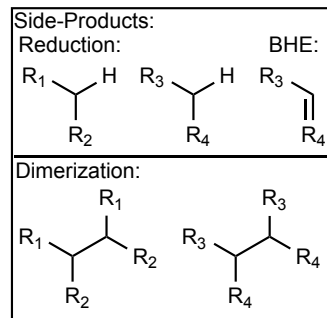
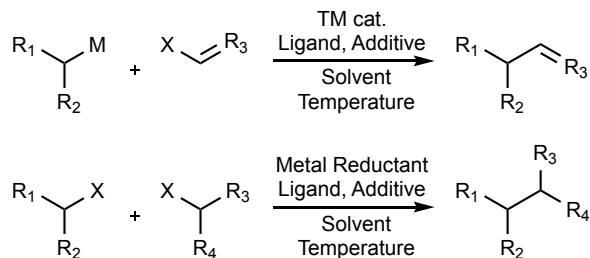
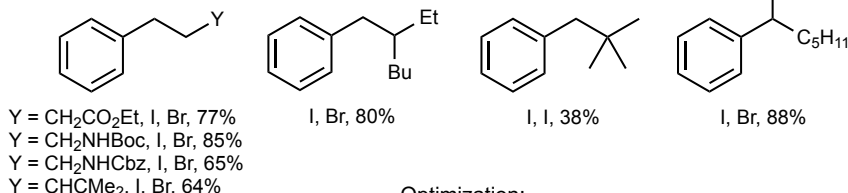
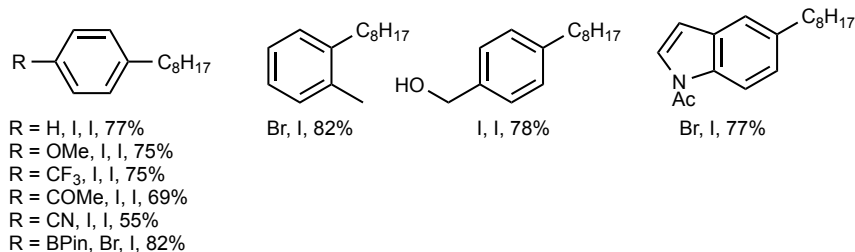
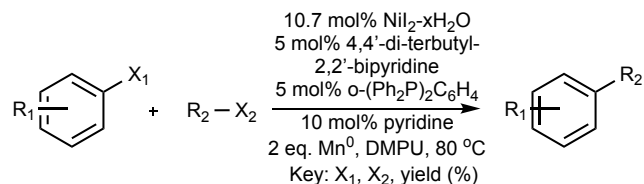


## Inspiration/Reaction Scheme:



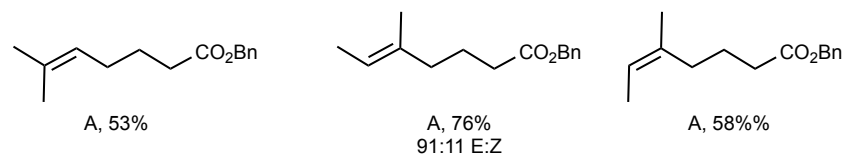
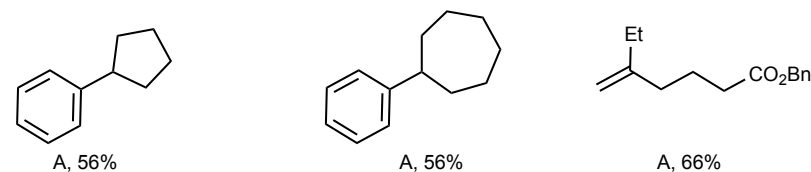
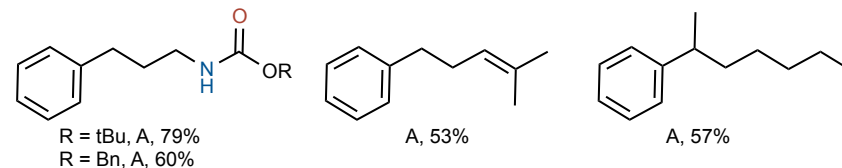
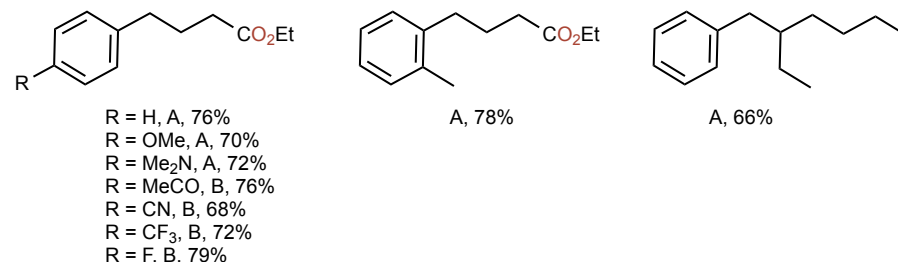
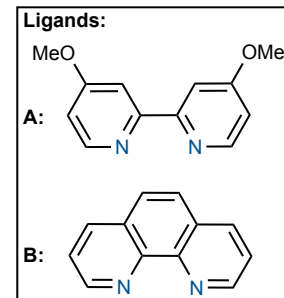
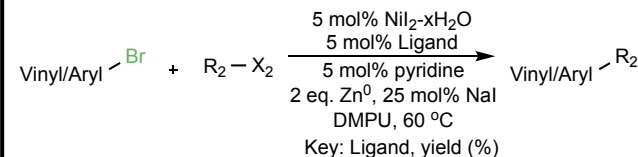
## Initial Report:



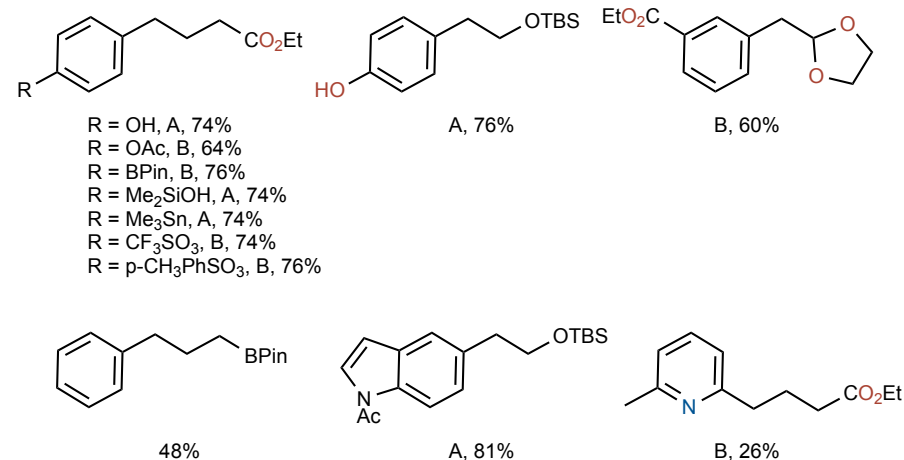
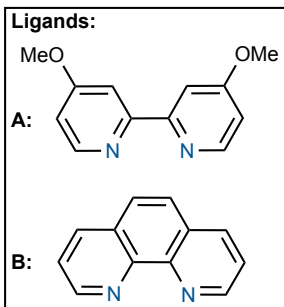
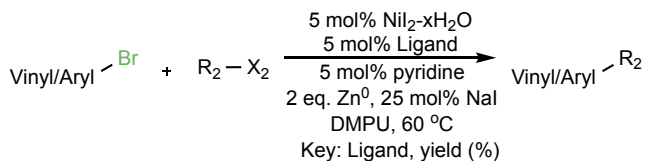
Optimization:

- Ligand Effects:
  - 10 mol% bipyridine ligand, 83%
  - 10 mol% phosphine ligand, 19%
- Pyridine Omission: 67%
- Halide Exchange: X<sub>1</sub>, X<sub>2</sub> = Br, 65%

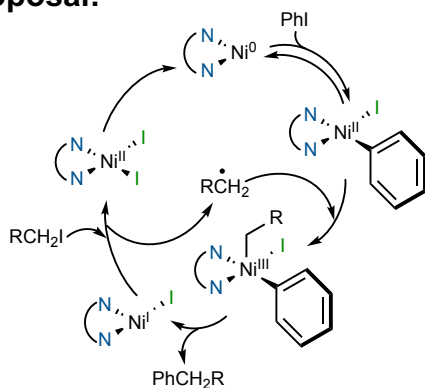
## Expansion of Electrophiles:



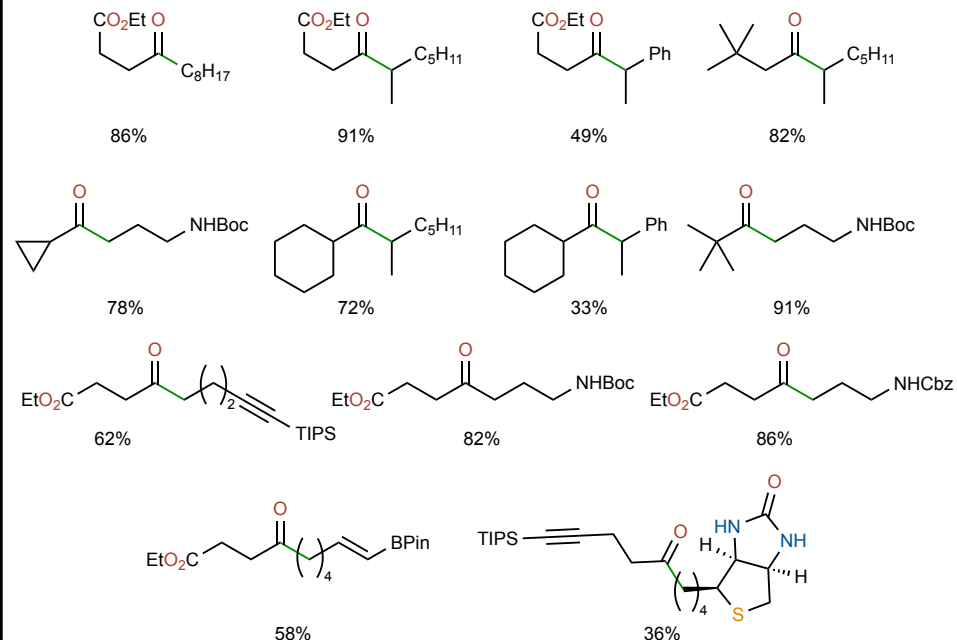
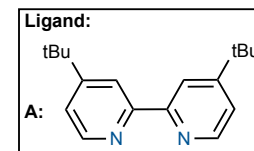
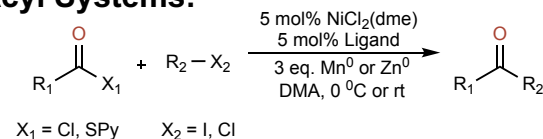
## Functional-Group Tolerance:



## Mechanistic Proposal:



## Acyl Systems:



## Mechanistic Proposal:

