

Table of Contents

Sponsors and Committees

Preface

I. Academic Frontiers

Adsorption Properties of Vermiculite for Simulative Radionuclide Sr W. Yang, T.J. Peng and Z. Miao	1
Adsorption Thermodynamics and Kinetics of Lipoic Acid on Three Types of Resin R.X. Wei, J.L. Chen and C.L. Yang	7
Chemical Reaction Characteristics of HDTMA⁺ Cations in Interlayer Space of Vermiculite Crystal Layers T.J. Peng, H.J. Sun, J.M. Sun and H.F. Liu	15
Complete Benzene Oxidation over Colloidal Gold Catalysts Supported on Nanostructure Zinc Oxide H.J. Wu, Q. Shuai, Z.L. Zhu and S.H. Hu	21
Composite Lithium Ionization for Natural MnO₂ Y.H. Cheng, G.C. Liang and L. Wang	29
Effect of Ion Migration of Multiple Copper-Zinc Alloy on the Crystal Structure of Calcium Carbonate Scale Y. Ding, J.P. Meng, X.H. Zhang, L.J. Wang and Q.G. Tang	35
Effect of Large Dose of Attapulgite on Animal Growth and Blood Microenvironment Q.G. Tang, S.Y. Shen, B.X. Teng, L.J. Wang and F. Wang	41
Effect of Surface Active Agent on Defibering for Sepiolite Fiber Bundles L.W. Li, Q.G. Tang, J.S. Liang, F. Wang and C.Y. Ren	49
Effect of Water Volume on the Growth of Silver Nanoparticles Promoted by Ultraviolet J. Chen and Y.L. Jin	55
Effects of Wastewater of Dyeing-Printing on the Combustion of Coal Powder Y.N. Wang and J.S. Liang	61
Electrodialytic Production of Hypophosphorous Acid with Six-Compartment Electrolytic Cell and Ti-PbO₂ Anode A.H. Guo, F.S. Wang and B.G. Zhang	67
Electronic Structures and Density of States of Borides AB(A=Zr,Hf,Nb and Ta) L.J. Han, Y.Q. Chai and C.Q. Jin	71
Environmental-Friendly Soy Protein Isolate/Poly (Vinyl Alcohol) Blend Packaging Films: Water Vapor Permeability J.F. Su, W.L. Xia, W. Li and K.M. Jin	75
Fabrication and Mechanical Properties of Double-Shell Thermal Energy Storage Microcapsules Applied as Environmental Temperature-Controlling Materials in Building J.F. Su, S.B. Wang and Z. Huang	81
Facile Fabrication of Taper-Like BiVO₄ Nanorods with High Photocatalytic Property under Sunlight Irradiation L.R. Hou and C.Z. Yuan	87
Immobilized Bio-Beads with Activated Carbon Fiber for Removal of Benzene X.L. Liu, L. Zhao, S.J. Liu and L.H. You	93
Inactivation of <i>Escherichia Coli</i> on Titanium Dioxide Photocatalysis Nanoparticles J. Wang, Z.J. Ji, Z.H. Shui, X.Y. Wang, N. Ding and H.J. Li	99
Influence of Doping on Structure and H₂ Sensitivity of Nano-SnO₂ H.F. Liu, T.J. Peng, H.J. Sun, L. Fan and B.G. Guo	105
Modification of Activated Carbon From Sewage Sludge to Improve Desulfurization With γ-Al₂O₃ X.D. Fan and X.K. Zhang	111
Nitrification in Vertical Flow Constructed Wetlands with Different Substrate and COD: N Ratio X.L. Han, R.T. Hai and W.X. Wang	117

