CLASS: XII CHEMISTRY ASSIGNMENT NO: 4 HALOKENES & HALOARENES

1. Give IUPAC names of the following:-

(a) Iso-butylchloride (b) tert- butylchloride (c) neo-pentylbromide (d) ethylidene chloride

(e) Ethylene dichloride (f) ethylene dichloride (g) bromoform (h) vinylchloride

(i) allyl bromide (j) methylene chloride (k) benzyl chloride

2. Give reasons for the following:-

(a) Flourine is more electronegative than chlorine still dipolemoment of C-F bond is less than that of C-Cl bond in methylflouride & methylchloride.

(b) For the conversion of alcohols to alkyl halides, thionyl chloride is preferred over phosphorous halide or halogen acid.

(c) Conversion of alcohols to alkyl iodide is done in absence of catalyst zinc chloride.

(d) Phenol cannot be converted to halobenzene by reaction with thionyl chloride or phosphorous halide or halogen acid.

(e) Free radical halogenation of alkanes is not a very good method for preparation of holoalkanes.

(f) Electrophilic substitution of benzene with iodine requires presence of oxidizing agents like HIO_3.

(g) Electrophilic substitution of benzene with fluorine is not done for preparation of flourobenzene.

(h) Finkelstein reaction is carried out in dry acetone medium.

(i) Rate of reaction between t-butyl bromide & hydroxide ion depends only on concentration of hydroxide ions.

(j) Allylic & benzylic halides show high reactivity towards SN1 reaction.

(k) Dehydrohalogenation of 2-bromopentane gives 2-pentene as the major product.

(l) Optically active 2-bromobutane on treatment with aq KOH results in formation of optically inactive product.

(m) Aryl halides are extremely less reactive towards nucleophilic substitution reactions.

(n) Rate of electrophilic substitution reactions in haloarenes is less than that of benzene.

(o) Choloform is stored in dark bottles.

(p) P-Nitrochlorobenzene can be more easily hydrolysed with aq. NaOH thatn chlorobenzene.

(q) Reaction of (-) 2-Bromo octane with aq NaOH results in formation of (+)octane-2-ol.

3. Identify A,B,C,D in each of the following parts:-

(a) $CH_3CH_2CH_2OH \xrightarrow{PBr_3} A \xrightarrow{aleKOH} B \xrightarrow{HBr} C \xrightarrow{NH3} D$

(b) $CH_3CH_2CH_2I \xrightarrow{aleKOH} A \xrightarrow{hydrolysis} B \xrightarrow{SOCl_2} C \xrightarrow{LiAlH_4} D$

(c) $CH_3CHBrCH_3 \xrightarrow{aleKOH} A \xrightarrow{HBr/peroxide} B \xrightarrow{NaI/acetone} C \xrightarrow{Mg/ether} D$

4. An alkylhalide A on reaction with Mg in dry ether followed by ethanol gave 2-methylbutane. Write structure of A & all its isomers.

5. Comp. A M.F. CuH_8 when treated with dil. H_2SO_4 gives B. B with conc^n HCl + ZnCl2 gives C. C+ sodium ethoxide gives back A. Identify A,B,C. give all reactions.

6. Give one chemical test to distinguish between chlorobenzene and benzyl chloride.