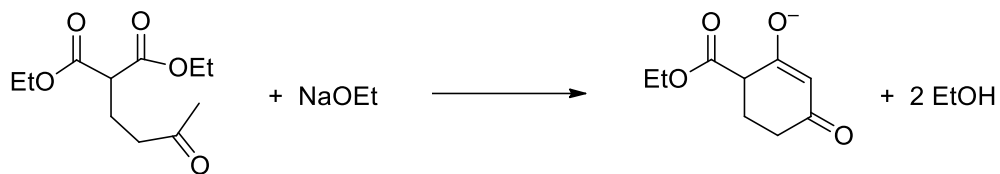


Name \_\_\_\_\_

### Bonus Assignment (22 pts)

Answer the following questions about the reaction shown below.

a) Provide a mechanism for the reaction. (12 pts)



**Due: April 15** at Start of Class  
**(3 pts extra for Assignments received on April 13)**

b) Calculate the equilibrium constant for the first deprotonation step of the mechanism you were asked to provide above. Show your work, providing all relevant  $pK_a$  values. (4 pts)

c) There is a more favorable deprotonation step possible (which is not part of the mechanism you were asked to provide). Provide the product of this more favorable deprotonation step and calculate the equilibrium constant for its formation. Show your work, providing all relevant  $pK_a$  values. (6 pts)

