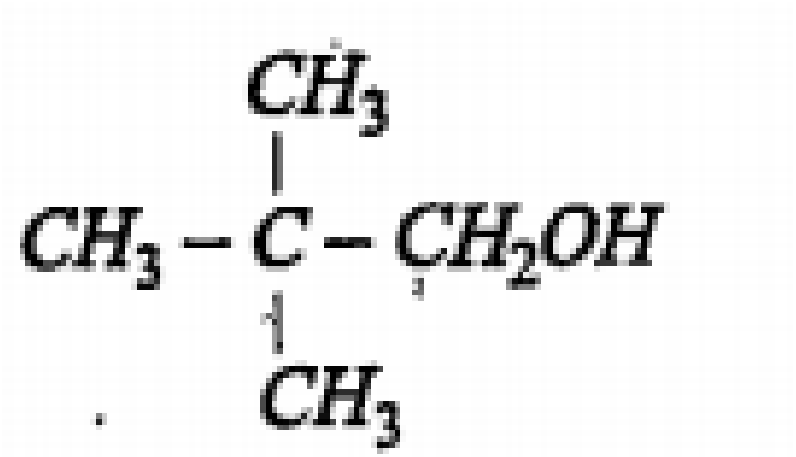
CHEMISTRY

BOOKS - A N EXCEL PUBLICATION

ALCOHOLS, PHENOLS AND ETHERS

Question Bank

1. Classify the following as 1°, 2° and 3° alcohols



Watch Video Solution

2. Classify the following as 1°, 2° and 3° alcohols

$CH_2 = CH - CH_2OH$

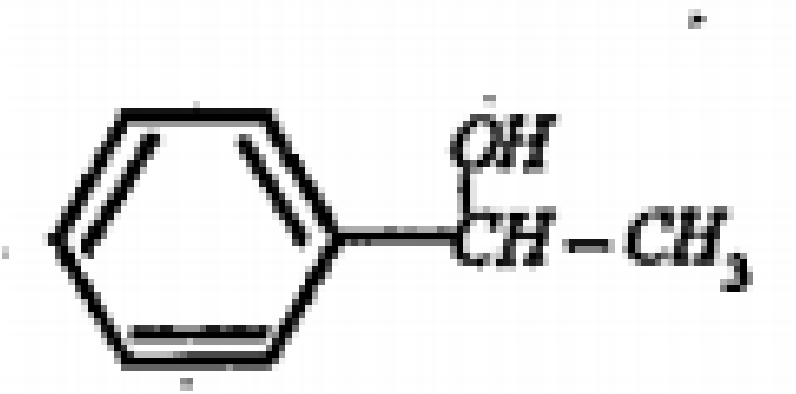
Watch Video Solution

3. Classify the following as 1°, 2° and 3° alcohols

$CH_3 - CH_2 - CH_2OH$

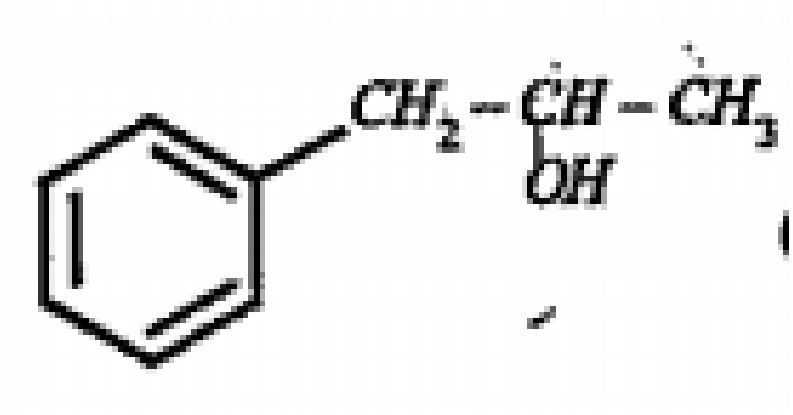
Watch Video Solution

4. Classify the following as 1°, 2° and 3° alcohols



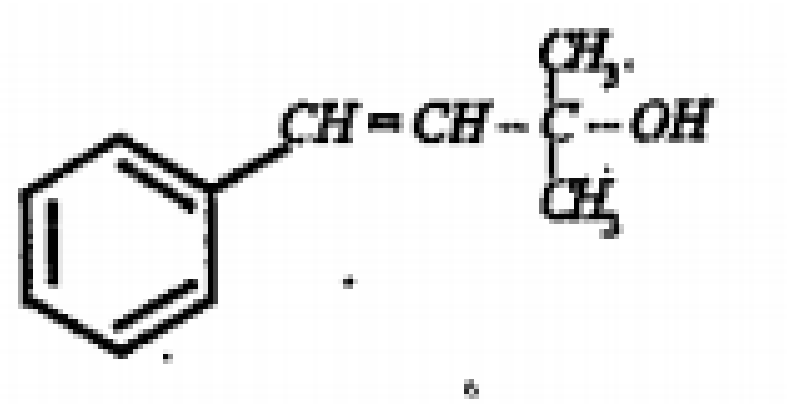
Watch Video Solution

