



CHEMISTRY

BOOKS - BODY BOOKS PUBLICATION

ALCOHOLS, PHENOLS AND ETHERS

Example

1. Glycerol is _____.



Watch Video Solution

2. Picric acid is.

A. 2,4,6-trinitro toluene

B. 2,4,6-trinitro phenol

C. 2,4,6-trinitro benzene

D. 1,4,6-trinitro phenol

Answer:



Watch Video Solution

3. Addition of Grignard reagent to an aldehyde or ketone gives.

A. alcohol

B. ester

C. dlmer

D. ether

Answer:



Watch Video Solution

4. Addition of _____ to an aldehyde or ketone gives alcohol.



Watch Video Solution

5. An isomer of propanal is.

A. ethanol

B. propene

C. methanol

D. acetone

Answer:



Watch Video Solution

6. Sodium ethoxide and tert-butyl chloride react to form.

A. 1-butene

B. 2-butene

C. 2-methylprop-1-ene

D. ethene

Answer:



Watch Video Solution

7. IUPAC name of $H_3C - O - C_2H_5$ is _____.



Watch Video Solution

8. Phenol can be distinguished from ethanol by the following reagents except.

A. Iron

B. Sodium

C. Bromine

D. NaOH

Answer:



Watch Video Solution

9. Alcohol react with acid to form.

A. ether

B. phenol

C. butene

D. ester

Answer:



Watch Video Solution

10. 3° and 2° alcohols can be converted into — by reaction with cone. HCl and anhy. $ZnCl_2$.



Watch Video Solution

11. Draw the structure of hex-1-en-3-ol compound.



Watch Video Solution

12. Name the starting material used in the Industrial preparation of phenol.



Watch Video Solution

13. Name the monomer of terylene.



Watch Video Solution

14. 0.2% solution of phenol is _____.



Watch Video Solution

15. “Absolute alcohol is pure ethanol”. State whether this statement is true or false ?



Watch Video Solution

16. Which compound of phenol is used In Iodex?



Watch Video Solution

17. Observe the relationship between the first two terms and fill the blanks. Reactivity of alcohols : $3^\circ > 2^\circ > 1^\circ$,Acidity of alcohols : _____.



Watch Video Solution

18. Observe the relationship between the first two terms and fill the blanks. 0.2% solution of phenol : _____, 2% solution of phenol : disinfectant.



Watch Video Solution

19. Phenols have higher boiling points than arenes due to _____.



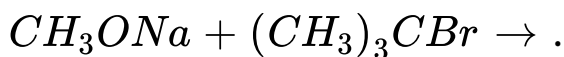
Watch Video Solution

20. Boiling points of ethers increase with — in molecular mass.



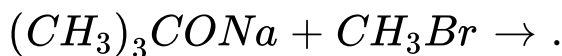
Watch Video Solution

21. Complete the following reactions:-



Watch Video Solution

22. Complete the following reactions:-



Watch Video Solution

23. Arrange the following compounds in the increasing order of their acidic strength. 3-nitro-phenol, phenol, 4-methyl phenol .



Watch Video Solution

24. Compare the acidic strength of phenol and o-nitrophenol.



Watch Video Solution

25. Mention the visible change when 2-methyl-2-propanol is treated with Lucas reagent.



Watch Video Solution

26. How will you bring about the following conversions
:- Benzene diazonium chloride to phenol.



Watch Video Solution

27. How will you bring about the following conversions

:- Phenol to picric acid.



Watch Video Solution

28. Give short note on Williamson's synthesis.



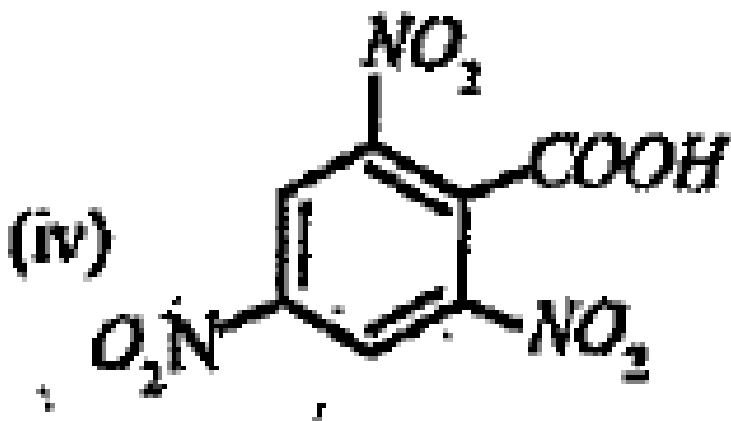
Watch Video Solution

29. Give the IUPAC names of the following compounds:-



Watch Video Solution

30. Give the IUPAC names of the following. (iii)



 Watch Video Solution

31. Explain denaturation of alcohol.

 Watch Video Solution

32. Benzene diazonium chloride on heating in water gives mainly

 [Watch Video Solution](#)

33. What happens when:- Phenol is treated with *dil. HNO₃*.

 [Watch Video Solution](#)

34. The bond angle in C-O-H alcohol is slightly less than tetrahedral angle:- Give the reason for the difference in the bond angle observed in alcohol.

 [Watch Video Solution](#)

35. The bond angle in C-O-H alcohol is slightly less than tetrahedral angle:- what is the bond angle C-O-H in phenol? And give the reason for the variation.

 [Watch Video Solution](#)

36. Ethyl alcohol and dimethyl ether are isomeric but alcohol is a liquid at room temperature while ether is a gas. Explain.

 [Watch Video Solution](#)

37. Write equations for the preparation of following:-

Propene to propan-2-ol.



Watch Video Solution

38. Write equations for the preparation of following:-

Ethanol to Ethoxyethane.



Watch Video Solution

39. Write equations for the preparation of following:-

Ethanol to ethene.



Watch Video Solution

40. Write the chemical equations for the following preparation:- Ethoxybenzene by Williamson's synthesis.



Watch Video Solution

41. Write the chemical equations for the following preparation:- Salicylic acid by Kolbe's reaction.



Watch Video Solution

42. 'Phenol has a carboxylic (-COOH) group in it while alcohols have no such group. So phenol is more acidic

than alcohol’:- Do you agree with the statement ?



Watch Video Solution

43. ‘Phenol has a carboxylic ($-\text{COOH}$) group in it while alcohols have no such group. So phenol is more acidic than alcohol’:- Justify your answer.



Watch Video Solution

44. Action of alcohols and phenols towards:- Litmus paper.



Watch Video Solution

45. Action of alcohols and phenols towards:- $FeCl_3$ solution



Watch Video Solution

46. Action of alcohols and phenols towards:-NaOH solution.



Watch Video Solution

47. What happens when:-Propene is reacted with diborane and the product is hydrolysed with alkaline H_2O_2 .

 [Watch Video Solution](#)

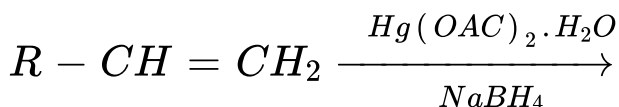
48. What happens when:- Propan-1-ol is treated with ethanoic acid in presence of conc. H_2SO_4 .

 [Watch Video Solution](#)

49. A compound A with molecular formula $C_4H_{10}O$. on oxidation forms compound B. The compound B gives positive iodoform test. Compound B on reaction with CH_3MgBr followed by hydrolysis gives: C. Identify A, B and C and give the sequence of reactions.

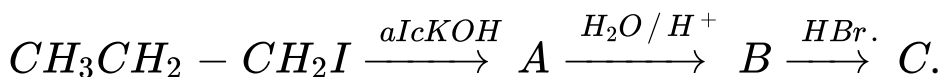
 [Watch Video Solution](#)

50. Complete the following equations:-



 Watch Video Solution

51. Identify A, B and C:-



 Watch Video Solution

52. How will you prepare aspirin from phenol ?

 Watch Video Solution

53. A student observes the following order for the acid-strength of water, ethanol and phenol, phenol > water > ethanol Is he correct? Substantiate your answer.



Watch Video Solution

54. Convert methyl alcohol Into ethylalcohol.



Watch Video Solution

55. One student argues that he can prepare propane-2-ol from acetaldehyde and methyl magnesium bromide:- Write the chemical equation for this preparation.



Watch Video Solution

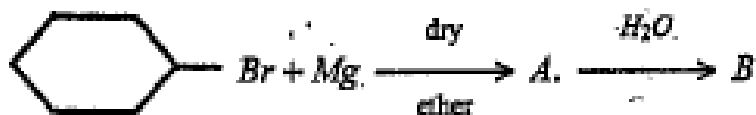
56. One student argues that he can prepare propane-2-ol from acetaldehyde and methyl magnesium bromide:- You are given methyl magnesium bromide. Select a carbonyl compound from the list given below as to prepare ethanol.

Methanal, ethanal, propanone.



 Watch Video Solution

57. Identify A, B, in the following :



 Watch Video Solution

58. Give the equations of reactions for the preparation of phenol from cumene.

 Watch Video Solution

59. Three alcohols are given below, ethanol, 2-propanol, and 2-methyl-2-propanol:- Differentiate the above three alcohols by using conc.HCl and anhydrous $ZnCl_2$.



Watch Video Solution

60. Three alcohols are given below, ethanol, 2-propanol, and 2-methyl-2-propanol:- Predict the product when each alcohol is heated with copper catalyst.



Watch Video Solution

61. The following reagents are available in laboratory
 HCHO , CH_3CHO , $\text{CH}_3\text{-MgBr}$ and distilled water:- Give
reaction for the preparation of a secondary alcohol.



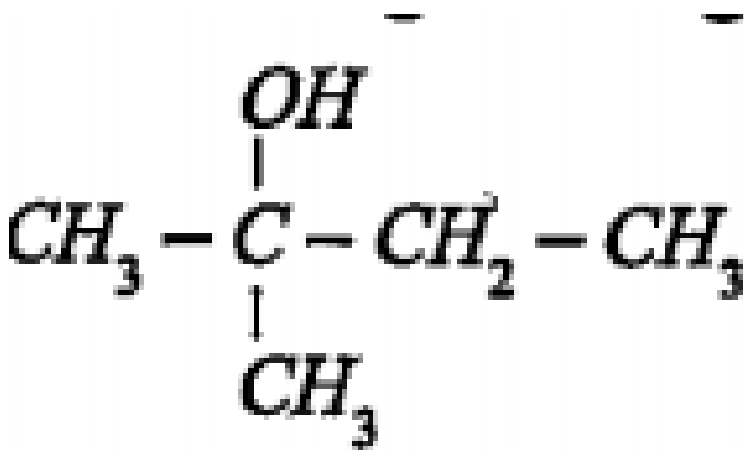
Watch Video Solution

62. The following reagents are available in laboratory
 HCHO , CH_3CHO , CH_3MgBr and distilled water:-
Which of above reagents give Iodoform test ?



Watch Video Solution

63. A compound A reacts with thionyl chloride to give compound B. B reacts with magnesium in ether medium to form a Grignard reagent which is treated with acetone and the product on hydrolysis gives Identify A and B. Write down the chemical equations for the reactions involved.



Watch Video Solution

64. A and B are two isomeric complex compounds. Both contain central $Co(3+)$ ion with coordination number 6 and $5NH_3$ ligands. They also contain Cl and SO_4 groups. A gives a white precipitate with barium chloride solution while B gives a white precipitate with $AgNO_3$ solution:- Write down the formulae of A & B.



Watch Video Solution

65. A and B are two isomeric complex compounds. Both contain central $Co(3+)$ ion with coordination number 6 and $5NH_3$ ligands. They also contain Cl and SO_4 groups. A gives a white precipitate with barium

chloride solution while B gives a white precipitate with $AgNO_3$ solution:- Give the IUPAC names of both A & B.



Watch Video Solution

66. A and B are two isomeric complex compounds. Both contain central $Co(3+)$ ion with coordination number 6 and 5 NH_3 ligands. They also contain Cl and SO_4 groups. A gives a white precipitate with barium chloride solution while B gives a white precipitate with $AgNO_3$ solution:- Give the IUPAC names of both A & B.



Watch Video Solution

67. Write structures of the following compounds:- 1-Ethoxypropane.



Watch Video Solution

68. Write structures of the following compounds:- Propane-1, 2, 3-triol.



Watch Video Solution

69. Explain why propanol has higher boiling point than that of the corresponding hydrocarbon.



Watch Video Solution

70. While separating a mixture of ortho and para nitrophenols by steam distillation, name the isomer which will be steam volatile. Give reason.



Watch Video Solution

71. Illustrate hydroboration-oxidation reaction with an example.



Watch Video Solution

72. Alcohols are comparatively more soluble in water than hydrocarbons of comparable molecular masses. Explain this fact.



Watch Video Solution

73. Explain how does the OH group attached to a carbon of benzene ring activate it towards electrophilic substitution?



Watch Video Solution

74. Name the reagents used in the following reactions:- oxidation of a primary alcohol to carboxylic acid.



Watch Video Solution

75. Name the reagents used in the following reactions:- oxidation of a primary alcohol to aldehyde.



Watch Video Solution

76. Name the reagents used in the following reactions:- bromination of phenol to 2,4,6-tribromophenol.

romophenol.



Watch Video Solution

77. Name the reagents used In the follow ing reactions:- benzyl alcohol to benzoic acid.



Watch Video Solution

78. Name the reagents used In the follow ing reactions:- dehydrationof propan-2-ol topropene.



Watch Video Solution

79. Name the reagents used in the following reactions:- butan-2-one to butan-2-ol.

 [Watch Video Solution](#)

80. Ethanol and methoxymethane are functional isomers. But ethanol has higher boiling point than methoxymethane. Give reason.

 [Watch Video Solution](#)

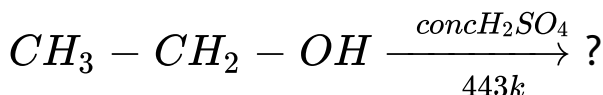
81. A mixture of anhydrous $ZnCl_2$ and conc.HCl is an important reagent used to distinguish primary, secondary and tertiary alcohols. How the above

reagent is used to distinguish the three types of alcohols ?



Watch Video Solution

82. Predict the product formed in the reaction:



Watch Video Solution

83. Write the chemical equation representing Reimer-Tiemann reaction.



Watch Video Solution

84. Give the structural formula and IUPAC name of the product formed by the reaction of propanone with CH_3MgBr in dry ether, followed by hydrolysis.



Watch Video Solution

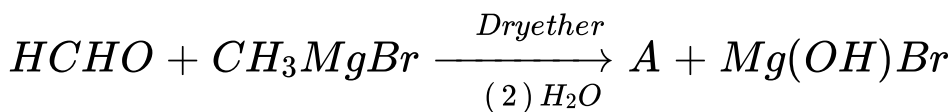
85. Predict the products obtained by the reaction of 2-methoxy-2 methylpropane with HI.



Watch Video Solution

86. Grignard reagents are Important class of organometallic compounds used to prepare alcohols.

Identify the compounds A and B and write the formula:-



 [Watch Video Solution](#)

87. Write the name of products formed when salicylic acid is treated with acetic anhydride in acidic medium.

 [Watch Video Solution](#)

88. Lucas test is used to identify primary, secondary and tertiary alcohols:- Explain the process.

 [Watch Video Solution](#)

89. Lucas, test is used to identify primary, secondary and tertiary alcohols:- Name the reagents used in the test.



Watch Video Solution

90. Arrange the following compounds in the order of increasing boiling point: Ethanol, propan-1-ol, Butan-1-ol, Butan-2-ol.



