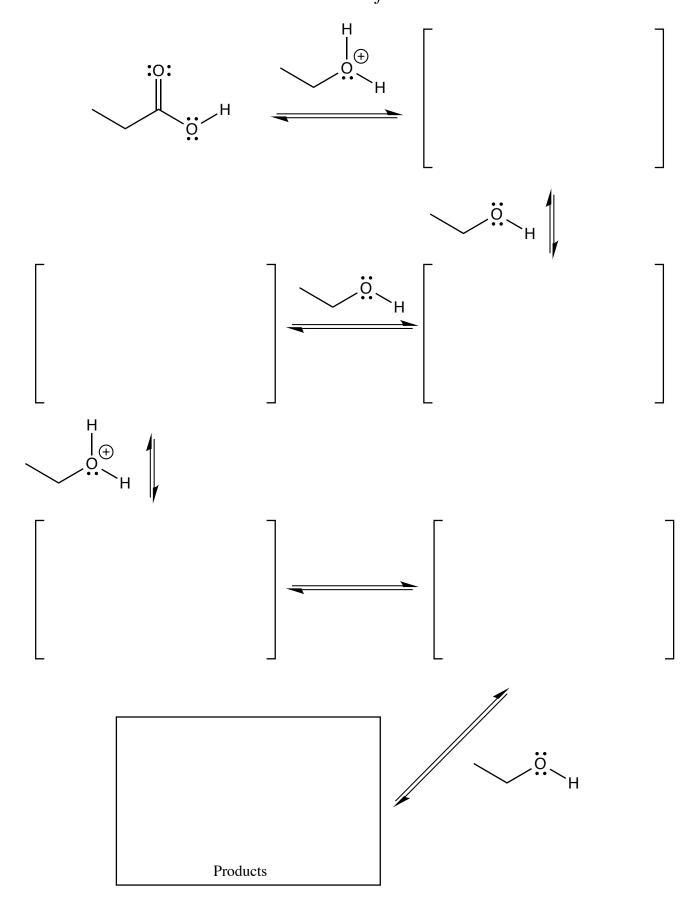
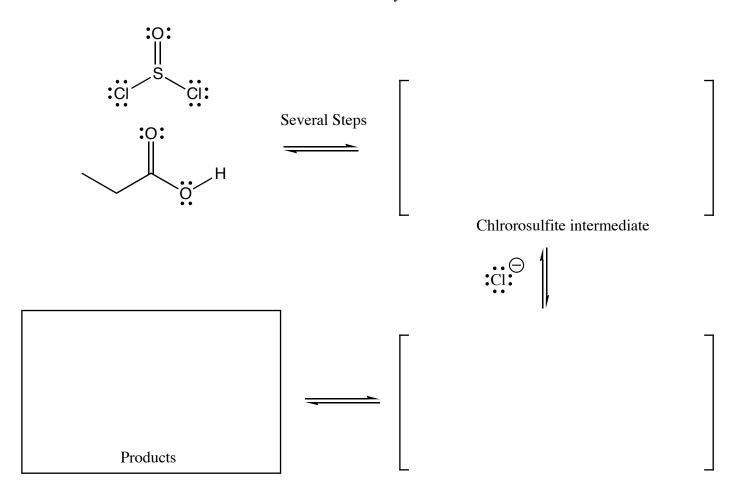
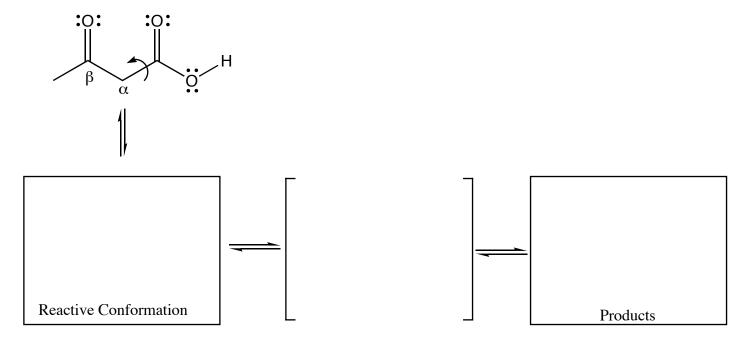
# Fischer Esterfication



