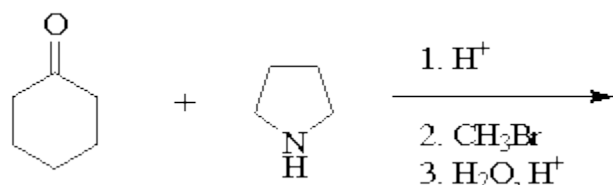


# Vollhardt-Schore, Organic Chemistry 5e Ch 18

1. What is the *major* product of the following reaction?

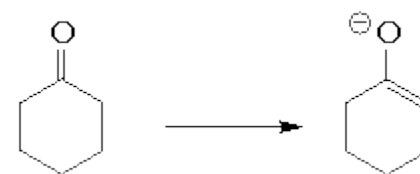


- A.
- B.
- C.
- D.
- E.

2. Which of the following carbonyl compounds will give a *positive iodoform test*? (Remember that the iodoform test is a qualitative analysis technique in which a positive result is indicated by the formation of iodoform ( $CHI_3$ ) as a yellow precipitate).

- A.
- B.
- C.
- D.
- E.

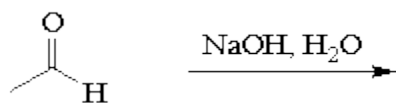
3. Which of the bases below would quantitatively (i.e., completely) deprotonate cyclohexanone ( $pK_a \sim 20$ ), converting it to the corresponding enolate?



- A. NaOH

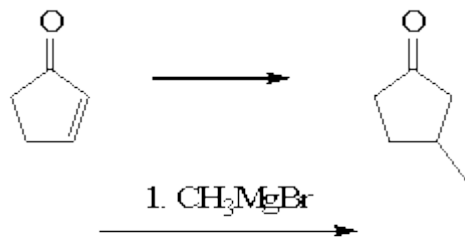
- B.  $\text{CH}_3\text{MgBr}$
- C.  $\text{CH}_3\text{O}^- \text{Na}^+$
- D.  $i\text{Pr}_2\text{NLi}$
- E.  $\text{CH}_3\text{Li}$

4. With the reactants shown below, what product will be produced in *significant amounts*?



- A.
- B.
- C.
- D.
- E.

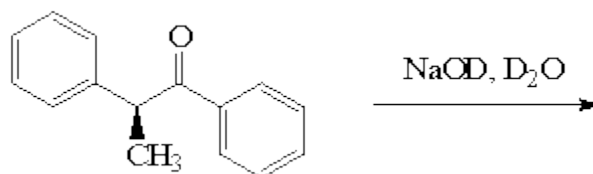
5. What reagent(s) would be required to accomplish the following reaction?



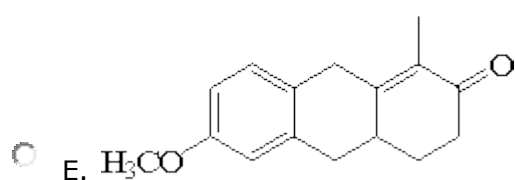
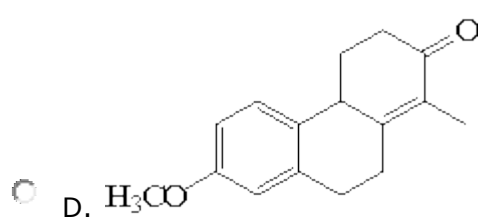
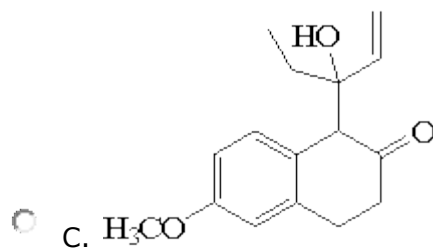
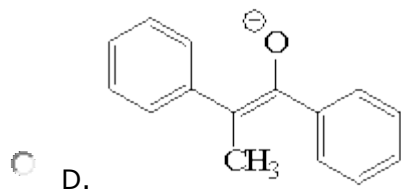
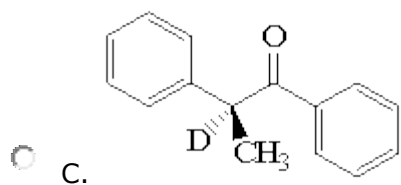
- A.  $1. \text{CH}_3\text{MgBr}$   
 $2. \text{H}_2\text{O}$

