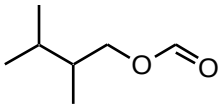
Honors Assignment for Chapter 17

1. 

What is the IUPAC name for

A) 2,3–Dimethylbutyl acetate
B) 2,3–Dimethyl-4-oxoethanal
C) 2,3–Dimethylbutyl methanoate
D) 2,3–Dimethylbutyl methylate
E) 2,3–Dimethylbutyl formylate

Ans:

2. In which of the following sequences are the compounds listed in order of decreasing acidity?

A) $CH_3COOH > H_2O > CH_3CH_2OH > HC{\equiv}CH > NH_3$
B) $CH_3CH_2OH > CH_3COOH > H_2O > HC{\equiv}CH > NH_3$
C) $CH_3COOH > CH_3CH_2OH > H_2O > NH_3 > HC{\equiv}CH$
D) $H_2O > CH_3COOH > CH_3CH_2OH > HC{\equiv}CH > NH_3$
E) $CH_3CH_2OH > H_2O > CH_3COOH > HC{\equiv}CH > NH_3$

Ans:

3. In which of the following sequences are the compounds listed in order of decreasing acidity?

A) $CH_3COOH > H_2O > PhOH > HC{\equiv}CH > NH_3$
B) $PhOH > CH_3COOH > H_2O > HC{\equiv}CH > NH_3$
C) $CH_3COOH > PhOH > H_2O > HC{\equiv}CH > NH_3$
D) $H_2O > CH_3COOH > PhOH > HC{\equiv}CH > NH_3$
E) $PhOH > H_2O > CH_3COOH > HC{\equiv}CH > NH_3$

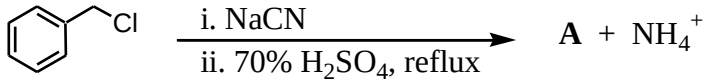
Ans:

4. In which of the following sequences are the compounds listed in order of decreasing acidity?

A) $PhCOOH > H_2O > PhOH > PhCH_2OH > PhH$
B) $PhCOOH > PhOH > H_2O > PhCH_2OH > PhH$
C) $PhH > H_2O > PhOH > PhCH_2OH > PhCOOH$
D) $PhOH > H_2O > PhCOOH > PhCH_2OH > PhH$
E) $PhCOOH > H_2O > PhOH > PhH > PhCH_2OH$

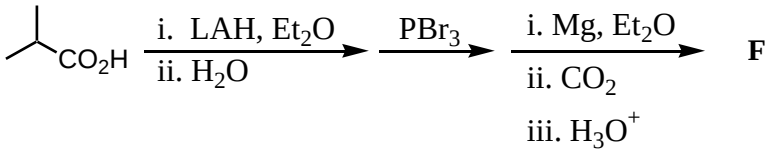
Ans:

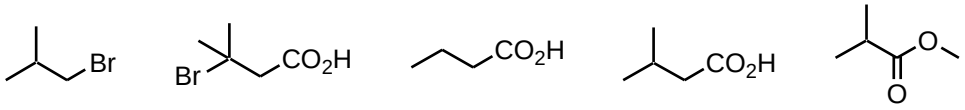
5. What is the expected product, A, of the following reaction sequence?



A) $HCO_2CH_2C_6H_5$
B) $C_6H_5CH_2COOH$
C) $C_6H_5CH_2OSO_3H$
D) $C_6H_5CHClCOOH$
E) $O=C(CH_2C_6H_5)_2$
Ans:

6. What would be the final product, **F**, of the following sequence of reactions?

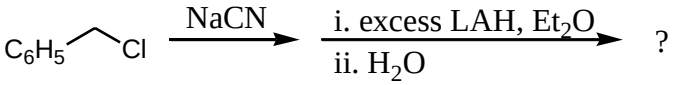




I II III IV V

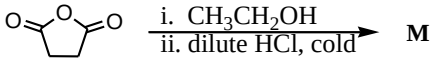
A) I
B) II
C) III
D) IV
E) V
Ans:

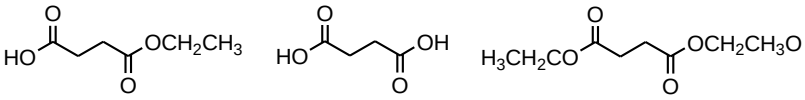
7. What would be the final organic product of the following reaction?



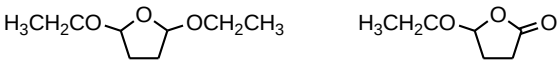
A) $C_6H_5CH_2CH_2CO_2H$
B) $C_6H_5CH_2CH_2NH_2$
C) $C_6H_5CH_2CH(CH_3)CN$
D) $C_6H_5CH_2CH=NH$
E) $C_6H_5CH_2NH_2$
Ans:

8. Predict the major organic product of the reaction sequence,





I II III



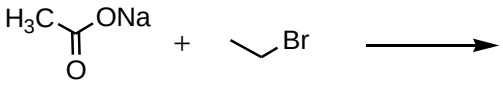
IV V

A) I
B) II
C) III
D) IV
E) V

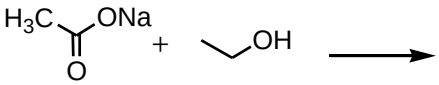
Ans:

9. Which of the following combinations of reagents would <u>not</u> produce an ester?

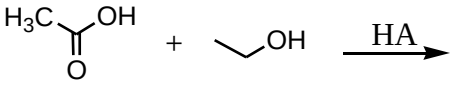
A)



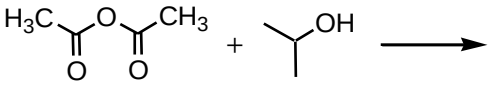
B)



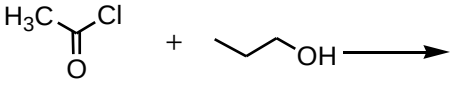
C)



D)

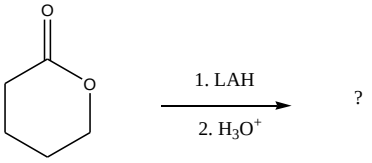


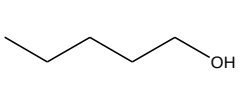
E)



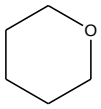
Ans:

10. What would be the final organic product of the following reaction?

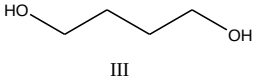




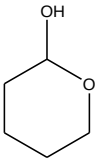
I



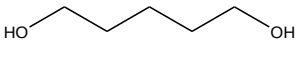
II



III



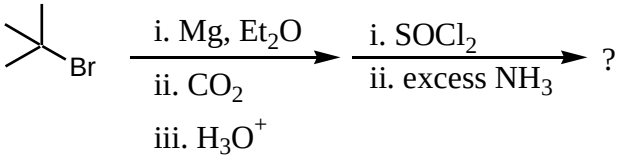
IV

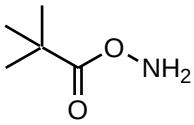


V

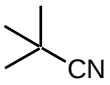
A) I
B) II
C) III
D) IV
E) V
Ans:

11. What is the final product of this sequence of reactions?

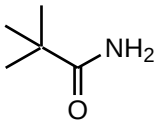




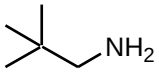
I



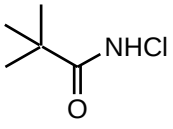
II



III



IV



V

A) I
B) II
C) III
D) IV
E) V
Ans:

12 Propose a plan for the following synthesis: