

ORGANIC CHEMISTRY - I

1. ALKYL HALIDES (R-X) PREVIOUS EAMCET BITS

1. Consider the following reaction. $C_2H_5Cl + AgCN \xrightarrow{EtOH/H_2O} X$ (major) which one of the following statements is true for X (2009 E)

- I) It gives propionic acid on hydrolysis
 II) It has an ester function
 III) It has a nitrogen linked to ethyl carbon
 IV) It has a cyanide group
- 1) IV 2) III 3) II 4) I

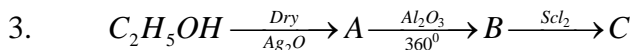
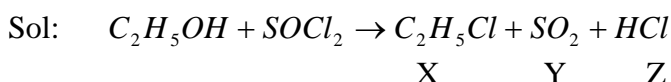
Ans : 2



2. $C_2H_5Cl + SOCl_2 \xrightarrow{Pyridine} X+Y+Z$. In this reaction X, Y and Z respectively are (2008 M)

- 1) $C_2H_4Cl_2$, SO_2 , HCl 2) C_2H_5Cl , SO_2 , HCl
 3) C_2H_5Cl , $SOCl$, HCl 4) C_2H_4 , SO_2 , Cl_2

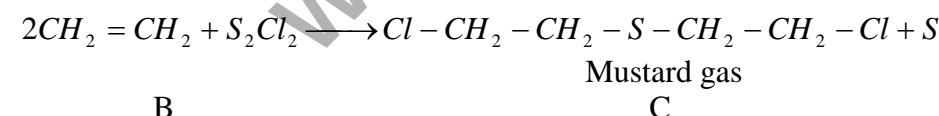
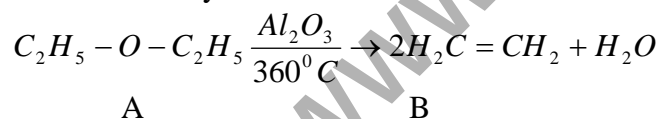
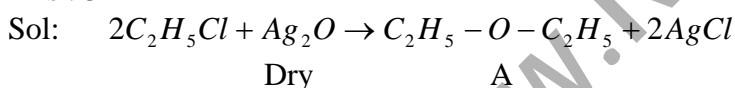
Ans : 2



In the above sequence of reaction identify 'C' (2007 M)

- 1) Chloretone 2) Chloropicrin 3) Mustard gas 4) Lewisite gas

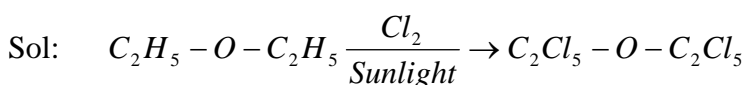
Ans : 3



4. In which of the following reaction ethyl chloride is not formed (2006 M)

- 1) $C_2H_5 - O - C_2H_5 + PCl_5 \xrightarrow{\Delta}$ 2) $C_2H_5 - O - C_2H_5 + CH_3COCl \xrightarrow{AlCl_3}$
 3) $C_2H_5 - O - C_2H_5 + Cl_2 \xrightarrow{hv}$ 4) $C_2H_5OH + PCl_3 \longrightarrow$

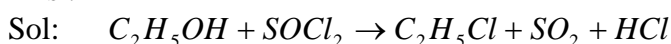
Ans : 3



5. Hydrogen chloride and SO_2 are the side products in the reaction of ethanol with thionyl chloride. Which of the following is the main product in this reaction (2005 M)

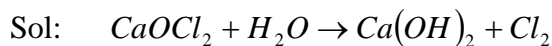
- 1) $C_2H_5 - O - C_2H_5$ 2) C_2H_6 3) CH_3Cl 4) C_2H_5Cl

Ans : 4

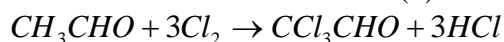


- 1) $\text{CH}_3\text{CH}(\text{OH})_2$ 2) CH_2Cl_2 3) CCl_3CHO 4) $\text{CCl}_3\text{COCH}_3$

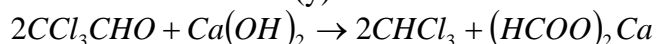
Ans : 3



(x)



(y)



y

13. Match the following columns. (2007 E)

Column I (Reactants)

Column II (Products)

(A) $\text{C}_2\text{H}_5\text{Cl}$, moist Ag_2O

(1) $\text{CH}_3\text{CH}_2\text{ONO}$

(B) $\text{C}_2\text{H}_5\text{Cl}$, aqueous ethanolic AgCN

(2) C_2H_4

(C) $\text{C}_2\text{H}_5\text{Cl}$, aqueous ethanolic AgNO_2

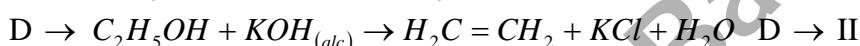
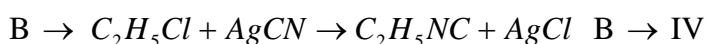
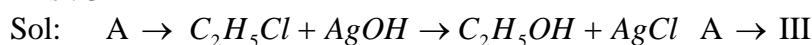
(3) $\text{C}_2\text{H}_5\text{-H}$

(D) $\text{C}_2\text{H}_5\text{Cl}$, ethanolic KOH

(4) $\text{CH}_3\text{CH}_2\text{NC}$

(5) C_2H_6

Ans : 3



14. Which of the following is added to chloroform to slow down its aerial oxidation in presence of light (2006 E)

- 1) Carbonyl chloride 2) Ethyl alcohol 3) Sodium hydroxide 4) Nitric acid

Ans : 2

Sol: 1% ethyl alcohol is added to retard oxidation of chloroform.

15. The correct structure of 4-bromo-3-methylbut-1-ene is (2004 E)

1) $\text{Br}-\text{CH} = \text{C}(\text{CH}_3)_2$

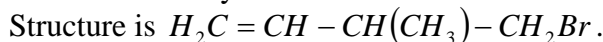
2) $\text{CH}_2 = \text{CH}-\text{CH}(\text{CH}_3)-\text{CH}_2\text{Br}$

3) $\text{CH}_2 = \text{C}(\text{CH}_3)\text{CH}_2\text{CH}_2\text{Br}$

4) $\text{CH}_3 - \text{C}(\text{CH}_3) = \text{CHCH}_2 - \text{Br}$

Ans : 2

Sol: 4-bromo-2-methyl-but-1-ene



16. The chemical formula of tear gas is (2004 E)

1) COCl_2

2) CO_2

3) Cl_2

4) CCl_3NO_2

Ans : 4

Sol: The chemical formula of tear gas is CCl_3NO_2 .

17. The metal used from the debromination reaction of 1,2-dibromoethane, is (2004 E)

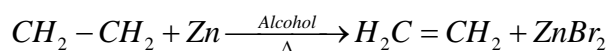
1) Na

2) Zn

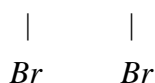
3) Mg

4) Li

Ans : 2

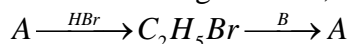


Sol:



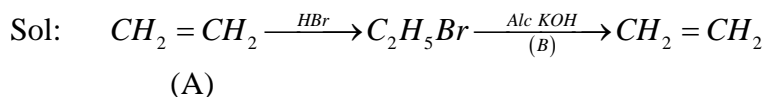
18. Consider the following reactions

22. In the following reaction, A and B respectively are (2002 E)



- 1) C_2H_4 and alcoholic KOH/Δ 2) C_2H_5Cl and aqueous KOH/Δ
 3) C_2H_5OH and aqueous KOH/Δ 4) C_2H_2 and PBr_3

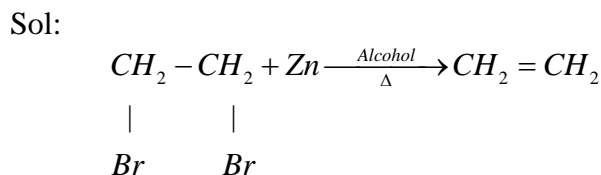
Ans : 1



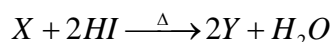
23. The reaction conditions used for converting 1,2- dibromoethane to ethylene are (2002 E)

- 1) Zn, alcohol, Δ 2) KOH , alcohol, Δ 3) KOH , water, Δ 4) Na, alcohol, Δ

Ans : 1

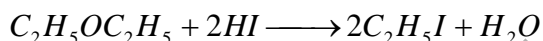
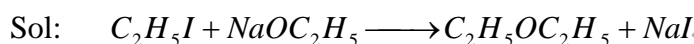


24. What is Y in the following reaction ? (2007 E)



- 1) C_2H_6 2) C_2H_5I 3) C_2H_4 4) $C_2H_5OC_2H_5$

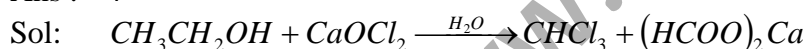
Ans : 2



25. Which of the following reacts with ethanol to form chloroform (2000E)

- 1) $SOCl_2$ 2) PCl_5 3) HCl 4) $CaOCl_2 + H_2O$

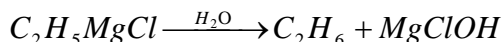
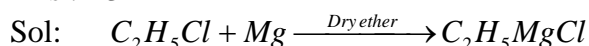
Ans : 4



26. Chloroethane reacts with magnesium in dry ether to form X. When X is hydrolysed a carbon compound Y and Z are formed. Which of the following is Y? (2000E)

- 1) C_2H_4 2) C_2H_2 3) C_2H_6 4) C_6H_6

Ans : 3

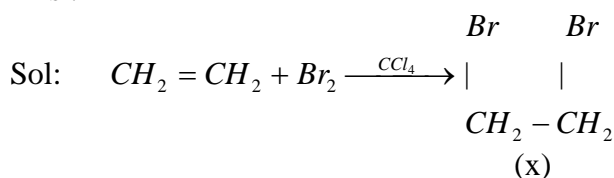


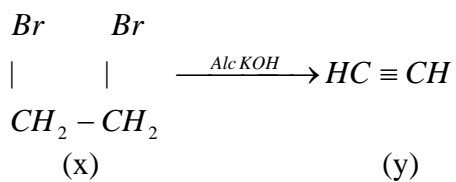
(x) (y) (z)

27. Ethylene reacted with bromine in CCl_4 to form X. X is treated with alcoholic KOH to give Y. X and Y are respectively. (2000E)

- 1) $BrCH_2-CH_2Br$ and C_2H_2 2) C_2H_5Br and C_2H_4
 3) C_2H_5Br and C_6H_6 4) $C_2H_3Br_3$ and C_2H_4

Ans : 1

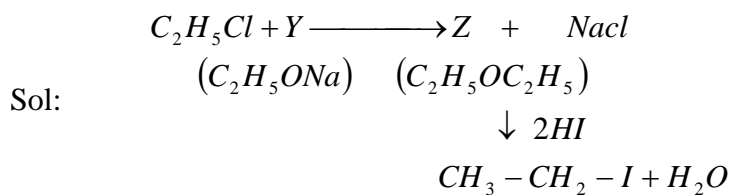




28. Chloroethane reacts with Y to form NaCl and Z. One mole of Z reacts with two moles of HI to form water and iodo ethane. Which of the following is Y? **(2000E)**

- 1) CH_3COOH 2) CH_3CHO 3) $\text{C}_2\text{H}_5\text{OC}_2\text{H}_5$ 4) $\text{C}_2\text{H}_5\text{ONa}$

Ans :4



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