Resume of Lei Liu

- **Name:** Lei Liu **Gender:** Male
- **Nationality:** China **Birthday:** 1977-07-07
- **Major:** Organic Chemistry
- **Organization:** Department of Chemistry, Tsinghua University
- **Title:** Professor

Research Interests

- Mechanisms and new methods in transition-metal catalyzed cross coupling reactions
- Chemical synthesis and modifications of proteins

Education

- Research associate: 2004 ~ 2007
  Department of Chemistry, Scripps Research Institute
  Advisor: Prof. Chi-Huey Wong

- PhD: 1999 ~ 2004
  Department of Chemistry, Columbia University
  Advisor: Prof. Ronald Breslow

- Bachelor of Science: 1995 ~ 1999
  Department of Chemistry, University of Science and Technology of China

Professional Experience

- 2007 ~ now, Professor, Tsinghua University
- 2007 ~ now, Adjunct Professor, University of Science and Technology of China

- 2008 ~ now, Vice Chairman, Institute of Organic Chemistry, Tsinghua University
- 2008 ~ now, Manager, Fundamental Class of Chemical Biology

Awards

- 2002, Arun Guthikonda Memorial Fellow, Columbia University, USA
- 2004, Hammett Award, Columbia University, USA
- 2006, Skaggs Scholar, the Scripps Research Institute, USA
- 2007, First Prize in Natural Science, Ministry of Education, China
- 2008, Li Foundation Heritage Prize, USA
- 2009, Bayer Investigator, Bayer Inc.
- 2010, Thieme Synlett/Synthesis Journal Award

Publications (2007~now):

1. Shang, R.; Xu, Q.; Jiang, Y.-Y.; Wang, Y.; **Liu, L.*** Pd-Catalyzed Decarboxylative Cross Coupling of Potassium Polyfluorobenzoates with Aryl Bromides, Chlorides, and Triflates. *Org. Lett.* **2010**, in press.

2. Zheng, J.-S.; Cui, K.-C.; Fang, G.-M.; Xi, W.-X.; **Liu, L.*** Chemical Protein Synthesis via Kinetically Controlled Ligation of Peptide *O*-Esters. *ChemBioChem* **2010**, in press.

3. Xiao, B.; Fu, Y.*; Xu, J.; Gong, T.-J.; Dai, J.-J.; Yi, J.; **Liu, L.*** Pd(II)-Catalyzed C-H Activation/Aryl-Aryl Coupling of Phenol Esters. *J. Am. Chem. Soc.* **2010**, *132*, 468-469.

4. Zhang, S.-L.; Fu, Y.*; Shang, R.; Guo, Q.-X.; **Liu, L.*** Theoretical Analysis of Factors Controlling Pd-Catalyzed Decarboxylative Coupling of Carboxylic Acids with Olefins. *J. Am. Chem. Soc.* **2010**, *132*, 638-646.

5. Shang, R.; Fu, Y.; Wang, Y.; Xu, Q.; Yu, H.-Z.; **Liu, L.*** Copper-Catalyzed Decarboxylative

Cross-Coupling of Potassium Polyfluorobenzoates with Aryl Iodides and Bromides. *Angew. Chem. Int. Ed.* **2009**, *48*, 9350-9354.

6. Chen, X.-Y.; Shi, J.*; Li, Y.-M.; Wang, F.-L.; Wu, X.; Guo, Q.-X.*; **Liu, L.*** Two-Photon Fluorescent Probes of Biological Zn(II) Derived from 7-Hydroxyquinoline. *Org. Lett.* **2009**, *11*, 4426-4429.

7. Yang, C.-T.; Fu, Y.;* Huang, Y.-B.; Yi, J.; Guo, Q.-X.; **Liu, L.*** Room-Temperature Copper-Catalyzed Carbon-Nitrogen Couplings of Aryl Iodides and Bromides Promoted by Organic Ionic Bases. *Angew. Chem. Int. Ed.* **2009**, *48*, 7398-7401

8. Zhou, Y.; Zhao, J.*; **Liu, L.*** Meta-Selective Transition-Metal Catalyzed Arene C-H Bond Functionalization. *Angew. Chem. Int. Ed.* **2009**, *48*, 7126-7128.

9. Li, Z.; Zhang, S.-L.; Fu, Y.; Guo, Q.-X.; **Liu, L.*** Mechanism of Ni-Catalyzed Selective C-O Bond Activation in Cross-Coupling of Aryl Esters. *J. Am. Chem. Soc.* **2009**, *131*, 8815-8823.

