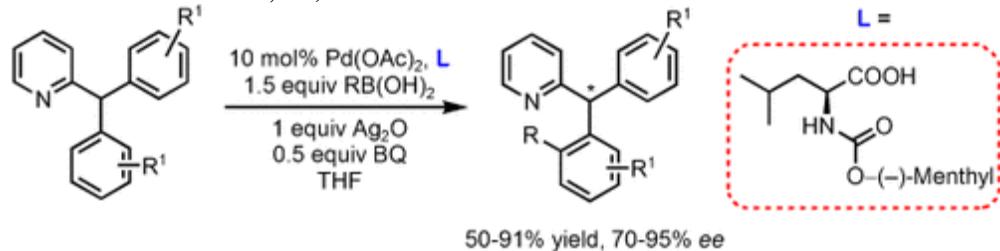
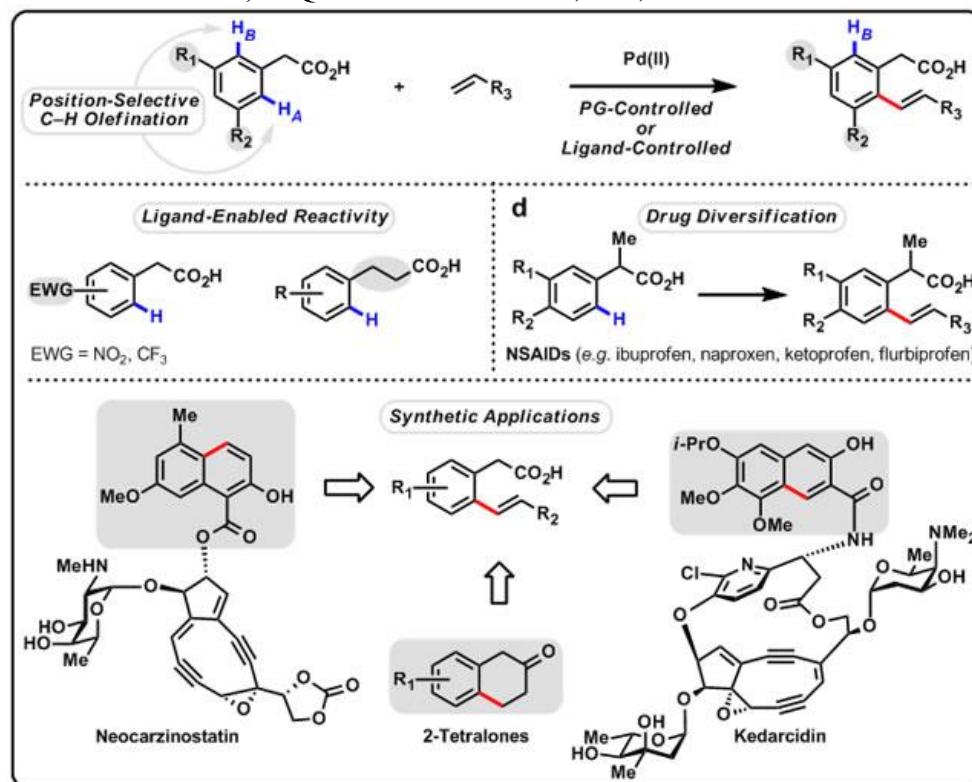


Yu Group

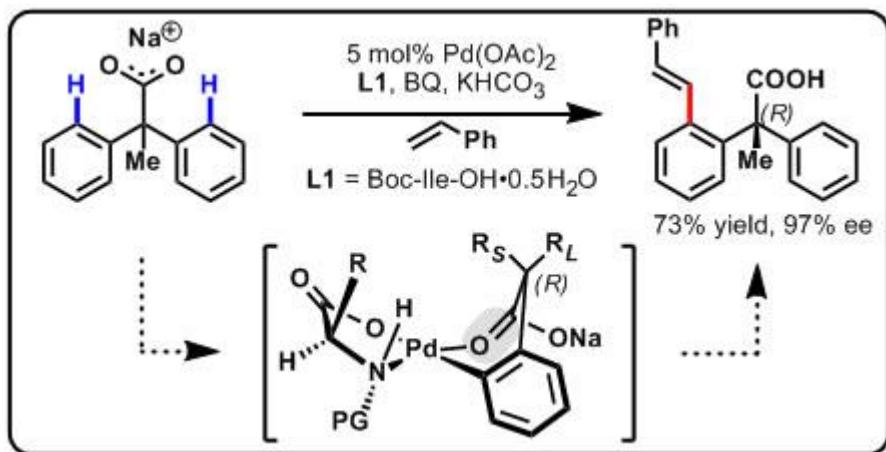
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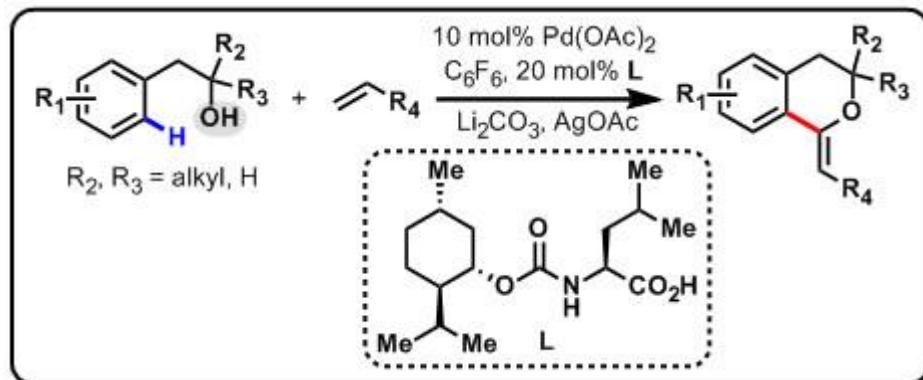
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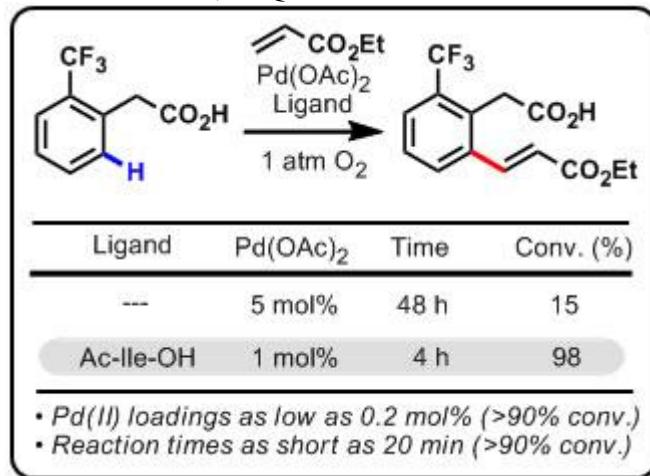
3. “Pd(II)-Catalyzed Enantioselective C–H Olefination of Diphenylacetic Acids” Yu, J.-Q. *et al. J. Am. Chem. Soc.* **2010**, 132, 460.