Polyurethane MicroPCMs Containing N-Octadecane Applied in Building Materials Synthesized by Interfacial Polycondensation: Thermal Stability and Heat Absorption Simulation	
J.F. Su, S.B. Wang, Z. Huang and J.S. Liang	121
Preparation and Characterization of Al-Pillared Rectorite	
H.Y. Xu, A.H. Guo and X.T. Chen	129
Preparation and Characterization of $\text{Cu}_{1-x}\text{K}_x\text{Fe}_2\text{O}_4$ Fibers and the Catalytic Activity for Diesel Engine Exhaust Removal	
C.R. Gong, H.F. Chen, G.L. Fan, C.L. Song and G. Lv	135
Preparation and Characterization of Polyurethane Rigid Foam/Expanded Perlite Thermal Insulation Composites	
M.X. Ai, L.Q. Cao, X.L. Zhao, Z.Y. Xiang and X.Y. Guo	141
Preparation and Characterization of Tourmaline/TiO_2 Composite Particles Material	
N. Liang, H. Ding and Y.P. Zha	145
Preparation and Performance of $\text{Ag}^+ \text{-Zn}^{2+}$-Zeolite Antimicrobial and Antibacterial Plastic	
X. Xu, H. Ding and B.K. Wang	151
Preparation of Expanding Vermiculite by Chemical and Microwave Methods	
Z. Miao, T.J. Peng, Y.G. Xi and W. Yang	155
Preparation of Phase Change Building Materials	
H.J. Li, Z.J. Ji, Z.J. Xin and J. Wang	161
Preparation of Tourmaline Composite Materials and its Property of Far Infrared Radiance	
G. Xue, Y.Q. Wang, L. Zhang and X.F. Zhang	165
Preparation of Zn^{2+}/Stilbite Composite Particles Material and its Antibacterial Property	
H. Ding, X. Xu and N. Liang	171
Preparation, Swelling and Water-Retention Properties of Crosslinked Superabsorbent Hydrogels Based on Guar Gum	
W.B. Wang and A.Q. Wang	177
Production of Levulinic Acid from Cellulose Catalyzed by Environmental-Friendly Catalyst	
P. Wang, S.H. Zhan and H.B. Yu	183
Research on Superfine Wool Surface Texture Modified in Biochemistry	
Y. Ma, Q.S. Li, Y.B. Di and M. Zhang	189
Research Progress in Ionic Functional Materials Used for Energy Saving and Emission Reduction	
G.C. Liang, J.S. Liang, L.J. Wang and H.B. Zhang	197
Selective Permeability Mechanism of M Type K Channels	
Y.Z. Liu, H.L. An, J.W. Li, S.H. Zhang, Y. Zhan and H.L. Zhang	201
Serotype Identification and Drug Sensitive Test of the Pathogenic <i>Escherichia coli</i>	
T. Zhang, C.G. Wang, W. Han, D.B. Zhu, X.H. Zhao, H. Xin and X.H. Zhong	207
Surface Physicochemical Properties of Easy-Cleaning Ceramic	
L.J. Wang, J.S. Liang, W.B. Xu and X.H. Qin	215
Synthesis and Electrical Conductivity Measurement of Polyaniline / Vermiculite Nanocomposites	
H.J. Sun, Y. Liu, T.J. Peng, H.F. Liu and J.M. Sun	221
Synthesis and Swelling Behaviors of Poly (sodium acrylate)/Hydroxyapatite Superabsorbent Nanocomposites	
J.L. Wang, Y.A. Zheng and A.Q. Wang	227
Synthesis of Lithium Ion-Sieve with Fractional Steps	
Z.Y. Ji, J.S. Yuan and Y.H. Xie	233
Synthesis of Polyaniline Nanoparticles	
F. Li and X. Qin	237
Synthesis of the Novel Porous Carbon Nanotubes	
X. Qin and F. Li	241
Thermal Degradation Kinetics of Poly (vinyl chloride)	
B. Han, Y.L. Wu, G. Rui, W. Feng, Z. Chen and M.D. Yang	245
TiO_2 Supported on Crude Sepiolite by Liquid Phase Method	
X.Y. Wang, Z.J. Ji, J. Wang and H.J. Li	251

II. Testing Technology and Evaluation Method

A New Testing System for Air Ion: Static Ion Testing System J.M. Wang, Z.J. Ji and J. Wang	257
Evaluation of Energy Efficiency of Heat Emission Coating C.L. Dong, J.S. Liang, G. Xue and Y.Q. Wang	261
Evaluation of Healthy Living Water Z.Z. Jin and B. Hu	267
Evaluation Standards and the Distribution Concentration of Air Anion in Dalian, China M. Zhang, Q.S. Li, P. Yu, L.F. Chen, J. Jiao and M. Li	271
Prediction of Melting of Organic Phase Change Materials (PCMs) for Energy Storage with Simple Low Eutectic Systems L.R. Huang, M.X. Ai and L.L. Yang	277

III. University Education

Innovation of Thinking: From a Psychological Point of View G. Yao and Q.S. Li	283
Research and University Education in Ecological Environment Functional Materials in China J.S. Liang, L.J. Wang, Y. Ding and G.C. Liang	289
Research on Micro-Polymer Chemistry Experiment Teaching Q.S. Li, J. Liu and M.S. Xu	297
University Teaching of Effective Quality Engineering Based on the Compound Technological Talents Training Y. Ding, J.S. Liang and G.C. Liang	301