CHEMISTRY

BOOKS - MODERN PUBLICATION

ALCOHOLS, PHENOLS AND ETHERS

Example

1. Draw the structures of all isomeric alcohols of molecular formula $C_5H_{12}O$ and give their IUPAC names .

(b) Classify these isomers as primary secondary and tertiary alcohols .

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2. Name the following compound according to IUPAC system :

$$CH_3 - \underset{\underset{Cl}{|}}{CH} - \underset{\underset{CH_3}{|}}{CH} - \underset{\underset{CH_3}{|}}{CH} - CH_2OH$$

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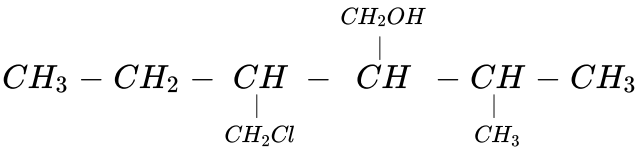
3. Name the following compound according to IUPAC system :



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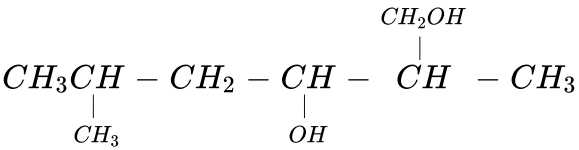
4. Name the following compound according to IUPAC system :



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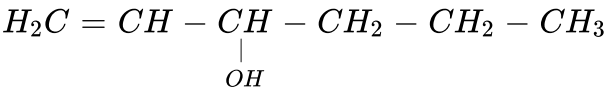
5. Name the following compound according to IUPAC system :



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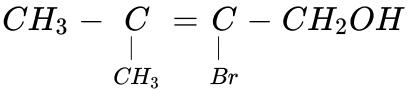
6. Name the following compound according to IUPAC system :



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7. Give the structures and IUPAC name of product expected from the following reaction : Catalytic reduction of butanal.

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8. Give the structures and IUPAC name of product expected from the following reaction : Hydration of propene in the presence of dilute sulphuric acid.

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9. Give the structures and IUPAC name of product expected from the following reaction : Reaction of propanone with methyl magnesium bromide followed by hydrolysis.

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10. Use a Grignard's reagent to prepare the following alcohol : 2-Phenylbutan-2-ol .

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11. Use a Grignard's reagent to prepare the following alcohol : 3-Methylpentan-3-ol.

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12. Name the reagent used to convert ethyl alcohol to ethene.

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13. Write the structural formulae for : 2-methylpropan-2-ol

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14. Name the reagent used to convert ethyl alcohol to ethene.

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15. Arrange the following compounds in increasing order of boiling point

:

Propan-1-ol, butan-1-ol, butan-2-ol, pentan-1-ol

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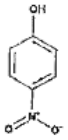
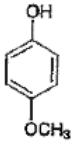
16. Arrange the following compound in order of decreasing acidity.

(I)

(II)



(III)



(IV)

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17. Name the reagents used in the following reactions :

$$CH_3COOH \xrightarrow{?} ClCH_2 - COOH$$

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18. Name the reagent used in the following reaction : oxidation of primary alcohol to carboxylic acid.

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19. Name the reagent used in the following reaction : oxidation of primary alcohol to an aldehyde.

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20. Name the reagent used in the following reaction : butan-2-one to butan-2-ol.

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21. Name the reagent used in the following reaction : cyclohexanone to 1-ethylcyclohexanol.

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22. How is phenol converted into salicylaldehyde ?

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23. How Phenol is converted to Benzene ?

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24. How is phenol converted into picric acid ?

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25. How will you convert Phenol to Benzoic acid ?

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26. How will you convert

phenol into aspirin

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27. How will you convert phenol to salicylic acid ?

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28. Write the structures of the major products expected from the following reaction : Mononitration of 3-methyl phenol.

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29. Write the structures of the major products expected from the following reaction : Dinitration of 3-methyl phenol.

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30. Write the structures of the major products expected from the following reaction : Mononitration of phenylethanoate.

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31. Complete the following reaction :

$$CH_3CH_2CH_2C \equiv CH \xrightarrow[Hg(2+)]{H_2O, H^+}$$

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32. Identify X, Y and Z in the following reactions :

$$C_6H_5NH_2 \xrightarrow[HCl]{NaNO_2} X \xrightarrow[HBr]{CuBr} Y \xrightarrow[623K, pressure]{NaOH} Z$$

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33. Benzyl chloride $\rightarrow$ Benzyl alcohol

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34. Methyl magnesium bromide $\rightarrow$ 2- Methylpropan -2- ol .

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35. How are the following conversions carried out ?

(i) Propene $\rightarrow$ Propan -2- ol

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36. Ethyl magnesium chloride $\rightarrow$ Propan -1-ol

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37. How will you obtain phenol from aniline ?

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38. How would you obtain the following - 2-Methylpropan-2-ol from methyl magnesium bromide?

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39. How would you obtain the following : Propan-2-ol from propene ?

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40. How will you convert : Propene to propan-2-ol ?

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41. How will you convert : Phenol to 2, 4, 6-tribromophenol ?

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42. How will you convert : Propan-2-ol to propanone ?

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43. How will you convert : Phenol to 2, 4, 6-tribromophenol ?

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44. How will you convert : Propene to propan-1-ol .

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45. How will you convert : Ethanal to propan 2-ol.

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46. How will you convert : Propan-2-ol to 2-methylpropan-2-ol?

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47. How will you convert : Aniline to phenol ?

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48. How will you convert : Ethanol to propanenitrile?

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49. How will you convert : Phenol to toluene?

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50. How will you convert : Formaldehyde to ethanol ?

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51. Express 2817 in roman numbers.

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52. Express 2818 in roman numbers.

Watch Video Solution

53. Express 2820 in roman numbers.

Watch Video Solution

54. Express 2821 in roman numbers.

Watch Video Solution

55. Express 2822 in roman numbers.

Watch Video Solution

56. Express 2823 in roman numbers.

Watch Video Solution

57. Express 3010 in roman numbers.

Watch Video Solution

58. Express 3000 in roman numbers.

Watch Video Solution

59. Express 3001 in roman numbers.

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60. Propose a convenient method for preparing tert-amyl alcohol using a Grignard reagent .

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61. Express 3002 in roman numbers.

Watch Video Solution

62. Express 3003 in roman numbers.

Watch Video Solution

63. Express 3005 in roman numbers.

Watch Video Solution

64. Express 3006 in roman numbers.

Watch Video Solution

65. Express 3007 in roman numbers.

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66. How do you account for the fact that unlike phenol, 2,4-dinitrophenol and 2, 4, 6-trinitrophenol are soluble in aqueous sodium carbonate solution ?

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67. Express 3008 in roman numbers.

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68. While separating a mixture of ortho and para nitrophenols by steam distillation, name the isomer which is more volatile. Give reason.

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69. Express 3011 in roman numbers.

Watch Video Solution

70. Express 3012 in roman numbers.

Watch Video Solution

71. Express 3013 in roman numbers.

Watch Video Solution

72. Express 3015 in roman numbers.

Watch Video Solution

73. Express 3016 in roman numbers.

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74. An alkoxide is a stronger base than hydroxide ion. Justify.

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75. $\pm$ 2-butanol is optically inactive

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76. Write the IUPAC name of the following compound :

$$HO - CH_2 - \underset{\underset{CH_3}{|}}{CH} - CH_2 - OH$$

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77. Give IUPAC name of the following : $CH_3OCH_2\underset{\underset{CH_3}{|}}{CH} - CH_3$

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78. Give IUPAC name of the following : $CH_3OCH_2CH_2Cl$

Watch Video Solution

79. Give IUPAC name of the following : $CH_3CH_2CH_2OCH_3$

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80. Express 3017 in roman numbers.

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81. Express 3026 in roman numbers.

Watch Video Solution

82. Express 3027 in roman numbers.

Watch Video Solution

83. Express 3028 in roman numbers.

Watch Video Solution

84. Express 3030 in roman numbers.

Watch Video Solution

85. Express 3031 in roman numbers.

Watch Video Solution

86. Express 3033 in roman numbers.

Watch Video Solution

87. Express 3035 in roman numbers.

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88. Express 3037 in roman numbers.

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89. Which metals are present in monel metal other than copper and nickel?

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90. Express 3038 in roman numbers.

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91. Express 3050 in roman numbers.

Watch Video Solution

92. Express 3051 in roman numbers.

Watch Video Solution

93. Express 3052 in roman numbers.

Watch Video Solution

94. Express 3053 in roman numbers.

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95. Which metals are present in German silver other than nickel?

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96. Express 3055 in roman numbers.

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97. Which metals combine to form Dutch metal alloy?

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98. Which metal is present in Magnelium alloy other than aluminium?

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99. The Boiling Point of ethers are lower than isomeric alcohols why ?

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100. Explain why cleavage of phenyl alkyl ethers with HBr always produces Phenol and alkyl bromide and not bromobenzene and alkanols.

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101. Ethers possess a dipole moment even if the alkyl groups in the molecule are identical. Explain.

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102. Why a non symmetrical ether is not prepared by heating a mixture of ROH and R'OH in acid?

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103. How do you account for the miscibility of ethoxy ethane with water.

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104. Butan-1-ol has a higher boiling point than diethyl ether. Explain

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105. What are the characteristics of zinc chloride?

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106. Classify the following as primary secondary and tertiary alcohols .

$$CH_3 - \underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}} - CH_2OH$$

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107. Classify the following as primary,secondary and tertiary alcohol

$H_2C = CH - CH_2OH$

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108. Classify the following as primary,secondary and tertiary alcohols

$CH_3 - CH_2 - CH_2 - OH$

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109. Explain the formation of bronze?

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110. Name the following compound according to IUPAC system :

$$CH_3 - CH_2 - \underset{\underset{CH_2Cl}{|}}{CH} - \overset{\overset{CH_2OH}{|}}{CH} - \underset{\underset{CH_3}{|}}{CH} - CH_3$$

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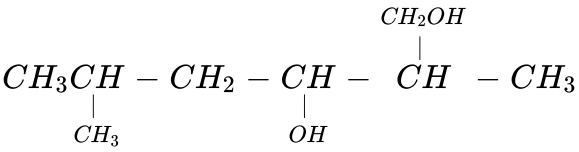
111. Name the following compound according to IUPAC system :



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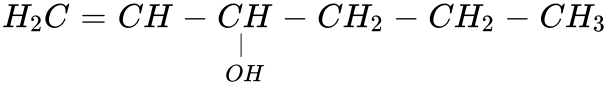
112. Name the following compound according to IUPAC system :



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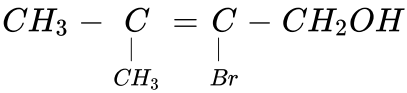
113. Name the following compound according to IUPAC system :



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

$$CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2OH$$

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115. Write structure of the product of the following reaction :

$$CH_3 - CH = CH_2 \xrightarrow{H_2O / H^+}$$

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116. Write structure of the product of the following reaction :

$$CH_3 - CH_2 - \underset{\underset{CH_3}{|}}{CH} - CHO \xrightarrow{NaBH_4}$$

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117. Give structure of the products you would expect when the following alcohol reacts with $HCL - ZnCl_2$. (i) Butan-1-ol (ii) 2-Methylbutan-2-ol

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118. Give structure of the products you would expect when the following alcohol reacts with HBr. (i) Butan-1-ol (ii) 2-Methylbutan-2-ol

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119. Give structure of the products you would expect when the following alcohol reacts with $SOCl_2$. (i) Butan-1-ol (ii) 2-Methylbutan-2-ol

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120. Predict the major product of acid catalysed dehydration of (i) 1-methyl cyclohexanol and (ii) butan-1-ol.

