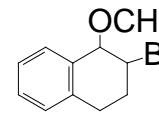
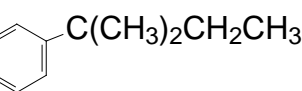
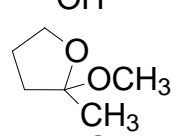
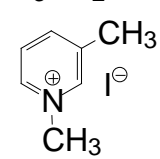
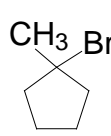
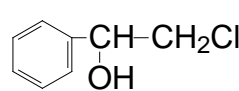
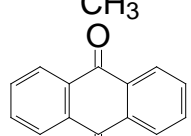
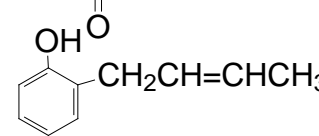
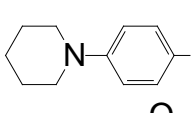
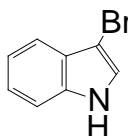
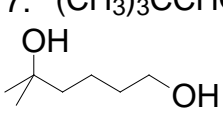


# 复旦大学研究生入学考试 1993

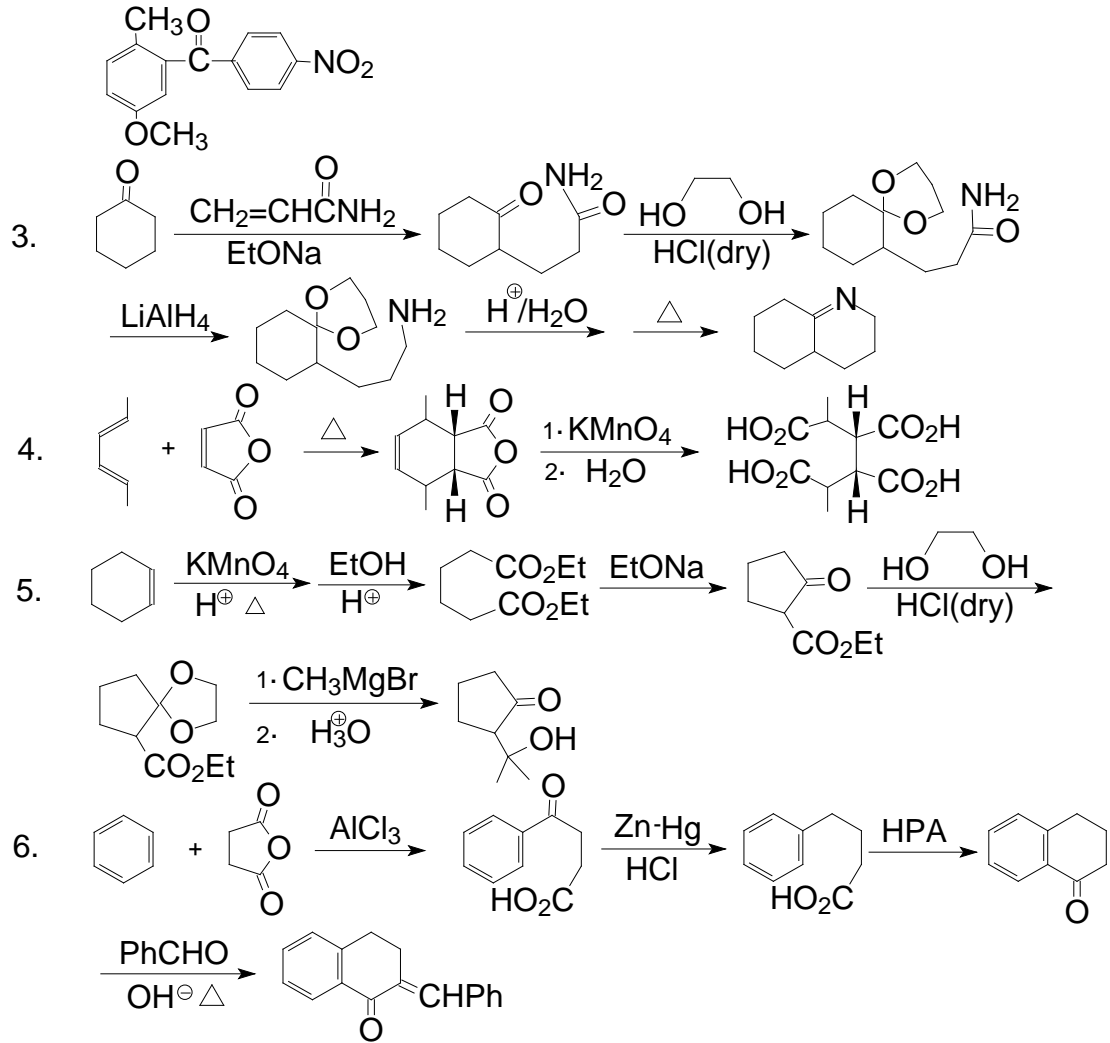
## 有机化学试题解答

一、写出下列反应的主要产物 (2×20=40)

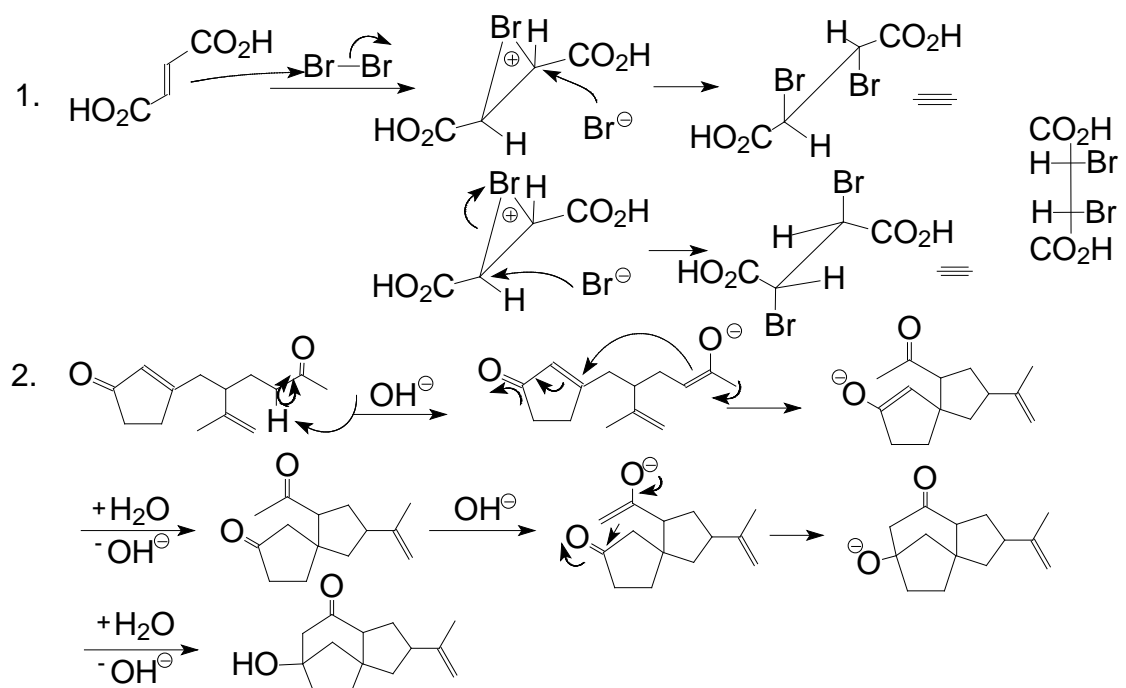
1.  $\text{CH}_3\text{CH}(\text{OH})\text{C}_3\text{H}_7$
2.  $\text{CH}_3\text{CH}_2\text{C}(=\text{O})\text{CH}_3$
3. 
4. 
5. 
6. 
7. 
8. 
9. 
10.  $\text{PhNHNH}_2$
11.  $\text{PhCH}=\text{CHC}(=\text{O})\text{CH}=\text{CHPh}$
12. 
13. 
14. 
15.  $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}=\text{CH}_2$
16.  $\text{CH}_3\text{CH}_2\text{CH}_2\text{C}(=\text{O})\text{CH}_3$
17.  $(\text{CH}_3)_3\text{CCHO}$
18.  $\text{Et}_2\text{NCH}_2\text{CH}_2\text{C}(=\text{O})\text{CH}_3$
19.  $(\text{CH}_3)_2\text{C}=\text{C}(\text{CH}_3)_2$
20. 

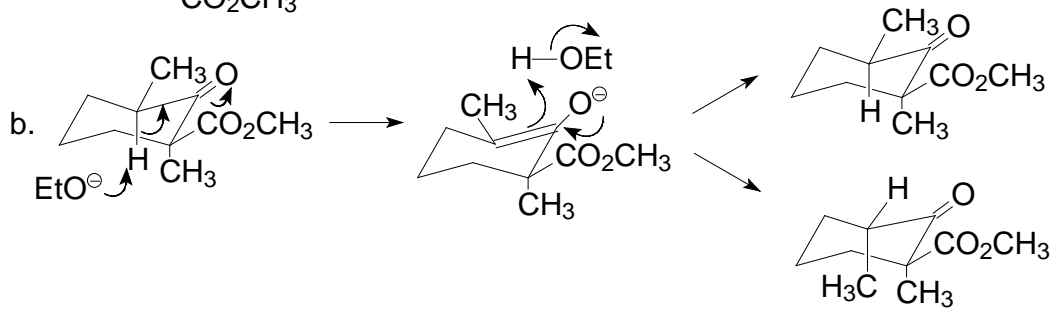
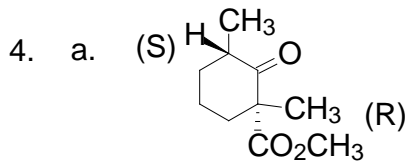
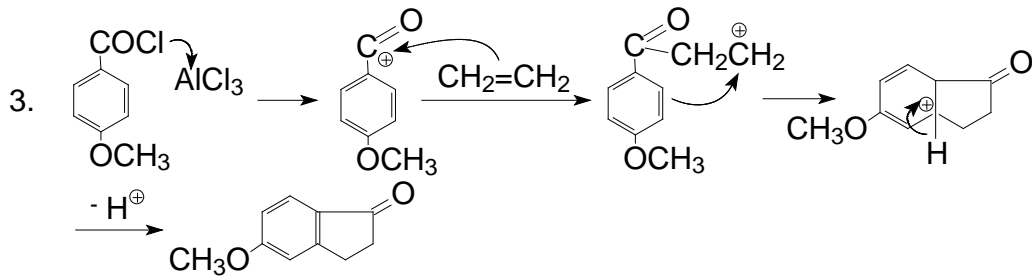
二、写出下列合成反应式 (6×5=30)

