



CHEMISTRY

BOOKS - ARIHANT PUBLICATION

HALOALKANES (ALKYL HALIDE)

Part I Question For Practice Multiple Choice Type Questions

1. The IUPAC name of alkyl chloride is

- A. 1-chloro ethane
- B. 3-chloropropyne
- C. 3-chloropropene
- D. 1-chloropropene

Answer: C



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Part I Question For Practice Multiple Choice Type Questions

1. Which of the following mechanisms is followed by chlorination of methane?

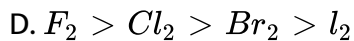
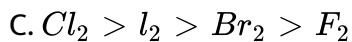
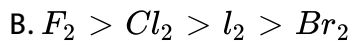
- A. Electrophilic Substitution
- B. Nucleophilic Substitution
- C. Free radical mechanism
- D. None of the above

Answer: C

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2. Reactivity of halogens towards alkanes is in order

- A. $F_2 > Br_2 > Cl_2 > I_2$

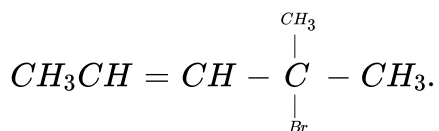


Answer: D

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Part I Question For Practice Very Short Answer Type Questions

1. Write the IUPAC name of

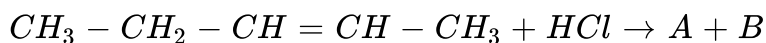


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2. Write the structure of the compound 4-tert-butyl-3-iodoheptane.

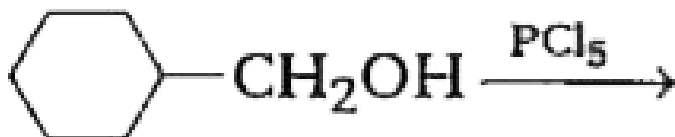
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3. Identify the products A and B formed in the following reaction.



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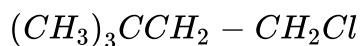
4. The structure of major monohalo compound product in following reactions is



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Part I Question For Practice Short Answer Type I Questions

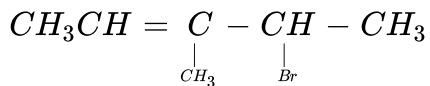
1. Give the IUPAC names of the following compounds.





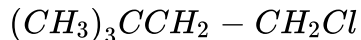
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2. Give the IUPAC names of the following compounds.



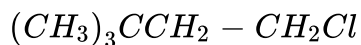
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3. Give the IUPAC names of the following compounds.



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4. Give the IUPAC names of the following compounds.

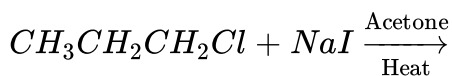


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5. Why is sulphuric acid not used during the reaction of alcohols with KI?

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6. Write the structure of the major organic products in each of the following reactions.



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7. Write the structure of the major organic products in each of the following reactions.



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8. Write the structure of the major organic products in each of the following reactions.



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9. Write the structure of the major organic products in each of the following reactions.



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10. A hydrocarbon C_5H_{10} does not react with chlorine in dark but gives a single monochloro compound, C_5H_9Cl in bright sunlight. Identify the hydrocarbon.

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1. Classify the following compounds as primary, secondary and tertiary halides.

1-bromobut-2-ene

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2. Classify the following compounds as primary, secondary and tertiary halides.

4-bromopent-2-ene

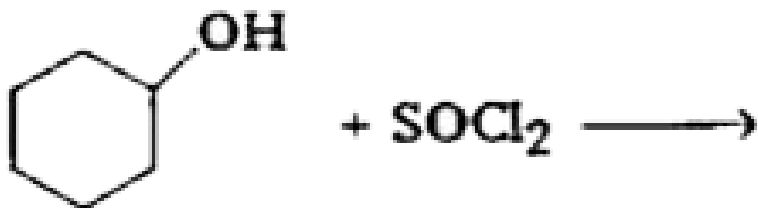
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3. Classify the following compounds as primary, secondary and tertiary halides.

2-bromo-2-methylpropane

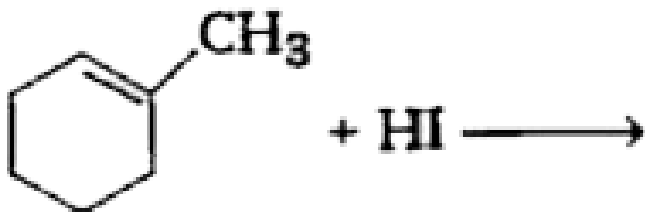
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4. Draw the structures of major monohalo compound products in each of the following reactions.



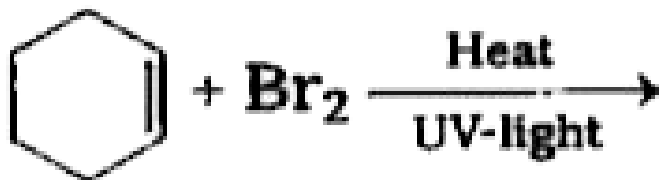
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5. Draw the structures of major monohalo compound products in each of the following reactions.