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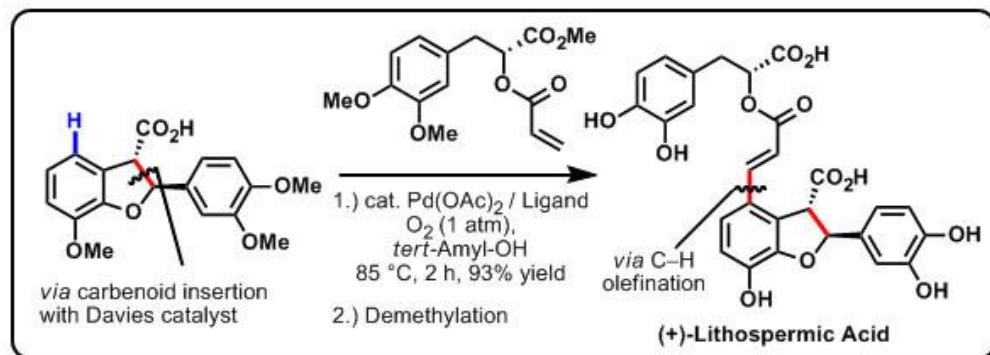


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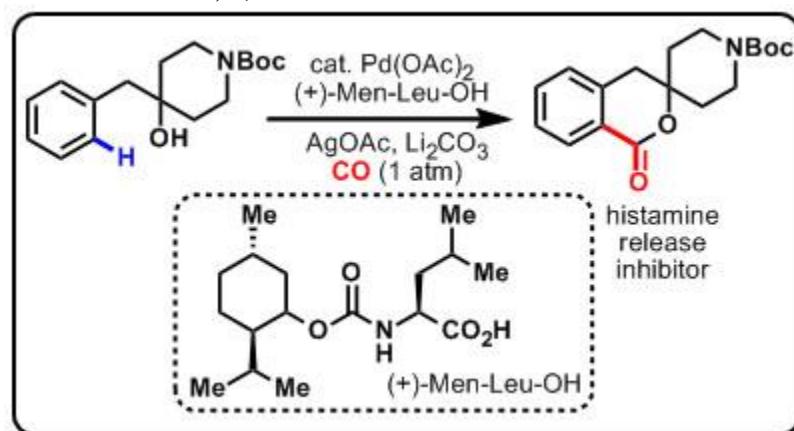


