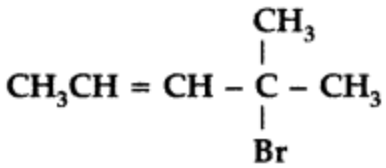
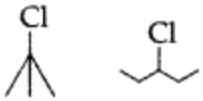
CBSE Class 12 Chemistry Chapter 10 Haloalkanes and Haloarenes Worksheet – Set 5

Q1. Arrange the following halide in increasing order of their reactivity in alkyl halide.
(a) F > Cl > Br > I
(b) Br > I > Cl > F
(c) I > Br > Cl > F
(d) Cl > F > Br > I
Q2. A yellow precipitate is obtained when aqueous silver nitrate is added to the solution of the compound
(a) CCl_3CHO
(b) CHI_3
(c) $CHCl_3$
(d) None of the above.
Q3. What is the formula and shape of the chloroform molecule?
(a) $CHCl_3$ and tetrahedral shape
(b) CH_2Cl_2 and pyramidal shape
(c) CH_3Cl and linear shape
(d) CCl_4 and trigonal bipyramidal shape
Q4. What will happen if iodoform is heated with the silver powder?
(a) Acetylene is formed
(b) Ethylene is formed
(c) Ethane is formed
(d) None of the above
Q5. The given reaction is an example of $C_2H_5Br + KCN\ (aq) \rightarrow C_2H_5CN + KBr$
(a) Electrophilic substitution reaction
(b) Nucleophilic substitution reaction
(c) Elimination reaction
(d) None of the above
Q6. Potassium hydroxide solution is used to hydrolyse the below-mentioned compounds. Which one of them will be hydrolysed readily?
(i) $CH_3CHClCH_2CH_3$
(ii) $CH_3CH_2CH_2CH_2Cl$
Q7. Draw the structure of 2-Bromo-3-methyl-pent-3-ene.
Q8. What will happen if methyl bromide is treated with potassium cyanide?
Q9. Write the IUPAC name of the below-mentioned compound.



Q10. Which of the below-mentioned compound will react faster by the S_N^1 mechanism?



Q11. Draw the structure of an isomer of compound C_4H_9Br, which is most reactive towards the SN_1 mechanism.

Q12. Why does a para dichlorobenzene have a higher melting point than ortho and meta dichlorobenzene?

Q13. Why is (±) Butan-2-ol optically inactive?

Q14. Why is chloroform stored in closed dark brown bottles?

Q15. How can you prepare 1-bromobutane from

(i) 1-Butanol

(ii) But-1-ene

Q16. Why does ethyl iodide undergo the SN_2 mechanism faster than ethyl bromide?

Q17. Convert chloroethane to butane.

Q18. A has a molecular formula of C_4H_9Br. When it is treated with the aqueous KOH solution, its reaction rate depends on the concentration of compound A. Compound B is the optically active isomer of B. When B is treated with the aqueous KOH solution, its reaction rate depends on the concentration of compound A and the KOH.

(i) Draw the structure of A and B.

(ii) Which of the above will have an inverted configuration product?

Q19. Explain the mechanism of the SN_1 reaction.

Q20. Explain the mechanism of the SN_2 reaction.