



ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

SOLUTION-48(CLASS-12)

TOPIC- ALDEHYDE AND KETONE

SUBTOPIC- PREPARATION AND CHEMICAL REACTIONS

SUBJECT – CHEMISTRY

DURATION – 30 mins



F.M. - 15

DATE -03.08.20

1.1 Which of the following is the best description of the mechanism of the reaction between a ketone and an amine to form an imine?

- a) Concerted bimolecular substitution b) Nucleophilic addition followed by elimination c) Elimination followed by nucleophilic addition d) Electrophilic addition followed by rearrangement

Ans. b

1.2 Which of the following statement is not true?

- a) Reaction of benzophenone with methanol in the presence of acid gives an acetal b) Reaction of butanal with ethanol in the presence of base gives an acetal c) Reaction of benzaldehyde with ethanol in the presence of acid gives an acetal d) Reaction of acetone with methanol in the presence of base gives a hemiacetal

Ans. b

1.3 Which of the following is a reactive intermediate in the reaction of acetone with bromine in acetic acid to form 1-bromo-2-propanone?

- a) Carbanion b) Enol c) Enolate d) Radical

Ans. b

1.4 Compound which doesn't give stereoisomers on treatment with hydroxylamine is-

- a) Benzaldehyde b) Acetophenone c) Benzophenone d) 2-Butanone

Ans. c

1.5 Hydroxylamine reacts with aldehyde or ketone to form-

- a) Imine b) Urea c) Amide d) Oxime

Ans. d

1.6 Reaction of ethanoic anhydride with limited supply of CH_3MgI , in presence of dry ether followed by hydrolysis gives-

a) Acetone b) n-propyl alcohol c) Acetaldehyde d) Isopropyl alcohol

Ans. a

1.7 Aldehyde can be chemical distinguished from ketone by-

a) Tollens reagent b) Sodium bisulphite addition c) Brady's reagent d) All of these

Ans. a

1.8 Ketone on treatment with Copper at 573K forms-

a) Carboxylic acid b) Ether c) Alkene d) alkyne

Ans. c

1.9 A strong base can abstract an alpha-hydrogen from –

a) Amine b) Both c and d c) Ketone d) Ether

Ans. c

1.10 Reduction of aldehydes and ketones into hydrocarbons using Hydrazine, KOH and under heating condition(180°C), in presence of Ethylene glycol -

a) Cope reduction b) Huang Menlon Synthesis c) Wolff-Kishner reduction d) Clemmensen reduction

Ans. b

1.11 Cyclopropanone forms stable geminal-di-ol, due to-

a) Inter molecular H-bond formation b) Due to release in angle strain c) Inductive effect d) Hyperconjugation

Ans. b

1.12 A $C_5H_{12}O$ compound is optically active, and is oxidized by PCC in CH_2Cl_2 to an optically active $C_5H_{10}O$ product, which is racemised in acid or base. Which of the following best fits these facts-

a) 2-pentanol b) 2-methoxy butane c) 2-methyl-1-butanol d) 3-methyl-1-butanol

Ans. c

1.13 Phenyl hydrazine on treatment with Aldehyde forms-

a) 2,4-DNPH b) Oxime c) Semicarbazone d) Phenyl hydrazone

Ans. d

1.14 Aldehyde and ketone both undergo the type of chemical reaction/reactions-

a) Condensation b) rearrangement c) addition d) all of these

Ans. d

1.15 Which of the following compounds would not be a possible product from the mixed aldol reaction of acetaldehyde and butanal?

a) 3-hydroxybutanal b) 2-ethyl-3-hydroxybutanal c) 3-ethyl-2-hydroxyhexanal d) 3-hydroxyhexanal

Ans. c

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