



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

WORKSHEET-01(SOLUTION)

TOPIC- ALKYL AND ARYL HALIDE

SUBTOPIC-PREPARATION OF ALKYL AND ARYL HALIDE

SUBJECT – CHEMISTRY

DURATION – 30 mins

F.M. - 15

DATE -02.05.20



1.1 Which of the following reagents can bring about free radical chlorination of propane?

- a) Cl_2 / UV-light b) SOCl_2 c) PCl_3 d) PCl_5

Ans. **a) Cl_2 / UV-light**

1.2 Racemic mixture is obtained due to the halogenation of-

- a) n-pentane b) isopentane c) neopentane d) Both a and b

Ans. **d) Both a and b**

1.3 Which of the following compound is liquid at room temperature?

- a) CH_3Cl b) $\text{C}_2\text{H}_5\text{Cl}$ c) CH_3Br d) $\text{C}_2\text{H}_5\text{Br}$

Ans. **a) CH_3Cl**

1.4 Which of the following requires more than one type of alkyl halides for its preparation by Wurtz's reaction?

- a) Hexane b) Pentane c) Cyclohexane d) Methyl cyclopentane

Ans. **b) Pentane**

1.5 Which of the following statement is incorrect about Hunsdiecker's reaction?

- a) Only Cl_2 can give alkyl halide b) I_2 will give ester when treated with RCOOAg
c) The reaction proceeds through free radical d) F_2 cannot give alkyl halide

Ans. **a) Only Cl_2 can give alkyl halide**

1.6 Which of the following compound can be prepared by Swarts reaction-

- a) CH_3Br b) $\text{C}_2\text{H}_5\text{Br}$ c) CH_3F d) CH_3I

Ans. **c) CH_3F**

1.7 The reactivity order of different halides follows the following trend on reaction with anhydrous ZnCl_2 and conc. HCl -

- a) $3^\circ > 2^\circ > 1^\circ$ b) $1^\circ > 3^\circ > 2^\circ$ c) $1^\circ > 2^\circ > 3^\circ$ d) $3^\circ > 1^\circ > 2^\circ$

Ans. **a) $3^\circ > 2^\circ > 1^\circ$**

1.8 Which one of the following compound is the best for preparation of alkyl halide?

- a) SOCl_2 b) PCl_5 c) PCl_3 d) Red P + I_2

Ans. **a) SOCl_2**

1.9 The reactivity for free radical halogenation is the maximum for-

- a) Allylic b) 3° c) 2° d) 1°

Ans. **a) Allylic**

1.10 The reactivity order of Halogen acids with alkene-

- a) $\text{HI} > \text{HCl} > \text{HBr} > \text{HF}$ b) $\text{HI} > \text{HBr} > \text{HCl} > \text{HF}$ c) $\text{HF} > \text{HCl} > \text{HBr} > \text{HI}$ d) $\text{HI} > \text{HF} > \text{HBr} > \text{HCl}$

Ans. **b) $\text{HI} > \text{HBr} > \text{HCl} > \text{HF}$**

1.11 Which of the following is reversible in nature-

- a) Fluorination b) Bromination c) Iodination d) Chlorination

Ans. **c) Iodination**

1.12 Kharasch effect is only exhibited by-

a) HBr b) HCl c) HF d) HI

Ans. **a) HBr**

1.13 The order of boiling point among the alkyl halides-

a) Primary > Secondary > Tertiary b) Tertiary > Secondary > Primary c) Primary > Tertiary > Secondary

d) Secondary > Tertiary > Primary

Ans. **a) Primary > Secondary > Tertiary**

1.14 Which of the following reaction is specifically used for preparation of alkyl fluoride-

a) Borodine-Hunsdiecker reaction b) Swarts reaction c) Finkelstein reaction d) Groove's process

Ans. **b) Swarts reaction**

1.15 Which of the following alkyl halides cannot be converted into Grignard reagent?

a) CH_3I b) $\text{C}_6\text{H}_5\text{Br}$ c) $\text{OHCH}_2\text{CH}_2\text{CH}_2\text{Cl}$ d) $\text{CH}_3\text{OCH}_2\text{CH}_2\text{CH}_2\text{Cl}$

Ans. **c) $\text{OHCH}_2\text{CH}_2\text{CH}_2\text{Cl}$**

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