



# CHEMISTRY

## BOOKS - SHARAM PUBLICATION

### AROMATIC CARBOXYLIC ACID

#### Exercise

1. The correct order of acidic strength is

A. formic acid <math>I</math> benzoic acid <math>II</math> acetic acid

B. formic acid Itacetic acid Itbenzoic acid

C. acetic acid Itformic acidItbenzoic acid

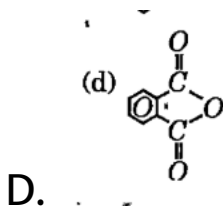
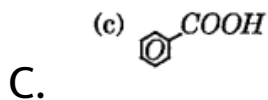
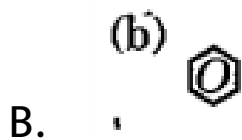
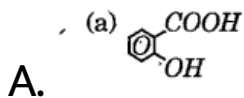
D. acetic acid Itbenzoic acid Itformic acid

**Answer:**

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2. Complete the following reaction





**Answer:**



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3. The reagent which does not give acid chloride on treating with a carboxylic acid is



**Answer:**



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4. Which of these does not contain -  $COOH$  group?

A. aspirin

B. benzoic acid

C. picric acid

D. salicylic acid

**Answer:**



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5. When benzoic acid is treated with  $PCl_5$  at  $100^\circ$ , it gives

- A. benzoyl chloride
- B. o-chlorobenzoic acid
- C. p-chloro benzoic acid
- D. benzyl chloride

**Answer:**



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6. The oxidation of toluene with alk.  $KMnO_4$  gives:

- A. Benzoic acid
- B. benzene
- C. benzaldehyde
- D. benzylalcohol

**Answer:**



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7. Between benzoic acid and acetic acid which is stronger acid ?



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8. Write the structural formula of m-nitro benzoic acid.



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9. Write a test for benzoic acid.





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**10.** Write two uses of benzoic acid.



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**11.** Between benzoic acid and acetic acid which is stronger acid ?



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**12.** Fill up the blanks : Toluene on oxidation in alkaline medium gives.....



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**13.** Fill in the blanks :Benzonitrile on acid hydrolysis gives ..... as first product .



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14. Fill in the blanks: Benzoic acid on chlorination gives.....



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15. What happens when benzoic acid is treated with  $SOCl_2$ ?



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**16.** How can you prepare benzoic acid from Grignard reagent? Give equations only.



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**17.** What product is formed when benzoic acid is treated with fuming  $H_2SO_4$ ?



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**18.** Give an example of Rosenmund reduction.

Can formaldehyde be prepared by this method?



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**19.** What happens when methyl cyanide is reduced by  $\text{SnCl}_2$  in presence of HCl?



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20. Why boiling point of aldehydes and ketones are higher than those of hydrocarbons of comparable molecular mass?



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21. Convert of ethyl alcohol into acetaldehyde is an example of



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**22.** What happens when acetone reacts with semicarbazide?



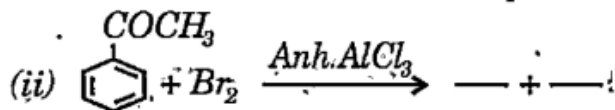
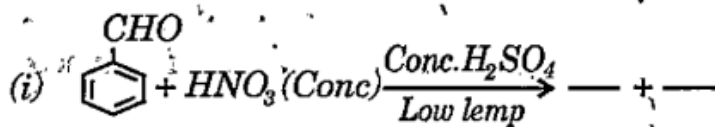
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**23.** What is Clemmensen reduction reaction?



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24. Complete the reaction.



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25. How is benzoic acid prepared from toluene?

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26. How is acetic acid prepared from methyl magnesium bromide ?



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27. What happens when acetic acid reacts with ammonia?



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28. How do you account for acidic nature of carboxylic acid?



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**29.** Lower aliphatic carboxylic acids are completely soluble in water but solubility decreases with increase of molecule mass.

Why?



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**30.** Write a note on Kolbe's reaction.



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**31.** What happens when benzoic acid is treated with  $Br_2$  and  $FeBr_3$ ?



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**32.** Why is p-nitrobenzoic acid stronger than benzoic acid?



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**33.** How does benzoic acid react with sodalime.



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**34.** How does benzoic acid react with thionyl chloride



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**35.** How does benzoic acid react with acetic anhydride.



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**36.** Explain two methods for the preparation of benzoic acid. How does it react with ammonia.



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