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6. Draw the structures of major monohalo compound products in each of the following reactions.



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7. Write the equations for the preparation of 1-iodobutane from butan-1-ol

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8. Write the equations for the preparation of 1-iodobutane from 1-chlorobutane

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9. Write the equations for the preparation of 1-iodobutane from but-1-ene

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10. Predict the major product formed when HCl is added to iso-butylene. Explain the mechanism involved.

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Part I Question For Practice Long Answer Type Questions

1. Among the isomeric alkanes of molecular formula C_5H_{12} , identify the one that on photochemical chlorination yields a single monochloride

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2. Among the isomeric alkanes of molecular formula C_5H_{12} , identify the one that on photochemical chlorination yields

three isomeric monochlorides

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3. Among the isomeric alkanes of molecular formula C_5H_{12} , identify the one that on photochemical chlorination yields

four isomeric monochlorides

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Part I Questions For Assessment Multiple Choice Type Questions

1. Which of the following is a primary halide?

A. Isopropyl iodide

B. sec-butyl iodide

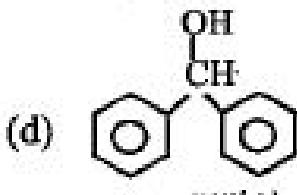
C. tert-butyl bromide

D. neo-hexyl chloride

Answer: D

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2. Which of the following is most acidic ?



A. P_4/Br_2

B. HBr

C. Br_2

D. NaBr

Answer: A

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3. Which of the following solvents is used for the preparation of the Grignard reagent ?

- A. Propene and HCl in the presence of peroxide
- B. Propene and Cl_2 followed by treatment with aq. KOH
- C. Propanol and $SOCl_2$ /pyridine
- D. Any of the above reagent can be used

Answer: C

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1. Write the IUPAC name of following compound



..... is.

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2. Reagent is used for the following reaction



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3. Name the alkene which will yield 1-chloro-1-methyl cyclohexane by its reaction with HCl. Write the reactions involved.

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4. Complete the following chemical equation.



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Part I Questions For Assessment Short Answer Type I Questions

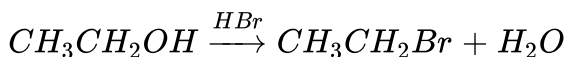
1. Draw the structure of the following of the following compounds.

(i) 2,2-dimethyl-1-bromobutane

(ii) 2,2,4,4-tetramethylhexane

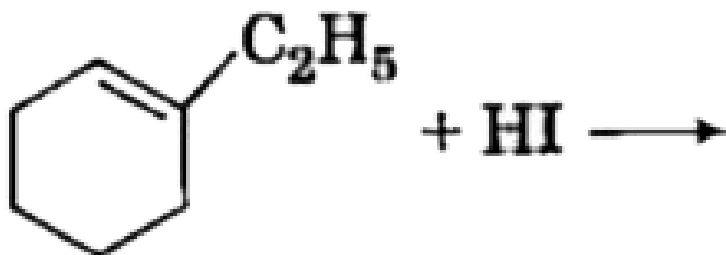
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2. Write the mechanism of the following reactions.



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3. Complete the following reactions.



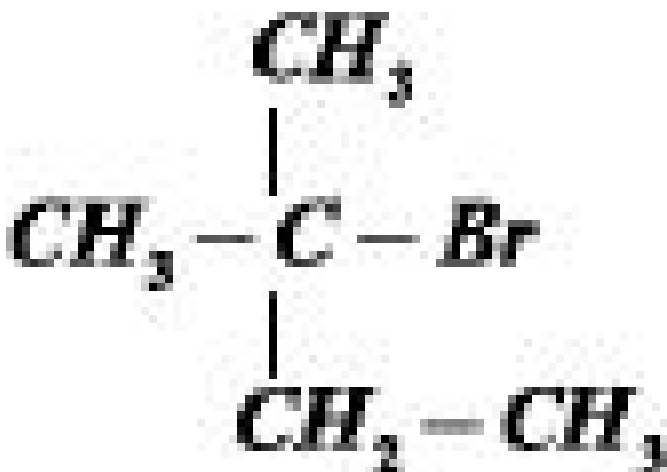
(i)

(ii) $\text{CH}_3\text{CH}_2\text{CH} = \text{CH}_2 + \text{HBr}$

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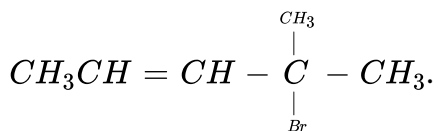
Part I Questions For Assessment Short Answer Type II Questions

1. Write the IUPAC name of



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2. Write the IUPAC name of



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Part I Questions For Assessment Long Answer Type Questions

1. Write a chemical reaction to depict the preparation of haloalkane from each of the following.

(i) Ethyl alcohol

(ii) Propane

(iii) But-1-ene



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Part II Question For Practice Multiple Choice Type Questions

1. When sodium salt of ethanol is treated with ethyl bromide, the product formed is

A. methoxy ethane

B. ethoxy ethanol

C. methyl ethyl ketone

D. diethyl ether

Answer: D

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2. Which of the following reactants will yield ethane?

A. Methyl bromide and sodium

B. Ethyl bromide and magnesium

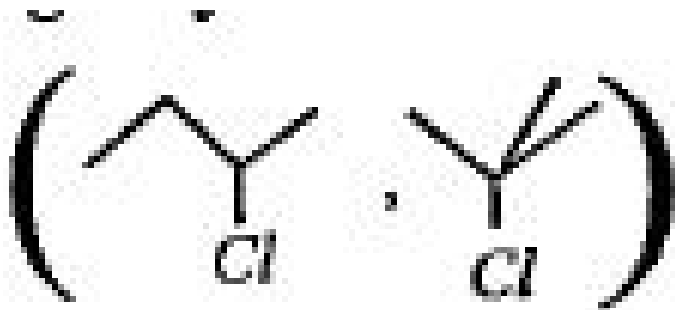
C. Ethanol and H_2SO_4

D. Ethyl bromide and KCN

Answer: A

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3. Which of the following alkyl halide undergoes faster SN^1 reaction?



- A. Methyl chloride
- B. Ethyl chloride
- C. Isobutyl chloride
- D. Tert-butyl chloride

Answer: D

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4. When isopropyl iodide in ethereal solution is warmed with sodium, the product formed is

A. n-hexane

B. neo-hexane

C. 2, 3-dimethyl butane

D. All of these

Answer: C

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Part II Question For Practice Very Short Answer Type Questions

1. What happens when ethyl chloride is treated with aqueous KOH?

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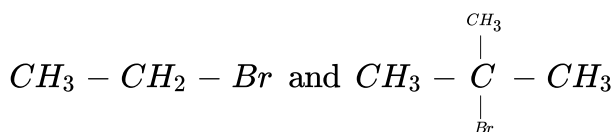
2. When $CH_3 - Br$ is treated with KCN the products formed are

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3. How methyl bromide is preferentially converted to methyl isocyanide?

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4. Which would undergo S_N2 reaction faster in the following pair and why?

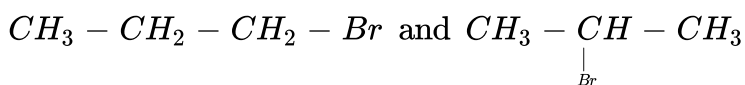


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5. Carry out the conversion of chloroethane to butane.

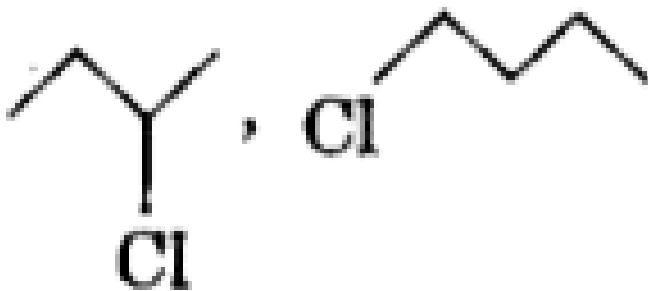
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6. Which would undergo S_N1 reaction faster in the following pair?



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7. Identify the chiral molecular in the following pair.

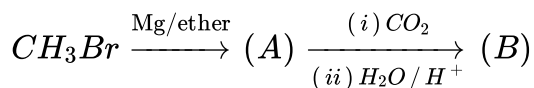


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8. Why is it necessary to avoid even traces of moisture during the use of a Grignard reagent?

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9. Identify A and B in the following reaction :



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Part II Question For Practice Short Answer Type I Questions

1. Why alkyl halides, though polar, are immiscible with water?

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2. Why is the solubility of haloalkanes in water very low?

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3. Arrange each set of compounds in the order of increasing boiling points.

Bromomethane, bromoform, chloromethane, dibromomethane

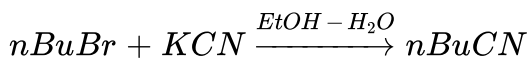
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4. Arrange each set of compounds in the order of increasing boiling points.

1-chloropropane, iso-propyl chloride, 1-chlorobutane

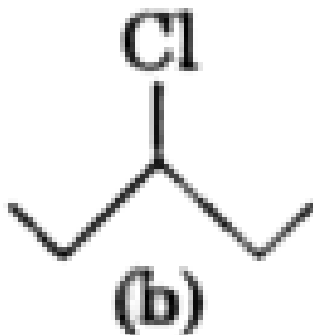
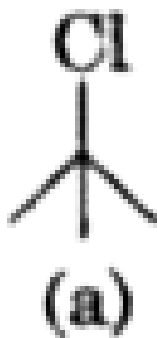
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5. Write the mechanism of the following reaction:



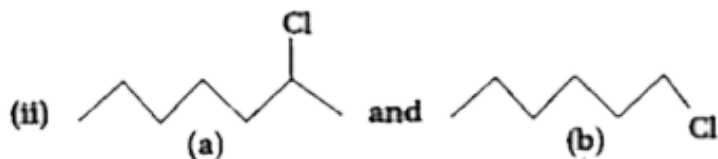
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6. In the following pairs of halogen compounds, which compound undergoes faster towards S_N1 reactions?



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7. In the following pairs of halogen compounds, which compound undergoes faster towards S_N1 reactions?



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8. Which alkyl halide from the following pair is chiral and undergoes faster toward S_N2 reaction?



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9. Out of S_N1 and S_N2 which reaction occurs with

(a) inversion of configuration?

(b) racemisation?

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10. Which compound in each of the following pairs will react faster in S_N2 reaction with OH^- and why?

CH_3Br or CH_3I

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11. Which compound in each of the following pairs will react faster in S_N2 reaction with OH^- and why?

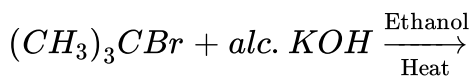
$(CH_3)_3CCl$ or CH_3Cl

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12. Tert-butylbromide reacts with aq. NaOH by S_N1 mechanism while n-butylbromide reacts by S_N2 mechanism. Why?

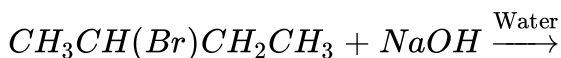
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13. Write the structure of the major organic product in each of the following reactions :



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14. Write the structure of the major organic product in each of the following reactions :



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15. Why is (±) butan-2-ol is optically inactive?



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16. Elimination reactions (especially β -elimination) are as common as the nucleophilic substitution reaction in case of alkyl halides. Specify the reagents used in both cases.



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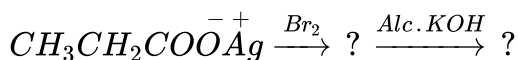
17. The treatment of ethyl bromide with aqueous KOH results ethyl alcohol but in presence of alcoholic KOH, ethylene is the major product. Explain

Explain



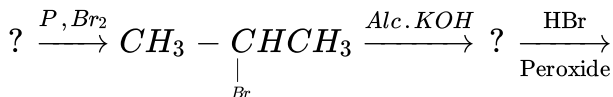
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18. Draw the structures of major monohalo compound products in each of the following reactions:



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19. Draw the structures of major monohalo compound products in each of the following reactions:



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Part II Question For Practice Short Answer Type II Questions

1. Arrange the following in decreasing order of reactivity towards SN^2 reaction (1-Bromopropane, 2-Bromo-2-methylpropane, 2-Bromopropane)

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2. Arrange the compounds of each set in the order of reactivity towards SN^2 displacement.

1-bromo-3-methylbutane, 2-bromo-2-methyl butane, 2-bromo-3-methylbutane

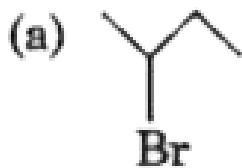
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3. Arrange the compounds of each set in the order of reactivity towards S_N2 displacement.

1-bromobutane, 1-bromo-2, 2-dimethylpropane, 1-bromo-2-methylbutane, 1-bromo-3-methylbutane

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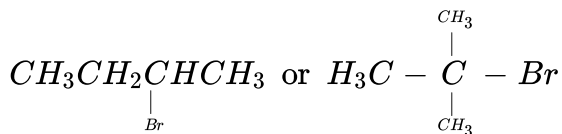
4. Which alkyl halide from the following pair is chiral and undergoes faster toward S_N2 reaction?



(a)

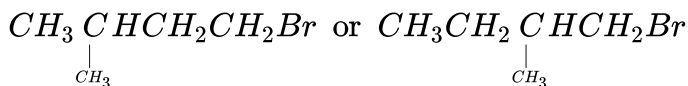
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5. Which alkyl halide from the following pairs would you expect to react more rapidly by S_N2 mechanism? Explain.



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6. Which alkyl halide from the following pairs would you expect to react more rapidly by S_N2 mechanism? Explain.



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7. What happens when ethyl chloride is treated with $AgNO_2$?

Write the chemical equations in support of your answer.

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8. What happens when

2-bromopentane is treated with alc. KOH?

Write the chemical equations in support of your answer.

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9. Primary alkyl halide C_4H_9Br (A) reacted with alcoholic KOH to give compound B. Compound B is reacted with HBr to give C which is an isomer of A. When A is reacted with sodium metal, it gives compound D, C_8H_{18} which is different from the compound formed when n-butyl bromide is reacted with sodium. Give the structural formula of A and write the equations for all the reactions.

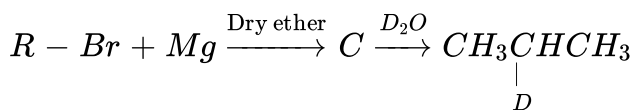
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10. Identify A, B, ' in the following:



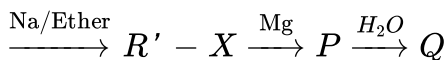
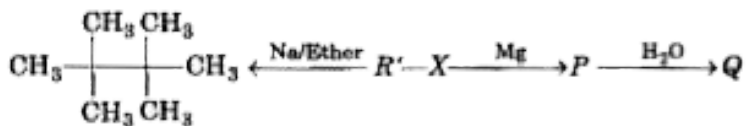
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11. Identify A, B, C, P, Q, R and R' in the following:



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12. Identify A, B, C, P, Q, R and R' in the following:



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13. Carry out the conversion of chloroethane to butane.

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14. How can the following conversions be carried out?

iso-butyl bromide to tert-butyl bromide

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15. Give reasons

n-butyl bromide has higher boiling point than tert-butyl bromide.

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16. Give reasons

Racemic mixture is optically inactive.





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17. Predict all alkenes that would be formed by the dehydrohalogenation of the following halides with sodium ethoxide in ethanol and identify the major alkene.

1-bromo-1-methylcyclohexane



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18. Predict all alkenes that would be formed by the dehydrohalogenation of the following halides with sodium ethoxide in ethanol and identify the major alkene.

2-chloro-2-methylbutane



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19. Predict all alkenes that would be formed by the dehydrohalogenation of the following halides with sodium ethoxide in ethanol and identify the

major alkene.

2,2,3-trimethyl-3-bromopentane

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20. What happens when

n-butyl chloride is treated with alc. KOH?

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21. What happens when

methyl bromide is treated with sodium in the presence of dry ether?

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22. What happens when methyl chloride is treated with potassium cyanide ?

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23. How can the following conversions be carried out?

Ethyl chloride to propanoic acid

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24. How can the following conversions be carried out?

Ethanol to propane nitrile

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25. Do the conversion 1-Bromopropane to 2-Bromopropane and vice versa.

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26. How can the following conversions be carried out?

2-chlorobutane to 3,4-dimethylhexane



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27. How can the following conversions be carried out?

2-methyl prop-1-ene to 2-chloro-2-methylpropane

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Part II Question For Practice Long Answer Type II Questions

1. How will you bring about the following conversion?

Ethanol to but-1-yne

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2. How will you bring about the following conversion?

Ethane to bromoethene

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3. How will you bring about the following conversion?

Propene to 1-nitropropane

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4. How will you bring about the following conversion?

Propene to propyne

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5. How can the following conversion be carried out?

Propene to propan-1-ol

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6. How can the following conversion be carried out?

Tert-butyl bromide to iso-butyl bromide





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7. How can the following conversion be carried out?

n-butylchloride to but-1-ene



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8. How can the following conversion be carried out?

Methylchloride to Acetonitrile



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9. How can the following conversions be carried out?

2-bromopropane to 1-bromopropane



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10. How can the following conversions be carried out?

But-1-ene to n-butyliodide

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11. How can the following conversions be carried out?

2-chloropropane to propan-1-ol

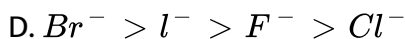
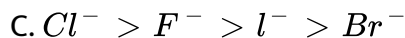
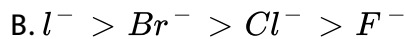
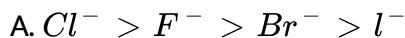
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12. How can the following conversions be carried out?

iso-propylalcohol to iodoform

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1. The leaving group ability of halide ions for S_N2 reaction is

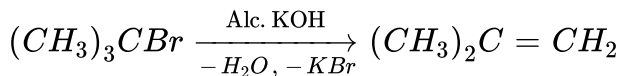


Answer: D



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2. Consider the following reaction,



This is an example of

A. nucleophilic substitution

B. electrophilic substitution

C. free radical substitution

D. β -elimination

Answer: D

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3. An alkyl halide may be converted into an alkene by which of the following reaction?

A. Addition

B. Substitution

C. Elimination

D. Hydrogenation

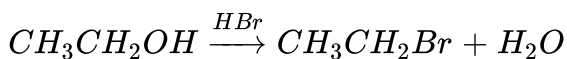
Answer: C

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1. Out of ethyl bromide and ethyl chloride, which has higher boiling point, why?

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2. Write the mechanism of the following reactions.

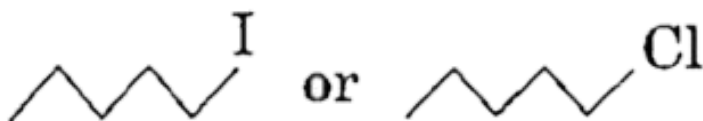


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3. A solution of KOH hydrolyses $CH_3CHClCH_2CH_3$ and $CH_3CH_2CH_2CH_2Cl$. Which one of these is more easily hydrolysed?

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4. Which one undergoes S_N2 substitution reaction faster and why?



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5. What do you mean by an asymmetric carbon?

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Part II Questions For Assessment Short Answer Type I Questions

1. Suggest a possible reason for the following observations:

The order of reactivity of haloalkanes is $RI > RBr > RCl$.

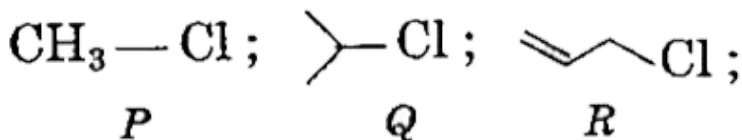
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2. Suggest a possible reason for the following observations:

neo-pentyl chloride, $(CH_3)_3C - CH_2Cl$ does not follow S_N2 mechanism.

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3. KI in acetone, undergoes S_N2 reaction with each P, Q and R. What is the order of the rate of reaction?



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4. Suggest a possible reason for the following observations:

neo-pentyl chloride, $(CH_3)_3C - CH_2Cl$ does not follow S_N2 mechanism.

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5. Give reasons:

(\pm) pentan-2-ol is optically inactive.

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6. Allyl chloride is hydrolysed more readily than n-propylchloride. Why?

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7. Cyanide ion acts as an ambident nucleophile. From which end, it acts as a stronger nucleophile in aqueous medium and why?

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Part II Questions For Assessment Short Answer Type II Questions Answer
The Following Questions

1. Haloalkanes easily dissolve in organic solvents. Why?

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2. What do you meant by racemisation? Give an example.

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Part Ii Questions For Assessment Long Answer Type Questions

1. Taking example of (-) methylbutane-1-ol reacting with HCl, explain the process of inversion, retention and racemisation.

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2. Explain why both dextro and laevo forms of butan-2-ol are prepared in equal proportions when S_N1 reaction of 2-chlorobutane is carried out in

the presence of aqueous potassium hydroxide?

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Odisha Bureau S Textbook Solutions A Multiple Choice Type Questions

1. Ethyl iodide reacts with sodium ethoxide to produce

- A. butane
- B. acetic acid
- C. diethyl ether
- D. ethane

Answer: C

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2. When alkyl halide is treated with alc. KOH the compound formed is

A. alkane

B. alkene

C. alcohol

D. ether

Answer: B

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3. Which of the following is known as freon?

A. CCl_2F_2

B. $CHCl_3$

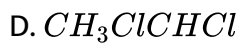
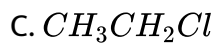
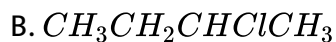
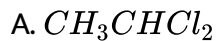
C. CH_2F_2

D. CF_4

Answer: A

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4. Which of the following is optically active?



Answer: B



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5. Which of the following will not give iodoform reaction?

A. Acetaldehyde

B. Acetone

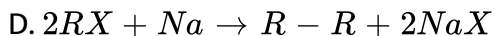
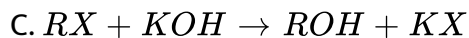
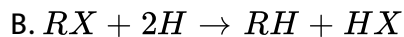
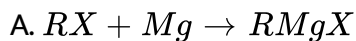
C. Ethyl alcohol

D. Methyl alcohol

Answer: D

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6. Which of the following reaction provides an example of nucleophilic substitution of an alkyl halide (RX)?



Answer: C

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7. The reagent required to convert CH_3I to CH_4 is

- A. $Zn - Cu$ couple in ethanol
- B. magnesium in ether
- C. sodium methoxide
- D. sodium in ether

Answer: A



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8. For a given alcohol the order of reactivity with halogen acid is

- A. $HI > HCl > HBr$
- B. $HCl > HI > HBr$
- C. $HCl > HBr > HI$
- D. $HI > HBr > HCl$

Answer: D



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9. The compound with zero dipole moment is



Answer: C



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10. IUPAC name of the compound having formula $(CH_3)_3CCl$ is

A. t-butyl chloride

B. isobutyl chloride

C. 2-methyl-2-chloropropane

D. n-butyl chloride

Answer: C

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11. When alkyl halide is treated with alc. KOH the compound formed is

A. alkane

B. alkane

C. alcohol

D. ether

Answer: A

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12. CH_2Cl_2 is the formula of

- A. methylene chloride
- B. methyl chloride
- C. ethyl chloride
- D. dichloroethylene

Answer: A



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13. When ethylene dibromide reacts with alc. KOH we get,

- A. C_2H_4
- B. C_2H_2
- C. C_3H_6
- D. C_2H_6

Answer: B

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14. Which of the following compound is used as refrigerant?

- A. Chloroform
- B. Carbon tetrachloride
- C. Dichlorodifluoromethane
- D. Carbontetrafluoride

Answer: C

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15. Which of the following is optically active?

- A. CH_3CH_2OH

B. CH_2OH . $CHOH$. CH_2OH

C. $CH_3CHOHC_2H_5$

D. CCl_2F_2

Answer: C

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Odisha Bureau S Textbook Solutions B Very Short Answer Type Questions

1. In methyl chloride molecule there are---- bonds.

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2. What happens when chloroform is boiled with aqueous solution of caustic potash?

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3. What is the monomer of Teflon ?

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4. What organic compound is obtained when ethyl bromide reacts with aq. NaOH solution?

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5. Write the graphic formula of acid halide.

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Odisha Bureau S Textbook Solutions C Short Answer Type I Questions

1. What happens when methyl iodide is treated with metallic zinc?

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2. What happens when ethyl iodide is treated with aqueous KOH ?

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3. How will you prepare ethyl amine from ethyl iodide?

 [Watch Video Solution](#)

4. Give equation for the reaction of ethyl iodide with aqueous and alcoholic potassium hydroxide.

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5. What happens when ethyl bromide is treated with alc. KOH?

 [Watch Video Solution](#)

6. What happens when methyl iodide is treated with sodium methoxide ?

 [Watch Video Solution](#)

7. What happens when ethyl iodide is heated with sodium in dry ethereal solution ? Give equation.

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8. How can you get ethyl chloride from ethyl alcohol? Give equation.

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9. How would you distinguish between C_6H_5Cl and $C_6H_5CH_2Cl$?

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10. Write all the possible structural formulae and give IUPAC names of the isomers of C_4H_9Br , $C_5H_{11}Br$ and C_3H_7Cl .

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11. Write the reaction of preparing an alkyl chloride using Thionyl chloride as halogenating agent.

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12. Write balanced equation for the reaction of methyl iodide with $AgOH$, $C_2H_5\bar{O}Na^+$, $CH_3CO\bar{O}Ag^+$ and $AgNO_2$.

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13. Using bromoethane how will you obtain diethyl ether and ethyl amine?

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14. What happens when (only give equations)

silver acetate is treated with bromine?

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15. How does ethyl alcohol react with iodine in presence of alkali ?

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16. ethyl alcohol is treated with PCl_5 ?

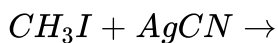
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17. ethyl iodide is treated with dry silver oxide?

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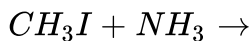
Odisha Bureau S Textbook Solutions D Short Answer Type Ii Questions

1. Complete the following equation



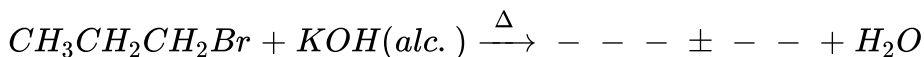
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2. Complete the following equation



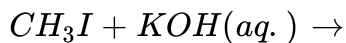
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3. Complete the following equation



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4. Complete the following equation



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5. Why alkyl halides, though polar, are immiscible with water?

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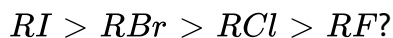
6. Explain, why.

alkyl halides have higher boiling points than the corresponding hydrocarbons?

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7. Explain, why.

For a given alkyl group, the order of boiling point is



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8. Suggest a possible reason for the following observations:

The order of reactivity of haloalkanes is $RI > RBr > RCl$.

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9. Explain, why.

alkyl halides undergo nucleophilic substitution reaction?

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10. Explain, why.

dipole moment of carbon tetrachloride is zero?

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11. Explain, why.

a small amount of alcohol is usually added to chloroform bottle?

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12. Explain, why

alkyl halide of lower alkanes when treated with metallic sodium give higher alkanes?

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13. Explain, why

hydrogen atom of chloroform is definitely acidic but that of methane is not?

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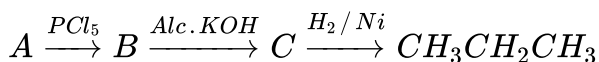
14. Explain, why

an alkyl halide can be utilised for the synthesis of a desired aliphatic compound?



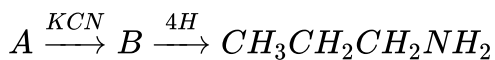
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15. Identify A, B and C in the following reaction sequence.



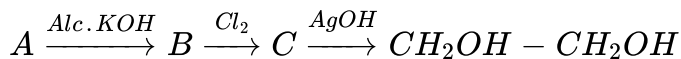
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16. Identify A, B and C in the following reaction sequence.



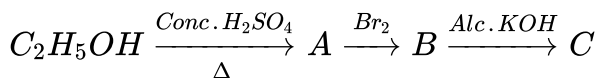
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17. Identify A, B and C in the following reaction sequence.



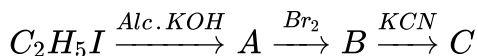
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18. Identify A, B and C in the following reaction sequence.



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19. Identify A, B and C in the following reaction sequence.