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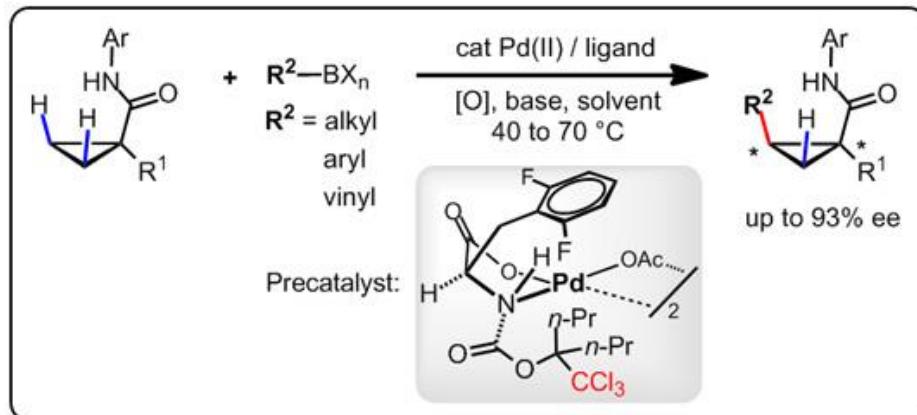
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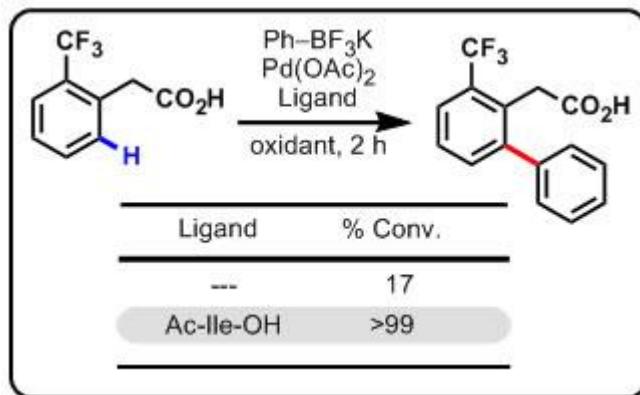
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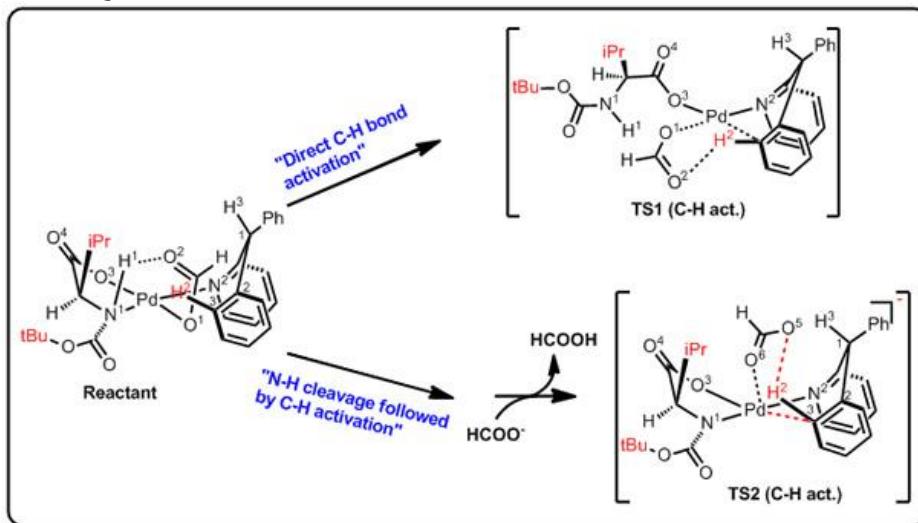
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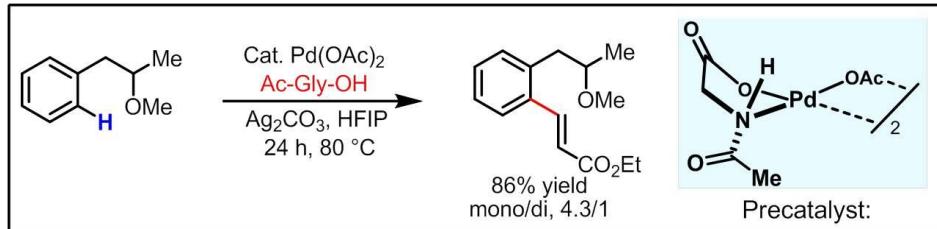
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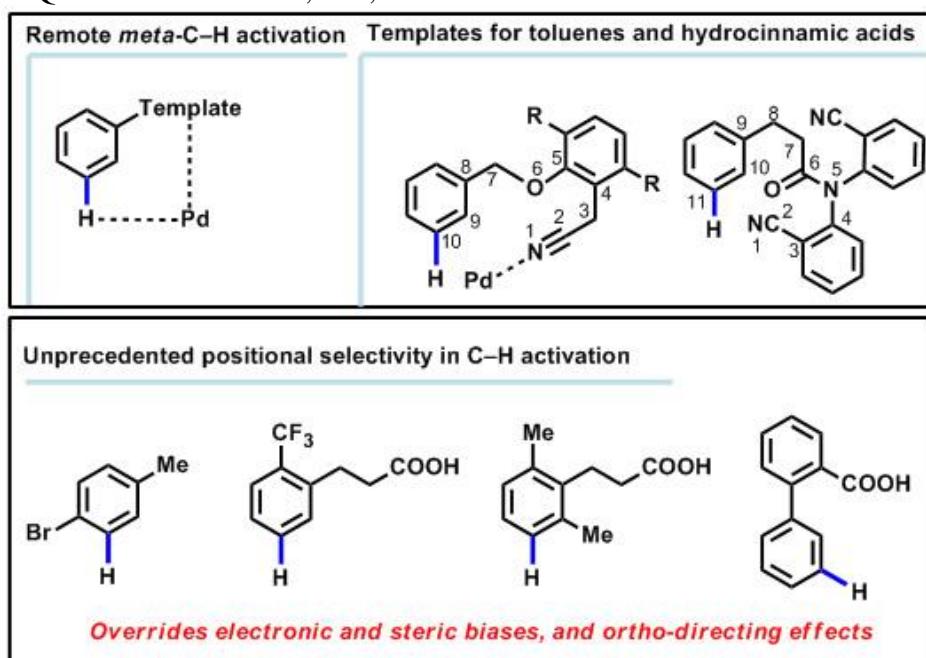
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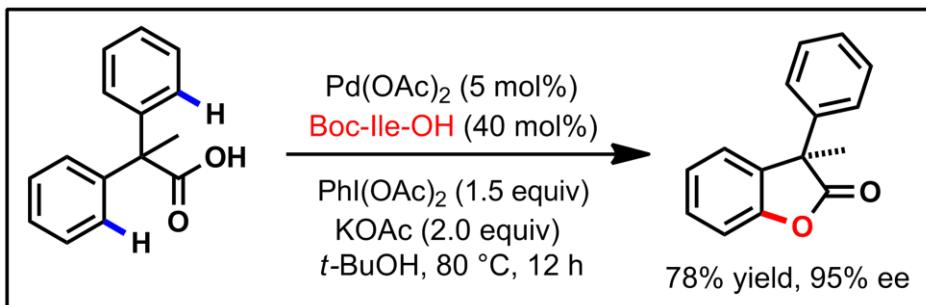
