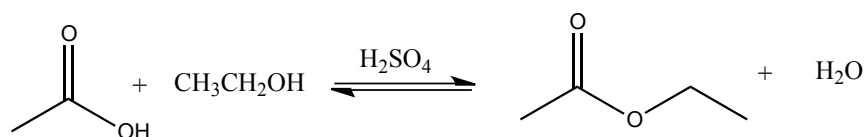


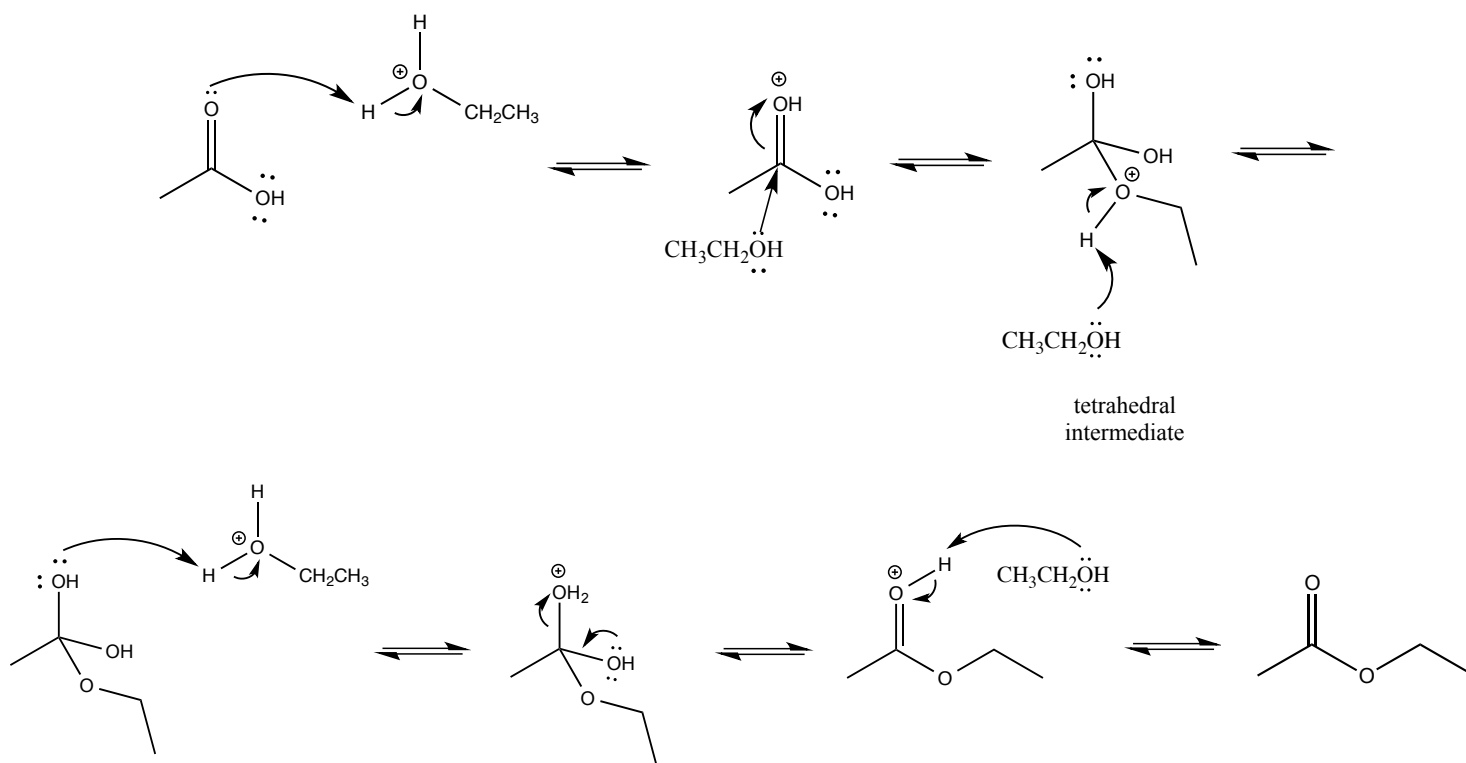
Chem 345 – Organic Reactions Chapter 20
Prepared by José Laboy, MS
<http://www.chem.wisc.edu/areas/clc> (Resource page)

Fischer Esterification

Reaction:



Mechanism:



This mechanism is under thermodynamic control. Formation of the tetrahedral intermediate is the rate-determining step of the reaction. To increase ester yield a couple of conditions can easily be achieved. Increase the alcohol concentration. Usually the reaction is carried out with the alcohol as the solvent. Also you can distill the ester product as it is formed. The distillation is azeotropic, that is, the vapor pressure has a fixed composition and a fixed temperature. As the vapor condenses the ester and water separate because usually they are immiscible.

This reaction is limited toward short chain alcohols and carboxylic acids.