

# Table of Contents

## Preface

## Chapter 1: Physical Research of Materials for Electronics and Electrotechnics

### Investigating the Probability of the Charging Transition Rate in Cu Contact to P6 System Devices

T.S. Al Maadhede, H.J.M. Al-Agealy and M.A.R. Mohsin 5

### Mixed Spin Ising Ferrimagnetic System in the Oguchi Approximation

Y.M. Hemzah, M.M. Khrajan and H.K. Mohamad 13

### Study and Evaluation of Charge Current Rate for Fe/ZnPc Sensitizers Molecule Interface System

T.S. Al Maadhede, H.J.M. Al-Agealy, H.K. Mejbel and H.A. Mahdi 19

## Chapter 2: Materials and Methods of Pollutants Detection and Degradation

### Food Safety Level Assessment on Heavy Metals (As, Cd, Li, Ni, Pb, Ti) Concentration in Tilapia Fish (*Oreochromis sp.*) from Sleman and Bantul Yogyakarta

N.S. Safitri, S. Suratno and S. Suherman 33

### Mitigation of Ammonia Gas Emissions from Chicken Layer Excreta Using Indigenous Microorganisms Produced by Fermented Tobacco Leaves

N.A. Fitriyanto, L.A. Murtikawati, R.A. Prasetyo and Y. Erwanto 41

### Prediction of Rhodamine B Dye Content in Chilies Paste Using VIS-NIR Spectroscopy

H.C. Chairuniza, Jumeri, R.E. Masithoh, W. Supartono and N. Khuriyati 49

### Synthesis of Dialdehyde Carboxymethyl Cellulose-Crosslinked-Chitosan for Preconcentration of Cu(II) Using Batch Method

F. Ariani, A. Suratman and D. Siswanta 57

### Optimization of Silicon Selective Leaching with Glycerol Using Response Surface Methodology (RSM)

A.K. Rianto, A. Prasetya and M.M. Azis 67

### Effect of Calcination Temperature on the Preparation of Mixed Oxide SnO<sub>2</sub>/CeO<sub>2</sub>/TiO<sub>2</sub> to Increase the Photodegradation Activity of Methylene Blue under Visible Light

R.A. Husna, S. Suherman and T.A. Natsir 75

### A Bifunctional Chitosan/Alginate Nanoparticles (CANPs) for Trace Metals Adsorption as well as Antibacterial Polyelectrolyte Complex (PEC) Materials

A. Suratman, N. Alfitra, I.P. Putri, N.H. Aprilita, T.A. Natsir and D.N. Astuti 81

### The Adsorption Characteristics of Heavy Metals in Acid Mine Drainage from Abandoned Tin Mines on Lightweight Expanded Clay Aggregate (LECA)

S. Syukur, A.T. Yuliansyah and A. Prasetya 91

### The Effectiveness of Coffee Waste Ground by Simple Washing on the Adsorption of Methylene Blue

Nurmayasari, S.A. Kurniasari, S. Sholihun and A.D. Nugraheni 103

### Effective Removal of Methylene Blue Dye from Bimetallic Organic Framework M/Fe-MOF (M=Ni, Co)

N.T.C. Quyen and H.V. Thinh 111

### Efficient Visible-Light-Induced Photocatalytic Removal of Salicylic Acid Using Sulfur-Doped Fe<sub>3</sub>O<sub>4</sub>/SiO<sub>2</sub>/TiO<sub>2</sub> Composite

M. Ciptaningrum, S. Sutarno and E.S. Kunarti 123

### Synthesis of Magnetically Separable Fe<sub>3</sub>O<sub>4</sub>/TiO<sub>2</sub>-Ag with Enhanced Photocatalytic Performance under Visible Light for Degradation of Metanil Yellow

Z. Rohayati, E.S. Kunarti and B. Rusdiarso 131

<b>Synthesis of Amikacin Modified Carbon Dots-Doped Nitrogen and Zinc for <i>Escherichia coli</i> Detection</b>	
L.O.M.I. Stiawan, A. Kamal, M. Mudasir and S. Suherman	143
<b>Kinetic and Isotherm Study on the Adsorption of Crystal Violet in Water Using Low-Cost Adsorbent of Coal Fly Ash</b>	
E. Riskiani, N.H. Aprilita and M. Mudasir	153
<b>Isotherm and Kinetic Adsorption of Malachite Green Using Low-Cost Adsorbent of Coal Fly Ash</b>	
N. Nikmah, R. Roto and M. Mudasir	163
<b>Antibiotic Removal Capacity of Coconut Activated Carbon from Microwave-Assisted Synthesis</b>	
N.T.C. Quyen, T.L. Van, L.G. Bach and B.N. Hoang	175