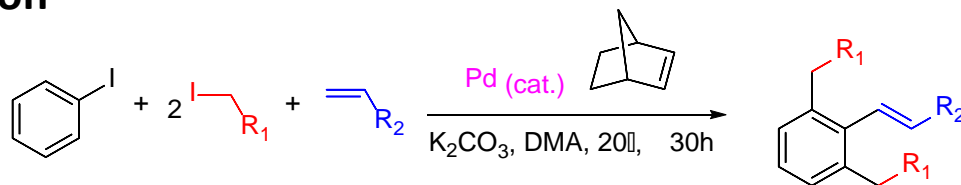


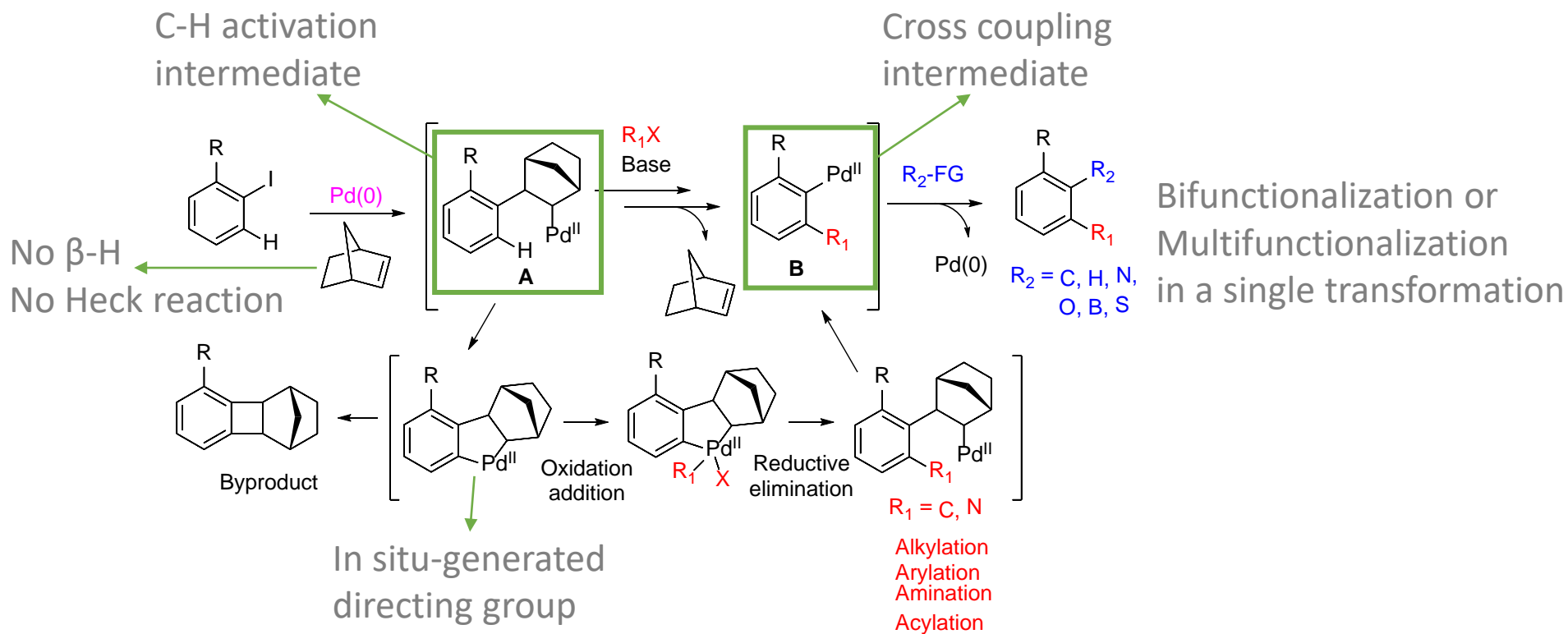
# Catellani reaction

## Catellani reaction



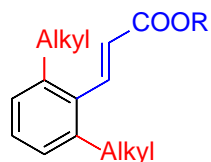
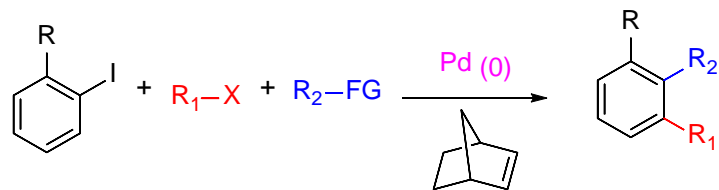
Catellani M, *Angew. Chem. Int. Ed.* **1997**,36,119-122.

## Mechanism

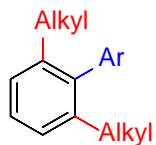


All components are compatible in long catalytic cycles

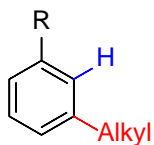
# Bifunctionalization



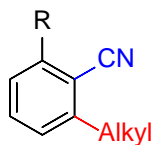
Catellani, 1997



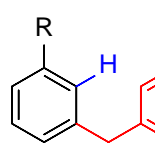
Catellani, 2000



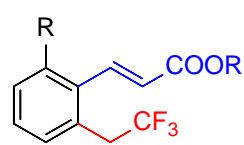
Lautens, 2005



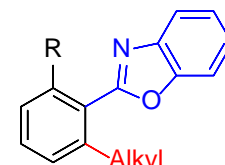
Lautens, 2007



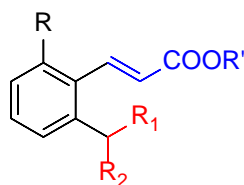
Lautens, 2008



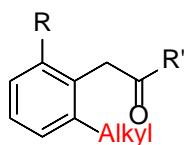
Liu, 2014



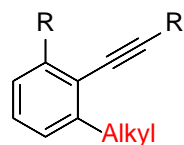
Zhou, 2015



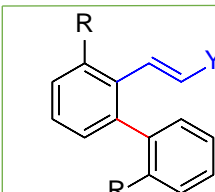
Lautens, 2015



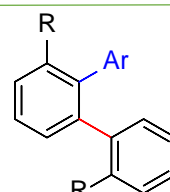
Zhou, 2016



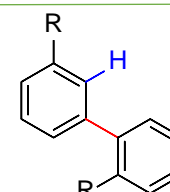
Zhou, 2016  
Gu, 2016



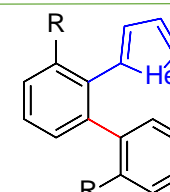
Catellani, 2003  
Vaccaro, 2016



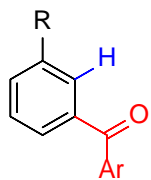
Catellani, 2003



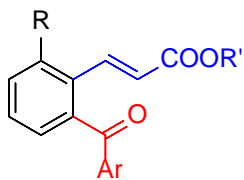
Catellani,  
2005



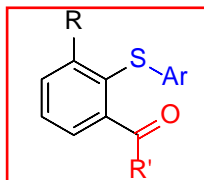
