


华南理工大学化学与化工学院老师简介

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职称	教授	民族	汉	最高学位	博士	党派	中共党员	
招生专业	有机化学		研究方向	有机合成/二氧化碳固定				
主要学习工作经历和主要学术兼职	<p>2018.9-至今 华南理工大学化学与化工学院，教授</p> <p>2010.9-2018.8 华南理工大学化学与化工学院，副教授</p> <p>2017.7-2018.6 日本理化学研究所（RIKEN），访问学者</p> <p>2013.2-2013.4 法国里昂一大，化学和生物化学研究所，访问学者</p> <p>2007.7-2010.8 华南理工大学化学与化工学院，讲师</p> <p>2004.9-2007.6 华南理工大学化学科学学院应用化学专业，博士</p> <p>2001.9-2004.6 西安石油大学化学化工学院应用化学专业，硕士</p> <p>1996.7-2001.8 中原石油化工有限公司乙烯车间，助理工程师</p> <p>1993.9-1996.6 西安石油学院化学工程系</p>							
科学研究情况简介	<p>主要从事二氧化碳化学固定、有机合成及绿色化学方面的基础应用研究和有机化学教学工作。先后主持国家自然科学基金面上项目3项、国家重点基础研究发展计划（973计划）和国家重点研发项目子课题各1项，广东省自然科学基金面上项目2项，广东省自然科学基金博士启动项目1项，以及华南理工大学基本科研业务费重点及面上项目3项。还作为主要研究成员参与了国家杰出青年基金项目、国家自然科学基金重点项目、国家自然科学基金面上项目、广东省自然科学基金重点项目、广东省自然科学基金团队项目和广东省科技攻关项目等资助的多项研究。在Angew. Chem. Int. Ed.、ACS Catal.、Chem. Sci.、Green Chem.、Org. Lett.、J. Org. Chem.、Adv. Synth. Catal.、Chem. Commun.、Chem. Eur. J.、Synthesis、Synlett 及《中国科学》等国内外化学领域主流期刊发表SCI学术论文60多篇，获得授权中国发明专利15项。</p> <p>主持的科研项目：</p> <p>（1）国家自然科学基金面上项目，过渡金属与光协同催化二氧化碳切断与重组构建杂环化合物的新方法及其应用（21971073），2020/01-2023/12。</p> <p>（2）国家重点研发项目“CO₂及其它碳资源废弃物的减排与转化（2016YFA0602904）”子课题，2016/06-2021/05。</p> <p>（3）国家自然科学基金面上项目，运用二氧化碳羰基源的碳碳键和碳杂键构建新方法研究及其应用（21572071），2016/01-2019/12。</p> <p>（4）国家自然科学基金面上项目，氮杂环卡宾 IB 族过渡金属络合物及其应用于二氧化碳转化反应研究（21172078），2012/01-2015/12。</p> <p>（5）国家重点基础研究发展计划（973 计划）子课题，利用分离的 CO₂ 合成碳酸酯材料（2010CB732206），2010/01-2014/08。</p> <p>（6）广东省自然科学基金项目，二氧化碳对映选择性转化构建手性氨基甲酸酯的新方法及其应用（2019A1515011468），2019/10-2022/09。</p> <p>（7）广东省自然科学基金项目，二氧化碳选择性切断与重组构建杂化化合物的研究（2017A030313054），2017/05-2020/05。</p> <p>（8）企业研发项目，佛甲草活性成分的提取和应用（x2hg/D8172870），2017/05-2019/06。</p>							

(9) 华南理工大学基本科研业务费重点项目, 二氧化碳合成氨基甲酸酯的新方法研究及其应用 (2015ZZ038), 2015/01-2016/12。

(10) 华南理工大学基本科研业务费面上项目, 基于二氧化碳资源化利用的原子经济性反应及实用催化体系 (2013ZM0061), 2013/01-2014/12。

(11) 华南理工大学基本科研业务费重点项目, N-杂环卡宾金属配合物的设计、合成及其在催化二氧化碳活化转化中的应用 (2011ZZ007), 2011/01-2012/12。

