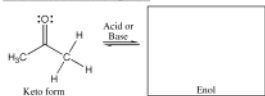


Week 6 Handouts

Keto-Enol Tautomerization vs. Enolate Resonance

Keto-Enol Tautomerization



Enolate Resonance



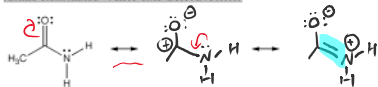
α -hydrogen $pK_a = 18-20$

Diazomethane reaction



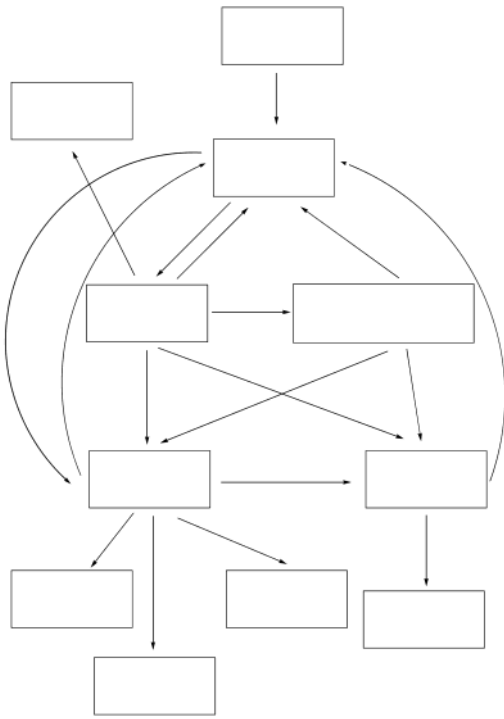
Diazomethane contributing structures

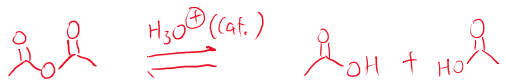
Amide Resonance VERY IMPORTANT!!!!



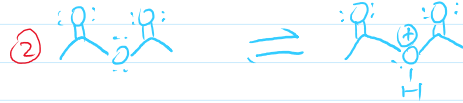
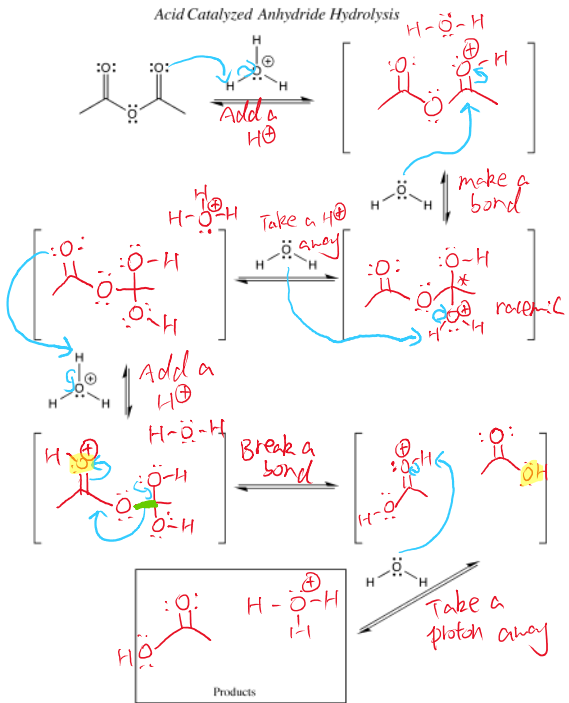
partial double bond, and C-N bond would not rotate at RT.

