

PERSONAL:

Name: Lei Wu
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Research Field: Synthesis and application of novel organometallic catalysts; Nanomaterials for catalysis (nanosized metal catalysts and MOF); Novel asymmetric catalysis by combinatory metals; Photoredox catalysis by organic dyes
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PROFESSIONAL PREPARATIONS:

Nanjing Agricultural University; Aug. 2012-Present; Full Professor in Chemistry, Deputy Dean of College of Sciences, NAU

Harbin Institute of Technology; Sept.2010-Aug.2012; Associate Professor in Chemistry

University of Notre Dame (IN, USA); March.2009-May.2010; Postdoctoral Research Associate

Syracuse University (NY, USA); Nov.2007-Feb.2009; Postdoctoral Research Associate

Institute of Chemistry, Chinese Academy of Science; Sep.2004-July 2007; Ph.D. (Organic Chemistry), Advisor: Prof. Qing-Hua Fan

AWARDS AND APPOINTMENTS:

2013 “333 High-Talent Project” of Jiangsu Province;

2012 Current Organic Chemistry, Guest Editor;

GRANTS AND PROJECTS:

National Science Foundation of China, No. 21002019; 21372118

NJAU startup funding;

USA: NSF-CMMI (Grant No.:0727491);

PUBLICATIONS:

- (20). Yun-Tao Xia, Xiao-Tao Sun, Ling Zhang, Kai Luo, **Lei Wu***, Metal-free Hydrogen Atom Transfer from Water: Expeditious Hydrogenation of N-Heterocycles Mediated by Diboronic Acid, *Chemistry-A European Journal*, **2016**, DOI:10.1002/chem.201604503. (SCI IF: 5.771)
- (19). Wen-Chao Yang, Peng Dai, Kai Luo, **Lei Wu***, Iodide/tert-Butyl Hydroperoxide -Mediated Benzylic C–H Sulfonylation and Peroxidation of Phenol Derivatives, *Advanced Synthesis & Catalysis*, **2016**, 358, 3184-3190. (SCI IF: 6.453)
- (18). Yu Zhang, Jie Zhu, Yun-Tao Xia, Xiao-Tao Sun, **Lei Wu***, Efficient Hydrogenation of N-heterocycles Catalyzed by Carbon-Metal Covalent Bonds Stabilized Palladium Nanoparticles: Synergistic Effects of Particle Size and Water, *Advanced Synthesis & Catalysis*, **2016**, 358, 3039-3045. (SCI IF:6.453)

