

Table of Contents

Preface	v
Sponsors and Organizing Committees	vi

Part 1

Chapter 1: Chemical Engineering Measurement and Instrument

Synthesis of Phenylazo-N,N-diphenylpropanediamide L.X. Wang, C.Y. Guo, G.L. Pan and Q. Guo.....	3
Study of Ziegler-Natta /Metallocene Hybrid Catalyst on Pilot Device J. Wang, X.Y. Liu, J.J. Jia, X. Chen and B.C. Zhu.....	8
Study on Separation Technology of Lead and Silver from Bulk Concentrate X.H. Yu, Y.G. Li, D.J. Yang, Z. Shi, J.K. Wang and G. Xie.....	13
Lead Ion and Tetrabutylammonium Bromide as Inhibitors of the Spongy Growth of Zinc in Single Flow Zinc/Nickel Batteries Y.H. Wen, T. Wang, J. Cheng, J.Q. Pan, G.P. Cao and Y.S. Yang.....	18
Research on Wear Status Diagnosis for Aeroengine Based on Spectrography and Ferrography Y.G. Zhang, L.P. Tong, Y.W. Fei and X.W. Wu.....	24
Effect of Metal Ions ($\text{Cu}^{2+}/\text{Fe}^{2+}$) on the Antioxidant Activity of L-Ascorbic Acid-Glycine Model System C.Y. Lei, D.Z. Zhou, R. Zhao, Q.H. Deng, A.N. Yu and X.H. Yang.....	28
Study on the Pretreatment of Seawater to Reduce Turbidity and Boron Using Different Alkalizer L. Zhou, S.Z. Yi, S. Li and S.H. Zhong.....	32
Synthesis and Characterization of a New Type of Smart Hydroxyapatite-PNIPAM Hybrid Nanoparticles J.C. Wei, Y.F. Dai and Y.W. Chen.....	35
Information-Entropy-Based Integrated Model for Predicting Burn-Through Point in Lead-Zinc Sintering Process C.S. Wang.....	40
Extraction of Feature Photoacoustic Spectroscopy Probed by a Sensor against a Large Background Noise Z.Y. Wu, Y. Zhang and X. He.....	44
Zinc and Cobalt Recovery from Co-Ni Residue of Zinc Hydrometallurgy by an Ammonia Process T.K. Zhao, L.H. Liu, G.M. Li and M.T. Tang.....	48
Studies on the Antioxidant Activities of Total Alkaloids from the Fruits of <i>Evodia rutaecarpa</i> (Juss.) Benth M.X. Tan, Y.C. Liu, X.J. Luo and D.Q. Li.....	52
Investigation on the Synthesize Reaction Possibility of $\text{M}(\text{CO})_2\text{CY-Ph}_3\text{XR}$ ($\text{M}=\text{Cr}, \text{Mn}$; $\text{X}=\text{Sn}, \text{Ge}$; $\text{Y}=\text{S}, \text{Se}$; $\text{R}=\text{N}(\text{C}_4\text{H}_4), \text{N}(\text{C}_8\text{H}_6), \text{C}_6\text{H}_5$) Z.P. Wu and I.S. Butler.....	56
The Consequence Analysis of Pressure Vessel Failure Z.X. Xing and X.J. Wang.....	66

Research on Gas Temperature Field above the Open End of Monoliths for Catalytic Burner of Natural Gas	
S.H. Zhang, M. Xiao and X.X. Shi	71
Preparation and Application of Cation Adsorbent by Canada Goldenrod (<i>Solidago canadensis L.</i>)	
Z.F. Yang, X.J. Yang, L.H. Sun and L.L. Xu	75
Dynamic of Extracting Flavonoids from Honeysuckle Leaves	
S.F. Wu, S.M. Ma, Z.W. Huang, A.P. Liao and A.Q. Yuan	88
Research on Properties of Recycled Fine Aggregate from Waste Recycled Aggregates Concrete	
P.H. Zhu, X.J. Wang and J.C. Feng	93
Profiling Analysis of the Seeds of <i>Vaccaria segetalis (Nacr.) Gracke</i> by HPLC-ESI-MS	
H.J. Zhang	96
Microseismic Monitoring System Establishment and its Application to Xinzhangzi Coal Mine	
D. Duan, C.A. Tang and X.J. Feng	99
Purification of a Fibrinolytic Protein from the Yellow Mealworm Beetles, <i>Tenebrio Molitor</i>	
L. Yu, Y.L. Han and Z.J. Tan	103
The Effect of Nickel in Zinc Electrowinning	
G. Xie, Z.D. Liu, X.H. Yu and Y. Lu	106
An Improved Chronoamperometry for Electrochemical Real-Time PCR Measurement	
X.H. Chen and M. Du	110
Complex Resistivity Method and its Application in Mineral Resource Exploration	
X.G. Tang, X.B. Xie and L.J. Yan	115
Research on the Thermodynamics of Benzene in Activated Carbon Regenerated by Spent Catalyst	
T.C. Qian, J.L. Wang and S.H. Wang	119
A New Response Surface Methodology: XU-RSM	
P.P. Zhang and Z.D. Yin	126
Flow Injection Spectrophotometric Determination of Hydrazine in Environmental Water Samples	
L. Yu, X.S. Zhang and L.Y. Yu	130
Numerical Simulation and Parameter Optimization of Cam's Fine Blanking Process	
A. Long, R. Ge, Y.S. Zhang and L.B. Pan	134
OD-Characterization of the Symmetric Group S_{28}	
Y.X. Yan	140
Several Considerations on Improving Management of Environmental Performances of County and Municipal Party and Government Leaders - Take Poyang Lake Ecological Economic Zone as an Example	
J.K. Zhou	144
Study on Treatment of Wastewater from the Production of PolyTHF with Extraction-SBR Method	
Q.K. Ren, J. Liu, H. Qu, S.S. Ai and D.J. Bian	148
Behaviors of Chlorine in Smelting Process of Blast Furnace	
B.S. Hu, Y.L. Gui, H.L. Guo and C.Y. Song	152
A Preliminary Study on the Antioxidant Activity of Selenoprotein in <i>Cordyceps militaris</i> Rich in Selenium	
C. Zhang and Q.B. Huang	157
Thermogravimetric Evaluation of Magnesium Hydroxide and Red Phosphorous Flame Retarded Methyl Vinyl Silicone Rubber	
Y.J. Niu and L. Yang	162
Mongolia Residential Architectural Features and Construction of Eco-Tourism Development	
X.R. Mao, R.B. Hu and L. Li	166

Thermodynamic Analysis of Removing Phosphorus from High Phosphorus Oolitic Hematite W.T. Xia, X.J. Zhou and J.G. Yin.....	171
The Effects of Rolling Process on Microstructures of High Nb X70 Grade Pipeline Steel X.Y. Ye, K.H. Zhang and J. Zuo.....	177
Effects of Urea on the Formation of Perfume Compounds by Ascorbic Acid-Methionine Model Reaction S. Luo, H.Y. Zhou, L. Wang, A.N. Yu and X.H. Yang.....	182
Voltage Reversal during Stacking Microbial Fuel Cells with or without Diodes N.W. Zhu, X. Chen, L.X. Tu, P.X. Wu and Z. Dang.....	188
Determination of Manganese in Food Grade FeSO₄•7H₂O by Solid Phase Extraction and Flame Atomic Absorption Spectrometry Q. Hou, Q. Gong, X.L. Wei and L. Chen.....	194
Electrical and Mechanical Technology Research of Fully Mechanized Coal Caving under Aquifer G.L. Bu, L. Wang and B.C. Song.....	198
A Novel Structure Having Linear Poly(<i>N</i>-Isopropylacrylamide) Chains with Rapid Response to Temperature Changes X.C. Xiao.....	205
CFD Modeling of the Fast Pyrolysis of Coal in Cold Flow Fluidized Bed A.N. Zhou, T.S. Zhang, X.B. Ren and L.Z. Zheng.....	209
Study on the Composite Interface of 4045/3004/4045 Aluminum Alloy Ingot K. Qin, H.X. Jiang and J.Z. Cui.....	213
Influence of Loading Rate on Uniaxial Compression Test of Rock Specimen with Random Joints B. Xie, J.J. Guo and X. Xia.....	217
A Study of Antioxidant Activity about Extracts with Different Solvents from Four Chinese Herbal Medicines in Enshi Q. Li and C. Zhang.....	221
Theoretical and Experimental Investigation on Disposing of Used Lead-Acid Cell Using Citric Acid Z.B. Zhang.....	225
Preparation of AZO/acrylic Resin Transparent Insulation Coating Y. Chen, M.D. Wang, H. Xu and L. Li.....	229
Coercivity and the Figure of Merit of Irregular Triangular Ferromagnetic Nanowire Arrays Z.Z. Guo.....	233
Analysis of Iron in Copper, Copper Oxide and Copper Nitrate by Solid-Phase Extraction ICP-AES Method L. Chen, Q. Gong, X.L. Wei and Q. Hou.....	238
Synthesis and Antibacterial Activity of Novel Schiff Base Containing Diacetylferrocene and 2-Amino-5-Alkyl-1,3,4-Thiadiazole Y.T. Liu, M.T. Zhao, D.W. Yin and B.N. Hui.....	241
Antioxidant Activities of the 95% Ethanol Extracts of Nine Chinese Herbs Commonly Used in Hakka Area W. Kuang, C. Zhang, M.R. Huang and Z.W. Liu.....	246
Experimental Investigation on the Heat Transfer Characteristics of Nanofluids in Self-Exciting Mode Oscillating-Flow Heat Pipe F.M. Shang, J.H. Liu and D.Y. Liu.....	250
 Chapter 2: Transport Processes of Chemical Engineering	
Porous Ti-6Al-4V Fabricated by Powder Sintering and its Property Evaluation R.H. Hu, C.F. Yan and J.K. Lim.....	257

