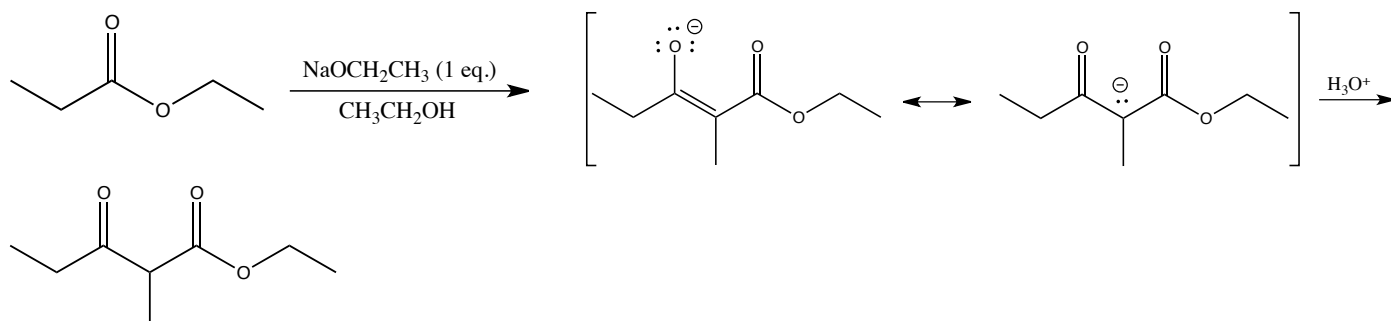
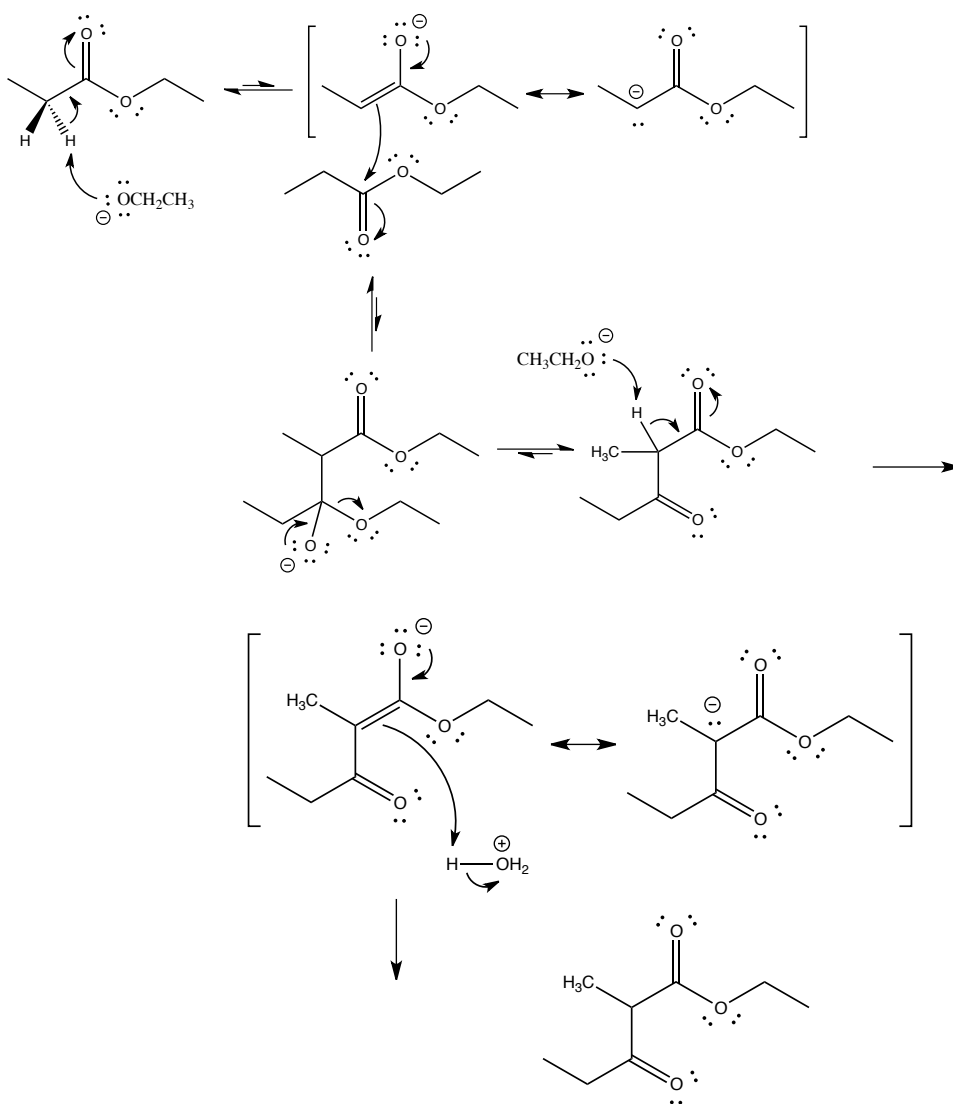


The Claisen Condensation

Reaction:

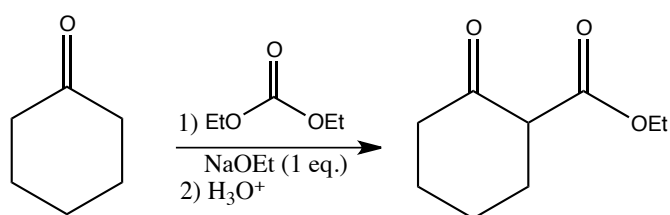
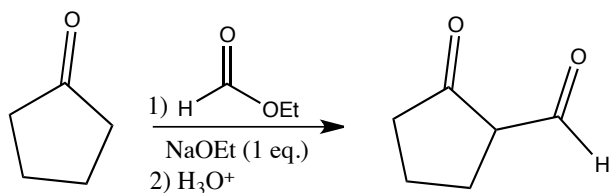


Mechanism:

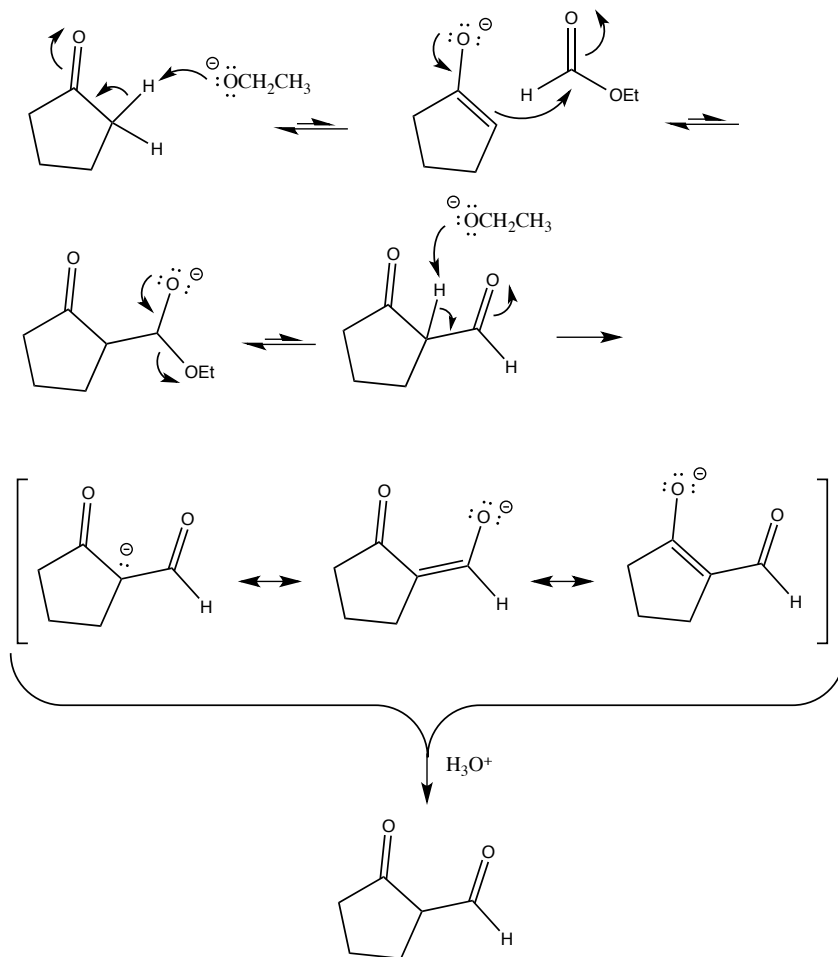


This condensation reaction is only performed under basic conditions. A full equivalent of base is required and usually is the alkoxy part of the ester. The product of the reaction is a β -keto ester. The reaction is driven by the stability of the conjugate base of the product.

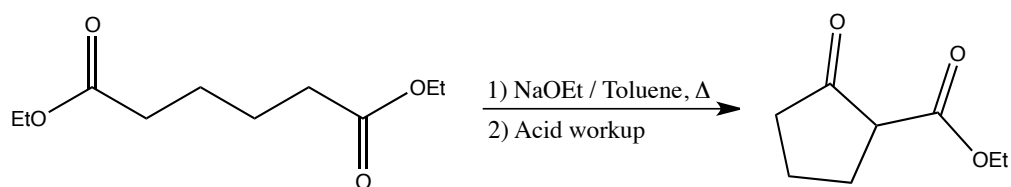
When two esters are starting reagents the most useful synthesis is one where one of the esters does not possess any α -hydrogen atoms. See below this type of ***crossed-Claisen reaction***.



The mechanism for the first reaction is shown below.



If a chain diester is used an intramolecular Claisen type reaction can occur if there's a possibility of forming a five or six membered ring. This particular reaction is called a **Diekmann condensation**.



Mechanism:

