

Materials Science and Chemical Engineering

Selected, peer reviewed papers from the 2013 International Conference on Materials Science and Chemical Engineering (MSCE 2013), February 20-21, 2013, Singapore, Singapore

Bearbeitet von
Jin Yun, Dehuai Zeng

1. Auflage 2013. CD. ca. 1012 S.
ISBN 978 3 03785 675 8

Weitere Fachgebiete > Technik > Verfahrenstechnik, Chemieingenieurwesen,
Lebensmitteltechnik

schnell und portofrei erhältlich bei

The logo for beck-shop.de features the text 'beck-shop.de' in a bold, red, sans-serif font. Above the 'i' in 'shop' are three red dots of increasing size. Below the main text, the words 'DIE FACHBUCHHANDLUNG' are written in a smaller, red, all-caps, sans-serif font.

beck-shop.de
DIE FACHBUCHHANDLUNG

Die Online-Fachbuchhandlung beck-shop.de ist spezialisiert auf Fachbücher, insbesondere Recht, Steuern und Wirtschaft. Im Sortiment finden Sie alle Medien (Bücher, Zeitschriften, CDs, eBooks, etc.) aller Verlage. Ergänzt wird das Programm durch Services wie Neuerscheinungsdienst oder Zusammenstellungen von Büchern zu Sonderpreisen. Der Shop führt mehr als 8 Millionen Produkte.

Table of Contents

Preface and Organizing Committees

Chapter 1: Chemical Engineering and Technology

Preconcentration of Arsenic in <i>Radix Aucklandiae</i> by Sulfhydryl Cotton and Determination by Atomic Fluorescence Spectrometry Q.S. Pan, W. Liu, H.P. Yan, B. Zhou, B.S. Wang and S.J. Xu	3
Effects of Cobalt Chloride on Determination of Cadmium in <i>Radix Aucklandiae</i> by Hydride Generation-Atomic Fluorescence Spectrometry Q.S. Pan, W. Liu, D.S. Huang, B. Zhou, N. Wu and L. Shi	7
Application of Reagent JZQ - F7 Prepared with Catering Waste Oil to the Low Grade Phosphate Rock Flotation H.J. Wang, A.F. Yi and H.M. Yu	11
Advances Research on Preparation of Magnesium Carbonate Whisker R. Shen, G. Chu and X.P. Shen	17
Photoelectrode with Multilayer of Gradual Scattering Structure Used in Dye-Sensitized Solar Cells X. Peng, B. Zhang, S.X. Meng, X.M. Yu, Z. Zeng, L. Liu and Y.Q. Feng	22
Reduction-Roast Leaching of Low-Grade Pyrolusite Using Bagasse as a Reducing Agent Y.F. Long, J. Su, X.J. Ye, H.F. Su and Y.X. Wen	28
Cloud Point Extraction-Fluorimetric Combined Methodology for the Determination of Magnolol L. Liu and X.S. Zhu	34
Nanoscale Permanent Rings in Two- or Three-Dimensional Structure Constructed by the Self-Assembly of Copper(II)-Macrocyclic Complexes and Tetracyanonickelate(II) C.H. Kwak, M. Chang and M.C. Chung	40
Organic/Inorganic Support for Immobilizing $\text{Cp}_2\text{ZrCl}_2/\text{TiCl}_4$ Hybrid Catalyst to Prepare Bimodal Polyethylene W. Li	46
A Study of Compatibilization Effect on Physical Properties of Poly (Butylene Succinate) and High Density Polyethylene Blend A. Aontee and W. Sutapun	51
Effect of Compatibilizers on Mechanical and Thermal Properties of High Density Polyethylene Filled with Bio-Filler from Eggshell W. Buakaew, Y. Ruksakulpiwat, N. Suppakarn and W. Sutapun	57
The Effect of Pelletizing Pressure on SHS Synthesis of MoSi_2 Y. Zhou, G.T. Ye and C.L. Wei	63
A Oxidative Desulfurization System for Model Oil with Hydrogen Peroxide in the Presence of Solid Acid Catalyst L. Wang, Z.Z. Li, C.H. Li and L.J. Feng	68
NO Abatement by Activated Semi-Coke with Existence of SO_2 through TPD Method Y. Zheng, X.C. Meng, C.H. Li, L. Wang, Q. Wang and L.J. Feng	72
Optimization Studies on Acid Hydrolysis of Pretreated Oil Palm Empty Fruit Bunch for Production of Xylose by Application of Response Surface Methodology S. Duangwang and C. Sangwichien	77
A New-Type of Phenolic Resin Sand Control and its Construction Technology F.S. Zhang, J. Ouyang, X.T. Ma and X.F. Feng	83
From Supramolecular Chirogenic Systems towards Prospective Functional Materials V. Borovkov	87
ANN-Model for Plasma Chemical Vapor Deposition Process Z.Y. Li and H.S. Li	92
Preparation and Performance of (Hydroxy Modified) Poly(p-phenylene-2,6-benzobisimidazole) Resin and Fiber N.R. Jin, B. He, D.M. Zhao, J.T. Zhang and X. Wei	96

