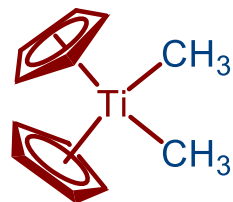


Reagent of the Day

Synthesis Literacy Club

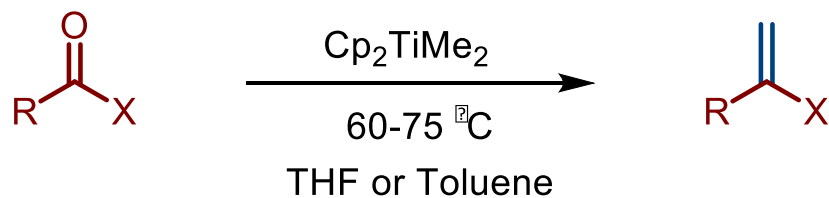
Harsh Patel

1/23/17



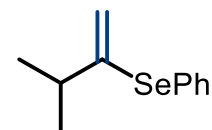
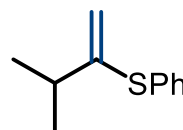
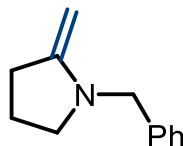
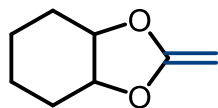
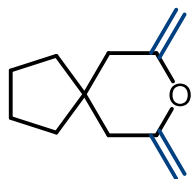
Petasis Reagent

Transforming carbonyls to terminal alkenes

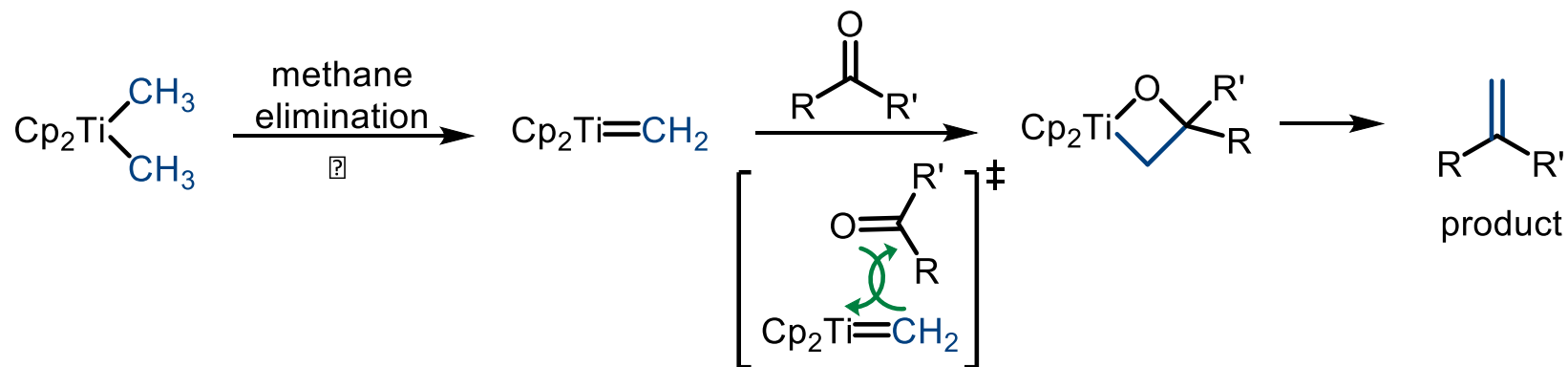


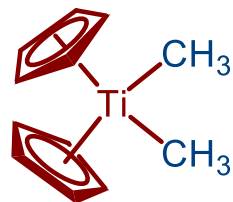
R = alkyl, aryl

X = H, alkyl, aryl, OR', OCOR', NR₂', SR', SeR', SiMe₃



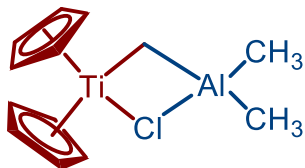
Mechanism



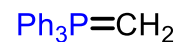


Petasis Reagent

Other Commonly used Olefination Reagents

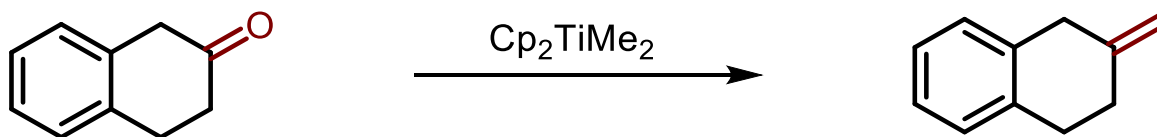


Tebbe Reagent

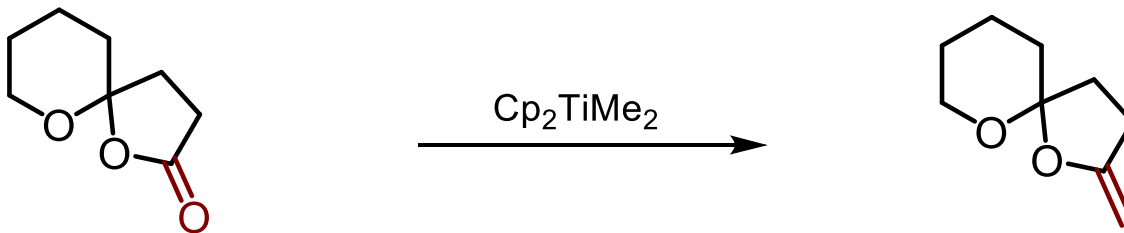


Wittig Reagent

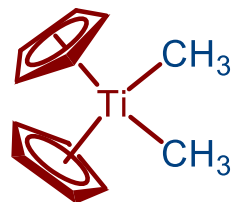
Comparison to the above Olefination Reagents



The Petasis reagent is less basic compared to 'Wittig reagent' (which would just deprotonate the above substrate)

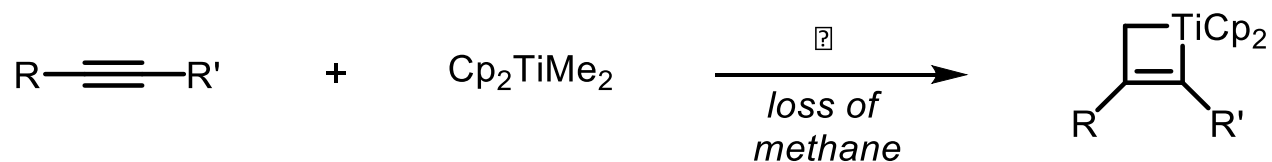


The Petasis reagent is less acidic compared to 'Tebbe reagent' (which would decompose the above substrate)

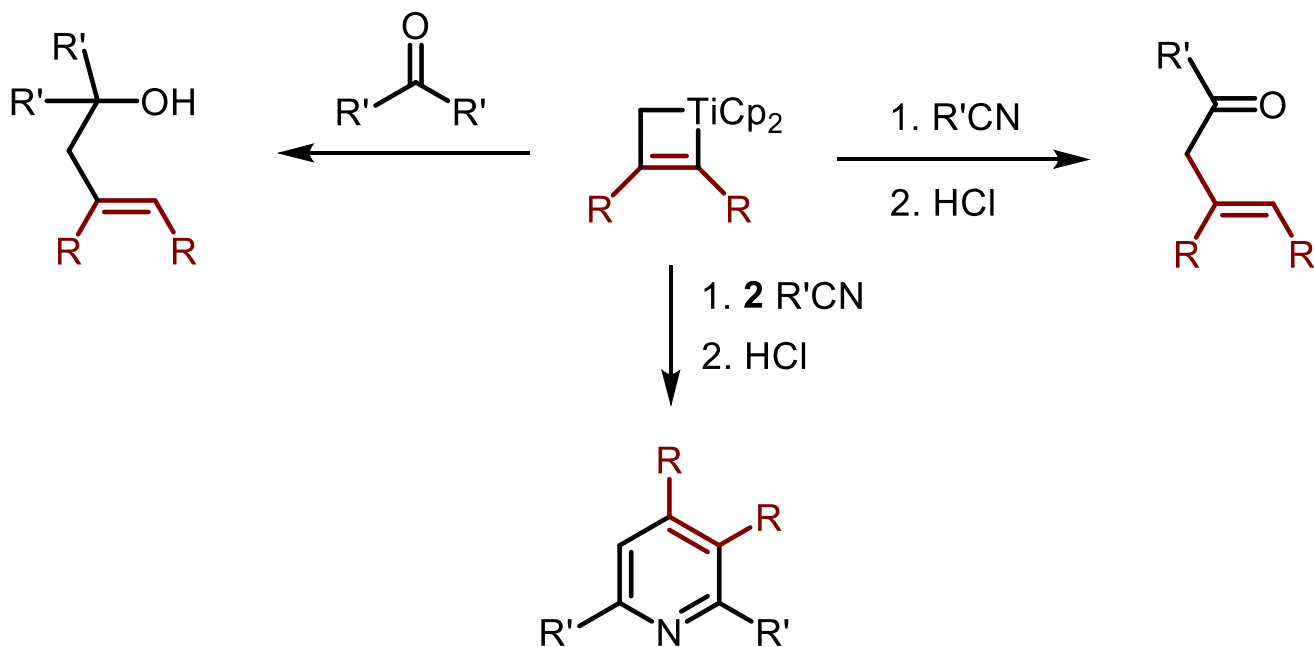


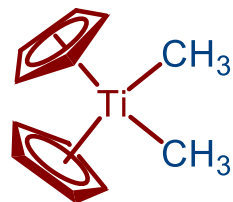
Petasis Reagent

Reaction with alkynes: Formation of Titanocyclobutenes



Trapping of Titanocyclobutenes with different electrophiles





Petasis Reagent

Ring-Opening Metathesis Polymerisation

