

个人简历

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院系： 化学系 政治面貌： 党员

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学位： 博士

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从事专业： 有机化学

毕业学校： 中国科学院化学研究所

研究方向： 杂原子化学； 纳米催化材料； 天然产物（药物）全合成

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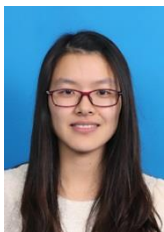
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个人简介

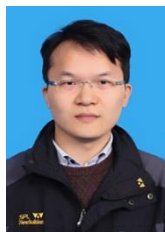
吴磊，1980年生，南京农业大学教授、博士生导师，理学院副院长。2001年本科毕业于安徽师范大学，同年考取中国科学院广州化学研究所有机化学专业，2004年获得中国科学院理学硕士学位。2007年博士毕业于中国科学院化学研究所，师从范青华研究员。2007年11月-2010年5月在美国Syracuse University 和 University of Notre Dame 从事博士后研究，2010年5月-2012年8月任职于哈尔滨工业大学基础与交叉科学研究院，2012年8月以高层次人才引进方式调动至南京农业大学。主要研究方向为杂原子化学和金属纳米催化材料，先后主持国家自然科学基金(面上及青年项目)、江苏省自然科学基金(面上项目)、教育部留学回国人员科研启动项目、北京分子科学国家实验室开放基金、南京农业大学高层次人才启动基金、哈尔滨工业大学引进人才启动基金等多项科研项目，已在 *ACS Catal.*, *Org. Lett.*, *J. Org. Chem.*, *Chem. Eur. J.*, *J. Am. Chem. Soc.*, *Adv. Synth. Catal.*, *Catal. Sci. Technol.* 等国际权威期刊发表四十多篇SCI收录论文，H指数为15，他引700余次。第一及通讯作者论文三十余篇，累计影响因子>160，其中影响因子大于5.0论文17篇，2篇研究论文入选“ESI高被引论文”。2012年为Bentham出版集团*Curr. Org. Chem.* 期刊客座编辑。受邀出版英文图书章节两章(德国Wiley和美国Nova Science出版社)。先后入选江苏省教育厅“青蓝工程”、江苏省科技厅第四期“333高层次人才培养工程(第三层次)”以及南京市“321计划”。为《*有机化学*》、《*化学学报*》、*Green Chem.*, *Org. Lett.*, *Adv. Synth. Catal.*, *J. Org. Chem.*, *Chem. Eur. J.*, *RSC Adv.*, *Eur. J. Org. Chem.* 等国内外SCI期刊审稿人。

课题组成员(2018年2月):



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(讲师, 2015年南理工毕业)



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2015级硕士生: 张玲

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2017级硕士生: 孙学、刘悦、王俊柯、吴金金

已毕业学生:

2013-2015: 张宇(上海 EAG laboratories, 2017 年“南京农业大学优秀硕士毕业论文”获得者);

2014-2016: 刘腾(本组读博);

2014-2017: 毛矛(常州合全药业; 获 2017 年硕士生“校长奖学金”, 2017 年南京农业大学优秀硕士毕业生);

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戴朋(留校)

2014-2017: 罗凯(博士毕业留校)

科研项目

7. 主持国家自然科学基金两项；
6. 主持江苏省自然科学基金（面上项目）一项；
5. 主持南京农业大学引进人才科研启动经费；
4. 主持教育部留学回国人员启动经费；
3. 主持北京分子科学国家实验室开放基金、中国科学院分子识别与功能重点实验室开放基金；
2. 主持哈尔滨工业大学引进人才科研启动经费和校创新基金（已结束）；
1. 作为主要成员曾参与国家自然科学基金项目(No. 20325209、205322010), 国家杰出青年基金(No. 2005CCA 06600) 、美国国家自然科学基金(NSF No. 0727491)等研究工作；

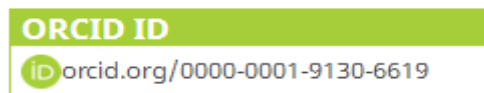
所获奖项

3. 2013 年江苏省“333 高层次人才培养工程”第三层次、南京市“321 计划”入选者（第五批）
2. 2012 年 受邀为 *Current Organic Chemistry* (IF: 3.064) 杂志客座编(Guest Editor)。
1. 2012 年 江苏省“青蓝工程”优秀青年骨干教师培养对象