- B.  $\xrightarrow{\text{CH}_3\text{OH}}$   
 $\xrightarrow{\text{H}_2\text{SO}_4}$   
 $1. \text{CH}_3\text{Li}$   
 $\xrightarrow{\hspace{2cm}}$
- C.  $2. \text{H}_2\text{O}$   
 $1. \text{LDA}$   
 $\xrightarrow{\hspace{2cm}}$
- D.  $2. \text{CH}_3\text{I}$   
 $1. (\text{CH}_3)_2\text{CuLi}$   
 $\xrightarrow{\hspace{2cm}}$
- E.  $2. \text{H}_2\text{O}$

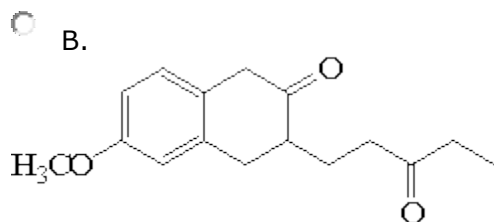
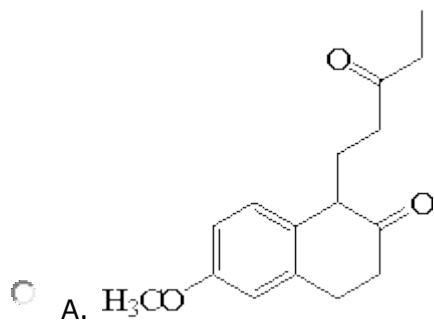
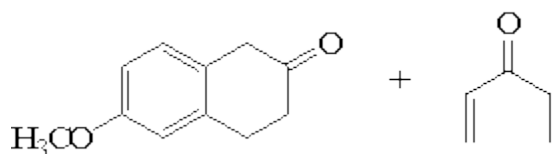
6. What would you expect to result from the reaction shown below? Try to think about it mechanistically before choosing an answer.



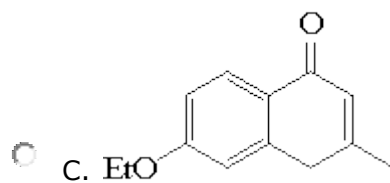
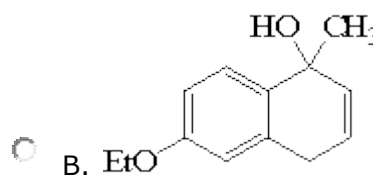
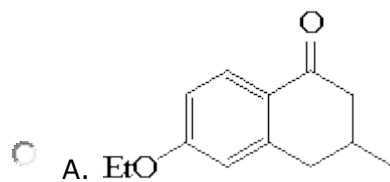
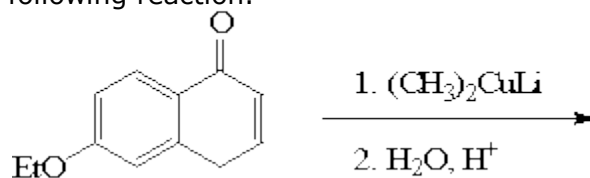
- A.
- B. racemic

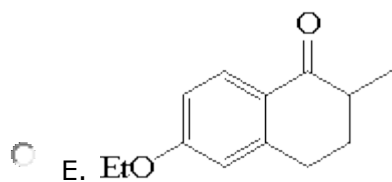
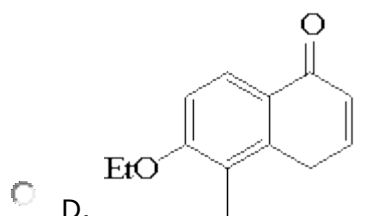


7. What is the *major* product of the following reaction?

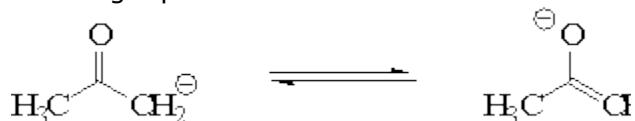


8. Predict the *major* product of the following reaction.



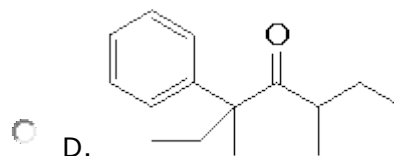
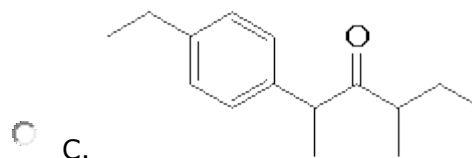
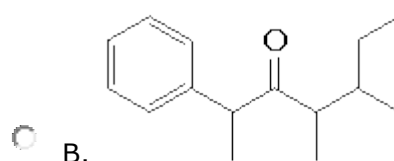
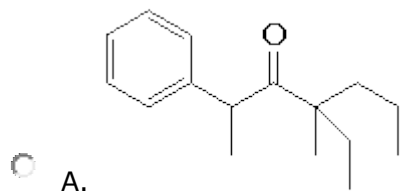
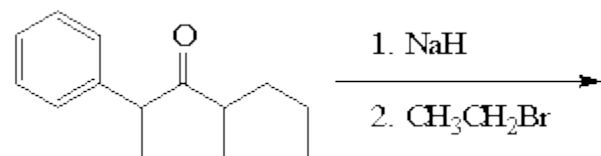


9. To which side, if either, would the following equilibrium shown below lie?



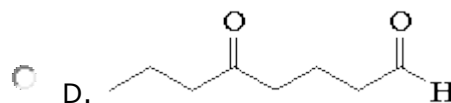
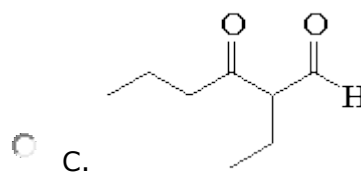
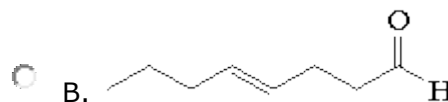
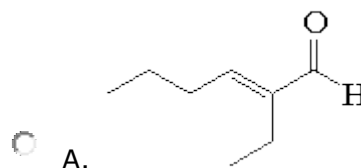
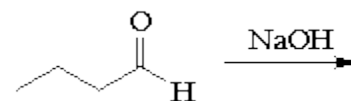
- A. To the right  
 B. To the left  
 C. Equally to the right and left  
 D. This is not an equilibrium.  
 E. There is no way to predict this.

10. Predict the *major* product of the following reaction.



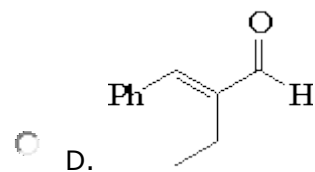
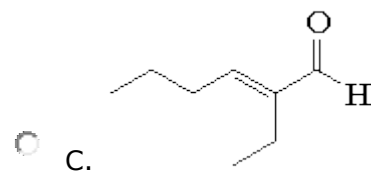
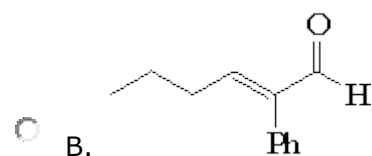
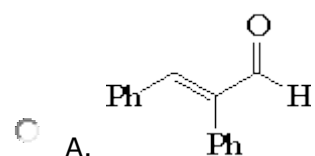
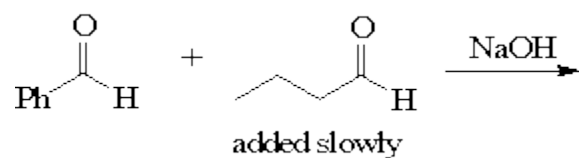
- E. Two of the above are correct.

