

ORGANIC CHEMISTRY - I

3. CARBONYL COMPOUNDS

PREVIOUS EAMCET BITS

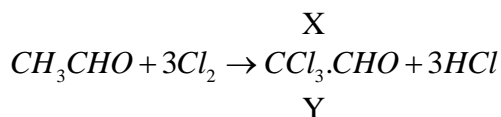
1. What are the X and Y in the following reaction sequence : $C_2H_5OH \xrightarrow{Cl_2} X \xrightarrow{Cl_2} Y$

(2009 E)

- | | |
|------------------------|-------------------------|
| 1) C_2H_5OH, CH_3CHO | 2) CH_3CHO, CH_3CO_2H |
| 3) CH_3CHO, CCl_3CHO | 4) C_2H_5Cl, CCl_3CHO |

Ans : 3

Sol: Reaction $CH_3CH_2OH + Cl_2 \rightarrow CH_3CHO + 2HCl$



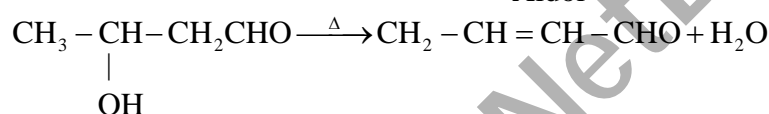
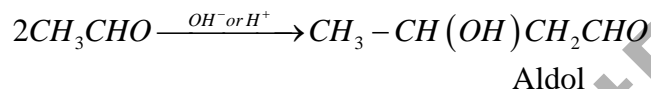
2. The synthesis of crotonaldehyde from acetaldehyde is an example of reaction

(2009 E)

- | | |
|---------------------------|--|
| 1) Nucleophilic addition | 2) Elimination |
| 3) Electrophilic addition | 4) Nucleophilic addition - elimination |

Ans : 4

Sol: Reactions:



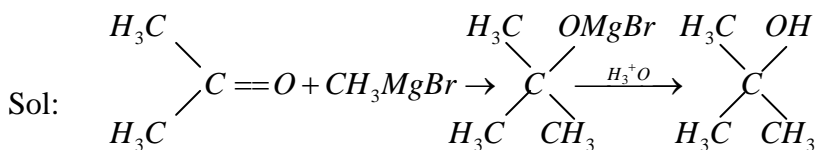
Crotonaldehyde

3. In which of the following reactions, the final product is 2-methyl-2-propanol ?

(2009 M)

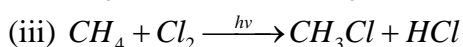
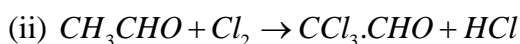
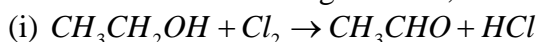
- 1) $CH_3CHO \xrightarrow[(ii) H_3O^+]{(i) CH_3MgBr / \text{dry ether}}$
- 2) $CH_3CHO \xrightarrow[(ii) H_3O^+]{(i) C_2H_5MgBr / \text{dry ether}}$
- 3) $CH_3COCH_3 \xrightarrow[(ii) H_3O^+]{(i) CH_3MgBr / \text{dry ether}}$
- 4) $CH_3COCH_3 \xrightarrow[(ii) H_3O^+]{(i) CH_3MgBr / \text{wet ether}}$

Ans : 3



2 - methyl-2-propanol

4. In which of the following reaction, chlorine acts as an oxidizing agent ? (2008 E)



- | | | | |
|-------------|--------------|------------------|------------------------|
| 1) (i) only | 2) (ii) only | 3) (i) and (iii) | 4) (i), (ii) and (iii) |
|-------------|--------------|------------------|------------------------|

Ans : 4

- 1) Formaldehyde 2) Acetaldehyde 3) Diethyl ketone 4) Diethyl ether

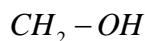
Ans : 2

Sol: Reaction

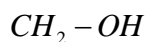


10. What reagent is used in the Rosenmund reduction ? (2006 M)

- 1) $H_2 | Pd - BaSO_4$ 2) $LiAlH_4$

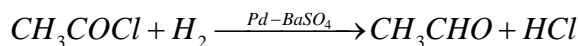


- 3) $NH_2NH_2 | KOH ||$ 4) $Zn - Hg | HCl$



Ans : 1

Sol: Rosenmund reduction

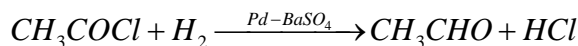


11. Which of the following compounds is the reactant in Rosenmund's reaction? (2005 E)

- 1) CH_3CO_2H 2) CH_2CHO 3) CH_3CH_2Cl 4) CH_3COCl

Ans : 4

Sol: Rosenmund reduction



12. In the reaction, $C_2H_5OH \xrightarrow[300^\circ C]{Cu} X ?$ (2005 E)

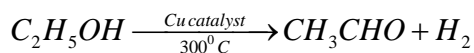
(Vapour)

The molecular formula of X is :

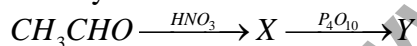
- 1) C_2H_6O 2) $C_4H_{10}O$ 3) C_2H_4O 4) C_2H_6

Ans : 3

Sol: Reaction



13. Identify X and Y in the following sequence of reactions (2005 M)



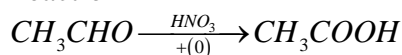
X

Y

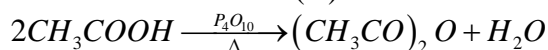
- 1) C_2H_5OH C_2H_4
 2) CH_3CO_2H $(CH_3CO)_2O$
 3) CH_3CO_2H $CH_3CO_2CH_3$
 4) C_2H_5OH CH_3CO_2H

Ans : 2

Sol: Reaction



(X)



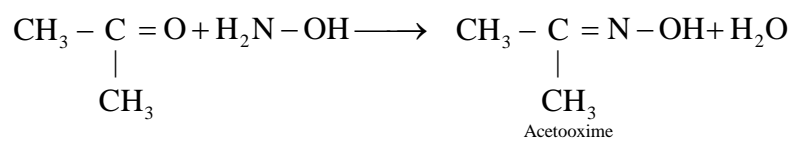
(Y)

14. A compound X undergoes reduction with $LiAlH_4$ to yield Y. When vapours of Y are passed over freshly reduced copper at $300^\circ C$, X is formed. What is Y ? (2005 M)

- 1) CH_3COCH_3 2) CH_3CHO 3) CH_3CH_2OH 4) $CH_3 - O - CH_3$

Ans : 3

Sol: Reaction



www.NetBadi.in