5. Classify the following as 1°, 2° and 3° alcohols



Watch Video Solution

6. Classify the following as 1°, 2° and 3° alcohols

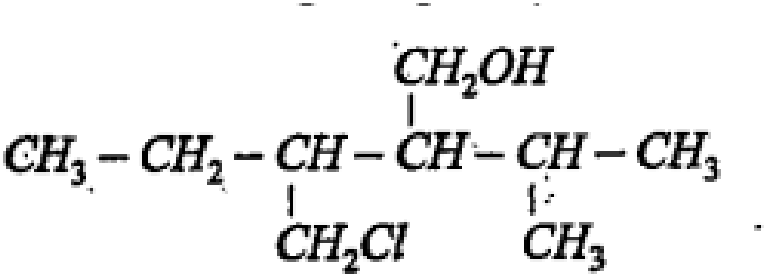


Watch Video Solution

7. Identify allylic alcohols in the above examples

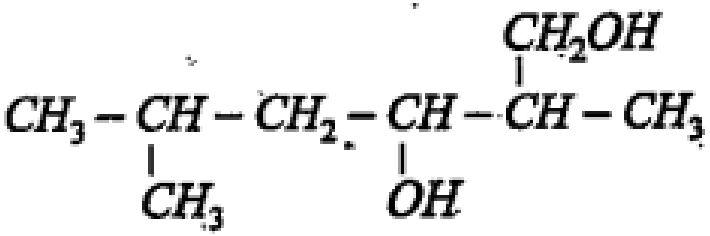
View Text Solution

8. Name the following compounds according to IUPAC system



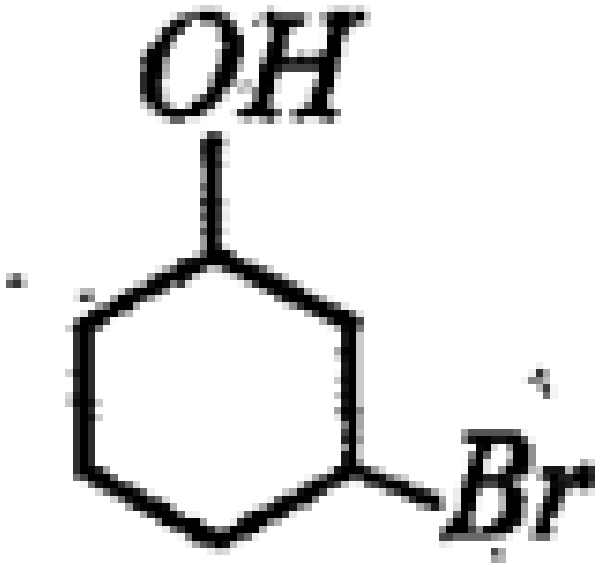
Watch Video Solution

9. Name the following compounds according to IUPAC system



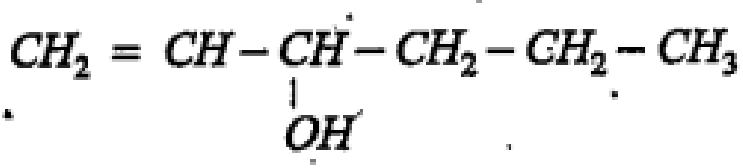
Watch Video Solution

10. Name the following compounds according to IUPAC system



