Curriculum Vitae

Jun MAO

RESEARCH BACKGROUND

- Synthesis and Micellar Behaviors of Stimuli-Responsive Block Copolymers
- Synthesis of High-Quality Inorganic Nanocrystals under Mild Conditions
- Interactions between Block Copolymers and Nanoparticles

EDUCATION & RESEARCH EXPERIENCE

2014.02 – Now: Postdoctoral Researcher in Prof. Matthew Tirrell's group at Institute for Molecular Engineering, University of Chicago

2011.07 – 2014.01: Assistant Professor in Prof. Xiangling Ji's group at Changchun Institute of Applied Chemistry, Changchun, Jilin, China

- Mechanism and Process Control of Nanoparticle-Block Copolymer Hybrids

2004.09 - 2011.06: M. Sc. & Ph. D., at Changchun Institute of Applied Chemistry, Changchun, Jilin, China

Advisor: Prof. Xiangling Ji and Prof. Shuqin Bo

Thesis: *Synthesis and Micellar Behavior of Biocompatible Block Polyelectrolyte*

- Synthesis of High-Quality Inorganic Nanocrystals: including Semiconductor and Metal Oxide Nanoparticles
- Synthesis of Biocompatible Block Polyelectrolyte: using Ring Opening Polymerization (ROP) and Atom Transfer Radical Polymerization (ATRP) combined
- pH/Temperature-Responsive Behaviors of Block Polyelectrolyte Micelles: using Static and Dynamic Laser Light Scattering (SLS and DLS)

2000.09 - 2004.07: B. S., at College of Chemistry and Molecular Science, Wuhan University, Wuhan, Hubei, China

Graduate Advisor: Prof. Lina Zhang

Thesis: *Solution Behavior of Five Derivatives of a β-Glucan Isolated From Poria Cocos Sclerotium*

Basic trainings on Polymer Solutions:

- Progressive Precipitation Seperation of Five Derivatives of a *β*-Glucan
- Scaling Relations from Mark - Houwink Equation: Using Ubbelohde Viscometer and Gel Permeation Chromatography (GPC)

PUBLICATIONS

1. **Jun Mao**, Xiangling Ji, Shuqin Bo. *Synthesis and pH/Temperature-Responsive Behavior of PLLA-b-PDMAEMA Block Polyelectrolytes Prepared via ROP and ATRP*. **Macromol. Chem. & Phys.** 2011, *212*, 744.
2. **Jun Mao**, Shuqin Bo, Xiangling Ji. *pH/Temperature-Responsive Behavior of Amphiphilic Block Copolymer Micelles Prepared Using Two Different Methods.* **Langmuir** 2011, *27*, 7385.
3. **Jun Mao**, Shuqin Bo, Xiangling Ji. *Enzymatic Degradation of Biocompatible Block Polyelectrolyte Micelles in Aqueous Solutions.* **Chem. J. Chin. Univ.-Chin.** 2012, *33*, 2099.
4. Zhixin Dong, **Jun Mao**, Muquan Yang, Dapeng Wang, Shuqin Bo and Xiangling Ji. *Phase Behavior of Poly(Sulfobetaine Methacrylate)-Grafted Silica Nanoparticles and Their Stability in Protein Solutions.* **Langmuir** 2011, *27*, 15282.
5. Muquan Yang, **Jun Mao**, Wei Nie, Zhixin Dong, Dapeng Wang, Ziliang Zhao and Xiangling Ji. *Facile Synthesis and Responsive Behavior of PDMS-b-PEG Diblock Copolymer Brushes via Photoinitiated "Thiol-Ene" Click Reaction.* **J. Polym. Sci. Part A: Polym. Chem.** 2012, *50*, 2075.
6. Muquan Yang, **Jun Mao**, Zhixin Dong, Dapeng Wang, and Xiangling Ji. *Synthesis and Responsive Behavior of Amphiphilic PS-b-PEG Diblock Copolymer Brushes*. **Chem. J. Chin. Univ.-Chin.** 2012, *33*, 2816.
7. Nana Zhao, Wei Nie, **Jun Mao**, Muquan Yang, Dapeng Wang, Yuhan Lin, Yandi Fan, Ziliang Zhao, Hua Wei and Xiangling Ji. *A General Synthesis of*

High-Quality Inorganic Nanocrystals via a Two-Phase Method. **Small** 2010, *6*, 2558.

8. Zhixin Dong, Hua Wei, **Jun Mao**, Dapeng Wang, Muquan Yang, Shuqin Bo and Xiangling Ji. *Synthesis and Responsive Behavior of Poly(N,N-Dimethylaminoethyl Methacrylate) Brushes Grafted on Silica Nanoparticles and Their Quaternized Derivatives.* **Polymer** 2012, *53*, 2074.
9. Nana Zhao, Wei Nie, **Jun Mao**, Weicai Wang and Xiangling Ji. *Synthesis and Properties of Bifunctional Magnetic-Optical Nanomaterials: Fe_2O_3@PDMAEMA-Capped II-VI Semiconductor Quantum Dots Nanocomposites*. **Chin. J. Polym. Sci.** 2013, *31*, 1233.

AUTHORIZED PATENTS

1. **Jun Mao**, Xiangling Ji, "*Preparation of a Block Polyelectrolyte*". CN Patent, ZL 201010185253.2
2. Wei Nie, **Jun Mao**, Nana Zhao, Yandi Fan, Haidong Li, Xiangling Ji. "*Preparation of Water-Soluble PbSe Nanomaterials*". CN Patent, ZL 200510119122.3
3. Nana Zhao, **Jun Mao**, Wei Nie, Yandi Fan, Haidong Li, Qinghui Liu, Xiangling Ji. "*Preparation of Core-Shell Fe_2O_3 Nanoparticles*". CN Patent, ZL 200910250083.9

CONFERENCE PRESENTATION

1. Jun Mao, Xiangling Ji, Shuqin Bo. *Synthesis and Characterization of Biodegradable Diblock Polyelectrolyte PLLA-b-PDMAEMA.* **International Symposium on Polymer Physics**, Xiamen, China, 2008. (Poster presentation)
2. Jun Mao, Shuqin Bo, Xiangling Ji. *pH/Temperature-Responsive Behavior of Amphiphilic Block Copolymer Micelles Prepared Using Two Different Methods.* **China-Korea Bilateral Symposium on Polymer Materials**, Weihai, China, 2011. (Poster presentation)