

Resume of Professor Dr. Zhang-Jie Shi

Curriculum vitae

Zhang-Jie Shi (施章杰), Ph.D.

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EDUCATION

SHANGHAI INSTITUTE OF ORGANIC CHEMISTRY, CHINESE ACADEMY OF SCIENCES: Shanghai, China

Doctor of Philosophy: Organometallic Chemistry

June, 2001

EAST CHINA NORMAL UNIVERSITY: Shanghai, China

Bachelor of Science: Chemistry

July, 1996

RESEARCH EXPERIENCE

ASSOCIATE PROFESSOR: December 2004 to present

Department of Chemistry & Chemical Engineering, Peking University: Beijing, China

RESEARCH FELLOW: March 2003 to September 2004

Department of Chemistry, The University of Chicago: Chicago, IL 60037, USA

Advisor: Dr. Chuan He

POSTDOCTORAL FELLOW: September 2001 to March 2003

Harvard University: Cambridge, MA 02138, USA

Advisor: Dr. Gregory L. Verdine

GRADUATE RESEARCH ASSISTANT: September 1996 to June 2001

Shanghai Institute of Chemistry, Chinese Academy of Sciences: Shanghai, China

Advisor: Dr. Shengming Ma

AWARDS AND FELLOWSHIPS

| | |
|------|---|
| 2008 | The First Rank Fok Ying Tung Education Foundation Award |
| 2008 | CCS-John Wiley Excellent Chemistry Award |
| 2007 | The Second Rank Award of National Natural Sciences |
| 2007 | Distinguished Young Chemist Award of Chinese Chemical Society |
| 2006 | Synlett/Synthesis Journal Award |
| 2005 | The First Rank Award of Science and Technology of Shanghai |
| 2001 | President Excellent Award, Chinese Academy of Sciences |
| 1999 | Liu Yongling Award, Chinese Academy of Sciences |

OTHER SCIENTIFIC ACTIVITIES

Co-founder of, and scientific director for, OKEANOS TECH CO. LTD. (Beijing, China)
Scientific advisor for AVIVA Biosciences Corp. (CA, USA)
Scientific advisor for Air Liquid Laboratory K. K. (ALL) (Wadai, Tsukuba-shi, Ibaraki-Pref. 300-4247, Japan)

PUBLICATIONS

Publications as a PI

1. Direct Benzylic Alkylation via Ni-Catalyzed Selective sp^3 C-O Activation. Bing-Tao Guan, Shi-Kai Xiang, Bi-Qin Wang, Zuo-Peng Sun, Yang Wang, Ke-Qing Zhao, and Zhang-Jie Shi. *J. Am. Chem. Soc.* **2008**, in press.
2. Methylation of arenes *via* Ni-catalyzed aryl C-O/F activation Bing-Tao Guan, Shi-Kai Xiang, Tao Wu, Zuo-Peng Sun, Bi-Qin Wang, Ke-Qing Zhao and Zhang-Jie Shi. *Chem. Comm.* **2008**, online. (2008, DOI: 10.1039/b718998b)
3. Recent Advances on Direct Arylation *via* Palladium Catalyzed Aryl C-H Activation. Bi-Jie Li, Shang-Dong Yang, Zhang-Jie Shi. *Synlett.* **2008**, in press. (Invited Account).
4. Palladium Catalyzed Direct Arylation of (Hetero)Arenes with Aryl Boronic Acids. Shang-Dong Yang, Chang-Liang Sun, Zhao Fang, Bi-Jie Li, Yi-Zhou, Li, and Zhang-Jie Shi. *Angew. Chem. Int. Ed.* **2008**, 47, 1473-1476.

5. Multiple C-H Activations To Construct Biologically Active Molecules in a Process Completely Free of Organohalogen and Organometallic Components. Bi-Jie Li, Shi-Liang Tian, Zhao Fang, Zhang-Jie Shi. *Angew. Chem. Int. Ed.* **2008**, 47, 1115-1119. (Highlighted by *Science*, *NatureChina*, Hot paper of *Angew. Chem.*, Inside Cover of *Angew. Chem.*)
6. Suzuki-Miyaura Coupling Reaction by Pd^{II}-Catalyzed Aromatic C-H Bond Activation Directed by an *N*-Alkyl Acetamino Group. Zhangjie Shi, Bijie Li, Xiaobing Wan, Jiang Cheng, Zhao Fang, Bin Cao, Changming Qin, Yang Wang. *Angew. Chem. Int. Ed.* **2007**, 46(29), 5554-5558. (Highlighted by *NatureChina*).
7. Aerobic Oxidation of Alcohol in Aqueous Solution Catalyzed by Gold. Huanrong Li, Bingtao Guan, Wenjin Wang, Dong Xing, Zhao Fang, Xiaobing Wan, Liping Yang and Zhangjie Shi, *Tetrahedron*. **2007**, 63(35), 8430-8434. (Invited article).
8. Indirect *ortho* Functionalization of Substituted Toluenes through *ortho* Olefination of *N,N*-Dimethylbenzylamines Tuned by the Acidity of Reaction Conditions. Guixin Cai, Ye Fu, Yizhou Li, Xiaobing Wan, and Zhangjie Shi. *J. Am. Chem. Soc.* **2007**, 129, 7666-7673.
9. Ortho Arylation of Acetanilides via Pd(II)-Catalyzed C-H Functionalization. Shangdong Yang, Bijie Li, Xiaobing Wan, and Zhangjie Shi. *J. Am. Chem. Soc.*, **2007**, 129, 6066 -6067. (One of the hot papers).
10. Multiple deprotonations and deaminations of phenethylamines. An Unprecedented Approach to Synthesize Pyrroles. Xiaobing Wan, Dong Xing, Zhao Fang, Bijie Li, Fei Zhao, Keyan Zhang, Liping Yang, and Zhangjie Shi. *J. Am. Chem. Soc.* **2006**, 128, 12046-12047.
11. Highly Selective C-H Functionalization/Halogenation of Acetanilide. Xiaobing Wan, Zhongxun Ma, Bijie Li, Keya Zhang, Shaokui Cao, Shiwei Zhang and Zhangjie Shi. *J. Am. Chem. Soc.* **2006**, 128, 7176-7177.
12. Gold(I)-Catalyzed Oxidative Cleavage of a C-C Double Bond in Water. Dong, Xing; Bingtao Guan, Guixin Cai, Zhao Fang, Liping Yang, Zhangjie Shi. *Org. Lett.* **2006**, 6, 693-696. (One of the hot papers).
13. Highly Selective Aerobic Oxidation of Alcohol Catalyzed by Gold(I) Complex with Anionic Ligand. Bingtao Guan, Dong Xing, Guixing Cai, Xiaobin Wan, Nan Yu, Zhao Fang, Liping Yang and Zhangjie Shi. *J. Am. Chem. Soc.* **2005**, 127, 18004-18005.

Other Publications

14. Intramolecular Additions of Alcohols and Carboxylic Acids to Inert Olefins Catalyzed by Silver(I) Triflate. Caiguang Yang, Nick W. Reich, Zhangjie Shi, Chuan He. *Org. Lett.* **2005**, 7, 4553-4556.
15. Addition of heterocycles to electron deficient olefins and alkynes catalyzed by gold(III). Zigang Li, Zhangjie Shi and Chuan He. *J. Organomet. Chem.* **2005**, 690, 5049-5054.

16. Direct Functionalization of Arenes by Primary Alcohol Sulfonate Esters Catalyzed by Gold(III). Zhangjie Shi and Chuan He. *J. Am. Chem. Soc.* **2004**, *126*, 13596-13597.
17. Efficient Functionalization of Aromatic C–H Bonds catalyzed by Gold(III) under Mild and Solvent Free Conditions. Zhangjie Shi and Chuan He. *J. Org. Chem.* **2004**, *69*, 3669-3671
18. An Au-catalyzed cycloalkylation of electron-rich arenes with epoxides to prepare 3-chromanols. Zhangjie Shi and Chuan He. *J. Am. Chem. Soc.* **2004**, *126*, 5964-5965.
19. An Efficient Synthesis of 4-Halo-5-hydroxyfuran-2(5H)-ones via the Sequential Halolactonization and α -Hydroxylation of 4-Aryl-2,3-alkadienoic Acids. Ma, Shengming*; Wu, Bin; Shi, Zhangjie. *J. Org. Chem.* **2004**, *69*, 1429-1431.
20. Unpredictable stereochemical preferences for mu opioid receptor activity in an exhaustively stereodiversified library of 1,4-enediols. Zhangjie Shi, Bryce A. Harrison, and Gregory L. Verdine. *Org. Lett.*, **2002**, *5*, 633-636.
21. Extensively Stereodiversified Scaffolds for Use in Diversity Oriented Library Synthesis. Tiffany Malinky Gierasch, Zhangjie Shi, Gregory L. Verdine. *Org. Lett.*, **2002**, *5*, 633-636.
22. Mechanistic switch leading to highly efficient chirality transfer in Pd (0)-catalyzed coupling-cyclization of aryl iodides with 1:1 acid-base salts of 2, 3-allenoic acids and l(-)-cinchonidine or d-(+)/l(-)- α -methylbenzylamine. Enantioselective synthesis of highly optically active 3-aryl polysubstituted butenolides. Ma, Shengming; Shi, Zhangjie. *Chem. Comm.* **2002**, (5), 540-541.
23. Synthesis of 4-halo-2(5H)-furanones and their Suzuki-coupling reactions with organoboronic acids. A general route to 4-aryl-2(5H)-furanones. Ma, Shengming; Shi, Zhangjie. *Chin. J. Chem.* **2001**, *19*, 1280-1284.
14. Enantioselective synthesis of α -arylbutenolides via palladium(0) catalyzed asymmetric coupling cyclization reaction of racemic allenic carboxylic acids with aryl iodides. Ma, Shengming; Shi, Zhangjie; Wu, Shulin. *Tetrahedron: Asymmetry*, **2001**, *12*, 193-195.
25. Palladium(0)-catalyzed cyclization reaction of polymer-supported aryl iodides with 1,2-allenyl carboxylic acids. A facile solid-phase synthesis of butenolides. Ma, Shengming; Duan, Dehui; Shi, Zhangjie. *Org. Lett.* **2000**, *2*, 1419-1422.
26. Synthesis of α -halobutenolides and their Pd(0)-catalyzed cross-coupling reactions with terminal alkynes and organozinc reagents. A general route to α -substituted butenolides and formal synthesis of cis-whisky lactone. Ma, Shengming; Shi, Zhangjie; Yu, Zhanqian. *Tetrahedron* **1999**, *55*, 12137-12148.
27. Synthesis of α -halobutenolides and their Pd(0)/CuI-catalyzed cross-coupling reactions with terminal alkynes. A general route to α -(1-alkynyl)butenolides. Ma, Shengming; Shi, Zhangjie;

Yu, Zhanqian. *Tetrahedron Lett.* **1999**, 40, 2393-2396.

28. Pd(0)/Ag⁺-Cocatalyzed Cyclization Reaction of 1,2-Allenic Carboxylic Acids with Aryl/Alkenyl Halides. An Efficient Synthesis of Butenolides. Ma, Shengming; Shi, Zhangjie. *J. Org. Chem.* **1998**, 63, 6387-6389.

29. Efficient Synthesis of 4-Halo-4-penten-2-ones and 3-Halo-3-butenic Acids/Esters via Hydrohalogenation Reaction of 3,4-Pentadien-2-one and 2,3-Butadienoic Acid/Methyl Ester. Ma, Shengming; Shi, Zhangjie; Li, Lintao. *J. Org. Chem.* **1998**, 63, 4522-4523.

INVITED LECTURES

1. The 3rd International Forum on Homogeneous Catalysis and The First China-Spain Bilateral Symposium on Catalysis, Shanghai, China, Sept. 23-27, 2008. (Accepted).
2. ICOMC23 and France-China workshop, Rennes, France, Jul. 13-18, 2008. (Accepted).
3. Kyushu University-Department of Chemistry, Fukuoka, Japan, Mar. 18-21. (Accepted).
4. Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou, China, Dec. 28, 2007
5. Beijing Normal University-Department of Chemistry, Beijing, 100875, China, Oct. 25, 2007.
6. 4th Sino-Japanese Symposium on Organic Chemistry for Young Scientists, Narita, Japan, Sept. 22-26, 2007.
7. The University of Wisconsin, Madison - Chemistry Department (Madison, WI, USA), Sept. 6, 2007.
8. CAOSS Symposium in Purdue University (West Lafayette, IN, USA), Aug. 31, 2007.
9. The University of Chicago - Chemistry Department (Chicago, IL, USA), Aug. 28, 2007.
10. Harvard University - Department of Chemistry and Chemical Biology (Cambridge, MA, USA), Aug. 17, 2007.
11. Joint Workshop on Chemistry and Material among PKU, ICCAS and NTU (Taiwan) April 25-May 1, 2007;
12. CSIR-NSFC Joint Workshop on Organic Chemistry and Chemical Biology: Bridging Bonds for 21st Century (Plenary Lecture, Pune, India), April 11-13, 2007;
13. 9th International Symposium for Chinese Organic Chemists (ISCOC-9, Singapore), December 17-21, 2006;
14. 14th National Conference of Organometallic Chemistry (Suzhou, Jiansu, China), October 19-23, 2006;
15. 1st Sino-German Symposium Frontiers of Chemistry (Kloster Seeon, Germany), July 19-23, 2006;
16. 25th Chinese Chemical Society Meeting (25th CCS, Changchun, Jilin, China); July 10-14, 2006;
17. East China Normal University-Shanghai Key Institute of Green Chemistry (Shanghai, China); April 24, 2006;
18. 1st Symposium on Green Chemistry by Green Chemistry Centre (Beijing, China), April 26, 2006;

19. Sino-German Symposium on Organocatalysis and Certain Aspects of Green Chemistry (Hangzhou, China); April 2-6, 2006;
20. Chemistry Today-Peking University, College of Chemistry and Chemical Engineering (Beijing, China); March 31, 2006;
21. 2nd Symposium of Beijing National Lab (Beijing, China), January 10, 2006;
22. University of Science and Technology of China-College of Chemistry (Hefei, Anhui, China), December 3, 2005.