## Reaction with Thionyl Chloride



## Decarboxylation of a $\beta$ -Keto Acid



# The Haloform Reaction

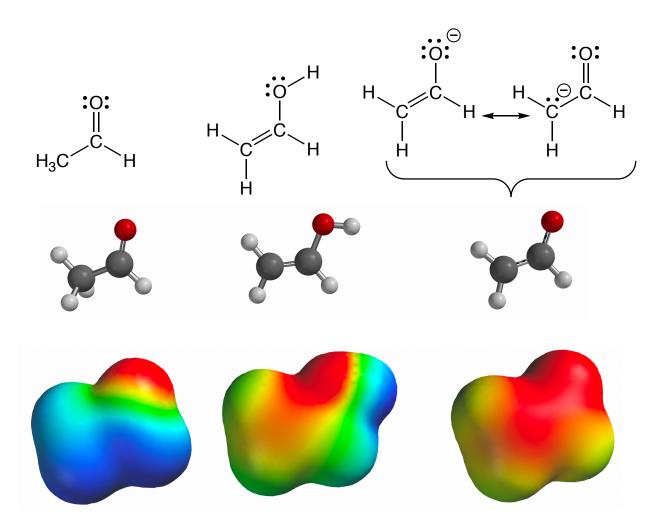
Resonance Stabilized Enolate Anion

$$\alpha$$
-hydrogen p $K_a = 18-20$ 

Two more times

Acid-base reaction

Products



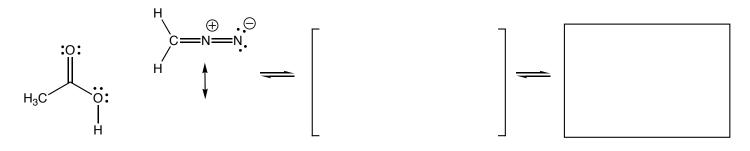
#### Keto-Enol Tautomerization vs. Enolate Resonance

### **Keto-Enol Tautomerization**

#### Enolate Resonance

 $\alpha$ -hydrogen p $K_a = 18-20$ 

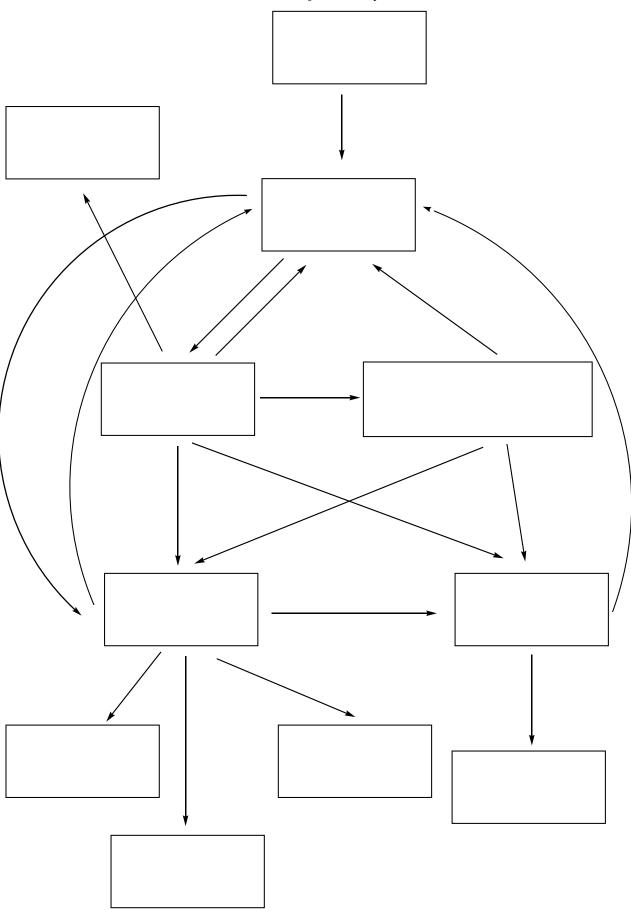
### Diazomethane reaction



Diazomethane contributing structures

#### Amide Resonance VERY IMPORTANT!!!!!!

## Interconversion of Carboxylic Acid Derivatives



### Acid Catalyzed Anhydride Hydrolysis

