadi	
Recombinant Expression and Biochemical Characterization of Levansucrase from Halophilic Bacteria <i>Bacillus licheniformis</i> BK1 and BK2	96
N.U. Permatasari, E. Ratnaningsih and R. Hertadi	
Characterization of Di-Rhamnolipid Biosurfactant in Recombinant <i>Escherichia coli</i>	107
S.H. Kusuma, K. Meitha and S. Suhandono	
The Effects of Nano-Casein Encapsulation and Productions of a Controlled-Release on Eugenol Containing Bio-Pesticide Toxicity	115
M. Sahlan, M. Tejamaya, R. Arbianti, T. Baruji, R. Adawiyah and H. Hermansyah	
Computational Study: Noncovalent Interaction of Cys-Ala Peptide with Alkaline Earth Metal Ions and its Conformation Changes	128
M.A. Tresnoningtias, A.S. Nurwarrohman, I. Kurnia, C. Rinaldy, A. Mukhammad and S. Parsaoran	

Molecular Docking Studies of Indolyl-Benzodioxyl-Chalcone, Pyrrolyl-Benzodioxyl-Chalcone, and Thiophenyl-Benzodioxyl-Chalcone as an Antimalarial Agent	
K. Mustikasari, J.E. Harap, T.B. Susilo and N. Komari	136
Graft Copolymerization of Cinnamic Acid to Cassava Starch and its Viscosity Measurements	
R. Rachmawati and M. Rahmawati	143
Modification of Starch Using Itaconic Anhydride and its Characterizations	
D. Rengganis and R. Rachmawati	149
Electron Transfer in Electro-Oxidation of Amoxicillin Using Platinum Electrode and Platinum Modified Cobalt Electrodes	
Herlina, M.A. Zulfikar and Buchari	155
Investigation of Ethylene Glycol Heat Transfer Coefficient Trough Double Pipe and Coil Heat Exchanger	
S. Wuryanti, T.M. Gantina and Indriyani	165
Quantitative Structure-Property Relationship (QSPR) Study on the Complex Compounds Formed From Gadolinium(III) with Dibutyl Dithiophosphate Derivatives Ligands Based on Molecular Descriptors	
Nurdeni, A.S. Abdullah, B.N. Ruchjana, A. Anggraeni, A.N. Falah, M. Santoso, A. Muthalib and H.H. Bahti	171