Haloalkanes and Haloarenes

Q.No.1:
(i) State one use each of DDT and iodoform.
(ii) Which compound in the following couples will react faster in S_N2 displacement and why?
(a) 1-Bromopentane or 2-bromopentane
(b) 1-bromo-2-methylbutane or 2-bromo-2-methylbutane.

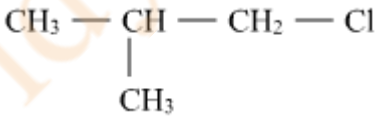
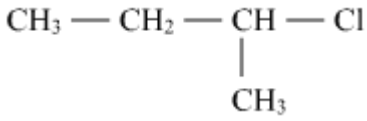
CBSE Board Paper 2010

Q.No.2:
A solution of KOH hydrolyses $CH_3CHCl CH_2CH_3$ and $CH_3CH_2CH_2Cl$. Which one of these is more easily hydrolysed?

CBSE Board Paper 2010

Q.No.3:
Although chlorine is an electron withdrawing group, yet it is ortho-, para-directing in electrophilic aromatic substitution reactions. Explain why it is so?

CBSE Board Paper 2012

Q.No.4: Out of  and  , which is more reactive towards S_N1 reaction and why?

CBSE Board Paper 2016

Q.No.5:
Write the IUPAC name of the following compound:
$(CH_3)_3\ CCH_2Br$

CBSE Board Paper 2011

Q.No.6:
Answer the following:

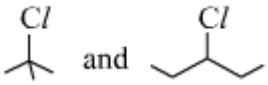
(i) Haloalkanes easily dissolve in organic solvents, why?
(ii) What is known as a racemic mixture? Give an example.
(iii) Of the two bromoderivatives, $C_6H_5CH(CH_3)Br$ and $C_6H_5CH(C_6H_5)Br$, which one is more reactive in S_{N^1} substitution reaction and why?

CBSE Board Paper 2011

Q.No.7:
Write the IUPAC name of$(CH_3)_2$ CH.CH(C*l*)CH_3.

CBSE Board Paper 2013

Q.No.8:
Which compound in the following pair undergoes faster S_N1 reaction?

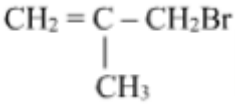


CBSE Board Paper 2013

Q.No.9:
Account for the following:
(i) The C−C*l* bond length in chlorobenzene is shorter than that in CH_3 − C*l*.
(ii) Chloroform is stored in closed dark brown bottles.

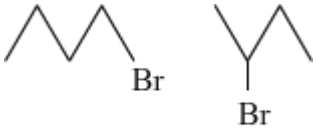
CBSE Board Paper 2013

Q.No.10:
Give the IUPAC name of the following compound.



CBSE Board Paper 2012

Q.No.11: (i) Which alkyl halide from the following pair is chiral and undergoes faster S_N2 reaction?

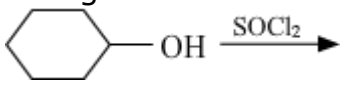


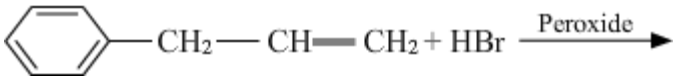
(a) **(b)**

(ii) Out of S_N1 and S_N2, which reaction occurs with
(a) Inversion of configuration
(b) Racemisation

CBSE Board Paper 2014

Q.No.12: Draw the structure of major monohalo product in each of the following reactions :

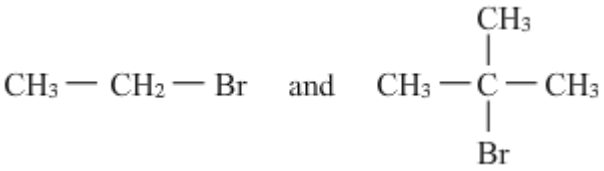
(i) 

(ii) 

CBSE Board Paper 2014

Q.No.13: Which would undergo S_N2 reaction faster in the following pair and why ?

CBSE Board Paper 2015



Q.No.14: Give reasons :

(a) n-Butyl bromide has higher boiling point than t-butyl bromide.

(b) Racemic mixture is optically inactive.

(c) The presence of nitro group ($-NO_2$) at o/p positions increases the reactivity of haloarenes towards nucleophilic substitution reactions.

CBSE Board Paper 2015

Q.No.15: Given reasons:

(i) C–Cl bond length in chlorobenzene is shorter than C–Cl bond length in CH_3–Cl.

(ii) The dipole moment of chlorobenzene is lower than that of cyclohexyl chloride.

(iii) S_N1 reactions are accompanied by racemization in optically active alkyl halides.

CBSE Board Paper 2016

Q.No.16: Following compounds are given to you :

2-Bromopentane, 2-Bromo-2-methylbutane, 1-Bromopentane

(i) Write the compound which is most reactive towards S_N2 reaction.

(ii) Write the compound which is optically active.

(iii) Write the compound which is most reactive towards β-elimination reaction.

CBSE Board Paper 2017