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121. Orthonitrophenol and paranitrophenol are more acidic than phenols. Give reasons.

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122. Write the equations involved in the following reaction : Reimer Tiemann reaction.

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123. Write the equations involved in the following reaction : Kolbe's reaction.

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124. Write the reactions of Williamson synthesis of 2-ethoxy-3-methylpentane starting from ethanol and 3-methylpentan-2-ol.

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125. Predict the product of the following reaction :

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

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126. Predict the product of the following reaction :

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

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127. Which are the metals present in duralumin alloy?

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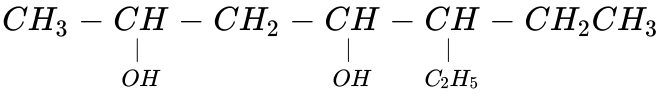
128. Give IUPAC name of the following compound :



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129. Which metals are present in hydroleum alloy?

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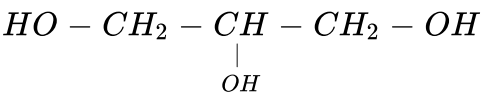
130. Write IUPAC name of the following compound :



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131. Write IUPAC name of the following compound :

$$CH_3 - O - CH_2 - \underset{\underset{CH_3}{|}}{CH} - CH_3$$

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132. Write IUPAC name of the following compound :

$$C_6H_5 - O - C_2H_5$$

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133. Which metals are present in aluminium bronze alloy?

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134. Write IUPAC name of the following compound :

$$CH_3 - CH_2 - O - \underset{\underset{CH_3}{|}}{CH} - CH_2 - CH_3$$

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135. Write the structure of compounds whose IUPAC names are as follows : 2-Methylbutan-2-ol.

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136. Which metals are present in nichrome alloy other than manganese and iron?

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137. Write the structure of compounds whose IUPAC names are as follows : 3, 5-Dimethylhexane-1, 3,5- triol.

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138. Write the structure of compounds whose IUPAC names are as follows : 2,3- Diethylphenol .

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139. Write the structure of compounds whose IUPAC names are as follows : 1-Ethoxypropane.

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140. Which metal is present in solder alloy other than lead?

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141. Which metals are present in Alanko alloy?

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142. Which metals are present in manganese steel alloy?

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143. Which metals are present in chromium steel alloy?

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144. Express 3056 in roman numbers.

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145. Express 3057 in roman numbers.

Watch Video Solution

146. Express 3058 in roman numbers.

Watch Video Solution

147. Express 3060 in roman numbers.

Watch Video Solution

148. Express 3061 in roman numbers.

Watch Video Solution

149. Express 3062 in roman numbers.

Watch Video Solution

150. Express 3063 in roman numbers.

Watch Video Solution

151. Express 3065 in roman numbers.

Watch Video Solution

152. Express 3066 in roman numbers.

Watch Video Solution

153. Express 3067 in roman numbers.

Watch Video Solution

154. Express 3068 in roman numbers.

Watch Video Solution

155. Express 3070 in roman numbers.

Watch Video Solution

156. Express 3071 in roman numbers.

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157. Express 3072 in roman numbers.

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158. Express 3073 in roman numbers.

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159. Give two reactions that show acidic nature of phenol Compare - acidity of phenol with that of ethanol .

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160. Explain why is ortho nitrophenol more acidic than ortho methoxyphenol ?

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

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162. Express 3077 in roman numbers.

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163. Give equations of the following reaction : Bromine in CS_2 with phenol.

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164. Give equations of the following reaction : Dilute HNO_3 with phenol.

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165. Give equations of the following reaction : Treating phenol with chloroform in presence of aqueous NaOH.

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166. Express 3078 in roman numbers.

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167. Explain the following with an example : Reimer-Tiemann reaction.

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168. Express 3080 in roman numbers.

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169. Explain the following with an example : Unsymmetrical ether.

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170. Discuss the reaction and mechanism of acidic dehydration of ethyl alcohol to prepare ethene.

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171. How are the following conversions carried out ?

(i) Propene $\rightarrow$ Propan -2- ol

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172. How are the following conversion carried out ? Benzyl chloride $\rightarrow$ benzyl alcohol.

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173. Express 3081 in roman numbers.

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174. Express 3082 in roman numbers.

Watch Video Solution

175. Express 3083 in roman numbers.

Watch Video Solution

176. Express 3085 in roman numbers.

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177. Which oxidizer is present in ammonal?

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178. Name the reagents used in the following reaction: Benzyl alcohol to benzoic acid.

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179. Name the reagents used in the following reaction: Dehydration of propan-2-ol to propene.

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180. Name the reagents used in the following reaction: Butan-2-one to butan-2-ol.

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181. Which fuel is present in ammonal?

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182. Give IUPAC name of the following ether : $C_2H_5OCH_2 - \underset{\underset{CH_3}{|}}{CH} - CH_3$

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183. Give IUPAC name of the following ether : $CH_3OCH_2CH_2Cl$

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184. Give IUPAC name of the following ether : $O_2N - C_6H_4 - OCH_3(p)$

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185. What is the composition of Bordeaux mixture?

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186. Write the names of reagents and equations for the preparation of the following ether by Williamson's synthesis : 1-Propoxypropane.

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187. Write the names of reagents and equations for the preparation of the following ether by Williamson's synthesis : Ethoxybenzene.

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188. What is the composition of carbogen?

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189. Write the names of reagents and equations for the preparation of the following ether by Williamson's synthesis : 1-methoxyethane.

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190. Which gas is formed in biogas plant other than carbon monoxide and hydrogen?

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191. How is 1-propoxypropane synthesized from propan-1-ol ? Write mechanism of this reaction.

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192. Write the mechanism of the reaction of HI with methoxymethane .

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193. Write equations of the following reactions :

Friedel-Crafts alkylation of anisole.

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194. Write equations of the following reaction : Nitration of anisole.

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195. Write equations of the following reactions :

Bromination of anisole in ethanoic acid medium.

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196. Name that oxidizer present in gun powder along with sulphur and charcoal?

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197. When 3-methylbutan-2-ol is treated with HBr following reaction takes place ,

$$CH_3 - \underset{CH_3}{\underset{|}{CH}} - \underset{OH}{\underset{|}{CH}} - CH_3 \xrightarrow{HBr} CH_3 - \underset{CH_3}{\overset{Br}{\underset{|}{\overset{|}{C}}}} - CH_2 - CH_3$$

Give a mechanism for this reaction.

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198. What is the structure and IUPAC name of glycerol?

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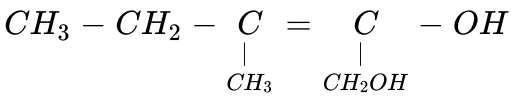
199. Write the IUPAC name of the compound given below.



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200. Name the factors responsible for the solubility of alcohols in water.

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201. What is denatured alcohol?

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202. Out of 2-chloroethanol and ethanol which is more acidic and why ?

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203. Suggest a reagent for conversion of ethanol to ethanal.

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204. Suggest a reagent for conversion of ethanol to ethanoic acid.

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205. Out of o-nitrophenol and p-nitrophenol, Which is more volatile ? Explain.

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206. Out of o-nitrophenol and o-cresol, which is more acidic ?

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207. When phenol is treated with bromine water, white precipitate is obtained. Give the structure and the name of the compound formed.

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208. Arrange the following compounds in increasing order of acidity and give a suitable explanation. Phenol, o-nitrophenol o-cresol.

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209. Alcohols react with active metals e.g. Na, K etc. to give corresponding alkoxides. Write down the decreasing order of reactivity of sodium metal towards primary, secondary and tertiary alcohols.

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210. What happens when benzene diazonium chloride is heated with water ?

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211. Arrange the following compounds in decreasing order of acidity.

$H_2O, ROH, HC \equiv CH$

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212. Which other component is present in lithopone other than barium sulphate?

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213. Carbogen was invented by which scientist?

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214. Electroplating of _____ is done to protect costly wooden furnitures.

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215. Explain why is OH group in phenols more strongly held as compared to OH group in alcohols.

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216. Explain why nucleophilic substitution reactions are not very common in phenols.

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217. Preparation of alcohols from alkenes involves the electrophilic attack on alkene carbon atom. Explain its mechanism.

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218. Explain why is O=C=O non-polar while R-O-R is polar.

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219. Why is the reactivity of all the three classes of alcohols with conc. HCl and $ZnCl_2$ (Lucas reagent) different?

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220. Write steps to carry out the conversion of phenol to aspirin.

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221. Out of phenol and benzene which is more easily nitrated and why ?

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222. In Kolbe's reaction, instead of phenol, phenoxide ion is treated with carbon dioxide. Why ?

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223. _____ is a compound of zinc which is used in protecting wooden furnitures from germs and insects, as disnifectant and in deodrant.

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224. Why di-tertiary butyl ether cannot be prepared byWilliamson's synthesis ?

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225. Why is the C-O-H bond angle in alcohols slightly less than the tetrahedral angle whereas the C-O-C bond angle in ether is slightly greater ?

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226. Explain why low molecular mass alcohols are soluble in water.

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227. Orthonitrophenol and paranitrophenol are more acidic than phenols. Give reasons.

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228. Explain why alcohols and ethers of comparable molecular mass have different boiling points?

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229. The carbon-oxygen bond in phenol is slightly stronger than that in methanol. Why?

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230. Arrange water, ethanol and phenol in increasing order of acidity and give reason for your answer.

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231. Acid-catalysed dehydration of tert-butanol is faster than that of n-butanol. Explain.

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232. Hydration of 3-phenyl-1-butene with dil.H_2SO_4 is not a satisfactory method for preparing 3-phenyl-2-butanol because 2-phenyl-2-butanol is obtained instead. Explain.

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233. Give the product and show the steps in (i) the hydration of cyclobutylethene in dil. H_2SO_4 (ii) dehydration of cyclobutylcarbinol.

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234. Show steps for the conversion of ethene to divinyl ether.

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235. Cyclobutyl bromide on treatment with magnesium in dry ether forms an organometallic A. The organo-metallic reacts with ethanal to give an

alcohol B after mild acidification. Prolonged treatment of alcohol B with an equivalent amount of HBr gives 1-bromo-1-methyl cyclopentane(C). With the structures of A, B and explain how C is obtained from B.

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236. Explain why dehydration of alcohols to form alkenes is always carried out with conc. H_2SO_4 and not with conc.HCl or HNO_3 ?

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237. Alcohols donot react with NaBr but when H_2SO_4 is added they form alkyl bromides. Explain.

Watch Video Solution

238. Cyclic C_4H_7OH has five isomers. Write their structure and names.

Watch Video Solution

239. Neopentyl alcohol reacts with concentrated HBr to give 2-bromo-2-methylbutane. Write the mechanism for the formation of this product .

Watch Video Solution

240. Express 3086 in roman numbers.

Watch Video Solution

241. Express 3087 in roman numbers.

Watch Video Solution

242. Write the intermidate steps of the following reaction : $C_6H_5CH(OH)C=CH \xrightarrow{H_3O^+} C_6H_5CH=CH-CHO$

Watch Video Solution

243. What are the uses of zinc chloride?

Watch Video Solution

244. What are saprotrophs?

Watch Video Solution

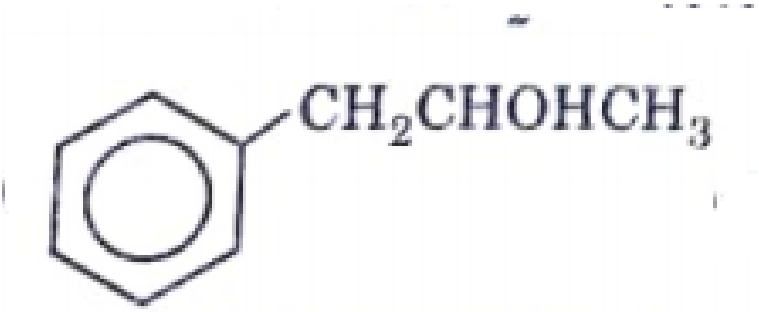
Exercise

1. Write the IUPAC name of the following compound :

$$HO - CH_2 - \underset{\underset{CH_3}{|}}{CH} - CH_2 - OH$$

Watch Video Solution

2. Write the IUPAC name of the following compound :



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3. Write the IUPAC name of the following compound :

$$CH_3 - \underset{\underset{Cl}{|}}{CH} - \underset{\underset{OH}{|}}{C} = CH_2$$

Watch Video Solution

4. Give IUPAC name of the following compound :

$$CH_3 - \underset{\underset{OH}{|}}{CH} - CH_2 - \underset{\underset{OH}{|}}{CH} - \underset{\underset{C_2H_5}{|}}{CH} - CH_2CH_3$$

Watch Video Solution

5. Give the structural formulae and IUPAC names of the isomers with the molecular formula C_3H_8O. Arrange them in increasing order of their boiling point.

Watch Video Solution

6. Which structural isomer of $C_4H_{10}O$ cannot be dehydrogenated by copper at 575K ?

Watch Video Solution

7. Arrange the following in order of increasing reactivity towards Lucas reagent: butan-1-ol, 2-methylpropan-2-ol, butan-2-ol.

Watch Video Solution

8. What is the major product when butan-2-ol is heated with H_2SO_4 at 443 K?

Watch Video Solution

9. What products are obtained when ethyl alcohol is treated with H_2SO_4 at (i) 443 K (ii) 413K at (iii) 383 K?

Watch Video Solution

10. What happens when tert. butyl alcohol is treated with reduced copper at 573K ?

Watch Video Solution

11. Express 2736 in roman numbers.

Watch Video Solution

12. Express 2737 in roman numbers.

Watch Video Solution

13. Express 2738 in roman numbers.

Watch Video Solution

14. Express 2800 in roman numbers.

Watch Video Solution

15. Express 2801 in roman numbers.

Watch Video Solution

16. Express 2802 in roman numbers.

Watch Video Solution

17. Express 2803 in roman numbers.

Watch Video Solution

18. Express 2805 in roman numbers.

Watch Video Solution

19. Express 2806 in roman numbers.

Watch Video Solution

20. Express 2807 in roman numbers.

Watch Video Solution

21. Express 2808 in roman numbers.

Watch Video Solution

22. Express 2810 in roman numbers.

Watch Video Solution

23. Express 2811 in roman numbers.

Watch Video Solution

24. Which metal is present in artificial gold other than copper?

Watch Video Solution

25. Express 2812 in roman numbers.

Watch Video Solution

26. Express 2813 in roman numbers.

Watch Video Solution

27. Express 2815 in roman numbers.

Watch Video Solution

28. Express 2816 in roman numbers.

Watch Video Solution

29. Alloys are mixture of metals, non-metals and elements. Which non-metal is present in coin metal alloy?

Watch Video Solution

30. Write the IUPAC name of the following ether whose common name is given : Isopropyl methyl ether.

Watch Video Solution

31. Write the IUPAC name of the following ether whose common name is given : Phenetole .

Watch Video Solution

32. Write the IUPAC name of the following ether whose common name is given : β-chloro ethyl methyl ether.

Watch Video Solution

33. Write the IUPAC name of the following ether whose common name is given : Cyclohexyl n-propyl ether.

Watch Video Solution

34. Write the IUPAC name of the following : $CH_3 - \underset{\underset{OC_2H_5}{|}}{CH}\ CH_2CH_3$

Watch Video Solution

35. Write the IUPAC name of the following : $CH_3 - O - C(CH_3)_3$

Watch Video Solution

36. Express 3018 in roman numbers.

Watch Video Solution

37. Write the IUPAC name of the following : $(CH_3)_2CHOCH_3$

Watch Video Solution

38. Express 3020 in roman numbers.

Watch Video Solution

39. Express 3021 in roman numbers.

Watch Video Solution

40. Write the structural formula of the following : Di-isopropyl ether.

Watch Video Solution

41. Write the structural formula of the following : Divinyl ether .

Watch Video Solution

42. Write the structural formula of the following : Bis (2-methoxyethyl) ether.

Watch Video Solution

43. Express 3022 in roman numbers.

Watch Video Solution

44. Express 3023 in roman numbers.

Watch Video Solution

45. Express 3025 in roman numbers.

Watch Video Solution

46. Express 3036 in roman numbers.

Watch Video Solution

47. Which three metals present in gun metal alloy?

Watch Video Solution

48. Which metals are present in bell metal alloy?

Watch Video Solution

49. Name the major product in the following reaction : $C_2H_5OH + CH_2N_2 \xrightarrow{HBF_4}$

Watch Video Solution

50. Name the major product in the following reaction : $(CH_3)_3CBr + C_2H_5ONa \rightarrow$

Watch Video Solution

51. Which metals are present in Constantin alloy?

Watch Video Solution

52. True or False : Ethers are more polar than isomeric alcohols.

Watch Video Solution

53. The Boiling Point of ethers are lower than isomeric alcohols why ?

Watch Video Solution

54. Bond angle in dimethyl ether is more than water.

Watch Video Solution

55. Sodium ethoxide can be prepared by the reaction of ethanol with aqueous sodium hydroxide.

Watch Video Solution

56. tert -butyl alcohol is more soluble in water than n- butyl alcohol.

Watch Video Solution

57. True or False : m-methoxyphenol is a weaker acid than phenol.

Watch Video Solution

58. 2,4 dinitrophenol is less acidic than phenol.

Watch Video Solution

59. Draw the trans isomer of the following compound : $\left[Pt(NH_3)_2Cl_2\right]$

Watch Video Solution

60. Alcohol are stronger acids than water.

Watch Video Solution

61. True or False : Primary alcohols undergo dehydration more easily than secondary and tertiary alcohols.

Watch Video Solution

62. Phenols turn blue litmus red

Watch Video Solution

63. Draw the trans isomer of the following compound : $\left[Pt(C_5H_5N)_2Cl(NH_3)\right]$

Watch Video Solution

64. Draw the cis isomer of the following compound : $\left[Pt(C_5H_5N)_2Cl(NH_3)\right]$

Watch Video Solution

65. Acetone reacts with methyl magnesium bromide followed by hydrolysis to give secondary alcohols.

Watch Video Solution

66. True or False : Reactivity of halogen acids towards ethers follows the sequence : HI > HBr > HCl.

Watch Video Solution

67. Dehydration of ethanol with conc. H_2SO_4 at 413 K gives ethane

Watch Video Solution

68. Draw the fac isomer of the following compound : $\left[Co(NO_2)_3(NH_3)_3\right]$

Watch Video Solution

69. 100% pure ethanol is called ..... .

Watch Video Solution

70. Tertiary alcohol when passed over heated copper at 573K gives ..... .

Watch Video Solution

71. Amongst the three isomers of nitrophenol, the one that is least soluble in water is ..... .

Watch Video Solution

72. In the formation of salicylic acid by Reimer Tiemann reaction, phenol is heated with ..... in the presence of NaOH.

Watch Video Solution

73. An enzyme which can convert glucose into ethanol is ..... .

Watch Video Solution

74. Reaction of phenol with ..... in the presence of aqueous NaOH is called Schotten Baumann reaction.

Watch Video Solution

75. Ortho and para nitrophenols can be separated by ..... distillation.

Watch Video Solution

76. Draw the mer isomer of the following compound : $\left[Co(NO_2)_3(NH_3)_3\right]$

Watch Video Solution

77. Absolute alcohol can be prepared from rectified spirit by ..... distillation.

Watch Video Solution

78. Draw the mer isomer of the following compound : $\left[Rh(py)_3Cl_3\right]$

Watch Video Solution

79. With the help of valance bond theory explain the hydridisation of $\left[Co(NH_3)_6\right]^{+3}$

Watch Video Solution

80. Draw the fac isomer of the following compound : $\left[Rh(py)_3Cl_3\right]$

Watch Video Solution

81. With the help of valance bond theory explain the hydridisation of $\left[Fe(H_2O)_6\right]^{+3}$

Watch Video Solution

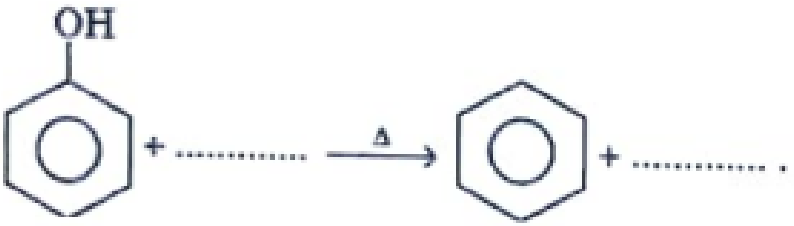
82. $C_6H_5OH + CHCl_3 \xrightarrow[(ii)\, dil HCl]{(i)\, NaOH, 340K, \Delta} \ldots\ldots\ldots\ldots .$

Watch Video Solution

83. $(CH_3)_2CHOH \xrightarrow{Cu, 573K} \ldots\ldots\ldots\ldots . + \ldots\ldots\ldots . .$

Watch Video Solution

84.



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85. Choose the correct alternative: o-Nitrophenol has lower/higher pK_b value than m-nitrophenol.

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86. C_6H_5OH is weaker/stronger acid than $C_6H_{11}OH$.

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87. Water is weaker/stronger acid than ethanol.

Watch Video Solution

88. Ketones are reduced to $1^{\circ}/2^{\circ}$ alcohols.

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89. Phenol has smaller/larger dipole moment than Methanol.

Watch Video Solution

90. Benzene-1, 2, 3-triol is called hydroquinol/pyrogallol.

Watch Video Solution

91. Oxirane reacts with Grignard reagent to form Primary/ secondary alcohol.

Watch Video Solution

92. Cumene on aerial oxidation and on subsequent hydrolysis gives phenol/phenetole.

Watch Video Solution

93. Butan-2-ol has higher/lower boiling point than butan 1-ol.

Watch Video Solution

94. Ethanol on treatment with conc. H_2SO_4 at 443 K gives ethene /ethoxyethane.

Watch Video Solution

95. Picric acid is obtained by heating phenol in the Presence of conc. H_2SO_4 with conc. HNO_3/conc. HNO_2.

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96. Treatment of sodium phenoxide with CO_2 at 400 K under a pressure of 4-7 atm followed by acidification gives salicylic acid /salicyaldehyde.