(12) 广东省自然科学基金博士启动项目, 化学固定二氧化碳为氨基甲酸酯的绿色工艺研究 (8451064101000236), 2008/10-2010/10。

近期代表性论文:

1. Lu Wang, Fuxing Shi, **Chaorong Qi**,* Wenjie Xu, Wenfang Xiong, Bangxiong Kang, and Huanfeng Jiang*. Stereodivergent Synthesis of β -Iodoenol Carbamates with CO₂ via Photocatalysis. *Chem. Sci.* **2021**, DOI: 10.1039/d1sc03366b.
2. Hongjian Liu, **Chaorong Qi**,* Lu Wang, Yanhui Guo, Dan Li, and Huanfeng Jiang*. Base-Promoted Three-Component Cascade Reaction of α -Hydroxy Ketones, Malonodinitrile, and Alcohols: Direct Access to Tetrasubstituted NH-Pyrroles. *J. Org. Chem.* **2021**, *86*, 9610–9620.
3. Wenfang Xiong, Bowen Wu, Baiyao Zhu, Xiaobin Tan, Lu Wang, Wanqing Wu, Chaorong Qi,* and Huanfeng Jiang*. One-Pot Palladium-Catalyzed Carbonylative Sonogashira Coupling using Carbon Dioxide as Carbonyl Source. *ChemCatChem* **2021**, *13*, 2843–2851.
4. Lu Wang, Pan Wang, Tianzuo Guo, Wenfang Xiong, Bangxiong Kang, **Chaorong Qi**,* Gen Luo,* Yi Luo and Huanfeng Jiang*. Copper-catalyzed four-component reaction of alkenes, Togni's reagent, amines and CO₂: stereoselective synthesis of (*Z*)-enol carbamates. *Org. Chem. Front.* **2021**, *8*, 1851–1857.
5. Wenfang Xiong, **Chaorong Qi**,* Huanfeng Jiang*. Recent advances in the Pd-catalyzed carboxylation reactions using carbon dioxide as carbonyl source (in Chinese). *Chin. Sci. Bull.* **2021**, *66*, 757–772.
6. Xuan Zhou, Qiong Wang, Wenfang Xiong, Lu Wang, Rongkai Ye, Ge Xiang, **Chaorong Qi**,* Jianqiang Hu*. Epoxidation of Alkenes with Molecular Oxygen as the Oxidant in the Presence of Nano-Al₂O₃. *Synlett* **2020**, *31*, 1789–1794.
7. Ruixiang Cheng, **Chaorong Qi**,* Lu Wang, Wenfang Xiong, Hongjian Liu and Huanfeng Jiang*. Visible Light-Promoted Synthesis of Organic Carbamates from Carbon Dioxide under Catalyst- and Additive-Free Conditions. *Green Chem.* **2020**, *22*, 4890–4895.
8. Wenfang Xiong, Fuxing Shi, Ruixiang Cheng, Baiyao Zhu, Lu Wang, Pengquan Chen, Hongming

- Lou, Wanqing Wu, **Chaorong Qi**,* Ming Lei,* and Huanfeng Jiang*. Palladium-Catalyzed Highly Regioselective Hydrocarboxylation of Alkynes with Carbon Dioxide. *ACS Catal.* **2020**, *10*, 7968–7978.
9. Wenfang Xiong, Ruixiang Cheng, Bowen Wu, Wanqing Wu, **Chaorong Qi*** and Huanfeng Jiang*. Palladium-catalyzed regioselective cascade reaction of carbon dioxide, amines and allenes for the synthesis of functionalized carbamates. *Sci. China Chem.* **2020**, *63*, 331–335.
10. Ruixiang Cheng, Wenfang Xiong, **Chaorong Qi**,* Lu Wang, Yanwei Ren and Huanfeng Jiang. Macrocyclization of 3-triflyloxybenzynes with tetrahydrofuran via an anionic thia-Fries rearrangement. *Chem. Commun.* **2020**, *56*, 6495-6498.
11. Lu Wang, **Chaorong Qi**,* Ruixiang Cheng, Hongjian Liu, Wenfang Xiong, and Huanfeng Jiang*. Direct Access to Trifluoromethyl-Substituted Carbamates from Carbon Dioxide via Copper-Catalyzed Cascade Cyclization of Enynes. *Org. Lett.* **2019**, *21*, 7386–7389.
12. Lu Wang, **Chaorong Qi**,* Tianzuo Guo, and Huanfeng Jiang*. Direct Access to α -Oxoketene Aminals via Copper-Catalyzed Formal Oxyaminalization of Alkenes under Mild Conditions. *Org. Lett.* **2019**, *21*, 2223-2226.
13. Qiong Wang, Wenfang Xiong, Xiulong Deng, Xuan Zhou, **Chaorong Qi**,* and Jianqiang Hu*. Silver-Nanowire-Catalyzed Three-Component Coupling of Carbon Dioxide, Amines and Propargylic Alcohols for the Synthesis of β -Oxopropyl Carbamates. *Asian J. Org. Chem.* **2019**, *8*, 179–184.
14. **Chaorong Qi**,* Youbin Peng, Lu Wang, Yanwei Ren, and Huanfeng Jiang. Copper-Catalyzed [2 + 3] Cyclization of α -Hydroxyl Ketones and Arylacetonitriles: Access to Multisubstituted Butenolides and Oxazoles. *J. Org. Chem.* **2018**, *83*, 11926–11935.
15. Wenfang Xiong, **Chaorong Qi**,* Ruixiang Cheng, Hao Zhang, Lu Wang, Donghao Yan and Huanfeng Jiang*. A four-component coupling reaction of carbon dioxide, amines, cyclic ethers and 3-triflyloxybenzynes for the synthesis of functionalized carbamates. *Chem. Commun.* **2018**, *54*, 5835–5838.
16. Wenfang Xiong, Donghao Yan, **Chaorong Qi**,* and Huanfeng Jiang*. Palladium-Catalyzed Four-Component Cascade Reaction for the Synthesis of Highly Functionalized Acyclic O,O-Acetals. *Org. Lett.* **2018**, *20*, 672–675.
17. **Chaorong Qi**,* Donghao Yan, Wenfang Xiong, Huanfeng Jiang*. Silver-catalyzed regioselective coupling of carbon dioxide, amines and aryloxyallenes leading to O-allyl carbamates. *J. CO₂ Util.* **2018**, *24*, 120–127.

