

Zhongxing Huang

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Positions

- 2019-current **Assistant Professor, University of Hong Kong**
2017-2019 **Postdoctoral Fellow, Stanford University**
 Advisor: Professor Barry M. Trost

Education

- 2012-2017 **Ph.D. in Chemistry, University of Chicago**
 Advisor: Professor Guangbin Dong
2008-2012 **B.S. in Chemistry, Peking University**
 Advisor: Professor Jianbo Wang and Professor Yan Zhang

Awards and Honors

1. Asian Core Program Lectureship Award (to Korea and Taiwan, 2022)
2. Chinese Government Award for Outstanding Self-Financed Students Abroad (2015)
3. International Precious Metals Institute (IPMI) Elemental graduate student award (2015)
4. BaoSteel Scholarship, Peking University (2010)

Publications

Independent research:

1. Liu, Haichao; Lau, H. M.; Xu, P.; Chan, T. H.; **Huang, Z***, "Modular and Diverse Synthesis of α -Tertiary Amines and Tertiary Alcohols via Desymmetric Reduction of Malonic Esters", *Nat. Commun.* **2022**, *13*, 4759.
2. Xu, Pan; Shen, C.; Xu, A.; Low, K.-H.; **Huang, Z***, "Desymmetric Cyanosilylation of Acyclic 1,3-Diketones", *Angew. Chem. Int. Ed.* **2022**, *61*, e202208443.
3. Xu, Pengwei; Liu, S.; **Huang, Z.***, "Desymmetric Partial Reduction of Malonic Esters", *J. Am. Chem. Soc.* **2022**, *144*, 6918-6927.
 - Selected by ACS Editors' Choice.
 - Highlighted by S. Chakrabarty in JACS Spotlights, **2022**, *144*, 6623-6624.
4. Zheng, Yin; Zhang, S.; Low, K.-H.; Zi, W.; **Huang, Z.***, "A Unified and Desymmetric Approach to Chiral Tertiary Alkyl Halides", *J. Am. Chem. Soc.* **2022**, *144*, 1951-1961.
 - Highlighted by M. Oestreich, H. F. T. Klare, and N. Kranidiotis-Hisatomi in *Synfacts*, **2022**, *18*, 0518.
5. Xu, Pan; **Huang, Z.***, "Sewing Molecules Together with Light", *Trends Chem.* **2022**, *4*, 169-171 (invited highlight).
6. Xu, Pengwei; **Huang, Z.***, "Catalytic Reductive Desymmetrization of Malonic Esters", *Nat. Chem.* **2021**, *13*, 634-642.
 - Highlighted by J. Gajewy and M. Kwit in *Nat. Chem.* **2021**, *13*, 623-624, "The gains from breaking symmetry"
 - Highlighted by L. Boerner in *C&EN News*, "Reduction carves path to chiral compounds"
 - Highlighted by G. R. Stephenson in *Chemistry&Industry*.
 - Featured in *Organic Chemistry Portal*.

Supervised research:

7. Trost, B. M.*; Wang, Y.; Buckl, A. K.; **Huang, Z.**; Nguyen, M. H.; Kuzmina, O., "Total Synthesis of Bryostatin 3", *Science* **2020**, *368*, 1007.
8. Trost, B. M.*; **Huang, Z.**, "Catalytic (3+2) Palladium-Aminoallyl Cycloaddition with Conjugated Dienes", *Angew. Chem. Int. Ed.* **2019**, *58*, 6396.

9. Trost, B. M.*; **Huang, Z.**; Murhade, G. M., "Catalytic Palladium-Oxyallyl Cycloaddition", *Science* **2018**, 362, 564.
10. **Huang, Z.**; Dong, G.*, "Palladium-Catalyzed Redox Cascade for Direct β -Arylation of Ketones", *Tetrahedron* **2018**, 74, 3253.
11. Zhu, Z.; Li, X.; Chen, S.; Chen, P.; Billett, B.; **Huang, Z.**; Dong, G.*, "Cobalt-Catalyzed Intramolecular Alkyne/Benzocyclobutenone Coupling: C–C Bond Cleavage via a Tetrahedral Dicobalt Intermediate", *ACS Catal.* **2018**, 8, 845.
12. **Huang, Z.**; Dong, G.*, "Site-Selectivity Control in Organic Reactions: A Quest to Differentiate Reactivity among the Same Kind of Functional Groups", *Acc. Chem. Res.* **2017**, 50, 465 (Invited commentary).
13. **Huang, Z.**; Wang, C.; Dong, G.*, "A Hydrazone-Based Directing Group Strategy for β -C–H Oxidation of Aliphatic Amines", *Angew. Chem. Int. Ed.* **2016**, 55, 5209.
 - Highlighted by *Organic Chemistry Portal*, Jan. 2017
14. Xu, Y.; Su, T.; **Huang, Z.**; Dong, G.*, "Practical Direct α -Arylation of Simple Cyclopentanones via Palladium-Enamine Cooperative Catalysis", *Angew. Chem. Int. Ed.* **2016**, 55, 2559.
15. **Huang, Z.**; Lim, H. N.; Mo, F.; Young, M.; Dong, G.*, "Transition Metal-Catalyzed Ketone-Directed or Mediated C–H Functionalization", *Chem. Soc. Rev.*, **2015**, 44, 7764 (invited review).
16. **Huang, Z.**; Sam, Q. P.; Dong, G.*, "Palladium-Catalyzed Direct β -Arylation of Ketones with Diaryliodonium Salts: a Stoichiometric Heavy Metal-Free and User-Friendly Approach", *Chem. Sci.* **2015**, 6, 5491.
17. **Huang, Z.**; Dong, G.*, "Catalytic C–C Bond Forming Transformations via Direct β -C–H Functionalization of Carbonyl Compounds", *Tetrahedron Lett.* **2014**, 55, 5869 (invited review).
18. **Huang, Z.**; Dong, G.*, "Catalytic Direct β -Arylation of Simple Ketones with Aryl Iodides", *J. Am. Chem. Soc.* **2013**, 135, 17747.
 - Highlighted by *C&EN News*, "Metal Duo Makes β -Aryl Ketones"
 - Highlighted by *SynForm*, **2014**, 2.
 - Highlighted by *Organic Chemistry Portal*, Sep. 2014
19. **Huang, Z.**; Yang, Y.; Xiao, Q.; Zhang, Y.; Wang, J.*, "Auto-Tandem Catalysis: Synthesis of Acridines by Pd-Catalyzed C=C Bond Formation and C(*sp*²)-N Cross-Coupling", *Eur. J. Org. Chem.* **2012**, 6586.
20. Xia, Y.; Qu, S.; Xiao, Q.; Wang, Z.; Qu, P.; Chen, L.; Liu, Z.; Tian, L.; **Huang, Z.**; Zhang, Y.; Wang, J.*, "Palladium-Catalyzed Carbene Migratory Insertion Using Conjugated Ene-Yne-Ketones as Carbene Precursors", *J. Am. Chem. Soc.* **2013**, 135, 13502.
21. Li, Y.; **Huang, Z.**; Xu, P.; Zhang, Y.*; Wang, J.*, "Studies on the Reactivity of Migrating Group in [2,3]-Sigmatropic Rearrangement of Sulfur Ylides", *Acta Chimica Sinica* **2012**, 70, 2024.
22. Li, Y.; **Huang, Z.**; Wu, X.; Xu, P.; Jin, J.; Zhang, Y.; Wang, J.*, "Rh(II)-Catalyzed [2,3]-Sigmatropic Rearrangement of Sulfur Ylides derived from *N*-Tosylhydrazones and Sulfides", *Tetrahedron* **2012**, 68, 5234.
23. Li, Y.; Shi, Y.; **Huang, Z.**; Wu, X.; Xu, P.; Zhang, Y.; Wang, J.*, "Catalytic Thia-Sommelet-Hauser Rearrangement: Application to the Synthesis of Indolin-2-ones", *Org. Lett.* **2011**, 13, 1210.

Patents

1. Dong, G.; **Huang, Z.**, "Direct β -Arylation of Carbonyl Compounds", US Patent App 20160229778 A1.