

# Table of Contents

## Preface and Organizing Committees

## Chapter 1: Chemical Engineering and Technology

<b>Preconcentration of Arsenic in <i>Radix aucklandiae</i> by Sulfhydryl Cotton and Determination by Atomic Fluorescence Spectrometry</b> Q.S. Pan, W. Liu, H.P. Yan, B. Zhou, B.S. Wang and S.J. Xu	3
<b>Effects of Cobalt Chloride on Determination of Cadmium in <i>Radix aucklandiae</i> by Hydride Generation-Atomic Fluorescence Spectrometry</b> Q.S. Pan, W. Liu, D.S. Huang, B. Zhou, N. Wu and L. Shi	7
<b>Application of Reagent JZQ - F7 Prepared with Catering Waste Oil to the Low Grade Phosphate Rock Flotation</b> H.J. Wang, A.F. Yi and H.M. Yu	11
<b>Advances Research on Preparation of Magnesium Carbonate Whisker</b> R. Shen, G. Chu and X.P. Shen	17
<b>Photoelectrode with Multilayer of Gradual Scattering Structure Used in Dye-Sensitized Solar Cells</b> X. Peng, B. Zhang, S.X. Meng, X.M. Yu, Z. Zeng, L. Liu and Y.Q. Feng	22
<b>Reduction-Roast Leaching of Low-Grade Pyrolusite Using Bagasse as a Reducing Agent</b> Y.F. Long, J. Su, X.J. Ye, H.F. Su and Y.X. Wen	28
<b>Cloud Point Extraction-Fluorimetric Combined Methodology for the Determination of Magnolol</b> L. Liu and X.S. Zhu	34
<b>Nanoscale Permanent Rings in Two- or Three-Dimensional Structure Constructed by the Self-Assembly of Copper(II)-Macrocyclic Complexes and Tetracyanonickelate(II)</b> C.H. Kwak, M. Chang and M.C. Chung	40
<b>Organic/Inorganic Support for Immobilizing <math>\text{Cp}_2\text{ZrCl}_2/\text{TiCl}_4</math> Hybrid Catalyst to Prepare Bimodal Polyethylene</b> W. Li	46
<b>A Study of Compatibilization Effect on Physical Properties of Poly (Butylene Succinate) and High Density Polyethylene Blend</b> A. Aontee and W. Sutapun	51
<b>Effect of Compatibilizers on Mechanical and Thermal Properties of High Density Polyethylene Filled with Bio-Filler from Eggshell</b> W. Buakaew, R. Yupaporn, N. Suppakarn and W. Sutapun	57
<b>The Effect of Pelletizing Pressure on SHS Synthesis of <math>\text{MoSi}_2</math></b> Y. Zhou, G.T. Ye and C.L. Wei	63
<b>A Oxidative Desulfurization System for Model Oil with Hydrogen Peroxide in the Presence of Solid Acid Catalyst</b> L. Wang, Z.Z. Li, C.H. Li and L.J. Feng	68
<b>NO Abatement by Activated Semi-Coke with Existence of <math>\text{SO}_2</math> through TPD Method</b> Y. Zheng, X.C. Meng, C.H. Li, L. Wang, Q. Wang and L.J. Feng	72
<b>Optimization Studies on Acid Hydrolysis of Pretreated Oil Palm Empty Fruit Bunch for Production of Xylose by Application of Response Surface Methodology</b> S. Duangwang and C. Sangwichien	77
<b>A New-Type of Phenolic Resin Sand Control and its Construction Technology</b> F.S. Zhang, J. Ouyang, X.T. Ma and X.F. Feng	83
<b>From Supramolecular Chirogenic Systems towards Prospective Functional Materials</b> V. Borovkov	87
<b>ANN-Model for Plasma Chemical Vapor Deposition Process</b> Z.Y. Li and H.S. Li	92
<b>Preparation and Performance of (Hydroxy Modified) Poly(p-phenylene-2,6-benzobisimidazole) Resin and Fiber</b> N.R. Jin, B. He, D.M. Zhao, J.T. Zhang and X. Wei	96

