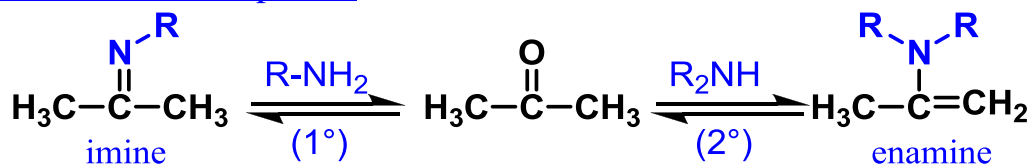
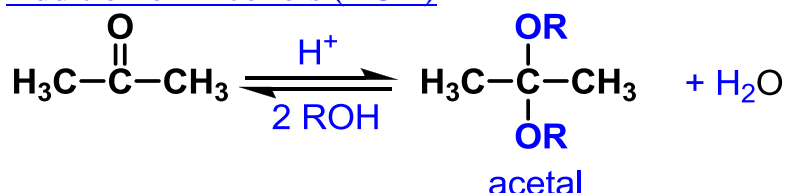
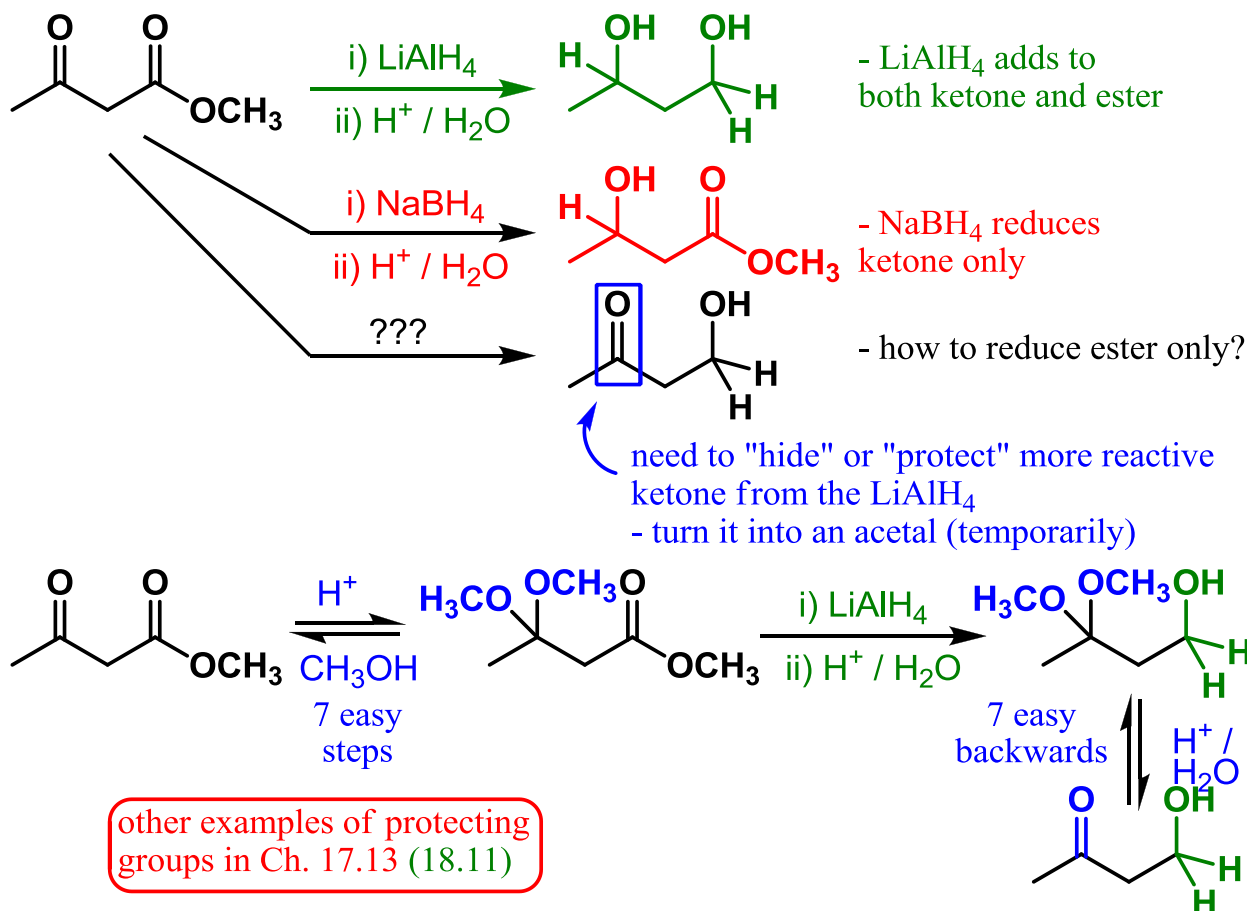


