Haloalkanes and Haloarenes

Worksheet 3

1. Write the main product when
2. methyl chloride is treated with AgCN
3. 2, 4, 6- Trinitrochlorobenzene is subjected to hydrolysis
4. Chlorobenzene is treated with Cl2 /FeCl3,
5. ethyl chloride is treated with AgNO2,
6. 2-bromopentane is treated with alcoholic KOH
7. bromobenzene is treated with CH3Cl in the presence of anhydrous AlCl3.
8. ethyl chloride is treated with aqueous KOH
9. Cl2 is passed through boiling toluene in presence of sunlight
10. Toluene reacts with Cl2 in the presence of FeCl3 catalyst
11. bromobenzene is treated with Mg in the presence of dry ether
12. methyl bromide is treated with sodium in the presence of dry ether.

2. Among all the isomers of molecular formula C4H9Br, identify:

(a) the one isomer which is optically active.

(b) the one isomer which is highly reactive towards SN2.

(c) the two isomers which give same product on dehydrohalogenation with alcoholic KOH.

3. The following compounds are given to you:

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

(a) Write the compound which is most reactive towards SN2 reaction.

(b) Write the compound which is optically active.

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

4. Write the differences between SN1 and SN2