Synthesis of Hexyloxy-Wrapped Porphyrin Sensitizer Functionalized by Acrylic Acid N.N. Zhang, Y.Q. Feng, J.Y. Yan, X.D. Xue, C.G. Ju and B. Zhang	103
The Study of Bond Selective Photochemistry in CH₂BrCl L. Li and Z.H. Li	107
The Influence of Singlet Oxygen and Ozone on the Combustion in Methane-Air Mixture R. Shi, C.H. Wang and Y.N. Chang	111
Detection Study on the Mineral Processing Reagents Preparation from Catering Waste Oil and Application on Ore Flotation H.M. Yu, H.J. Wang and A.F. Yi	119
Synthesis of Hollow Titania Photocatalytic Particles Using Yeast as Templates T. Nomura, S. Tani, H. Tokumoto and Y. Konishi	126
Synthesis of ZnO Nanoparticles via Simple Wet-Chemical Routes B.W. Lee, J.H. Koo, T.S. Lee, Y.H. Kim and J.S. Hwang	133
Combustion Synthesis of Nanomaterials Z. Mansurov	138
Determination of Ultra-Trace of Herbicides Using Smart Nanoparticles N.H. Khadary	144
Preparation and Comparison of M/Ce-K-O (M=Co, Ni, Cu) Nanocomposites on Catalytic Soot Combustion F.L. He, M.X. Jing, X.X. Meng and X.Q. Shen	150
Ionic Solid Nanomaterials: Synthesis, Characterization and Catalytic Properties Investigation N.A.S. Ramli and N.A.S. Amin	155
Preparation of Self Curable Unsaturated Polyester with Pendant Hydroxyl Groups and Investigation of its Curing Properties J.H. Meng, H.Y. Li and Y.Y. Chen	161
Synthesis and Characterization of a New Donor and Acceptor Substituted Conjugated Polytetraphenylethenes J.H. Ye	167

Chapter 2: Material Science and Engineering

Study on the Corrosion Performance of Reinforced Concrete by Using the Seawater Hot Rain Testing Equipment Y. Li, Z.W. Gu and X.M. Qin	173
Thermal Performance Analysis of the Molecular Linkers in the Carbon Nanotube Composites under Stress Conditions J. He, X.J. Zhang, Z. Tao, Y.X. Xu and X. Wu	179
Analysis of the Sequence Conservation of the Circadian Clock Protein KaiC L. Sen, S. Liu and F.Y. Chen	184
Effects of Vacuum Pre-Cooling on Quality of Mushroom after Cooling and Storage S.Y. He, Y.Q. Yu, G.C. Zhang and Q.R. Yang	189
Characterization of Fluorinated Multi-Walled and Single-Walled Carbon Nanotubes Using High Resolution XPS and EDX L.Z. Sun and X. Zhang	194
Synthesis of Nimetazepam - Molecularly Imprinted Polymer and SPE Application L.Z. Sun, C.J. Sun, Y.Q. Fang and X.X. Sun	200
One-Step Effective Segregation of Ginger Essential Oil and Gingerol in Oleoresin Ginger via Transcritical CO₂ 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
A New Process of Extracting Oleoresin Ginger from Ginger by Critical-State Liquid CO₂ 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
Effect of Coal Moisture on Emissions in Fixed Bed Combustion Appliances N.E. Aydın and H. Okutan	217
Using of Boron Wastes in Red Brick Production A. Kilicarslan, Y. Kurttepli and M.N. Saridede	223