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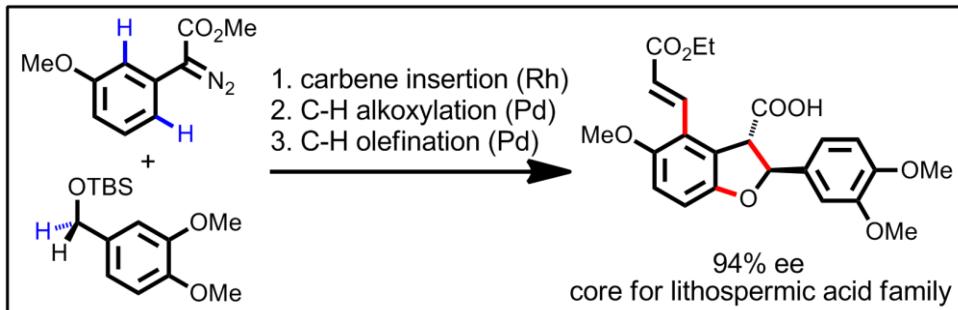
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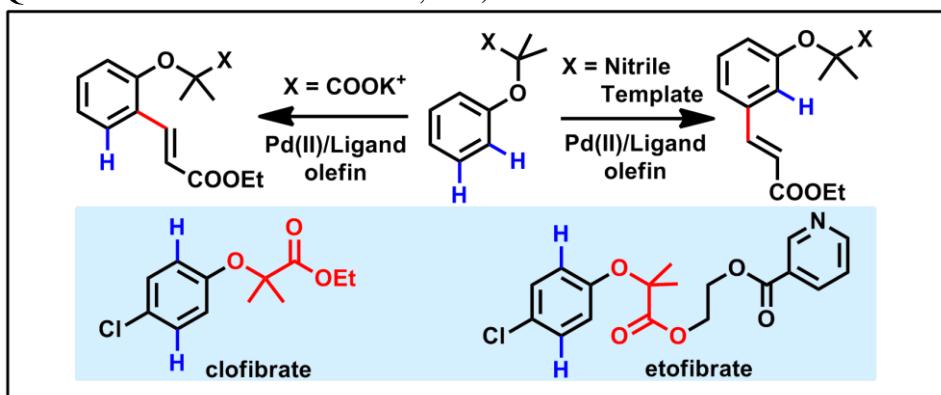
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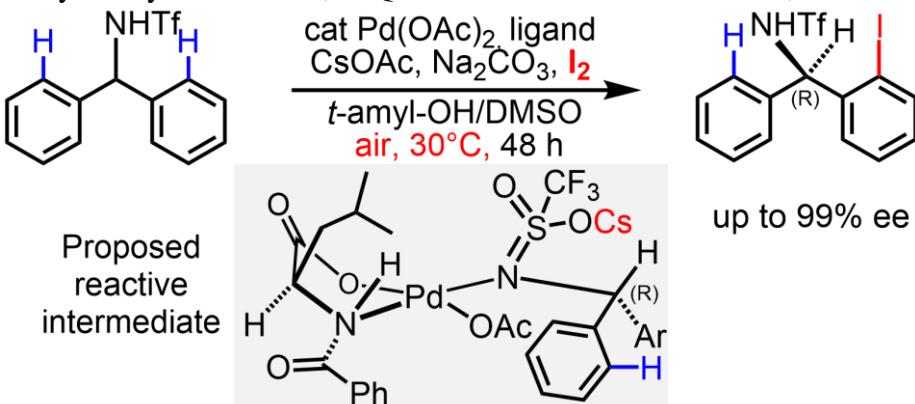
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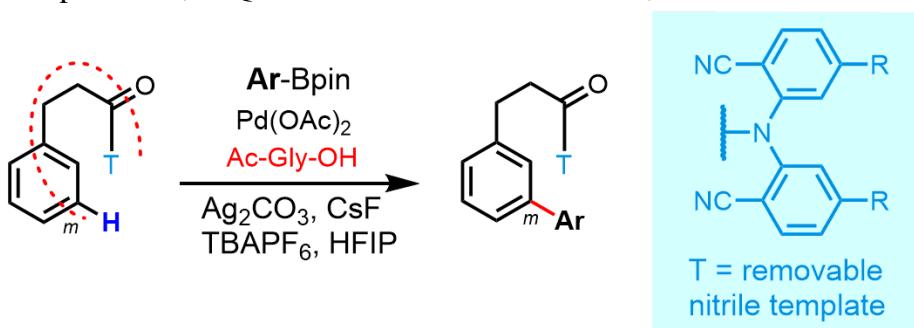
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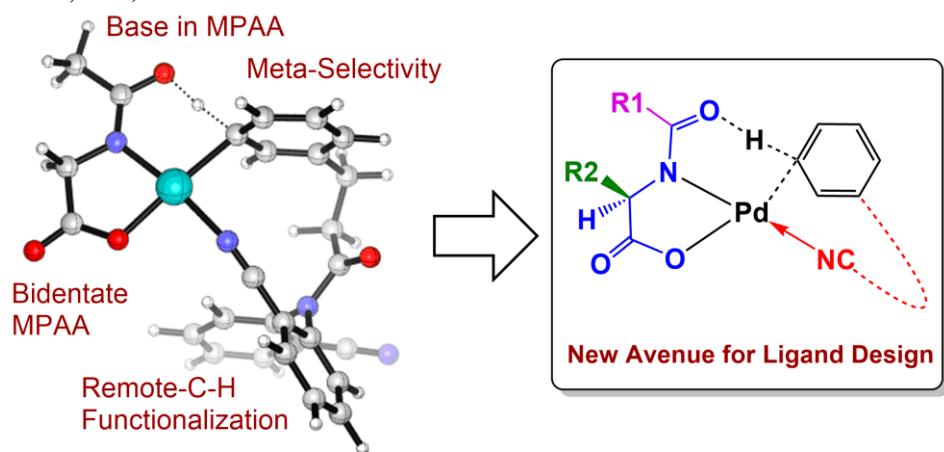