11. Predict the product of the following reaction.



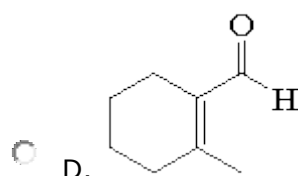
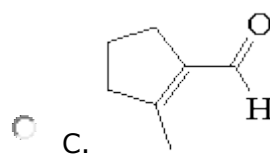
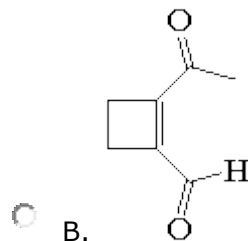
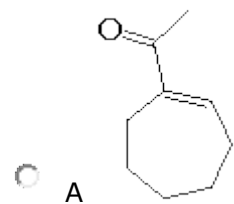
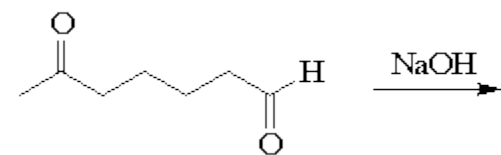
- E. None of the above.

12. Predict the product of the following reaction.



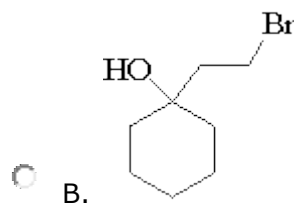
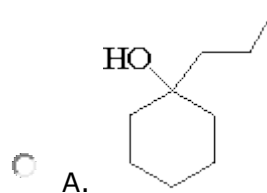
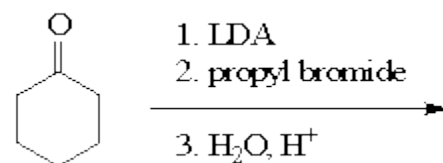
E. None of the above.

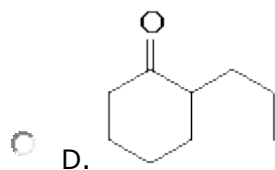
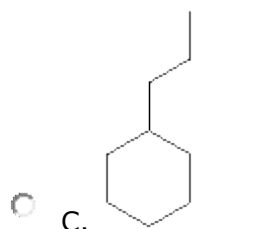
13. Predict the product of the following reaction.



E. None of the above.

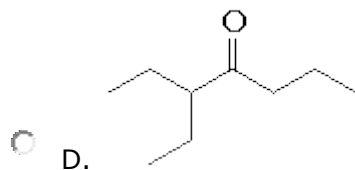
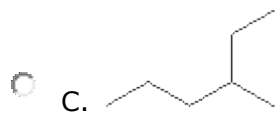
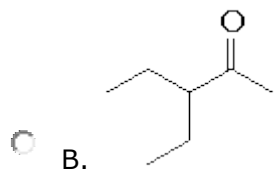
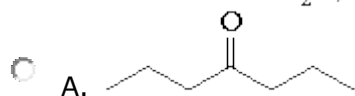
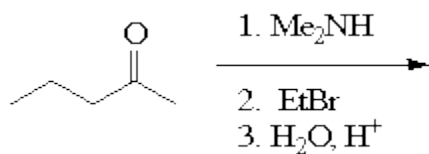
14. Predict the product of the following reaction.





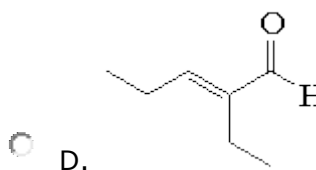
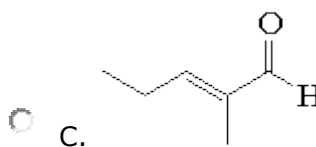
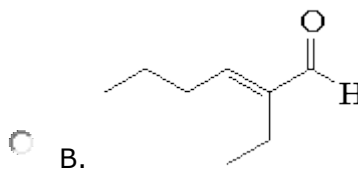
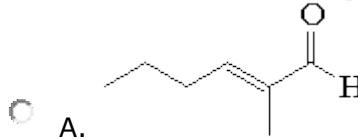
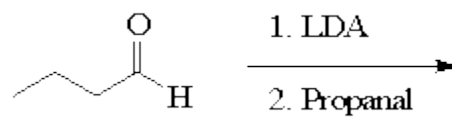
E. None of the above.

