个人简介

高庆贺，男，2016 年 6 月毕业于华中师范大学，获博士学位。教授，硕士生导师，河南省骨干研究生导师，河南省文明教师，新乡市文明教师，新乡医学院“太行青年学者”，新乡医学院“最美教师”，河南医药大学“模范教师”，河南省化学会理事，河南省药学会药物化学专业委员会委员。主持国家重点研发计划子课题 1 项，河南省自然科学基金面上项目 1 项，河南省高等学校重点科研项目 1 项，作为主要成员参与国家自然基金等项目 2 项，指导大学生主持完成河南省创新课题重点项目 1 项；申请国家发明专利 12 项，已授权 10 项；申请美国专利 1 项，已授权 1 项。以第一作者或通讯作者在 Organic Letters、Organic Chemistry Frontiers、Advanced Synthesis Catalysis 等顶级学术期刊上发表论文 32 篇，他引次数 2200 余次，h-index 为 28。

联系方式

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研究方向

✓ 有机合成方法学：碘的金属性催化行为、三级胺的远程活化，以及氮杂环的骨架编辑。
✓ 药物合成工艺的开发：主要进行嘧啶类小分子药物的高效简捷的合成和工艺开发。

招生方向

✓ 学术学位硕士（学硕）：药物化学
✓ 专业学位硕士（专硕）：药物研发与转化、临床药学与应用

教育经历

✓ 2010/09-2016/06，华中师范大学，有机化学专业，理学博士（硕博连读）
✓ 2006/09-2010/06，河南师范大学，化学专业，理学学士

工作经历

✓ 2016/06-2020/04，新乡医学院，药学院，讲师
✓ 2020/04-2026.01，新乡医学院，药学院，副教授
✓ 2026.01-至今，河南医药大学，药学院，教授

承担项目

- ✓ 科技部，国家重点研发计划“政府间国际科技创新合作”重点专项项目子课题，2020-12 至 2023-11，20 万元，已结题，主持。
- ✓ 河南省科技厅，河南省自然科学基金项目面上项目，242300421356，链状烷基叔胺 C-H 键官能团化关联的环化反应研究，2024-01 至 2025-12，10 万元，在研，主持。
- ✓ 国家自然科学基金委员会，NSFC-河南联合基金，U1704184，特异性靶向 LSD1 小分子降解剂的设计、合成及抗肿瘤活性研究，2018-01 至 2020-12，51 万元，已结题，参加。
- ✓ 河南省教育厅，河南省高等学校重点科研项目， 19A350010，基于碘诱导酮肟酯产生亚胺自由基构建氮杂环化合物合成的研究，2019-01 至 2020-12，3 万，已结题，主持。