Interfacial and Emulsifying Behavior of Essential Oils Using as Retarded Steam Delivery J.P. Krause and M. Kumpugdee-Vollrath	228
Treatment of Sweet Potato Starch Wastewater with UASB H.F. Wang	234
Electrical Conductivity of Nanodimensional Polyaniline Particles in Nanoporous Dielectric Matrix of MIL-101 A.I. Romanenko, D.N. Dybtsev, V.P. Fedin, S.B. Aliev, O.B. Anikeeva and E.N. Tkachev	238
The Roles of Arbuscular Mycorrhizal Fungus <i>Glomus mosseae</i> and <i>Festuca arundinacea</i> in Phytostabilization of Lead/Zinc Tailings H.H. Gu, F.P. Li, Q. Yu, Y.Q. Gao and X.T. Yuan	245
Three Dimensional Bacteria Concentration by Negative Dielectrophoresis T. Hisajima, L. Mao, K. Shinzato, M. Nakano and J. Suehiro	251
Electrical and Optical Properties of Electron Irradiated ZnO: Li Thin Films B. Biradar, V.M. Jali, B. Murali, S.B. Krupanidhi and G. Sanjeev	257
Boron Removal by Means of Precipitation Process with Magnesium Hydroxide N.E. Aydin	262
Role of the Organic Matrix in the Biopolymer-Mediated Synthesis of Platelike YBCO Z.L. Zhang, S.C. Wimbush, A. Kursumovic, H.L. Suo and J.L. MacManus Driscoll	268
Influence of Active Hydrogen Discharged from Palladium-Nickel Alloy Powder on Biological Cells A. Motoishi, A. Kagawa, M. Matsuzaki, K. Tanaka, M. Yamamoto and Y. Tagawa	273
Micro-Flocculation - Film Processing Technology in Dealing with Beer Sterilized Wastewater J.X. Fu, H. Liu and R.X. Zhang	279
Mechanism of Cancer Cell Death Induced by Hydrogen Discharged from Palladium Base Hydrogen Storage Alloy M. Matsuzaki, A. Kagawa, A. Motoishi, K. Tanaka, M. Yamamoto and Y. Tagawa	284
Biological Nutrient Removal and EPS Performance in Aerobic-MBR and SBR-MBR Systems 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
The Study on Poly-Lysine-Alginate Microcapsules Mediated Virus Genomic DNA Transfection G.Q. Wang, D. Zhang, L.Y. Xia and N.S. Zhang	298
Fabrication and Methyl Blue Adsorption Kinetics of α-Fe₂O₃ Nanotubes by Electrospinning Q.J. Wang, R.J. Liu, X.Q. Shen, D.M. Wu and H.H. Li	302
Structure and Piezoelectric Properties of Aluminum Nitride Thin Films on Quartz Substrates Deposited by Reactive RF-Magnetron Sputtering A. Thedsakhulwong, K. Locharoenrat and W. Thowladda	308
Research on Nitrogen Removal by ANAMMOX Biofilter Process in Different Concentrations L.C. Zhang, H. Xu and T.Q. Zheng	314
Antibacterial Activity of Brewer's Spent Grains Peptides to <i>Staphylococcus aureus</i> L. Li, X.Y. Zong, J. Zhang, C.H. Wei, Z.G. Huang and H.B. Luo	320
Computational Analysis of a Fixed Bed Thermal Oxidizer for Solid Wastes Disposal P.L. Mtui	326
Evaluation on Antioxidant Activities of Extracts from Chinese Herbs and Application in the Pear Wine Brewing D.W. Zhang, J. Zhang, L.D. Hong and F. Liang	335
Preliminary Study for the Allelopathic Effect of Water Extracts from <i>Solidago canadensis</i> Leaves S.L. Li, Z.H. Li, Y.F. Wang, X. Ruan, C.D. Pan and Q. Wang	340
A Novel Methodology that Combined Fast Chromatography and Antioxidant Activities Screening in Baimai Prescription Research Z.Q. Zhang, X.Y. Chen, Y.X. Duan, F. Liang, Q.S. Liu and D.M. Zhao	349
Recombinant Human Ciliary Neurotrophic Factor Protects MCAO/R Rat Brain against Neuronal Degeneration and Apoptosis by Regulating NOS Expression Q.S. Liu, Z.Q. Zhang, X.Y. Chen, D.M. Zhao, Y.X. Duan, L. Fang and X.Y. Yin	354

