

Alcohol Phenol Ether Models

Multiple Choice Questions on Preparation of Aliphatic and Aromatic Alcohols

- Which of the following reagents is used to prepare a primary alcohol from an aldehyde?
 - NaBH_4
 - PCC
 - KMnO_4
 - H_2O_2
- The reaction of propene with BH_3 followed by $\text{H}_2\text{O}_2/\text{NaOH}$ yields:
 - 1-propanol
 - 2-propanol
 - 1,2-propanediol
 - Propanoic acid
- Which of the following is not a method to prepare alcohols?
 - Reduction of aldehydes
 - Oxidation of alkanes
 - Hydroboration-oxidation of alkenes
 - Reaction of Grignard reagents with carbonyl compounds
- The product of the reaction between CH_3MgBr and formaldehyde followed by hydrolysis is:
 - Methanol
 - Ethanol
 - 1-propanol
 - 2-propanol
- Which reagent can be used to convert an ester to a primary alcohol?
 - LiAlH_4
 - NaBH_4
 - CrO_3
 - H_2SO_4
- The preparation of phenol from chlorobenzene involves:
 - NaOH at high temperature and pressure
 - $\text{H}_2/\text{Pd-C}$
 - H_2O_2
 - NaBH_4
- The reaction of an alkyne with H_2O , H_2SO_4 , and HgSO_4 yields:
 - An aldehyde
 - A ketone
 - An alcohol
 - An ester
- To prepare 2-methyl-2-propanol, which of the following reagents would you use with acetone?
 - CH_3MgBr
 - $(\text{CH}_3)_3\text{CMgBr}$

- c) $(\text{CH}_3)_2\text{CHMgBr}$
 d) $\text{C}_6\text{H}_5\text{MgBr}$
9. Which of the following reagents can be used to prepare 1,2-ethanediol from ethylene oxide?
 a) H_2O
 b) $\text{H}_2/\text{Pd-C}$
 c) RMgX
 d) NaOH
10. Which of the following is a correct method to prepare ethanol?
 a) Hydration of ethylene
 b) Dehydration of acetaldehyde
 c) Reduction of ethanoic acid
 d) Oxidation of ethane
11. Benzyl alcohol can be prepared from benzaldehyde by:
 a) Oxidation
 b) Reduction
 c) Hydrolysis
 d) Dehydration
12. The reaction of phenol with CO_2 and NaOH followed by acidification is known as:
 a) Kolbe's reaction
 b) Reimer-Tiemann reaction
 c) Williamson ether synthesis
 d) Wurtz reaction
13. The Grignard reaction between phenylmagnesium bromide and acetone followed by hydrolysis produces:
 a) Phenol
 b) Benzene
 c) 1-phenylethanol
 d) 2-phenyl-2-propanol
14. Which of the following is formed when acetic acid reacts with lithium aluminium hydride?
 a) Acetone
 b) Acetaldehyde
 c) Ethanol
 d) Methanol
15. The hydrolysis of tert-butyl chloride in aqueous ethanol yields:
 a) 1-butanol
 b) 2-butanol
 c) tert-Butyl alcohol
 d) tert-Butyl ether

Answer Key:

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| 1. a) NaBH_4 | 7. c) An alcohol |
| 2. a) 1-propanol | 8. b) $(\text{CH}_3)_3\text{CMgBr}$ |
| 3. b) Oxidation of alkanes | 9. a) H_2O |
| 4. b) Ethanol | 10. a) Hydration of ethylene |
| 5. a) LiAlH_4 | 11. b) Reduction |
| 6. a) NaOH at high temperature and pressure | 12. a) Kolbe's reaction |
| | 13. d) 2-phenyl-2-propanol |
| | 14. c) Ethanol |
| | 15. c) tert-Butyl alcohol |