代表性论文

- ✓ Mengjie Li（研究生）, Fang Bai, Xiaofei Xu, Yanyan Yin, Yuqiao Chang,* Binghui Liu, Wanxin Su, Yubo Wang, **Qinghe Gao.*** Merging Single-Electron Transfer and Strecker Degradation to Access Densely Substituted Pyridines. *Adv. Synth. Catal.* **2025**, *367*, e70191.
- ✓ Fang Bai（研究生）, Pengpeng Liu, Hongyan Xu,* Mengjie Li, Binghui Liu, Miaomiao Xu and **Qinghe Gao.*** Auto-oxidation-driven vicinal C(sp^3)–H desaturative cyclization of tertiary alkylamines for the synthesis of pyrido[3,2-*c*]coumarins. *Chem. Commun.* **2025**, *61*, 16818–16821.
- ✓ Guangping Fan (研究生) , Penghui Cao, Fang Bai, Yanyan Yin, Xueyan Hou, Yani Liu, Zhenzhen Xing, Yanhui Wang, Tangqiang Sun,* and **Qinghe Gao.*** I_2-Promoted oxidative annulation of three different amines to access diverse biheteroaryls. *Org. Chem. Front.* **2025**, *12*, 90–96.
- ✓ Penghui Cao（研究生）, Guangping Fan, Xiaofei Zhao, Xinyu Ren, Yuru Wang, Yuying Wang, and **Qinghe Gao.*** Regioselective synthesis of 3,4-diarylpyrimido[1,2-*b*]indazole derivatives enabled by iron-catalyzed ring-opening of styrene oxides. *Chem. Commun.* **2024**, *60*, 11742–11745.
- ✓ **Qinghe Gao,*** Yimei Guo, Zhenhua Sun, Xiaodan He, Yiqiao Gao, Guangping Fan, Penghui Cao, Lizhen Fang, Suping Bai, and Yanlong Jia.* Deaminative Cyclization of Tertiary Amines for the Synthesis of 2-Arylquinoline Derivatives with a Nonsubstituted Vinylene Fragment. *Org. Lett.* **2023**, *25*, 109–114.
- ✓ **Qinghe Gao,*** Zhenhua Sun, Manman Wu, Yimei Guo, Xinya Han,* Jufen Yan, Minh Ngoc Ha, Quynh Mai Le, and Yongtao Xu.* Di-tert-butyl peroxide as an effective two-carbon unit in oxidative radical cyclization toward 7-methylazolo[1,5-*a*]pyrimidines, *Org. Chem. Front.* **2022**, *9*, 3050−3056.
- ✓ Yimei Guo（研究生）, and **Qinghe Gao.*** Recent advances in 3-aminoindazoles as versatile synthons for the synthesis of nitrogen heterocycles, *Org. Biomol. Chem.* **2022**, *20*, 7138–7150.
- ✓ **Qinghe Gao,*** Manman Wu, Le Zhang, Pengju Xu, He Wang, Zhenhua Sun, Lizhen Fang, Yingchao Duan, Suping Bai, Xiangyu Zhou, Mingxin Han, Jixia Zhang, and Jieli Lv.* Open-Air Dual-Diamination of Aromatic Aldehydes: Direct Synthesis of Azolo-Fused 1,3,5-Triazines Facilitated by Ammonium Iodide. *J. Org. Chem.* **2021**, *86*, 17265−17273.

- ✓ **Qinghe Gao**, Zhenhua Sun, Qinfei Xia, Ruonan Li, Wenlong Wang, Siwei Ma, Yixin Chai, Manman Wu, Wei Hu, Péter A´brányi-Balogh, György M. Keseru˝, and Xinya Han.* Vinylation of α–Aminoazoles with Triethylamine: A General Strategy to Construct Azolo[1,5-*a*]pyrimidines with a Nonsubstituted Ethylidene Fragment. *Org. Lett.* **2021**, *23*, 2664–2669.
- ✓ **Qinghe Gao,*** Manman Wu, Ke Zhang, Ning Yang, Mengting Liu, Juan Li, Lizhen Fang, Suping Bai, and Yongtao Xu.* I_2-Catalyzed Aerobic α,β-Dehydrogenation and Deamination of Tertiary Alkylamines: Highly Selective Synthesis of Polysubstituted Pyrimidines via Hidden Acyclic Enamines. *Org. Lett.* **2020**, *22*, 5645−5649.
- ✓ **Qinghe Gao,*** Xinya Han, Peiyuan Tong, Zhiang Zhang, Haotian Shen, Yanrong Guo, and Suping Bai. Aerobic α,β-C(sp^3)-H Bond Difunctionalization and C-N Bond Cleavage of Triethylamine: Difunctional Ammonium Iodide Enabling the Regioselective Synthesis of 4-Arylpyrimido[1,2-*b*]indazoles. *Org. Lett.* **2019**, *21*, 6074−6078.
- ✓ **Qinghe Gao,*** Zhaomin Liu, Yakun Wang, Xia Wu, Jixia Zhang, and Anxin Wu.* I_2-Triggered Reductive Generation of N-Centered Iminyl Radicals: An Isatin-to-Quinoline Strategy for the Introduction of Primary Amides. *Adv. Synth. Catal.* **2018**, *360*, 1364–1369.
- ✓ **Qinghe Gao**,* Shuang He, Xia Wu, Jingjing Zhang, Suping Bai, Yandong Wu, and Anxin Wu.* Selective access to dipyrazolo-fused pyridines via formal [3 + 2 + 1] heteroannulation of methyl ketones with pyrazol-5-amines. *Org. Chem. Front.* **2018**, *5*, 765–768.
- ✓ **Qinghe Gao,*** Huijuan Yan, Manman Wu, Jiajia Sun, Xiqing Yan, and Anxin Wu. Direct synthesis of 2-methylpyridines via I_2-triggered [3 + 2 + 1] annulation of aryl methyl ketoxime acetates with triethylamine as the carbon source. *Org. Biomol. Chem.* **2018**, *16*, 2342–2348.
- ✓ **Qinghe Gao,*** Yakun Wang, Qianqian Wang, Yanping Zhu, Zhaomin Liu, and Jixia Zhang. I_2-Triggered N-O cleavage of ketoxime acetates for the synthesis of 3-(4-pyridyl)indoles. *Org. Biomol. Chem.* **2018**, *16*, 9030–9037.
- ✓ Xia Wu, Jingjing Zhang, Shan Liu, **Qinghe Gao,*** and Anxin Wu.* An Efficient Synthesis of Polysubstituted Pyridines via Csp^3-H Oxidation and C-S Cleavage of Dimethyl Sulfoxide. *Adv. Synth. Catal.* **2016**, *358*, 218–225.
- ✓ **Qinghe Gao**, Shan Liu, Xia Wu, Jingjing Zhang, and Anxin Wu.* Direct Annulation of Hydrazides to 1,3,4-Oxadiazoles via Oxidative C(CO)–C(methyl) Bond Cleavage of Methyl Ketones. *Org. Lett.* **2015**, *17*, 2960−2963.
- ✓ **Qinghe Gao**, Jingjing Zhang, Xia Wu, Shan Liu, and Anxin Wu.* Direct Regioselective Oxidative Cross-Coupling of Indoles with Methyl Ketones: A Novel Route to C3-Dicarbonylation of Indoles. *Org. Lett.* **2015**, *17*, 134−137.
- ✓ **Qinghe Gao**, Shan Liu, Xia Wu, Jingjing Zhang, and Anxin Wu.* Coproduct Promoted Povarov Reaction: Synthesis of Substituted Quinolines from Methyl Ketones, Arylamines, and α-Ketoesters. *J. Org. Chem.* **2015**, *80*, 5984−5991.
- ✓ **Qinghe Gao**, Shan Liu, Xia Wu, and Anxin Wu.* Povarov-Type Reaction Using Methyl as New Input: Direct Synthesis of Substituted Quinolines by I_2-Mediated Formal [3 + 2 + 1] Cycloaddition. *Org. Lett.* **2014**, *16*, 4582−4585.
- ✓ **Qinghe Gao**, Xia Wu, Shan Liu, and Anxin Wu.* I_2-Promoted Selective Oxidative Cross-Coupling/Annulation of 2-Naphthols with Methyl Ketones: A Strategy To Build Naphtho[2,1-*b*]furan-1(2*H*)-ones with a Quaternary Center. *Org. Lett.* **2014**, *16*, 1732−1735.
- ✓ **Qinghe Gao**, Xia Wu, Yuhong Li, Shan Liu, Xianggao Meng, and Anxin Wu.* Iodine-Promoted Sequential C(sp^3)-H Functionalization Reaction: An Annulation Strategy for the Construction of 3-Methylthio-4-Aryl-Maleimides. *Adv. Synth. Catal.* **2014**, *356*, 2924–2930.

- ✓ **Qinghe Gao**, Shan Liu, Xia Wu, and Anxin Wu.* Convergent integration of three self-sorting domino sequences: three-component direct synthesis of 3-methylthio-4-aryl- maleimides from methyl ketones with acetonitrile and DMSO. *Tetrahedron Lett.* **2014**, *55*, 6403–6406.
- ✓ **Qing-He Gao**, Zhuan Fei, Yan-Ping Zhu, Mi Lian, Feng-Cheng Jia, Mei-Cai Liu, Neng-Fang She*, and An-Xin Wu.* Metal-free dual sp^3 C-H functionalization: I_2-promoted domino oxidative cyclization to construct 2,5-disubstituted oxazoles. *Tetrahedron* **2013**, *69*, 22–28.
- ✓ **Qinghe Gao**, Xia Wu, Fengcheng Jia, Meicai Liu, Yanping Zhu, Qun Cai, and Anxin Wu.* Design and Synthesis of 2-Acylbenzothiazoles via In Situ Cross-Trapping Strategy from Benzothiazoles with Aryl Ketones. *J. Org. Chem.* **2013**, *78*, 2792−2797.
- ✓ **Qinghe Gao**, Yanping Zhu, Mi Lian, Meicai Liu, Jingjing Yuan, Guodong Yin,* and Anxin Wu.* Unexpected C−C Bond Cleavage: A Route to 3,6-Diarylpyridazines and 6-Arylpyridazin-3-ones from 1,3-Dicarbonyl Compounds and Methyl Ketones. *J. Org. Chem.* **2012**, *77*, 9865−9870.
- ✓ Jia-Chen Xiang, **Qing-He Gao**, and An-Xin Wu, Solvents as Reagents in Organic Synthesis (Ed,: Xiao-Feng Wu), Wiley-VCH, 2017, pp 315-353. (专著专章)

