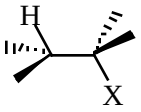
Exam II. Monday, April 4, 7:30 pm 2.5 hr duration McCosh 50
Review sessions: Thursday evening 7:00 pm Rm 124 Frick
Friday evening: 7:00 pm Rm 324 Frick
Sunday evening: 8:00 pm Rm 324 Frick
Monday lecture

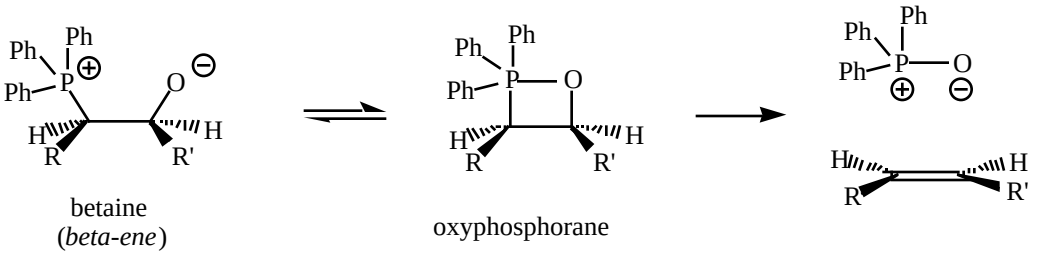
Special Mechanisms, somewhat related to carbonyl chemistry:

A. Eliminations Recall E2 elimination---anti, H-X elimination



Alternative 1. Elimination of X-Y, often by a SYN mechanism

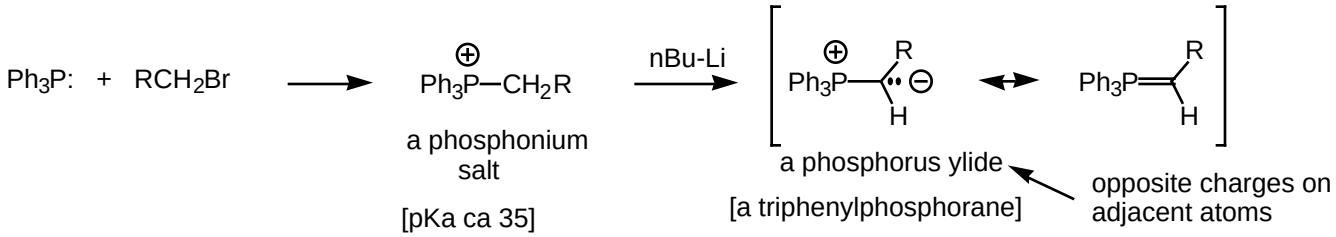
Example: P-O elimination, the Wittig Reaction An alkene synthesis method Text: p 899, p 941



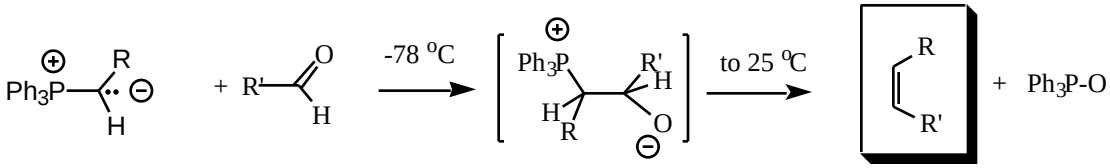
How to make the "betaine"?

Phosphorus reacts analogously to N:

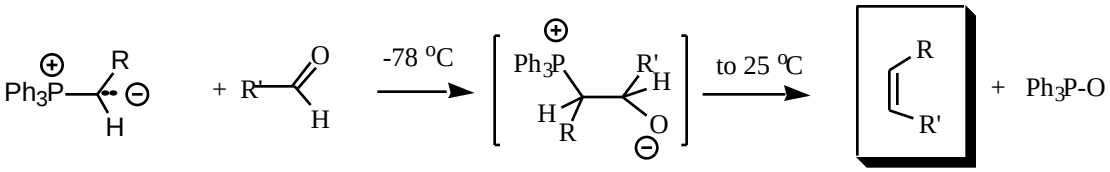
Ph_3P: can be a nucleophile, and (different from N) it can also stabilize an anion on the adjacent carbon (polarizibility)

