

ultrafiltration membrane materials, especially synthesize functional poly(aryl ether sulfone) ultrafiltration membrane materials.

- ✦ Skilled in design and preparation of Self-cleaning anti-fouling hybrid ultrafiltration membranes by surface modification of inorganic nanoparticles or by chemical bonding between inorganic nanoparticles and polymer matrix.
- ✦ Skilled in use of UV, FTIR, HPLC, TOC, IC, SEM, EDS, XRD, DSC, TGA, GPC and Universal Tester etc. Have the analysis and handling ability to experiment data.
- ✦ Have a good command of Windows, Office, Photoshop, ChemDraw, Origin and a variety of chemical software.

Lead of Research Projects

1. National Nature Science Foundation of China (51508078): Preparation and synergistic fouling resistant mechanism study of novel poly(arylene ether sulfone) ultrafiltration membrane (2016.01-2018.12);
2. Postdoctoral Science Foundation of China (2014M561274): The research of secondary effluent water advanced treatment process combining antifouling ultrafiltration membrane (2014.07-2015.12);
3. Jilin Provincial Department of Education Fund (2014B043): Anti fouling ultrafiltration Separation technology and its control principle for the water quality of reclaimed water (2014.01-2015.12);

Patents

1. Guibin Wang*, **Zhi Geng**, Yaning Lu, Binhong Yu, Shuling Zhang, Xu Jiang, A New Kind of Low Dielectric Constant POSS/Fluorine Containing Poly(aryl ether ketone) material and its preparation method, Chinese National Invention Patent, Patent No.: ZL 2013 1 0115390.2;

Publications

1. Ying Lu, Xue Yang, Xia Yang, Suiyi Zhu, Wei Fan, **Zhi Geng***, Synthesis and Properties of a Novel Poly(aryl ether ketone)s Containing Halogen Groups, Chemical Journal of Chinese Universities, 2015, 36(9): 1819-1824.
2. **Zhi Geng**, Yu Zhang, Xing Yuan, Mingxin Huo, Yahui Zhao, Ying Lu*, Qiu Yue,

Incorporation of Cu₂O nanocrystals into TiO₂ photonic crystal for enhanced UV-visible light driven photocatalysis, *Journal of Alloys and Compounds*, 2015, 644: 734-741.

3. **Zhi Geng**, Suiyi Zhu, Yang Yu, Ying Lu, Rao Lin, Shujun Guo, Dejun Bian, Xia Yang, Mingxin Huo and Hongliang Huo*, Novel Porous Polyethersulfone Beads as Matrix to Immobilize *Comamonas testosteroni* sp. bdq06 in Quinoline Biodegradation, *Chem. Res. Chin. Univ.*, 2015, 31(4): 645-650.
4. Suiyi Zhu, Dongfang Xu, Shuai Fang, **Zhi Geng***, Xia Yang, Sunlight-Responsive Ag₂S/Ag₃PO₄ Composite Preparation and Degradation of Salicylic Acid, *Chemical Journal of Chinese Universities*, 2014, 35(6): 1286-1292.
5. **Zhi Geng**, Mingxin Huo, Jianxin Mu, Shuling Zhang, Yaning Lu, Jiashuang Luan, Pengfei Huo, Yinlong Du and Guibin Wang*, Ultra low dielectric constant soluble polyhedral oligomeric silsesquioxane (POSS)-poly(aryl ether ketone) nanocomposites with excellent thermal and mechanical properties, *Journal of Materials Chemistry C*, 2014, 2: 1094-1103.
6. **Zhi Geng**, Yaning Lu, Shuling Zhang, Xu Jiang, Pengfei Huo, Jiashuang Luan, Guibin Wang*, Synthesis and Characterization of Novel Adamantane-based Co-poly(aryl ether ketone)s with Low Dielectric Constant, *Polymer International*, 2014, 63: 333-337.
7. **Zhi Geng**, Shuling Zhang, Jianxin Mu, Xu Jiang, Pengfei Huo, Yaning Lu, Jiashuang Luan, Guibin Wang*, Design and Preparation of Poly(aryl ether ketone)/Phosphotungstic Acid Composites with Low Dielectric Constant, *Journal of Applied Polymer Science*, 2013, 129: 3219-3225.
8. **Zhi Geng**, Jinyu Ba, Shuling Zhang, Jiashuang Luan, Xu Jiang, Pengfei Huo, Guibin Wang*, Ultra Low Dielectric Constant Hybrid Films via Side Chain Grafting Reaction of Poly(ether ether ketone) and Phosphotungstic Acid, *Journal of Materials Chemistry*, 2012, 22: 23534–23540.
9. **Zhi Geng**, Xiaoliang Zhu, Shuling Zhang, Xiao Liu, Guibin Wang*, Synthesis and Characterization of Soluble Low-κ Poly (aryl ether ketone) Copolymers with Pendent Adamantyl Groups, *High Performance Polymers*, 2010, 22: 779-798.
10. Xu Jiang, Yunliang Guo, **Zhi Geng**, Pengfei Huo, Yinlong Du, Yan Liu, Shuling

- Zhang, Guibin Wang*, Transparent CdTe/Py-PAEK Microspheres/SPEEK Nanocomposite Films with UV-Full-Shielding Property, *Materials Letters*, 2012, 89: 305-308.
11. Jinyu Ba, Guibin Wang, **Zhi Geng**, Jianxin Mu*, Soluble Low- κ Poly (aryl ether ketone) Copolymers Containing Pendant Adamantyl Group and Long Aliphatic Side Chains, *Journal of Applied Polymer Science*, 2013, 1: 193-200.
 12. Jiashuang Luan, Shuling Zhang, **Zhi Geng**, Guibin Wang*, Influence of the Addition of Lubricant on the Properties of Poly(ether ether ketone) Fibers, *Polymer Engineering & Science*, 2013, 53(10): 2254-2260.
 13. Jiannan Ren, Shuling Zhang, Qinhong Wang, **Zhi Geng**, Guibin Wang*, Novel Hybrid Acid-Base Membranes Based on Sulfonated Poly(arylene ether sulfone) Tetraethoxysilane and (3-Aminopropyl)triethoxysilane for Fuel Cell Application, *High Performace Polymers*, 2012, 25: 188–197.
 14. Jiashuang Luan, Shuling Zhang, Mei Zhang, **Zhi Geng**, Yang Wang, Guibin Wang* Preparation and Characterization of High-performance Poly(ether ether ketone) Fibers with Improved Spinnability Based on Thermotropic Liquid Crystalline Poly(aryl ether ketone) Copolymer, *Journal of Applied Polymer Science*, 2013, 130(2): 1406-1414.
 15. Yang Liu, Shuling Zhang, Zheng Zhou, Jiannan Ren, **Zhi Geng**, Jiashuang Luan, Guibin Wang*, Novel Sulfonated Thin-film Composite Nanofiltration Membranes with Improved Water Flux for Treatment of Dye Solutions, *Journal of Membrane Science*, 2012, 395: 218-229.