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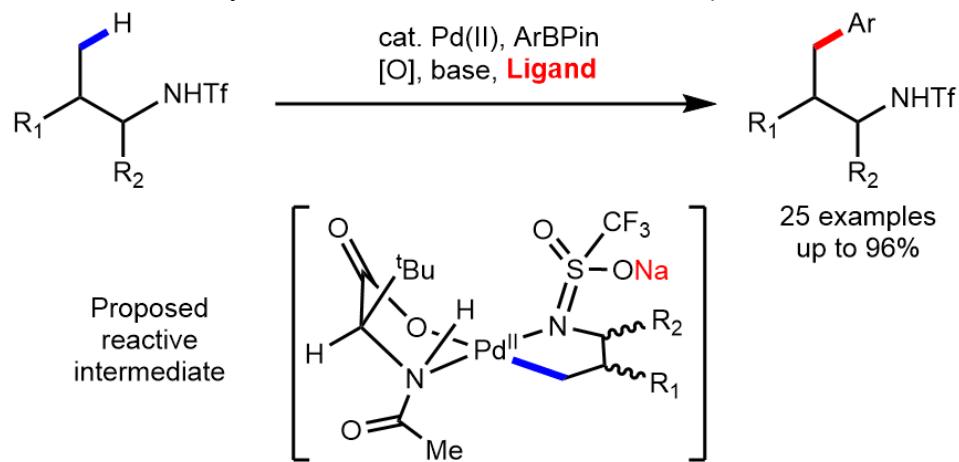


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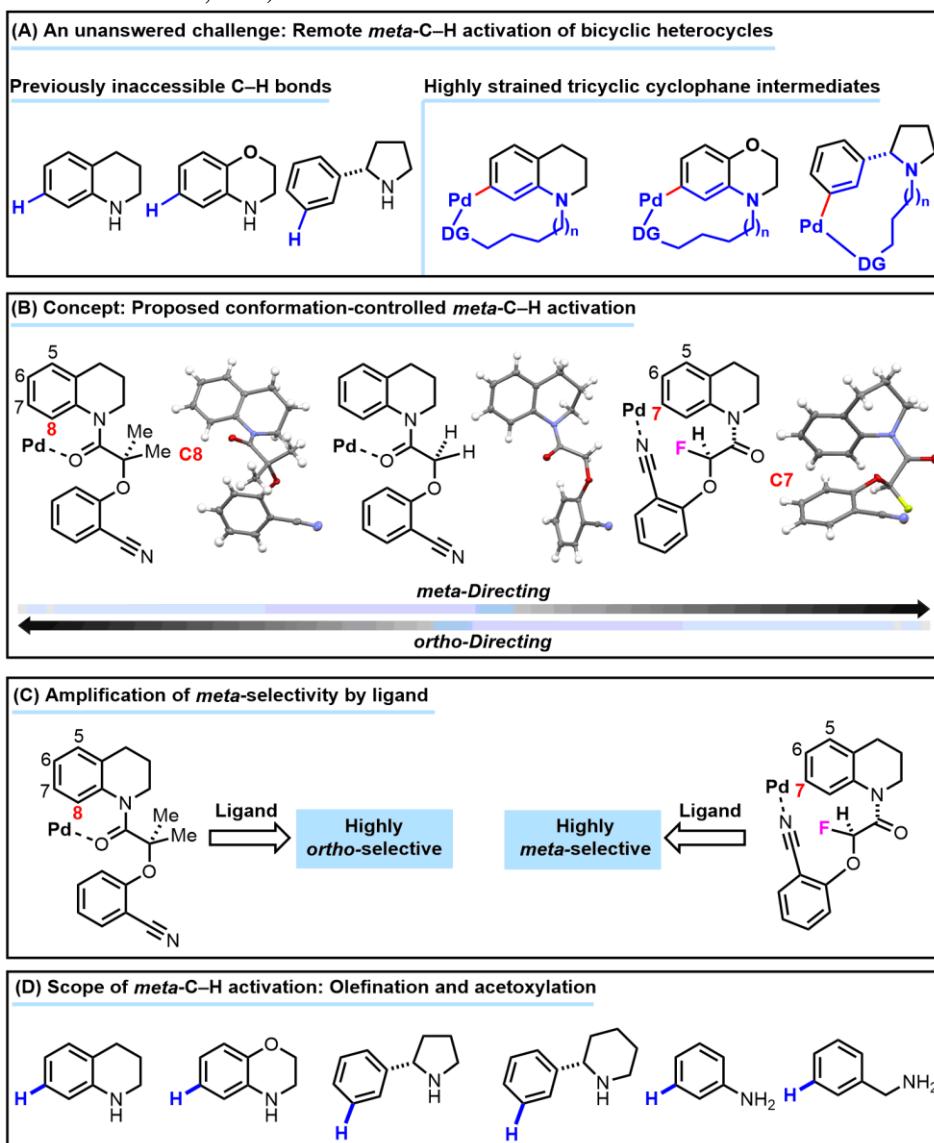
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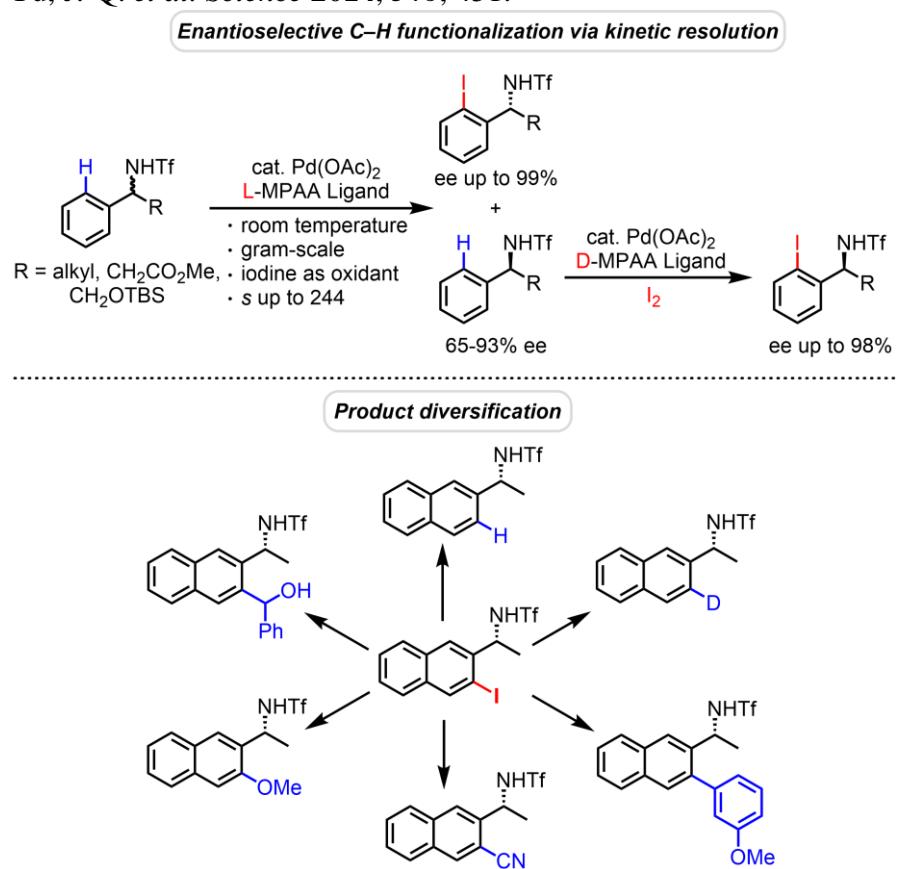
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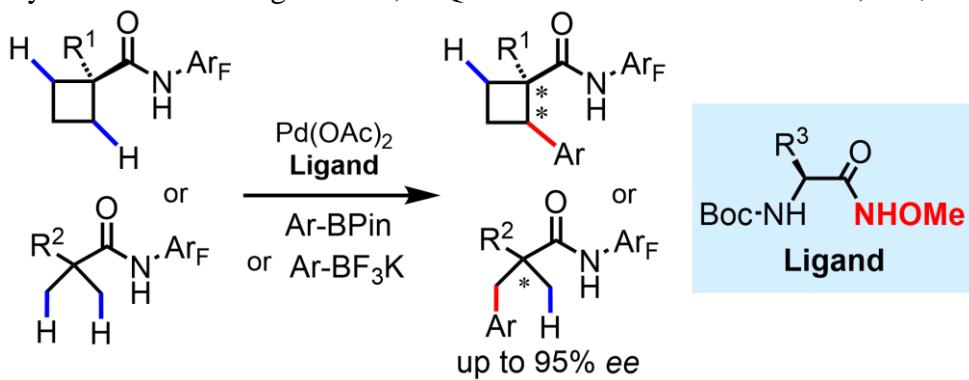
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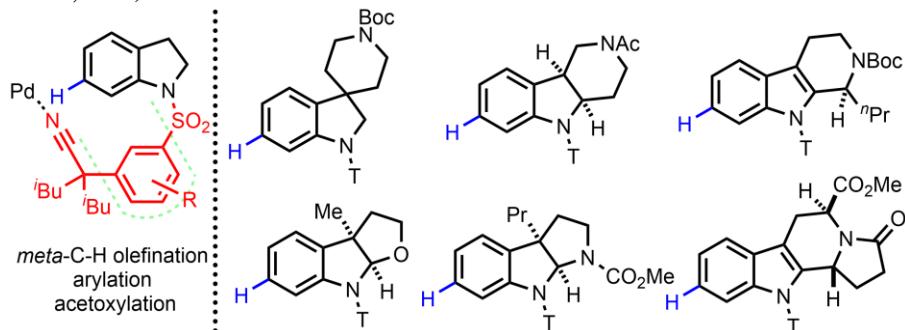


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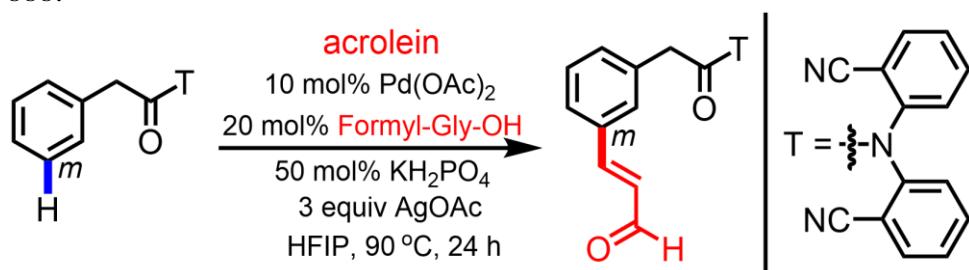


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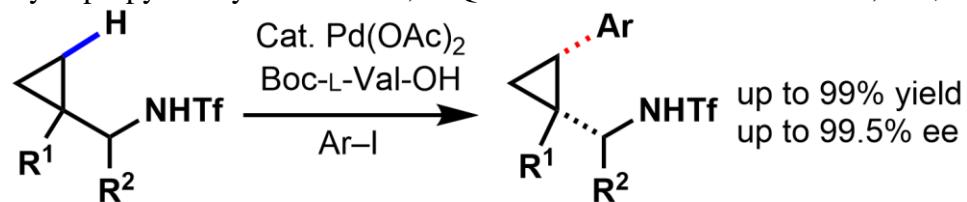
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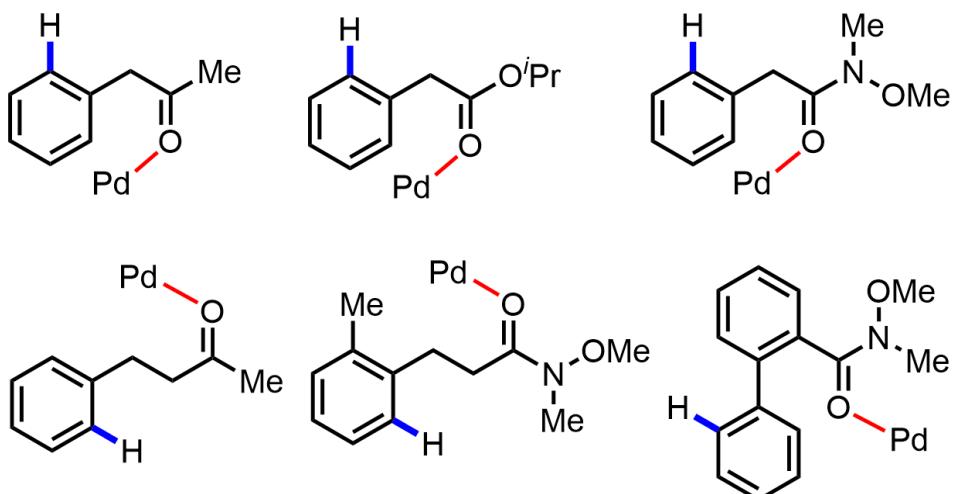
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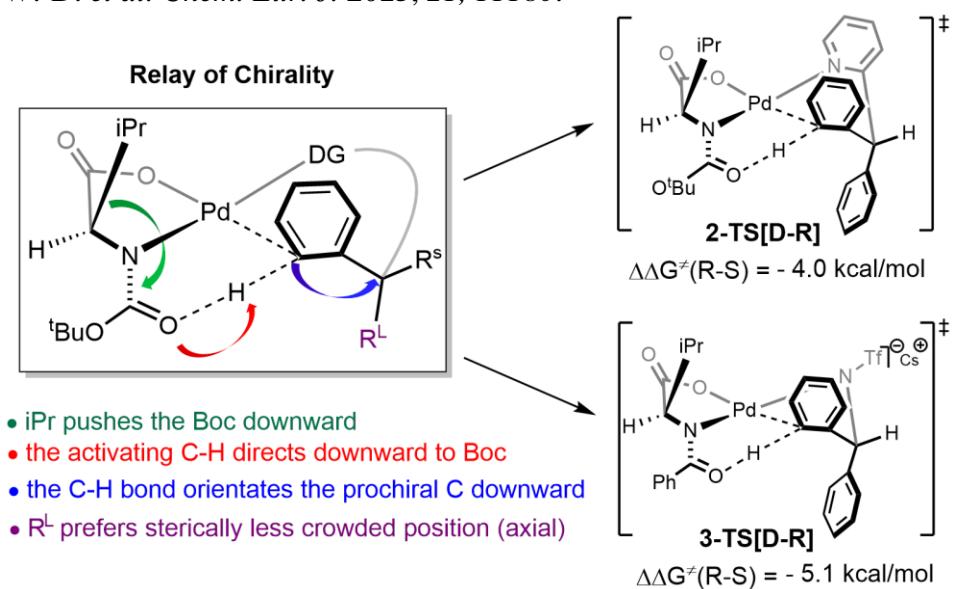
First example of enantioselective
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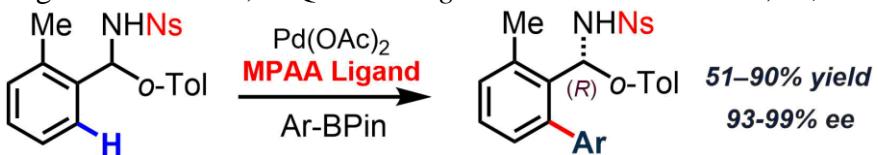
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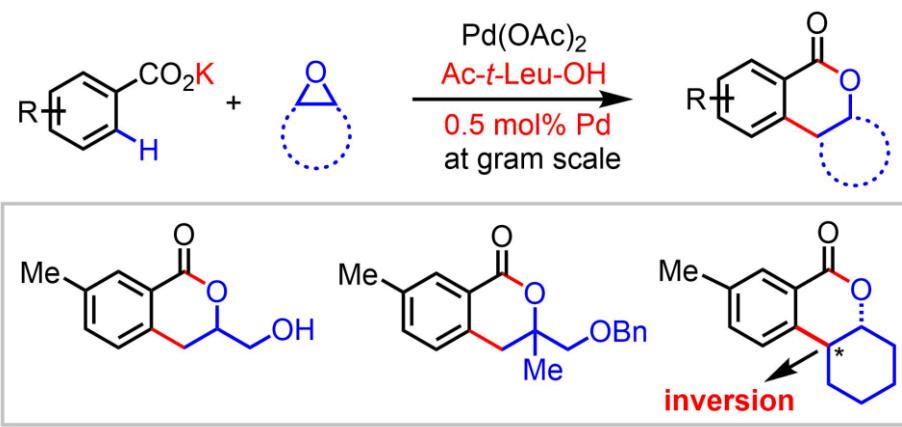


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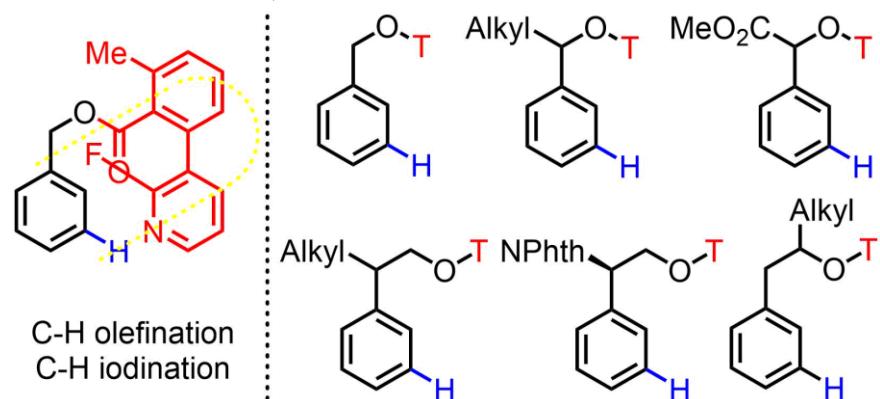


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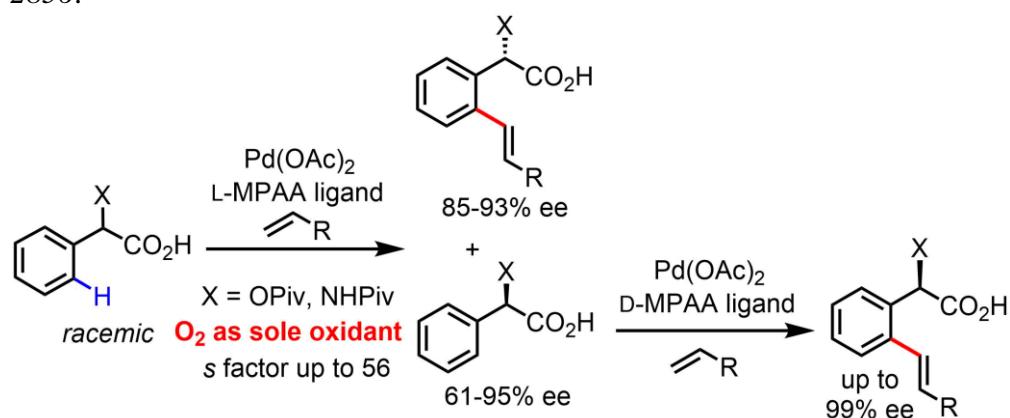
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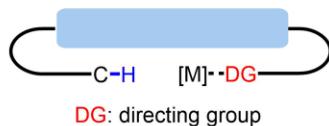


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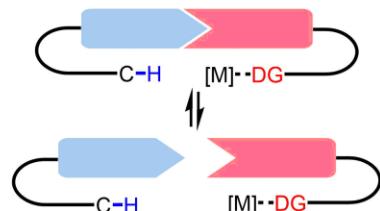
A

