Rayat shikshan sanstha's

Yashwantrao Chavan Institute of Science Satara

Std - XII Subject - Chemistry

10. Halogen derivatives

Questions for practice

Q1) Compound ‘A’ with molecular formula C4H9Br is treated with aq. KOH solution. The rate of this reaction depends upon the concentration of the compound ‘A’ only. When another optically active isomer ‘B’ of this compound was treated with aq. KOH solution, the rate of reaction was found to be dependent on concentration of compound and KOH both.

(i) Write down the structural formula of both compounds ‘A’ and ‘B’.

(ii) Out of these two compounds, which one will be converted to the product with inverted configuration.

Q2) Name the alkene which will yield 1-chloro-1-methylcyclohexane by its reaction with HCl. Write the reactions involved.

Q3) How do polar solvents help in the first step in SN1 mechanism?

Q4) tert-Butyl Bromide reacts with aq. NaOH by SN1 mechanism while n-butyl bromide reacts by SN2 mechanism. Why?

Q5) Why are aryl halides less reactive towards nucleophilic substitution reactions than alkyl halides? How can we enhance the reactivity of aryl halides?

Q6) What is difference between d and l?
Q7) What is racemic mixtures?
Q8) What is sandmeyer’s reaction?
Q9) Give one use of each of the following:
(a)Freon
(b)D.D.T
Q10) How can prepare Chlorobenzene from Benzene?
Q11) Why are enantiomers called optical isomers?
Q12) What happen when Sodium acetylide is treated with ethyl iodide?

Q13). Conversion:
(i)Ethanol to chloro ethane
(ii)Benzene to di-phenyl
(iii)butane to ethane

Q14) Point out the difference between:
(i)chitrality and chiral centre.
(ii)Recemic modification and meso compounds.
Q15) A solution KOH hydrolyse CH3CHClCH2CH3 and CH3CH2CH2CH2Cl.Which one of these is more easily Hydrolyzed?
Q16) Explain the terms:
i)Asymmetric molecule
ii) Super imposable mirror image
(iii)Optical activity
Q17) Give the mechanism of SN1 and SN2 reaction with suitable example.
Q18) Wutz's reaction fail in case of tert alkyl halide.
Q19) Haloalkanes undergo nucleophilic substitution whereas haloarenes undergo electrophilic substitution. Explain.

Q20) What happens when:
i)Methyl chloride treated with KCN.
(ii)Methyl bromide treated with Sodium in the presence of dry ether.
(iii)Ethyl chloride treated with aqueous KOH.
(iv)n-Butyl chloride treated with alcoholic KOH.