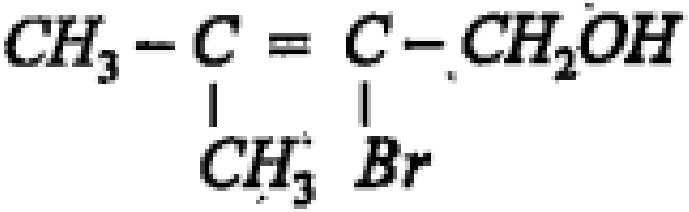
Watch Video Solution

11. Name the following compounds according to IUPAC system



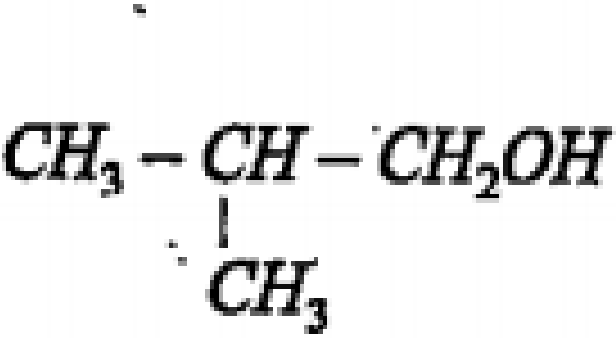
Watch Video Solution

12. Name the following compounds according to IUPAC system



Watch Video Solution

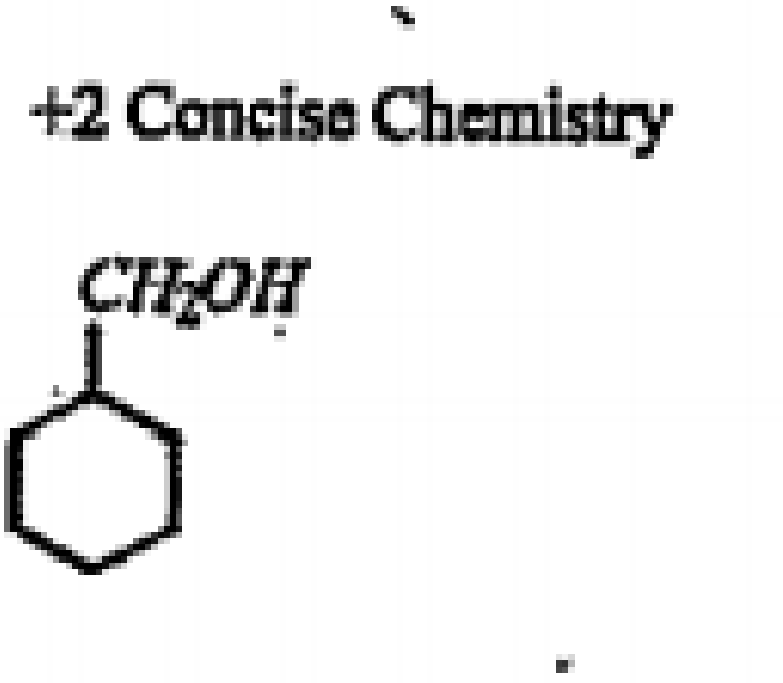
13. Show how the following alcohols are prepared by the reaction of a suitable Grignard reagent on methanal.



Watch Video Solution

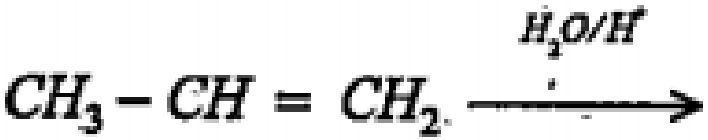
14. Show how the following alcohols are prepared by the reaction of a suitable Grignard reagent on

methanal.



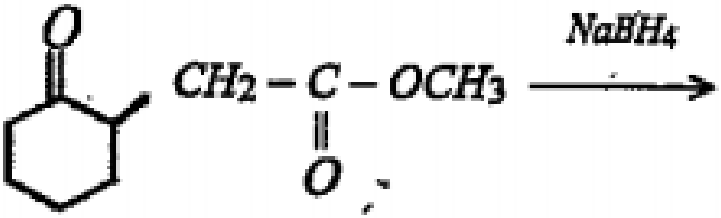
Watch Video Solution

15. Write the structures of the products of the following reactions



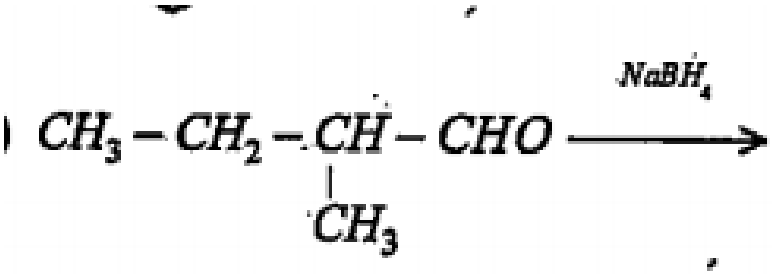
Watch Video Solution

16. Write the structures of the products of the following reactions



Watch Video Solution

17. Write the structures of the products of the following reactions



Watch Video Solution

18. Give the structures of the products you would expect when each of the following alcohol reacts with HBr a.butan-1-ol b.2-methylbutan-2-ol

Watch Video Solution

19. Give the structures of the products you would expect when each of the following alcohol reacts with HBr a.butan-1-ol b.2-methylbutan-2-ol

Watch Video Solution

20. Give the structures of the products you would expect when each of the following alcohol reacts with `SOCl_2 a.butan-1-ol b.2-methylbutan-2-ol

Watch Video Solution

21. Predict the major products of acid catalysed dehydration of

1-Methylcyclohexanol

Watch Video Solution

22. Predict the major products of acid catalysed dehydration of

butan-1-ol

Watch Video Solution

23. Ortho and para nitrophenols are more acidic than phenol. Draw the resonance structures of the corresponding phenoxide ions

Watch Video Solution

24. Write the equation involved in the following reactions

Reimer-Tiemenn reaction

Watch Video Solution

25. Write the equation involved in the following reactions

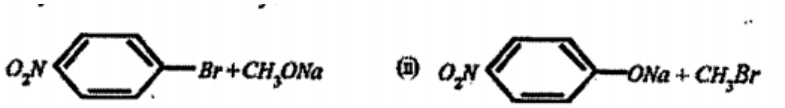
Kolbe's reaction

Watch Video Solution

26. Write the reaction of Williamson's synthesis of 2-ethoxy-3-methylpentane starting from ethanol and 3-methylpentan-2-ol

Watch Video Solution

27. Which of the following is an appropriate set of reactants for the preparation of 1-methoxy-4-nitrobenzene? Why?



Watch Video Solution

28. Predict the products of the following reactions

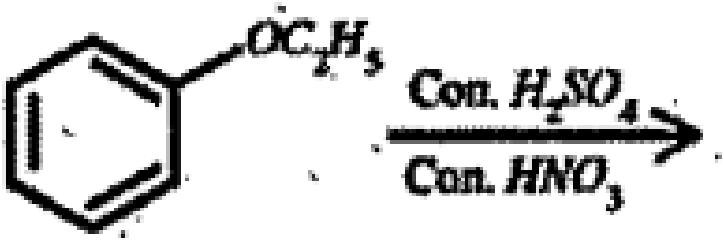
$$CH_3 - CH_2 - CH_2 - O - CH_3 + HBr \rightarrow$$

Watch Video Solution

29. Predict the products of the following reactions

Watch Video Solution

30. Predict the products of the following reactions



Watch Video Solution

31. Predict the products of the following reactions

$$(CH_3)_3C-OC_2H_5 \xrightarrow{HI}$$

Watch Video Solution

32. Phenols are more acidic than alcohols.

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

Watch Video Solution

33. Phenols are more acidic than alcohols.

Name the above reaction.

Watch Video Solution

34. Phenols are more acidic than alcohols.

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

Watch Video Solution

35. Phenols are more acidic than alcohols.

Write the structure and IUPAC name of the above product.

Watch Video Solution

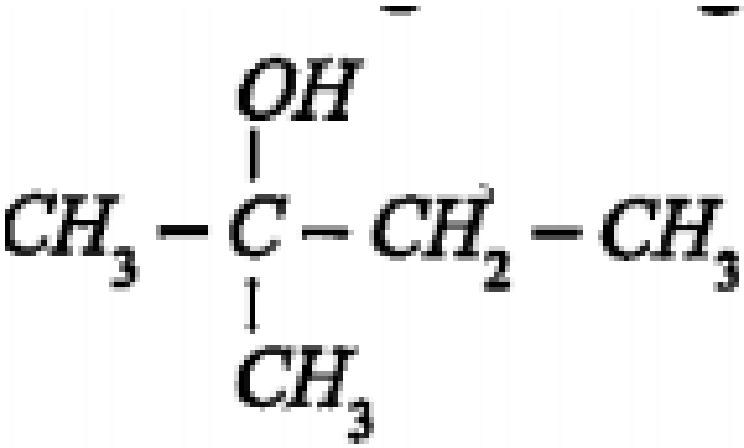
36. Phenols are more acidic than alcohols.

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

Watch Video Solution

37. 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 givesIdentify A and B. Write down the chemical

equations for the reactions involved.



Watch Video Solution

38. Ethers are generally non-reactive compound. One of the important reactions of ethers is the action of HI.

Anisole $\xrightarrow{HI}$ A+B

Identify A and B.

Watch Video Solution

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

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

 Watch Video Solution

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

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

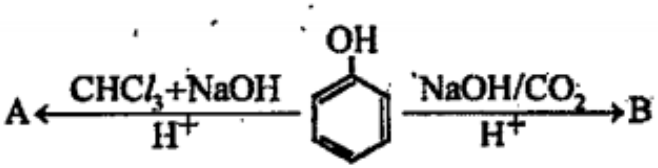
Watch Video Solution

41. Mixture of conc. HCl and anhydrous $ZnCl_2$ is an important reagent which helps to distingulsh between $1^\circ, 2^\circ$ and 3° alcohols.

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

Watch Video Solution

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



Watch Video Solution

43. Vapours of an alcohol 'c' on passing over heated copper produce compound 'D'. 'D' on reaction with CH_3MgCl following by hydrolysis produces 2-methyl butan-2-o1. Write the name or structure of compounds 'C' and 'D'.

Watch Video Solution

44. Methanol and ethanol are two commercially important alcohols.

Write one method of preparation of methanol and ethanol.

Watch Video Solution

45. Methanol and ethanol are two commercially important alcohols.

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

Watch Video Solution

46. Methanol and ethanol are two commercially important alcohols.

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

Watch Video Solution

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

Watch Video Solution

48. Phenol is usually manufactured from cumene. Write the structure of cumene.

Watch Video Solution

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

What is Lucas reagent?

Watch Video Solution

50. 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

51. How will you prepare the following compounds using Grignard reagent?

Primary alcohol

Watch Video Solution

52. How will you prepare the following compounds using Grignard reagent?

Secondary alcohol

Watch Video Solution

53. 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

54. Write the correct pair of reactants for the preparation of t-butyl ethyl ether by Williamson synthesis.

Watch Video Solution

55. Write the name or formula of the following:

A simple ether

Watch Video Solution

56. Write the name or formula of the following:

A mixed ether

Watch Video Solution

57. Write the name or formula of the following:

A dihydric alcohol

Watch Video Solution

58. Write the name or formula of the following:

A trihydric alcohol

Watch Video Solution

59. Phenol on treatment with Br_2 in CS_2 at low temperature gives two isomeric monobromo phenols 'X' and 'Y'. But phenol on treatment with bromine water giver a white precipitate 'Z'.

Identify the products 'X','Y' and 'Z'.

Watch Video Solution

60. Alocohols are compounds with general formula R-OH

Alcohols are soluble in water. What is the reason?

Watch Video Solution

61. Alocohols are compounds with general formula R-OH

Explain a method for manufacture of Ethanol.

Watch Video Solution

62. Alocohols are compounds with general formula R-OH

How will you convert phenol to benzene?

Watch Video Solution

63. Write a test to distinguish between phenol and alcohol

Watch Video Solution

64. Write suitable reagent used for the following conversions:

$CH_3 - CH_2 - Cl \rightarrow CH_3 - CH_2 - OH$

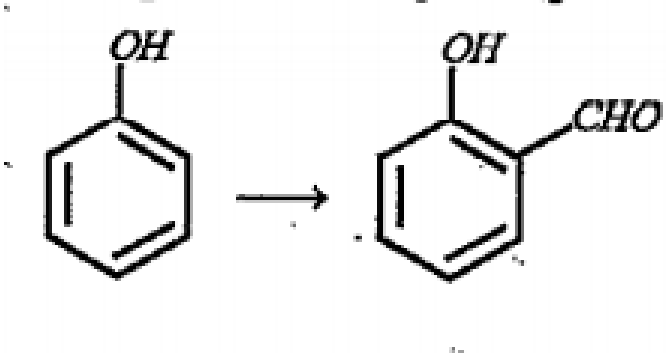
Watch Video Solution

65. Write suitable reagent used for the following conversion:

$CH_3 - CH_2 - OH \rightarrow CH_3 - CH_2 - O - CH_2 - CH_3$

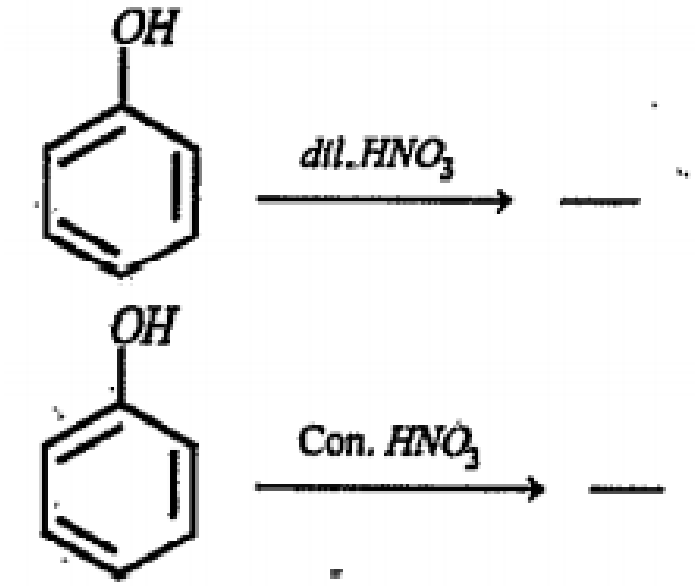
Watch Video Solution

66. Write suitable reagent or reagents usrd for the following conversions:



Watch Video Solution

67. Complete the following:



Watch Video Solution

68. Explain the following :

Esterification

Watch Video Solution

69. Write the correct pair of reactants for the preparation of t-butyl ethyl ether by Williamson synthesis.

Watch Video Solution

70. Phenols are more acidic than alcohols.

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

A. o-Nitrophenol

B. p-Nitrophenol

C. 2,4,6-Trinitrophenol

D. a mixture of o-nitrophenol

Answer: C

Watch Video Solution

71. Methanol and ethanol are two commercially important alcohols. Write one method each for the preparation of methanol and ethanol.

Watch Video Solution

72. Arrange the following compounds in the order of increasing boiling point: Ethanol,propan-1-o1, Butan-1-o1, Butan-2-o1.

Watch Video Solution

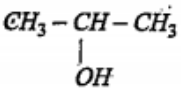
73. In the lab students were asked to carry out the reaction between phenol and cons. HNO_3. But one student,'A' carried out the reaction between phenol and dil. HNO_3. Do you think that the student 'A' got the same result as others. Substantiate with suitable explanations. [Also write the chemical equations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

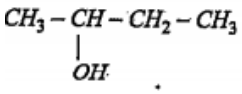
Watch Video Solution

74. Idebtify the product. $HCHO \xrightarrow[H_2O]{CH_3MgX}$ -----

A. CH_3OH

B. CH_3CH_2OH

C. 

D. 

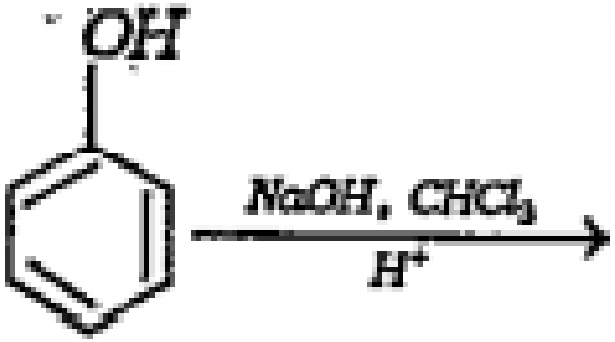
Answer: C

Watch Video Solution

75. Complete the following:

Watch Video Solution

76. Complete the following:



Watch Video Solution

77. Ethers are generally non-reactive compound. One of the important reactions of ethers is the action of HI.

Anisole $\xrightarrow{HI}$ A+B

Identify A and B.

Watch Video Solution

78. Grignard a method can be used to systhesise different type of alcohols

Suggest a methode to prepare2-Methyl-2-propanol using Grignard reagent. Write equation for the reaction.

Watch Video Solution

79. Grignard a method can be used to systhesise different type of alcohols

What happens when this alcohol is passed over copper heated to 573K?

Watch Video Solution

80. Alcohols can be prepared by treating alkyl halide with aqueous NaOH at room temperature and atmospheric pressure.

Can we prepare phenol from halobenzene and aqueous NaOH at the same conditions? Justify.

Watch Video Solution

81. Alcohols can be prepared by treating alkyl halide with aqueous NaOH at room temperature and atmospheric pressure.

You are given aniline, $NaNO_2$ and dilute HCl. Suggest a method to prepare phenol using these reagents. Write equations for the reactions.

Watch Video Solution

82. Phenol is known as carbolic acid and it is acidic.

Why is phenol acidic?

Watch Video Solution

83. Phenol is known as carbolic acid and it is acidic. Write equation for the reaction of phenol with nitrating mixture. Write the name of the product.

Watch Video Solution

84. Identify the organic product 'B' in each of the following sequence of reactions and complete the equations.

$$CH_3 - CHO + CH_3MgBr \rightarrow A \xrightarrow{H_2O} B$$

Watch Video Solution

85. Identify the organic product 'B' in each of the following sequence of reactions and complete the equations.

$$CH_3 - CH_2OH \xrightarrow{SOCl_2} A \xrightarrow{\text{aleKOH}} B$$

Watch Video Solution

86. Identify the organic product 'B' in each of the following sequence of reactions and complete the equations.

$$C_6H_5N_2Cl \xrightarrow{H_2O} A \xrightarrow{Br_2 / H_2O} B$$

Watch Video Solution

87. In our country ethanol is mainly manufactured by suger industries the mother liquor lift behind after the crystallisation of suger from suger cane juice.

How do they manufacture ethanol?

Watch Video Solution

88. In our country ethanol is mainly manufactured by suger industries the mother liquor lift behind after the crystallisation of suger from suger cane juice.

How is wine prepared from grape juice?

Watch Video Solution

89. In our country ethanol is mainly manufactured by sugar industries the mother liquor lift behind after the crystallisation of sugar from sugar cane juice.

What is denatured spirit?

Watch Video Solution

90. A student wants to prepare 2-propanol using methyl magnesium iodide (Grignard reagent). Which other organic compound he has to use to get the product?

Watch Video Solution

91. Which carbonyl compound will give tert-butyl alcohol when treated with methyl magnesium iodide?

Watch Video Solution

92. Explain the reaction of tert-butyl alcohol with Lucas reagent.

Watch Video Solution

93. Williamson's synthesis is a convenient method used to prepare both symmetrical and unsymmetrical ethers.

What are the starting materials required to prepare anisole by Williamson's synthesis?

Watch Video Solution

94. Williamson's synthesis is a convenient method used to prepare both symmetrical and unsymmetrical ethers.

Write equation for the reaction of anosole with hydriodic acid.

Watch Video Solution

95. Williamson's synthesis is a convenient method used to prepare both symmetrical and unsymmetrical ethers.

Write the IUPAC names of (1) anisole (2) $CH_3 - O - CH(CH_3)_2$

Watch Video Solution

96. Ethers show metamerism. Explain the term metamerism taking a suitable example.

Watch Video Solution