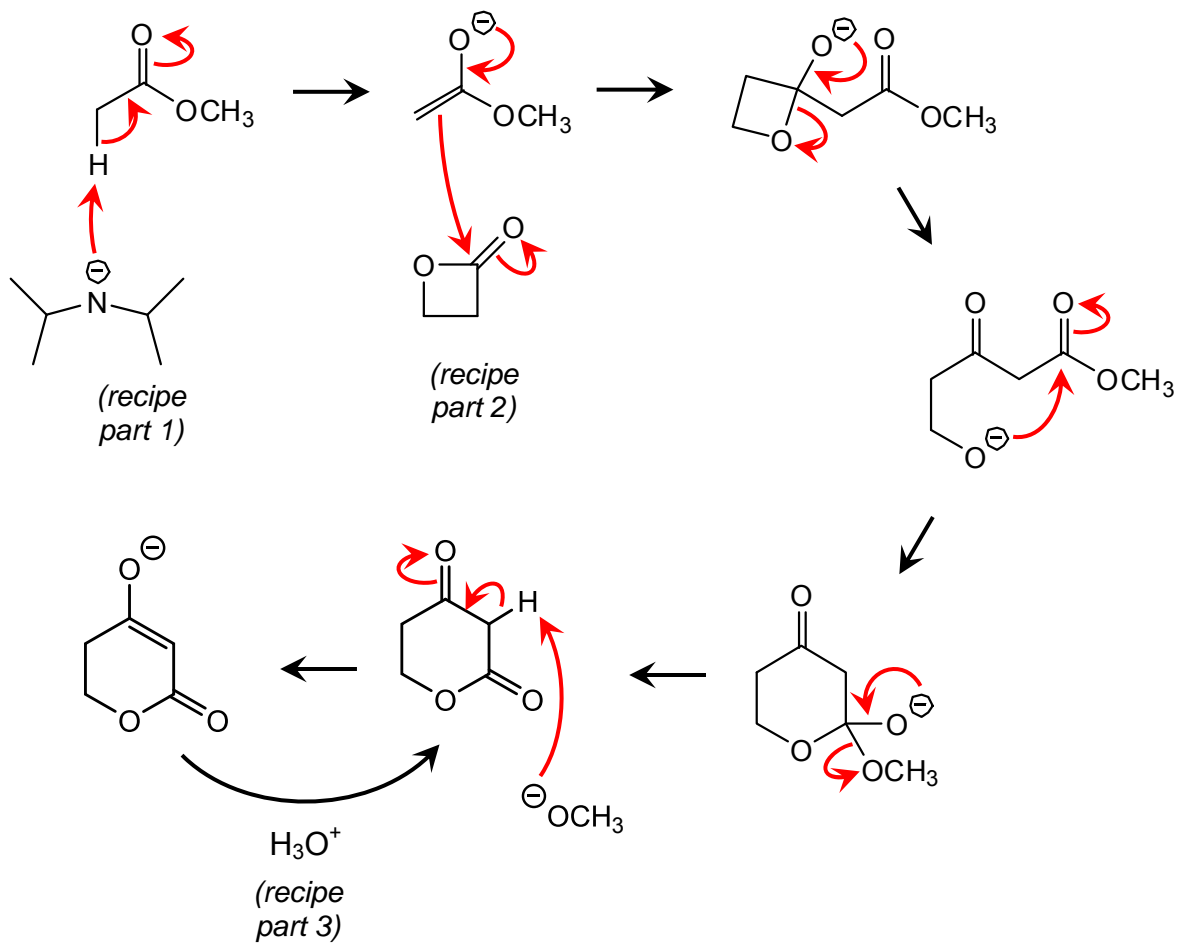
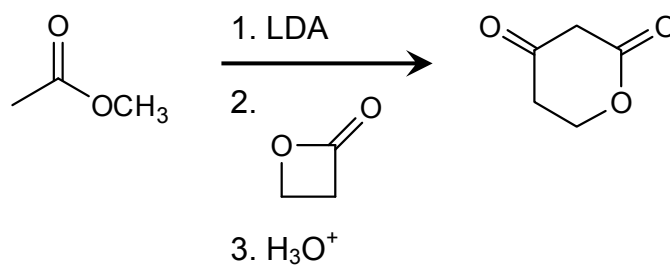
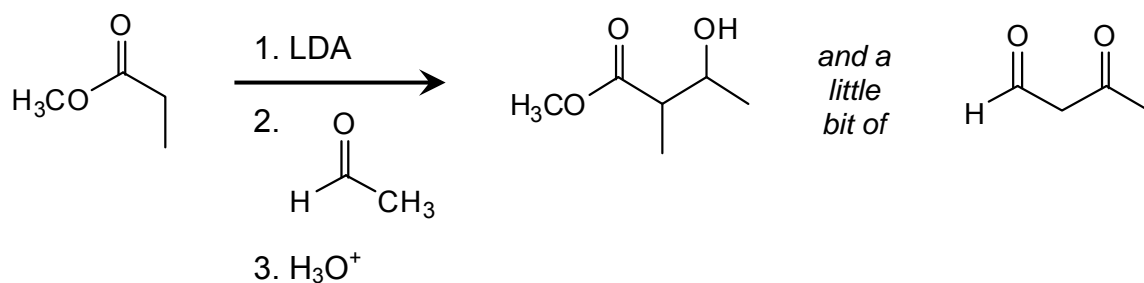
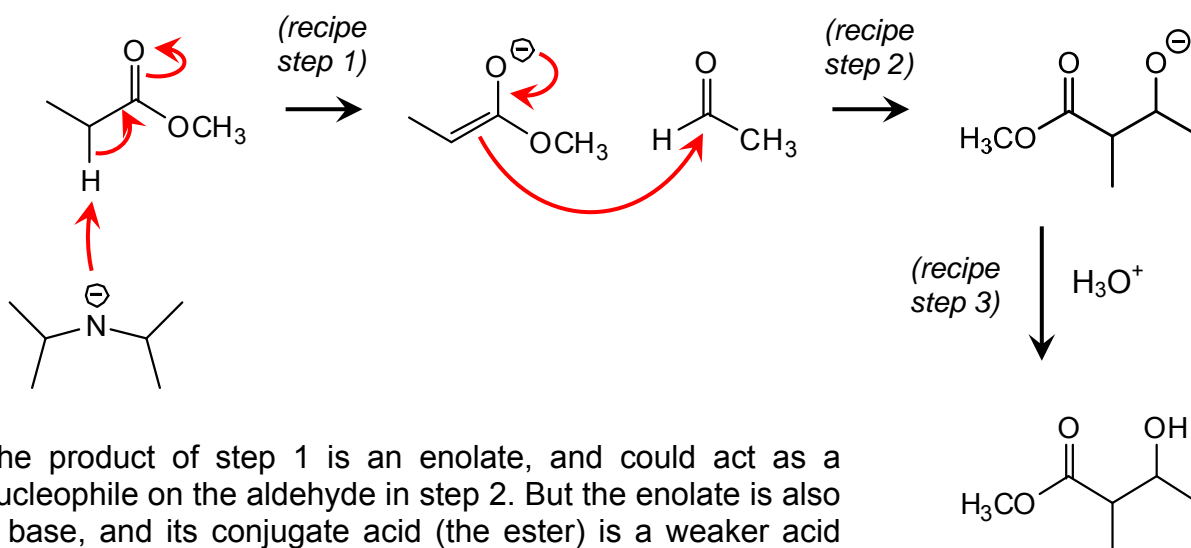


Workshop 17 Solutions
Aldol and Claisen Mechanisms

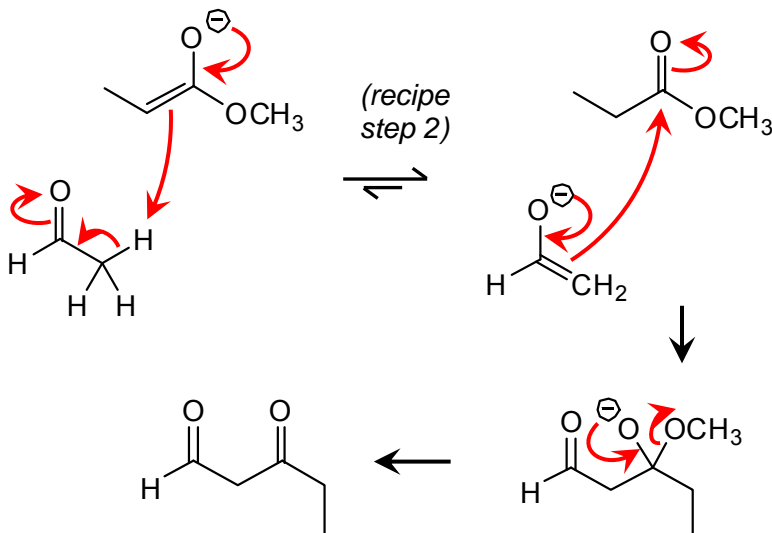




The first product is pretty straightforward—it's exactly what we would expect from an ester enolate, made in the first part of the recipe, reacting with an aldehyde:



The product of step 1 is an enolate, and could act as a nucleophile on the aldehyde in step 2. But the enolate is also a base, and its conjugate acid (the ester) is a weaker acid than the aldehyde. So when the ester enolate and aldehyde are combined in step 2, they *could* undergo an acid-base reaction before they do anything.



Then, the two molecules will react via a crossed Claisen, but with the enolate and electrophile roles switched from the original setup.

So this means that, even though pre-forming the ester enolate is good a way of making a Claisen product, proton transfer can undo the selectivity of that first step.