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19. **Chaorong Qi**,* Youbin Peng, Lu Ouyang, Yanwei Ren, Huanfeng Jiang*. Base-Promoted Addition of Arylacetonitriles to Terminal Alkynes: Regio- and Stereoselective Access to Disubstituted Acrylonitriles. *Adv. Synth. Catal.* **2017**, *359*, 1339–1350.
20. **Chaorong Qi**,* Xiaohan Hua and Huanfeng Jiang*. Copper-mediated C-H cyanation of (hetero)arenes with ethyl (ethoxymethylene)cynoacetate as a cyanating agent. *Chem. Commun.* **2017**, *53*, 7994–7997.
21. Youbin Peng, Juan Liu, **Chaorong Qi**,* Gaoqing Yuan,* Jiawei Li and Huanfeng Jiang. $n\text{Bu}_4\text{NI}$ -catalyzed oxidative cross-coupling of carbon dioxide, amines, and aryl ketones: access to O-b-oxoalkyl carbamates. *Chem. Commun.* **2017**, *53*, 2665–2668.
22. Wenfang Xiong, **Chaorong Qi**,* Tianzuo Guo, Min Zhang, Kai Chena and Huanfeng Jiang*. A copper-catalyzed oxidative coupling reaction of arylboronic acids, amines and carbon dioxide using molecular oxygen as the oxidant, *Green Chem.* **2017**, *19*, 1642–1646.
23. **Chaorong Qi**,* Tianzuo Guo, Wenfang Xiong, Lu Wang, and Huanfeng Jiang*. Silver-Promoted Coupling of Carbon Dioxide, o-Alkynylanilines and Diaryliodonium Salts: Straightforward Access to 4-Aryloxy-2-quinolinones. *ChemistrySelect* **2017**, *2*, 4691–4695.
24. Wenfang Xiong, **Chaorong Qi**,* Haitao He, Lu Ouyang, Min Zhang and Huanfeng Jiang*. Base-promoted coupling of carbon dioxide, amines and N-tosylhydrazones: a novel and versatile approach to carbamates. *Angew. Chem. Int. Ed.* **2015**, *54*, 3084–3087.
25. Lu Ouyang, **Chaorong Qi**,* Haitao He. Youbin Peng, Wenfang Xiong, Yanwei Ren, and Huanfeng Jiang*. Base-Promoted Formal [4 + 3] Annulation between 2-Fluorophenylacetylenes and Ketones: A Route to Benzoxepines. *J. Org. Chem.* **2016**, *81*, 912–919.
26. **Chaorong Qi**,* Xiaohan Hu, Haitao He. Copper Iodide-Mediated Cyanation of Aryl Boronic Acids and Aryl Iodides with Ethyl (Ethoxymethylene)cynoacetate as Cyanating Agent. *Synlett* **2016**, *27*, 1979–1982.
27. Wenfang Xiong, **Chaorong Qi**,* Youbin Peng, Tianzuo Guo, Min Zhang, and Huanfeng Jiang*. Base-Promoted Coupling of Carbon Dioxide, Amines and Diaryliodonium Salts: A Phosgene- and Metal-Free Route to O-Aryl Carbamates. *Chem. Eur. J.* **2015**, *21*, 14314–14318.
28. Haitao He, **Chaorong Qi**,* Xiaohan Hu, Lu Ouyang, Wenfang Xiong, and Huanfeng Jiang*. Copper-Catalyzed [4 + 1] Annulation between α -Hydroxy Ketones and Nitriles: An Approach to

	<p>Highly Substituted 3(2H)-Furanones. <i>J. Org. Chem.</i> 2015, <i>80</i>, 4957–4965.</p> <p>29. Lu Ouyang, Xiaodong Tang, Haitao He, Chaorong Qi,* Wenfang Xiong, Yanwei Ren, and Huanfeng Jiang*. Copper-Promoted Coupling of Carbon Dioxide and Propargylic Alcohols: Expansion of Substrate Scope and Trapping of Vinyl Copper Intermediate. <i>Adv. Synth. Catal.</i> 2015, <i>357</i>, 2556–2565.</p> <p>30. Haitao He, Chaorong Qi,* Xiaohan Hu, Yuqi Guan and Huanfeng Jiang, Efficient synthesis of tertiary α-hydroxy ketones through CO₂-promoted regioselective hydration of propargylic alcohols. <i>Green Chem.</i> 2014, <i>16</i>, 3729–3733.</p> <p>31. Haitao He, Chaorong Qi,* Yanglu Ou, Wenfang Xiong, Xiaohan Hu, Yanwei Ren and Huanfeng Jiang, Base-promoted annulation of α-hydroxy ketones and dimethyl but-2-ynedioate: straightforward access to pyrano[4,3-a]quinolizine-1,4,6(2H)-triones and 2H-pyran-2,5(6H)-diones. <i>Org. Biomol. Chem.</i> 2014, <i>12</i>, 8128–8131.</p> <p>32. Xiaodong Tang, Chaorong Qi,* Haitao He, Huanfeng Jiang,* Yanwei Ren, and Gaoqing Yuan. Polystyrene-supported N-heterocyclic carbene–silver complexes as robust and efficient catalysts for the reaction of carbon dioxide and propargylic alcohols. <i>Adv. Synth. Catal.</i> 2013, <i>355</i>, 2019–2028.</p>			
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