Study on the Volatility Order of Systems with Two Minimum Azeotropes G.L. Liu, L.J. Wang and H. Li	261
The Application and Development of Vanadium in the Fields of Catalysts and Materials L. Ma and S.L. Yang.....	267
Flow Patterns of Oil/Water Two-Phase Upflows in a Small Vertical Tube Z.Y. Zhao, J.H. Wang, H.Y. Min, L.M. Yang and J.H. Yang	274
Mass Transfer Mechanism of a Water-Sparged Aerocyclone Reactor X.J. Quan, Q.H. Zhao, J.X. Xiang, Z.L. Cheng and F.P. Wang.....	279
Effects of Glycine on the Properties of the Long Afterglow Phosphor $\text{CaAl}_2\text{O}_4:\text{Eu}^{2+}, \text{Nd}^{3+}$ Prepared by Combustion Synthesis X.X. Liu, H.L. Qin, G.H. Peng and Z.H. Liang.....	284
The Characteristics of Silica-Sol Combining Refractories J.Q. Xiong, Y.T. Peng, D.Y. Xie and X.S. Mao	288
Optimization of Ultrasonic-Assisted Extraction of Polysaccharides from <i>Ottelia acuminata</i> (Gagnep.) Dandy Using RSM A.S. Zhu.....	292
The Mixing Characteristics and Residence Time Distribution of Cut Tobacco Particles in Drum Mixer W.K. Zhu, D. Liu and J.S. Du.....	297
Fluorescence Resonance Energy Transfer between CdTe QDs and Rhodamine B in Gelatin Nanoparticles via a Two-Step Desolvation Way C.G. Li, X.M. Wang, C. Ye, Y.Q. Wang, J. Yu, Z.Y. Yan and Y.Z. Hu.....	302
Preparation and Photocatalytic Properties of Magnetic TiO_2 Compounds L.J. Yan, Y. Cheng, X.J. Yan and T.T. Ge	306
Mass and Heat Transfer in Multi-Pulverizing RPB H.H. Chen and X.G. Min	311
Investigation on the Transport Characteristics of Typical Biological Slender Particles in a Pilot- Scale Rotary Dryer W.K. Zhu, B. Li, C.F. Yu and L.Y. Chen	315
Characteristics of Mixing/Segregation in a Bubbling/Slugging Fluidized Bed with Binary Mixtures H.Z. Chen and Z.K. Guo	322
Low Cycle Fatigue of GX12CrMoVNbN9 -1 Cast Steel at 600°C Temperature G. Golański, K. Werner and S. Mrozinski	326
Bovine Serum Albumin Modified Mg-Al Layered Double Oxides Nanohybrids: Preparation and Potential Application as Drug Carrier T. Fan, H. Zhang and S.H. Guo	330
Study on Corrosion Process of Lead Alloy Anode in Plating Solution of Tin Free Steel J.Z. Li, Y.C. Wang, Y.W. Tian, Y. Li and X.L. Sun.....	336
Wet Granular Flow in Hoppers by Discrete Element Method M. Rahman and H.P. Zhu	340
The Research of Carbonization and Deoxidizing V_2O_5 at Low Temperature Z.Q. Cao, M.X. Fang and Z.R. Li	344
High Temperature Brittleness of Non-Oriented Electrical Steel Containing Phosphorus Y.X. Ouyang and J. Liu	350
Numerical Simulation of the Gas-Solid Flow in a Mini-Riser Reactor Q. Shuai, G.L. Niu, H. Zhao and Q. Li.....	356
Fabrication of Super-Hydrophobic Membrane with Hydrophilic Polyethersulphone G.F. Li, X.D. Sun and Y.Z. Zhang.....	361
Macro and Micro Investigation of Internal Structure of Filament Wound Composite W.D. Wen, J. Li, H.T. Cui, Y. Xu and H.J. Zhang	367

Growth Characteristics of AlGaIn/GaN HEMTs on Patterned Si (111) Substrates Using Double AlN Interlayers by MOCVD	
Y. Wang, N.S. Yu, C.S. Wang and K.M. Lau.....	372
Experimental Study on Heat Transfer of Bellows	
S.F. Yan, S.H. Feng and Y.Q. Sun.....	376
Preparation of Sulfoaluminate Cement Using Industrial Waste Residue	
L. Wang, Y. Wang, T.H. Yang and R.D. Li.....	380
Numerical Simulation Analysis for Anti-Penetration of Multilayer Ceramic Composite	
C. Zhang, W. Wu and Y. Li.....	386
Defectivity Reduction in the Silicon Tough Polishing with Polyamine and Nonions Surfactant Additives	
M. Sun, B.M. Tan, X.H. Niu, J. Wang, Y.G. He, Y.L. Liu, N. Wang and B.H. Gao.....	390
Influence of Inclusions in Low Alloy-Steels on Pitting Process	
J.M. Wang, Y. Zhang, Y.F. Wang and X.Q. Chen.....	395
Preparation and Properties of Interpenetrating Polymer Network Films from Prevulcanized Natural Rubber Latex/Chitosan Blends	
G. Lu, H.P. Yu, Z.Q. Zeng and Y.Y. Luo.....	400
Study on Flow Friction Experimental Characteristics in Narrow Annuli	
Y.Q. Sun, S.F. Yan and Q.M. Gao.....	407
Photodegradation of Pentachlorophenol Using NiO-Coupled NiTiO₃ Nanocomposites from Layered Precursor as Photocatalysts	
Z.Y. Gao and H. Zhang.....	411
Preparation and Research of Anionic and Cationic Secondary Modified Organophilic Montmorillonite	
X.H. Gu, S.W. Li, B. Zheng and J.L. Zhou.....	417
The Preparation of TCAS-Loaded Resin and its Adsorption Property to Pb²⁺ Ion	
X.J. Hu, P. Zhang and Y.S. Li.....	421
The Dislocation Density Distribution of Different Types of Doped InP Wafers	
X.J. Luo and N.F. Sun.....	425
Preparation of AZO Nanometer Powders by Combustion Synthesis Using Dual Fuel	
X.X. Liu, H.L. Qin, G.H. Peng and Z.H. Liang.....	429
Gas Phase Pressure Drop of a Water-Sparged Aerocyclone Reactor	
X.J. Quan, Q.H. Zhao, J.X. Xiang, Z.L. Cheng and F.P. Wang.....	433
Properties of Al-Based Matrix and Diamond Composites Fabricated by Semi-Solid Metal Processing	
Q.L. Dai.....	440
Fatigue Life of GX12CrMoVNbN9 -1 Cast Steel in the Energy-Based Approach	
G. Golański and S. Mrozinski.....	446
A Study on Preparation and Properties of a Full Color Organic Light-Emitting Diodes Display Device	
Y.H. Huang, H.J. Zheng, Q. Jiang and Z. Ruan.....	450
Study on Membrane Fouling Experiment of Stacked AGMD Module in Low Temperature	
X.H. Yang, R. Tian, S.J. Ma and H.L. Lv.....	458
Preparation and Characterization of Silica-Based Mesoporous Materials	
X.H. Zhang, Q.G. Cao and G.L. Xie.....	463
Effect of Final Cooling Temperature on Mechanical Properties of a Water Cooled Mn-Series Low Carbon Bainitic Steel as 8Mn2SiNb	
C. Feng, Z.Y. Pan, G.S. Li and B.Z. Bai.....	468
Influence of Sand Variety on Erosion Wear Properties of Nanostructured WC-12Co Coatings Deposited by HVOF Spraying	
Y. Liu, L.J. Wang, H. Chen and M.J. Tu.....	472

Preparation and Characterization of Epoxidized Natural Rubber K. Xu, C.Z. He, Y.Q. Wang, Y.Y. Luo, S.Q. Liao and Z. Peng	478
Synthesis and Luminescence Properties of Blue Phosphors $\text{Sr}_3\text{MgSi}_2\text{O}_8:\text{Eu}^{2+}$ by Gel-Combustion Method Y.Q. Zhai, Y.H. Liu, Z.J. You, J. Qiao and M.D. Qiu	482
Recovery of Iron from Cyanide Tailings with Reduction Roasting–Water Leaching- Magnetic Separation X.J. Yu, Y.L. Zhang and H.M. Li	486
 Chapter 3: Chemical Separation Engineering	
PIDNN Based Intelligent Control of Ignition Oven Y.Q. Ying, J.G. Lu, J.S. Chen and Y.X. Sun	493
Phase Separation of Reverse Micelles Y.L. Tian, N. Li and H.L. Li	498
Study on Extracting Vanadium from Coal Vanadium Ore C. Xi	504
Effects of Preparation Technology on the Microstructure and Thermal Conductivity of Cu-11Ni-2W Alloy B.P. Lu, C.C. Liu and H. Xu	508
Development of Composite Adsorbents of Activated Carbon and Hydrophobic Silica Gel for Gasoline Vapor Adsorption W.Q. Huang, Z.L. Hu and J. Bai	512
Energy Consumption Analysis of Level Circulating Cooling System in Sanhejian Deep Coal Mine Y. Zhang, D.M. Guo and L. Meng	516
Pollution and Control Measures of Livestock Breeding with Acceleration of China's Urbanization Z.F. Yang, L.L. Xu and C.Y. Yao	520
Finite Element Simulation of the Distribution of Micro-Stress and Strain of Multiphase Steel Y. Shang, Y. Han, Y.L. Guo and H. Ding	529
The Preparation of Ferronickel Powder from Nickel-Contained Sodium Jarosite Residue R. Ren, S.P. Zheng and Q. Zhang	536
Selection of Salting Agent for Extractive Distillation of Ethanol-Water System Y.Y. Yang and X.G. Wang	543
Charge Characteristics of Nanofiltration Membrane by Streaming Potential Method B.W. Su, X.J. Duan, M.W. Dou, X.L. Gao and C.J. Gao	547
Recovery of Valuable Metals from Zinc Plant Residues by Two-Stage Selective Atmospheric Leaching Process C.X. Li, C. Wei, H.S. Xu, Z.G. Deng, J.Q. Liao, X.B. Li and M.T. Li	552
Quantification and Enrichment of Esculeoside a from Fresh Tomato Fruits F.L. Lu, J.L. Liu, D.P. Li, J.Z. Wu, Y.Y. Chen and Y.X. Wen	556
Test Study on Creep Character of Anchor Rod in Argillaceous Soft Rock Q.Y. Fan, C.L. Liu, K.Q. Yang and M.Q. Wang	565
Adsorption of Grape Seed Procyanidins on Macroporous Adsorbent Resin: Isotherms and Thermodynamics Y.H. Song and G.Z. Zhang	571
Solid-Liquid Extraction Kinetics of Flavonoids in <i>Ficus microcarpa</i> L.S. Wang, L.H. Liu, M. Duan and X.M. Liu	575
Simulation of Condensation Process for Gasoline Vapor Recovery W.Q. Huang, L. Shi, Q. Peng and F. Li	582

pH Sensitive Polysulfone Membranes Prepared by Homogeneous Photo-Initiated Graft Copolymerization	
H.L. Hua, J.C. Zhang, N. Li and L.A. Wei	586
Adsorption Kinetics of Grape Seed Procyanidins on Macroporous Adsorbent Resin	
Y.H. Song.....	592
Study on Experiments of Ion Exchange Resin Column for Purification of Hydrogen Peroxide	
G.Y. Luan, W.P. Gao and P.J. Yao	596
The Study on Technique of Extracting Cytochrome C	
F.Y. Deng and X.S. Wu	600
Investigation on Preparation and Performance of Self-Assembly Nanofiltration Based on the Coordination	
B.W. Su and S.S. Han	604
Optimization for Extraction of Astaxanthin from Shrimp Shell Using Response Surface Method	
H.C. Liu, P. Li, G. Wang, H.P. Yu, Z.Q. Zeng and D. Yang.....	609
Reactive Ability and Bong Strength Analysis on Al(OH)₃ Crystals with Three Different Crystalline	
Z.P. Wu, L.J. Zhou, Q.Y. Chen and Z.L. Yin	614
Recovery Technology of Zinc from Hydrometallurgical Zinc Residues	
Y.L. Zhang, X.J. Yu, X.N. Guo and X.B. Li	620
Hydrothermal Sulfidation of White Lead with Elemental Sulfur	
C.X. Li, C. Wei, Y. Song, Z.G. Deng, J.Q. Liao, H.S. Xu, M.T. Li and X.B. Li	624
A Novel Method for the Treatment of Wastewater Containing High Concentration of Copper and Arsenic	
B. Zhang and J.F. Zhang	631
Particle Velocity Distribution in a Novel Draft Tube-Lifted Gassolid Air Loop Reactor	
Z.Y. Shen, L.J. Yang, M.X. Liu, C.X. Lu and X.N. Liu.....	639
Discussion on Theory and Practice of Tri-Intrinsic Safety Management in Mine Enterprises	
A.Y. Zhang.....	648
Crystallization and Separation of Potassium Vanadate in Highly Concentrated Potassium Hydroxide Solution	
N. Yang, S.L. Zheng, S.N. Wang, Y.L. Qin, W.L. Xie, B.J. Zhou and Y. Zhang	655
Improve Reservoir by Explosion Technology	
J.Y. Wang and Y.F. Cheng	663
Experimental Study on the Uniformity of Velocity Distribution of Rectangular Burner Outlet of Hot-Blast Stove	
X.L. Zhang, S.P. Jin, Y. Yang, S.L. Fang, W.Q. Wen and S.Y. Huang	669
Maxwell-Stefan Equations Applied to the Modeling of Multi-Component Permeation through a Silicalite-1 Membrane	
C.H. Xu, Y.C. Chen, A. Peng, N.W. Wang, H. Shang, Y.J. Zhong and W.D. Zhu	674
Experiment Study on the Performance of the Two Centrifugal Fans in Series	
X.P. Miao, L.Y. Sui, D.Y. Jia, B. Wang, W.H. Li and L.J. Wang.....	680
Study on the Evaporation of Histidine-Water System	
Y.Y. Han, L.J. Weng, D. Geng and X. Yang.....	685
Application of Finger Oral in the Training of Employees in Mine Enterprises	
A.Y. Zhang.....	694
Energy Consumption in Binary Batch Distillation of Total Reflux and Top Accumulation	
W.G. Wang, C.W. Wang, F.L. Zhou, Y.H. Qin, Y.X. Wu and Z. Zeng.....	699
Extraction of Aluminum Hydroxide from Coal Fly Ash by Pre-Desilication and Calcination Methods	
M.W. Wang, J. Yang, H.W. Ma, J. Shen, J.H. Li and F. Guo.....	706