Watch Video Solution

97. What is the major product formed when 2-butanol is treated with conc. H_2SO_4 443 K?

Watch Video Solution

98. What is the order of reactivity of 1°, 2° and 3° alcohols with sodium metal ?

Watch Video Solution

99. Name the main product obtained when vapour of tert-butyl alcohol are passed over heated copper at 573 K.

Watch Video Solution

100. How will you convert phenol to acetophenone ?

Watch Video Solution

101. Which of the two, phenol or o-nitrophenol more acidic and why?

Watch Video Solution

102. When phenol is treated with $CHCl_3$ and NaOH, the product formed is

Watch Video Solution

103. What happens when phenol is warmed with CO_2 in the Presence of aqueous NaOH?

Watch Video Solution

104. What happens when phenol is oxidised?

Watch Video Solution

105. Write the structural formula of propane -1, 2, 3- triol.

Watch Video Solution

106. Name the products obtained when anisole is treated with HI.

Watch Video Solution

107. Write the functional isomer of dimethyl ether.

Watch Video Solution

108. Why is special care taken to distil old samples of ether ?

Watch Video Solution

109. Name the products obtained when anisole is treated with a mixture of conc. HNO_3 and conc. H_2SO_4.

Watch Video Solution

110. Give the IUPAC name of the following compound :

$$CH_3 - \underset{\underset{CH_3}{|}}{C} = \underset{\underset{Br}{|}}{C} - CH_2OH$$

Watch Video Solution

111. How will you convert benzene to phenol ?

Watch Video Solution

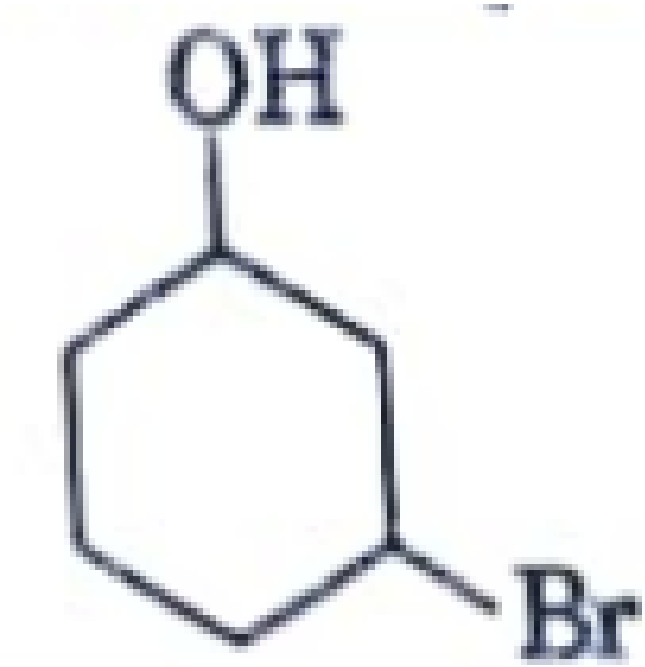
112. Write the structural formulae for : 2-methylpropan-2-ol

Watch Video Solution

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

Watch Video Solution

114. Name the compound according to IUPAC rule :



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115. Draw the structure of isobutyl alcohol and give its IUPAC name.

Watch Video Solution

116. Which of the following isomers is more volatile : o-nitrophenol or p-nitrophenol ?

Watch Video Solution

117. Give the IUPAC name of the following compound :

$$H_2C = CH - \underset{\underset{OH}{|}}{CH} - CH_2 - CH_2 - CH_3$$

Watch Video Solution

118. Write the structure of the molecule of a compound whose IUPAC name is 1-Phenylpropan-2-ol.

Watch Video Solution

119. Draw the structure of 2, 6-dimethylphenol.

Watch Video Solution

120. How would you convert ethanol to ethene ?

Watch Video Solution

121. Explain the formation of artificial gold?

Watch Video Solution

122. Write the IUPAC name of the following compound :

$$HO - CH_2 - \underset{\underset{CH_3}{|}}{CH} - CH_2 - OH$$

Watch Video Solution

123. Dehydration of tertiary alcohols with Cu at 573 K gives:

A. Aldehydes

B. Ketones

C. Alkenes

D. None of these

Answer:

Watch Video Solution

124. Molecular formula of Ethers is :

A. $C_nH_{2n+2}OH$

B. $C_nH_{2n}O$

C. $C_nH_{2n+1}O$

D. None of these

Answer:

Watch Video Solution

125. Williamsons synthesis is an example of :

A. Nucleophilic substitution reaction

B. Nucleophilic addition

C. Electrophilic substitution

D. None of the above

Answer:

Watch Video Solution

126. Commercial alcohol is made unfit for drinking by adding

A. Methyl alcohol

B. Antimony oxide and acetic acid

C. Morphine and adipic acid

D. Snake poison and malonic acid

Answer:

Watch Video Solution

127. Reaction used for the preparation of ethers is

A. Reimer-Tiemann reaction

B. Williamson's synthesis

C. Wurtz reaction

D. Cannizzaro reaction

Answer:

Watch Video Solution

128. The test used to distinguish alcohols from one another is known as

A. Hinsberg's test

B. 2,4-DNP test

C. Iodoform test

D. Lucas test

Answer:

Watch Video Solution

129. The IUPAC name of $\begin{array}{l} CH_2OH \\ | \\ CHOH \\ | \\ CH_2OH \end{array}$ is

A. Propane -1, 3-diol

B. Propane -1, 2-diol

C. Propane -1, 2, 3-triol

D. Glycerol

Answer:

Watch Video Solution

130. Ethers on hydrolysis give

A. carboxylic acid

B. alcohol

C. ester

D. ketone

Answer:

Watch Video Solution

131. Which of the following has highest boiling point?

A. Methanol

B. Ethanol

C. Propan-1-ol

D. Butan-1-ol

Answer:

Watch Video Solution

132. Which has highest pk_a value?

A. Phenol

B. Ethanol

C. o-Nitrophenol

D. o-Cresol

Answer:

Watch Video Solution

133. With the help of valance bond theory explain the hydridisation of $[CoF_6]^{-3}$

Watch Video Solution

134. How is anisole prepared ? How does it react with Br_2 in CS_2 ?

Watch Video Solution

135. How is anisole prepared ? How does it react with HNO_3 in the presence of H_2SO_4 ?

Watch Video Solution

136. How is anisole prepared ? How does it react with HI at 393-403 K?

Watch Video Solution

137. Phenyl methyl ether reacts with HI to give phenol and methyl iodide and not iodobenzene and methyl alcohol. Explain,

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138. Dimethyl ether is completely soluble in water but diethyl ether is soluble in water to a small extent. Explain.

Watch Video Solution

139. C-O-C bond angle in ethers is higher than H-O-H bond angle in water through O is sp^3 -hybridisedin both the cases.

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140. Explain the fact that in aryl ethers (i) the alkoxy group activates the benzene ring towards electrophilic substitution and (ii) it directs the

incoming substituents to ortho -and para -positions in benzene ring .

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141. Explain the fact that in aryl ethers (i) the alkoxy group activates the benzene ring towards electrophilic substitution and (ii) it directs the incoming substituents to ortho -and para -positions in benzene ring .

Watch Video Solution

142. Why is phenol acidic than ethanol? .

Watch Video Solution

143. How would you account for the following : The boiling points of ethers are much lower than those of the alcohols of comparable molar masses.

Watch Video Solution

144. Name the reagent used in the following reaction : oxidation of primary alcohol to an aldehyde.

Watch Video Solution

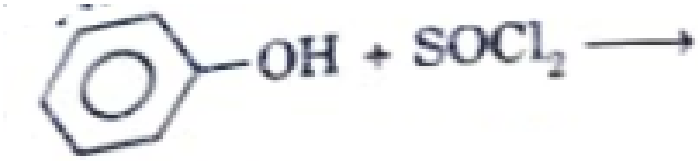
145. Name the reagents used in the following reaction: Butan-2-one to butan-2-ol.

Watch Video Solution

146. How will you convert : Phenol to 2, 4, 6-tribromophenol ?

Watch Video Solution

147. Complete the following reaction equation:



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148. Explain the mechanism of the following reaction : Acid catalysed dehydration of an alcohol forming an alkene .

Watch Video Solution

149. Illustrate the following reaction giving a chemical equation : Kolbe's reachon.

Watch Video Solution

150. Illustrate the following reaction giving a chemical equation : Williamson's synthesis.

Watch Video Solution

151. How can you distinguish primary, secondary and teriary alcohols by Lucas Test?

Watch Video Solution

152. Explain the formation of coin metal?

Watch Video Solution

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

Watch Video Solution

154. Which is steam volatile : ortho or para-nitrophenol .

Watch Video Solution

155. How will you convert : Phenol to 2, 4, 6-tribromophenol ?

Watch Video Solution

156. How will you obtain :2-Methyl propene from 2-methyl propanol.

Watch Video Solution

157. Why are alcohols comparatively more soluble in water than the corresponding hydrocarbons ?

Watch Video Solution

158. Explain the formation of gun metal alloy?

Watch Video Solution

159. With the help of valance bond theory explain the magnetic nature of $\left[Co(NH_3)_6\right]^{+3}$

Watch Video Solution

160. Draw the structure and name the product formed if the following alcohols are oxidised. Assume that an excess of oxidising agent is used : 2-Methyl-1-propanol .

Watch Video Solution

161. Name the reagents and give the equation for the preparation of 2-methyl-2-methoxypropane $[CH_3 - C(OCH_3)(CH_3)CH_3]$ by Williamson's method.

Watch Video Solution

162. Explain why 4-nitrophenol is more acidic than 4- methoxyphenol .

Watch Video Solution

163. What happens when butene is treated with HCl?

Watch Video Solution

164. Explain the formation of bell metal?

Watch Video Solution

165. With the help of valance bond theory explain the magnetic nature of $[CoF_6]^{-3}$

Watch Video Solution

166. Explain the formation of constantin?

Watch Video Solution

167. Explain the formation of monel metal?

Watch Video Solution

168. With the help of valance bond theory explain the hybridisation and magnetic nature of $\left[Fe(CN)_6\right]^{-4}$

Watch Video Solution

169. Explain the formation of German silver?

Watch Video Solution

170. With the help of valance bond theory explain the magnetic nature of $[NiCl_4]^{-2}$

Watch Video Solution

171. Explain the formation of Dutch metal?

Watch Video Solution

172. Explain the formation of magnelium?

Watch Video Solution

173. How will you convert butene to butan-2-ol ?

Watch Video Solution

174. Choose the correct option- Which is the edible part of paddy crop?

A. Seeds

B. Leaves

C. Stem

D. Roots

Answer:

Watch Video Solution

175. What will happen when bromoethane react with NaI in presence of acetone ?

Watch Video Solution

176. Choose the correct option- Which is the edible part of wheat crop?

A. Stem

B. Root

C. Leaves

D. Seeds

Answer:

Watch Video Solution

177. With the help of valance bond theory explain the hybridisation and geometry of $[NiCl_4]^{-2}$

Watch Video Solution

178. Express 3088 in roman numbers.

Watch Video Solution

179. Complete the following reaction : $C_6H_5OCH_3 \xrightarrow{HI} ?$

Watch Video Solution

180. Write a chemical test to distinguish between phenol and benzoic acid.

Watch Video Solution

181. How will you convert Phenol to Benzoic acid ?

Watch Video Solution

182. How will you convert sodium phenoxide to salicylic acid ?

Watch Video Solution

183. Why alcohols are weaker acids than water ?

Watch Video Solution

184. Compare and explain the acidic nature of phenols .

Watch Video Solution

185. Express 3100 in roman numbers.

Watch Video Solution

186. Write short notes on Kolbe's reaction ?

Watch Video Solution

187. p-Nitrophenol is more acidic than phenol. Explain.

Watch Video Solution

188. Write the chemical reactions of dehydration of alcohols at the temperature of 383 K, 413 K and 443 K in the presence of H_2SO_4 .

Watch Video Solution

189. Write the mechanism of the following reaction : $CH_3CH_2OH \xrightarrow{HBr} CH_3CH_2Br + H_2O$

Watch Video Solution

190. Write the equations involved in the following reaction : Reimer Tiemann reaction.

Watch Video Solution

191. Express 1012 in roman numbers.

Watch Video Solution

192. Express 3102 in roman numbers.

Watch Video Solution

193. Write the structural formulae of all the possible ethers having the molecular formula $C_4H_{10}O$ and give their IUPAC names.

Watch Video Solution

194. How would you account for the following : The boiling points of ethers are much lower than those of the alcohols of comparable molar masses.

Watch Video Solution

195. What are primary, secondary and tertiary alcohols? What happens when primary, secondary and tertiary alcohols are oxidized using acidified

$KMnO_4$?

Watch Video Solution

196. Explain why is ortho nitrophenol more acidic than ortho methoxyphenol ?

Watch Video Solution

197. Express 3103 in roman numbers.

Watch Video Solution

198. Express 3105 in roman numbers.

Watch Video Solution

199. How will you prepare phenol from chlorobenzene ? Write equation.

Watch Video Solution

200. Express 3106 in roman numbers.

Watch Video Solution

201. Express 3107 in roman numbers.

Watch Video Solution

202. Explain that the relative ease of dehydration of alcohols is tertiary > secondary > Primary.

Watch Video Solution

203. Why Phenols are more acidic than Alcohol ?

Watch Video Solution

204. Discuss the dehydrogenation of primary, secondary and tertiary alcohols.

Watch Video Solution

205. Write the reaction of primary , secondary and tertiary alcohols when passed through copper tube at 573 K .

Watch Video Solution

206. Give reason for the higher boiling point of propan-1-ol than butane.

Watch Video Solution

207. Accomplish the following conversions.

Benzyl chloride to 2-phenylethanamine .

Watch Video Solution

208. How will you convert ethanol to ethanoic acid ?

Watch Video Solution

209. Why has phenol, higher boiling point than toluene ?

Watch Video Solution

210. Alcohols are soluble in water while alkyl halides arenot, although both are polar compounds. Explain.

Watch Video Solution

211. How do you convert the following : Phenol to anisole.

Watch Video Solution

212. How will you convert : Propan-2-ol to 2-methylpropan-2-ol?

Watch Video Solution

213. Express 3108 in roman numbers.

Watch Video Solution

214. Express 3110 in roman numbers.

Watch Video Solution

215. Write the equation involved in the acetylation of salicylic acid.

Watch Video Solution

216. With the help of valance bond theory explain the hybridisation and geometry of $\left[Ni(CO)_4\right]$

Watch Video Solution

217. $CH_3OC_2H_5 + HI \xrightarrow{excess} A + B$ Give structures of A and B products.

Watch Video Solution

218. With the help of valance bond theory explain the magnetic nature of $\left[Ni(CO)_4\right]$

Watch Video Solution

219. How would you convert the following: Phenol to benzene.

Watch Video Solution

220. How would you convert the following: Phenol to benzoquinone.

Watch Video Solution

221. How would you convert the following: butene to butan-1-ol .

Watch Video Solution

222. How will you distinguish between benzyl alcohol and phenol?

Watch Video Solution

223. How do you account for the miscibility of ethoxy ethane with water.

Watch Video Solution

224. Among HI and HBr, which is a better reagent for cleavage of ether?

Watch Video Solution

225. Explain why phenol behaves as an acid ?

Watch Video Solution

226. Express 3111 in roman numbers.

Watch Video Solution

227. How do you account for the miscibility of ethoxy ethane with water.

Watch Video Solution

228. Give the functional isomer of CH_3CH_2OH.

Watch Video Solution

229. Why ethers have low boiling points than isomeric alcohols?

Watch Video Solution

230. Give the position isomer of $CH_3CH_2CH_2CH_2OH$ (Butan-1-ol).

Watch Video Solution

231. Distinguish between primary, secondary andtertiary alcohols by chemical test.

Watch Video Solution

232. Why primary alcohols are more acidic than secondary alcohols?

Watch Video Solution

233. Discuss the dehydrogenation of primary, secondary and tertiary alcohols.

Watch Video Solution

234. Ethers possess a dipole moment even if the alkyl groups in the molecule are identical. Explain.

Watch Video Solution

235. Give the position isomer of $CH_3CH_2CH_2OH$ (Propan-1-ol).

Watch Video Solution

236. Write the IUPAC name of the following compound :

$$CH_3 - \underset{Cl}{CH} - \underset{OH}{C} = CH_2$$

Watch Video Solution

237. How will you convert phenol into phenolphthalein, picric acid and salol.

Watch Video Solution

238. Write the equations involved in the following reaction : Reimer Tiemann reaction.

Watch Video Solution

239. Give one example of the following reaction : Williamson's synthesis.

Watch Video Solution

240. How will you convert : Propan-2-ol to 2-methylpropan-2-ol?

Watch Video Solution

241. Express 3112 in roman numbers.

Watch Video Solution

242. Express 3113 in roman numbers.

Watch Video Solution

243. What happens when phenol is heated with Zn dust? Give equation.

Watch Video Solution

244. Complete the following reaction : $C_6H_5OCH_3 \xrightarrow{HI} ?$

Watch Video Solution

245. Complete the following reaction : $CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - OH \xrightarrow[573K]{Cu} ?$

Watch Video Solution

246. Express 3115 in roman numbers.

Watch Video Solution

247. What happens when phenol reacts with NaOH .

Watch Video Solution

248. What happens when phenol reacts with dil. HNO_3 .

Watch Video Solution

249. Express 3116 in roman numbers.

Watch Video Solution

250. Write the main product(s) in each of the following reaction :

$$CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - O - CH_3 + HI$$

Watch Video Solution

251. Write the main product(s) in each of the following reaction :

$$CH_3 - CH = CH_2 \xrightarrow[(ii)\, 3H_2O_2 / OH]{(i)\, B_2H_6}$$

Watch Video Solution

252. Write the main product(s) in each of the following reaction :

$$C_6H_5 - OH \xrightarrow[(ii)\, CO_2, H^+]{(i)\, aq. NaOH}$$

Watch Video Solution

253. Express 3117 in roman numbers.

Watch Video Solution

254. How would you convert the following: bromoethane to nitroethane

Watch Video Solution

255. How would you convert the following: Phenol to benzoquinone.

Watch Video Solution

256. Write the iupac name : $CH_3\overset{\overset{CH_3}{|}}{\underset{|}{C}}H\overset{\overset{Br}{|}}{C}H_2$

Watch Video Solution

257. Express 3118 in roman numbers.

Watch Video Solution

258. Express 3120 in roman numbers.

Watch Video Solution

259. How would you obtain the following - 2-Methylpropan-2-ol from methyl magnesium bromide?

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260. How would you obtain the following : Propan-2-ol from propene ?

Watch Video Solution

261. Express 3121 in roman numbers.

Watch Video Solution

262. Express 3122 in roman numbers.

Watch Video Solution

263. Express 3123 in roman numbers.

Watch Video Solution

264. Explain the mechanism of the following reaction : $CH_3CH_2OH \xrightarrow[443]{H^+} CH_2 = CH_2 + H_2O$

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265. Write the mechanism of the following reaction : $CH_3CH_2OH \xrightarrow{HBr} CH_3CH_2Br + H_2O$

Watch Video Solution

266. Give reasons fer the following :

o-nitrophenol is more acidic than o-methoxyphenol.

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267. Give reasons for the following: Butan-1-ol has a higher boiling point than diethyl ether.

Watch Video Solution

268. Give reasons for the following: $(CH_3)_3C - O - CH_3$ on reaction with HI gives $(CH_3)_3C - I$ and $CH_3 - OH$ as the main products and

not $(CH_3)_3C-OH$ and CH_3-I.

Watch Video Solution

269. Express 3125 in roman numbers.

Watch Video Solution

270. Express 3126 in roman numbers.

Watch Video Solution

271. Express 3127 in roman numbers.

Watch Video Solution

272. Express 3128 in roman numbers.

Watch Video Solution

Watch Video Solution

273. Express 3130 in roman numbers.

Watch Video Solution

274. Give reasons for the following: Boiling point of ethanol is higher than that of dimethyl ether.

Watch Video Solution

275. Anisole on reaction with HI gives phenol and $CH_3 - I$ as main products and not iodobeneze and CH_3OH.

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276. Express 3131 in roman numbers.

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277. Write Kolbe reaction of phenol.

Watch Video Solution

278. Write two uses of methanol.

Watch Video Solution

279. Discuss the dehydrogenation of primary alcohols.

Watch Video Solution

280. Write the following reaction :

Diethyl ether with HI.

Watch Video Solution

281. Write the followingreactions :

Phenol with benzene diazonium chloride.

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282. Write the following reaction :

Alcohol with $SOCl_2$.

Watch Video Solution

283. Discuss the acidic dehydration of primary alcohols at 443 K.

Watch Video Solution

284. Write Reimer-Tiemann reaction.

Watch Video Solution

285. Write two uses of ethanol.

Watch Video Solution

286. Why are ethers relatively inert compounds ?

Watch Video Solution

287. Write the following reaction :

Diethyl ether with Cl_2.

Watch Video Solution

288. Write the following reactions :

Phenol with zinc dust.

Watch Video Solution

289. Write the following reaction :

Alcohol with PCl_5.

Watch Video Solution

290. Write Williamson synthesis. Illustrate its limitations.

Watch Video Solution

291. Why primary alcohols are more acidic than secondary alcohols?

Watch Video Solution

292. How is phenol converted into salicylaldehyde ?

Watch Video Solution

293. Convert phenol into: Benzene.

Watch Video Solution

294. How is phenol converted into picric acid ?

Watch Video Solution

295. Out of phenol and benzene which is more easily nitrated and why ?

Watch Video Solution

296. Account for the following : How will you convert benzene diazonium chloride to phenol ?

Watch Video Solution

297. Write short notes on the following : Friedel-Craft's alkylation.

Watch Video Solution

298. Complete the following reaction :

$$CH_3CH_2OH + [O] \xrightarrow[H_2SO_4]{K_2Cr_2O_7} ? + ?$$

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299. Write short notes on :

Wurtz reaction

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300. Write short notes on the

Finkelstein reaction

Watch Video Solution

301. Write short notes on: Saytzeff's rule.

Watch Video Solution

302. Complete the following reaction : $CH_2 = CH_2 + O_3 \rightarrow ? \xrightarrow[-H_2O]{H_2O, Zn} ?$

Watch Video Solution

303. Give the structural formulae and IUPAC names of the isomers with the molecular formula C_3H_8O. Arrange them in increasing order of their boiling point.

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

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305. Primary, secondary and tertiary alcohols can be distinguished by Lucas test. What is Lucas reagent ?

Watch Video Solution

306. Primary, secondary and tertiary alcohols can be distinguished by Lucas test. Write the observation for primary, secondary and tertiary alcohols in Lucas test.

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307. What happens when phenol is treated with CO_2 at 4-7 atm pressure. Give reaction also.

Watch Video Solution

308. What happens when phenol is treated with Br_2 / CS_2. Give reaction also.

Watch Video Solution

309. What happens when phenol is treated with $CHCl_3$, NaOH at 340 K . Give reaction also.

Watch Video Solution

310. How will you distinguish between isopropyl alcohol and ethyl alcohol.

Watch Video Solution

311. Discuss the reaction and mechanism of acidic dehydration of ethyl alcohol to prepare ethene.

Watch Video Solution

312. What happens when phenol reacts with dil. HNO_3 .

Watch Video Solution

313. What happens when phenol is treated with conc . HNO_3 ?

Watch Video Solution

314. How will you prepare phenol from Haloarenes?

Watch Video Solution

315. How will you prepare phenol from Diazonium salts?

Watch Video Solution

316. How will you prepare phenol from Cumene ?

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317. How will you prepare the following compound using Grignard reagent, Primary alcohol?

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318. How will you prepare the following compound using Grignard reagent ,Secondary alcohol ?

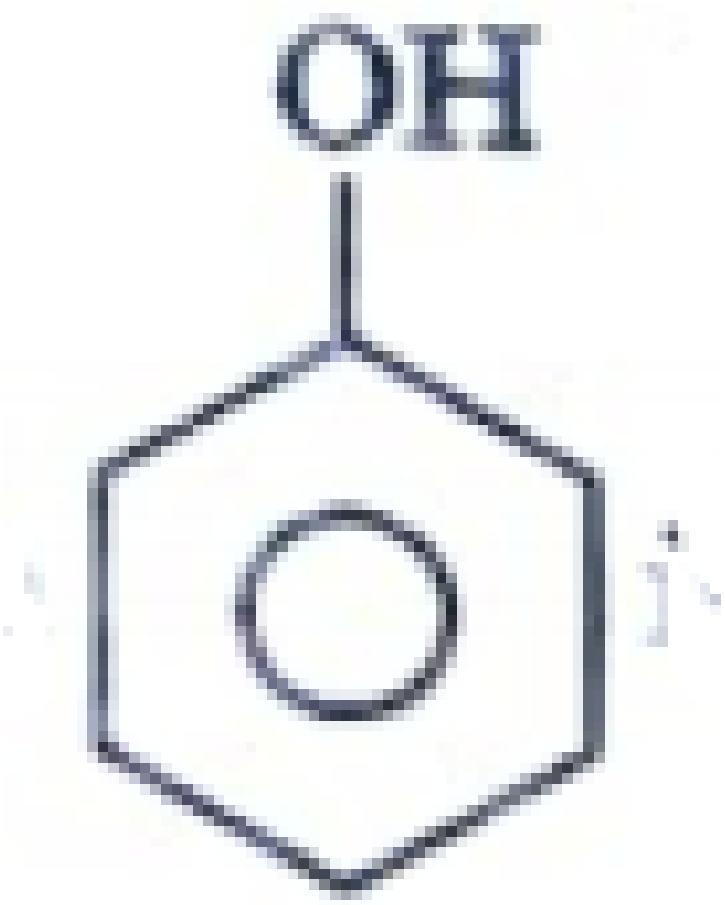
Watch Video Solution

319. How can you distinguish primary, secondary and teriary alcohols by Lucas Test?

Watch Video Solution

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

321. Give chemical reactions when



is reacted

with Conc. HNO_3 ?

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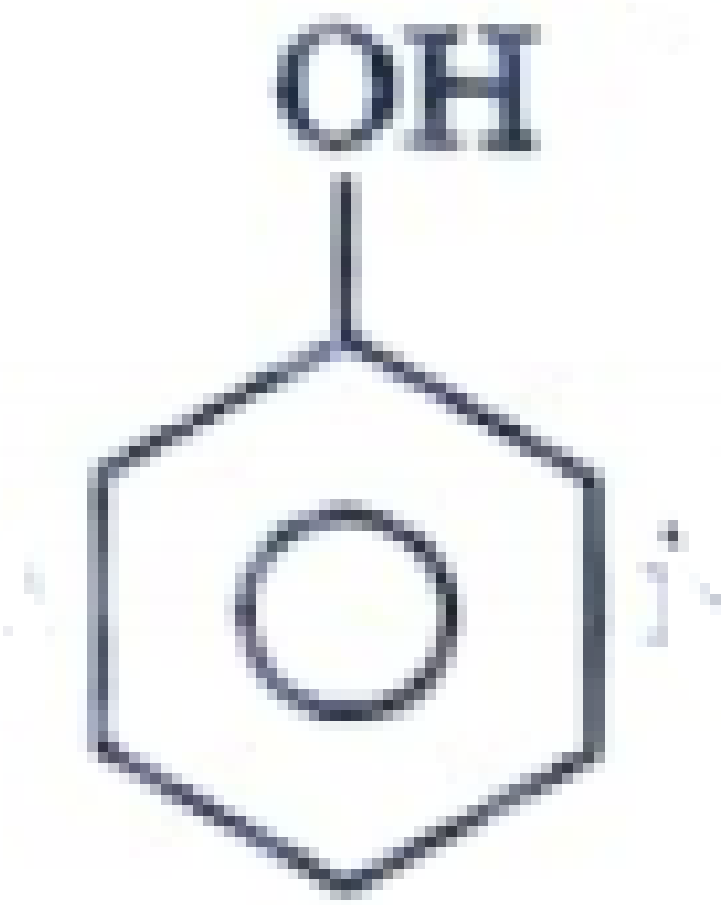
322. Give chemical reactions when



is reacted

with Bromine water?

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323. Explain with examples the preparation of alcohols by using hydroboration oxidation of aldehydes and ketones. Also give chemical reactions involved.

Watch Video Solution

324. Ethanol, commonly called aa alcohol is an excellent solvent and is used in medicines and synthesis of many chemical compounds. However, in spite of its benefits to man, its impact on social behaviour has always been questioned. Media have often shown abnormal behaviour of people while drunk. It is considered as a curse in the lives of those who are addicted to alcohol called 'alcoholic' people because it not only affects their own lives but they are also a threat to the liven of others. Angor and rude behaviour are some of its ill effects. Comment on the statement

'Should production of alcohol be banned'. Give three valid reasons to justify.

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325. Ethanol, commonly called aa alcohol is an excellent solvent and is used in medicines and synthesis of many chemical compounds. However, in spite of its benefits to man, its impact on social behaviour has always been questioned. Media have often shown abnormal behaviour of people while drunk. It is considered as a curse in the lives of those who are addicted to alcohol called 'alcoholic' people because it not only affects their own lives but they are also a threat to the liven of others. Angor and rude behaviour are some of its ill effects. Comment on the statement 'Should production of alcohol be banned'. Give three valid reasons to justify.

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326. The labourers of a colony used to drink cheaper alcohol from unauthorised sources. This alcohol contained some methanol. One day a few labourers complained of drowsiness and pain, and loss of eyesight after consuming the liquor. Their family members took them to the hospital and the doctors tried to treat them. One of the labourers died and other complained loss of their eyesight. As a student of science, how would you analyse this serious situation ? How does drinking of cheap alcohol cause problem ?

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327. The labourers of a colony used to drink cheaper alcohol from unauthorised sources. This alcohol contained some methanol. One day a few labourers complained of drowsiness and pain, and loss of eyesight after consuming the liquor. Their family members took them to the hospital and the doctors tried to treat them. One of the labourers died and other complained loss of their eyesight. As a student of science, how

would you analyse this serious situation ? What message would you give to the persons who consume spurious alcohol ?

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328. Which one of the following is most acidic ?

A. CH_3OH

B. CH_3CH_2OH

C. $(CH_3)_2CHOH$

D. $(CH_3)_3COH$.

Answer:

Watch Video Solution

329. Which one of tho following compounds would not be easily oxidised by $K_2Cr_2O_7$ and sulphuric acid ?

A. CH_3CH_2OH

B. $(CH_3)_2CHOH$

C. $(CH_3)_3COH$

D. CH_3CHO.

Answer:

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330. Phenol is more acidic than ethyl alcohol because

A. phenoxide ion is more resonance stabilised than phenol

B. there is more hydrogen bonding in phenol than ethyl alcohol

C. ethoxide ion is less resonance stabilised than ethyl alcohol

D. phenol has higher boiling point than ethyl alcohol.

Answer:

Watch Video Solution

331. Which of the following alcohols is most reactive with HCl in the presence of $ZnCl_2$?

A. $CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - OH$

B. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2OH$

C. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - OH$

D. CH_3OH .

Answer:

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332. Isopropyl alcohol is oxidised with $K_2Cr_2O_7$ and H_2SO_4 to give :

A. CH_3CHO

B. CH_3COCH_3

C. $CH_3CH_2CH_2COOH$

D. $CH_3CH = CH_2$.

Answer:

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333. Write the iupac name : $CH_3\overset{CH_3}{\overset{|}{C}}HOH$

A.

B.

C.

D.

Answer:

Watch Video Solution

334. Phenol upon distiliation with zinc dust gives :

A. benzene

B. benzaldehyde

C. benzoic acid

D. benzophenone.

Answer:

Watch Video Solution

335. The end product in the following sequence is :

$$Phenol \xrightarrow{NaOH} A \xrightarrow[140^{\circ}C]{CO_2} B \xrightarrow{H^+, H_2O} C \xrightarrow{(CH_3CO)_2O} D$$

A. Salicylic acid

B. Salicylaldehyde

C. Phenyl acetate

D. Aspirin.

Answer:

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336. Which of the following reagent cannot be used to distinguish between phenol and benzyl alcohol

A. NaOH

B. $NaHCO_3$

C. Br_2 / CCl_4

D. $FeCl_3$

Answer:

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337. Ethers are isomeric with

A. aldehydes

B. vinyl alcohols

C. alcohols

D. ketones.

Answer:

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338. Diethyl ether on treatment with excess Cl_2 gives

A. perchlorodiethyl ether

B. ethyl chloride

C. ethanoyl chloride

D. diethyl ether peroxide.

Answer:

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339. Anisole reacts with HI at 373 K to give

A. $C_6H_5I + CH_3OH$

B. $CH_3I + C_6H_5OH$

C. $C_6H_5CH_2OH + CH_3I$

D. $CH_3CH_2I + C_6H_5OH.$

Answer:

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340. Ethers can be distinguished from alcohols by the following reaction :

A. reaction with Na

B. reaction with PCl_5

C. reaction with 2, 4-dinitrophenyl hydrazine

D. none of these.

Answer:

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341. Express 3132 in roman numbers.

Watch Video Solution

342. Express 3133 in roman numbers.

Watch Video Solution

343. Express 3135 in roman numbers.

Watch Video Solution

Watch Video Solution

344. Express 3136 in roman numbers.

Watch Video Solution

345. Express 3137 in roman numbers.

Watch Video Solution

346. Express 3138 in roman numbers.

Watch Video Solution

347. Express 3150 in roman numbers.

Watch Video Solution

348. Express 3151 in roman numbers.

Watch Video Solution

349. Express 3152 in roman numbers.

Watch Video Solution

350. Express 3153 in roman numbers.

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351. Find the decimal representation of $\frac{2}{3}$

A.

B.

C.

D.

Answer:

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352. 1-Propanol and 2-Propanol Can be best distinguished by

A. oxdation with alkaline $KMnO_4$ followed by reaction with Fehling solution

B. oxidation with acidic dichromate followed by reaction with Fehbling solution

C. oxidation by heating with copper followed by reaction with Fehling solution

D. oxidation with conc. H_2SO_4 followed by reaction with Fehling solution

Answer:

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353. An ether is more volatile than an alcohol having the same molecular formula. This is due to:

A. intermolecular hydrogen bonding in alcohols

B. dipolar character of ethers

C. alcohols having resonance structures

D. intermolecular hydrogen bonding in ethers.

Answer:

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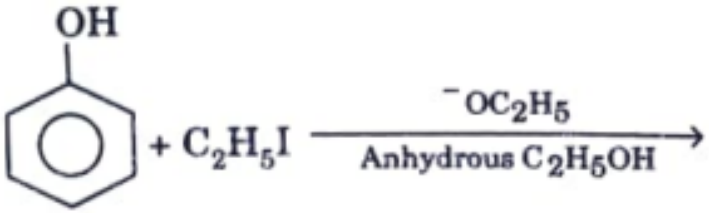
354.



A. $C_6H_5OC_2H_5$

B. $C_2H_5OC_2H_5$

C. $C_6H_5OC_6H_5$

D. $C_6H_5I.$

Answer:

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355. When phenol is treated with $CHCl_3$ and NaOH, the product formed is

A. Benzaldehyde

B. Salicylaldehyde

C. Salicylic acid

D. Benzoic acid.

Answer:

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356. During dehydration of alcohols to alkenes by heating with conc. H_2SO_4, the initial step is

A. formation of an ester

B. protonation of alcohol molecule

C. formation of carbocation

D. elimination of water

Answer:

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357. Which of the following compounds will give a yellow precipitate with iodine and alkali ?

A. $CH_3CH_2CH(OH)CH_3$

B. CH_3OH

C. CH_3CH_2OH

D. $CH_3CH(OH)CH_3$

Answer:

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358. Among the following compounds which can be dehydrated very easily is

A. $CH_3CH_2\underset{\underset{OH}{|}}{\overset{\overset{CH_3}{|}}{C}}CH_2CH_3$

B. $CH_3CH_2CH_2\underset{\underset{OH}{|}}{C}HCH_3$

C. $CH_3CH_2CH_2CH_2OH$

D. $CH_3CH_2\underset{\underset{CH_3}{|}}{C}HCH_2CH_2OH$

Answer:

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359. The major organic product in the reaction $CH_3 - O - CH(CH_3)_2 + HI \rightarrow$ Product is

A. $ICH_2OCH(CH_3)_2$

B. $CH_3O\underset{\underset{I}{|}}{C}(CH_3)_2$

C. $CH_3I + (CH_3)_2CHOH$

D. $CH_3OH + (CH_3)_2CHI$

Answer:

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360. In the reaction :

$CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2 - O - CH_2 - CH_3 + HI \xrightarrow{Heat}$ The products are:

A. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2OH + CH_3CH_3$

B. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_3 + CH_3CH_2OH$

C. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2OH + CH_3CH_2I$

D. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2 - I + CH_3CH_2OH$

Answer:

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361. Consider the following reaction :

$Ethanol \xrightarrow{PBr_3} X \xrightarrow{alc.KOH} Y \xrightarrow[(ii)\, H_2O,\, \Delta]{(i)\, H_2SO} Z$ The product Z is

A. $CH_3CH_2OCH_2CH_3$

B. $CH_3CH_2O - SO_3H$

C. CH_3CH_2OH

D. $CH_2 = CH_2$

Answer:

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362. $Phenol \xrightarrow{Zn, dust} X \xrightarrow[Anhyd. AlCl_3]{CH_3Cl} Y \xrightarrow[KMnO_4]{Alkaline} Z$ The product Z is

A. Benzaldehyde

B. Benzoic acid

C. Benzene

D. Toluene

Answer:

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363. Which of the following compounds is most acidic

A.

B.

C.

D.

Answer:

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364. Given are cyclohexanol (I), acetic acid (II), 2, 4,6- trinitrophenol (III) and phenol (IV). In these the order of decreasing acidic character will be :

A. (a)$II > III > IV > I$

B. (b)$III > IV > II > I$

C. (c)$III > II > IV > I$

D. (d)$III > II > I > IV$

Answer:

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365. Among the following ethers, which one will produce methyl alcohol on treatment with hot concentrated HI ?

A. $CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - O - CH_3$

B. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - CH_2 - O - CH_3$

C. $CH_3 - CH_2 - CH_2 - CH_2 - O - CH_3$

D. $CH_3 - CH_2 - \underset{\underset{CH_3}{|}}{CH} - O - CH_3$

Answer:

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366. Among the following seta of reactants which one produces anisole ?

A. $CH_3CHO, RMgX$

B. $C_6H_5OH, NaOH, CH_3I$

C. $C_6H_5OH, \neq utralFeCl_3$

D. $C_6H_5CH_3, CH_3COCl, AlCl_3$

Answer:

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367. Identify Z in the sequence of reactions:

$$CH_3CH_2CH = CH_2 \xrightarrow{HBr, H_2O_2} Y \xrightarrow{C_2H_5ONa} Z$$

A. $CH_3 - (CH_2)_3 - O - CH_2CH_3$

B. $(CH_3)_2CH - O - CH_2CH_3$

C. $CH_3(CH_2)_4 - O - CH_3$

D. $CH_3CH_2 - CH(CH_3) - O - CH_2CH_3$

Answer:

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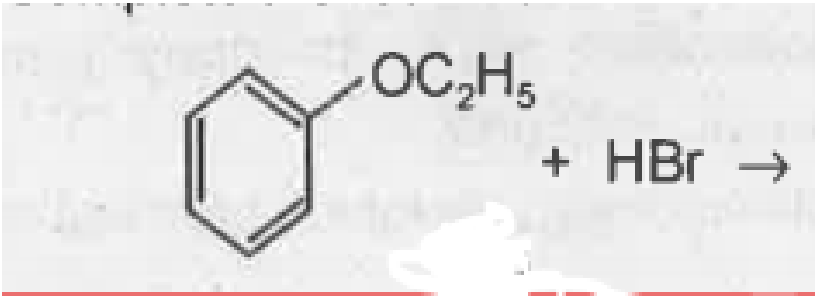
368. Complete the reaction :



A. dehydration reaction

B. Williamson alcohol synthesis reaction

C. Williamson ether synthesis reaction

D. alcohol formation reaction

Answer:

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369. Primary, secondary and tertiary alcohols can be distinguished by

A. Borsche's test

B. Lucas test

C. Hinsberg's test

D. Tollen's test

Answer:

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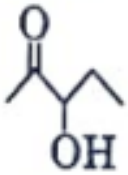
370. Which of the following will be most readily dehydrated in acidic conditions ?

A.

(a) 

B.

C.

(c) 

D.

(d) 

Answer:

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371. The correct IUPAC name of the organic compound $CH_3 - \underset{\underset{Cl}{|}}{CH} - \underset{\underset{CH_3}{|}}{CH} - \underset{\underset{CH_3}{|}}{CH} - CH_2OH$ is

A. 4-chloro-2, 3-dimethylpentan-1-ol

B. 2-chloro-3, 4-dimethylpentan-5-ol

C. 2, 3-dimethyl-4-chloropentan-1-ol

D. 2-chloro-3, 4-dimethyl-n-pentyl alcohol

Answer:

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372. Which one of the following phenols has the highest pK_a value ?

A. o-Nitrophenol

B. Phenol

C. Picric acid

D. p-Cresol

Answer:

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373. Among the following the one that gives position iodoform test upon reaction with I_2 and NaOH is

A. $C_6H_5CH_2CH_2OH$

B. $CH_3 - \underset{\underset{CH_3}{|}}{CH}CH_2OH$

C. $PhCHOHCH_3$

D. $CH_3CH_2CH(OH)CH_2CH_3$

Answer:

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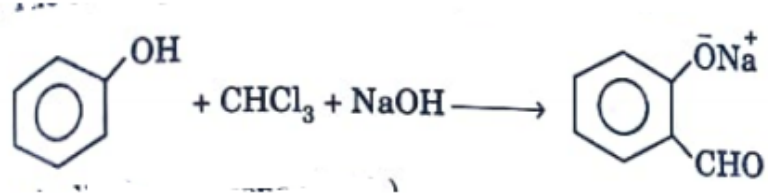
374. The electrophile involved in the given reaction is



A. dichlorocarbene $\langle CCl_2)$

B. trichloromethyl anion $\left(\overset{-}{C}Cl_3\right)$

C. formyl cation $\left(\overset{+}{C}HO\right)$

D. dichloromethyl cation $\left(\overset{+}{C}HCl_2\right)$

Answer:

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375. Choose the correct option- Which part of brinjal plant is edible?

A. Seeds

B. Fruit

C. Stem

D. Root

Answer:

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376. In the following sequence of reactions : $CH_3CH_2OH \xrightarrow{P, I_2} A \xrightarrow[ether]{Mg} B \xrightarrow{HCHO} C \xrightarrow{H_2O} D$ The compound D is

A. n-butyl alcohol

B. n-propyl alcohol

C. propanal

D. butanal

Answer:

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377. Phenol when it first reacts with concentrated sulphuric acid and then with concentrated nitric acid gives

A. nitrobenzene

B. 2,4,6- trinitrobenzene

C. o-nitrophenol

D. p-nitrophenol

Answer:

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378. The major product obtained on interaction of phenol with NaOH and CO_2 is

A. Benzoic acid

B. Salicylaldehyde

C. Salicylic acid

D. Phthalic acid

Answer:

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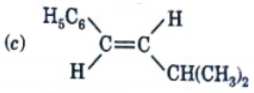
379. The main product of the following reaction $C_6H_5CH_2CH(OH)CH(CH_3)_2 \xrightarrow{Conc.H_2SO_4}$ is

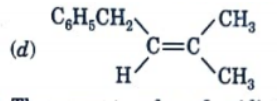
A.

B.

C.



D.



Answer:

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380. The correct order of acidic strength of the following compounds :

I. Phenol II. p-Cresol

III. m-Nitrophenol IV. p-nitrophenol

A. IVgtIIIgtIgtII

B. IIgtIVgtIgtIII

C. Igt IIgtIVgtIII

D. IIIgtIIgtIgtIV

Answer:

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381. Which of the following reagents may be used to distinguish between phenol and benzoic acid ?

A. Molisch reagent

B. Neutral $FeCl_3$

C. Aqueous NaOH

D. Tollen's reagent

Answer:

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382. Ortho-nitrophenol is less soluble in water than p-and m-nitrophenols because

A. o-nitrophenol shows intramolecular H-bonding

B. o-nitrophenol shows intermolecular H-bonding

C. melting point of o-nitrophenol is lower than those of m- and p-isomers

D. o-nitrophenol is more volatile in steam than those of m- and p-isomers

Answer:

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383. Choose the correct option- The edible part of potato plant is-

A. Flower

B. Leaves

C. Stem

D. Roots

Answer:

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384. The most suitable reagent for the conversion of $R - CH_2 - OH \rightarrow R - CHO$ is

A. PCC (Pyridinium chlorochromate)

B. $KMnO_4$

C. $K_2Cr_2O_7$

D. CrO_3

Answer:

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385. Identify the product/s in the following reaction :

$3CH_3CH = CH_2 \xrightarrow{BH_3} X \xrightarrow{H_2O_2, OH^-} product/s + H_3BO_3$

A. $CH_3CH_2CH_2OH$

B. $CH_3CHOHCH_3$

C. CH_3CH_2CHO

D. $CH_3CH_2OH + CH_3OH$

Answer:

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386. The products obtained when benzyl phenyl ether is heated with HI in the mole ratio 1: 1 are 1. phenol 2. benzyl alcohol 3. benzyl iodide 4. iodobenzene

A. 1 and 3 only

B. 3 and 4 only

C. 1 and 4 only

D. 2 and 4 only

Answer:

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387. An oxygen containing organic compound upon oxidation forms a carboxylic acid as the only organic product with its molecular mass higher by 14 units. The organic compounds

A. an aldehyde

B. a primary alcohol

C. a secondary alcohol

D. a ketone

Answer:

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388. Which of the following Grignard reagent is suitable for the preparation of 3-methyl-2-butanol ?