15. Predict the product of the following reaction.



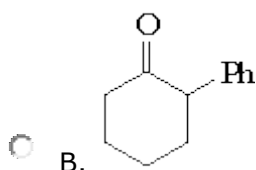
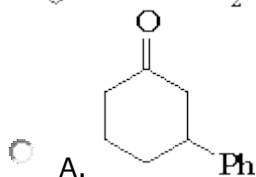
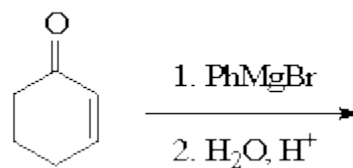
E. None of the above

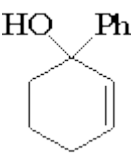
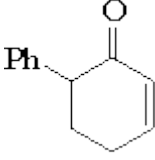
16. Predict the product of the following reaction.



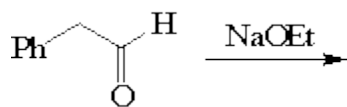
E. None

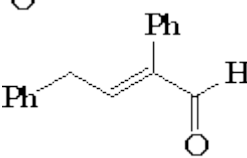
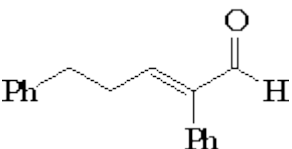
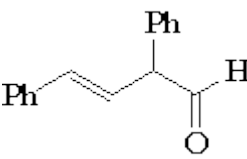
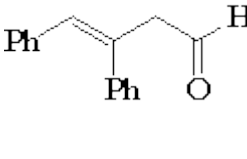
17. Predict the product of the following reaction.



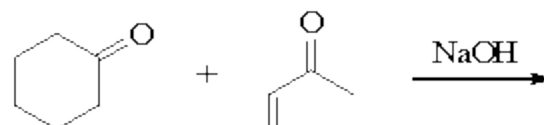
- C. 
- D. 
- E. None of the above

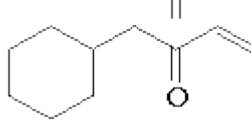
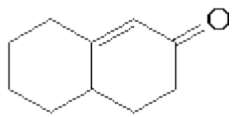
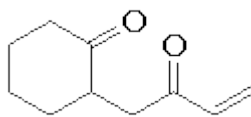
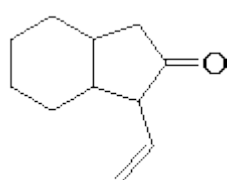
18. Predict the product of the following reaction.



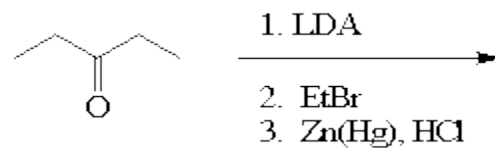
- A. 
- B. 
- C. 
- D. 
- E. None of the above

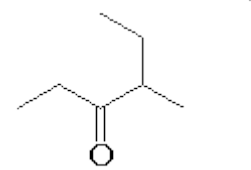
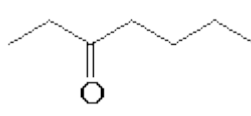
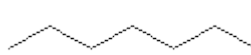
19. Predict the product of the following reaction.

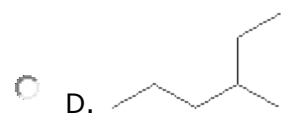


- A. 
- B. 
- C. 
- D. 
- E. None of the above

20. Predict the product of the following reaction.



- A. 
- B. 
- C. 



E. None of the above