

ASSIGNMENTS

1. S_N1 reaction of alkyl halides lead to

- (a) Retention of configuration
- (b) Racemisation
- (c) Inversion of configuration
- (d) None of these

2. p-dichlorobenzene has higher melting point than its o- and m- isomers because

(a) p-dichlorobenzene is more polar than o- and m- isomer.

(b) p-isomer has a symmetrical crystalline structure.

(c) boiling point of p-isomer is more than o- and m-isomer.

(d) All of these are correct reasons.

3. Chloropicrin is formed by the reaction of

(a) steam on carbon tetrachloride.

(b) nitric acid on chlorobenzene.

(c) chlorine on picric acid.

(d) nitric acid on chloroform.

4. Fittig reaction can be used to prepare

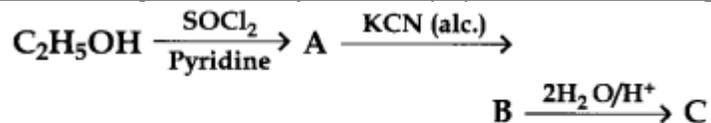
(a) Toluene

(b) Acetophenone

(c) Diphenyl

(d) Chlorobenzene

5. Identify the end product (C) in the following sequence:



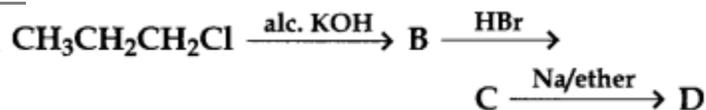
(a) $\text{C}_2\text{H}_5\text{CH}_2\text{NH}_2$

(b) $\text{C}_2\text{H}_5\text{CONH}_2$

(c) $\text{C}_2\text{H}_5\text{COOH}$

(d) $\text{C}_2\text{H}_5\text{NH}_2 + \text{HCOOH}$

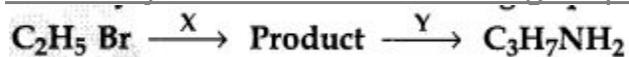
6.



In the above reaction, the product D is

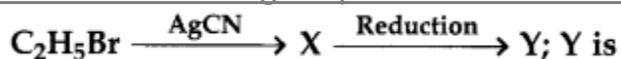
- (a) Propane
- (b) 2, 3-Dimethylbutane
- (c) Hexane
- (d) Allyl bromide

7. Identify X and Y in the following sequence



- (a) X = KCN, Y = LiAlH₄
- (b) X = KCN, Y = H₃O⁺
- (c) X = CH₃Cl, Y = AlCl₃ HCl
- (d) X = CH₃NH₂, Y = HNO₂

8. In the following sequence of reactions:

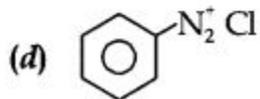
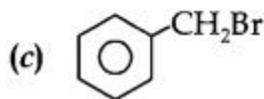
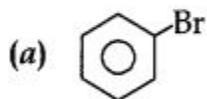


- (a) n-propylamine
- (b) isopropylamine
- (c) ethylamine
- (d) ethylmethylamine

9.

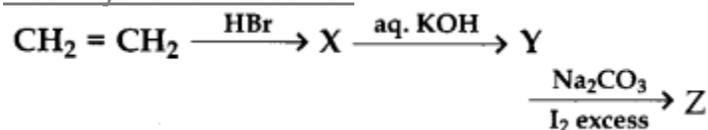


Which of the following cannot be X?



10.

Identify Z in the series



(a) $\text{C}_2\text{H}_5\text{I}$

(b) $\text{C}_2\text{H}_5\text{OH}$

(c) CHI_3

(d) CH_3CHO

VSA type

11. Give IUPAC and trivial name of $(\text{CH}_3)_3\text{CBr}$.

12. Give common names of $\text{CH}_3=\text{CH}-\text{CH}_2\text{Cl}$.

13. Why allyl chloride is highly reactive towards nucleophilic substitution reaction ?

14. Why chlorobenzene cannot be hydrolysed with aq. NaOH at room conditions?

15. Give IUPAC names of tertiary butyl bromide.

SA type

16. Write all the possible structures for the molecular formula $\text{C}_5\text{H}_{11}\text{Br}$. Write their IUPAC names.

17. Give one chemical test to distinguish between $\text{C}_2\text{H}_5\text{Br}$ and $\text{C}_6\text{H}_5\text{Br}$.

18. What is Sandmeyer's reaction?

19. Why is chloroform stored in dark bottles ?

20. How many isomeric aromatic compounds are possible for the molecular formula $\text{C}_7\text{H}_7\text{Br}$? Write their IUPAC names.

LA type questions

21. How are haloarenes prepared from diazonium compounds and arenes?

22. Describe the $\text{S}_{\text{N}}2$ and $\text{S}_{\text{N}}1$ mechanism for the nucleophilic substitution in alkyl halides. What are the factors which favour $\text{S}_{\text{N}}1$ mechanism.?

23. (a) What are ambident nucleophiles? Give two examples.

(b) Explain how elimination reaction competes with substitution reaction when an alkyl halide is treated with some nucleophile ?

24. Explain why

(i) Aryl halides are less reactive than alkyl halides towards nucleophilic substitution reactions.

(ii) Benzyl chloride is hydrolysed very easily.

25. Write how primary, secondary and tertiary alcohols are prepared from alkyl halides using Grignard reagent. $\text{S}_{\text{N}}1$ reaction of alkyl halides lead to

(a) Retention of configuration

(b) Racemisation

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(d) None of these

Answer

