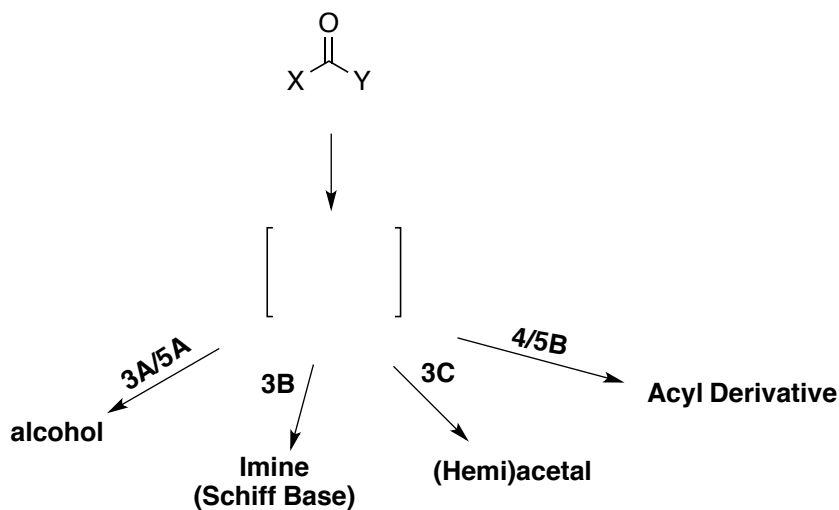


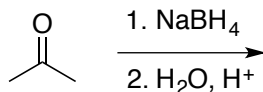
LECTURE OUTLINE

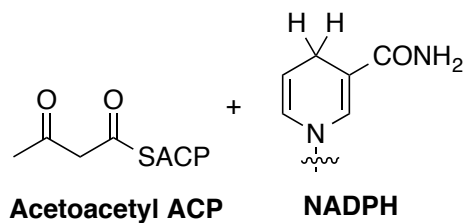
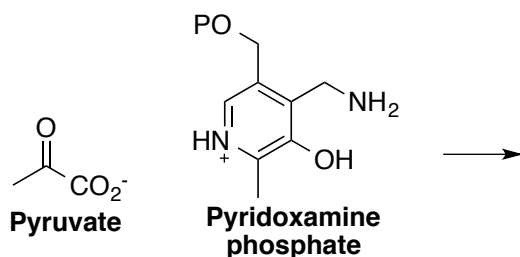
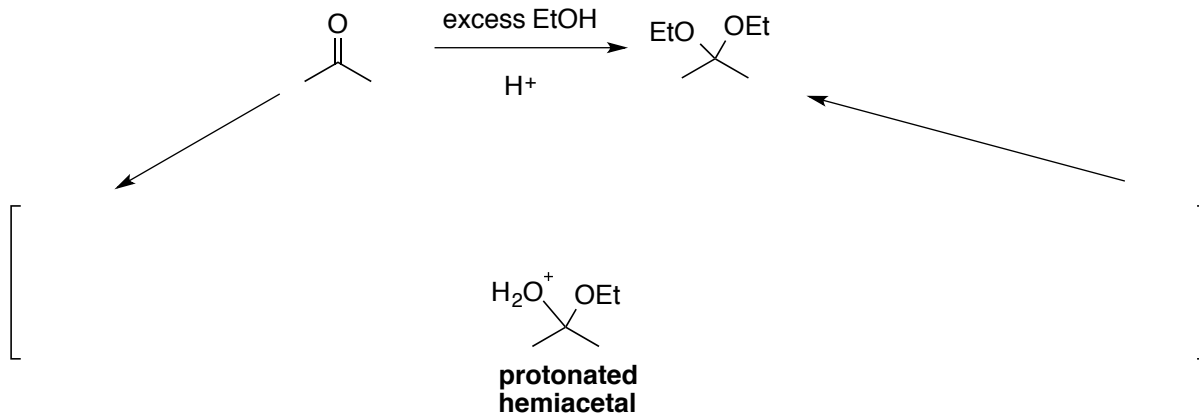
- Reading: M&B Chapter 1.5 - 1.6
 - Know those carbonyl FGs!
 - Mechanism Review
 3. Nucleophilic Addition Reactions to Carbonyl (Nuc Add'n)
 - A. Alcohol Formation
 - B. Imine (Schiff Base) Formation
 - C. Acetal Formation
 - D. Conjugate (Michael) Addition
 4. Nucleophilic Acyl Substitution (Nuc Acyl Sub)
- * Given starting materials and either product(s) or name of mechanism, you should be able to complete the mechanism and/or draw the product(s).

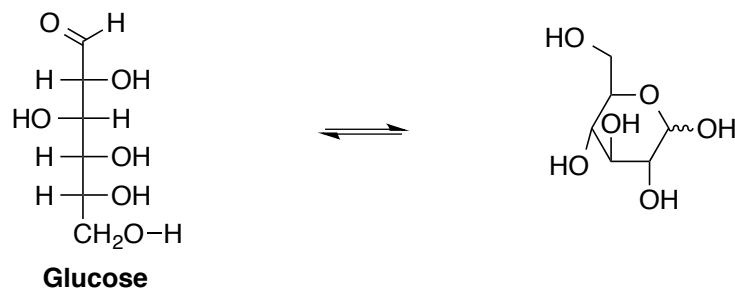
Homework (Due in next week's discussion along with lecture 1 HW):
M&B Chapter 1 # 12, 16

MECHANISM REVIEW**CARBONYL COMPOUNDS**3. Nuc Add'n Rxns to Carbonyls**3A. Alcohol Formation...**

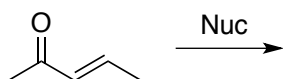
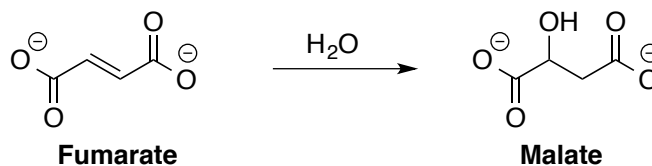
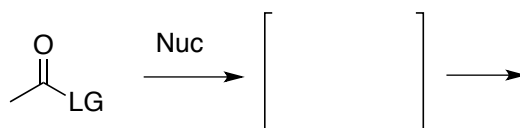
Synthesis: *Sodium borohydride reduction of ketones/aldehydes*



Nuc Add'n Rxns in Biology: *Fatty acid synthesis***3B. Imine (Schiff Base) Formation**Synthesis: *Treatment of aldehydes/ketones with amines*Biology: *Amino Acid Synthesis***3C. Acetal Formation**Synthesis: *Treatment of aldehydes/ketones with alcohols*

Hemiacetals in Nature: *Carbohydrates***3D. Conjugate 1,4 (Michael) Addition**

Synthesis

Biology: *Citric Acid Cycle*4. Nucleophilic Acyl Substitution (NAS)

REACTIVITY SERIES

NAS in Biology: *Glycolysis (first step)*

Next time...

- Mechanisms: **M&B Chapter 1.7-1.9** – Carbonyl Condensation, Elimination, and Redox
- First HW due in section next week (M&B 1.1-8, 12, 16)