Overheads: - Outline

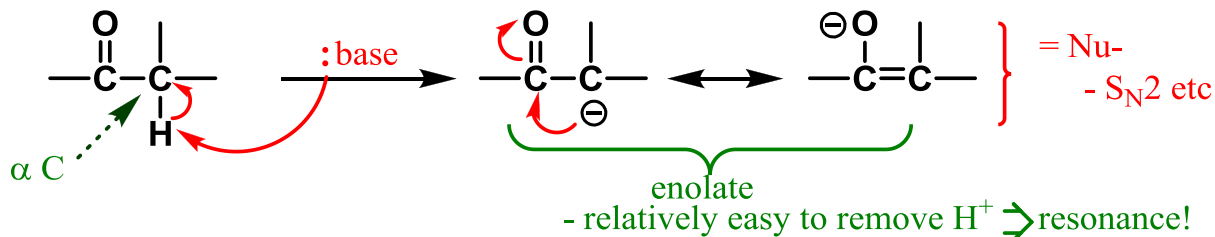
Recap Monday:

Addition of N Nucleophiles:Addition of Alcohols (ROH)Major use of Acetals: “Protecting Group” for aldehydes/ketones

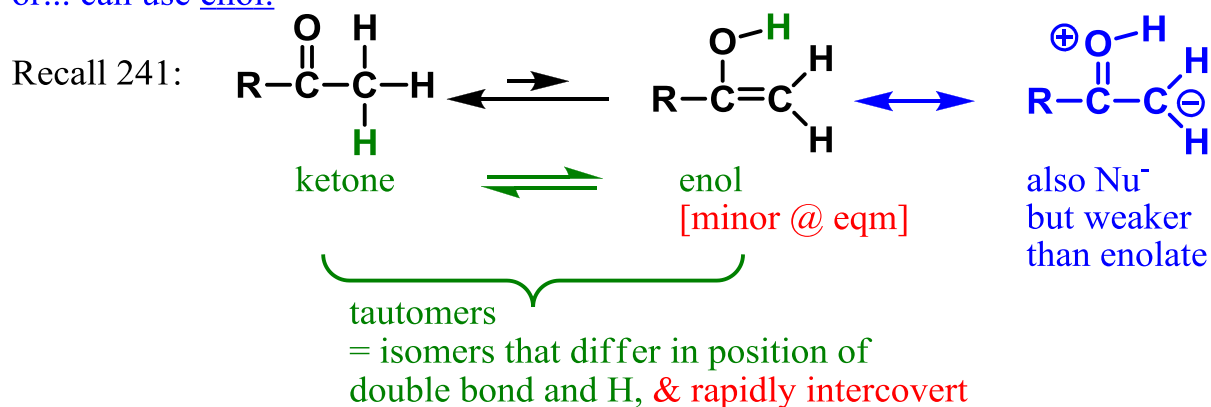
Carbonyls So far: Addition of Nu^- to $\text{C}^{\delta+}$ $\text{O}^{\delta-}$

→ Carbonyl compounds can also be Nu^-

deprotonation of C α to carbonyl gives enolate:

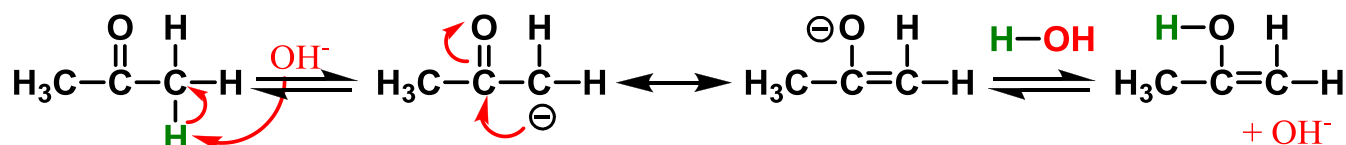


or... can use enol:

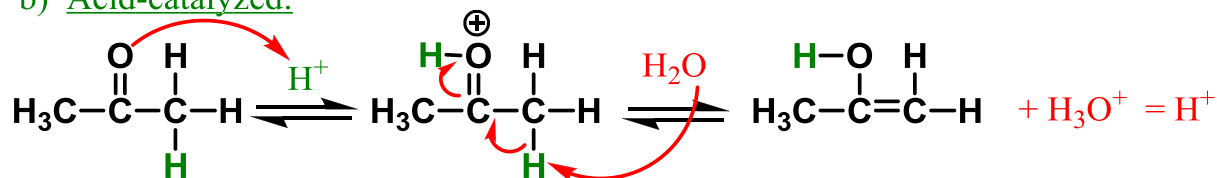


Mechanism for Tautomerization: (catalyzed by H^+ or OH^-)

a) Base-catalyzed:



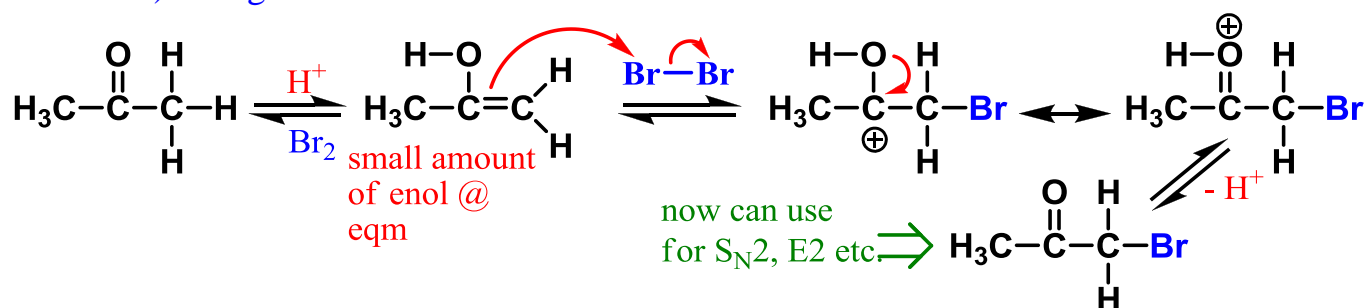
b) Acid-catalyzed:



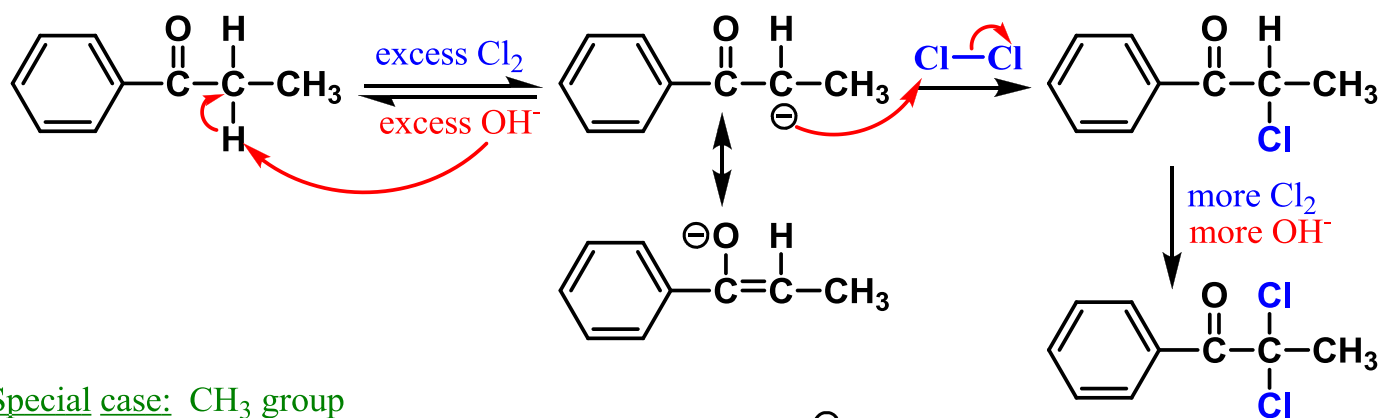
Reactions of Enols:

- Weak Nu-
- React with strong E^+ like Cl_2 , Br_2 , I_2

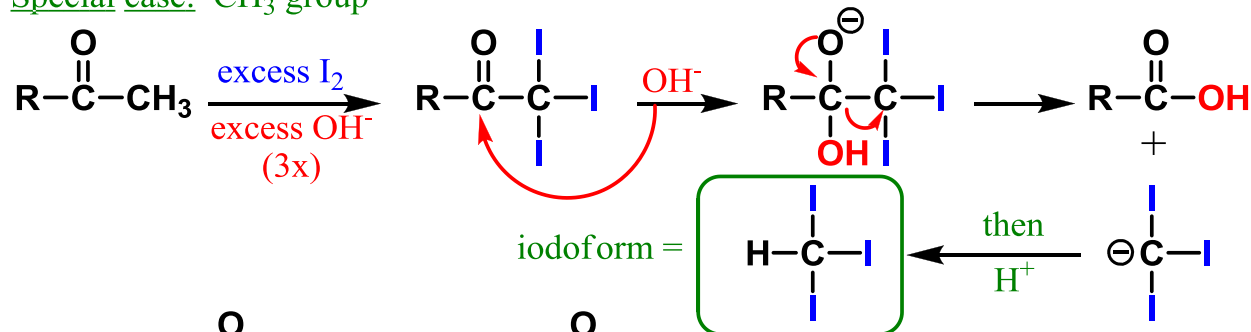
A) Halogenation



Reaction of Enolates: stronger Nu- : in presence of excess base and halogen replace ALL α -H's



Special case: CH_3 group



Overall: $\text{R}-\text{C}(=\text{O})-\text{CH}_3 \xrightarrow{\text{X}_2} \text{R}-\text{C}(=\text{O})-\text{OH} + \text{H}-\text{CX}_3 = \text{haloform reaction}$