Made Polypeptide from Sipunculus Nudus by Papain Enzymolysis and its Effects on Hydroxy Radical Cleaning Y.L. Zhu, S.D. Li, Y. Liao and J.M. Li	360
Cultivation of <i>Isochrysis galbana</i> in a Semicontinuous Photobioreactor C.L. Niu, J. Zhang and X.P. Hu	367
Multiple-Instrument Analysis and their Relationship with Process Development C.M. Zhang and X.L. Su	371
The Decomposition Pathways of CH_2SiCl_3, CH_3SiCl_2 and CH_2SiCl_2 in CVD of SiC from MTS/H_2 System X. Wang, K.H. Su, Y.L. Wang and J.L. Deng	378
Effect of High Repetition Pulsed Laser Annealing on Optical Properties of Phosphorus Ion-Implanted ZnO Nanorods T. Shimogaki, T. Ofuji, N. Tetsuyama, K. Okazaki, M. Higashihata, D. Nakamura, H. Ikenoue, T. Asano and T. Okada	383
Molecular Kinetic Based Dielectric Polarization in Sol-Gel Derived Nanocrystalline $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ R. Kumar, M. Zulfequar and T.D. Senguttuvan	387
A Taste and Odor Sensing by Photoluminescence Responses of Luminescent Metal Organic Frameworks 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
Conductivity of Composite Material Based on System $\text{NdPo}_4 \cdot n\text{H}_2\text{O}$- CsH_2PO_4 T. Anfimova, N.J. Bjerrum and Q.F. Li	398
Effect of Spinrate on the Structural, Optical and Surface Properties of the Sol-Gel Spin Coated Zinc Oxide Thin Films M.S. Selvi, N.S. Subramanian and S. Rajathi	403
Mechanical Properties of Anode Layer of Solid Oxide Fuel Cell after Reduction X. Zhao and F.H. Wang	409
Stability Analysis of a Thin Pseudoplastic Fluid with Condensation Effects Flowing on a Rotating Circular Disk M.C. Lin	413
The Effect of Ternary Material (Zr, Y, and O) High-k Gate Dielectrics K.C. Lin, C.H. Chou, J.Y. Chen, C.J. Li, J.Y. Huang and C.H. Liu	422
LCF Life Prediction Model of Coiled Tubing Based on Fatigue Damage Accumulation Z.Y. Bi and L.Y. Xian	426
Investigation into the Influence of Coating Speed on Ink Penetration Y. Li, W.J. Gu and B.G. He	432
The Simulation Analysis of MOSFET Channel Stress for Different Oxide/Nitride/Oxide (ONO) Spacer Thicknesses 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
The Analysis of the Process-Induced Channel Stress in N-MOSFET M.J. Twu, R.H. Deng, Z.H. Chen, M.C. Tsai, K.C. Lin and C.H. Liu	440
Crystalline Defects in Silicon Wafer Caused by Prolonged High-Temperature Annealing in Nitrogen Atmosphere H. Nakazawa, M. Ogino, H. Teranishi, Y. Takahashi and H. Habuka	445
Nonlinear Buckling Finite Element Analysis of Stiffened Steel Plates E. Gunay, C. Aygun and Y.O. Yildiz	450
Biomechanics of Synthetic Elastin: Insights from Magnetic Resonance Microimaging K.I. Momot, S.K. Powell, S.M. Mithieux and A.S. Weiss	457

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

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

Failure Behavior Numerical Test of Empress All-Ceramic Crowns C. Fan	476
Fracture Pattern Comparison Research of Different Types of All-Ceramic Crown C. Fan	480
Physicochemical and Sorption Properties of Steelmaking Flue Dust L.M. Wu, H.P. Ren and Z.X. Sun	484
Characterization, Optical and Impedance Study of ZnSe Nanostructure R. Tripathi and A. Kumar	490
Effect of Acceleration Voltage on Properties of Nitrogen-Doped TiO₂ Thin Films F. Fang, X.Q. Wu, Q. Li and J.K. Shang	496
Effect of Carbon Fiber Filament on Electrical and Mechanical Properties of Epoxy/Graphite Composite J.Y. Lee, B.C. Choi, W.K. Lee, I.Y. Choi, J.P. Shim and H.K. Lee	502
Fabrication of Biophotonic Devices with Retinoids and Life Time S. Mitachi, A. Hidaka, K. Nishimura and S. Yoshino	507
Fabrication of a Large-Scale Conductive Composite Film Containing Electrically Aligned Carbon Nanotubes Y. Kitamura, H. Tone, M. Nakano and J. Suehiro	513
The Research of the Orgince Silicone Emulsion Hybridized Chromium-Aluminum Phosphate Composites D.Q. Chen, H.B. Wang, J.C. Huo, Y.L. Lei and W. Ai	519
Comparative Study of Pure and Ni-Doped ZnFe₂O₄ Nanoparticles for Structural, Optical and Magnetic Properties A. Manikandan, J.J. Vijaya and L.J. Kennedy	524
Polymer-Bitumen Binder with the Addition of Single-Walled Carbon Nanotubes M. Vysotskaya	530
Characterization and Testing of the Locally Fabricated Encapsulants in Egypt for Commercial Photovoltaic Modules Production M. Feteha, S. Ebrahim, W. Abdel Aleem, A. Eldemrdash, M. Soliman, F. Abulfotuh, M. El-Sherbiny and L. Saad	535
The Development Situation of Material Based on Dental Implant C.Y. Zhang and X.S. Chen	541
Research on the Hysteresis of Ring-Like MR Isolator H. Yan, W.J. Zhang, H.Y. Jiang and C. Liang	549
Removal of Organic Pollutants in Solution by Bamboo Charcoal Z.L. Meng, Y.H. Zhang, Q. An, F.Z. Lv, Q. Zhang and P. Hu	554
TiO₂/Graphite Oxide Composite as an Efficient Photocatalyst for Organic Dye Reduction R. Zhang, Y.H. Zhang, Q. An, Y. Li, J.W. Shang, B. Shen and Y. He	557
Effects of the Polypyrrole/Silica on the Output Force of Ionic Polymer-Metal Composite Q.S. He, X.Q. Zhang, M. Yu and Z.D. Dai	560
SHS-Composition Ceramics Obtained with Participation of Modified Wollastonite Z. Mansurov, N. Mofa and B. Sadykov	566
Adsorption of Aqueous Azo Dye Using Waste Carbon Fiber Activated by Microwaves and Potassium Hydroxide S.H. Chen, C.C. He and C.Y. Kuo	572
Hydration Process of Portland Cement Blended with Silica Fume N. Ukrainczyk, J. Zlopasa and E. Koenders	578
Numerical Algorithm for Pore Size Distribution Characterization of Materials from 3D Images N. Ukrainczyk, E. Koenders and K. van Breugel	584
ErGermanide Schottky Junctionfor n-Type Schottky Barrier Ge MOSFET S.K. Oh, M. Li, H.S. Shin and H.D. Lee	590
Corrosion Behavior of Construction Materials for Intermediate Temperature Steam Electrolysers A.V. Nikiforov, I.M. Petrushina, J.O. Jensen and N.J. Bjerrum	596
Influence of Deposition Temperature on the Structural and Optoelectronic Properties of CdZnS Thin Films S. Rajathi, N.S. Subramanian, K. Ramanathan and M. Senthamizhselvi	606

