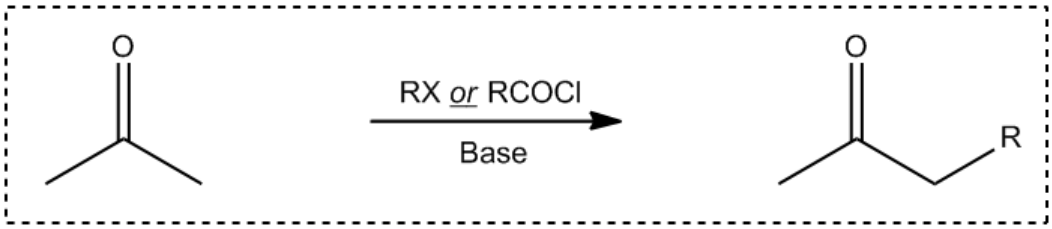
CONCEPT: ENOLATE ALKYLATION AND ACYLATION

We can expose enolates to alkyl halides to produce α-alkyations

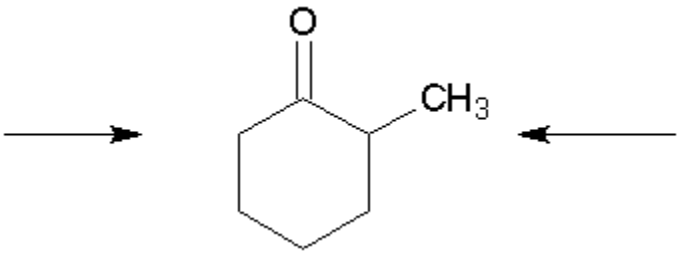
- Using acid chlorides results in α-acylations.



Directed Reactions:

When we run α-alkyations with asymmetrical ketones, two enolates are possible.

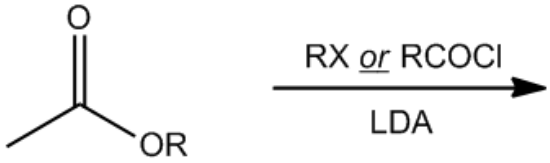
- This leads to a mixture of products. We can use *different bases* to direct the direction of deprotonation
  - □ The thermodynamic product is the product with the lowest overall energy _____
  - □ The kinetic product is the product with the lowest activation energy _____



Enolates of Esters:

LDA can also be used in the alkylation of esters

- Use of alkoxide bases may yield ***transesterification*** (stay away!)



PRACTICE: The following molecule forms two products. Determine the products and determine if they follow thermodynamic control or kinetic control.