<b>Synthesis of Hexyloxy-Wrapped Porphyrin Sensitizer Functionalized by Acrylic Acid</b> N.N. Zhang, Y.Q. Feng, J.Y. Yan, X.D. Xue, C.G. Ju and B. Zhang	103
<b>The Study of Bond Selective Photochemistry in CH<sub>2</sub>BrCl</b> L. Li and Z.H. Li	107
<b>The Influence of Singlet Oxygen and Ozone on the Combustion in Methane-Air Mixture</b> R. Shi, C.H. Wang and Y.N. Chang	111
<b>Detection Study on the Mineral Processing Reagents Preparation from Catering Waste Oil and Application on Ore Flotation</b> H.M. Yu, H.J. Wang and A.F. Yi	119
<b>Synthesis of Hollow Titania Photocatalytic Particles Using Yeast as Templates</b> T. Nomura, S. Tani, H. Tokumoto and Y. Konishi	126
<b>Synthesis of ZnO Nanoparticles via Simple Wet-Chemical Routes</b> B.W. Lee, J.H. Koo, T.S. Lee, Y.H. Kim and J.S. Hwang	133
<b>Combustion Synthesis of Nanomaterials</b> Z. Mansurov	138
<b>Determination of Ultra-Trace of Herbicides Using Smart Nanoparticles</b> N.H. Khadary	144
<b>Preparation and Comparison of M/Ce-K-O (M=Co, Ni, Cu) Nanocomposites on Catalytic Soot Combustion</b> F.L. He, M.X. Jing, X.X. Meng and X.Q. Shen	150
<b>Ionic Solid Nanomaterials: Synthesis, Characterization and Catalytic Properties Investigation</b> N.A.S. Ramli and N.A.S. Amin	155
<b>Preparation of Self Curable Unsaturated Polyester with Pendant Hydroxyl Groups and Investigation of its Curing Properties</b> J.H. Meng, H.Y. Li and Y.Y. Chen	161
<b>Synthesis and Characterization of a New Donor and Acceptor Substituted Conjugated Polytetraphenylethenes</b> J.H. Ye	167

## Chapter 2: Material Science and Engineering

<b>Study on the Corrosion Performance of Reinforced Concrete by Using the Seawater Hot Rain Testing Equipment</b> Y. Li, Z.W. Gu and X.M. Qin	173
<b>Thermal Performance Analysis of the Molecular Linkers in the Carbon Nanotube Composites under Stress Conditions</b> J. He, X.J. Zhang, Z. Tao, Y.X. Xu and X. WU	179
<b>Analysis of the Sequence Conservation of the Circadian Clock Protein KaiC</b> L. Sen, S. Liu and F.Y. Chen	184
<b>Effects of Vacuum Pre-Cooling on Quality of Mushroom after Cooling and Storage</b> S.Y. He, Y.Q. Yu, G.C. Zhang and Q.R. Yang	189
<b>Characterization of Fluorinated Multi-Walled and Single-Walled Carbon Nanotubes Using High Resolution XPS and EDX</b> L.Z. Sun and X. Zhang	194
<b>Synthesis of Nimetazepam - Molecularly Imprinted Polymer and SPE Application</b> L.Z. Sun, C.J. Sun, Y.Q. Fang and X.X. Sun	200
<b>One-Step Effective Segregation of Ginger Essential Oil and Gingerol in Oleoresin Ginger via Transcritical CO<sub>2</sub></b> Y.Q. Tao, Y. Shi, S.M. Zhang, X.Y. Dong, P.P. Gao, J.H. Wang, N. Zhao, H.H. Ruan and H. Zhao	207
<b>A New Process of Extracting Oleoresin Ginger from Ginger by Critical-State Liquid CO<sub>2</sub></b> Y.Q. Tao, Y. Shi, S.M. Zhang, X.Y. Dong, P.P. Gao, J.H. Wang, N. Zhao, H.H. Ruan and H. Zhao	212
<b>Effect of Coal Moisture on Emissions in Fixed Bed Combustion Appliances</b> N.E. Aydın and H. Okutan	217
<b>Using of Boron Wastes in Red Brick Production</b> A. Kilicarslan, Y. Kurttepli and M.N. Saridede	223

<b>Interfacial and Emulsifying Behavior of Essential Oils Using as Retarded Steam Delivery</b> J.P. Krause and M. Kumpugdee-Vollrath	228
<b>Treatment of Sweet Potato Starch Wastewater with UASB</b> H.F. Wang	234
<b>Electrical Conductivity of Nanodimensional Polyaniline Particles in Nanoporous Dielectric Matrix of MIL-101</b> A.I. Romanenko, D.N. Dybtsev, V.P. Fedin, S.B. Aliev, O.B. Anikeeva and E.N. Tkachev	238
<b>The Roles of Arbuscular Mycorrhizal Fungus <i>Glomus mosseae</i> and <i>Festuca arundinacea</i> in Phytostabilization of Lead/Zinc Tailings</b> H.H. Gu, F.P. Li, Q. Yu, Y.Q. Gao and X.T. Yuan	245
<b>Three Dimensional Bacteria Concentration by Negative Dielectrophoresis</b> T. Hisajima, L. Mao, K. Shinzato, M. Nakano and J. Suehiro	251
<b>Electrical and Optical Properties of Electron Irradiated ZnO: Li Thin Films</b> B. Biradar, V.M. Jali, B. Murali, S.B. Krupanidhi and G. Sanjeev	257
<b>Boron Removal by Means of Precipitation Process with Magnesium Hydroxide</b> N.E. Aydin	262
<b>Role of the Organic Matrix in the Biopolymer-Mediated Synthesis of Platelike YBCO</b> Z.L. Zhang, S.C. Wimbush, A. Kursumovic, H. Suo and J.L. MacManus Driscoll	268
<b>Influence of Active Hydrogen Discharged from Palladium-Nickel Alloy Powder on Biological Cells</b> A. Motoishi, A. Kagawa, M. Matsuzaki, K. Tanaka, M. Yamamoto and Y. Tagawa	273
<b>Micro-Flocculation - Film Processing Technology in Dealing with Beer Sterilized Wastewater</b> J.X. Fu, H. Liu and R.X. Zhang	279
<b>Mechanism of Cancer Cell Death Induced by Hydrogen Discharged from Palladium Base Hydrogen Storage Alloy</b> M. Matsuzaki, A. Kagawa, A. Motoishi, K. Tanaka, M. Yamamoto and Y. Tagawa	284
<b>Biological Nutrient Removal and EPS Performance in Aerobic-MBR and SBR-MBR Systems</b> X.N. Feng, T. Tao, H. Xi, Y.T. Xu, H.F. Wang, Q.Y. Dong, P. Yuan, G.H. Yang and C.S. Li	291
<b>The Study on Poly-Lysine-Alginate Microcapsules Mediated Virus Genomic DNA Transfection</b> G.Q. Wang, D. Zhang, L.Y. Xia and N.S. Zhang	298
<b>Fabrication and Methyl Blue Adsorption Kinetics of <math>\alpha</math>-Fe<sub>2</sub>O<sub>3</sub> Nanotubes by Electrospinning</b> Q.J. Wang, R.J. Liu, X.Q. Shen, D.M. Wu and H.H. Li	302
<b>Structure and Piezoelectric Properties of Aluminum Nitride Thin Films on Quartz Substrates Deposited by Reactive RF-Magnetron Sputtering</b> A. Thedsakhulwong, K. Locharoenrat and W. Thowladda	308
<b>Research on Nitrogen Removal by ANAMMOX Biofilter Process in Different Concentrations</b> L.C. Zhang, H. Xu and T.Q. Zheng	314
<b>Antibacterial Activity of Brewer's Spent Grains Peptides to <i>Staphylococcus aureus</i></b> L. Li, X.Y. Zong, J. Zhang, C.H. Wei, Z.G. Huang and H.B. Luo	320
<b>Computational Analysis of a Fixed Bed Thermal Oxidizer for Solid Wastes Disposal</b> P.L. Mtui	326
<b>Evaluation on Antioxidant Activities of Extracts from Chinese Herbs and Application in the Pear Wine Brewing</b> D.W. Zhang, J. Zhang, L.D. Hong and F. Liang	335
<b>Preliminary Study for the Allelopathic Effect of Water Extracts from <i>Solidago canadensis</i> Leaves</b> S.L. Li, Z.H. Li, Y.F. Wang, X. Ruan, C.D. Pan and Q. Wang	340
<b>A Novel Methodology that Combined Fast Chromatography and Antioxidant Activities Screening in Baimai Prescription Research</b> Z.Q. Zhang, X.Y. Chen, Y.X. Duan, F. Liang, Q.S. Liu and D.M. Zhao	349
<b>Recombinant Human Ciliary Neurotrophic Factor Protects MCAO/R Rat Brain against Neuronal Degeneration and Apoptosis by Regulating NOS Expression</b> Q.S. Liu, Z.Q. Zhang, X.Y. Chen, D.M. Zhao, Y.X. Duan, L. Fang and X.Y. Yin	354

<b>Made Polypeptide from Sipunculus Nudus by Papain Enzymolysis and its Effects on Hydroxy Radical Cleaning</b> Y.L. Zhu, S.D. Li, Y. Liao and J.M. Li	360
<b>Cultivation of <i>Isochrysis galbana</i> in a Semicontinuous Photobioreactor</b> C.L. Niu, J. Zhang and X.P. Hu	367
<b>Multiple-Instrument Analysis and their Relationship with Process Development</b> C.M. Zhang and X.L. Su	371
<b>The Decomposition Pathways of CH<sub>2</sub>SiCl<sub>3</sub>, CH<sub>3</sub>SiCl<sub>2</sub> and CH<sub>2</sub>SiCl<sub>2</sub> in CVD of SiC from MTS/H<sub>2</sub> System</b> X. Wang, K.H. Su, Y.L. Wang and J.L. Deng	378
<b>Effect of High Repetition Pulsed Laser Annealing on Optical Properties of Phosphorus Ion-Implanted ZnO Nanorods</b> T. Shimogaki, T. Ofuji, N. Tetsuyama, K. Okazaki, M. Higashihata, D. Nakamura, H. Ikenoue, T. Asano and T. Okada	383
<b>Molecular Kinetic Based Dielectric Polarization in Sol-Gel Derived Nanocrystalline CaCu<sub>3</sub>Ti<sub>4</sub>O<sub>12</sub></b> R. Kumar, M. Zulfequar and T.D. Senguttuvan	387
<b>A Taste and Odor Sensing by Photoluminescence Responses of Luminescent Metal Organic Frameworks</b> H.L. Lee, T. Lee, Z.X. Liu, M.H. Tsai, Y.C. Tsai, T.Y. Lin, S.L. Cheng, S.W. Lee, J.C. Hu and L.T. Chen	392
<b>Conductivity of Composite Material Based on System NdPo<sub>4</sub>•nH<sub>2</sub>O- CsH<sub>2</sub>PO<sub>4</sub></b> T. Anfimova, N.J. Bjerrum and Q.F. Li	398
<b>Effect of Spinrate on the Structural, Optical and Surface Properties of the Sol-Gel Spin Coated Zinc Oxide Thin Films</b> M.S. Selvi, N.S. Subramanian and S. Rajathi	403
<b>Mechanical Properties of Anode Layer of Solid Oxide Fuel Cell after Reduction</b> X. Zhao and F.H. Wang	409
<b>Stability Analysis of a Thin Pseudoplastic Fluid with Condensation Effects Flowing on a Rotating Circular Disk</b> M.C. Lin	413
<b>The Effect of Ternary Material (Zr, Y, and O) High-k Gate Dielectrics</b> K.C. Lin, C.H. Chou, J.Y. Chen, C.J. Li, J.Y. Huang and C.H. Liu	422
<b>LCF Life Prediction Model of Coiled Tubing Based on Fatigue Damage Accumulation</b> Z.Y. Bi and L.Y. Xian	426
<b>Investigation into the Influence of Coating Speed on Ink Penetration</b> Y. Li, W.J. Gu and B.G. He	432
<b>The Simulation Analysis of MOSFET Channel Stress for Different Oxide/Nitride/Oxide (ONO) Spacer Thicknesses</b> J.Y. Chen, Z.H. Chen, K.C. Lin, M.J. Twu, Y.H. Hung, P.Y. Chou, G.T. Chen, Y.S. Liu and C.H. Liu	436
<b>The Analysis of the Process-Induced Channel Stress in N-MOSFET</b> M.J. Twu, R.H. Deng, Z.H. Chen, M.C. Tsai, K.C. Lin and C.H. Liu	440
<b>Crystalline Defects in Silicon Wafer Caused by Prolonged High-Temperature Annealing in Nitrogen Atmosphere</b> H. Nakazawa, M. Ogino, H. Teranishi, Y. Takahashi and H. Habuka	445
<b>Nonlinear Buckling Finite Element Analysis of Stiffened Steel Plates</b> E. Gunay, C. Aygun and Y.O. Yildiz	450
<b>Biomechanics of Synthetic Elastin: Insights from Magnetic Resonance Microimaging</b> K.I. Momot, S.K. Powell, S.M. Mithieux and A.S. Weiss	457

### **Chapter 3: Environmental Chemistry, Biochemistry, Pharmacology and Food Chemistry**

<b>Preparation and Characteristic of Porous SiC Foamed Ceramics</b> Z. Fang, Q.N. Li, H.M. Wang and G.H. Zhao	467
<b>Preparation of Aluminum Phosphate Low in Acidity and its Application on Fiber Protection</b> Q.R. Wang, J.C. Huo, Y.L. Lei and W. Ai	470

<b>Failure Behavior Numerical Test of Empress All-Ceramic Crowns</b> C. Fan	476
<b>Fracture Pattern Comparison Research of Different Types of All-Ceramic Crown</b> C. Fan	480
<b>Physicochemical and Sorption Properties of Steelmaking Flue Dust</b> L.M. Wu, H.P. Ren and Z.X. Sun	484
<b>Characterization, Optical and Impedance Study of ZnSe Nanostructure</b> R. Tripathi and A. Kumar	490
<b>Effect of Acceleration Voltage on Properties of Nitrogen-Doped TiO<sub>2</sub> Thin Films</b> F. Fang, X.Q. Wu, Q. Li and J.K. Shang	496
<b>Effect of Carbon Fiber Filament on Electrical and Mechanical Properties of Epoxy/Graphite Composite</b> J.Y. Lee, B.C. Choi, W.K. Lee, I.Y. Choi, J.P. Shim and H.K. Lee	502
<b>Fabrication of Biophotonic Devices with Retinoids and Life Time</b> S. Mitachi, A. Hidaka, K. Nishimura and S. Yoshino	507
<b>Fabrication of a Large-Scale Conductive Composite Film Containing Electrically Aligned Carbon Nanotubes</b> Y. Kitamura, H. Tone, M. Nakano and J. Suehiro	513
<b>The Research of the Orgince Silicone Emulsion Hybridized Chromium-Aluminum Phosphate Composites</b> D.Q. Chen, H.B. Wang, J.C. Huo, Y.L. Lei and W. Ai	519
<b>Comparative Study of Pure and Ni-Doped ZnFe<sub>2</sub>O<sub>4</sub> Nanoparticles for Structural, Optical and Magnetic Properties</b> A. Manikandan, J.J. Vijaya and L.J. Kennedy	524
<b>Polymer-Bitumen Binder with the Addition of Single-Walled Carbon Nanotubes</b> M.A. Vysotskaya	530
<b>Characterization and Testing of the Locally Fabricated Encapsulants in Egypt for Commercial Photovoltaic Modules Production</b> M. Feteha, S. Ebrahim, W. Abdel Aleem, A. Eldemrdash, M. Soliman, F. Abulfotuh, M. El-Sherbiny and L. Saad	535
<b>The Development Situation of Material Based on Dental Implant</b> C.Y. Zhang and X.S. Chen	541
<b>Research on the Hysteresis of Ring-Like MR Isolator</b> H. Yan, W.J. Zhang, H.Y. Jiang and C. Liang	549
<b>Removal of Organic Pollutants in Solution by Bamboo Charcoal</b> Z.L. Meng, Y.H. Zhang, Q. An, F.Z. Lv, Q. Zhang and P. Hu	554
<b>TiO<sub>2</sub>/Graphite Oxide Composite as an Efficient Photocatalyst for Organic Dye Reduction</b> R. Zhang, Y.H. Zhang, Q. An, Y. Li, J.W. Shang, B. Shen and Y. He	557
<b>Effects of the Polypyrrole/Silica on the Output Force of Ionic Polymer-Metal Composite</b> Q.S. He, X.Q. Zhang, M. Yu and Z.D. Dai	560
<b>SHS-Composition Ceramics Obtained with Participation of Modified Wollastonite</b> Z. Mansurov, N. Mofa and B. Sadykov	566
<b>Adsorption of Aqueous Azo Dye Using Waste Carbon Fiber Activated by Microwaves and Potassium Hydroxide</b> S.H. Chen, C.C. He and C.Y. Kuo	572
<b>Hydration Process of Portland Cement Blended with Silica Fume</b> N. Ukrainczyk, J. Zlopasa and E. Koenders	578
<b>Numerical Algorithm for Pore Size Distribution Characterization of Materials from 3D Images</b> N. Ukrainczyk, E. Koenders and K. van Breugel	584
<b>ErGermanide Schottky Junctionfor n-Type Schottky Barrier Ge MOSFET</b> S.K. Oh, M. Li, H.S. Shin and H.D. Lee	590
<b>Corrosion Behavior of Construction Materials for Intermediate Temperature Steam Electrolysers</b> A.V. Nikiforov, I.M. Petrushina, J.O. Jensen and N.J. Bjerrum	596
<b>Influence of Deposition Temperature on the Structural and Optoelectronic Properties of CdZnS Thin Films</b> S. Rajathi, N.S. Subramanian, K. Ramanathan and M. Senthamizhselvi	606

<b>High Temperature Oxidation of CrAlSiN Thin Films</b> S.B. Won, M.J. Kim, C.Y. Xu, Y.S. Hwang and D.B. Lee	612
<b>Facile Synthesis and Growth Mechanism of Uniform Fe<sub>3</sub>O<sub>4</sub> Nanorod with Strong Magnetic Response</b> X. Zhou, Y.F. Shi and Z.W. Chen	616
<b>Thermal Diffusivity and Dielectric Property of Silicone Rubber/Alumina Microparticles Composites Prepared by Solution Mixing Process</b> J. Ma, L. Zhu, M.X. Jing and X.Q. Shen	620
<b>A Useful Synthetic Route to Yield Silver-Nanoparticles on Phyllosilicates and Morphologic Structural Investigations</b> C.T.G. Vilela Menegaz Teixeira Pires, J.C.P. de Melo and C. Airoidi	624
<b>Utilization of Waste Printed Circuit Board Resin in Controlled Low-Strength Materials</b> I.J. Chiou, C.C. Chiang and C.L. Ho	630
<b>Mechanical Properties of Homogenous and Heterogeneous Three Layered Particleboard Composite in Relation on Different Resin Content</b> S.N. Sarmin, S.A.K.Y. Zakaria and J. Kasim	637
<b>Nonlinear Oscillations of a Composite Laminated Plate with Parametrically and Externally Excitations</b> X.L. Bian and S.B. Li	641
<b>Interaction between Sodium Molybdate and FSWed Wled of 5083 Effected by Time</b> C.B. Shen	645
<b>Liquid Metallurgy Synthesis and Thermo-Electrical Characterization of Copper-Aluminum Metal Matrix Composite</b> O.L. Osoba, A.S. Afolabi, E. Vodai and O.A. Fasuba	650
<b>Studies on Temperature Variation and Angular Distortion in Submerged Arc Welded Butt Joint</b> A. Hitesh, P.P. Singh and A. Hooda	656
<b>Photocatalytic Splitting of Water on Cu-TiO<sub>2</sub> Nanotubes</b> A.J. Simamora, T.L. Hsiung, H.P. Wang and C.Y. Liao	662
<b>Significance and Expression of Heat Shock Protein 72 and Glycoprotein96 in Human Gastroenterological Cancers</b> X.P. Wang, Q.X. Wang, H.P. Lin and Y.L. Wang	667
<b>Bacterial Toxicity of Functionalized Polystyrene Latex Nanoparticles Toward <i>Escherichia coli</i></b> J. Miyazaki, Y. Kuriyama, A. Miyamoto, H. Tokumoto, Y. Konishi and T. Nomura	672
<b>Development and Antimicrobial Properties of a Composite Sorbent from Carbonized Rice Husk and Fugate of Sporogenous Bacteria</b> I.S. Savitskaya, A.A. Zhubanova, Z.A. Mansurov, A.S. Kistaubayev, N.S. Akimbekov, S.K. Dauletbayeva and A.B. Bolekbayeva	678
<b>Theophylline Cocrystallized with Salicylic Acid and Picolinic Acid: Preparation and Physical Properties</b> S. Weenawan, S. Khumponkrung and K.J. Haller	682
<b>Study on Syntheses and Anticoagulant Action of Rare Earth Ternary Complexes with Tryptophan and Sodium Citrate</b> K.J. Wang, Y.P. Wu, H.X. Li, D.Y. Zhang, H.X. Feng, Y. Wang and Y.M. Song	689
<b>Phytochemical Screening, Antioxidant Activity and Total Phenolic Content of <i>Spirogyra spp.</i></b> R. Junthip, D. Amornlerdpison and T. Chimsook	693
<b>The Structure Activity Relationship and Cytotoxicity between Stemonal and 6-Deoxyclitoriacetal</b> N. Pangkam and T. Chimsook	698
<b>Evaluation of Crude Extracts of <i>Mimosa pudica</i> LINN. against <i>Colletotrichum gloeosporioides</i> to Control Anthracnose</b> N. Sianglek, U. Kankeaw and T. Chimsook	703
<b>Preparation YbFeO<sub>3</sub> by Microwave Assisted Method and its Visible-Light Photocatalytic Activity</b> L.X. Jia, J.Y. Zhu, T.T. Lin, Z. Jiang, C.W. Tang, P.S. Tang and H.F. Chen	708
<b>Cholesterol-Imprinted Receptor Using Chitosan Derivative as the Precursor</b> H.M. Guan, Y.J. Tong, J.H. Zheng and X. Li	712

<b>Stilbene Molecular Probes as Potential Materials for Bioengineering: Real Time Analysis of Antioxidants and Nitric Oxide, Immunoassay in Solution and Biomembranes Fluidity</b> G.I. Likhtenshtein	718
<b>The Study on the Effect of Er on the Structure and Properties of Ti/SnO<sub>2</sub>-Sb Anode Prepared by Pechini's Method</b> S.P. Li, X.Y. Zeng and Y.Y. Jiang	724
<b>Preparation Technology of Pterostilbene-Cyclodextrin Inclusion and Evaluation for Release Performance</b> Y. Zhang, W. Feng, Y.F. Yu, S.C. Zhao and Z.H. Shang	730
<b>Optimization of Treatment Parameters on the Recycling of Used Lubricating Oil</b> A.S. Abdulkareem, E. Muzenda and A.S. Afolabi	735
<b>Shenfouweikang Herbs Inhibit Dysplasia in Rat Chronic Atrophy Gastritis Model</b> H.P. Lin, X.P. Wang, Q.X. Wang and S.C. Li	742
<b>Electro-Catalytic Degradation of Nitenpyram Wastewater Using C/PTFE Gas Diffusion Electrode</b> S.P. Li, X.R. Ma, X.H. Cao and Y.W. Dong	747
<b>Molecular Characterization of Avermectin that Bind to Rdl <math>\beta 5</math> GABA Receptors of House Fly</b> M. Hao, Q. Wang, Q.Q. Ma, J.L. Zhao, W.G. Hou and L.H. Chen	753
<b>Conversion of Waste Paper Sludge into Heavy Metal Adsorbent Using Sulfur Impregnation</b> T. Wajima	759
<b>Evaluation of Scale Problems for Libyan Water Wells</b> O.A. Elazhari, A. elbasir and M. Eshtwi	765
<b>Kinetics of LIS-100 Cation Exchange Resin to Remove Reaction Substrate of Non-Enzymatic Browning in Clarified Apple Juice</b> J.H. Yi, M.L. Li and Z.B. Zhu	770