已授权发明专利

- ✓ **高庆贺**, 刘兴霞, 刘兆敏, 杨利敏, 原焕, 贺爽。一种喹啉-4-甲酰胺类化合物的合成方法, 2020.06.05, 中国, ZL201710823302.2
- ✓ **高庆贺**, 刘兴霞, 原焕, 王亚坤, 仝培源, 申昊天, 张志昂, 张伟荣, 张积霞。一种 3-(4-吡啶)吲哚类化合物的合成方法, 2020.06.26, 中国, ZL201811073559.1
- ✓ **高庆贺**, 原焕, 刘兆敏, 吴曼曼, 孙佳佳, 周晨阳。一种 2-甲基吡啶类化合物的合成方法, 2020.11.03, 中国, ZL201810090848.6
- ✓ **高庆贺**, 邱培勇, 刘兆敏, 杨利敏, 吴曼曼。一种嘧啶并吲唑类化合物的合成方法, 2021.05.04, 中国, ZL201910303026.6
- ✓ **高庆贺**, 韩新亚, 徐永涛, 段迎超, 吕洁丽, 房立真, 张妍, 严菊芬, 李莹莹。一种扎来普隆的制备方法, 2022.03.04, 中国, ZL202110187247.9
- ✓ **高庆贺**, 杨利敏, 刘兆敏, 张涛, 张积霞, 李莹莹。一种茚地普隆中间体的制备方法, 2022.03.22, 中国, ZL202110187234.1
- ✓ **高庆贺**, 刘兆敏, 李莹莹, 房立真, 白素平, 武利强, 吕洁丽, 段迎超, 吴曼曼, 孙振华。一种吡唑并[1,3,5]三嗪类化合物的合成方法, 2022.09.30, 中国, ZL202111002466.1
- ✓ **高庆贺**, 吴曼曼, 杨利敏, 白素平, 房立真, 李莹莹。一种含烷基和芳基嘧啶类化合物的合成方法, 2023.01.13, 中国, ZL202010182744.5
- ✓ **高庆贺**, 孙堂强, 吕洁丽, 段迎超, 房立真, 宋宇, 吴曼曼, 孙振华, 李莹莹。一种吡唑并嘧啶类化合物的合成方法, 2023.06.13, 中国, ZL202110187194.0
- ✓ **高庆贺**, 尹延彦, 贾岩龙, 李莹莹, 武利强, 高一乔, 宋宇, 郭一美。一种含烷基和芳基苯并喹啉类化合物的合成方法, 2025.12.09, 中国, ZL202211485455.8
- ✓ **Qinghe Gao**, Xinya Han, Yongtao Xu, Yingchao Duan, Jieli Lv, Lizhen Fang, Yan Zhang, Jufen Yan, Yingying Li, Preparation method of zaleplon, 2025.01.14, United States Patent, US 12195474B2

成果奖励

- ✓ **高庆贺**（2/11），靶向蛋白的抗病毒小分子抑制剂的计算设计与实验合成关键技术，2024 年度河南省教育厅科技成果奖二等奖，证书号：豫教〔2024〕07558（徐永涛、高庆贺、赵俊强、杨 敏、韩迪、路嘉瑞、王守英、王美婷、刘太刚、崔韶丽、常金龙）
- ✓ 郭一美，2024 年河南省优秀硕士学位论文，证书号：豫教〔2025〕34780
- ✓ 孙振华，河南省研究生创新之星，证书号：豫教〔2023〕96
- ✓ 郭一美，河南省研究生创新之星，证书号：豫教〔2023〕438
- ✓ 吴曼曼，2022 年河南省优秀硕士学位论文，证书号：豫教〔2023〕70496