

Alcohol Preparation MCQs



Here are 15 multiple-choice questions (MCQs) based on the preparation of alcohols, along with their answers.

MCQs

- 1. From which of the following starting materials can alcohol be prepared using Grignard reagent?**
 - a) Alkyl halide
 - b) Aldehyde
 - c) Ketone
 - d) All of the above
 - Answer: d) All of the above**
- 2. Which reagent is commonly used for the reduction of aldehydes and ketones to alcohols?**
 - a) KMnO_4
 - b) LiAlH_4
 - c) H_2SO_4
 - d) NaOH
 - Answer: b) LiAlH_4**
- 3. Alcohols can be synthesized from alkenes by:**
 - a) Dehydration
 - b) Hydration
 - c) Halogenation
 - d) Oxidation
 - Answer: b) Hydration**
- 4. What is the major product when propene reacts with water in the presence of sulfuric acid?**
 - a) Ethanol
 - b) Propan-1-ol
 - c) Propan-2-ol
 - d) Butan-1-ol
 - Answer: c) Propan-2-ol**
- 5. Which type of reaction mechanism is involved in the conversion of alkyl halides to alcohols using aqueous NaOH ?**
 - a) SN_1
 - b) SN_2
 - c) E_1
 - d) E_2
 - Answer: b) SN_2**
- 6. Which reagent is used to convert alkyl halides to alcohols?**
 - a) NaBH_4
 - b) Aqueous NaOH
 - c) H_2SO_4
 - d) KMnO_4
 - Answer: b) Aqueous NaOH**

7. What is the product when ethene is treated with cold alkaline KMnO_4 ?
- a) Ethanol
 - b) Ethane
 - c) Ethane-1,2-diol
 - d) Acetic acid
 - Answer: c) Ethane-1,2-diol**
8. Which reaction involves the nucleophilic addition of Grignard reagent to formaldehyde?
- a) Primary alcohol formation
 - b) Secondary alcohol formation
 - c) Tertiary alcohol formation
 - d) Ketone formation
 - Answer: a) Primary alcohol formation**
9. Which of the following is used to convert alkenes to alcohols via hydroboration-oxidation?
- a) BH_3/THF
 - b) H_2/Pd
 - c) KMnO_4
 - d) NaBH_4
 - Answer: a) BH_3/THF**
10. Which of the following conditions is used for the synthesis of ethers from alcohols?
- a) 443K, concentrated H_2SO_4
 - b) 413K, concentrated H_2SO_4
 - c) 273K, dilute H_2SO_4
 - d) 323K, NaOH
 - Answer: b) 413K, concentrated H_2SO_4**
11. What is the product when methanol is treated with PCl_3 ?
- a) Methyl chloride
 - b) Methyl bromide
 - c) Methane
 - d) Methyl acetate
 - Answer: a) Methyl chloride**
12. Which of the following alcohols is obtained by the hydrolysis of ethyl acetate?
- a) Methanol
 - b) Ethanol
 - c) Propanol
 - d) Butanol
 - Answer: b) Ethanol**
13. Which method is suitable for the preparation of tertiary alcohols using Grignard reagents?
- a) Reaction with formaldehyde
 - b) Reaction with acetaldehyde
 - c) Reaction with ketones
 - d) Reaction with esters
 - Answer: c) Reaction with ketones**
14. Which of the following can be reduced to a secondary alcohol using LiAlH_4 ?
- a) Methanal
 - b) Propanal
 - c) Acetone
 - d) Propanoic acid
 - Answer: c) Acetone**
15. When benzyl chloride is treated with aqueous NaOH , the product formed is:
- a) Benzene

- b) Benzyl alcohol
- c) Benzaldehyde
- d) Benzoic acid
- **Answer: b) Benzyl alcohol**

Answer Key

1. d
2. b
3. b
4. c
5. b
6. b
7. c
8. a
9. a
10. b
11. a
12. b
13. c
14. c
15. b