

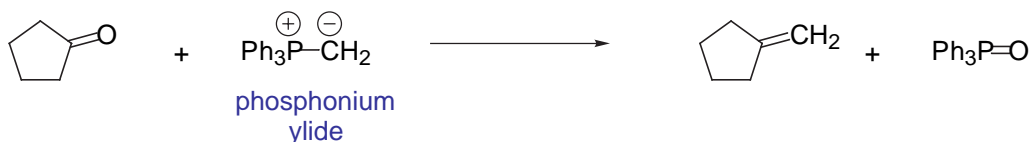
These notes can be obtained at: <http://www.ndsu.nodak.edu/instruct/grcook/chem342/notes.shtml>

Chapter 19: Aldehydes and Ketones: Nucleophilic Addition Reactions

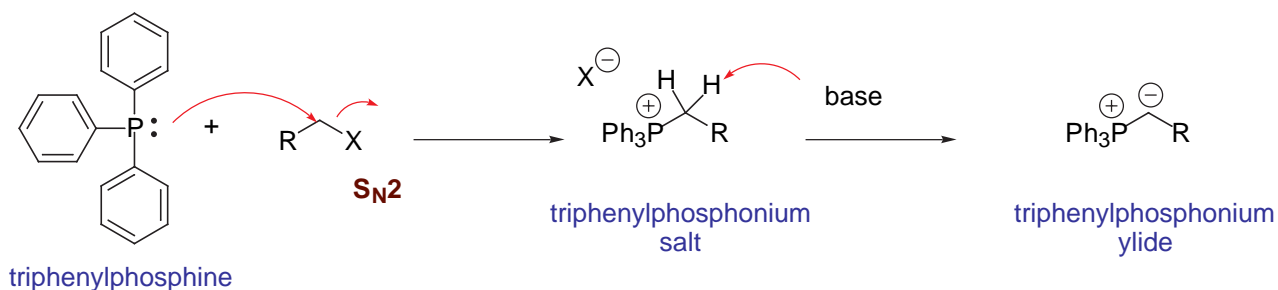
Wittig Reaction

Essentially the reverse of an ozonolysis, the Wittig reaction takes a ketone or aldehyde and makes alkenes from them by adding carbons. A phosphonium ylide is the reagent necessary for this transformation. Phosphonium ylides are prepared by the S_N2 reaction of phosphines with alkyl halides. The resulting salt can be deprotonated with a base such as butyl lithium. The mechanism involves the attack of the nucleophilic ylide onto the carbonyl followed by loss of a phosphine oxide.

Wittig Reaction



ylides are prepared by S_N2 reactions of phosphines with alkyl halides then deprotonation



ylides are nucleophilic and will react with carbonyls