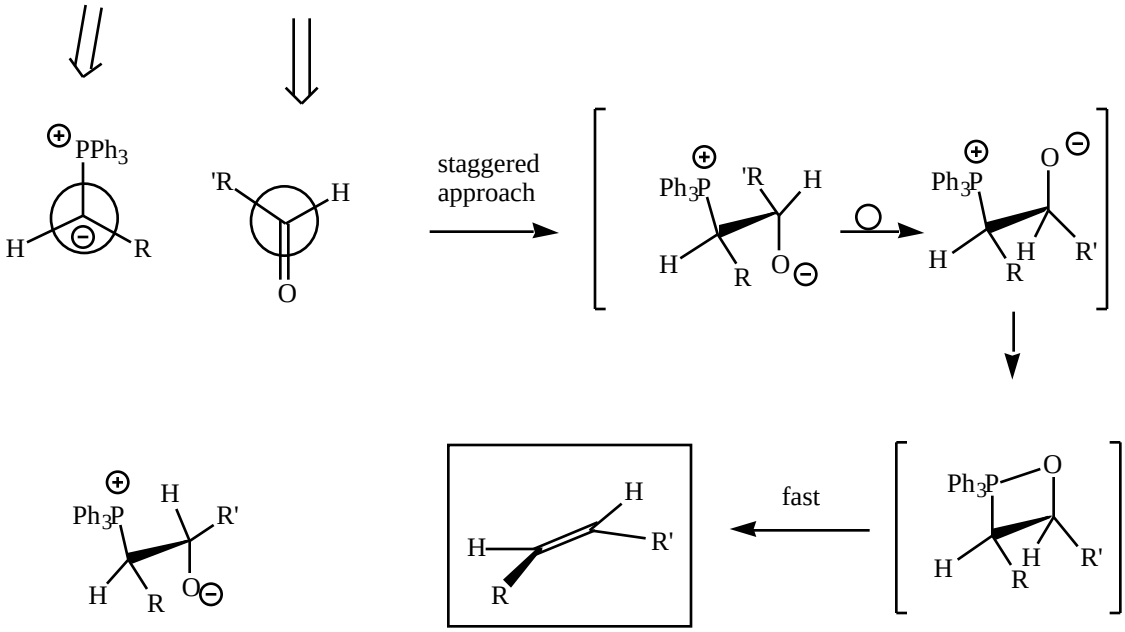


The Wittig Alkene Synthesis:



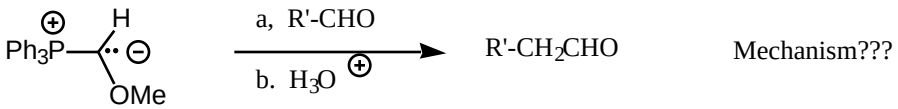
Why the cis product mainly? **[Not in text!]**



