



# ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

## WORKSHEET-02(SOLUTION)

### TOPIC- ALKYL AND ARYL HALIDE

#### SUBTOPIC-CHEMICAL REACTIONS OF ALKYL AND ARYL HALIDE

SUBJECT – CHEMISTRY

DURATION – 30 mins

F.M. - 15

DATE -04.05.20



1.1 Which of the following is termed as Darzen's reaction?

- a)  $\text{ROH} + \text{HCl}$  b)  $\text{ROH} + \text{PCl}_5$  c)  $\text{ROH} + \text{SOCl}_2$  d)  $\text{ROH} + \text{PCl}_3$

**Ans. c)  $\text{ROH} + \text{SOCl}_2$**

1.2 The alkyl halide may be converted into an alcohol by:

- a) Addition b) Substitution c) Dehydrohalogenation d) Elimination

**Ans. b) Substitution**

1.3 Correct order of leaving group tendency is:

- a)  $\text{I}^- > \text{Br}^- > \text{Cl}^- > \text{F}^-$  b)  $\text{F}^- > \text{Cl}^- > \text{I}^- > \text{Br}^-$  c)  $\text{Cl}^- > \text{F}^- > \text{Br}^- > \text{I}^-$  d)  $\text{I}^- > \text{Cl}^- > \text{Br}^- > \text{F}^-$

**Ans. a)  $\text{I}^- > \text{Br}^- > \text{Cl}^- > \text{F}^-$**

1.4 In  $\text{S}_{\text{N}}1$  reaction, the first step involves the formation of-

- a) Free radical b) Carbanion c) Carbocation d) Final product

**Ans. c) Carbocation**

1.5 Which of the following compound gives positive iodoform test-

- a) Propane b) Methanol c) Pentanone d) Ethanol

**Ans. d) Ethanol**

1.6 Which of the following has the highest dipole moment?

- a)  $\text{CH}_3\text{Cl}$  b)  $\text{CH}_3\text{I}$  c)  $\text{CH}_3\text{F}$  d)  $\text{CH}_3\text{Br}$

**Ans. a)  $\text{CH}_3\text{Cl}$**

1.7 Which among the following has a chiral carbon center?

- a)  $(\text{CH}_3)_3\text{CCl}$  b)  $(\text{CH}_3)_2\text{CHCl}$  c)  $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{Cl}$  d)  $\text{CH}_3\text{CH}_2\text{Cl}$

**Ans. c)  $\text{CH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{Cl}$**

1.8 Which of the following is called Westron?

- a)  $\text{CH}_3\text{Cl}$  b)  $\text{CHCl}_3$  c)  $\text{CHCl}_2\text{CHCl}_2$  d)  $\text{CCl}_2=\text{CHCl}$

**Ans. d)  $\text{CCl}_2=\text{CHCl}$**

1.9 How many Chiral carbon atoms are present in 2,3,4-trichloropentane?

- a) 3 b) 2 c) 1 d) 4

**Ans. b) 2**

1.10 Which of the following has the highest boiling point?

- a)  $\text{C}_3\text{H}_7\text{Cl}$  b)  $\text{C}_4\text{H}_9\text{Cl}$  c)  $\text{CH}_3\text{CH}(\text{CH}_3\text{CH}_2)\text{Cl}$  d)  $(\text{CH}_3)_3\text{CCl}$

**Ans. b)  $\text{C}_4\text{H}_9\text{Cl}$**

1.11 In order to convert aniline into chlorobenzene, the reagent required is-

- a)  $\text{CuCl}$  b)  $\text{NaNO}_2/\text{HCl}$  and  $\text{CuCl}$  c)  $\text{Cl}_2/\text{CCl}_4$  d)  $\text{Cl}_2/\text{AlCl}_3$

**Ans. b)  $\text{NaNO}_2/\text{HCl}$  and  $\text{CuCl}$**

1.12 Which among the following has the maximum stability?

- a)  $\text{CH}_3\text{Cl}$  b)  $\text{CH}_3\text{I}$  c)  $\text{CH}_3\text{F}$  d)  $\text{CH}_3\text{Br}$

**Ans. c)  $\text{CH}_3\text{F}$**

1.13 "X" on treatment with sodium hydroxide followed by the addition of silver nitrate gives white precipitate at room temperature which is soluble in  $\text{NH}_4\text{OH}$ . X can be-

a) Chlorobenzene b) Ethyl bromide c) Benzyl chloride d) Vinyl Chloride

**Ans. c) Benzyl chloride**

1.14 How many structural isomers can be obtained for Butyl chloride?

a) 1 b) 2 c) 3 d) 4

**Ans. c) 3**

1.15 During iodination of an alkane, the oxidizing agent used is-

a)  $\text{HIO}_3$  b)  $\text{O}_2$  c)  $\text{O}_3$  d)  $\text{HCl}$

**Ans. a)  $\text{HIO}_3$**

**PREPARED BY: MR. ARNAB PAUL CHOWDHURY**