1.  $\text{C}_6\text{H}_5\text{CH}_3 \xrightarrow{\text{NBS}} \text{C}_6\text{H}_5\text{CH}_2\text{Br}$   
 $\text{HC}\equiv\text{CH} \xrightarrow[\text{NH}_3]{\text{NaNH}_2} \text{HC}\equiv\text{CNa} \xrightarrow{\text{epoxide}} \text{NaOCH}_2\text{CH}_2\text{C}\equiv\text{CH}$   
 $\text{C}_6\text{H}_5\text{CH}_2\text{Br} \rightarrow \text{C}_6\text{H}_5\text{CH}_2\text{OCH}_2\text{CH}_2\text{C}\equiv\text{CH} \xrightarrow[\text{NH}_3]{\text{NaNH}_2} \xrightarrow[2. \text{H}_2\text{O}]{1. \text{HCHO}} \text{C}_6\text{H}_5\text{CH}_2\text{OCH}_2\text{CH}_2\text{C}(\text{H})=\text{C}(\text{H})\text{CH}_2\text{OH}$   
 $\text{C}_6\text{H}_5\text{CH}_2\text{OCH}_2\text{CH}_2\text{C}\equiv\text{CCH}_2\text{OH} \xrightarrow[\text{CaCO}_3]{\text{H}_2/\text{Pa}} \text{C}_6\text{H}_5\text{CH}_2\text{OCH}_2\text{CH}_2\text{C}(\text{H})=\text{C}(\text{H})\text{CH}_2\text{OH}$
2.  $\text{C}_6\text{H}_5\text{CH}_3 \xrightarrow[\text{H}_2\text{SO}_4]{\text{HNO}_3} \text{p-NO}_2\text{C}_6\text{H}_4\text{CH}_3 \xrightarrow[\text{H}^+ \Delta]{\text{KMnO}_4} \text{p-NO}_2\text{C}_6\text{H}_4\text{COOH} \xrightarrow{\text{SOCl}_2} \text{p-NO}_2\text{C}_6\text{H}_4\text{COCl}$   
 $\text{C}_6\text{H}_5\text{CH}_3 \xrightarrow{\text{Br}_2/\text{Fe}} \text{p-BrC}_6\text{H}_4\text{CH}_3 \xrightarrow[2. \text{CO}_2/\text{H}_2\text{O}]{1. \text{Mg}/\text{Et}_2\text{O}} \text{p-BrC}_6\text{H}_4\text{COOH} \xrightarrow{\text{p-NO}_2\text{C}_6\text{H}_4\text{COCl}} \text{p-NO}_2\text{C}_6\text{H}_4\text{C}(\text{COOH})(\text{CH}_3)\text{C}_6\text{H}_4\text{NO}_2$   
 $\text{p-NO}_2\text{C}_6\text{H}_4\text{C}(\text{COOH})(\text{CH}_3)\text{C}_6\text{H}_4\text{NO}_2 \xrightarrow[\text{(PhCOO)}_2\text{Cu}]{\text{O}_2/\text{H}_2\text{O} \Delta} \text{p-NO}_2\text{C}_6\text{H}_4\text{C}(\text{COOH})(\text{CH}_3\text{O})\text{C}_6\text{H}_4\text{NO}_2 \xrightarrow{(\text{CH}_3)_2\text{SO}_4} \text{p-NO}_2\text{C}_6\text{H}_4\text{C}(\text{COOH})(\text{CH}_3\text{O})\text{C}_6\text{H}_4\text{NO}_2$

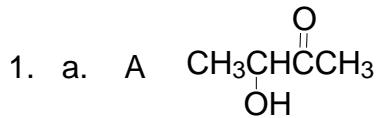


三、写出下列反应机理 (5×4=20)





四、写出化合物 A—F 的结构式 (5×2=10)



b. 因为存在H与D的交换反应:

