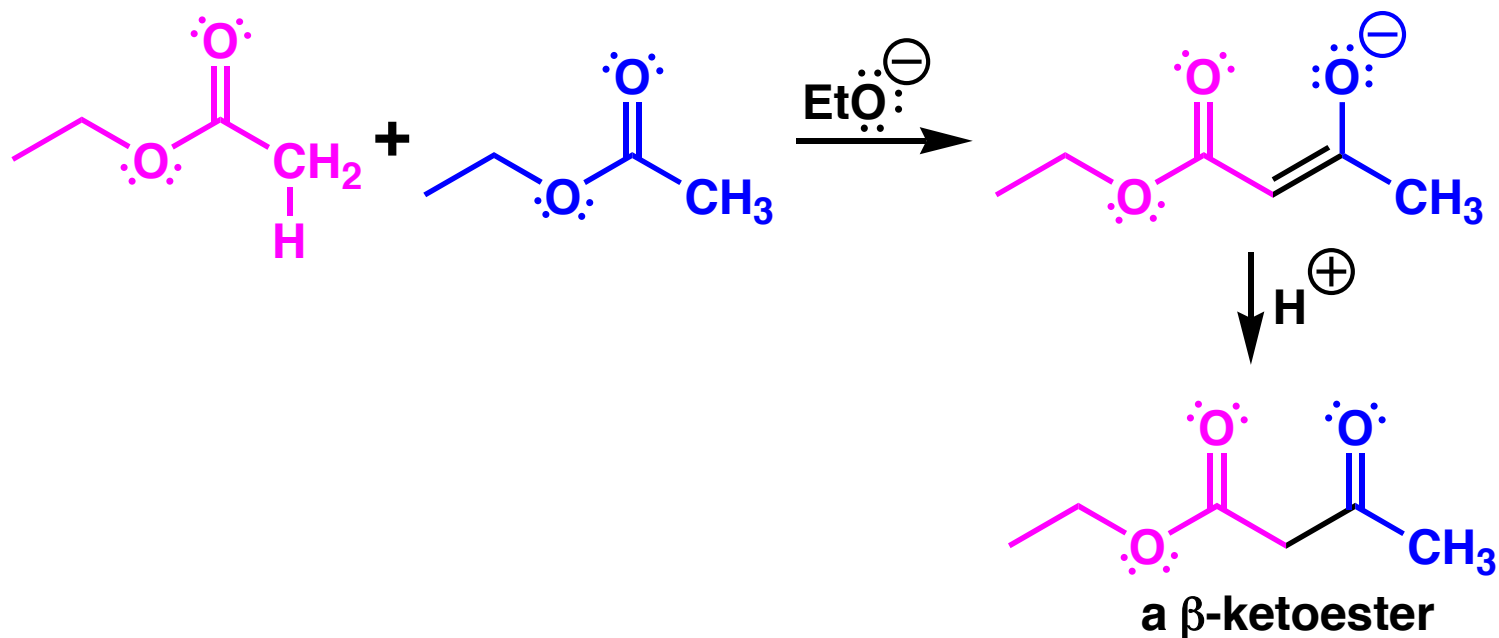
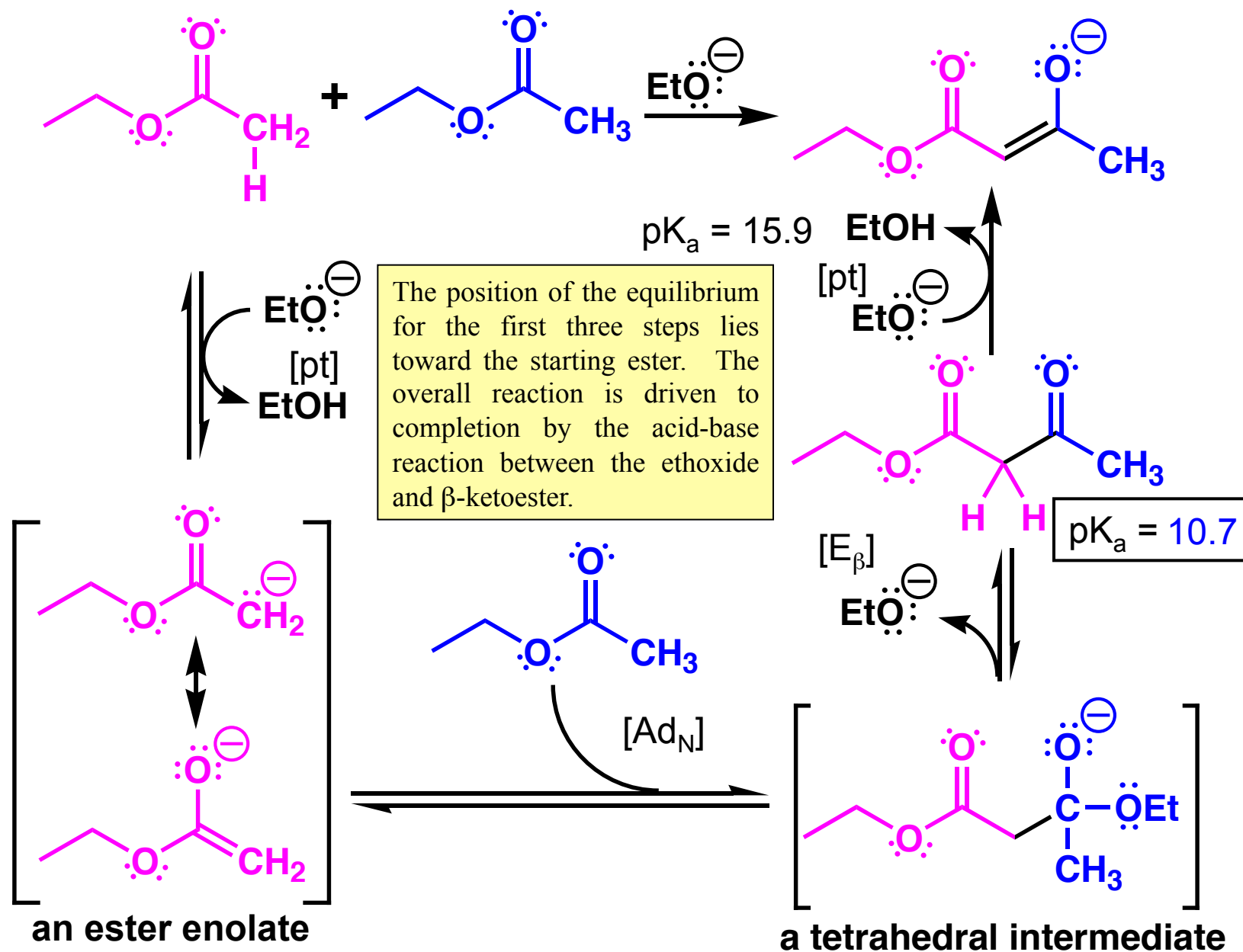


The Claisen Condensation

In this reaction, two molar equiv of an ester combine to produce a β -ketoester. One equiv serves as the nucleophile (enolate) and the other is the electrophile which undergoes addition and elimination. The reaction is driven to product by the final deprotonation step.

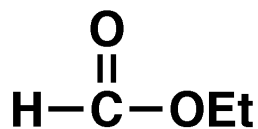


Mechanism of the Claisen Condensation

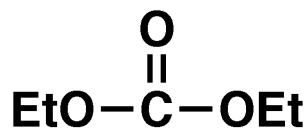


Mixed Claisen Condensation

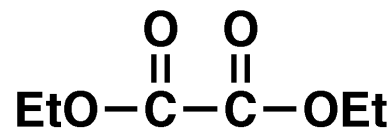
Like mixed aldol reactions, mixed Claisen condensations are useful if differences in reactivity exist between the two esters as for example when one of the esters has no α -hydrogen. Examples of such esters are:



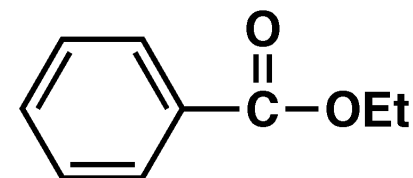
ethyl formate



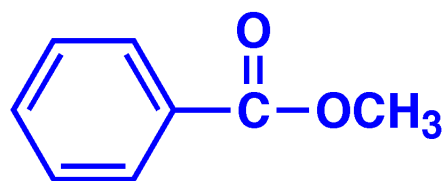
diethyl carbonate



diethyl oxalate



ethyl benzoate



excess