教学信息

- 2016 秋季学期 研究生《高等有机化学》
- 2016 春季学期 本科生《有机化学》必修课
- 2014 春季学期 本科生《精细化学品化学》
- 2013 秋季学期 研究生《现代有机合成技术》选修课
- 2013 春季学期 本科生《有机化学》必修课
- 2012-2013 第一学期 《实验化学 II》 必修课
- 2011 年秋季学期 哈尔滨工业大学化工学院 《有机化学 II》 必修课

发表论文及专著



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As Corresponding Author:

Year of 2018:

33. Jie Zhu,* Wen-Chao Yang, Xiao-Dong Wang, **Lei Wu***, Photoredox Catalysis in C-S bonds Construction: Recent Progress in Photo-catalyzed Formation of Sulfones and Sulfoxides, *Advanced Synthesis & Catalysis*, **2018**, *360*, 386-400. (**Front Cover Picture**, Selected as “**Very Important Publication (VIP)**”, SCI IF₂₀₁₆: 5.646)
32. Peng Dai[#], Kai Luo[#], Xiang Yu, Wen-Chao Yang, **Lei Wu***, Wei-Hua Zhang*, *Tert*-Butyl Nitrite Mediated Expeditious Methylsulfoxidation of Tetrazole-amines with DMSO: Metal-free Synthesis of Antifungal Active Methylsulfinyl-1*H*-tetrazole Derivatives, *Advanced Synthesis & Catalysis*, **2018**, *360*, 468-473. (SCI IF₂₀₁₆: 5.646)
31. Jie Zhu, Xiao-Tao Sun, Xiao-Dong Wang, **Lei Wu***, Enantioselective Dihydroxylation of Alkenes Catalyzed by (DHQD)₂PHAL-Modified Binaphthyl-Osmium Nanoparticles, *ChemCatChem*, **2018**, DOI: 10.1002/cctc.201701368. (SCI IF₂₀₁₆: 4.803)

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30. Ling Zhang, Jie Zhu, Jing Ma, **Lei Wu***, Wei-Hua Zhang*, Visible-Light-Driven α -Allenlyic C-O Bond Cleavage and Alkenyl C-S Formation: Metal-free and Oxidant-free Thiolation of Allenyl Phosphine Oxides, *Organic Letters*, **2017**, *19*, 6308-6311. (SCI IF₂₀₁₆: 6.579)
29. Yun-Tao Xia, Jing Ma, Xiao-Dong Wang, Lei Yang, **Lei Wu***, Enantioselective Hydrogenation of *N*-heteroaromatics Catalyzed by Chiral Diphosphines Modified Binaphthyl Palladium Nanoparticles, *Catalysis Science & Technology*, **2017**, *7*, 5515-5520. (SCI IF₂₀₁₆: 5.773)
28. Kai Luo, Ling Zhang, Jing Ma, Qiang Sha, **Lei Wu***, Acetic Acid-Mediated Sulfonylation of Allenylphosphine Oxides: Divergent Synthesis of Bifunctionalized 1,3-Butadienes and Allenes, *Journal of Organic Chemistry*, **2017**, *82*, 6978-6985. (SCI IF₂₀₁₆: 4.849)
27. Wen-Chao Yang, Peng Dai, Kai Luo, Yi-Gang Ji, **Lei Wu***, Aldehydes as Carbon Radical Acceptors: Silver Nitrate Catalyzed Cascade Decarboxylation and Oxidative Cyclization toward Dihydroflavonoid Derivatives, *Advanced Synthesis & Catalysis*, **2017**, *359*, 2390-2395. (Journal Most Accessed Article in 05/2017, SCI IF₂₀₁₆: 5.646)
26. Jie Zhu[#], Mao Mao[#], Huan-Jing Ji, Jiang-Yan Xu, **Lei Wu***, Palladium-catalyzed Cleavage of α -Allenlyic Aryl Ether toward Pyrazolemethylene-Substituted Phosphinyl Allenes and Their Transformations via Alkenyl C-P(O) Cleavage, *Organic Letters*, **2017**, *19*, 1946-1949. (SCI IF₂₀₁₆: 6.579)

25. Xiao-Tao Sun[#], Jie Zhu[#], Yun-Tao Xia, **Lei Wu***, Palladium Nanoparticles Stabilized by Metal–Carbon Covalent Bonds as Expeditious Heterogeneous Catalyst for Oxidative Dehydrogenation of *N*-Heterocycles, *ChemCatChem*, **2017**, 9, 2463-2466. (SCI IF₂₀₁₆: 4.803)
24. Yi-Gang Ji, Kai Wei, Teng Liu, **Lei Wu***, Wei-Hua Zhang*, “Naked” Iridium (IV) Oxide Nanoparticles as Expedient and Robust Catalysts for Hydrogenation of Nitrogen Heterocycles: Remarkable Vicinal Substitution Effect and Recyclability, *Advanced Synthesis & Catalysis*, **2017**, 359, 933-940. (SCI IF₂₀₁₆: 5.646, **Highlighted by Synfacts**)
23. Kai Luo, Wen-Chao Yang, **Lei Wu***, Photoredox Catalysis in Organophosphorus Chemistry, *Asian Journal of Organic Chemistry*, **2017**, 6, 350-367. (Invited Review, SCI IF₂₀₁₆: 2.788)
22. Mao Mao[#], Ling Zhang[#], Yao-Zhong Chen, Jie Zhu, **Lei Wu***, Palladium-Catalyzed Coupling of Allenylphosphine Oxides with *N*-Tosylhydrazones toward Phosphinyl [3]Dendralenes, *ACS Catalysis*, **2017**, 7, 181-185. (SCI IF₂₀₁₆: 10.614, Open Access, Designated as **ACS Editor’s Choice, “ESI Highly Cited Paper”**)

Year of 2016:

21. 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**, 22, 17151-17155. (SCI IF₂₀₁₅: 5.771)

20. 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 IF₂₀₁₅: 6.453)
19. 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. (Highlighted by *Synfacts*, SCI IF₂₀₁₅: 6.453)
18. Kai Luo[#], Yao-Zhong Chen[#], Li-Xian Chen, **Lei Wu***, Autoxidative C(*sp*²)-P Formation: Direct Phosphorylation of Heteroarenes under Oxygen, Metal-Free, and Solvent-Free Conditions. *Journal of Organic Chemistry*, **2016**, 81, 4682-4689. (SCI IF₂₀₁₅: 4.785)
17. Kai Luo[#], Yao-Zhong Chen[#], Wen-Chao Yang, Jie Zhu, **Lei Wu***, Cross-Coupling Hydrogen Evolution by Visible Light Photocatalysis Toward C(*sp*²)-P Formation: Metal-free C-H Functionalization of Thiazole Derivatives with Diarylphosphine Oxides, *Organic Letters*, **2016**, 18, 452-455. (SCI IF₂₀₁₅: 6.732, **“ESI Highly Cited Paper”**)
16. 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. (SCI IF₂₀₁₅: 2.347)

Years of 2011-2015:

15. 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. (SCI IF: 4.785)

14. 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. (SCI IF: 2.347)
13. Teng Liu, Jie Dong, Shu-Jun Cao, Li-Cheng Guo, Lei Wu*, Suzuki–Miyaura coupling of phosphinoyl- α -allenic 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. (SCI IF: 3.708)
12. 季益刚, 吴磊*, 范青华*, 金属/金属氧化物纳米粒子在不对称氢化和氢转移反应中的应用研究进展, *化学学报*, **2014**, *72*, 798-808. (综述约稿, SCI IF: 0.874)
11. Lei Wu*, Immobilized Catalysts for Organic Synthesis: Homogeneous & Heterogeneous, *Current Organic Chemistry*, **2013**, *17*, 1235-1235 (Editorial Material).
10. Lei Wu*, Yu Zhang, Yi-Gang Ji, Homogeneous Recyclable Catalysts Based on Metal Nanoparticles for Organic Synthesis (Invited Review). *Current Organic Chemistry*, **2013**, *17*, 1288-1302. (SCI IF: 3.064)
9. Yan-fei Wang*, Zhanmin Xiao, Lei Wu*, Metal-nanoparticles Supported on Solid as Heterogeneous Catalysts, *Current Organic Chemistry*, **2013**, *17*, 1325-1333. (SCI IF: 3.064)
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. (SCI IF: 3.696)

7. **Lei Wu***, Xiǎo Zhang, Zhimin Tao, A Mild and Recyclable Nano-sized Catalyst for the Stille Reaction in Water, *Catalysis Science & Technology*, **2012**, *2*, 707-710. (SCI IF: 3.575)
6. **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. (SCI IF: 2.033)
5. **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. (SCI IF: 6.048)

As First Author:

4. **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. (SCI IF: 6.048)
3. **Lei Wu**, Jyotsana Lal, Karen A. Simon, Erik A. Burton, Yan-Yeung Luk*, Non-Amphiphilic Assembly in Water: Polymorphic Nature, Thread Structure and Thermodynamic Incompatibility, *Journal of the American Chemical Society*, **2009**, *131*, 7430-7443. (SCI IF: 9.023)
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. (SCI IF: 5.187)

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*, 3605-3608. (SCI IF: 5.128)

Books and Chapters:

2. **Lei Wu**, Ji Liu, Baode Ma, Qing-Hua Fan*, Homogeneous Asymmetric Catalysis Using Immobilized Chiral Catalysts, (Chapter 4, BOOK TITLE: Bridging Heterogeneous and Homogeneous Catalysis: Concepts, Strategies, and Applications, Edited by Prof. Can Li), **2014**, Wiley-VCH, Page 111-148;
1. Yi-Gang Ji, **Lei Wu***, Recyclable Metal Nanoparticulate Catalysts Based on Dendrimers, (Chapter 11, BOOK TITLE: Dendrimers: Synthesis, Applications and Role in Nanotechnology) Nova Science Publishers, New York **2013**, Page 249-263;

As Co-author:

9. Karen A. Simon, Gauri Shetye, Ulrich Englich, **Lei Wu**, Yan-Yeung Luk*, Noncovalent Polymerization of Mesogens Crystallizes Lysozyme: Correlation between Nonamphiphilic Lyotropic Liquid Crystal Phase and Protein Crystal

Formation, *Langmuir*, **2011**, *17*, 10901-10906.

8. An-Kun Zhou, **Lei Wu**, Da-Zhi Li, Qing-Qing Chen, Xiao Zhang, A Novel Metal-free Reductive Esterification of N-Tosylhydrazones with Carboxylic Acids, *Chinese Journal of Chemistry*, **2012**, *30*, 1862-1866.
7. Karen A. Simon, Erik A. Burton, Fei Cheng, Nisha Varghese, Eric R. Falcone, **Lei Wu** and Yan-Yeung Luk*, Controlling Thread Assemblies of Pharmaceutical Compounds in Liquid Crystal Phase by Using Functionalized Nanotopography. *Chemical Materials*, **2010**, *22*, 2434.
6. Yan-Yeung Luk, **Lei Wu**, Jyotsana Lal, Karen A. Simon, Erik A. Burton, Noncovalent polymer assembly in water and their applications in materials fabrication, *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY*, **2010**, *240*, 818-ORGN.
5. Sri Kamesh Narasimhan, Deborah J. Kerwood, **Lei Wu**, Jun Li, Rosina Lombardi, Teresa B. Freedman* and Yan-Yeung Luk*, Induced Folding by Chiral Non-Planar Aromatics. *Journal of Organic Chemistry*, **2009**, *74*, 7023.
4. Shuyu Hou, Erik A. Button, **Ricky Lei Wu**, Yan-Yeung Luk, Dacheng Ren, Prolonged control of patterned biofilm formation by bio-inert surface chemistry, *Chemical Communications*, **2009**, 1207-1209.
3. Bao-Lin Li, **Lei Wu**, Yan-Mei He, Qing-Hua Fan, The Synthesis and Properties of Iridium(III)-Cored Dendrimers with Carbazole Peripherally Functionalized β -Diketonato Dendrons. *Dalton Transactions*, **2007**, *20*, 2048.
2. Yi-Yong Huang, Yan-Mei He, Hai-Feng Zhou, **Lei Wu**, Bao-Lin Li, Qing-Hua Fan, Thermomorphic system with

non-fluorous phase-tagged Ru(BINAP) catalyst: Facile liquid/solid catalyst separation and application in asymmetric hydrogenation, *Journal of Organic Chemistry*, **2006**, 71, 2874-2877.

1. Hai-Feng Zhou, Qing-Hua Fan, Yi-Yong Huang, Lei Wu, Yan-Mei He, Wei-Jun Tang, Lian-Quan Gu, Albert S. C. Chan, Mixture of poly(ethylene glycol) and water as environmentally friendly media for efficient enantioselective transfer hydrogenation and catalyst recycling, *Journal of Molecular Catalysis A-Chemical*, **2007**, 275, 47-53.