Application of Wavelet Neural Network in Cortisol Solubility J.X. Chen, X.N. Shi, S.C. Pang, M.J. Zhang and S.Y. Li	711
 Chapter 4: Industrial Catalysis	
Condensation of Methyl Propionate with Formaldehyde to Methyl Methacrylate over Cs-Zr-Mg/SiO₂ Catalysts S. Ding, L. Wang, R.Y. Yan, Y.Y. Diao, Z.X. Li, S.J. Zhang and S.J. Wang	719
Catalytic Performances of Silicon Dioxide Supported Titania as Catalyst in Transesterification between Diethyl Oxalate and Phenol L. Bian and G.L. Zhang	724
Catalytic Activity of Dehydrogenation of Methanol to MF over Cu/MCM-41 and Cu-ZnO/MCM-41 Prepared by Impregnation and Grinding G.R. Li, G. Li, S.X. Zhou and H.J. Tong	730
Characterization of Ru on Activated Carbon Catalysts Prepared by Supercritical Carbon Dioxide Impregnation S.K. Xu, L.M. Li, R. Li, N.N. Guo and P. Zhang	734
Shape-Selective Alkylation of Toluene with Propylene over Modified Zeolite J. He, J. Zhang, J.H. Li and Z.R. Zhu.....	739
Molecular Characterization of Noble Metal Adsorption at the Water-Aluminum Oxide Interface J.M. Liu and J.R. Regalbuto.....	745
Preparation and Catalytic Properties of SrFe₂O₄ in Selective Oxidation T.X. Jia, S.F. Yan and Z.L. Liu.....	751
Resin: A Kind of Novel Material Used for Oxidative Desulfurization of Diesel Fuel Y.W. Luo, C.H. Li, J.P. Zhu and L. Wang.....	755
Effect of Copper Compounds on the Synthesis of Diphenyl Carbonate from Transesterification Catalyzed by <i>n</i>-Bu₂SnO Z.P. Du, S.R. Chen, C. Shen, B. Zhou, L.M. Huang, G.Y. Wang and Y.X. Wu	759
Preparation and Property of Y-Mg-Al-Layered Double Oxides T.X. Jia, J.C. Zhang and Z.L. Liu	764
The Controlling Synthesis and Photocatalytic Activity of Carbon Nanotubes Loaded with CdS Composites under Simulated Sunlight H.Y. Li, S.L. Bai, Y.J. Guan and Z.B. Wang.....	768
Degradation Mechanism of Aqueous Sulfamerazine by AOPs of O₃ and UV/TiO₂ L.C. Chuang, C.H. Luo and S.W. Huang.....	772
Effect of Calcinations Temperature of Cu/Ti-PILCs for Selective Catalytic Reduction of NO by Propylene Q.Y. Wang, Z.L. Liu, H.B. Zou, Z.H. Zhao, Z.Q. Liu and J.R. Wu	776
Preparation of Mo-Fe/SiO₂ and Catalytic Selective Oxidation of <i>p</i>-Xylene Y.Q. Huang, Z.L. Liu, J. Liu, Z.Z. Qin, J.W. Wang, H.Y. Wen and K.D. Yang.....	782
Study on Properties of Al₂O₃ -CaO-SiO₂-CaF₂ Slag System K.W. Peng, P. Zhang, J.G. Xie and H.L. Ma	786
Amoxidation of 3-Picoline over V₂O₅/TiO₂ Catalysts: Effects of TiO₂ Supports on the Catalytic Performance F.M. Zhang, F. Chen, Q. Xiao, Y.J. Zhong and W.D. Zhu.....	791
Preparation and Properties of La/Ni-MoS₂ Composites in Catalytic Hydrogenation of Sulfolene T.X. Jia, J.C. Zhang and Z.L. Liu	798
A Study of a New Cleaning Agent for Post-CMP Pattern Wafer B.H. Gao, Y.D. Zhu, B.M. Tan, C.W. Wang, X.H. Niu, Y.Y. Huang, Y.L. Liu and J. Wang	802
Lumping Kinetics of Asphaltene Hydrocracking over NiMo/γ-Al₂O₃ Y.X. Zhao, D. Li and X. Lin	806

Preparation of Foaming Agent by Modification Protein from Pea Meal J.C. Huo, Y.H. Yuan, C. Wang and C.D. Xie	811
Bromine-Mediated Phenol Synthesis from Benzene L.B. Li, W.S. Li, Y.Q. Ren and X.P. Zhou	817
Fabrication and Photocatalytic Decolorization Performance of ZnO J. Cheng, J.Z. Li, J.B. Zhong and W. Hu	823
Catalytic Oxidative Desulfurization of Model Fuel Using [HPMo]₆[HTAC]₂/SiO₂ as a Amphiphilic Catalyst Q.N. Li, G.H. Wang, J.H. Qiu, N. Wang, Q.G. Zhang, Q. Lei, Y.L. Hu and Y.Q. Zhang.....	827
Catalytic Epoxidation of Soybean Oil Methyl Esters X.P. He, X. Deng, S.S. Wang, J. Xiong and Y.X. Gu.....	833
Preparation and Catalytic Activity of Fe₂O₃/CNT to Thermal Decomposition of Ammonium Perchlorate P. Liu, J.R. Kong, X.D. Xu, F.L. Sun and Q.C. Liu.....	837
Preparation of Layered Double Hydroxide (LDHs)-Supported Gold Catalysts and its Activity and Stability for Low-Temperature CO Oxidation P. Wang and L.H. Zhu	841
Development and Application of Shotcreting Castable for Steel Ladle Y. Qin, G.T. Liu, Z.M. Tong and Y. Chen.....	848
Fabrication and Photocatalytic Performance of Ag/ZnO Z.H. Xiao, J.B. Zhong, J.Z. Li and W. Hu	854
Deep Oxidative Desulfurization of Model Fuel with H₂O₂ Catalyzed by Ce-Mo/SiO₂ Catalysts N. Wang, G.H. Wang, J.H. Qiu, Q.N. Li, Y.Q. Zhang, Q.G. Zhang, Y.C. Bao and D.L. Zeng	858

Part 2

Chapter 5: Chemical System Engineering

A Study on DEXING Copper-Molybdenum Flotation Separation with a New Low-Molecule Inhibitor X.J. Liao and X. Mu.....	867
Kinetic Study of the Esterification Reaction of Hydroxymethyl(phenyl)phosphinic Acid and Ethylene Glycol K.G. Cao, C.L. Xia and Z.W. Wang	872
Synthesis of Single-Phase Zeolite 4A from by-Products of Polysilicon Production Process X.Y. Liu, M. Li, X.Y. He, H. Chen and S.X. Hao	876
Kinetics and Thermodynamics Study of Thiosulfate Removal from Water by Calcined MgAl-CO₃ Layered Double Hydroxides C.Y. Geng, X. Yu, Z. Chang, X.D. Lei, X.M. Sun and L. Luo.....	880
Performance Analysis of the Rayleigh Step Bearing under the Coexistence State of Fluid with Laminar Flow and Turbulence Y.J. Wang, Q.W. Dong, H. Guo and S.Q. Cen	886
Novel Technology for Producing Iron Oxide Red from Byproduct Ferrophosphorus J. Ji, Y. Ding, Y.G. Ding and H. Chen.....	893
Numerical Simulation Study on Local Enhanced Heat Transfer for High Temperature Heat Pipe Heat Exchanger S.M. Sun and J.M. Zhou	897

Preliminary Dynamics Analysis for Synthesis of Polyamide Polyamine Compounds (PPC) J. Chen, H.X. Zhu, L.J. Wang, N.N. Xia and S.F. Wang.....	904
Liquid-Liquid Equilibria for Geraniol in Aqueous Alcohol Mixtures H.D. Li, T.F. Zhang, Y. Yan, L. Chen and L.L. Hu.....	908
Predicting for Connecting Strength of Shape Memory Alloy Pipe-Connector D.Y. Li, F. Liu and G. Li	912
Preparation, Spectral Characterization and Crystal Structure 2-Acetyl-2'-Chloroacetanilide X.S. Tai	916
Numerical Study of Heat Feedback Influence on Combustion of ADN Y. Zhao, F.T. Bao and S.C. Hu.....	920
Experiment on Nano-Modified Urushiol Titanium Anti-Corrosion Coating of the Top Heat Exchanger of Atmospheric Tower Y.G. Fan, G.Q. Liu, B. Chen, S.P. Zhou and H.X. Lin.....	924
Synthesis of Methylal from Methanol and Trioxane over Acidic Resin J. Zhang, Z. Chen, J. He and Z.R. Zhu.....	929
One-Pot Synthesis and Luminescent Properties of Mg (II) Complex Material with 5-Bromosalicylaldehyde- 4,4'-Diaminodiphenylamine L.H. Wang.....	935
Thermodynamic Analysis of an Ammonia Synthesis Process Based on Brayton Cycle Y. Bie, M.F. Hu, X. Zhang, X.Q. Zhu, J.H. Chang and W.Y. Mao	939
Nonlinear Bending of the Block Spherical Reticulated Shells M.J. Han, Y.T. Li, P. Qiu and X.Z. Wang	946
Determination of Metastable Zone Width, Induction, Period and Interfacial Energy of (R)-3-(methylamino)-1-Phenylpropanol Hydrochloride L. Zhu, R.R. Lei, Y.F. Wang, L.B. Yang and Z.L. Sha	950
Dynamic Simulation of Ammonia Synthesis Loop under Abnormal Conditions W.D. Tian, Z.P. Yu and S.L. Sun.....	955
Synthesis and Crystal Structure of the Cobalt (II) Complex Constructed from 2,2'-Bibenzimidazole and 5-Nitroisophthalic Acid Y. Yang, L.T. Yan, X. Li, R.H. Qin and W.G. Duan.....	959
The Hydrogen Network Optimization of a Complex Refinery H. Li and G.L. Liu.....	963
Isobaric Vapor-Liquid Equilibria of Hexamethyl Disiloxane + Ethyl Acetate System at Normal Pressure W.L. Zhang, N. Meng, R.Y. Sun and C.L. Li.....	968
Correlation and Prediction of Vapor-Liquid Equilibrium for the Propylene Oxide-Ethanol-Water Ternary System C.X. Wang and R.X. Jiang.....	973
Ternary Liquid-Liquid Equilibria for (Water + Methanol + β-Citronellol) at 283.15 and 313.15 K T.F. Zhang, C.Y. Pan, S. Hu and H.D. Li	977
A Novel Application of Vehicle Security by Infrared Camera and Coating Technology J.Y. Shieh, J.S. Hsieh, C.M. Lin and Y.H. Lee.....	981
Study on Explosion in Spherical Vessel Vented into Dump Vessel Y. Yu, J.C. Jiang and Q.W. Zhang.....	988
Preparation and Crystal Structure Er (III) Complex with 2-Formylbenzenesulfonic Sodium-3-Thiosemicarbazide X.S. Tai	993
Theoretical Study on the Mechanism of NH + HCNO Reaction X.D. Niu, C.C. Sun, J.L. Tang and H.S. Wang.....	997

