

# Table of Contents

## Preface and Program Committee

|  |     |
|--|-----|
| <b>A Review on the Synthesis and Controlled Release Properties of Novel Responsive Carrier</b><br>X.M. Zhu, T.T. Zhao and R. Huang   | 1   |
| <b>Poly Acrylic Acid Superabsorbent Hydrogel for Hygiene Materials</b><br>H.W. Cui, S.M. Wen, T.T. Zhuang, F.C. Bai and L. Yu  | 7   |
| <b>Dielectric Behavior of PVDF/PP-PT Nanocomposite Thin Films</b><br>T.T. Yu, Z.H. Ren, S.M. Yin, X. Yang, Y.F. Yu, X. Li, X. Wei, G. Xu, G. Shen and G.R. Han   | 11  |
| <b>A Review on the Glass Transition of Polymer on Surface and in the Thin Film</b><br>R. Huang   | 17  |
| <b>Synthesis and Applications of Gold Nanoparticles</b><br>T.T. Zhao, J.J. Lu and L.J. Tan   | 23  |
| <b>Study on Luminescent Properties of YAG:Ce<sup>3+</sup>, Gd<sup>3+</sup>/La<sup>3+</sup> Prepared by Co-Precipitation Method</b><br>R.F. Guan, Y.J. You, J. Song and G.H. Hou  | 29  |
| <b>Ag<sub>2</sub>S-Ag Nanorod as Multifunctional SERS Substrate for Degradation and Detection of Dye Molecules</b><br>W. Shi, J.Q. Lin, R. Chen, J. Wang and P. Lu   | 35  |
| <b>The Study on Evolutive Model of Heavy Metal Pollution in Urban Surface Soil and Design of Time-Series Database</b><br>Y.H. Yang, J.J. Lu and Y.X. Shi   | 39  |
| <b>Fill Sealing Material Removal in Electronic Components Using Laser Cutting</b><br>L.S. Song, X.N. Zhao and L.N. Wei   | 51  |
| <b>Chemo-Mechanical Grinding for K9 Optical Glass</b><br>H.Z. Dai, Z.H. Jiao, B. Wang and Z.J. Jin   | 57  |
| <b>Study on Preparation of a High-Strength and High-Toughness Low-Alloy Steel for Cross Member of Forklift Mask</b><br>S.Z. Yi, Y. Su, B. Wan and R. Wei   | 61  |
| <b>Casting Transformers APG Manufacturing Technology</b><br>X.L. Chen, H.W. Shi, X.G. Song, H.C. Wang and H. Gong  | 65  |
| <b>New High Strength and Heat Resistance Aluminum Alloy Material for Engine Cylinder Head</b><br>J.L. Li, Y. Su, T.D. Ma and Q. Wang   | 69  |
| <b>Study on the Relativity between Intrinsic Coercivity and Microstructure of the Nd-Fe-B Magnet Treated by the Optimized Aging Process</b><br>X. Ding, X.L. Wang, C.H. Si, L.N. Zhao, K.H. Ding, S.L. Cui, Y.C. Sun and M.S. Li | 73  |
| <b>An Association of Reaction Time with Bone Quantitative Ultrasound</b><br>J.F. Mao, Z.X. Mu and Y. Li  | 77  |
| <b>Antioxidant and Free Radical Scavenging Activities of Chitosan Materials</b><br>Q. Xu, T. Zhong and H.L. Li   | 81  |
| <b>Antioxidant and Free Radical Scavenging Activities of N-Modified Chitosans</b><br>Q. Xu, T. Zhong and H.L. Li   | 91  |
| <b>Comparison of Solvent-Casting and Melt-Compounding Blended Biomedical (Polylactide)-(Polyethylene Glycol) Mixture as Drug Carrier</b><br>H. Jiang, L.B. Wang, D.J. Xu and X.Y. Liu  | 99  |
| <b>Effect of the Nano-SiO<sub>2</sub> Particles in Gelatin and Chitosan Based Wound Dressing Materials on the Antimicrobial Effects</b><br>L.B. Wang, X.Y. Liu, J. Wei and H. Jiang  | 105 |