## **Chapter 4: Technologies of Materials Processing**

<b>Analyses of Connected Interface Area by Pulsed DE-MIG Brazing-Welding for Aluminum-Steel Dissimilar Metals</b> Y.F. Gu, L. Shao, Y. Shi and J.K. Huang	777
<b>The Modification of Polypropylene Hollow Fiber Membrane by Grafting with N,N'-Methylene-Bisac-Rylamide on the Surface</b> Y.F. Huang and Z. Liu	783
<b>Structural Evolution and Optical Properties of TiO<sub>2</sub> Thin Films Prepared by DC-Reactive Sputtering Technique</b> L. Rabih, Sudjatkomo, K. Triyana and P. Nurwantoro	789
<b>Effect of Heat Treatment on Mechanical/Metallurgical Properties of Direct Metal Laser Sintered 17-4 Precipitate Hardened Stainless Steel</b> S. Kumpaty, S. Kamara, B. Tomlin, J. Yoo, H. Kumpaty, D. Anderson, M. Govindaraju, N. Kanoongo and K. Balasubramanian	795
<b>Numerical Simulation Research on Triple Splitting Rolling Process</b> W. Wang, H.G. Huang and Z.J. An	802
<b>Flow Behavior and Microstructural Evolution of an As-Wrought Duplex Stainless Steel during Hot Compression Deformation</b> L. Chen, X.C. Ma, M.J. Wang and H.G. Huang	808
<b>Tensile Properties of Processed 3D Printer ZP150 Powder Material</b> S.H. Gharaie, Y. Morsi and S.H. Masood	813
<b>Improvement of Thermal Stability of Nickel Silicide Using Co-Sputtering of Ni and Ti on Boron Cluster Implanted Ultra-Shallow Junction for Nanoscale CMOS Technology</b> M. Li, S.K. Oh, H.S. Shin and H.D. Lee	817
<b>Computational Fluid Dynamics Modeling of Palm Fruit Pyrolysis in a Fast Fluidized Bed Reactor</b> P.L. Mtui	822
<b>Production of Lightweight Ceramsite from the Yellow River Silt and its Performance Investigation in a Biological Aerated Filter (BAF) Reactor</b> S.P. Li, X.H. Cao, X.R. Ma, J. Xu and Y.W. Dong	829

<b>The Study on the Production of Lightweight Ceramsite from the Yellow River Silt and its Performance Investigation</b>	
S.P. Li, X.H. Cao, X.R. Ma, J. Xu and Y.W. Dong	835
<b>Study on Extraction Efficiency of Coal with Different Methods</b>	
H. Yang, W.Y. Bi, Y.G. Zhang, H.X. Chen, H. Hu and L.L. Hou	841
<b>Thermodynamic Study on the Flotation Behavior Mechanism of Apatite with Fatty Acid as Collector</b>	
Z. Qi	846
<b>Microstructure Evolution and Microhardness of 7075 Aluminum Alloy during Heat Treatment by Considering Hot Deformation History</b>	
Z.C. Sun, J.L. Yin and H. Yang	851
<b>Femtosecond Laser Nonlinear Ablation Process of Biliary Nitinol Stent for Cholangiocarcinoma</b>	
C.H. Hung, F.Y. Chang, T.L. Chang, Y.T. Chang, K.W. Huang and P.C. Liang	859
<b>Processing of Ceramics and Metal Matrix Composites with Electro Discharge Machining</b>	
N.S. Shanker, A. Parashuramulu, K. Buschaiah and P. Laxminarayana	864
<b>Study of Cyclic Oxidation for Copper Removal from Solid Ferrous Scrap in End-of-Life Vehicle (ELV)</b>	
S.M. Shin, D.W. Lee, S.A. Ha and J.P. Wang	869
<b>Role of Debinding to Control Mechanical Properties of Powder Injection Molded 316L Stainless Steel</b>	
M.R. Raza, F. Ahmad, M.A. Omar, R.M. German and A.S. Muhsan	875

## **Chapter 5: Related Topics**

<b>P-Least Squares Method of Curve Fitting</b>	
L.M. Gu	885
<b>Intelligent Parallel Networks for Combustion Quality Monitoring in Power Station Boilers</b>	
K. Sujatha, N. Pappa, U.S. Nambi, C.R.R. Dinakaran and K. Senthil Kumar	893
<b>Physical and Chemical Properties of the Waste Electronic Circuit Board</b>	
H.F. Wang	900
<b>Microwave Near-Field Detection of the Ion Concentration in Sealed Fluidic Systems</b>	
T. Feng, T.W. Pang, W.Q. Sun and S.Y. Xu	904
<b>Chemical Detection of SF<sub>6</sub> Decomposition Products Generated by AC and DC Corona Discharges Using a Carbon Nanotube Gas Sensor</b>	
R. Shou, K. Hata, M. Nakano and J. Suehiro	909
<b>Solution-Based Fabrication of Carbon Nanotube Gas Sensor by Using Dielectrophoresis and Spin-Column Chromatography</b>	
H. Watanabe, H. Komure, M. Nakano and J. Suehiro	915
<b>A Father-Keeping Immune Genetic Algorithm Based Neural Network Model for Properties Prediction of Carbon Fiber</b>	
J.J. Chen, Y.S. Ding and K.R. Hao	921