Chemical Threats Diagnosis Expert System (CTDES) F.A. Alotaiby and S.G. Foda.....	1001
Machinability of Heat-Treated 356 and 319 Aluminum Alloys: Methodology for Data Processing and Calculation of Drilling Force and Moment M.M. Tash, F.H. Samuel and S. Alkahtani.....	1008
Determination for Enthalpies of Combustion of High-Carbon Fatty Alcohols by Static Bomb Calorimetry C.R. Zhou, G.P. Li, X.W. Han and D.G. Jiang.....	1023
Application of Magnetic NBR Seal in the Centrifuge Z.Y. Yu, W. Zhang and D.L. Yue.....	1029
Design of Non-Isothermal T-Shaped Microreactors with Engulfment Flow by Using a Simplified Model L. Wang, S. Kawamura, O. Tonomura and S. Hasebe.....	1033
Optimizing the Operation of Pumping System with Linear Programming (LP), Nonlinear (PNL) and Genetic Algorithm (GA) A.W.S. Borges and M.R. Covacic.....	1039
Effects of Microwave Irradiation on Activation Energy and Reaction Rate of Synthesis of Dodecylmethyldihydroxyl Ammonium Bromide T.Y. Mao, C. Zheng and J. Yu.....	1044
The Pinch Design Method for Heat Exchanger Networks Considering the Heat Capacity Flowrate of a Stream with Variation in Temperature F.L. Zhang, S.R. Yu and L. Shen.....	1048
Flow Structure of New Quick-Contact Cyclone Reactor Y. Ma, Z.B. Wang and Y.H. Jin.....	1055
To Eliminate Vibration's Hazard of Chemical Enterprises Production Equipments by Absorber X.Y. Guo, Z.H. Xiang, J. Zhang and S.H. Zhang.....	1059
 Chapter 6: Inorganic and Organic Chemical Engineering	
Synthesis and Antibacterial Activity of Several Nonvel Schiff Bases Bearing Acetylferrocenyl and 2-Amino-5-Substituted-1,3,4-Thiadiazole Y.T. Liu, S. Chen and D.W. Yin.....	1067
Application of Hydrolytic Styrene-Maleic Anhydride Copolymer in Denim Cellulase Washing Y. Yang and X.R. Wang.....	1071
Ultrasonic-Assisted Extraction of Gardenia Yellow from Fructus Gardeniae X.P. Wang, S.X. Dong and F. Chen.....	1075
A Simple, Efficient and Selective α-Monobromination for Arylacenones under Solvent-Free Condition M.X. Liu, L.X. Hu, X.W. Wang and H.D. Zhu.....	1079
Effect of Displacement Agents on Stability of the Produced Liquid from ASP Flooding F.S. Zhang, Y.W. He, J. Ouyang and X.F. Feng.....	1083
Function Component Concentration Profile-The Key Factor for the Modified Single Base Gun Propellant B. Liu, Q.L. Wang, S.W. Liu, H.F. Yu, F. Wang, Y.B. Zhang and S. Zheng.....	1088
Synthesis of Methacrolein by Condensation of Propionaldehyde with Formaldehyde Y.C. Li, R.Y. Yan, L. Wang, L. Liu, D. Liu, H. Zhang, Y.Y. Diao, Z.X. Li and S.J. Zhang.....	1094
Study on Hydrothermal Synthesis of Chalcone K. Xie, C.X. Luo, P.P. Sun, X.L. Zhang and S. Qiao.....	1098
Mechanism of High-Carbon Paraffin Deposition and Preventing Methods F.S. Zhang, J. Ouyang, D.W. Wang and X.F. Feng.....	1102

Study on the Effect of Adding Coke Powder on Coke Quality for Coal Blending Q.G. Zhang, G.H. Wang, Q. Lei, Y.S. Tian, N. Wang, Q.N. Li, D.F. Shu and T.J. Yan.....	1106
Synthesis of Four New Ester Compounds from 4-Ethyl octanoic Acid Y.P. Liu, W. Guan, Z.W. Miao and B.G. Sun.....	1111
Synthesis and Characterization of Iso E Super® Y.L. Zhu, J.N. Wang and C.J. Xiong.....	1115
Study on Dephosphorization Technologies in Converter with Semi-Steel J.H. Zeng, W. He, Y. Chen and H. Pan.....	1119
Experimental Analysis of the Main Factors Affecting RDX Static Drying Y.X. Zhang, L.Y. Zhang, Q.J. Zhang and H.H. Chen.....	1126
Exploration of Chemical Oxidation of <i>p</i>-Cymene L.W. Bi, Q.G. Zhang, Z.D. Zhao and D.W. Li.....	1132
Study on Quality Control Technology for Square/Round Billet in Panzhihua Steel H. Pan, G.R. Wu and Z.Q. Li.....	1138
Control for Surface Faint-Sliver Defects in Cold-Rolled IF Steel Sheet Y. Chen, J.H. Zeng and G.R. Wu.....	1145
Progress in Synthesis of Micro- and Mesoporous Composite Molecular Sieve W.Y. Wu, C.W. Shi and X. Bian.....	1151
Study on Chromaticity Variation Relationships of Rosin under High Temperature Treatment Y. Gu, Y.X. Chen, Z.D. Zhao, C.T. Guo, D.M. Li and L.W. Bi.....	1157
The Coal Chemical Industry and Technology Innovation Service System Research Review X.L. Si and S.X. Song.....	1164
Regeneration of Iron Oxide Sorbent Used for Hot Gas Desulfurization H.L. Fan, H.S. Guo, L.T. Liang, F. Shen, J.Y. Lin and S.G. Ju.....	1170
Study on Thiourea Dioxide's Reducing Capacity and its Reactivity with Reactive Dyes L. Zhou, X.Y. Liu, J.Z. Shao and Y.N. Chen.....	1174
Synthesis and Structural Characterization of a Novel Composite Modified Starch H.P. Li, H.Q. Lv, Y. Zhang and Y.Z. Yang.....	1180
Study on the Characteristics of Emissions from Light Duty Vehicle Fueled with Biodiesel under Transient Operating Mode D.Q. Mei, S.L. Wang, P. Sun and Y.N. Yuan.....	1184
Preparation of Aluminosilicate Mesoporous Catalyst and its Application for Production 5-Hydroxymethyl Furfural Dehydration from Fructose C.W. Jiang, A.X. Su and X.M. Li.....	1190
Study on Refining Technology for Cleanliness Steel M. Zhang, J.H. Zeng and H. Pan.....	1194
Study on Dyeing Properties of Chrysophanol on Poly(trimethylene terephthalate)Fiber J.W. Wang, C.Y. Shi, Y. Zhang and X.R. Wang.....	1201
Release Rules of Alkali and Alkaline Earth Metals during Coal Gasification in CO₂ and O₂/CO₂ J.Y. Lin, Y. Liu and Y. Qiao.....	1206
Decomposition of Copper-Amino Acid Complexes by Ferrous Sulfide G.G. Jia, X. Ling, Y.G. Zheng, L. Zhang, S. Li, L.S. Gou and Y. Liu.....	1210
A Research of the Influence on the Coking Technological Property by Adding Dusts of Blast Furnace Containing Iron and Carbon Q. Lei, G.H. Wang, Q.G. Zhang, S.Q. Yang, Y.S. Tian, Q.N. Li, T.J. Yan, D.F. Shu and Y. Hu.....	1213
Synthesis of Poly(Octylacrylamide/Acrylic acid/Methyl methacrylate/Butylaminoethyl methacrylate/Hydroxypropyl methacrylate) and the Physical Properties of the Copolymer Films J. Zhu, W.F. Xiao, L.T. Dong and F. Teng.....	1217
Optimization of Linoleic Acid from <i>Idesia polycarpa</i> Maxim. var. <i>vestita</i> Diels by Response Surface Methodology Q.Y. Wang, K.F. Du, C.M. Jia, X. Li, S. Yao and H. Song.....	1222

The Analysis of Mutual Authentication between Finite Element Analysis and Qi Erxi Answer Y.L. Liu, H.B. Liu and B. Wang.....	1228
Preparation, Spectral Characterization and Crystal Structure 2-Acetyl-2'-Methoxyacetanilide L.H. Wang.....	1232
Synthesis of Chiral Tridentate Ligands Embodying the Bispidine Framework and their Application in the Enantioselective Addition of Diethylzinc to Aldehydes Y.C. Zhang, J.Y. Gao, N.Y. Shi and J.Q. Zhao	1236
Improve the Synthesis of (S)-1-benzyl-3-pyrrolidinol F. Qiu, L. Wei and C.Y. Lu.....	1244
Present Status of Research and Application of Chemical Combination Flooding Technique and its Future Y.Y. Zhu, Q.F. Hou, G.Q. Jian and D.S. Ma	1248
Synthesis and Characterization of Glucose Dehydroabietate Z.W. Shi, Y. Wang, Y.M. Nie and X.D. Yao	1260
Surface Modification of Carbon Electrodes for Supercapacitor Using Ammonia Water R.Q. Wang and M.G. Deng.....	1265
Process Optimization of Microwave Drying Sludge with Response Surface Methodology M.X. Han, D.M. Li, Y.J. Feng and Y.F. Tan	1269
Chemical Synthesis and the Stability of Theanine Z.Z. Zhang, S.H. Yan, D.X. Li, T.J. Ling, M. Meurens and Y. Larondelle.....	1273
Different CaO Content Influence on Fusibility of Coal Ash Y.J. Liu, Y.H. Guo and Q. Wang.....	1278
Desulfurization from Gasoline by Polymer Resin at Room Temperature and Atmospheric Pressure J.P. Zhu, C.H. Li, J.L. Chen and Y.W. Luo	1283
Study on Synthesis and Application of Methylmethoxyphosphonate Aluminum Q. Yu, X.J. Li and Z.W. Wang	1287

Chapter 7: Biochemical Industry

Proteolysis Characterization of Low- and Full-Fat Cheese Fermented by <i>Lactobacillus acidophilus</i> during Ripening Process R.X. Zhao, S.H. Lu, H.D. Sun, S.Y. Niu and F. Zhang	1293
Effect of Blanching on β-Carotene Degradation of Cabbages during Drying D.M. Wang, L.Z. Jiang, X.Y. Zhao, C. Zhang and Y. Ma.....	1297
Comparative Research on Aroma from Mango Juice Extracted by Different Methods D.M. Yan and L. Yu	1302
Microwave Drying of Tilapia Fillets: Kinetics and Modeling B.Y. Zhang, Y.Z. Jin and Y.D. Cheng	1306
Preparation of CuO/γ-Al₂O₃ Catalysts by Impregnation in Supercritical CO₂ L.M. Li, S.K. Xu, X.D. Wang, N.N. Guo, Y.L. Su and P. Zhang.....	1313
6-O-(10-Undecylenoyl)-D-Glucose: Controlled Enzymatic Synthesis and Structure Elucidation by ¹H and ¹³C NMR Y.Z. Wang, Q.L. Li, W. Yue, P.J. Yao and Y.N. Wei.....	1318
Effects of Metal Ions on the Stability of Purple Sweet Potato Pigment S.H. Li, T.P. Li, W.N. Fu, X.J. Yu, Z.S. Zhao and Y.F. Jia.....	1325
Enhancement of Lactic Acid on Antibacterial Activity of Haw Pectic Oligosaccharides T.P. Li, S.H. Li, R.G. Zhu, Y.F. Jia, Z.S. Zhao, Y.R. Song and J. Wu.....	1329
Study on Application of Organo-Silicon in Papermaking Industry Y.S. Ma and X.H. Sun	1333

