



EDUCATION

Ph.D. in Polymer Chemistry and Physics June 2016
College of Chemistry, Jilin University
Thesis: *Constructions of artificial transmembrane transporting systems.*
Advisor: Prof. Junqiu Liu

B.S. in Biochemistry June 2011
College of Life Science, Jilin University

RESEARCH INTEREST

- **Synthetic Channel:**
Helical polymer channel for cations and water;
Foldamer based K⁺-selective channel
- **Synthetic Ion Transporter:**
Chalcogen-bridged anion transporter; Thiol-responsive anion transport system;
Bambusuril based ion transporter
- **Functional Transmembrane System:**
Membrane active logic gate; Antioxidative nanopore

SKILLS and TECHNIQUES

- Organic synthesis
- Lipid vesicle based channel characterization
- Electrophysiology: single-channel recordings and analysis (Warner Instruments)
- Nanostructure preparation and characterization
- Scientific illustration: Photoshop, 3D Studio Max, Chemdraw, etc.

PUBLICATIONS

1. **C. Lang**, W. F. Li, Z. Y. Dong, X. Zhang, B. Yang, F. H. Yang, X. L. Deng, C. Y. Zhang, J. Y. Xu, J. Q. Liu, *Biomimetic Transmembrane Channels with High Stability and Transporting Efficiency Designed by Helically Folded Macromolecules*. *Angew. Chem. Int. Ed.* **2016**, 55, 9723–9727.
2. **C. Lang**, X. Zhang, Z. Y. Dong, Q. Luo, S. P. Qiao, Z. P. Huang, X. T. Fan, J. Y. Xu, J. Q. Liu, *Selenium-Containing Organic Nanoparticles As Silent Precursors For Ultra-Sensitive Thiol-Responsive Transmembrane Anion Transport*. *Nanoscale* **2016**, 8, 2960-2966.
3. **C. Lang**, X. Zhang, Q. Luo, Z. Y. Dong, J. Y. Xu, J. Q. Liu, *Powerful Bipodal Anion Transporters Based on Scaffolds That Contain Different Chalcogens*. *Eur.*

- J. Org. Chem. **2015**, 6458–6465.
4. S. P. Qiao, **C. Lang**, R. D. Wang, X. M. Li, T. F. Yan, T. Z. Pan, L. L. Zhao, X. T. Fan, X. Zhang, C. X. Hou, Q. Luo, J. Y. Xu, J. Q. Liu, *Metal Induced Self-Assembly of Designed V-shape Protein Into 2D Wavy Supramolecular Nanostructure*. *Nanoscale* **2016**, 8, 333-341.
 5. Y. Yin, **C. Lang**, S. Jiao, et al. *Environment Responsive Hydrogels*. In *GELS HANDBOOK: Fundamentals, Properties and Applications Volume 1: Fundamentals of Hydrogels*. **2016**, 251-280.
 6. Y. Yin, **C. Lang**, X. Hua, Z. Shia, Y. Wang, S. Jiao, C. Cai, J. Liu, *Construction of A Novel Guest Biomimetic Glutathione Peroxidase with Solvent-Dependent Catalytic Behavior By incorporating the Active Center into Adamantyl Molecule*. *Russ. J. Bioorg. Chem.* 2014, 40, 162-169.
 7. Y. Z. Yin, S. F. Jiao, **C. Lang**, J. Q. Liu, *A Supramolecular Microgel Glutathione Peroxidase Mimic with Temperature Responsive Activity*. *Soft Matter* 2014, 10, 3374-3385.
 8. Y. Z. Yin, S. F. Jiao, **C. Lang**, J. Q. Liu, *A Smart Artificial Glutathione Peroxidase with Temperature Responsive Activity Constructed by Host–Guest Interaction and Self-Assembly*. *RSC Adv.* **2014**, 4, 25040-25050.
 9. Z. P. Huang, Y. Fang, Q. Luo, S. D. Liu, G. An, C. X. Hou, **C. Lang**, J. Y. Xu, Z. Y. Dong, J. Q. Liu, *Construction of Supramolecular Polymer by Enzyme-Triggered Covalent Condensation of CB[8]-FGG-based Supramonomer*. *Chem. Commun.* **2016**, 52, 2083-2086.

MANUSCRIPTS IN REVIEW OR PREPARATION

1. **C. Lang**, X. L. Deng, Z. Y. Dong, J. Y. Xu, J. Q. Liu, O. Reany, *Semithiobambusuril as Highly Selective Transmembrane Anion Transporter Operating Through C-H Hydrogen-Bonding Interactions*. Submitted
2. **C. Lang**, X. L. Deng, Z. Y. Dong, F. H. Yang, X. Zhang, J. Xu, J. Q. Liu, *Highly Selective Artificial K⁺ Channels Built from Self-assembled Foldamers*. Submitted
3. T. Z. Pang, **C. Lang**, X. Zhang, Y. Liu, Z. Y. Dong, Q. Luo, J. Y. Xu, J. Q. Liu, *Transmembrane Antioxidant: Engineered Selenoenzyme with α -Hemolysin Nanopore*. In preparation

HONORS AND AWARDS

Poster Award of 2013 China Symposium on Polymer Chemistry

Second Place Award of “Elite cup”, Jilin University

Third Place Award of Academic Scholarships, Jilin University

Poster Award of 4th Graduate Student Academic Symposium, Jilin University

Second Place Award of 6th Graduate Student Academic Symposium, Jilin University

Graduate Student Basic Scholarship of Jilin University for 5 years