- (17). Kai Luo, Yao-Zhong Chen, Li-Xian Chen, **Lei Wu***, Autoxidative C(sp²)-P Formation: Direct Phosphorylation of Heteroarenes under Oxygen, Metal-Free, and Solvent-Free Conditions. *Journal of Organic Chemistry*, **2016**, *81*, 4682-4689. (Highlighted by *ChemInform*)
- (16). Kai Luo, Yao-Zhong Chen, Wen-Chao Yang, Jie Zhu, **Lei Wu***, Cross-Coupling Hydrogen Evolution by Visible Light Photocatalysis Toward C(sp²)-P Formation: Metal-free C-H Functionalization of Thiazole Derivatives with Diarylphosphine Oxides, *Organic Letters*, **2016**, *18*, 452-455. (Highlighted by *ChemInform*)
- (15). Yu Zhang, Mao Mao, Yi-Gang Ji, Jie Zhu, **Lei Wu***, Modular metal-carbon stabilized palladium nanoparticles for the catalytic hydrogenation of *N*-heterocycles, *Tetrahedron Letters*, **2016**, *57*, 329-332.
- (14). Yao-Zhong Chen, Ling Zhang, Ai-Min Lu, Fang Yang and **Lei Wu***, α -Allenyl Ethers as Starting Materials for Palladium Catalyzed Suzuki-Miyaura Couplings of Allenylphosphine Oxides with Arylboronic Acids, *Journal of Organic Chemistry*, **2015**, *80*, 673-680.
- (13). Teng Liu, Yun-Tao Xia, Jie Zhu, Ai-Min Lu, **Lei Wu***, Metal-free synthesis of chlorinated and brominated phosphinoyl 1,3-butadiene derivatives and its synthetic applications, *Tetrahedron Letters*, **2015**, *56*, 6508-6512.
- (12). Teng Liu, Jie Dong, Shu-Jun Cao, Li-Cheng Guo and **Lei Wu***, Suzuki-Miyaura coupling of phosphinoyl- α -allenyl alcohols with arylboronic acids catalyzed by a palladium complex "on water": an efficient method to generate phosphinoyl 1,3-butadienes and derivatives, *RSC Advances*, **2014**, *4*, 61722-61726.
- (11). Yi-Gang Ji, **Lei Wu***, Qing-Hua Fan*, Recent Progress of Metal/Metal Oxide Nanoparticles for Asymmetric Hydrogenation and Transfer Hydrogenation, *Acta Chimica Sinica*, **2014**, *72*, 798-808.
- (10). **Lei Wu***, Yu Zhang and Yi-Gang Ji, Homogeneous Recyclable Catalysts Based on Metal Nanoparticles for Organic Synthesis (Invited Review). *Current Organic Chemistry*, **2013**, *17*, 1288-1302.
- (9). Yan-fei Wang*, Zhanmin Xiao, **Lei Wu***, Metal-nanoparticles Supported on Solid as Heterogeneous Catalysts, *Current Organic Chemistry*, **2013**, *17*, 1325-1333.
- (8). **Lei Wu***, Xiao Zhang, Qing-Qing Chen, An-Kun Zhou, A novel copper-catalyzed reductive coupling of *N*-tosylhydrazones with H-phosphorus oxides, *Organic & Biomolecular Chemistry*, **2012**, *10*, 7859-7862.
- (7). **Lei Wu***, Xiao Zhang and Zhimin Tao, A Mild and Recyclable Nano-sized Catalyst for the Stille Reaction in Water, *Catalysis Science & Technology*, **2012**, *2*, 707-710.
- (6). **Lei Wu***, Jie Ling, Zong-quan Wu, a Highly Active and Recyclable Catalyst: Phosphine Dendrimer-Stabilized Nickel Nanoparticles for the Suzuki Coupling Reaction. *Advanced Synthesis & Catalysis*, **2011**, *353*, 1452-1456.
- (5). **Lei Wu**, Yan-Mei He, Qing-Hua Fan*, Controlled Reversible Anchoring of η^6 -Arene/TsDPEN-Ru(II) Complex onto Magnetic Nanoparticles: A New Strategy for Catalyst Separation and Recycling. *Advanced Synthesis & Catalysis*, **2011**, *353*, 2915-2919.
- (4). **Lei Wu***, A Facile Tandem Reactions to Access β -Hydroxy- α , α -difluoroketone Derivatives Catalyzed by Titanocene Dichloride/ Magnesium. *Journal of Fluorine Chemistry*, **2011**, *132*, 367-372.

- (3). **Lei Wu**, Jyotsana Lal, Karen A. Simon, Erik A. Burton and Yan-Yeung Luk* Non-Amphiphilic Assembly in Water: Polymorphic Nature, Thread Structure and Thermodynamic Incompatibility, *Journal of American Chemical Society*, **2009**, *131*, 7430-7443.
- (2). **Lei Wu**, Zhi-Wei Li, Feng Zhang, Yan-Mei He, Qing-Hua Fan*, Air-Stable and Highly Active Dendritic Phosphine Oxide-Stabilized Palladium Nanoparticles: Preparation, Characterization and Applications in the Carbon-Carbon Bond Formation and Hydrogenation Reactions, *Advanced Synthesis & Catalysis*, **2008**, *350*, 846-862.
- (1). **Lei Wu**, Bao-Lin Li, Yi-Yong Huang, Hai-Feng Zhou, Yan-Mei He, Qing-Hua Fan*, Phosphine Dendrimer-Stabilized Palladium Nanoparticles, a Highly Active and Recyclable Catalyst for the Suzuki-Miyaura Reaction and Hydrogenation. *Organic Letters*, **2006**, *8*, 3605.

BOOK CHAPTERS:

- (2). **Lei Wu**, Ji Liu, Baode Ma and Qing-Hua Fan, Homogeneous Asymmetric Catalysis Using Immobilized Chiral Catalysts, (BOOK TITLE: Bridging Heterogeneous and Homogeneous Catalysis: Concepts, Strategies, and Applications, Edited by Prof. Can Li), **2014**, Wiley-VCH, P111-148. Book Linkage: <http://www.wiley.com/WileyCDA/WileyTitle/productCd3527335838.subjectCd-CH86.html>
- (1). Yi-Gang Ji, **Lei Wu***, Recyclable Metal Nanoparticulate Catalysts Based on Dendrimers, (BOOK TITLE: Dendrimers: Synthesis, Applications and Role in Nanotechnology) Nova Science Publishers, New York **2013**, P249-263 (Chapter 11). Book Chapter Linkage: https://www.novapublishers.com/catalog/productinfo.php?products_id=44405