Chemical Constituents from <i>Euphorbia helioscopia</i>	
D. Geng, L.J. Weng, Y.Y. Han and X. Yang	1337
Application of Response Surface Methodology to Optimise Preparation High Antioxidant Activity Product from <i>Pinctada fucata</i> Muscle	
Y.Y. Wu, L.H. Li, Z.H. Duan, X.Q. Yang, J. Shang and S.J. Chen.....	1341
Antioxidant Capacity and Polyphenolic Content of <i>Eucommia Ulmoides</i> Oliv Leaf Extract	
J.H. Wang, D.M. Liu, Y.L. Liu, C.L. Li, Y.Y. Cheng and Y. Li	1349
Analysis and Assessment of Food Traceability Status in China	
L.M. Liu, H. Qian, Y.C. Gao and D. Wang	1353
Adsorption and Release of rhbFGF from the Mesoporous Molecular SBA-15 <i>In Vitro</i>	
Y. Song, L.W. Sun, R. Jiang, K. Feng, R. Ma and X.N. Chen.....	1358
Study on Microbial Control of Coated Paper Coating	
Y.S. Ma, L.T. Wang and X.H. Sun	1365
Synthesis, Characterization and Flocculating Properties of Copoly(AM-DAC) in Water and Wastewater Treatment	
W.M. Sun, G.C. Zhang, M.M. Su, H.L. Li and X. Lei	1369
Effect of Xylanase Modification on Pulp and Paper Properties of Masson Pine Mechanical Pulp	
Q. Luo, X.P. Li, Y. Liu and J.H. Liu.....	1375
Purification of Soyasaponin with Macroporous Resin	
T.P. Li, S.H. Li, W.N. Fu, Y. Sun, Y.F. Jia, Z.S. Zhao and R.G. Zhu.....	1379
Effect of Adding Silver Carp Surimi on Gelatinization Characteristics of Wheat Flour Dough during Microwave Heating	
Y. Wang, Y.Z. Jin and Y.D. Cheng	1382
Gel Properties of k-Carrageenan-Konjac Gum Mixed Gel and their Influence Factors	
Y. Wei, Y.L. Wang and X.J. He	1389
Electrospun Poly(Styrene-co-maleic anhydride) Nanofibers for β-D-Galactosidase Immobilization and Enzymatic Transgalactosylation	
P.J. Li, Y.F. Zhang, S.P. Zhang, P. Wang and M. Wang	1394
The Study on the Antioxidative Activity of Resveratrol in Senescence-Accelerated Mouse Prone/8 (SAMP8)	
G.S. Liu, Z.S. Zhang, B. Yang and W. He.....	1398
Kinetics of Impinging Streams Emulsion Polymerization of Styrene	
Q.C. Fan, T. Wu, G.W. He and F.H. Duan	1402
Synergistic Effect between Cellulase and Xylanase Acting on Alkaline Pretreated Rice Straw	
S.Y. Zou and Y.Y. Shao.....	1406
Study on the Technology of Extraction Protein from Fish Swim Bladder with Ultrasonic Treatment	
Z.H. Duan, Y.L. Li and J.L. Wang.....	1413
Biosynthesis of Adenine Arabinoside by Whole Cells of <i>Enterobacter aerogenes</i> HXY2222	
K. Feng and L. Cui.....	1417
Study on Mechanical Properties of Styrene-ethylene/butylene-styrene/polystyrene Blends	
X.M. Sang, L. Zhang, R.Z. Wang, X.G. Chen, M. An and Y. Shen	1422
The Analysis of Relationships between Surface Porosity and Air Permeability of Paper (board)	
M.G. Xue and S.F. Wang.....	1426
Carbonyl Reduction of Cyclohexanone Derivatives Catalyzed by Recombinant Strain <i>Escherichia coli</i> BL21 (pET-<i>eryKRI</i>)2	
L.L. Li, Z.S. Lu, Y. Hu and H. Shen.....	1430
Optimised <i>Aspergillus Niger</i> Enzyme-Assisted Extraction of Flavonoids from <i>Dicranopteris</i> and Evaluation of Antioxidant Activity <i>In Vitro</i>	
J.J. Xiong and L.J. Ding.....	1436

Study on the Preparation and Amplification Experiment of Al-Pillared Montmorillonite G. Chen, C.J. Yan, J.F. Shou, J. Mei and N.N. Chen.....	1440
Isolation of Grifolan Synthase (GS) and its Partly Enzymatic Properties W.G. Wang, P. Li, Y.J. Cui, Y.L. Zhao and Y.N. Gu.....	1446
Optimization of Simultaneous Distillation Extraction of the Black Pepper W.X. Chen, F. Wang, Y.Y. Hu and C.F. Li.....	1454
Wood Pulp Fibers Grafted with Polyacrylamide through Atom Transfer Radical Polymerization X.M. Zhang, J.F. Ji, Y.J. Tang and Y. Zhao.....	1458
Changes in the Antioxidant Activity of Purple Sweet Potato Wine during Storage W.N. Fu, T.P. Li, Y.F. Jia, Z.S. Zhao, W. Hou and Y. Chen.....	1462
Effects of Polyacrylamide Mixtures with Different MolecularWeights on Sedimentation of Red Mud H.X. Du, Y.L. Sun, H. Wang and Y.H. Huang.....	1466
Diagnosis Value of Detection K-Ras Gene Mutations in Patients with Gastric Cancer A.M. Zhang, R. Wang, K. Sun, Z.P. Jia and H. Xie.....	1470
The Variation of Bioactive Components in Rosemary Extracts by Adding Organic Acid Synergists D.W. Li, L.W. Bi, Z.D. Zhao, D.M. Li, Y. Gu, J. Wang and X.Z. Liu.....	1475
Study on the Synthesis and Properties of Water-Soluble Chitosan Grafted Copolymer S.L. Lai, N. Yang and Q. Chai.....	1480
Function Analysis of Luciferase Reporter Plasmid with AQP1 Gene Promoter Y. Jiang, Z. Sun and T.C. Zhang.....	1486
Synthesis of Anti-Cancer Targeted Therapies Drug Tivozanib M.X. Liu, L.X. Hu, X.W. Wang and H.D. Zhu.....	1490
Effect of Germination on Physicochemical, Morphological and Rheological Properties of Rice Starch from Germ-Remaining Polished Rice Y.L. Liu, X.H. Li, J. Yu, F.X. Wang and J.H. Wang.....	1493
Effect on Xylanase from Leveking in Bleaching Soda-AQ Pulp of Fast-Growing Poplar X.X. Ji, J.C. Chen, G.H. Yang, J.F. Wang and L.Y. Wang.....	1498
Effect of Plant Starch on the Production of Glucoamylase from <i>Aspergillus niger</i> X.H. Liang, G.L. Zhao, Z.F. Guo and Y. Tang.....	1502
The Comparison of Physicochemical Properties of Four Cross-Linked Sodium Hyaluronate Gels with Different Cross-Linking Agents Y.J. Cui, W.G. Wang, P. Li, Y.L. Zhao, Y.N. Gu and J.L. Wan.....	1506
Synthesis of a New Chiral Selector Base on Pracoterol for Chiral Stationary Phase Y.W. Zhang, H. Zeng, S. Yao and H. Song.....	1513
Synthesis and Characterization of Novel Poly (aryl ether sulfone ketone) S Containing M-Sulfonylbenzoyl Linkage in the Main Chains F. Ding, D.Z. Wang, S.Y. Zhang and T.X. Liu.....	1518
Study on Brain Fatigue Based on EEG Signals C.Y. Pang, C.H. Zhao and F.J. Xu.....	1523
Synthesis of 3-Methyl-1-[2-(1-Piperidiny) Phenyl]-butyl Amine H.X. Liu, D.W. Huang and Y. Zhang.....	1527
Effect of <i>MIG1</i> Gene Deletion on Glucose Repression in Baker's Yeast Y. Zhang, D.G. Xiao, C.Y. Zhang, X. Sun and M.Y. Wu.....	1531
The Flavor Property of Soft Cheese Fermented by Two Stains of <i>Streptococcus thermophilus</i> and Made of Reconstituted Milk Y.H. Li, L.W. Zhang, W.J. Wang, L.L. Zhang, X. Han and Y.H. Jiao.....	1536
Improvement of Cheese Produced by Reconstituted Milk Powder: Effects of <i>Streptococcus thermophilus</i> on the Texture and Microstructure W.J. Wang, L.W. Zhang, Y.H. Li, L.L. Zhang, X. Luo and S.M. Wang.....	1541

Study on the Structure and Performance of the Multi-Layer Filter Materials of Automobile Oil Filter Cartridge	
J.Y. Feng, J.C. Zhang, H. Zhang and D.X. Yang.....	1545
Synthesis and Infrared Spectrum Characterization of Phenylalanine Chelated Calcium Complex	
Y.Q. Wu, L.J. Weng, Y.Y. Han, X. Yang and D. Geng.....	1549
Conformational Changes of the Wild-Type hIAPP and the S20P Mutant in Water Revealed by Molecular Dynamics Simulations	
M. Wang and J.Y. Wang.....	1554
Catalytic Hydrothermal Depolymerization of DGEBA/EDA Epoxy Resin	
J.Q. Zhang, C. Song, J.H. Zu, H.B. Ding and W.Y. Deng.....	1558
Study on Water-Extracting Technology of β-Amylase from Sweet Potato	
J.L. Sun, X.H. Liang, Y.J. Jia, Y. Tang and Z.F. Guo	1563
Medicinal Constituents of <i>Rumex japonicus</i> Houtt. Prefractionation	
Y. Jiang, C. Diao, X. Fan, C.Y. Ma, S.J. Cheng and R. Wang	1567
Analysis of Volatile Compounds in Bean Sprout by Simultaneous Distillation Extraction and Gas Chromatography-Mass Spectrometry	
Y. Zuo, S. Ju, L.P. Liu, Y. Li and H. Xie.....	1570
Determination of Sugars in β-Amylase Hydrolysates by High Performance Liquid Chromatography	
X.H. Liang, B. Li, G. Li, Y. Tang and Z.F. Guo.....	1575
Extraction of Granular Insoluble Dietary Fiber from Apple-Roxburgh Rose Dregs	
G.Y. Zhao and L.Q. Jing	1579
Research on the Determination Method of Enzymatic Activity for β-Glucan Synthase (BGS)	
P. Li, W.G. Wang, Y.J. Cui, Y.L. Zhao and Y.N. Gu.....	1583
Study on Antioxidant Activity of Aqueous Extracts from Scum of Mixed Juice	
Y.Y. Pu, Q.S. Zou, Z.Y. Feng, A.G. Lu, Z. Han, Z.L. Yuan and S. Chen.....	1588
Recovery of Tea Polyphenols from Green Tea Waste by Liquid-Liquid Extraction	
Z.J. Li, Z. Wei, W. Xiao, J. Wang and F. Wu.....	1592
Qualitative and Quantitative Analysis of V-Type Amylose-Alcohol Complexes	
L.Z. Yang, X.X. Xiao, M.M. Zheng and Y.Q. Liu	1596
Isolation and Purification of a Hyperthermostable Superoxide Dismutase from <i>Thermus thermophilus</i> HB27 Using Two-Stage Ultrafiltration	
J.G. Liu, M.M. Yin, M. Wang, C.Z. Chen and H. Zhu	1601
Ethanol/Moisture Contents in Fermented Grains and their Effects on the Yield and Quality of Chinese Luzhou-Flavor Liquor	
H.L. Li, W.X. Huang, B. Yi, J. Yang and P. Yang	1605
Optimization of Fermentation Conditions for Synthesis Dextran by Biochemical Conversion	
M.Z. Liang, M. Li, L.H. Lan, T. Xie, L. Zhong and A.P. Liao.....	1611
Effect of Germination on the Bio-Functional Components in the Germ-Remaining Polished Rice	
X.H. Li, Y.L. Liu, J. Yu, F.X. Wang and J.H. Wang.....	1615
Effect of Plasma-Induced Polymerization on Contact Angle of Paper	
Z.P. Song, J.R. Li and H.N. Xiao.....	1619
Ultrasonic Degradation of Dextran in Aqueous Solution	
Q.S. Zou, Y.Y. Pu, S.X. Li, Q. Wang, X. Wang and S. Chen	1624
Preparation of γ-Aminobutyric Acid from Brown Rice in the Determination	
S.H. Li, L.J. Wang, T.P. Li, Z.L. Jang and J.W. Wang.....	1628
Preparation and Application of Polymer Dust Suppressants in Coal Transportation under Microwave Irradiation	
S.L. Lai, Q. Chai, B. Wang and N. Yang.....	1632
Effect of Two Mild Alkaline Oxidative Pretreatments of Rice Straw on Enzymatic Hydrolysis	
H.Y. Li, K.L. Huang, M. Jin, Q.Q. Wei and Z.G. Li	1636

