

Table of Contents

Preface and Organizing Committee

Chapter 1: Materials Engineering and Industry

Prediction of the Deterioration Depth of Concrete by Accelerating Calcium Leaching Test A. Cheng, S.J. Chao, W.T. Lin and J.L. Chang	3
Factors Affecting the Performance of Molten Salt Heat Receiver P.J. Li, Y.T. Cheng and S. Liu	8
Expressions of Parts Information in Collaborative Design X.Z. Feng	14
Blue Fluorescent Quantum Dots-Based Probe for Detection of Influenza B Virus J.L. Wen, D.G. He and S.Q. Zhao	18
Propagation of SH Wave in Composites with Parallel Cylindrical Nanoholes F.W. Qiang, P.J. Wei and X.Q. Liu	23
Finite Element Simulation and Respond Surface Optimization on Stretch Bending of Square Tube Aluminum Profile K.F. Liang, Z.Z. Chen, S.M. Wang and J. Zheng	28
Classification of Fine Recycled Aggregate Used in Asphalt Concrete Y.H. Sun, S.P. Wu, J.Q. Zhu and J.J. Zhong	33
Texture Analysis of Turned Surface Images Using Grey Level Co-Occurrence Technique A. Datta, S. Dutta, S.K. Pal, R. Sen and S. Mukhopadhyay	38
Issues in Welding of HSLA Steels S. Jindal, R. Chhibber and N.P. Mehta	44
Selection and Application of Materials for Node Landscapes of Highway Exemplified by Northeast Area of China B. Wang and X.B. Meng	50
Buckling Analyses of the Antisymmetrical Composite Laminate Plate with a Crack from Circular Notch N. Hamani, D. Ouinas, N. Benderdouche and M. Sahnoun	56
A Study of Modification of Fly Ash and its Adsorption Effect on Cu²⁺ of Wastewater J.J. Song and L. Tu	62
Design of Surface Plates Flatness Detection System Based on Modbus Protocol X.J. Liu, B. Hu, J.X. An and L. Xing	67
The Meshless Reproducing Kernel Particle Method for Two-Dimensional Linear Hyperbolic Equations H.N. Sun and R.J. Cheng	73
Research on Biomimetic Preparation Technology Based on Surface Microstructure of Shell G.T. Xie, X.Q. Bai, H. Fan, S.M. Guo and H. Xie	77
Effect of Load Orientation on the Performance of an Inverted Three-Lobe Pressure dam Bearing N.K. Batra, G. Bhushan and N.P. Mehta	83
Effect of Al-5Ti-B Refiner on Microstructure of Al-5Cu Aluminum Alloy D.Q. Shi, Y. Shao, G.L. Gao, Z.W. Gao and X.D. Wang	89
Fault Diagnosis of Offshore Platforms Using the Local Mean Decomposition Method J.S. Lin	94
Influence of Al-10RE Modification on Microstructure and Mechanical Properties of ZL203 Aluminum Alloy D.Q. Shi, G.L. Gao, Z.W. Gao, Y.L. Wang and X.D. Wang	98
Using RS Technology to Estimate Net Primary Production of Rangeland Ecosystem in HulunBuir of China R.J. Wang and L.W. Yang	104
The Research of Livestock Carrying Capacity of Rangeland Ecosystem in HulunBuir R.J. Wang and L.W. Yang	110

Valuate of Soil Conservation of Grassland Ecosystem with GIS and Remote Sensing Technology	
R.J. Wang and L.W. Yang	115
The Mechanical Behavior of the Hybrid FRP Beam	
Y.F. Li and S.T. Kan	119
Research and Development of Continuous Quantitative Dispensing System	
L.W. Yan, T.F. Li, L.N. Zhao, W. Li, W. Du and J. Guo	125
The Effect of Anisotropic Surface Tension on Directional Solidification in the Extremely Short Wave Region	
M.W. Chen, X.F. Wang, Y.L. Wang and Z.D. Wang	130
Fabrication of the Composite Ceramic Material ACS	
D.M. Sun, C.H. Xu, L.B. Yang and J. Li	135
Preliminary Study on Inducing Incompact Callus of <i>Polygonum cuspidatum</i> Using the Medium with Perlite	
X.L. Li, D.D. Wang, J. Gao, X.H. Cui, J. Zhao, L.M. Zhang, W.Y. Gao and L. Xiao	140
Ethanol Production from Non-Detoxified Steam-Exploded Corn Stover Subsequent Enzymatic Hydrolysis by Two Toxin-Tolerant Yeast Strains	
X. Men, X.S. Yang and S. Tian	145
Synthesis and Purification of L-Phenylalanine Oligo-Peptides Assisted by Phosphorus Oxychloride	
M.X. Lv, L.M. Qiang, K. Lu and Y.Y. Yao	150
Study on Treatment Technology of Mature Landfill Leachate	
X. Bai, X.M. Hu, M.J. Shan, D.W. Pan, Y.Q. Wang and Y.L. Lv	155
Effect of <i>ilvBN</i> Overexpression on the Metabolic Flux Distributions in <i>Brevibacterium Flavum</i> XVO505	
N. Chen, Y.F. Qin, Q.Y. Xu and X.X. Xie	160

Chapter 2: Future Materials Technology and Biomedicine

Quantitative Structure-Activity Relationship Study of Radical Scavenging Peptides Based on Orac Method by Using Different Sets of Amino Acids Descriptor	
Y.W. Li and B. Li	169
Synthesis and Activity Determination of Angiotensin Converting Enzyme Inhibitors Derived from α_{s1}-Casein Protein	
Y.L. Ren, Y.J. Cong and C.S. Chen	180
Isolation and Characterization of Rice Prolamin	
X.X. Song, X.M. Zhao, Y.N. Li, X. Peng, S.H. Sun, T.C. Zhuang and L. Yang	187
Induction of Nitric Oxide Synthesis of a <i>Lactobacillus acidophilus</i> Strain in Human HepG2 Cells	
K. Chen, J.X. Li, X.G. Luo, X.H. Liao, J. Gao, X.M. Hu, N. Wang and T.C. Zhang	194
Radiation Protection of Carboxymethylation of an Acid Polysaccharides Extracted from <i>Auricularia Auricula</i> against Uvb <i>In Vitro</i>	
H. Zhang, Z.Y. Wang, Z.L. Fan, X. Yang, X. Wang and N. Zhang	199
Experimental Resarch of Destruction of Leukemia Tumor Cells HL60 by QDs-CdTe-Based PDT Combined with Antibiotics <i>In Vitro</i>	
J. Wang, L. Chen, F. Jiang and J.W. Xiong	205
Preparation of Mesoporous Bioglass Coated Zirconia Scaffold for Bone Tissue Engineering	
F. Lin, C. Yan, W. Zheng, W. Fan, C. Adam and A. Oloyede	209
Preliminary Research on Differentially Expressed Proteins in Hippocampus of Rats Induced by Chronic Immobilization Stress and the Effect of Xiaoyaosan	
M.J. Kou, D.C. He, P. Zhang, J.X. Chen, S.X. Wang, X. Zhao, M.H. Bai and X.L. Guo	216
Genistein and Cisplatin, Alone and in Combination, Suppress Growth of Human <i>Ovarian carcinoma</i> Cell Line SKOV₃	
L. Tang and L. Yu	222
Boron Trifluoride Etherate - A Mild and Inexpensive Reagent for Synthesis of Coumarin Derivatives under Solvent-Free Conditions	
G.J. Sun, Z.Y. Wang and M.H. Chen	228