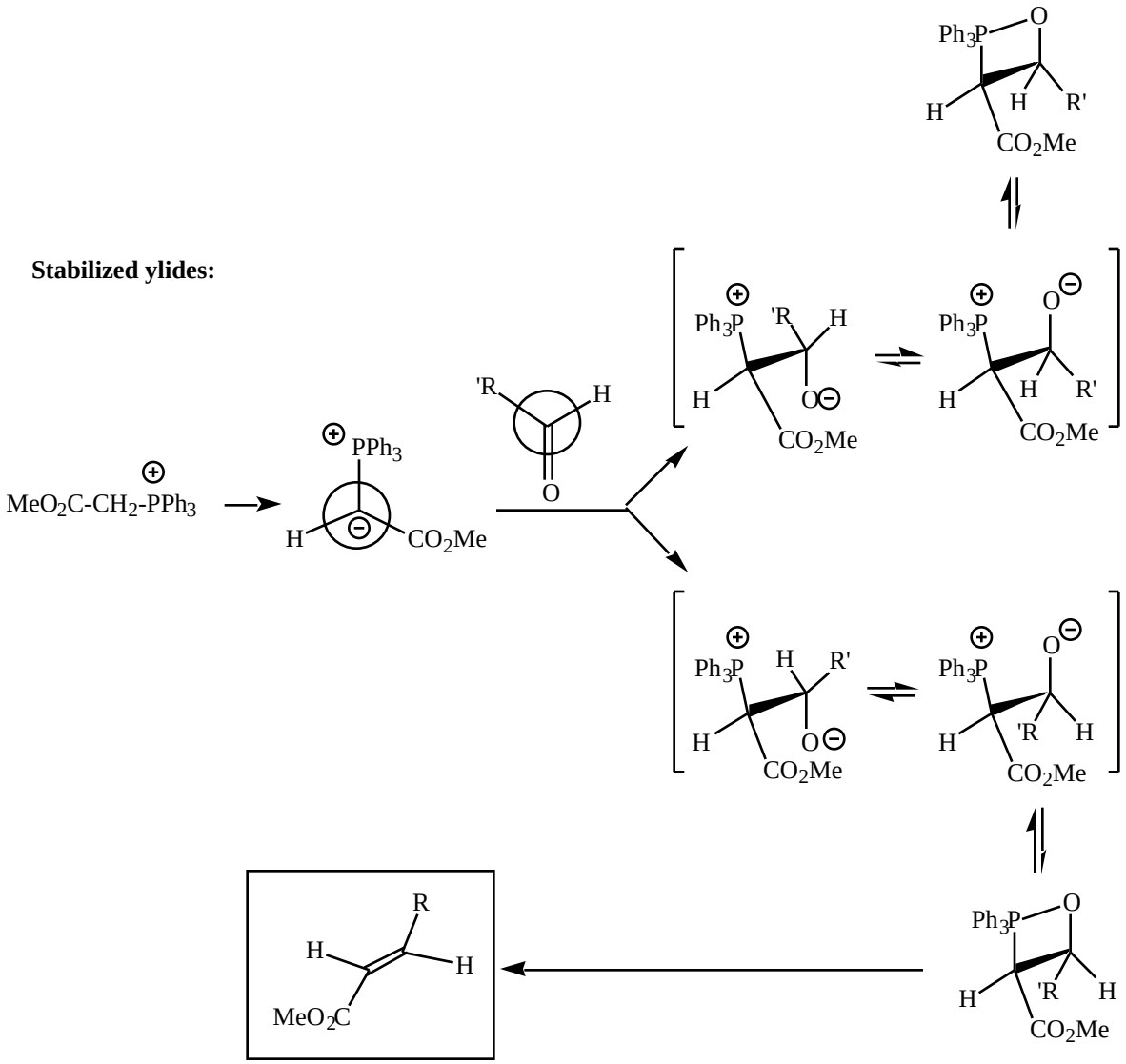


NOTE: Many variations on the ylide structure:

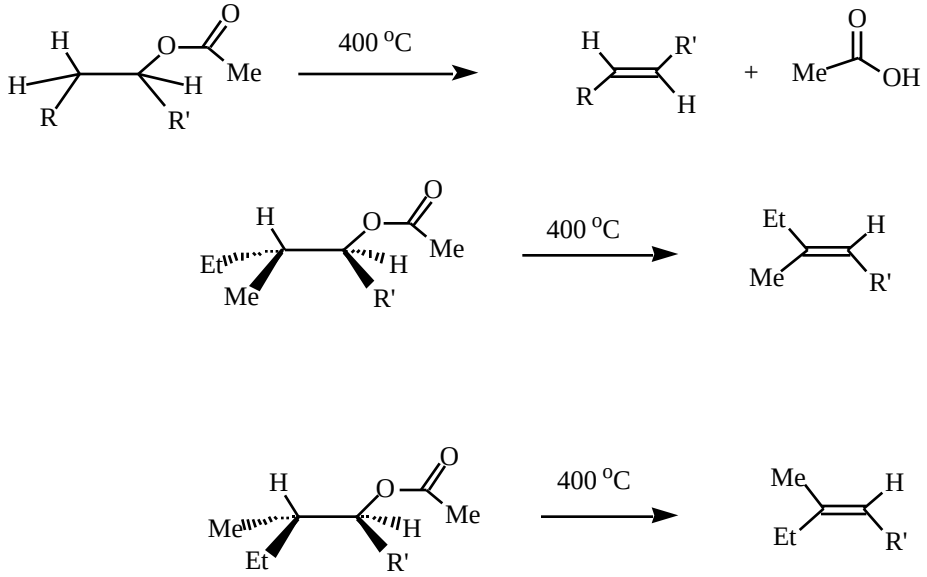
Homologation of an aldehyde:

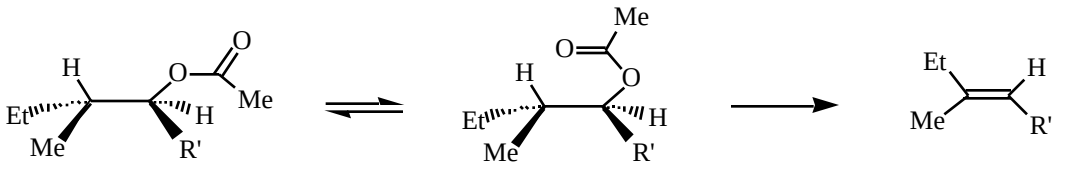


Stabilized ylides:



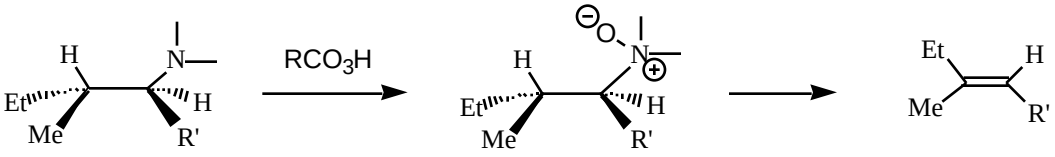
Alternative 2. Acetate Pyrolysis Text p 1059





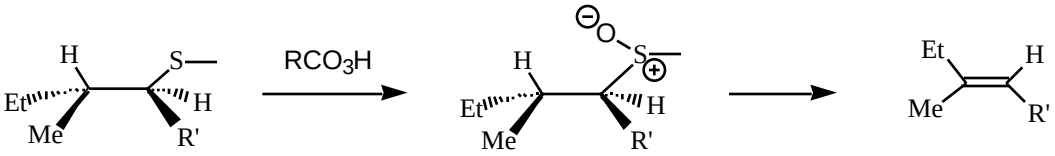
requires eclipsed conformation, *syn* hydrogen

Related: Cope elimination Text p 1061



requires eclipsed conformation, *syn* hydrogen

Sulfoxide elimination Text 1061

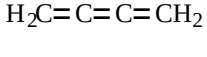


requires eclipsed conformation, *syn* hydrogen

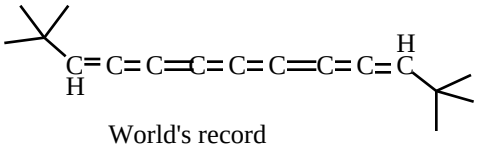
NEW TOPIC: ketone analogs in cumulated pi systems

Recall:

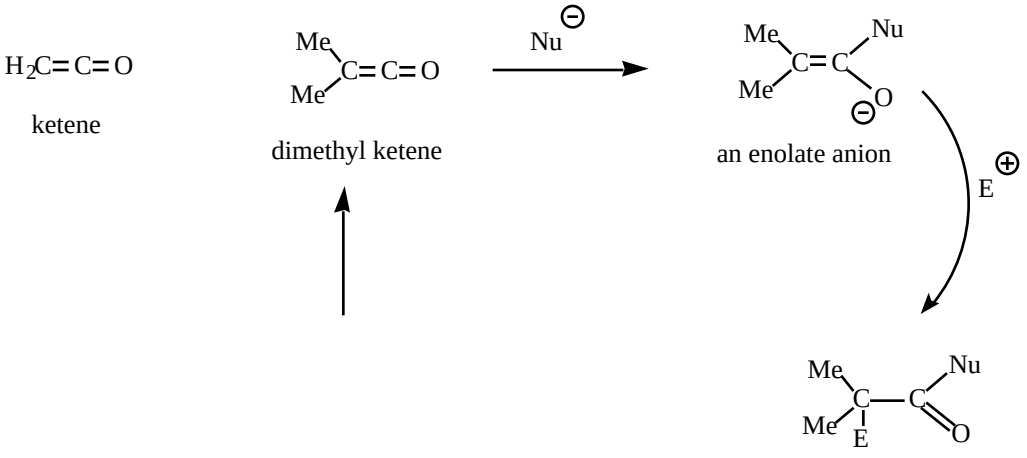
allene

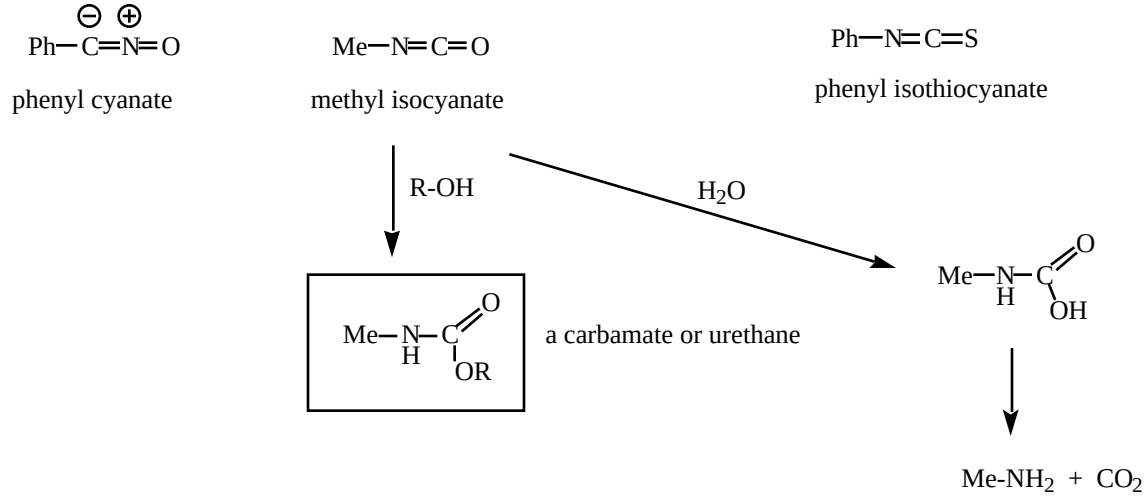


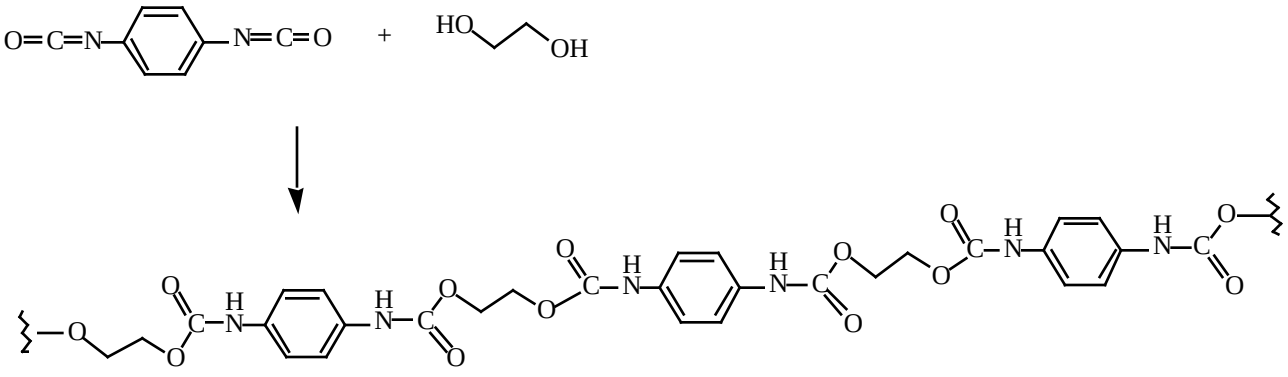
1,2,3-butatriene



World's record



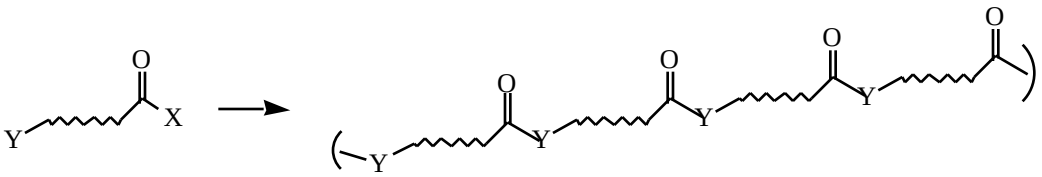




Polymers by esterification or amide bond formation
- polyesters
- polyamides

Polymerization of Bifunctional Acyl Derivatives:

Homopolymer:



Y = nucleophile (-OH, -NH_2, etc) X = leaving group such as Cl, OMe, etc

Alternating Copolymer: