



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

WORKSHEET-08(SOLUTION)

TOPIC- ALKYL AND ARYL HALIDE

SUBTOPIC- CHEMICAL REACTIONS OF GRIGNARD REAGENT

SUBJECT - CHEMISTRY

DURATION - 30 mins

F.M. - 15

DATE -11.05.20



1.1 Which of the following produces 1° alcohol on reaction with CH_3MgBr ?

- a) HCHO b) CH_3CHO c) CH_3COCH_3 d) $\text{CH}_3\text{CH}_2\text{COCH}_3$

Ans. HCHO

1.2 Which of the following produces 2° alcohol on reaction with CH_3MgBr ?

- a) HCHO b) CH_3CHO c) CH_3COOH d) $\text{CH}_3\text{CH}_2\text{COCl}$

Ans. b) CH_3CHO

1.3 Which of the following produces 3° alcohol on reaction with CH_3MgBr ?

- a) HCHO b) CH_3CHO c) CH_3COCH_3 d) $\text{CH}_3\text{OCH}_2\text{CH}_3$

Ans. c) CH_3COCH_3

1.4 Grignard reagent when exposed to moisture-

- a) Gets oxidized b) gets hydrolyzed c) gets decomposed to give hydrocarbon d) remains unaffected

Ans. c) gets decomposed to give hydrocarbon

1.5 Grignard reagent forms alkane with which of the following compound?

- a) But-1-ene b) Carbon dioxide c) But-2-ene d) Ammonia

Ans. d) Ammonia

1.6 CH_3MgI reacts with CH_3OCH_3 to form-

- a) Alcohol b) No product c) Water d) Ester

Ans. b) No product

1.7 Grignard reagent cannot act as-

- a) Reductant b) Nucleophile c) Base d) Both a and b

Ans. a) Reductant

1.8 Grignard reagent doesn't react with aliphatic ether because it doesn't have-

- a) Acidic H atoms b) electrophilic center c) Nucleophilic center d) Both a and b

Ans. d) Both a and b

1.9 Grignard reagent (RMgX) on treatment with $\text{CH}_3\text{CH}_2\text{COOH}$

- a) RD b) RH c) H_2O d) Both b and c

Ans. b) RH

1.10 $\text{CH}_3\text{CH}_2\text{COCH}_2\text{CH}_2\text{CH}_3$ on treatment with one equivalent of RMgX forms-

- a) RH b) NH_3 c) H_2O d) All of these

Ans. a) RH

1.11 $^{14}\text{CH}_3\text{MgBr}$ on treatment with CO_2 , followed by hydrolysis generates-

- a) CH_3COOH b) $\text{CH}_3^{14}\text{COOH}$ c) $^{14}\text{CH}_3^{14}\text{COOH}$ d) $^{14}\text{CH}_3\text{COOH}$

Ans. d) $^{14}\text{CH}_3\text{COOH}$

1.12 CH_3MgI reacts with CH_3CONH_2 , followed by hydrolysis to form-

- a) 3° Alcohol b) 2° Alcohol c) Water d) 1° Alcohol

Ans. a) 3° Alcohol

1.13 CH_3MgI reacts with CH_3CN , followed by hydrolysis to form-

a) $(\text{CH}_3)_3\text{COH}$ b) CH_3CHO c) $\text{CH}_3\text{CH}_2\text{OH}$ d) $(\text{CH}_3)_2\text{CHOH}$

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

1.14 During the reaction Grignard reagent with any ketone the hydrolysis step is carried out by using-

a) Aq. NH_4Cl b) HCl c) HNO_3 d) NH_4OH

Ans. **a) Aq. NH_4Cl**

1.15 $\text{CH}_3\text{CH}_2\text{CH}_2\text{Br}$ on treatment with CH_3OH forms-

a) $\text{CH}_3\text{CH}_2\text{CH}_3$ b) CH_3CH_3 c) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$ d) CH_4

Ans. **a) $\text{CH}_3\text{CH}_2\text{CH}_3$**

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