Enology Characteristics of Yeasts <i>Saccharomyces cerevisiae</i> and <i>Hanseniaspora uvarum</i> Selected for Chinese Original Wine	
T.M. Liu, H.H. Wang, K. Wang, H. Wang, X.B. Zhao and Y.Q. Tang	233
Comparison of Enzymatic Hydrolysis of Leaves, Husks and Pith of Corn Stalk	
Y.F. Dong, J. Lu, H. Jin, R.F. Yang and T.F. Yin	240
Lipid Peroxidation and Gene Expression of Antioxidant Enzymes in Response to Polycyclic Musks in Earthworm <i>Eisenia fetida</i>	
C. Chen and Q.X. Zhou	245
Separation and Recovery of Copper (II), Nickel (II) from Simulated Plating Wastewater by Solvent Extraction Using Lix984	
L.Q. Li and H. Zhong	252
Self-Assembly Synthesis of L-Isoleucine Assisted by POCl₃	
D.X. Zhao, L. Ma and K. Lu	260
Identification of Self-Assembly Products of L-Valine Mediated by Phosphorus Trichloride by ESI Mass Spectrometry	
W.J. Zhao, L. Yang and K. Lu	263
Study on Influence Factors of Ammonia Oxidizing Bacterias Removing Nitrogen in Wastewater	
M.J. Shan, Y. Li, W.X. Peng, H.Y. Liu and X.Q. Chen	267
Isolation of <i>Bacillus megaterium</i> MPF-906 and its Fermentation Characterization of Reducing Nitrite	
Y. Zhang, P. Liu, P.F. Ma and J.S. Sun	272
Microbial Carbonate Mineralization as an Improvement Method for Durability of Concrete Structures	
P.H. Li and W.J. Qu	280
Synthesis of Yb/Er Doped NaYF₄ Nanoparticles with Intense Green up-Conversion Emission	
F.S. Li and Y. Chen	287
Preparation of Sea Buckthorn Oil-Plga Microspheres via the Emulsion-Solvent Evaporation Process Coupling Ultrasonic Treatment	
C.D. Li, L. Li, G.Q. Liu and L.J. Han	292
Radical Scavenging and Hypolipidemic Activity of Aqueous Extracts from Labadou (A Traditional Fermented Soybean Food of Southern China)	
B. Yu, Y. Lu, C.Y. Ma and C.Y. Tang	299
Mechanism Analysis of Indigenous Microbial Enhancement for Residue Oil Recovery	
F.C. Shu, Y.H. She, Z.L. Wang and S.Q. Kong	305
Optimization of the Medium Composition of <i>Lactobacillus Rhamnosa</i> NCU239	
T. Xiong, Y. Huang and M.Y. Xie	312
The Enhancement of Heavy Crude Oil Recovery Using Bacteria Degrading Polycyclic Aromatic Hydrocarbons	
Y.H. She, F.C. Shu, F. Zhang, Z.L. Wang, S.Q. Kong and L.J. Yu	320
Investigation of Indigenous Microbial Enhanced Oil Recovery in a Middle Salinity Petroleum Reservoir	
Y.H. She, F.C. Shu, Z.L. Wang and L.J. Yu	326
Screening of Actinomycetes with High Producing Xylanase	
Y.L. She, X.T. Li, B.G. Sun, Y.G. Lv and H.X. Song	332
The Properties of β-Glucans from Different Fractions of Hull-Less Barley	
X.L. Zheng, L.M. Li and Q. Wang	338
Properties of Arabinoxylans from Wheat Bran, Shorts and Flour	
X.L. Zheng, L.M. Li and Q. Wang	342
Extracts of Paris Polyphylla Smith Mitigates Oxidative Stress in Human Umbilical Vein Endothelial Cells Induced by Oxidized Low Density Lipoprotein	
L.L. Gao, F.R. Li, Y.H. Si and S.C. Qin	348
Pilot Scale Study on Biological Nutrient Removal and Membrane Fouling Alleviation in Combined Membrane Bioreactor for Municipal Wastewater Treatment	
S. Liu, J.F. Wang, B.Z. Wang, B. Wang and W. Wan	354
Effect of Municipal Wastewater Treatment by Biological - Ecological Filter (BEF)	
M.Y. Xing, Y.N. Lin, H. Wang, J. Yang and Z.D. Huang	361

Rapid Gene Cloning, Overexpression and Characterization of a Thermophilic Catalase in <i>E. coli</i>	
H. Luo, Y. Zhou, Y.H. Chang, L. Xiong and L.Z. Liu	367
Antifungal Activities of Four Cedar Foliage Oils to Wood Stain or Decay Fungi	
J. Wang, S.J. Li, C. Freitag, J.J. Morrell and J.J. Karchesy	375
Targeting Human Telomeric G-Quadruplex with Perfluoroalkyl Metal Phthalocyanine Derivatives	
L.N. Liu, Y.L. Wu, S.K. Jiang, T. Qiu, H.F. Zhang and W. Zhang	382
Inactivation of Algae with Multi-Needle Gas-Liquid Hybrid Discharge Reactor by Introducing Oxygen and Air	
N.N. Aye, B. Sun, X.M. Zhu, Z.Y. Gao, Y.J. Song and M. Sato	389
Study on the Treatment Effect of Ammonia in Landfill Leachate by Recirculation	
S. Liu, Z.B. Zhang, Y. Li and W.Y. Gao	396
Impact of Hemicellulose on Cellulose Simultaneous Saccharification and Fermentation	
X.H. Zhou, H. Chen and Z. Li	403
Design of a Portable Bioelectrical Impedance Measurement System	
Y. Lu, C.Y. Huo and A.J. He	409
Experimental Study on Ultra-Structure and Frictional Properties of <i>Zaocys Dhumnades</i>'s Ventral Scale	
Z.L. Zhang, J.N. Ding and J.C. Yang	415
Investigation on the Precocity of Regenerated Seedlings from Micro Tom	
Y. Xu, S.T. Jin, M.L. Zhao, W. Shi, Q.S. Liao and J.S. Chen	421
The Bioactivity of Essential Oil from <i>Ailanthus altissima</i> Swingle (Sapindales: Simaroubaceae) Bark on <i>Lasioderma serricorne</i> Fabricius (Coleoptera: Anobiidae)	
J.H. Lü and Y.L. Shi	428
Strategic Environmental Assessment and Research of Ecotourist Construction of Agricultural City-Taking the Green Agricultural City of Suihua as an Example	
J. Zhou, L.N. Chang and D. Gao	433
Experimental Study of Finding Best Way of Radiation Seeds with HVEF	
J. Hang, X. Chen and J.P. Xiong	440
Optimization of Overproducing S-Adenosyl-L-Methionine <i>Saccharomyces Cerevisiae</i> S-W55 Mutant Utilizing Unpolished Rice from Aging Paddy by Feeding L-Methionine	
W.J. Wang	445