Interconversion of Carboxylic Acid Derivatives

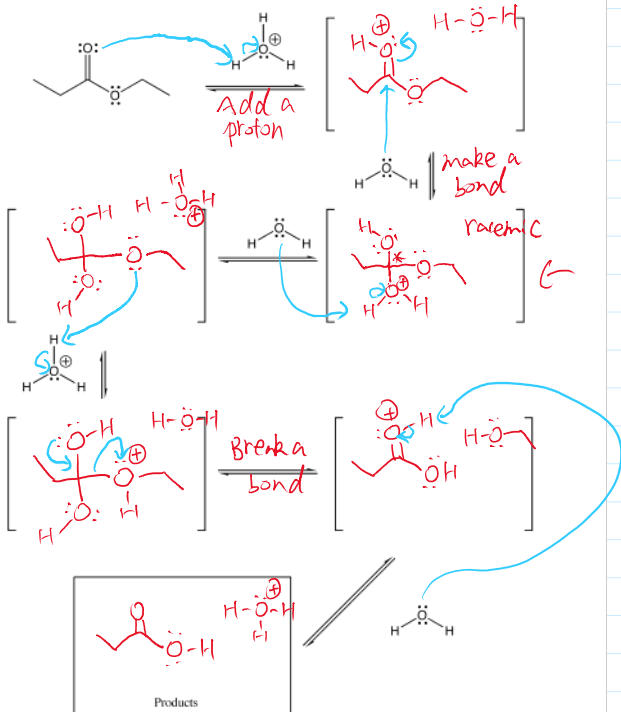




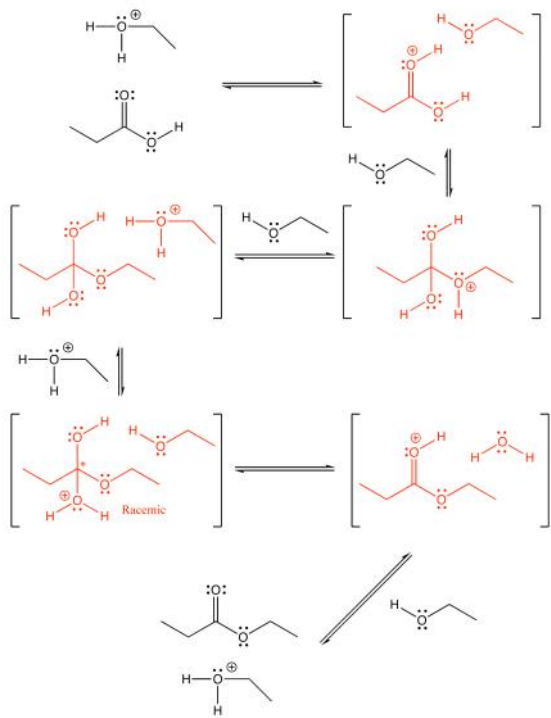
Acid Catalyzed Anhydride Hydrolysis



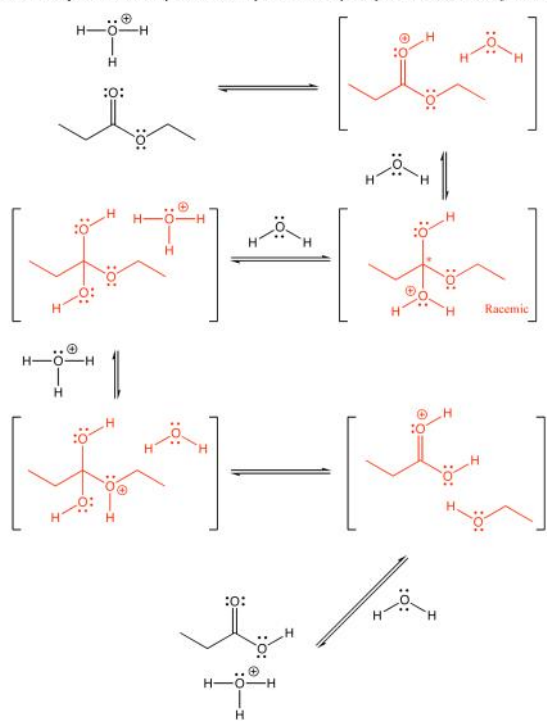
Acid Catalyzed Ester Hydrolysis



Microscopic Reversibility: Acid Catalyzed Ester Hydrolysis-Fischer Esterification

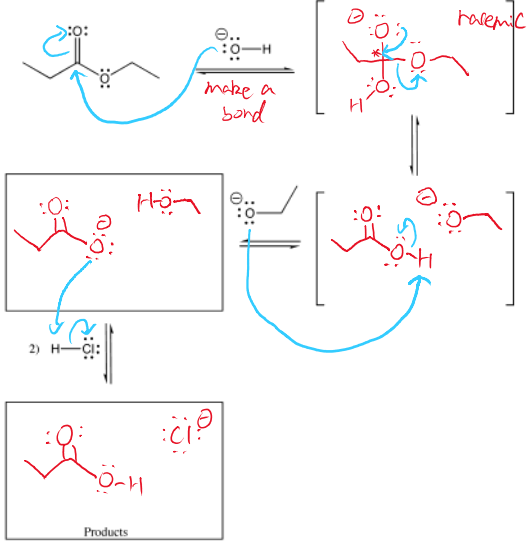


Microscopic Reversibility: Acid Catalyzed Ester Hydrolysis-Fischer Esterification



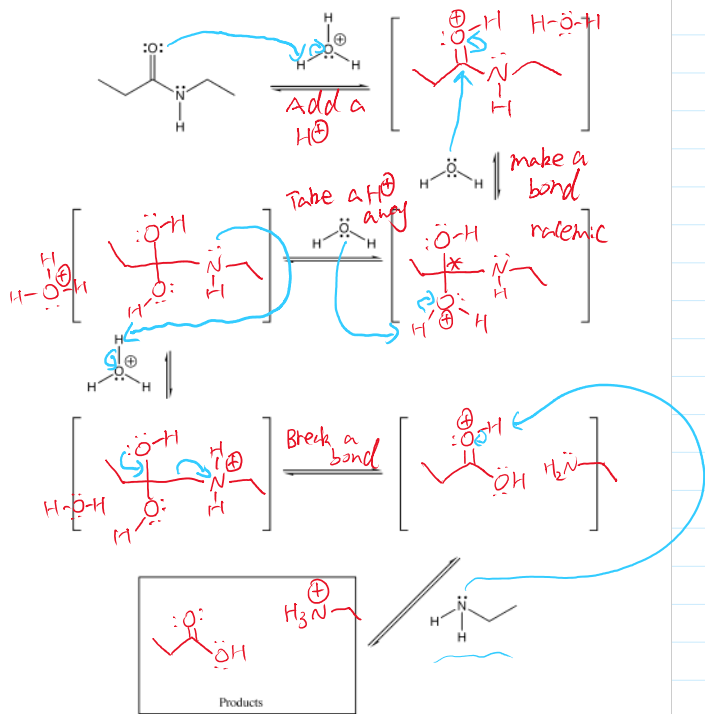


Base-Promoted Ester Hydrolysis - Saponification



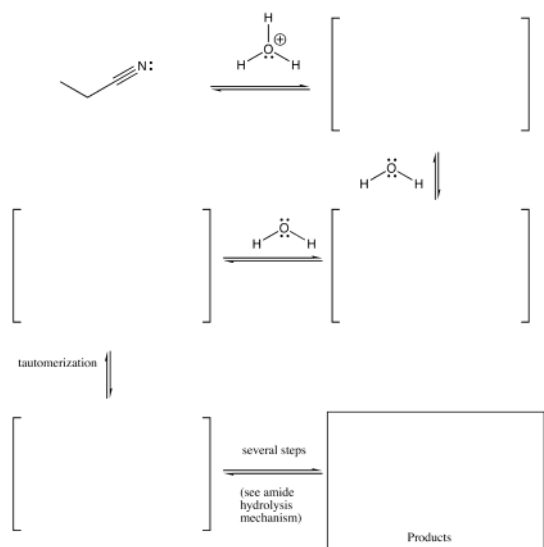


Acid Promoted Amide Hydrolysis

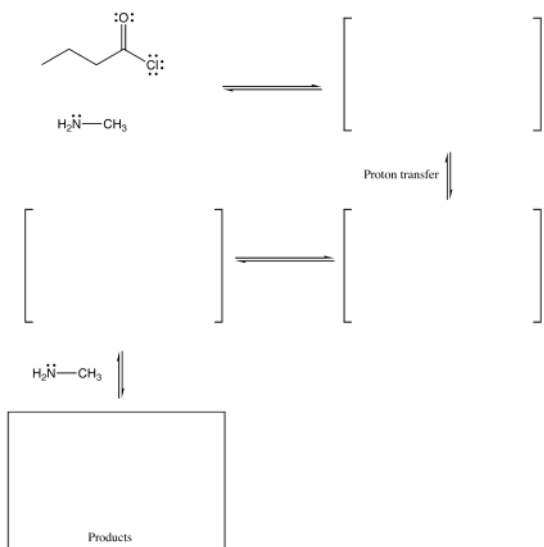


RNH_2	$H-O-H$	Cl^-
$R \overset{\oplus}{N}H_3$	$H-\overset{\oplus}{O}-H$	HCl
~ 10	-1.7	-7

Acid Promoted Nitrile Hydrolysis



Acid Chlorides Reacting with Amines



Lactone formation \rightarrow Fischer Esterification

