

Class 12 Assignment

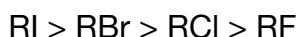
Class 12 Assignment 1 HaloAlkenes

Note: In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

- (i) Assertion and reason both are correct and reason is correct explanation of assertion.
- (ii) Assertion and reason both are wrong statements.
- (iii) Assertion is correct but reason is wrong statement.
- (iv) Assertion is wrong but reason is correct statement.
- (v) Assertion and reason both are correct statements but reason is not correct explanation of assertion.

1. Assertion: Phosphorus chlorides (tri and penta) are preferred over thionyl chloride for the preparation of alkyl chlorides from alcohols.
Reason: Phosphorus chlorides give pure alkyl halides.

2. Assertion: The boiling points of alkyl halides decrease in the order:



Reason: The boiling points of alkyl chlorides, bromides and iodides are considerably higher than that of the hydrocarbon of comparable molecular mass.

3. Assertion: KCN reacts with methyl chloride to give methyl isocyanide

Reason: CN is an ambinnucleophile.

4. Assertion: tert-Butyl bromide undergoes Wurtz reaction to give 2, 2, 3, 3- tetramethylbutane

Reason: In Wurtz reaction, alkyl halides react with sodium in dry ether to give hydrocarbon containing double the number of carbon atoms present in the halide.

5.Assertion: Presence of a nitro group at ortho or para position increases the reactivity of halo-alkenes towards nucleophilic substitution.

Reason: Nitro group, being an electron withdrawing group decreases the electron density over the benzene ring.

6.Assertion: In mono halo-alkenes, further electrophilic substitution occurs at ortho and para positions.

Reason: Halogen atom is a ring deactivator.

7.Assertion: Aryl iodides can be prepared by reaction of arenes with iodine in the presence of an oxidising agent.

Reason: Oxidising agent oxidises I_2 into HI .

8.Assertion: It is difficult to replace chlorine by $-OH$ in chlorobenzene in comparison to that in chloroethane.

Reason: Chlorine-carbon ($C-Cl$) bond in chlorobenzene has a partial double bond character due to resonance.

9.Assertion: Hydrolysis of $(-)-2$ -bromooctane proceeds with inversion of configuration.

Reason: This reaction proceeds through the formation of a carbocation.

10.Assertion: Nitration of chlorobenzene leads to the formation of m-nitrochlorobenzene

Reason: $-NO_2$ group is a m-directing group.