Kinetic Study of Titanium-Modified Phenolic Resin Curing Process by DSC Analysis S.H. Shen, Y. Zhang and Y.J. Liu.....	1640
Antioxidant Properties of Cashew Apple Wine (CAW) Q.P. Zhong and Y.C. Li	1645
Effects of Milk Composition Proportioning on the Texture Properties of Rennet Gels Produced by Reconstituted Milk Powder W.J. Wang, L.W. Zhang, Y.H. Li, X. Han, R.B. Fan and L.L. Zhang.....	1652
Study on Screening of Glutathione over-Production Strain and its Fermentation Conditions J. Gang, L.F. Shan and H.Y. Bu.....	1657
Optimization of L-Arabinose Hydrolization from Corn Fibers Using Response Surface Methodology Z.S. Zhang, M. Zheng and H.F. Zou.....	1662
Synthesis of Super-High Molecular Weight Polyacrylamides and their Flocculation Properties Y.L. Sun, H.X. Du, H. Wang and Y.H. Huang	1667
The Distribution and Pasting Properties of Starches in Fresh Sweet Potato (<i>Ipomoea batatas Lam.</i>) Tuber Y.Z. Shi, F.H. Tian, J.H. Zhang, B.B. Zhang, W.N. Jin and Y.Y. Jia	1672
Metabonomics and the Research of Traditional Chinese Medicine Q. Guo, X.H. Qi and Y.P. Zhou.....	1676
Effect of Sulfate- and Carbonyl- Polysaccharides on Quality Characteristics of Tofu J.H. Zhu, X.Q. Yang and J.R. Qi	1680
Preparation of Controlled-Release Tablets of Sasanquasaponin X.Z. Liu, J.H. Yang, Z.F. Lai, L.L. Guo, L.L. Song and Y.Q. Bi.....	1684
Isothermal Crystallization Kinetics of Polypropylene and Hyperbranched Polyester Blends Q.C. Fan, F.H. Duan, H.B. Guo and T. Wu	1688
Analysis of Heavy Metals in Paper-Process Reconstituted Tobacco J. Liu, Y. Qiu and J. Wang.....	1692

Part 3

Chapter 8: Electrochemical Engineering

Epoxidation of Styrene with Molecular Oxygen on $\text{Co}_3\text{O}_4/\text{SiO}_2$ Catalyst Y.Y. Shen, M.Q. Zhu, J.P. Du, Y.Y. Yang and Y. Tang	1699
Synthesis of Triaxial LiFePO_4 Nanorod with Graphite through the Electrospinning Method Y.C. Ma, Y.B. Yang and Y.P. Xiong.....	1703
Studies on EDTA Recycling via Formation of EDTA Iron(III) Sodium Salt L. Wang, D. Weng, J.B. Wang, X.S. Chen and X.L. Xu	1707
Synthesis of Glycine Using Two-Step Reaction Approach in Alcohol and its Purification L.M. Yang, N.N. Jiang and Z.Y. Zhao.....	1711
Effects of Drip Fertigation Management on Nutrient Losses and Pear Production at Chongming Dongtan in Yangtze River Estuary, China X.Y. Qian, G.X. Shen, H.R. Gu, M. Pugliese and M.L. Gullino	1716
$\text{ZnO}/\text{ZnO}-\text{Bi}_2\text{O}_3$ Nanocomposite as an Anode Material for Ni-Zn Rechargeable Battery H. Huang, S.J. Gu, Y.P. Gan, X.Y. Tao and W.K. Zhang	1725
Electrochemical Reaction Mechanism of Tiron in Acidic Aqueous Solution Y. Xu, Y.H. Wen, J. Cheng, G.P. Cao and Y.S. Yang.....	1730

Electrochemical Corrosion Characteristic of Structured Low Carbon Steel DC04 and Stainless Steel 304 Sheets in Sodium Chloride Solution	
E. Kornienko, R. Ossenbrink and V. Michailov	1736
A Study of Bright Sn Electroplating Technology in Methanesulfonic Acid System	
H.T. Chu, J.Q. Zhang and M.Z. An	1744
One-Step Synthesis of Asphalt Based $\text{Li}_3\text{V}_2(\text{PO}_4)_3/\text{C}$ Nanocomposites as Cathode Materials for Lithium-Ion Batteries	
W.K. Zhang, B. Zhao, Y. Xia, X.Z. Zhou, H. Huang, H.J. Zeng, Y.P. Gan and X.Y. Tao	1748
Preparation and Characterization of a Novel Gel Polymer Membrane Based on a Tetra-Copolymer	
L. Zhang and S.C. Zhang	1755
Comparative Research on Properties of Trivalent and Hexavalent Passive Film on Galvanized Steel	
X.F. Guo, Y. Wang and H. Sun	1760
Investigation of Anticorrosive Trivalent-Chrome Coatings on 6063 Aluminum Alloy	
H.C. Yu, F.H. Lei, G.H. Deng and X.C. Tan	1764
The Preparation of Sugarcane Bagasse Microcrystalline Cellulose in Subcritical Water/CO_2	
K.L. Huang, B. Wang, X.Y. Peng, Z.F. Wang, K.X. Li, R. Wu and J.S. Wang	1769
Electrochemical Synthesis of Ferrate Using Iron with 3.3% Si Anode	
H.L. Shang, X.M. Sang, Z.F. Tian and Y.M. Tang	1773
Effects of Sulfate-Reducing Bacteria on the Corrosion of Q235	
F.S. Li, M.Z. An and D.X. Duan	1777
Novel Methods to Extract Vanadium from Vanadium Slag by Liquid Oxidation Technology	
H.B. Liu, B. Liu, L.J. Li, S.L. Zheng, H. Du, S.N. Wang, D.H. Chen, J. Qi and Y. Zhang	1786
Enhancing Current of Microbial Fuel Cell by Modifying Ionic Liquid-Doped Polyaniline Film onto Graphite Anode	
E.R. Zhang and Y.C. Zhang	1794
The Development of Nanosecond Pulse Power Supply of Electrochemical Micromachining	
H.B. Wang, Z.N. Guo, H.P. Luo, J.F. Liang and Z.P. Han	1799
Electrochemical Degradation of RDX in Aqueous Solution at Constructed Sb-Doped SnO_2 Anode	
Y. Chen, L. Hong, W. Shi, W.Q. Han and L.J. Wang	1803

Chapter 9: Green Chemical Process Technology

Numerical Integral in the Ideal Adsorbed Solution Theory	
Q.L. Feng, M.L. Lian, X.Q. Wang and P. Ning	1809
Evaluation and Optimization of Favorable Blocks for Coalbed Methane Exploration and Development in Jiaozuo Mining Area	
B.B. Gao, X.F. Mi and R.L. Zhang	1813
Study on Desorption of Ethanol-Loaded Activated Carbon by Microwave Irradiation under N_2 Condition	
Q.L. Feng, M.L. Lian, X.Q. Wang and P. Ning	1819
Study on Desorption of Ethanol-Loaded Activated Carbon by Microwave Irradiation under Vacuum Condition	
Q.L. Feng, M.L. Lian, L.Z. Ma, X.Q. Wang and P. Ning	1825
Preparation, Microstructure and Application of Sulfuric Acid Activated Fly Ash Photocatalyst	
M.D. Qiu, Y.Q. Zhai, G.Y. Bai and F. Peng	1832
Study on Resistance Characteristics for Small Gap Annular Channe	
D.L. Yi, D.Y. Feng and S.F. Yan	1837

The Influence of Hot Rolling Technological Parameters on Microstructure of Low Temperature Grain-Oriented Silicon Steel	
Y.L. Feng, X.J. Qi and M. Song	1841
Numerical Simulation of Cross-Flow Vacuum Membrane Distillation and Characteristics Analysis	
C. Li, B.A. Li and S.C. Wang	1846
Modification of Mesoporous $\text{CaZr}_4(\text{PO}_4)_6$ and its Acid Catalytic Performance	
T. Si and L.H. Zhu	1851
Intensity Analysis on Heat Transfer of the Jet Plug-in Hot Blast Furnace	
X.P. Wang, Y. Zhang, P. Li and Z.W. Zhang	1856
Preparation and Crystal Structure Nickel Acetate Tetrahydrate	
X.S. Tai	1860
Synthesis, Structure and Fluorescence Spectrum Studies of Bromocoumarin Derivants: $\text{C}_{19}\text{H}_{22}\text{BrNO}_6$	
Y. Wang, X.D. Liu and Z. Liu	1864
Highly Efficient, One-Pot, Solvent-Free Synthesis of Highly Substituted Imidazoles Using Molecular Iodine as Catalyst	
Y.M. Ren and C. Cai	1871
Synthesis, Characterization and Antimicrobial Activity of Bis-Acetylferrocene Schiff Base	
Y.T. Liu, H.L. Guo and D.W. Yin	1875
Study on Effective Storage Time of Constant Viscosity Natural Rubber	
B.L. Zhang, W.Y. Deng, H.H. Huang, L. Ding, Y.Z. Wang and P.Y. Wang	1879
Effects of Emulsifier Blends on Stability of Synthesized Emulsions Used in Automobile Filter Paper	
W.B. Liu, H.L. Jin, J.W. Liu and G. Yu	1885
Catalytic Oxidation of Benzyl Alcohol to Benzaldehyde with Fe/Cu-Cross-Linked Montmorillonite	
X.J. Zhang, H. Song, X.F. Guo and L.H. Jia	1891
Regulator Experiment of Lubricating Oil Reutilization of DongFeng 4B (DF4B) Type Locomotive	
C.Z. Wang and B.H. Wang	1895
Municipal River Sediment Remediation with Calcium Nitrate, Polyaluminium Chloride and Calcium Peroxide Compound	
J.J. Huang, Y.H. Li, J.M. Sun and N. Li	1899
Study on Culture Condition Optimization and Kinetics for Crude Oil Degrading Strain SY2	
Z.Y. Li and N. Liu	1905
Treatment of Polluted River Water Using Surface Flow Constructed Wetlands in Xinyi River Floodplain	
J.Q. Wu, M. Wang, J. Wu and H. Tang	1909
Electroless Plating of Gold by Using "Au—Amino Acid" Complex	
D.L. Li, J. Luo, L.L. Han, Y. Peng and D.Y. Zhong	1914
Photocatalytic Oxidation Degradation Behavior on Fracturing Wastewater in Oilfield	
L.P. Wan, Y.F. Meng, G. Li and H. Zhou	1918
Distribution of Several Microorganisms in Sediments from Baihua Lake	
W. Shen, J.W. Hu, L.Y. Fu and M. Jin	1923
Study on Sludge-Sump Oil Viscosity Reduction by Surface-Active Agents Emulsification	
Q.Q. Yang, X. Ma, X.W. Zhang, T.L. Li, Y.J. He and X.B. Guo	1928
Contrast Experimental Studies on Mesophilic and Thermophilic Anaerobic Digestion of Residual Activated Sludge	
G.D. Li and N. Li	1932

Cerium Chloride Catalyzed Reduction of Aromatic Esters to the Corresponding Alcohols with Sodium Borohydride in Water X. Zhu and Y.Y. Wei	1936
Synthesis and Application of Inorganic-Organic Hybrid Flocculant L. Li, G.H. Wang, W.B. Li, W.M. Liu, Q. Liu, S.Q. Yang, K. Chen, X.S. Wang and J. Li	1940
Study on Simultaneous Nitrification and Denitrification with Biofilm for Chemical Wastewater C.Y. He, Y. Xu, Y.Y. Chen, S. Yu and J.M. Liu	1944
Effect of Water-Saving Irrigation on CH₄ Emissions from Rice Fields D.X. Li	1950
Scaling Factors of ASP Flooding in Oilfield L.L. Yu, B.H. Wang and X.Y. Guan	1959
Influences of Thermophilic Sulfate-Reducing Bacteria on the Corrosion of Carbon Steel at Different Temperature S.H. Zhang, F. Kuang, J.Z. Zhang, X. Zhou, G.H. Lan and C.J. Zou	1963
Novel Brønsted-Acidic Ionic Liquids Based on Benzothiazolium Cations as Catalysts for the Acetalization Reactions X. Li, Y.Q. Gu, Y. Yang, H. Song and S. Yao	1969
Speciation Analysis of Heavy Metals in Electroplating Sludge and the Effect of Composting J.L. Yan, G.X. Quan and C. Ding	1975
Fermentation of Brewers' Spent Grain by Effective Microorganisms to Produce Proteins Feed C. Ding, Z.X. Li, B. Fang and J.L. Yan	1980
Disposal of Mixed-Organic Wastes by Continuous High-Temperature Composting F.W. Zhao, J.P. Liang, G.R. Wang and X.M. Li	1984
Operating Conditions and Kinetics of Wastewater Treatment in a Three-Phase Biological Fluidized Bed Reactor K. Hu, Z.Z. Li, Y. Guo and W.X. Huang	1989
Effect of SRT on Nitrogen and Phosphorus Removal in Modified Carrousel Oxidation Ditch Process L. Yu	1995
Apply Plant Fiber to Enrich the Microorganism for Degrading the Polycyclic Aromatic Hydrocarbons in Water Z.Q. Ma, W.D. Lu and S.Y. Wen	2002
Isolation and Characterization of a Safranin T Degrading Stain Y.P. Zheng, C. Wu and J.L. Ruan	2008
Application of Continuum Removal Method for Estimating Disease Severity Level of Wheat Powdery Mildew S.Z. Du, W.J. Huang, R.F. Wang, J.H. Luo, J.L. Zhao and L. Yuan	2012
Study on the Green Nitration of Toluene in a Microglass Reactor B.D. Li, J. Wu and X.M. Ma	2018
A Green Synthesis Technique of Bentazone without Discharging Waste Water X. Qi, Z.T. Fu, L. Li, X.M. Hu and H.B. Sun	2023
A Preliminary Study on the near Infrared Spectral Characteristics of Purchased Flue-Cured Tobacco Y. Zhang and L.Y. He	2027
Photocatalytic Reduction of CO₂ to Methanol Using the InVO₄-Based Photocatalysts Z.F. Jia, F.M. Wang, Y. Bai and N. Liu	2033
Supercritical Fluid Spray Dyeing: A New Method of Dyeing and Simulations of its Flow Field M.L. Wang, W.Q. Wang, Y.P. Qu, Y. Liu and Z.Y. Xu	2038
Study on ANAMMOX Treatment of Ammonium-Rich Wastewater Q.Y. Zhao and X.C. Wang	2044

Research on Treatment of Schoolyard Domestic Sewage with Accelerator for Biological Reaction	
L.H. Lan, P. Lan, T. Xie and A.P. Liao	2048
Effect of Enzymatic Extraction Treatment on Physicochemical Properties, Microstructure and Nutrient Composition of Tartary Buckwheat Bran: A New Source of Antioxidant Dietary Fiber	
X.L. Zhou, Y.F. Qian, Y.M. Zhou and R. Zhang.....	2052
Anaerobic Solid State Fermentation of Porcine Blood	
W.Y. Yu, L.J. Weng, Y.Y. Han, D. Geng and X. Yang.....	2060
Study on Optimization of Sugar Juice Clarification with Superfine Calcium Hydroxide	
W.D. Sun, W. Xie, R.Y. Zhu, L. Niu and J.W. Li	2066
Supercritical Carbon Dioxide Extraction of Volatile Compounds from Antarctic Krill (<i>Euphausia superba</i>)	
T. Weng, N.P. Tao, X.C. Wang and Y.Z. Jin.....	2074
 Chapter 10: Chemistry Science and Applied Chemistry	
The Effect of Microwave on the Physical and Chemical Properties of Cassava Starch	
P. Lan, D.X. Li, A.M. Chen, L.H. Lan, T. Xie and A.P. Liao	2083
Determination of Hydrargyrum and Arsenic in Tap Water of Chongqing University Town and Human Health Risk Assessment	
L.Y. Ren and G. Xu	2088
Preparation and Optimum Conditions of Polyamide Polyamine Compounds by Polycondensation	
H.X. Zhu, J. Chen, J.T. Tang, N.N. Xia, Y.H. Wang and S.F. Wang.....	2092
The Mixing Characteristics of Powder Injected through Top Lance in RH Degasser	
C.W. Du, H.L. Ma, L.Y. Li and X.L. Yin.....	2098
Synthesis and Crystal Structure of Copper (II) Complex Derived from N-(4,6-dimethylpyrimidin)-N'-(ethoxycarbonyl)thiourea	
Y.H. Ren, H.X. Ma, K.Z. Xu, J. Huang, D.B. Zhang and J.R. Song	2103
Effect Factors of Biodegradation on Phenanthrene by <i>Pseudomonas putida</i>	
Z.X. Han, Z. Meng and C.X. Lv	2107
Study of the Structure and First-Principles of Optical Properties for Alkali Metal (Li,Na,K) under High Pressure Physical Conditions	
Q. Wang, S.J. Wu, J.S. Fu, Y. Li and J.N. Liu.....	2111
The Influence of a Pharmaceutical Intermediate on BZ Oscillating Reaction	
M.L. Zhao, L.T. Wang and M.J. Song	2115
Study on the Surface Modification of Potassium Titanate Whisker	
S. Yun, Q.Q. Song, D.D. Gao, G.M. Qian and D.M. Zhao.....	2119
Reviews and Prospects of Structural Energy-Saving of Main Fan Diffuser	
H.Q. Wang, S.Q. Chen and Y.Q. Li.....	2127
The Distribution Characteristics of Fine Particles by Flow Cytometry in the Yangtze Estuary and the Adjacent East China Sea	
P.Y. Guo, S.X. Li, J.M. Wang and Q.H. Li	2133
Bis-Coumarins Bridged by Thiocarbazide as Novel Fluorescent Sensor for Fe³⁺	
W.H. Ma, Q. Xu, B. Song, W. Xia, H.Y. Han, C.H. Liang and L.W. Sun	2137
Residential Building Products Evaluation of Towns and Villages Based on Fuzzy Logic	
T.B. Liu, F.J. Luan and L.M. Sun	2141
Flame Retardancy and Mechanical Property of Bi-Layer Polypropylene Sheets with Flame Retardant Selective Distribution	
Y.Y. Xu, Z.H. Guo, Z.P. Fang and Y. Wu.....	2145

Study on Synthesis, Characterization and Photocatalytic Property of FeZrMo Heteropoly Salt with Keggin Structure Z.H. Zhang and F. Xue	2149
Time Response Analysis of Ag-Cs₂O Photoelectric Thin Film L.S. Zhang and H.X. Dai.....	2153
Magnetorheological Fluid Test and Application D.M. Zhao and X.P. Liu.....	2158
Practical Evaluation of Sulphur Contents in Diesel Fuel Used by Pakistani Industry for Steam and Power Generation and Establish Relationship between Theoretical and Observed SO_x Contents in Exhaust Emission A.N. Hadis, F.A. Qasm and S.J. Askari	2162
Evaluation Pattern of Irrigation Influence on Eco-Environment Based on Public Participation Z.M. Zhou	2166
Research on Isolation and Purification of Phenanthrene Z.Y. Liu, C.Y. Jin and D.H. Fan	2170
Numerical Study of Percolation Mechanism in Heavy-Oil, Unconsolidated Sandstone Reservoirs with Frac-Pack Wells X.B. Bian, S.C. Zhang, J.C. Zhang and H.M. Liang.....	2175
Nickel Ore and its Safe Shipment J. Shen	2183
TCF Short-Sequence Bleaching of Pinus Kesiya Pulp Made by Low-Temperature Kraft Pulping Y. Chen, J. He and H. Zhang	2188
Conversion of Chitosan to Facilitate Preparation of Chitosan Carboxylic Salt with Moisture Absorption-Retention Abilities B.F. Lin, W. Wang, Y.M. Li, X.Q. Liang and Y.M. Du.....	2193
The Adsorption Behavior of Reactive Dye on Magnetic Chitosan Coated Cotton Fibers X.M. He and K.L. Xie.....	2198
Synthesis and Characterization of Bowl-Shaped Liquid Crystals with a Core of Calix[6]arene D.S. Yao, F. Li, H.J. Wang, X.Y. Li, M. Tian, A.J. Zhou and J.S. Hu.....	2202
Vehicle Interior Low Frequency Noise Optimum Using Substructure Modal Synthesis Method E.B. Wang, H. Zhou, H.Q. Xu, F. Zhang and J. Wang.....	2206
Simulation Analysis of Slope Stability Based on Strength Reduction D.M. Zhang, H.F. He, J. Chen and Y.Z. Wang.....	2213
Synthesis of a New Photochromic Diarylethene Based on Isoxazol and Thiophene Ring for Optical Storage S.Q. Cui, Z.P. Tong and S.Z. Pu	2217
Desulfurization of Fuel Oils by Extraction with Ionic Liquids X.J. Yu, H.L. Hao, J. Zhang, G. Zheng and B.H. Yao.....	2221
Studies on the Coordination Reactions of Polyphenols and Vanadium (IV) Using pH-Potentiometry Z.Q. Gao, X.D. Cai, L.L. Cheng and K.C. Ling	2225
Research and Application of Thiocyanate-Selective Electrodes Based on Copper (II) Complex with Ethylene-Diamine-Bis-(Salicylaldehyde) Base as Carrier G. Xu, W.L. Dong and L.Y. Ren	2230
Heat Transfer Characteristics of an Array of Impinging Gaseous Slot Jets Z.L. Liu, C.B. Wu, X.J. Wang and Z.R. Zhang	2234
Research on Features Extraction of Magnetic Field Sensor Based on Kalman Filter J. Sun and W.G. Lin.....	2240
Study on Predictin of Surface Subsidence of an Extremely Shallow Large-Span Double-Arch Tunnel X.Z. Li, S.C. Li, S.C. Li, X.D. Feng, C. Yuan and W.T. Li.....	2245

Reaction Mechanism of 2-Propynyl-Aniline with Propyne Y.Q. Zhu	2249
Supercritical Carbon Dioxide Extraction of Carotenoids from Marigold Flower Using Orthogonal Test Design K.S. Zhang, Y.X. Ren, C. Huang, Y.Q. Tao and H. Zhao	2253
System Design of Comparison of Diesel Multiple Units (DMUs) Wearing Oil Ferrographic Analysis and Spectrometric Analysis B.H. Wang and C.Z. Wang	2256
Fatigue Test on Cold-Recycled Cement Stabilized Base Material H. Zhang, J. Ma, C. Liang and H.W. Liu	2260
Numerical Study on the Fluctuation of Free Surface in the Vacuum Vessel of RH-TB F.S. Qi, Y. Jiang, L. Yang, F. Wang and B.K. Li	2266
The Impact of Alkaline Additives on the Performance of Lubricating Oil F.S. Meng and W.W. Huang	2271
Comparison between Water Contents Reported and Actual Water Contents in High Speed Diesel Used for Industrial Power Generation in Pakistan to Establish Relationship between NO_x Reported and NO_x Observed in Industrial Emissions F.A. Qasmi, A.N. Hadis and S.J. Askari	2275
Synthesis of Potassium Ion Sieve Membrane by Secondary Growth Method L.H. Sun, J.S. Yuan, Y.P. Fu, J. Hou and K.X. Zhu	2279
Optimization of Supercritical CO₂ Extraction of <i>Hovenia dulcis</i> Thunb. Seed Oil by Orthogonal Test Methodology Q. Xia and X.Y. Jin	2285
Comparison of Classical and Operational Transfer Path Analysis in Vehicle NVH Improvement Y.X. Wu, H. Zhou and E.B. Wang	2289
Study on Removal of Phosphorus from Domestic Wastewater by Modified Fly Ash R.G. Wang	2294
FE Analysis of Reinforced Treatment of Abutment Foundation in Soft Soil M. Zhang and N. Peng	2300
Kinematics Automatic Design of Planar Linkage Mechanism Based on Genetic Program X.H. Luo and L.Z. Li	2305
The Micromorphology of Anionic Polyacrylamide Dispersions J. Lu, X.C. Fang, A.J. Wang, X.W. Zhang and B. Peng	2310
The I.C. Engine Test-Bed Laboratory Control System Designing S.H. Peng, Z.H. Wang, A.Y. Chen and Y. Wang	2314
Synthesis of Phenoxy Amide Derivatives H. Wang, D.Y. Jin, Z.Q. Yang, Y.H. Gao, J.W. Tao and L.H. Li	2318
Preparation and Microwave Absorption Properties of FeCoNi-EG Composites Obtained by Electroless Plating Process Y. Jia, H. Cui, Z.Y. Yu, H.S. Zhao and X.J. Wang	2322
Synthesis and Measurement of SnO₂@C/graphene Nanocomposite for Lithium Ion Batteries H.T. Wang, D.W. He, Y.S. Wang, H.P. Wu and J.G. Wang	2330
Modal Analysis of Bus Body Frame Based on ANSYS S.H. Peng, Y. Wang, X.L. Dai and J.P. Ji	2334
Synthesis, Characterization and Spectroscopic Properties of (2E,6E)-2,6-Bis(2,3,4-tri-methoxy-benzylidene)cyclohexanone X.C. Wei, Z.L. Liu, K. Zhang, Z.Y. Du and X. Zheng	2338
Synthesis and Characterization of Polysulfonyldiphenylene Phenylphosphonate with High Melting Range Z.W. Wang, H.D. Duan and Q. Yu	2342

Research on Crew Examination System Based on Web G.D. Gao, W.X. Zhang, G.Z. Yu and J.H. Sui.....	2346
Parameters Evaluation of Neutron Pinhole Imaging System Based on Geant4 M. Jiang, Z.Y. Fang and B.Q. Hu.....	2349
The Application of Improved Hill-Climbing in the Multiple Nonlinear Regression A.L. Li, H.P. Zhang, H. Du, Y. Li and H.X. Song.....	2353
Synthesis of a Novel Photochromic Diarylethene for Polarization Optical Recording T.F. Wang, G. Liu, W.J. Liu and S.Q. Cui.....	2357
Technique for Producing High Effective, Fast Modification and High Sr Content Al-Sr20 Master Alloy and its Application J.C. Chen, C.W. Liao and C.X. Pan.....	2361
Synthesis, Antioxidant and Antibacterial Activities of Salicylaldehyde Azine D.Q. Li, M.X. Tan and L. Jie.....	2366
Stability Analysis about Slope of Open Pit Mine Based on Fuzzy Synthetic Evaluation H.W. Ye, K. Wu and J. Wang.....	2370
General Performance of Sulfonic Group Modified Polycarboxylate-Type Superplasticizer Y.L. Sun, H. Wang, H.X. Du and Y.H. Huang.....	2375
Effect of Solvent Polarity Properties on the Selectivity and Activity for 3,4-Dichloronitrobenzene Hydrogenation over Pd/C Catalyst C.S. Lu, J.H. Lu, L. Ma, Q.F. Zhang and X.N. Li.....	2379
Adsorption of Malachite Green on Heishan Coal-Based Activated Carbon M.S. Tao, D.L. Yi, L. Wu, Z.H. Ouyang, H.M. Zhang, Q. Hua and G.F. Liu.....	2384
Adsorption of Cu(II) onto HNO₃-Modified Cedar Sawdust (<i>Cedrus deodara</i>): FTIR Analysis, Kinetics and Adsorption Isotherms Modeling H.M. Deng, Y.H. Cheng, X.Y. Chang, J. Gong, C.Q. Wu and T. Liu.....	2388
Study on Viscosity of Wasted Lube in Refining Filtration Production Process D.M. Zhao and X.P. Liu.....	2394
The Novel Preconcentration and Speciation of Polychlorinated Biphenyls from Fish Samples by GC-MS S.L. Zeng, N. Gan and Y.T. Cao.....	2398
The Influence of Crystal Seeds on the Particle Size Distribution of Hydrolysis Product of Titanyl Sulfate Q. Hua, L. Wu, D.L. Yi, Z.H. Ouyang, J. Wang, M. Li, J.H. Xu, H.M. Zhang and M.S. Tao.....	2402
Ionic Synergistic Inhibition between the Cationic Gemini Surfactant and Anionic Surfactant for Steel Corrosion in 1M Hydrochloric Acid Z. Chen, H.F. Gao and Y.Q. Wang.....	2406
Study on the Synthesis of Isoamyl Acetate Catalyzed by Strong Acidic Cation Exchange Resin P. Lan, L.H. Lan, T. Xie and A.P. Liao.....	2411
InCl₃: an Airstable and Water-Tolerant Catalyst for the Selective Synthesis of 5-Aryl Tetrazole H.B. Sun, W.L. Chen, Y.H. Sun, P. Qin and X. Qi.....	2416
Hydraulic Fracture Height Growth Containment by Artificial Barrier: Experimental Studies Y.Q. Hu, J.Z. Zhao and T. Lin.....	2420
The Task of Research on Trussed Type Machine Tool S.X. Yuan, D.D. Shen and X.L. Wen.....	2424
Synthesis and Properties of a Photochromic Switch W.J. Liu, W.P. Wang, C.B. Fan and G. Liu.....	2431
Arylamine Recognition of Photoresponsive AzoMolecular Tweezer Y. Peng.....	2434
Theoretical Study of the ¹CHBr + ³O₂ Reaction C.Y. Shi, Z.G. Zhan, X.Z. Liu, C.M. Ke and Z.S. Lv.....	2438

Adsorption of Two Heavy Metal Ions on Dry Garlic Stem N. Zhou, Z. Zhou, Y. Qin, C.J. Zeng and Z.Q. Huang.....	2443
Dynamics Automatic Design of Planar Linkage Mechanism Based on Genetic Program X.H. Luo and L.Z. Li	2447
Research Progress on Detection of Crystal Violet in Aquatic Products H.P. Xiao, S. Han and Z.Y. He	2452
Novel Chemoenzymatic Synthesis of Triblock Copolymer X.T. Liu and H.B. Fan	2459
Numerical Simulation and Mechanism Study of Two Level Partial Blocks Vibration Motor X.L. Yang, J.F. Liu and J.C. Zou	2463
Solid-State Photocycloaddition Reactions between Di-2-Pyrones Tethered by Arylalkyl Chain and Benzophenones W.D. Wang and T. Shimo.....	2467
Performance of Co-Donor Photovoltaic Devices Based on Graphene-Acceptor System J.G. Wang, Y.S. Wang, D.W. He, H.P. Wu, H.T. Wang, P. Zhou, Y.N. Zhang and M. Fu	2471
Convenient Synthesis and Characterization of Star-Shaped Dendrimers: 2,4,6-Trisubstituted 1,3,5-Triazine Derivatives Q. Meng, G.Y. Wu, Y. Shao and X.Q. Sun	2476
Ruthenium and Iron Carbonyl Clusters Catalyzed Reduction of N,N-dimethylbenzamide and N,N-diethyl-(3-methyl)benzamide B.H. Zhu, G.H. Xu and Z.W. Xia	2485
The Synthesis and Characterization of Potential Novel Active Compounds - 2-aminothiazole Derives Schiff Bases X.L. Zhang, H.X. Ouyang and Y.H. Ding	2489
The Fractal Characteristics of Wall Rock Crack in the Soft Rock Roadway and Study on Theory of Loose Ring X.D. Zhang, G. Feng and J.L. Xu	2494
Construction of a Novel Recombinant <i>Escherichia coli</i> Strain Capable of Producing 1,3-propanediol X.H. Qi, Q. Guo, Y.T. Wei, H. Xu and R.B. Huang.....	2499
Application of Gas Chromatography-Mass Spectrometry to Analysis Gasoline Residues S.J. Liu, C.Z. Zhao and L.L. Yu.....	2503
The Thermal Elastohydrodynamic Lubrication Analysis of Seawater-Lubricated Thordon Bearing L.J. Zhang and Y.Q. Wang	2507
Collision-Avoiding Aware Routing Based on Real-Time Hybrid Traffic Infomations J.M. Yu, X.Y. Yan, N. Xu and Y.W. Yang.....	2511
Removal of Agricultural Non-Point Source Pollutants by Ditch Wetlands of the Maixi River, Guizhou Province, China T. Lin, B.X. Zhang, P.H. Xia, W.J. Fu, L.Y. Fu and J.W. Hu	2515
Calculation on CO₂ Emission in Panzhihua Steel J. Qin, X. Xue and J. Deng.....	2521
Keyword Index.....	2527
Author Index.....	2545