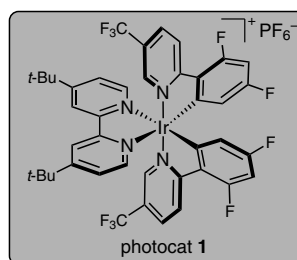
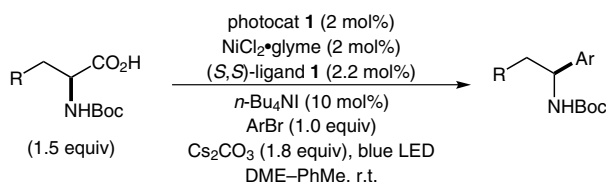
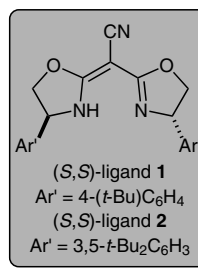
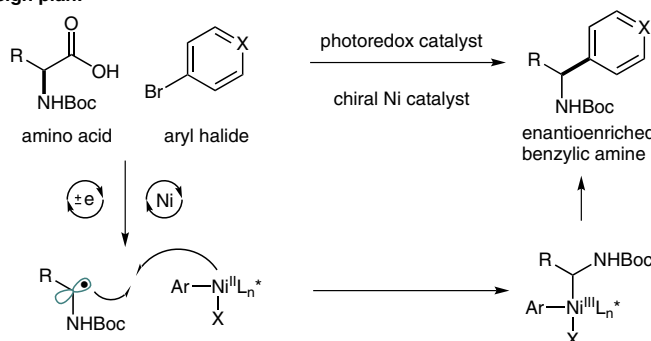


Z. ZUO, H. CONG, W. LI, J. CHOI, G. C. FU,* D. W. C. MACMILLAN* (CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA AND PRINCETON UNIVERSITY, USA)
 Enantioselective Decarboxylative Arylation of α -Amino Acids via the Merger of Photoredox and Nickel Catalysis
J. Am. Chem. Soc. **2016**, *138*, 1832–1835.

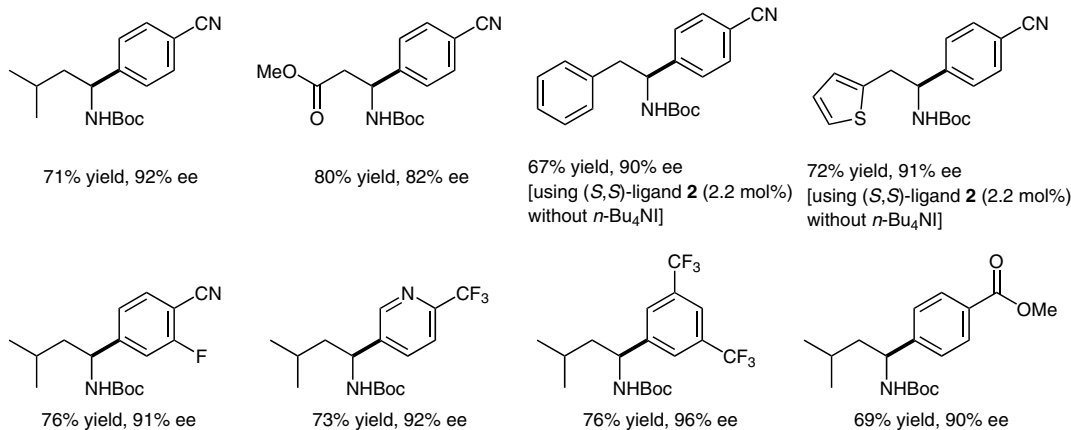
Decarboxylative Coupling by Photoredox and Chiral Nickel Catalysis



Design plan:



Selected examples:



Significance: The authors present an asymmetric arylation of α -amino acids by using a dual photoredox/chiral nickel catalysis approach. A broad array of naturally occurring α -amino acids were arylated with various aryl halides to generate high-value chiral benzylic amines in high yields and with high enantioselectivities.

Comment: The authors have previously reported the coupling of aryl halides with an α -carboxy sp^3 carbon by dual photoredox reaction/nickel catalysis (*Science* **2014**, *345*, 437). Identification of chiral ligands compatible with a nickel catalyst under photoredox conditions permitted an asymmetric transformation. Chiral benzylamines that form the core structures of many pharmaceutically active molecules have been synthesized in optically pure form by this method.

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