ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

WORKSHEET-12(SOLUTION)

CLASS-12

TOPIC- ALKYL AND ARYL HALIDE

SUBTOPIC- CHEMICAL REACTIONS OF ALKYL AND ARYL HALIDE

SUBJECT – CHEMISTRY **F.M. - 15**

DURATION – 30 mins **DATE -15.05.20**

1.1 **50% inversion of configuration of molecules take place in a-**

a) E1 – reaction b) E2 – reaction c) S_N1 – reaction d) S_N2 – reaction

Ans. d) S_N2 – reaction

1.2 **Alkyl halides are considered to be very reactive compounds towards nucleophile because-**

a) They have an electrophilic carbon

b) They have an electrophilic carbon & a good leaving group

c) They have an electrophilic carbon & a bad leaving group

d) They have a nucleophilic carbon & a good leaving group

Ans. b) They have an electrophilic carbon & a good leaving group

1.3 **Which one of the following species is not an electrophile?**

a) NH_3 b) Br^+ c) H^+ d) BF_3

Ans. a) NH_3

1.4 **Which one of the following reactants will be required to form straight chain alcohol by using Grignard reagent**

a) Formaldehyde b) Ketone c) Ethylene epoxide d) Both a & c

Ans. d) Both a & c

1.5 **Which one of the following alcohols will be formed when ethyl magnesium bromide reacts with acetone?**

a) Primary alcohol b) Secondary alcohol c) Tertiary alcohol d) Dihydric alcohol

Ans. c) Tertiary alcohol

1.6 **Which one of the following molecules does not form alcohol when reacts with Grignard reagent?**

a) Formaldehyde b) Acetaldehyde c) Propanone d) Carbon dioxide

Ans. d) Carbon dioxide

1.7 **Ethylene epoxide(unsubstituted) treated with Grignard reagent followed by acid hydrolysis yield-**

a) Primary alcohol b) Secondary alcohol c) Tertiary alcohol d) Dihydric alcohol

Ans. a) Primary alcohol

1.8 **Alkyl halides undergo a type of reaction-**

a) Nucleophilic substitution b) Nucleophilic Addition c) Elimination

d) Both a & c

Ans. d) Both a & c

1.9 **The Grignard reagent is reactive due to**

a) The presence of a halogen atom b) The presence of magnesium atom

c) The polarity of the C-Mg bond d) All

Ans. c) The polarity of the C-Mg bond

1.10 **When two moles of ethyl chloride react with two moles of sodium in the presence of ether what will be formed?**

a) 2 moles of ethane b) 1 mole of ethane c) 2 moles of butane

d) 1 mole of butane

Ans. d) 1 mole of butane

1.11 **What is the order of kinetics in the S_N1 mechanism?**

a) Zero b) First c) Second d) Third

Ans. b) First

1.12 **During S_N2 mechanism carbon atom changes its state of hybridization as-**

a) $sp \rightarrow sp^2$ b) $sp^2 \rightarrow sp^3$ c) $sp^3 \rightarrow sp$ d) $sp^3 \rightarrow sp^2$

Ans. d) $sp^3 \rightarrow sp^2$

1.13 **The number of molecules taking part in the rate determining step is called-**

a) Order of reaction b) Rate of reaction c) The mole of a reaction

d) The extent of a reaction

Ans. a) Order of reaction

1.14 **Which one is not a nucleophile?**

a) $C_2H_5O^-$ b) SCN^- c) NH_3 d) H_3C^+

Ans. d) H_3C^+

1.15 **What will be the order of reaction of a reaction whose rate can be expressed as R = K [A] [B]?**

a) 0 b) 1 c) 2 d) 3

Ans. c) 2

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