

Assignment of Halo alkanes and Haloarenes

Class XII

- 1-Predict the stereochemistry of the product formed if an optically active alkyl halide undergoes substitution reaction by SN2 mechanism.
2. Write the structures of the products formed when anisole is treated with HI.
3. Predict the major product formed when 2-Bromobutane undergoes a reaction with alcoholic KOH.
4. Name the instrument used for measuring the angle by which the plane polarised light is rotated.
5. Give one use of CHI₃.
6. Most of the organic chlorides, bromides and iodides react with certain metals to give compounds containing carbon-metal bonds.
 - i) Give one example for such a compound.
 - ii) How will you prepare the above compound?
 - a) Write any two electrophilic substitution reactions of chlorobenzene.
7. An organic compound A reacts with metallic sodium in ether medium to form ethane. A reacts with Magnesium in ether medium to give B, which on hydrolysis gives methane. Identify A and B. Write down the chemical equations for the reactions involved.
8. Bromoethane, when treated with alcoholic KOH, gives ethene, KBr and H₂O.
 - a) Identify the type of reaction.
 - b) Instead of bromoethane, if you take 2- bromobutane, what is the major product obtained? Write down the chemical equation for the reaction.
 - c) Explain the rule behind the above reaction.
9. For the preparation of alkyl chlorides from alcohols, thionyl chloride (SOCl₂) is preferred. Give reason
10. Write the chemical equation for the preparation of toluene by Wurtz-Fitting reaction.
11. Write two examples for ambident nucleophiles.
12. Which of the following is a primary halide?
 - (a) Isopropyl iodide

(b) Secondary butyl iodide

(c) Tertiary butyl iodide

(d) Neohexyl chloride

13. 7. p-dichlorobenzene has higher melting point than its o- and m- isomers. Why?

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

(b) p-isomer has a symmetrical crystalline structure

(c) boiling point of o- isomer is more than p-isomers

(d) All of these are correct

14. 9. Which of the following is most reactive towards aqueous NaOH?

(a) C_6H_5Cl

(b) $C_6H_5CH_2Cl$

(c) C_6H_5Br

(d) BrC_6H_4Br

15. How would you distinguish between iodoethane and chloroethane?

16. Why vinyl chloride is less reactive than allyl chloride towards hydrolysis by KOH?

17. Give three difference between distereomers and enantiomers

18. What do you mean by vicinal and geminal dihalide? Give examples.

19. How would you check the presence of phosgene gas in a sample of chloroform? What is added to chloroform to consume phosgene gas if formed?

20. Write formula of two alkyl halides which will not give dehydrohalogenation reaction.