Catellani, 2009



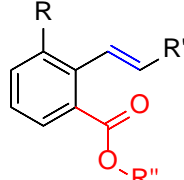
Dong, 2015



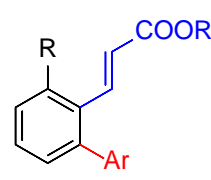
Gu, 2015  
Liang, 2015



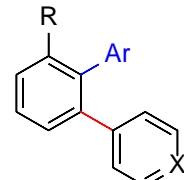
Gu, 2016



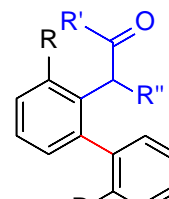
Dong, 2016



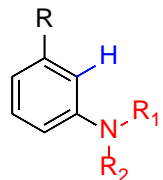
Catellani, 2004



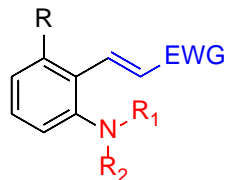
X = CH, N  
Catellani, 2010



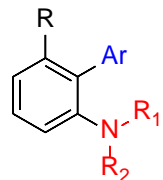
Catellani, 2009



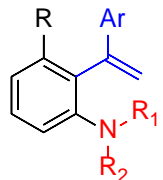
Dong, 2013



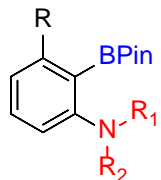
Yuan, 2014



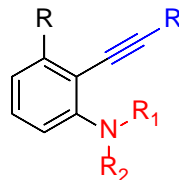
Chen, 2014



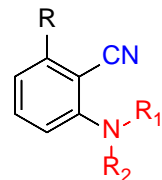
Liang, 2014



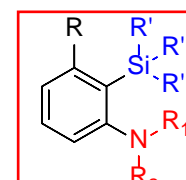
Ritter, 2015



Wu, 2015  
Gu, 2015

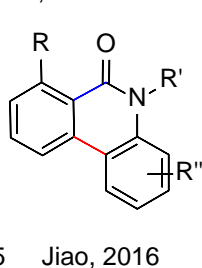
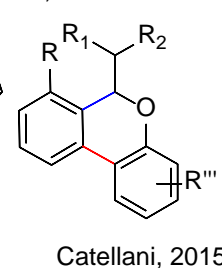
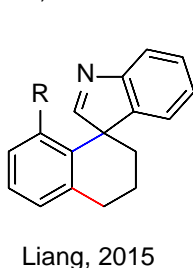
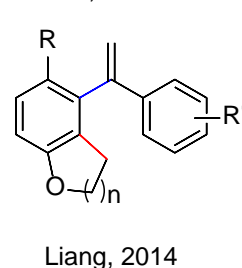
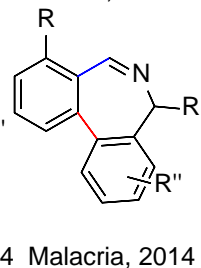
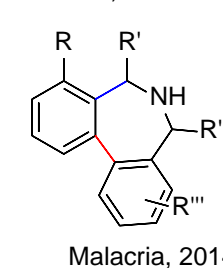
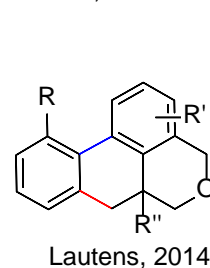
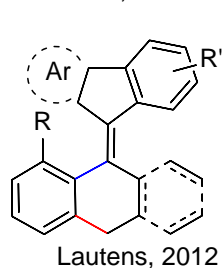
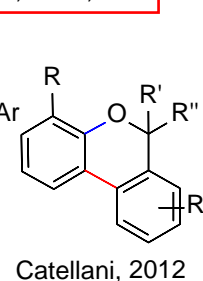
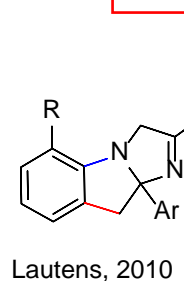
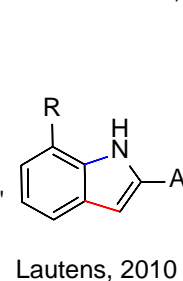
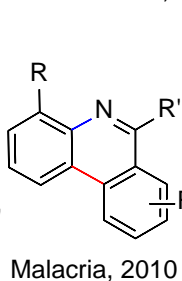
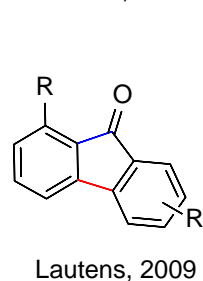
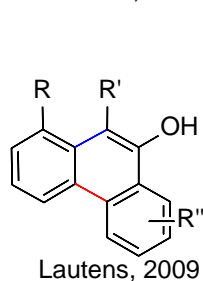
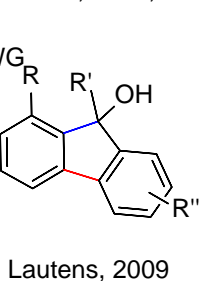
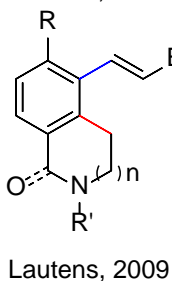
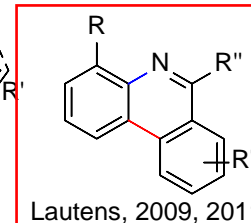
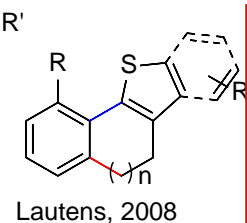
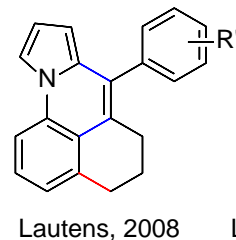
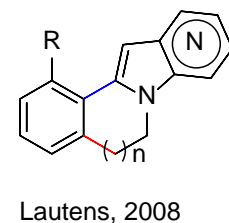
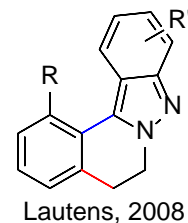
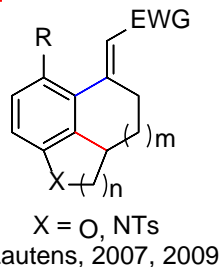
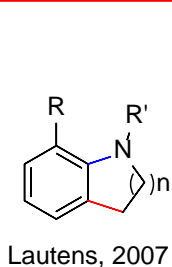
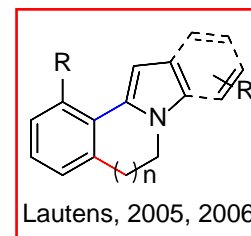
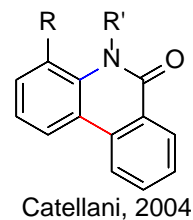
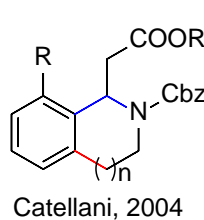
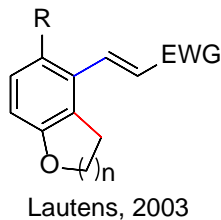
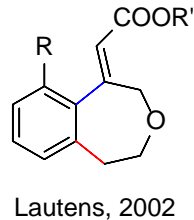
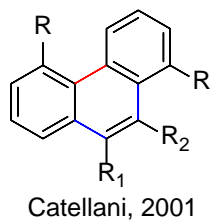
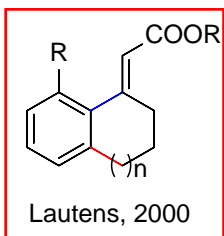
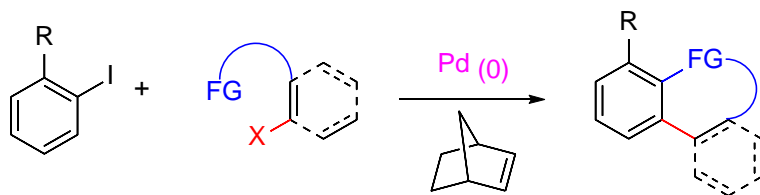


Lautens, 2016  
Ranu, 2016

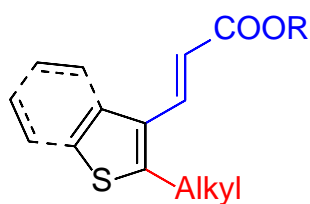
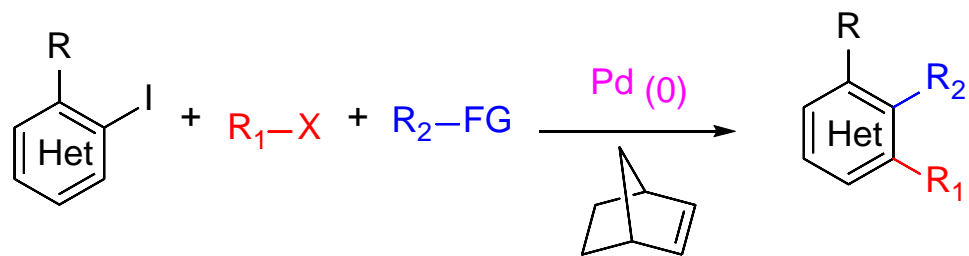


My work

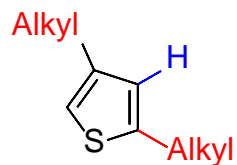
# Ring forming



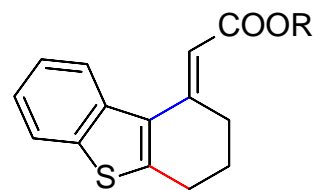
# Heterocycle



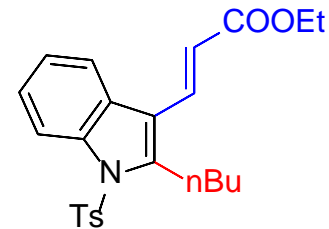
Lautens, 2006



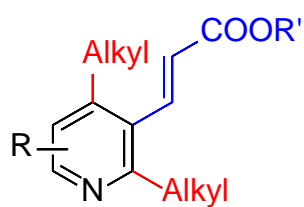
Lautens, 2006



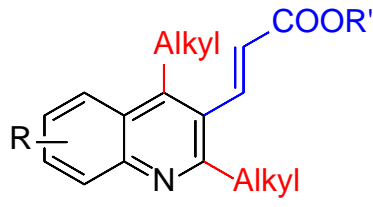
Lautens, 2006



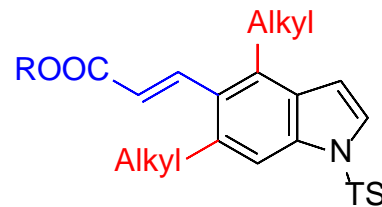
Lautens, 2006



My work

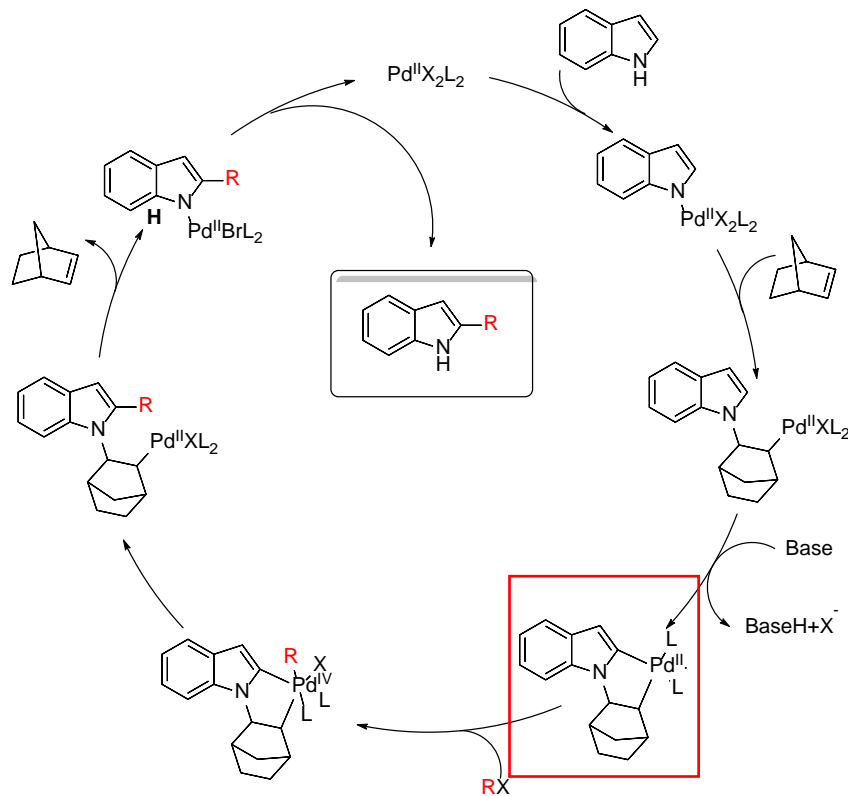
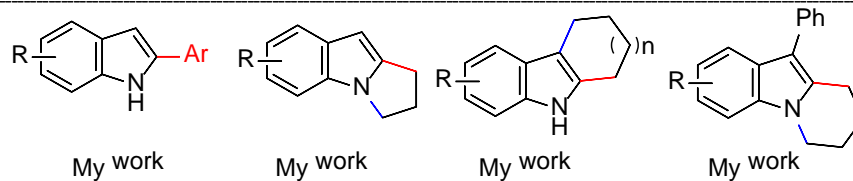
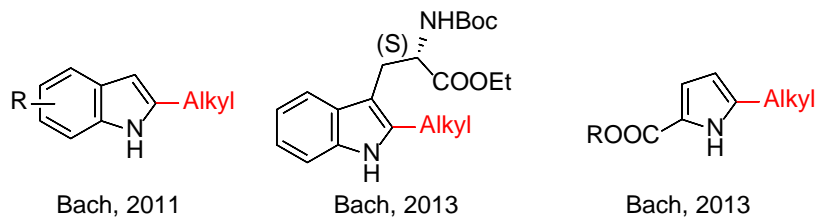
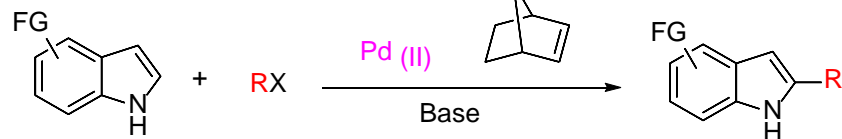


My work

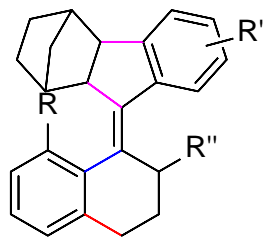


My work

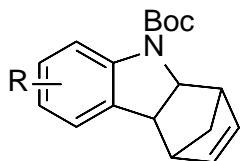
# Indole



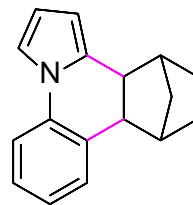
## norbornene as the coupling partner



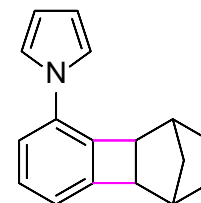
Lautens, 2009, 2012



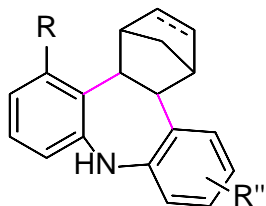
Lautens, 2009



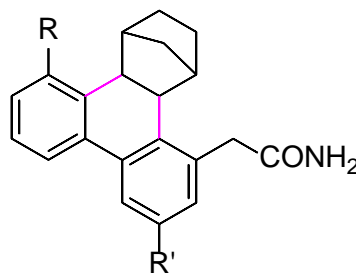
Lautens, 2011



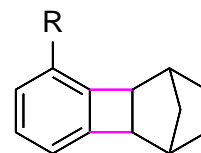
Lautens, 2011



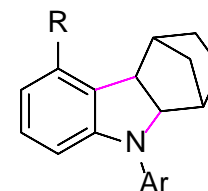
Lautens, 2011



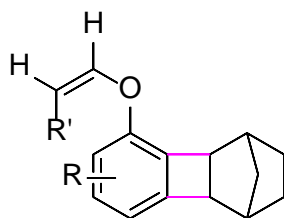
Lautens, 2011



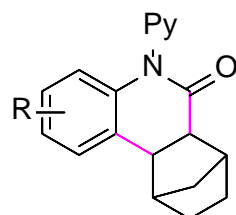
Zhou, 2013



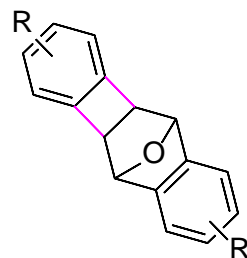
Jafarpour, 2015



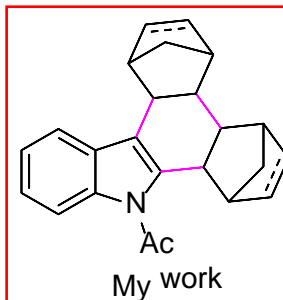
Hiyama, 2015



Wu, 2016

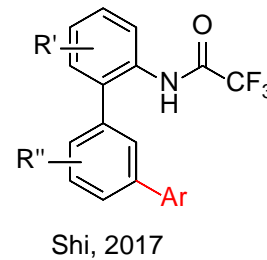
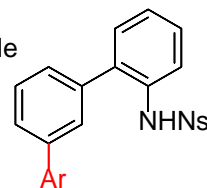
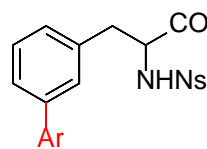
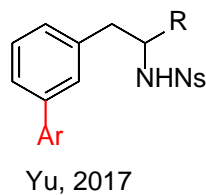
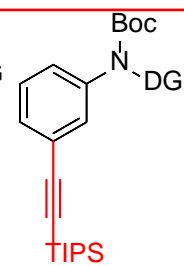
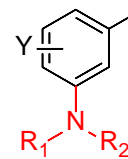
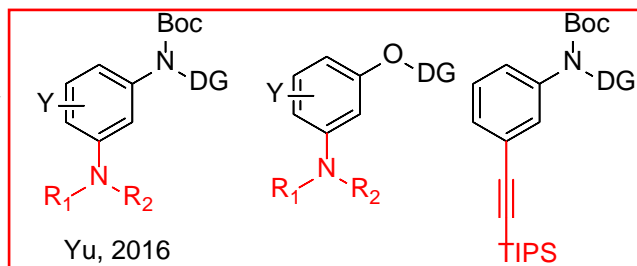
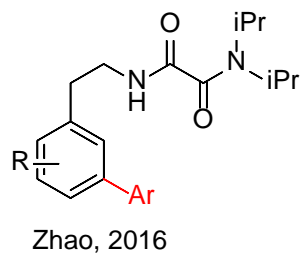
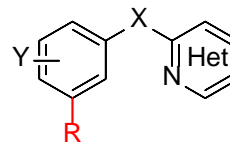
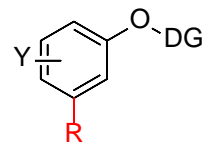
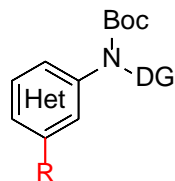
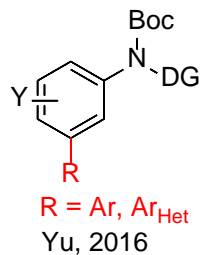
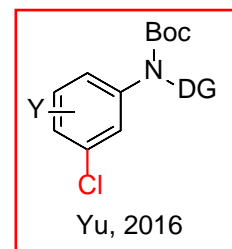
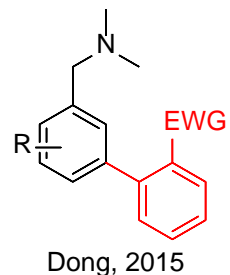
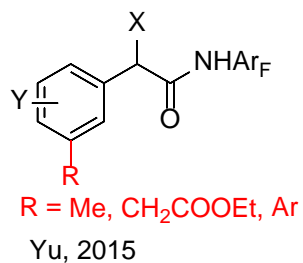
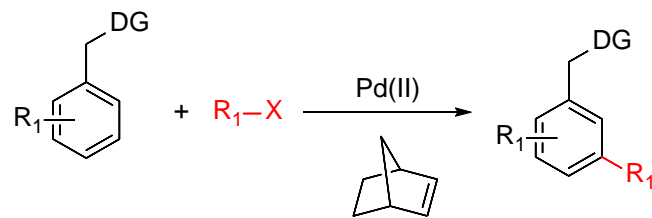


Xia, 2017



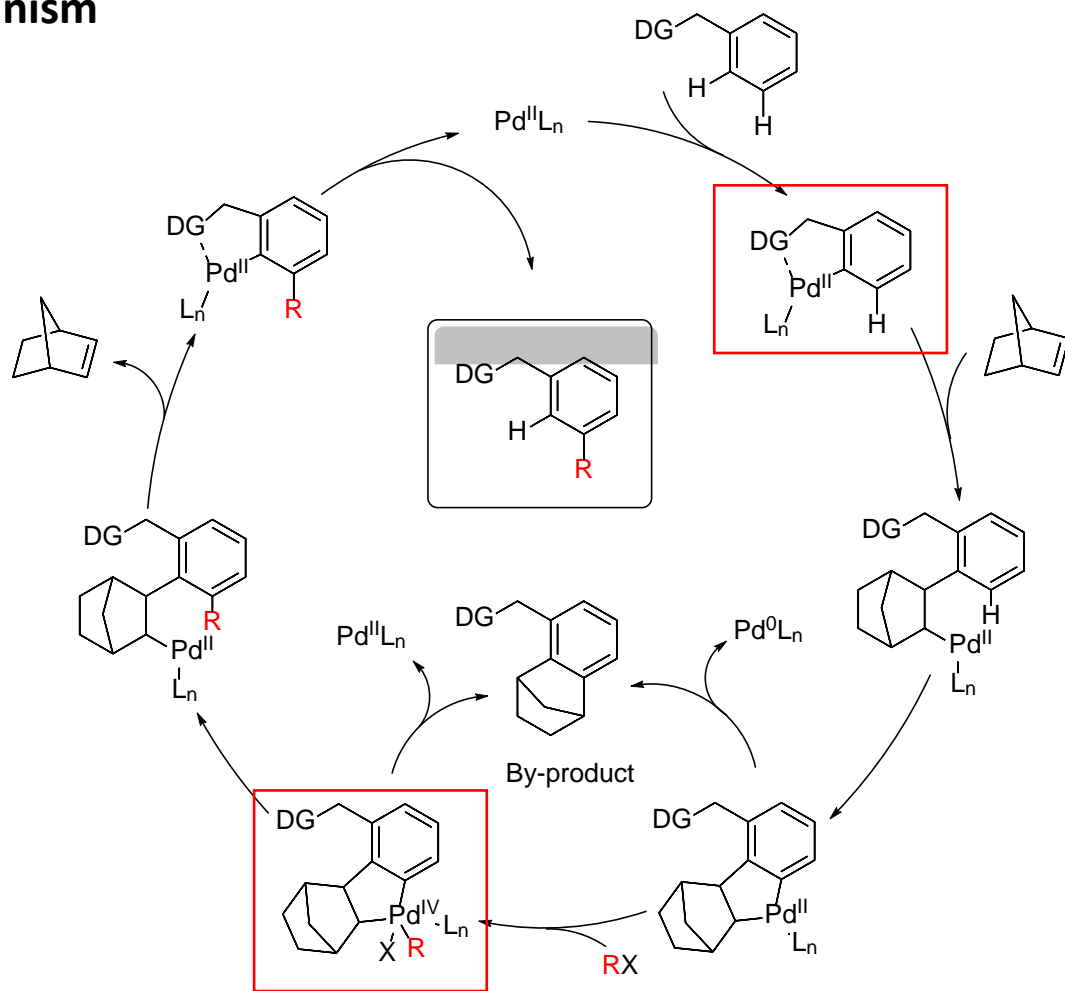
My work

# meta-C-H activation

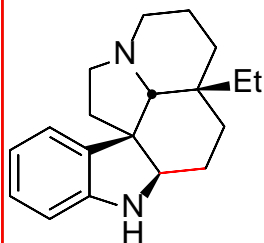




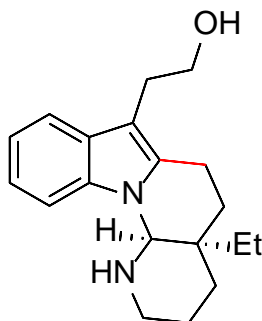
# Mechanism



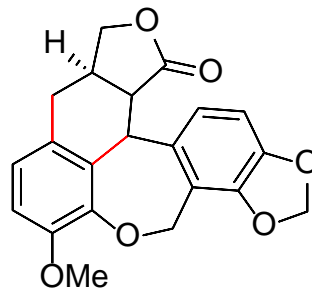
# Total Synthesis



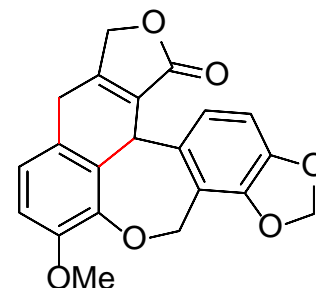
aspidospermidine  
Bach, 2012



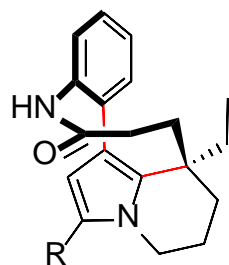
goniomitine  
Bach, 2012



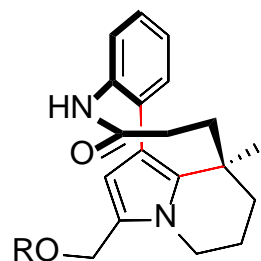
linoxepin  
Lautens, 2013



iso-linoxepin  
Lautens, 2014



R = CHO, rhazinal  
Gu, 2013  
R = H, rhazinal  
Gu, 2016



R = H, kopsiyunnanine C3  
R = Me, kopsiyunnanine C1  
R = Et, kopsiyunnanine C2  
Gu, 2016