



Department: School of Chemical Engineering
Professional field: Chemical Engineering and Technology
E-mail: liutao@ecust.edu.cn

Profile

Education

School of Chemical Engineering, East China University of Science and Technology, Ph.D. in chemical engineering, 1999.9-2002.7;

School of Chemical Engineering, East China University of Science and Technology, M. Eng. in chemical engineering, 1996.9-1999.7;

School of Chemical Engineering, East China University of Science and Technology, B. Eng. in chemical engineering, 1992.9-1996.7.

Academic Experience

2012.09-present, School of Chemical Engineering, ECUST, Professor. Take a course of "Chemical Reaction Engineering" for undergraduate students majoring in chemical engineering every year and a course of "Chemical Reaction Engineering: beyond the fundamentals" in English for graduate student majoring in chemical engineering in recent 3 years.

2006.09-2012.08, School of Chemical Engineering, ECUST, Associate Professor. Take a course of "Chemical Reaction Engineering" for undergraduate students majoring in chemical engineering every year.

2005.09-2006.08, école Polytech' Lille in France, postdoctoral research for biosurfactant.

2004.09-2006.08, School of Chemical Engineering, ECUST, Associate Professor. Take a selective course of "Supercritical Fluid Technology" for undergraduate students.

2002.09 – 2004.08, School of Chemical Engineering, ECUST, Assistant Research Fellow.

Research Field

1. Construction Mechanism and application of green polymer / CO₂ solution system
2. Basic engineering research on supercritical fluid foamed polymer

Research results and selected published papers

- (1)Lei Bao, Shuyi Fang, Dongdong Hu, Yuan Zong, Ling Zhao, Weikang Yuan, Tao Liu*. Stabilization of CO₂-in-water emulsions by nonfluorinated surfactants with enhanced CO₂-philic tails. *The Journal of Supercritical Fluids*, 2018, 133, 163–170.
- (2)Menglong Xu, Haichao Yan, Quanjin He, Chen Wan, Tao Liu*, Ling Zhao, Chul B. Park. Chain extension of polyamide 6 using multifunctional chain extenders and reactive extrusion for melt foaming. *European Polymer Journal*, 2017, 96, 210–220.
- (3)Chen Wan, Yiquan Lu, Tao Liu,* Ling Zhao, and Weikang Yuan. Foaming of Low Density Polyethylene with Carbon Dioxide Based on Its in Situ Crystallization Behavior Characterized by High-Pressure Rheometer. *Industrial & Engineering Chemistry Research*, 2017, 56, 10702–10710.
- (4)Lei Bao, Shuyi Fang, Dongdong Hu, Ling Zhao, Weikang Yuan, Tao Liu*. Enhancement of the CO₂-philicity of poly(vinyl ester)s by end-group modification with branched chains. *Journal of Supercritical Fluids*, 2017, 127: 129-136.
- (5)Chen Wan, Gangwei Sun, Tao Liu , Mohamed Esseghir , Ling Zhao, Weikang Yuan. Rheological properties of HDPE and LDPE at the low-frequency range under supercritical CO₂. *Journal of Supercritical Fluids*, 2017, 123: 67-75.
- (6)Chen Wan, Gangwei Sun, Feng Gao, Tao Liu , Mohamed Esseghir , Ling Zhao, Weikang Yuan. Effect of phase compatibility on the foaming behavior of LDPE/HDPE and LDPE/PP blends with subcritical CO₂ as the blowing agent, *Journal of Supercritical Fluids*, 2017, 120: 421-431.
- (7)Hongdong Hu, Yingna Zhang, Mei Su, Lei Bao, Ling Zhao, Tao Liu . Effect of molecular weight on CO₂-philicity of poly(vinyl acetate) with different molecular chain structure, *Journal of Supercritical Fluids*, 2016, 118: 96-106.
- (8)Dongdong Hu, Shaojun Sun, Peiqing Yuan, Ling Zhao, Tao Liu*. Exploration of CO₂ Philicity of Poly(vinyl acetate-co-alkyl vinyl ether) through Molecular Modeling and Dissolution Behavior Measurement, *Journal of Physical Chemistry B*, 2015, 119(38), 12490-12501.
- (9)Dongdong Hu, Shaojun Sun, Peiqing Yuan, Ling Zhao, Tao Liu*. Evaluation of CO₂-Philicity of Poly(vinyl acetate) and Poly(vinyl acetate-alt-maleate) Copolymers through Molecular Modeling and Dissolution Behavior Measurement, *Journal of Physical Chemistry B*, 2015, 119(7): 3194-3204.
- (10)Haichao Yan, Haitao Yuan, Feng Gao, Ling Zhao, Tao Liu*. Modification of poly(ethylene terephthalate) by combination of reactive extrusion and followed solid-state polycondensation for melt foaming. *Journal of Applied Polymer Science*, 2015, 42708(1-11).
- (11)Gangsheng Tong*, Jingxia Wang, Ruibin Wang, Xinqiu Guo, Lin He, Feng Qiu, Ge Wang, Bangshang Zhu, Xinyuan Zhu, Tao Liu*. Amorphous carbon dots with high two-photon fluorescence for cellular imaging passivated by hyperbranched poly(amino amine), *Journal of Materials Chemistry B*, 2015, 3(4): 700-706.
- (12)Shaojun Sun, Dongdong Hu, Jie Chen, Tao Liu*, Ling Zhao. Effects of carbon nanofiber on the dissolution and diffusion of CO₂ in polypropylene nanocomposites, *Journal of Supercritical Fluids*, 2014, 94: 252-260.
- (13)Dongdong Hu, Jie Chen, Shaojun Sun, Tao Liu*, Ling Zhao. Solubility and Diffusivity of CO₂ in Isotactic Polypropylene/Nanomontmorillonite Composites in Melt and Solid States, *Industrial & Engineering Chemistry Research*, 2014, 53(7): 2673-2683.