Two Strategies for Directed C–H Activation

pre-installed directing groups



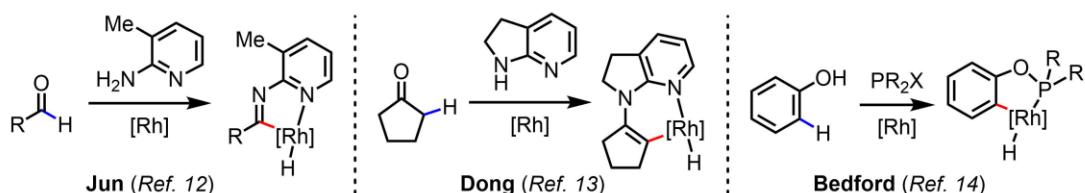
transient directing groups



Disadvantage: requires installation and removal of the directing group

B

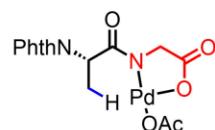
Pioneering Examples of Reversibly Linked Directing Groups



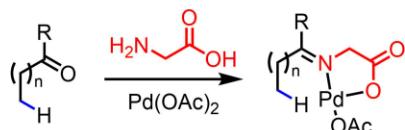
C

C(sp³)–H Arylation Using Amino Acid as Transient Directing Group

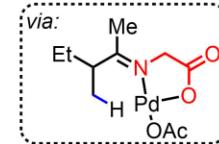
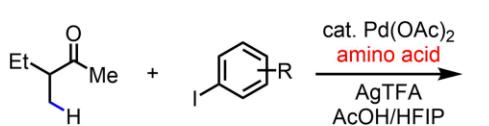
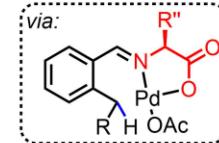
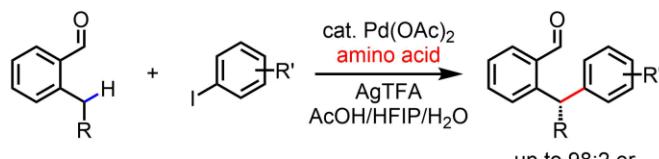
C(sp³)–H Activation of Peptides



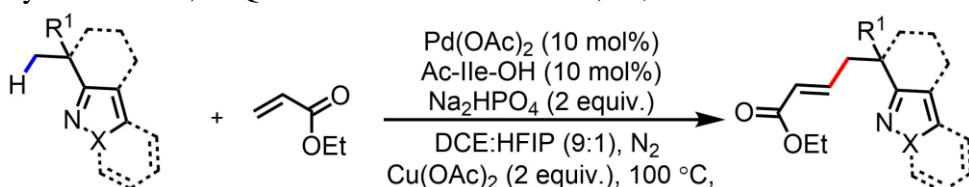
Design of Transient Amino Acid Directing Group



This Work

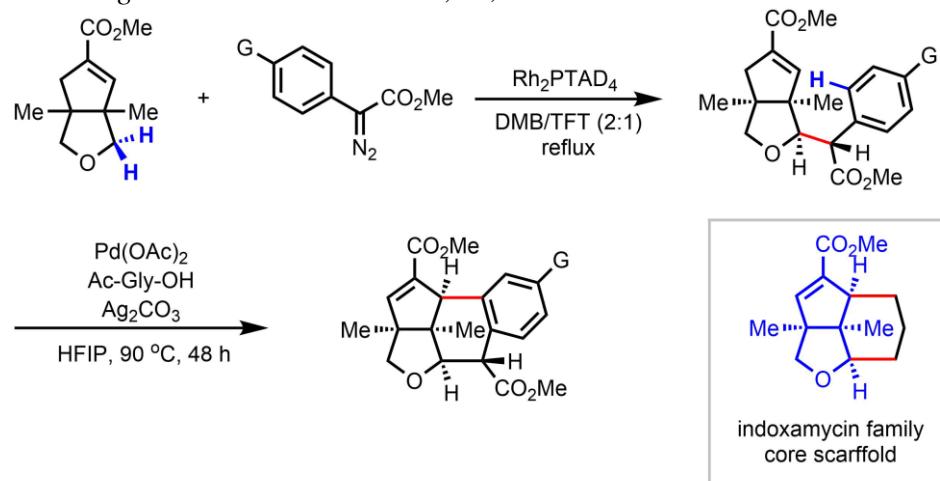


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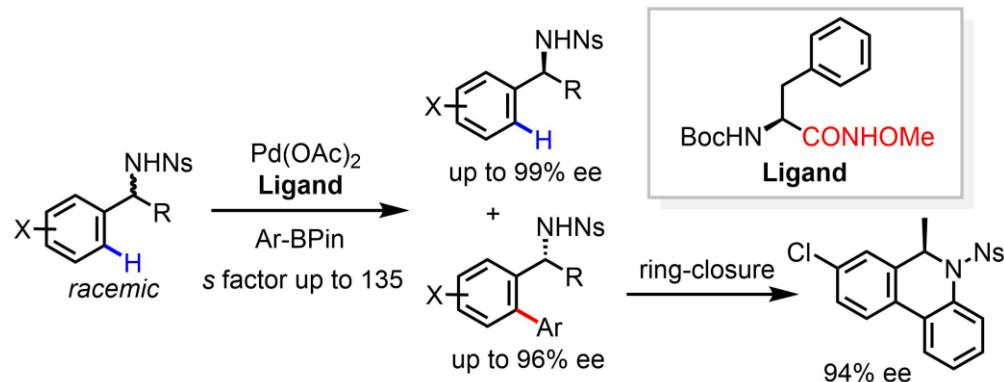


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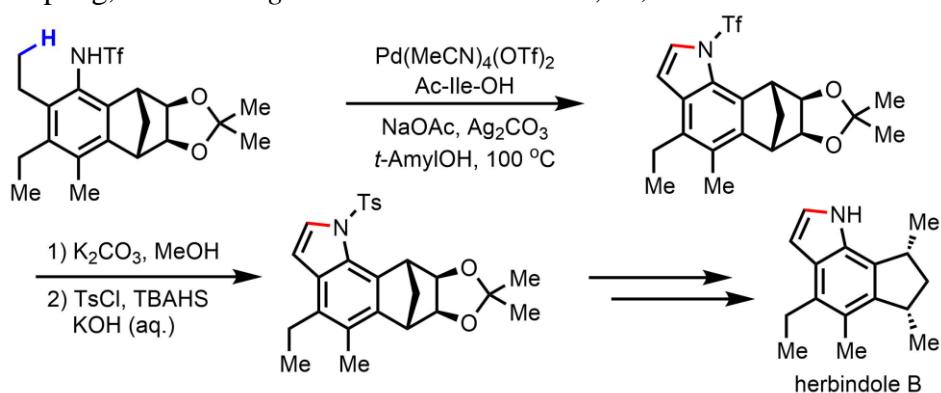
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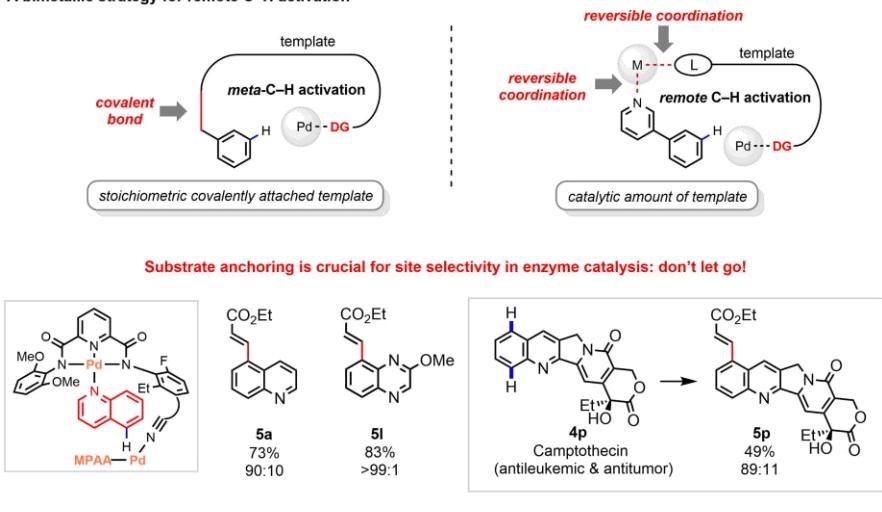


