

Department: School of Materials Science and Engineering

Professional field: Materials science and engineering,
polymer chemistry and physics, organic chemistry

E-mail: hagemhsn@ecust.edu.cn

Profile

Professor, 01/07-present, East China University of Science and Technology, China

Postdoctoral Researcher, 01/02-07/06, Department of Chemistry, University of North Carolina at Chapel Hill, USA (with Prof. Wenbin Lin)

Research Associate, 07/01-01/02, The State Key Laboratory of Elemento-Organic Chemistry, Nankai University, China

Ph. D., 09/96-07/01, Department of Chemistry, Nankai University, China (Supervisor: Prof. Jitao Wang)

B. S., 09/92-07/96, Department of Chemistry, Nankai University, China

Research Field

New polymerization methods development

Synthesis of specially functionalized monomers

Synthesis of stimuli-responsive polymeric nanocomposites

Nanostructured carbon materials for energy harvest and storage

Research results and selected published papers

- Deng, Sheng; Zhi, Jian; Zhang, Xianmei; Wu, Qingqing; Ding, Yun; Hu, Aiguo*. "Size-Controlled Synthesis of Conjugated Polymer Nanoparticles in Confined Nanoreactors". *Angew. Chem. Int. Ed.* 2014, 53(51), 14144-14148.
- Chen, Yingying; Zhu, Qin; Cui, Xinghui; Tang, Weijun; Yang, Heng; Yuan, Yuan; Hu, Aiguo*. "Preparation of Highly Efficient MRI Contrast Agents through Complexation of Cationic GdIII-Containing Metallosurfactant with Biocompatible Polyelectrolytes". *Chem. Eur. J.* 2014, 20, 12477-12482.
- Zhi, Jian; Wang, Youfu; Deng, Sheng; Hu, Aiguo*. "Study on the Relation between Pore Size and Supercapacitance in Mesoporous Carbon Electrodes with Silica-Supported Carbon Nanomembranes". *RSC Adv.* 2014, 4, 40296-40300.
- Wang, Youfu; Hu, Aiguo*. "Carbon quantum dots: synthesis, properties and applications". *J. Mater. Chem.* 2014, 2, 6921-6939.
- Wang, Youfu; Xiong, Rulin; Dong, Luhua; Hu, Aiguo*. "Synthesis of carbon nanomembranes through cross-linking of phenyl self-assembled monolayers for electrode materials in supercapacitors". *J. Mater. Chem.* 2014, 2, 5212-5217.
- Sun, Shiyuan; Zhu, Chuanchuan; Song, Depeng; Li, Fei; Hu, Aiguo*. "Preparation of Conjugated Polyphenylenes from Maleimide-Based Eneidyne through Thermal-Triggered Bergman Cyclization Polymerization". *Polym. Chem.* 2014, 5, 1241-1247.
- Tan, Qinggang; Zhang, Chi; Wang, Ning; Zhu, Xiujuan; Sun, Qiang; Jacobsen, Mikkel F.; Gothelf, Kurt V.; Besenbacher, Flemming; Hu, Aiguo*; Xu, Wei*. "Tailoring on-surface supramolecular architectures based on adenine directed self-assembly". *Chem. Commun.* 2014, 50, 356-358.
- Wang, Youfu; Dong, Luhua; Xiong, Rulin; Hu, Aiguo*. "Practical Access to Bandgap-Like N-Doped Carbon Dots with Dual Emission Unzipped from PAN@PMMA Core-Shell Nanoparticles". *J. Mater. Chem.* 2013, 1, 7731-7735.
- Chen, Yingying; Yang, Heng; Tang, Weijun; Cui, Xinhui; Wang, Wei; Chen, Xiangyu; Yuan, Yuan*; Hu, Aiguo*. "Attaching Double Chain Cationic Gd(III)-Containing Surfactants on Nanosized Colloids for Highly Efficient MRI Contrast Agents". *J. Mater. Chem.* 2013, 1, 5443-5449.
- Sheng, Kai; Kong, Huihui; Li, Zhiwen; Zhang, Chi; Sun, Qiang; Tan, Qinggang; Pan, Yunxiang; Hu, Aiguo*; Xu, Wei*. "Atomic-Scale Probing the Priority of Oxidation Sites of an Organic Molecule Adsorbed at the Cu-O/Cu(110) Interface". *ChemCatChem* 2013, 5, 2662-2666.
- Sun, Qiang; Zhang, Chi; Li, Zhiwen; Kong, Huihui; Tan, Qinggang; Hu, Aiguo*; Xu, Wei*. "On-Surface Formation of One-Dimensional Polyphenylene through Bergman Cyclization". *J. Am. Chem. Soc.* 2013, 135, 8448-8451.
- Zhu, Benchuan; Sun, Shiyuan; Wang, Youfu; Deng, Sheng; Qian, Guannan; Wang, Meng; Hu, Aiguo*. "Preparation of Carbon Nanodots from Single Chain Polymeric Nanoparticles and Theoretical Investigation of the Photoluminescence Mechanism". *J. Mater. Chem.* 2013, 1, 580-586. (ESI highly cited paper) (most accessed article 2013, <http://rsc.li/1c6boBj>)