High Temperature Oxidation of CrAlSiN Thin Films S.B. Won, M.J. Kim, C.Y. Xu, Y.S. Hwang and D.B. Lee	612
Facile Synthesis and Growth Mechanism of Uniform Fe₃O₄ Nanorod with Strong Magnetic Response X. Zhou, Y.F. Shi and Z.W. Chen	616
Thermal Diffusivity and Dielectric Property of Silicone Rubber/Alumina Microparticles Composites Prepared by Solution Mixing Process J. Ma, L. Zhu, M.X. Jing and X.Q. Shen	620
A Useful Synthetic Route to Yield Silver-Nanoparticles on Phyllosilicates and Morphologic Structural Investigations C.T.G. Vilela Menegaz Teixeira Pires, J.C.P. de Melo and C. Airoidi	624
Utilization of Waste Printed Circuit Board Resin in Controlled Low-Strength Materials I.J. Chiou, C.C. Chiang and C.L. Ho	630
Mechanical Properties of Homogenous and Heterogeneous Three Layered Particleboard Composite in Relation on Different Resin Content S.N. Sarmin, S.A.K.Y. Zakaria and J. Kasim	637
Nonlinear Oscillations of a Composite Laminated Plate with Parametrically and Externally Excitations X.L. Bian and S.B. Li	641
Interaction between Sodium Molybdate and FSWed Wled of 5083 Effected by Time C.B. Shen	645
Liquid Metallurgy Synthesis and Thermo-Electrical Characterization of Copper-Aluminum Metal Matrix Composite O.L. Osoba, A.S. Afolabi, E. Vodai and O.A. Fasuba	650
Studies on Temperature Variation and Angular Distortion in Submerged Arc Welded Butt Joint A. Hitesh, P.P. Singh and A. Hooda	656
Photocatalytic Splitting of Water on Cu-TiO₂ Nanotubes A.J. Simamora, T.L. Hsiung, H.P. Wang and C.Y. Liao	662
Significance and Expression of Heat Shock Protein 72 and Glycoprotein96 in Human Gastroenterological Cancers X.P. Wang, Q.X. Wang, H.P. Lin and Y.L. Wang	667
Bacterial Toxicity of Functionalized Polystyrene Latex Nanoparticles Toward <i>Escherichia coli</i> J. Miyazaki, Y. Kuriyama, A. Miyamoto, H. Tokumoto, Y. Konishi and T. Nomura	672
Development and Antimicrobial Properties of a Composite Sorbent from Carbonized Rice Husk and Fugate of Sporogenous Bacteria I.S. Savitskaya, A.A. Zhubanova, Z.A. Mansurov, A.S. Kistaubayev, N.S. Akimbekov, S.K. Dauletbayeva and A.B. Bolekbayeva	678
Theophylline Cocrystallized with Salicylic Acid and Picolinic Acid: Preparation and Physical Properties S. Weenawan, S. Khumponkrung and K.J. Haller	682
Study on Syntheses and Anticoagulant Action of Rare Earth Ternary Complexes with Tryptophan and Sodium Citrate K.J. Wang, Y.P. Wu, H.X. Li, D.Y. Zhang, H.X. Feng, Y. Wang and Y.M. Song	689
Phytochemical Screening, Antioxidant Activity and Total Phenolic Content of <i>Spirogyra spp.</i> R. Junthip, D. Amornlerdpison and T. Chimsook	693
The Structure Activity Relationship and Cytotoxicity between Stemonal and 6-Deoxyclitoriacetal N. Pangkam and T. Chimsook	698
Evaluation of Crude Extracts of <i>Mimosa pudica</i> LINN. against <i>Colletotrichum gloeosporioides</i> to Control Anthracnose N. Sianglek, U. Kankeaw and T. Chimsook	703
Preparation YbFeO₃ by Microwave Assisted Method and its Visible-Light Photocatalytic Activity L.X. Jia, J.Y. Zhu, T.T. Lin, Z. Jiang, C.W. Tang, P.S. Tang and H.F. Chen	708
Cholesterol-Imprinted Receptor Using Chitosan Derivative as the Precursor H.M. Guan, Y.J. Tong, J.H. Zheng and X. Li	712