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1. Describe the general method (only one) of preparation of an alkyl halide. How does it react with ammonia, metallic sodium and dilute caustic potash.

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2. Write short note on Iodoform reaction.

 [Watch Video Solution](#)

3. Write notes on

Williamson synthesis

 [Watch Video Solution](#)

4. What are halogen derivatives? How are they classified?

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5. How ethyl bromide is prepared from ethyl alcohol?

 [Watch Video Solution](#)

6. How will you bring about the following conversion?

Ethane to bromoethene

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7. How will you obtain the ethyl bromide from ethylene? How does ethyl bromide react with sodium, aq. KOH and silver nitrite?

 [Watch Video Solution](#)

8. What are the main products formed, when ethyl bromide reacts with KCN, AgCN, KI in acetone, $AgNO_2$, KNO_2 , aq. KOH and alc. KOH? Give

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9. Describe with equation how alkyl halide can be prepared from alcohols.

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Chapter Practice Multiple Choice Type Questions

1. Reactivity of alkyl halides with Mg to form Grignard reagent is



Answer: B

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2. Major product obtained when 2-chloro-3-methylbutane is treated with ethanolic KOH is likely to give

- A. neopentyl alcohol
- B. pentene
- C. 2-methyl but-2-ene
- D. no reaction occur

Answer: C



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3. Which of the following compounds is not formed when a mixture of methyl bromide and ethyl bromide is treated with sodium metal in the presence of dry ether?

- A. Methane
- B. Ethane

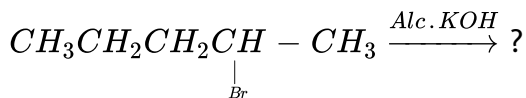
C. Propane

D. Butane

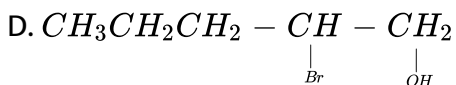
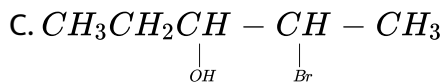
Answer: A

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4. Consider the following reaction,



The major product obtained is



Answer: A

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Chapter Practice Very Short Answer Type Questions

1. IUPAC name of the compound $(CH_3)_3CCH_2Br$ is

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2. Write the structure of the compound 1-chloro-4-ethylcyclohexane.

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3. Arrange each set of compounds in the order of increasing boiling points.

Bromomethane, bromoform, chloromethane, dibromomethane

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4. Write a chemical reaction in which iodide ion displaces diazonium group from diazonium salt

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5. In the following pairs of halogen compounds, which compound undergoes S_N2 reaction faster?

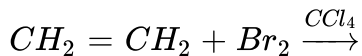


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6. An alkyl halide having molecular formula, C_4H_9Br is optically active. What is its structure?

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7. Complete the following chemical equations.



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8. Tert-butylbromide reacts with aq. NaOH by S_N1 mechanism while n-butylbromide reacts by S_N2 mechanism. Why?

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Chapter Practice Short Answer Type I Questions

1. Which is a better nucleophile, a bromide ion or an iodide ion and why?

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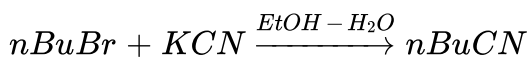
2. Write all the possible isomers of C_7H_7Cl .

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3. "Direct iodination of benzene is difficult." Explain. Suggest an alternative route for the synthesis of iodo benzene.

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4. Write the mechanism of the following reaction:

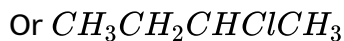


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5. When HCl is added to iso-butylene, 2-chloro-2-methylpropane is obtained as a major product. Explain the mechanism involved.

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1. Which one of the following pair undergo S_N1 reaction faster and why?



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2. Give a comparison between SN^1 and SN^2 type reactions .

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3. How will you bring about the following conversion?

(i) 1-bromobutane to 2-bromobutane

(ii) Ethanol to ethyl fluoride

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4. Write the equations for the preparation of 1-iodobutane from

(i) 1-butanol

(ii) 1-chlorobutane

(iii) but-1-ene

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5. Explain the formation of the two products in the following reaction:



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Chapter Practice Long Answer Type Questions

1. What are enantiomers? Draw the structures of the possible enantiomers of 3-methylpent-1-ene.

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2. Optically active 2-iodobutane on treatment with NaI in acetone gives a product, which does not show optical activity. Give reason.

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3. Reaction of haloalkanes with KCN produces alkyl cyanides as the main product while AgCN produces isocyanides as the chief product. Explain.

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4. Account for the following :

(a) Alkyl halides prefer to undergo dehydrohalogenation in the presence of a strong base such as Na metal instead of undergoing Wurtz reaction.

(b) Allyl chloride is more reactive than the n-propyl chloride towards nucleophilic substitution reaction. Explain why?

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5. What happens, when

(a) ethyl chloride is treated with aqueous KOH?

(b) chlorobenzene is subjected to hydrolysis?



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