- Zhi, Jian; Deng, Sheng; Zhang, Yuxuan; Wang, Youfu; Hu, Aiguo*. "Embedding Co3O4 Nanoparticles in SBA-15 Supported Carbon Nanomembrane for Advanced Supercapacitor Materials". *J. Mater. Chem.* 2013, 1, 3171-3176.
- Li, Zhiwen; Zhu, Xiujuan; Chen, Shudan; Hu, Aiguo*. "Coating Magnetite Nanoparticles with a Polyaryl Monolayer through Bergman Cyclization-Mediated Polymerization". *Chem. Asian J.* 2013, 8, 560-563.
- Dong, Liang; Sun, Qiang; Zhang, Chi; Li, Zhiwen; Sheng, Kai; Kong, Huihui; Tan, Qinggang; Pan, Yunxiang; Hu, Aiguo*; Xu, Wei*. "A Self-Assembled Molecular Nanostructure for Trapping the Native Adatoms On Cu(110)". *Chem. Commun.* 2013, 49, 1735-1737.
- Ma, Xiaowei; Li, Fei; Wang, Youfu; Hu, Aiguo*. "Functionalization of Pristine Graphene with Conjugated Polymers through Diradical Addition and Propagation". *Chem. Asian J.* 2012, 7, 2547-2550.
- Qian, Guannan; Zhu, Benchuan; Wang, Youfu; Deng, Sheng; Hu, Aiguo*. "Size-Tunable Polymeric Nanoreactors for One-Pot Synthesis and Encapsulation of Quantum Dots". *Macromol. Rapid Commun.* 2012, 33, 1393-1398.
- Zhi, Jian; Xiao, Yuli; Hu, Aiguo*. "Synthesis of Thiol-Containing Amino Acids through Alkylation of Glycinate Ketamine". *Synth. Commun.* 2012, 42, 914-920.
- Zhu, Benchuan; Qian, Guannan; Xiao, Yuli; Deng, Sheng; Wang, Meng; Hu, Aiguo*. "A Convergence of Photo-Bergman Cyclization and Intramolecular Chain Collapse towards Polymeric Nanoparticles". *J. Polym. Sci.: Polym. Chem.* 2011, 49, 5330-5338.
- Zhi, Jian; Song, Depeng; Li, Zhiwen; Lei, Xia; Hu, Aiguo*. "Palladium Nanoparticles in Carbon Thin Film Lined SBA-15 Nanoreactors: Efficient Heterogeneous Catalysts for Suzuki-Miyaura Cross Coupling Reaction in Aqueous Media". *Chem. Commun.* 2011, 10707-10709.
- Xiao, Yuli; Hu, Aiguo*. "Bergman Cyclization in Polymer Chemistry and Material Science". *Macromol. Rapid Commun.* 2011, 32, 1688-1698.
- Ma, Jianguo; Deng, Sheng; Cheng, Xin; Wei, Wei; Hu, Aiguo*. "Covalent Surface Functionalization of Multiwalled Carbon Nanotubes through Bergman Cyclization of Eneidyne-Containing Dendrimers". *J. Polym. Sci.: Polym. Chem.* 2011, 49, 3951-3959.
- Li, Zhiwen; Song, Depeng; Zhi, Jian; Hu, Aiguo*. "Synthesis of Ultrathin Ordered Porous Carbon through Bergman Cyclization of Eneidyne Self-Assembled Monolayers on Silica Nanoparticles". *J. Phys. Chem. C*, 2011, 115(32), 15829-15833.
- Gong, Pei; Chen, Zhengyan; Chen, Yingying; Wang, Wei; Wang, Xiaosong*; Hu, Aiguo*. "High-Relaxivity MRI Contrast Agents Prepared from Miniemulsion Polymerization Using Gadolinium(III)-Based Metallosurfactants". *Chem. Commun.* 2011, 47(14), 4240-4242.
- Zhu, Benchuan; Ma, Jianguo; Li, Zhiwen; Hou, Jing; Cheng, Xin; Qian, Guannan; Liu, Pai; Hu, Aiguo*. "Formation of Polymeric Nanoparticles via Bergman Cyclization Mediated Intramolecular Chain Collapse". *J. Mater. Chem.* 2011, 21(8), 2679-2683.
- Ma, Jianguo; Ma, Xiaowei; Deng, Sheng; Li, Fei; Hu, Aiguo*. "Synthesis of Dendronized Polymers through Bergman Cyclization of Eneidyne-Containing Frechet Type Dendrimers". *J. Polym. Sci.: Polym. Chem.* 2011, 49, 1368-1375.
- Ma, Jianguo; Cheng, Xin; Ma, Xiaowei; Deng, Sheng; Hu, Aiguo*. "Functionalization of Multiwalled Carbon Nanotubes with Polyesters via Bergman Cyclization and "Grafting From" Strategy". *J. Polym. Sci.: Polym. Chem.* 2010, 48, 5541-5548.
- Yang, Xi; Li, Zhiwen; Zhi, Jian; Ma, Jianguo; Hu, Aiguo*. "Synthesis of Ultrathin Mesoporous Carbon through Bergman Cyclization of Eneidyne Self-Assembled Monolayers in SBA-15". *Langmuir*, 2010, 26, 11244-11248.
- Miao, Changcheng; Zhi, Jian; Sun, Shiyuan; Yang, Xi; Hu, Aiguo*. "Formation of Conjugated Polynaphthalene via Bergman Cyclization". *J. Polym. Sci.: Polym. Chem.* 2010, 48, 2187-2193.
- Cheng, Xin; Ma, Jianguo; Zhi, Jian; Yang, Xi; Hu, Aiguo*. "Synthesis of Novel "Rod-Coil" Brush Polymers with Conjugated Backbones through Bergman Cyclization". *Macromolecules* 2010, 43, 909-913. Highlighted in ACS "Noteworthy Chemistry", Feb. 22nd, 2010