Stilbene Molecular Probes as Potential Materials for Bioengineering: Real Time Analysis of Antioxidants and Nitric Oxide, Immunoassay in Solution and Biomembranes Fluidity G.I. Likhtenshtein	718
The Study on the Effect of Er on the Structure and Properties of Ti/SnO₂-Sb Anode Prepared by Pechini's Method S.P. Li, X.Y. Zeng and Y.Y. Jiang	724
Preparation Technology of Pterostilbene-Cyclodextrin Inclusion and Evaluation for Release Performance Y. Zhang, W. Feng, Y.F. Yu, S.C. Zhao and Z.H. Shang	730
Optimization of Treatment Parameters on the Recycling of Used Lubricating Oil A.S. Abdulkareem, E. Muzenda and A.S. Afolabi	735
Shenfouweikang Herbs Inhibit Dysplasia in Rat Chronic Atrophy Gastritis Model H.P. Lin, X.P. Wang, Q.X. Wang and S.C. Li	742
Electro-Catalytic Degradation of Nitenpyram Wastewater Using C/PTFE Gas Diffusion Electrode S.P. Li, X.R. Ma, X.H. Cao and Y.W. Dong	747
Molecular Characterization of Avermectin that Bind to Rdl $\beta 5$ GABA Receptors of House Fly M. Hao, Q. Wang, Q.Q. Ma, J.L. Zhao, W.G. Hou and L.H. Chen	753
Conversion of Waste Paper Sludge into Heavy Metal Adsorbent Using Sulfur Impregnation T. Wajima	759
Evaluation of Scale Problems for Libyan Water Wells O.A. Elazhari, A.A. Elbasir and M. Eshtwi	765
Kinetics of LIS-100 Cation Exchange Resin to Remove Reaction Substrate of Non-Enzymatic Browning in Clarified Apple Juice J.H. Yi, M.L. Li and Z.B. Zhu	770

Chapter 4: Technologies of Materials Processing

Analyses of Connected Interface Area by Pulsed DE-MIG Brazing-Welding for Aluminum-Steel Dissimilar Metals Y.F. Gu, L. Shao, Y. Shi and J.K. Huang	777
The Modification of Polypropylene Hollow Fiber Membrane by Grafting with N,N'-Methylene-Bisac-Rylamide on the Surface Y.F. Huang and Z. Liu	783
Structural Evolution and Optical Properties of TiO₂ Thin Films Prepared by DC-Reactive Sputtering Technique L. Rabih, Sudjatkomo, K. Triyana and P. Nurwantoro	789
Effect of Heat Treatment on Mechanical/Metallurgical Properties of Direct Metal Laser Sintered 17-4 Precipitate Hardened Stainless Steel S. Kumpaty, S. Kamara, B. Tomlin, J. Yoo, H. Kumpaty, D. Anderson, M. Govindaraju, N. Kanoongo and K. Balasubramanian	795
Numerical Simulation Research on Triple Splitting Rolling Process W. Wang, H.G. Huang and Z.J. An	802
Flow Behavior and Microstructural Evolution of an As-Wrought Duplex Stainless Steel during Hot Compression Deformation L. Chen, X.C. Ma, M.J. Wang and H.G. Huang	808
Tensile Properties of Processed 3D Printer ZP150 Powder Material S.H. Gharaie, Y. Morsi and S.H. Masood	813
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 M. Li, S.K. Oh, H.S. Shin and H.D. Lee	817
Computational Fluid Dynamics Modeling of Palm Fruit Pyrolysis in a Fast Fluidized Bed Reactor P.L. Mtui	822
Production of Lightweight Ceramsite from the Yellow River Silt and its Performance Investigation in a Biological Aerated Filter (BAF) Reactor S.P. Li, X.H. Cao, X.R. Ma, J. Xu and Y.W. Dong	829

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

Chapter 5: Related Topics

P-Least Squares Method of Curve Fitting L.M. Gu	885
Intelligent Parallel Networks for Combustion Quality Monitoring in Power Station Boilers K. Sujatha, N. Pappa, U.S. Nambi, C.R.R. Dinakaran and K. Senthil Kumar	893
Physical and Chemical Properties of the Waste Electronic Circuit Board H.F. Wang	900
Microwave Near-Field Detection of the Ion Concentration in Sealed Fluidic Systems T. Feng, T.W. Pang, W.Q. Sun and S.Y. Xu	904
Chemical Detection of SF₆ Decomposition Products Generated by AC and DC Corona Discharges Using a Carbon Nanotube Gas Sensor R. Shou, K. Hata, M. Nakano and J. Suehiro	909
Solution-Based Fabrication of Carbon Nanotube Gas Sensor by Using Dielectrophoresis and Spin-Column Chromatography H. Watanabe, H. Komure, M. Nakano and J. Suehiro	915
A Father-Keeping Immune Genetic Algorithm Based Neural Network Model for Properties Prediction of Carbon Fiber J.J. Chen, Y.S. Ding and K.R. Hao	921