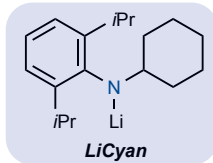
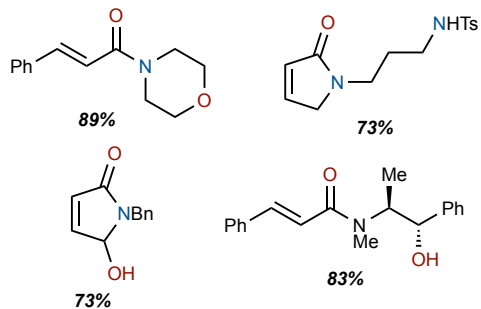


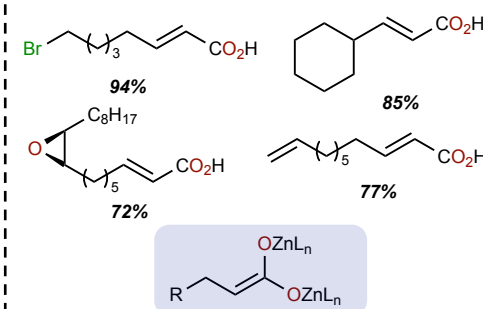
Amides:

LiCyan, ZnCl₂, allyl acetate, [Pd(allyl)Cl]₂



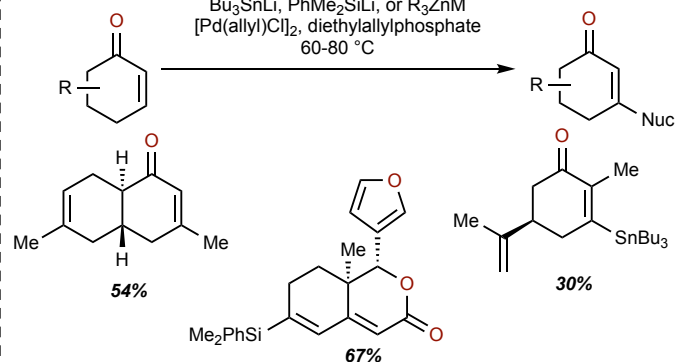
Acids:

Zn(TMP)₂·2LiCl, ZnCl₂, allyl acetate, [Pd(allyl)Cl]₂



β-functionalization:

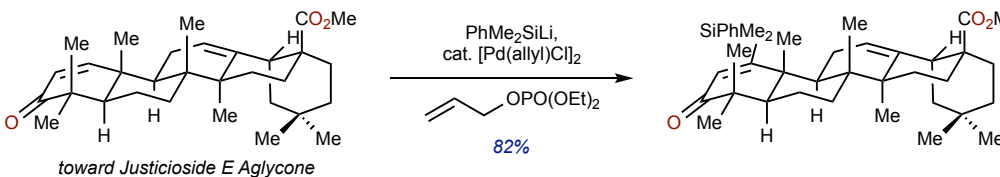
Bu₃SnLi, PhMe₂SiLi, or R₃ZnM
[Pd(allyl)Cl]₂, diethylallylphosphate
60–80 °C



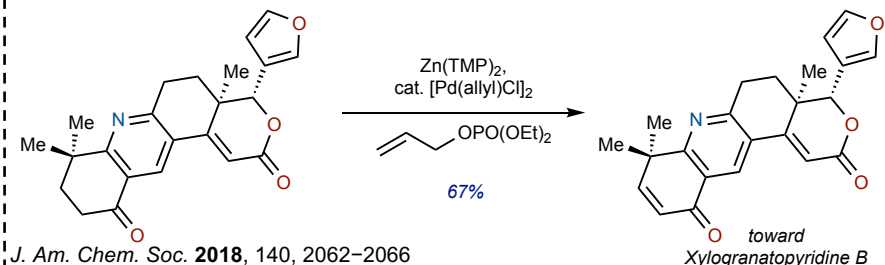
Angew. Chem. Int. Ed. **2017**, 56,13122–13125

J. Am. Chem. Soc. **2018**, 140, 2062–2066

Examples in Synthesis:



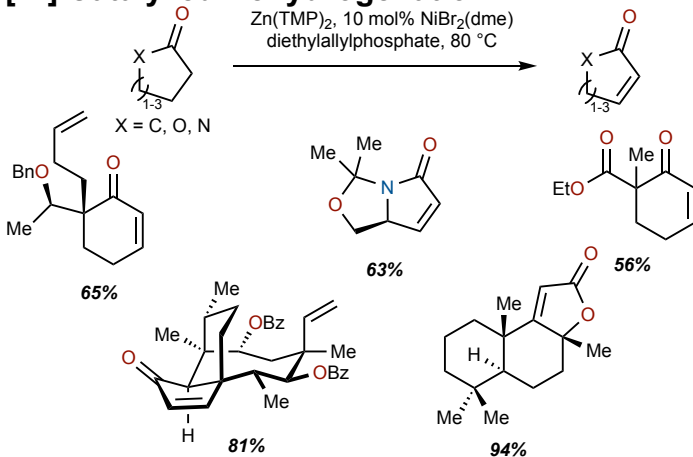
Angew. Chem. Int. Ed. **2019**, 58, 1025–1029



J. Am. Chem. Soc. **2018**, 140, 2062–2066

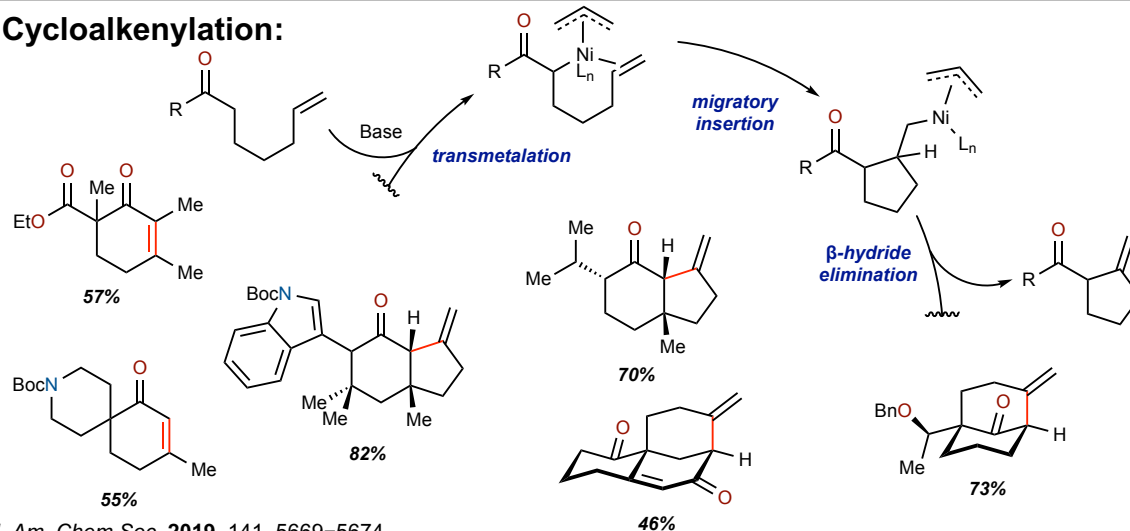
[Ni] Catalyzed Dehydrogenation:

Zn(TMP)₂, 10 mol% NiBr₂(dme)
diethylallylphosphate, 80 °C



Also works acyclic ketones, nitriles, esters, and amides
with modified conditions

Cycloalkenylation:



J. Am. Chem. Soc. **2019**, 141, 5669–5674