10. Shang, R.; Fu, Y.*; Li, J.-B.; Zhang, S.-L.; Guo, Q.-X.; **Liu, L.*** Synthesis of Aromatic Esters via Pd-Catalyzed Decarboxylative Coupling of Potassium Oxalate Monoesters with Aryl Bromides and Chlorides. *J. Am. Chem. Soc.* **2009**, *131*, 5738-5739.

11. Fu, Y.*; Wang, H.-J.; Chong, S.-S.; Guo, Q.-X.; **Liu, L.*** An Extensive Ylide Thermodynamic Stability Scale Predicted by First-Principle Calculations. *J. Org. Chem.* **2009**, *74*, 810-819.

12. Li, Z.; Fu, Y.*; Guo, Q.-X.; **Liu, L.*** Theoretical Study on Monoligated Pd-Catalyzed Cross-Coupling Reactions of Aryl Chlorides and Bromides. *Organometallics* **2008**, *27*, 4043-4049.

13. Li, Z.; Wang, C.; Fu, Y.; Guo, Q.-X.; **Liu, L.*** Substituent Effect on the Efficiency of Desulfurizative Rearrangement of Allylic Disulfides. *J. Org. Chem.* **2008**, *73*, 6127-6136.

14. Fu, Y.; Li, Z.; Liang, S.; Guo, Q.-X.; **Liu, L.*** Mechanism for Carbon-Oxygen Bond-Forming Reductive Elimination from Palladium(IV) Complexes. *Organometallics* **2008**, *27*, 3736-3742.

15. Qi, X.-J.; Li, Z.; Fu, Y.*; Guo, Q.-X.; **Liu, L.*** anti-Spin-Delocalization Effect in Co-C Bond Dissociation Enthalpies. *Organometallics* **2008**, *27*, 2688-2698.

16. Cui, X.; Li, J.; Fu, Y.; **Liu, L.***; Guo, Q.-X.* Regioselective Pd-catalyzed Indolization of 2-Bromoanilines with Internal Alkynes Using Phosphine-free Ligands. *Tetrahedron Lett.* **2008**, *49*, 3458-3462.

17. Shi, J.; Chong, S.-S.; Fu, Y.; Guo, Q.-X.; **Liu, L.*** Ring Opening versus Ring Expansion in Rearrangement of Bicyclic Cyclobutylcarbinyl Radicals. *J. Org. Chem.* **2008**, *73*, 974-982.

18. Tao, C.-Z.; Li, J.; Fu, Y.; **Liu, L.***; Guo, Q.-X.* Copper-catalyzed Synthesis of Primary Arylamines from Aryl Halides and 2,2,2-Trifluoroacetamide. *Tetrahedron Lett.* **2008**, *49*, 70-75.

19. Cui, X.; Li, J.; Zhang, Z.-P.; Fu, Y.; **Liu, L.***; Guo, Q.-X.* Pd(quinoline-8-carboxylate)2 as a Low-Priced, Phosphine-Free Catalyst for Heck and Suzuki Reactions. *J. Org. Chem.* **2007**, *72*, 9342-9345.

20. Fu, Y.; Shen, K.; **Liu, L.***; Guo, Q.-X.* First-Principle Calculation of Equilibrium Cesium Ion-Pair Acidities in Tetrahydrofuran. *J. Am. Chem. Soc.* **2007**, *129*, 13510-13519.

21. Yu, Y.-Y.; Fu, Y.*; Xie, M.; **Liu, L.***; Guo, Q.-X. Controlling Regioselectivity in Cyclization of Unsaturated Amidyl Radicals: 5-Exo Versus 6-Endo. *J. Org. Chem.* **2007**, *72*, 8025-8032.

22. Zhang, S.-L.; **Liu, L.***; Fu, Y.; Guo, Q.-X.* Theoretical Study on Copper(I)-Catalyzed Cross-Coupling between Aryl Halides and Amides. *Organometallics* **2007**, *26*, 4546-4554.

23. Qi, X.-J.; Fu, Y.*; **Liu, L.***; Guo, Q.-X. Ab Initio Calculations of Thermodynamic Hydricities of Transition-Metal Hydrides in Acetonitrile. *Organometallics* **2007**, *26*, 4197-4203.