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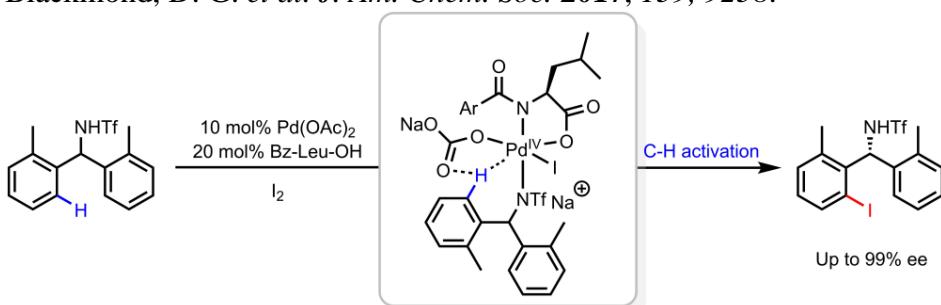


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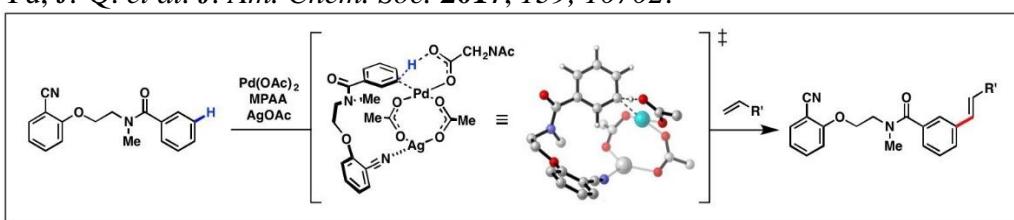
A bimetallic strategy for remote C–H activation



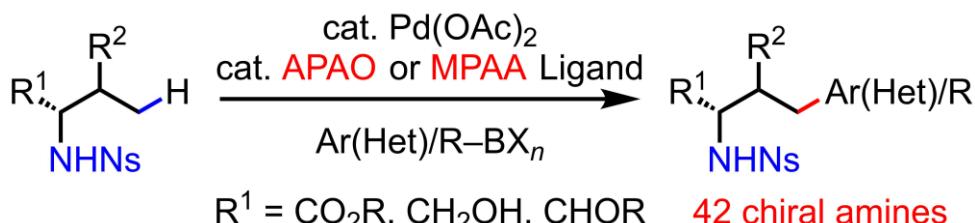
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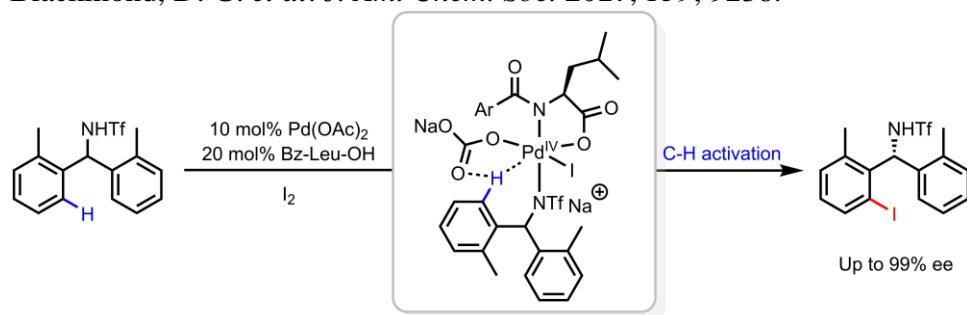


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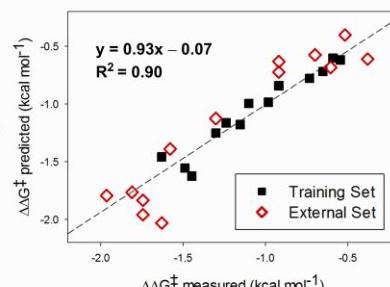
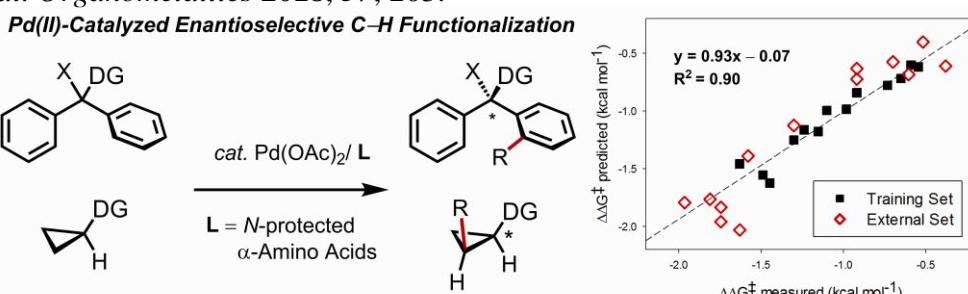
- A common protecting group as directing group
- First example of $\text{C}(\text{sp}^3)\text{-H}$ cross-coupling of amines with alkylboron reagents

43. "Dynamic Ligand Exchange as a Mechanistic Probe in Pd-Catalyzed Enantioselective C–H Functionalization Reactions Using Monoprotected Amino Acid Ligands" Yu, J.-Q.; Blackmond, D. G. *et al.* *J. Am. Chem. Soc.* **2017**, *139*, 18500.
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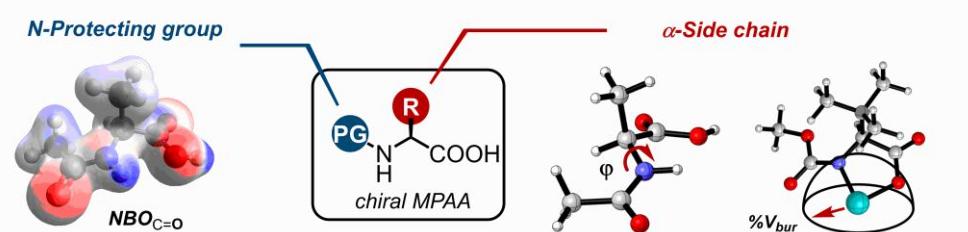


Supported by kinetic and mechanistic studies

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multivariate analysis unravels the structural effects on the enantioselectivity



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