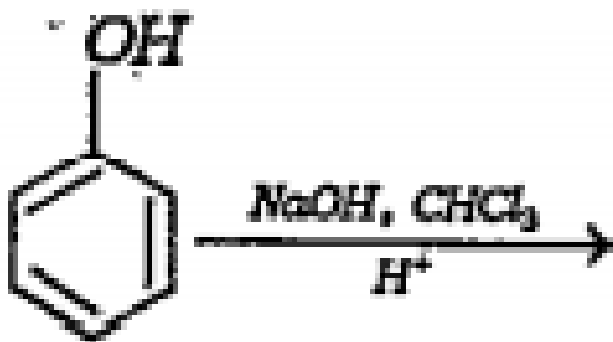
Watch Video Solution

91. In the lab students were asked to carry out the reaction between phenol and cons. HNO_3 . But one student, 'A' carried out the reaction between phenol and dil. HNO_3 . Do you think that the student 'A' got the same result as others. Substantiate with suitable explanations. [Also write the chemical equations wherever necessary].



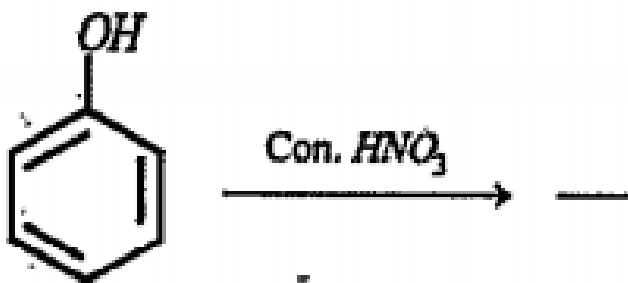
Watch Video Solution

92. Complete the following:



Watch Video Solution

93. Complete the following:



 Watch Video Solution

94. Explain the following :

Esterification

 Watch Video Solution

95. Explain the following:- Williamson Synthesis.



Watch Video Solution

96. Alcohols are compounds with general formula $R-OH$

Alcohols are soluble in water. What is the reason?



Watch Video Solution

97. Alcohols are compounds with general formula $R-OH$

Explain a method for manufacture of Ethanol.



Watch Video Solution

98. Alcohols are compounds with general formula $R-OH$

How will you convert phenol to benzene?



Watch Video Solution

99. Write the IUPAC names of all the possible isomers with molecular formula C_3H_8O



Watch Video Solution

100. Phenol is usually manufactured from cumene.

Write the structure of cumene.



Watch Video Solution

101. Primary, secondary and tertiary alcohols can be distinguished by Lucas test.

What is Lucas reagent?



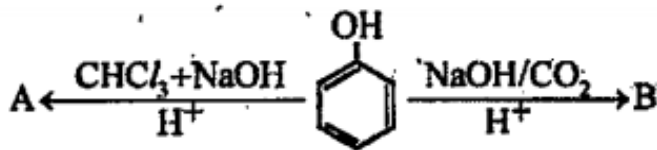
Watch Video Solution

102. Primary, secondary and tertiary alcohols can be distinguished by Lucas test.

Write the observations for primary, secondary and tertiary alcohols in Lucas test.

 **Watch Video Solution**

103. Write the name or structure of the compounds A and B in the following reactions.



 **Watch Video Solution**

104. Vapours of an alcohol 'C' on passing over heated copper produce compound 'D'. 'D' on reaction with CH_3MgCl followed by hydrolysis produces 2-methylbutan-2-ol. Write the name or structure of compounds 'C' and 'D'.



Watch Video Solution

105. Write one method of preparation of methanol and one method of preparation of ethanol.



Watch Video Solution

106. Name the products obtained when ethanol is treated with CrO_3 in anhydrous medium.



Watch Video Solution

107. The boiling point of ethanol is higher than that of methoxy methane. Give reason.



Watch Video Solution

108. Mixture of conc.HCl and anhydrous $ZnCl_2$ is an important reagent which helps to distinguish between

1° , 2° and 3° alcohols:- Give the name of the above reagent.



Watch Video Solution

109. Mixture of conc. HCl and anhydrous $ZnCl_2$ is an important reagent which helps to distinguish between 1° , 2° and 3° alcohols.

Give one example each for 1° , 2° and 3° alcohols.



Watch Video Solution

110. Mixture of conc. HCl and anhydrous $ZnCl_2$ is an important reagent which helps to distinguish between

1° , 2° and 3° alcohols.

Explain how the above reagent helps to distinguish above three types of alcohols.



Watch Video Solution

111. Phenols are more acidic than alcohols.

Name the product obtained when phenol is treated with chloroform in the presence of NaOH.



Watch Video Solution

112. Phenols are more acidic than alcohols.

Name the above reaction.



Watch Video Solution

113. Phenols are more acidic than alcohols.

What is the product obtained when phenol is treated with conc. HNO_3 ?



Watch Video Solution

114. Phenols are more acidic than alcohols.

Write the structure and IUPAC name of the above product.



Watch Video Solution

115. Phenols are more acidic than alcohols.

Ethanol and propane have comparable molecular masses but boiling points differ widely. Which of them has higher boiling point? Substantiate your answer.



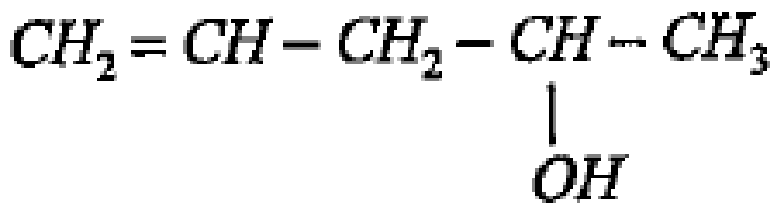
Watch Video Solution

116. Picric acid is _____.



Watch Video Solution

117. Write the IUPAC names of the following compounds:



Watch Video Solution

118. To distinguish primary, secondary and tertiary alcohols from one another, we employ the 'Luca's test:-
What is the reagent used for that test.



Watch Video Solution

119. To distinguish primary, secondary and tertiary alcohols from one another, we employ the 'Luca's test:-

The alcohol in which _____ group is attached to primary carbon atom is called primary alcohol.



Watch Video Solution

120. What is esterification? Give one example.



Watch Video Solution

121. Monomers of terylene are terephthalic acid and ethylene glycol:- What is the disadvantage of using terylene?



Watch Video Solution

122. Monomers of terylene are terephthalic acid and ethylene glycol:- Why should we not use terylene clothes in Kitchen?



Watch Video Solution

123. How are the following conversions carried out?
Represent the chemical reactions:- Ethanol to Ethanal.



Watch Video Solution

124. How are the following conversions carried out?
Represent the chemical reactions:- Phenol to picric

acid.



Watch Video Solution

125. How are the following conversions carried out?

Represent the chemical reactions:- Phenol to benzene.



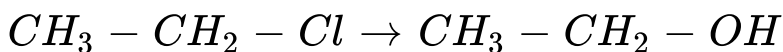
Watch Video Solution

126. Write a test to distinguish between phenol and alcohol



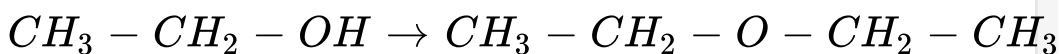
Watch Video Solution

127. Write suitable reagent used for the following conversions:



Watch Video Solution

128. Write suitable reagent used for the following conversion:



Watch Video Solution