A. 2-Butanone + methyl magnesium bromide

B. Acetone + ethyl magnesium bromide

C. Acetaldehyde + isopropyl magnesium bromide

D. Ethyl propionate + methyl magnesium bromide

Answer:

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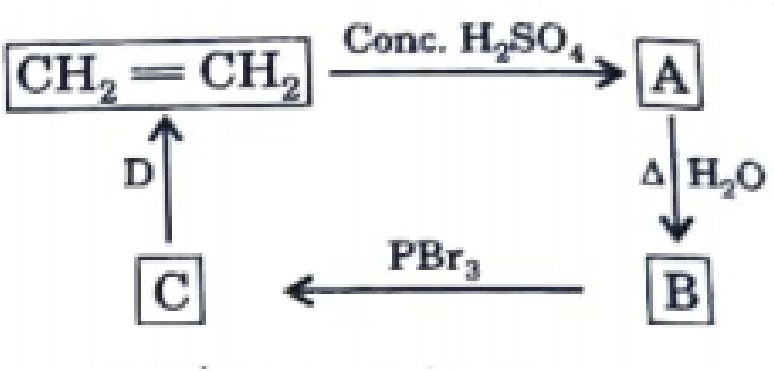
389. Identify B and D in the following sequence of reactions



A. Methanol and bromoethane

B. Ethyl hydrogen sulphate and alcoholic KOH

C. Ethyl hydrogen sulphate and aqueous KOH

D. Ethanol and alcoholic KOH

Answer:

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390. The hydroxyl compound that gives a precipitate immediately when treated with concentrated hydrochloric acid and anhydrous zinc chloride is

A. 3-methyl-2-butanol

B. 3-methyl-1-butanol

C. 1-butanol

D. 2-methyl-2-butanol

Answer:

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391. Reaction of butanone with methylmagnesium bromide followed by hydrolysis gives

A. 2-methyl-2-butanol

B. 2-butanol

C. 3-methyl-2-butanol

D. 2, 2-dimethyl-1-butanol

Answer:

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392. An oxygen containing organic compound was found to contain 52% carbon and 13% of hydrogen. Its vapour density is 23. The compound reacts with sodium metal to liberate hydrogen. A functional isomer of this compound in

A. Ethanol

B. Ethanal

C. Methoxy methane

D. Methoxy ethane

Answer:

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393. Choose the correct option- Potato is-

A. root

B. stem

C. leaf

D. fruit

Answer:

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394. Choose the correct option- Brinjal is-

A. fruit

B. stem

C. leaf

D. root

Answer:

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395. Choose the correct option- Carrot is-

A. fruit

B. leaf

C. stem

D. root

Answer:

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396. Complete the following statement- Chlorophyll is the component used in the process of-

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397. Express 3155 in roman numbers.

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398. Express 3156 in roman numbers.

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399. 0.44 g of a monohydric alcohol when added to methylmagnesium iodide in ether liberates at S.T.P., 112 cm^3 of methane. With PCC the same alcohol forms a carbonyl compound that answers silver mirror test. The monohydric alcohol is

A. $CH_3 - \underset{\underset{|}{OH}}{CH} - CH_2 - CH_3$

B. $(CH_3)_3CCH_2OH$

C. $CH_3 - \underset{\underset{|}{OH}}{CH} - CH_2CH_2 - CH_3$

D. $(CH_3)_2CH - CH_2OH$

Answer:

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400. Express 3158 in roman numbers.

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401. Express 3160 in roman numbers.

Watch Video Solution

402. Express 3161 in roman numbers.

Watch Video Solution

403. Express 3162 in roman numbers.

Watch Video Solution

404. Express 3163 in roman numbers.

Watch Video Solution

405. Express 3165 in roman numbers.

Watch Video Solution

406. Express 3166 in roman numbers.

Watch Video Solution

407. Express 3167 in roman numbers.

Watch Video Solution

408. Express 3168 in roman numbers.

Watch Video Solution

409. Express 3333 in roman numbers.

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410. The reaction which involves dichlorocarbene as an electrophile is

A. Reimer-Tiemann reaction

B. Kolbe's reaction

C. Friedel-Crafts' acylation

D. Fitting's reaction

Answer:

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411. Ethanol is converted into ethoxyethane

A. by heating excess of ethanol with conc. H_2SO_4 at $140^\circ C$

B. by heating ethanol with excess of conc. H_2SO_4 at 445K

C. by treating with conc. H_2SO_4at room temperature

D. by treating with conc. H_2SO_4 at 273 K.

Answer:

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412. Ethyl ester $\xrightarrow[excess]{CH_3MgBr} P$. The product P is

A.

B.

C.

D.

Answer:

Watch Video Solution

413. Which of the following alcohols on dehydration with conc. H_2SO_4 give but - 2- ene

A. 2-Methyl propan-2-ol

B. Butan-1-ol

C. 2-Methyl propan-1-ol

D. Butan-2-ol

Answer:

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414. Which of the following alcohols give iodoform test ?

A. Butan-1-ol

B. Propan-1-ol

C. Propan-2-ol

D. Ethanol

Answer:

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415. Which of the following are weaker acids than phenol ?

A. 4-Methoxy phenol

B. 3,5-dinitrophenol

C. 4-Methyl phenol

D. 4-Nitro phenol

Answer:

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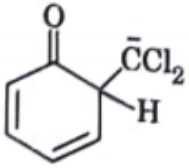
416. Which of the following species are involved in the carbylamine test ?

A.

B.

b) 

C.

D.

Answer:

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417. Correct statement(s) in cases of n-butanol and t- butanol is (are)

A. both are having equal solubility in water

B. t-butanol is more soluble in water than n-butanol

C. boiling point of t-butanol is lower than n-butanol

D. boiling point of n-butanol is lower than t-butanol

Answer:

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418. The correct combination of names for isomeric alcohols with molecular formula $C_4H_{10}O$ is/are

A. tert-butanol and 2-methylpropan-2-ol

B. tert-butanol and 1, 1-dimethylethan-1-ol

C. n-butanol and butan-1-ol

D. iso-butyl alcohol and 2-methylpropan-1-ol.

Answer:

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419. The correct statement(s) about the following reaction sequence is(are)

$$Cumene(C_9H_{12}) \xrightarrow[(ii)\,H_3O^+]{(i)\,O_2} P \xrightarrow[NaOH]{CHCl_3} Q(Maj \text{ or }) + R(Min \text{ or })Q \xrightarrow[PhCH_2Br]{NaOH}$$

A. R is steam volatile

B. Q gives dark violet colouration with 1 % aqueous $FeCl_3$ solution

C. S gives yellow precipitate with 2, 4- dinitro- phenylhydrazine

D. S gives dark violet colouration with 1% aqueous $FeCl_3$ solution

Answer:

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420. The electrophile in this electrophilic substitution reaction is

A. : CCl_3

B. : CCl_2

C. $CHCl_2^+$

D. Cl^-

Answer:

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421. When Phenol is react with CCl_4 in place of $CHCl_3$ in the reaction, the product formed is

A. 2-Acetoxybenzoic acid

B. 2-Hydroxybenzoic acid

C. 2-Carboxyphenol

D. none of these.

Answer:

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422. How can you convert methyl iodide to ethanoic acid?

A.

B.

C.

D.

Answer:

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423. Butan-2-ol on heating with Cu at 573 K gives

A. butanal

B. 2-butanone

C. propanone

D. but-2-ene

Answer:

Watch Video Solution

424. The product of the reaction : $CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}}H - CH_2OH \xrightarrow[Oxidation]{PCC}$ is

A. 2-Methylpropanal

B. 2-Methylpropanoic acid

C. Butanoic acid

D. Butan-2-one

Answer:

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425. Draw the structure of cinnamyl chloride.

A.

B.

C.

D.

Answer:

Watch Video Solution

426. Draw the structure of 4-bromotoluene

A.

B.

C.

D.

Answer:

Watch Video Solution

427. If $\hat{i}+\hat{j}+\hat{k}, 2\hat{i}+5\hat{j}, 3\hat{i}+2\hat{j}-3\hat{k}$ and $\hat{i}-6\hat{j}-\hat{k}$ are the position vectors of points A,B,C and D respectively, then find the angle between $\overrightarrow{A}\,B$ and $\overrightarrow{C}\,D$. Are $\overrightarrow{A}\,B$ and $\overrightarrow{C}\,D$ collinear?

A. $PhCOCH_3$, $PhCH_2COCH_3$ and $PhCH_2COO^-K^+$

B. $PhCHO$, $PhCH_2CHO$ and $PhCOO^-K^+$

C. $PhCOCH_3$, $PhCH_2CHO$ and $CH_3COO^-K^+$

D. $PhCHO$, $PhCOCH_3$ and $PhCOO^-K^+$

Answer:

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428. The question given below consist of an Assertion and the Reason. Use the following key to choose the appropriate answer. (a) If both assertion and reason are CORRECT and reason is the CORRECT explanation of the assertion. (b) If both assertion and reason are CORRECT, but reason is NOT THE CORRECT explanation of the assertion.

(c) If assertion is CORRECT but reason is INCORRECT. (d) If assertion is INCORRECT but reason is CORRECT. (e) If both assertion and reason are INCORRECT. Assertion: The boiling points of alcohols are higher than those ofhydrocarbons of comparable molecular mass. Reason : Alcohols show intramolecular hydrogen bonding.

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429. Assertion: Phenol undergoes Kolbe's reaction but ethanol does not. Reason : Phenol is more acidic than ethanol.

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430. C-O-C bond angle in ethers is higher than H-O-H bond angle in water through O is sp^3 -hybridisedin both the cases.

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431. Assertion: The boiling point of diethyl ether is Much less than that of ethanol. Reason : In ethanol, the molecules are associated by the formation of intermolecular hydrogen bonding whereas in diethyl ether, it is not possible .

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432. Amines have higher boiling points than hydrocarbons of comparable molecular masses.

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433. While separating a mixture of ortho and para-nitrophenols by steam distillation, name the isomer which will be steam volatile ? Give reasons.

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434. Monochlorination of toluene in sunlight followed by hydrolysis with aq. NaOH yields

A. o-Cresol

B. 2, 4-Dihydroxytoluene

C. m-Cresol

D. Benzyl alcohol

Answer:

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435. How many alcohols with molecular formula $C_4H_{10}O$ are chiral in nature?

A. 1

B. 2

C. 3

D. 4

Answer:

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436. What is the correct order of reactivity of alcohols in the following reaction? $R-OH+HCl \xrightarrow{ZnCl_2} R-Cl+H_2O$

A. $1^\circ > 2^\circ > 3^\circ$

B. $1^\circ < 2^\circ > 3^\circ$

C. $8^\circ > 2^\circ > 1^\circ$

D. $3^\circ > 1^\circ > 2^\circ$

Answer:

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437. CH_3CH_2OH Can be converted into CH_3CHO by _____

A. catalytic hydrogenation

B. treatment with $LiAlH_4$

C. treatment with pyridinium chlorochromate

D. treatment with $KMnO_4$

Answer:

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438. The process of converting alkyl halides into alcohols involves _____ .

A. addition reaction

B. substitution reaction

C. dehydrohalogenation reaction

D. rearrangement reaction

Answer:

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439. Give IUPAC name of the compound given below.

$$CH_3 - \underset{\underset{Cl}{|}}{CH} - CH_2 - CH_2 - \underset{\underset{OH}{|}}{CH} - CH_3$$

A. 2-Chloro-5-hydroxyhexane

B. 2-Hydroxy-5-chlorohexane

C. 5-Chlorohexan-2-ol

D. 2-Chlorohexan-5-ol

Answer:

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440. IUPAC name of m-cresol is _____ .

A. 3-methylphenol

B. 3-chlorophenol

C. 3-methoxyphenol

D. benzene-1,3-diol

Answer:

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441. IUPAC name of the compound $CH_3 - \underset{CH_3}{\underset{|}{CH}} - OCH_3$ is

A. 1-methoxy-1-methylethane

B. 2-methoxy-2-methylethane

C. 2-methoxypropane

D. isopropylmethyl ether

Answer:

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442. Which of the following compounds will react with sodium hydroxide solution in water ?

A. C_6H_5OH

B. $C_6H_5CH_2OH$

C. $(CH_3)_3COH$

D. C_2H_5OH

Answer:

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443. Phenol is less acidic than _____

A. ethanol

B. o-nitrophenol

C. o-methylphenol

D. o-methoxyphenol

Answer:

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444. Which of the following is most acidic?

A. Benzyl alcohol

B. Cyclohexanol

C. Phenol

D. m-Chlorophenol

Answer:

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445. Arrange the following compounds in increasing order of boiling point:

Propan-1-ol, butan-1-ol, butan-2-ol, pentan-1-ol

A. Propan-1-ol, butan-2-ol, butan-1-ol, pentan-1-ol

B. Propan-1-ol, butan-1-ol, butan-2-ol, pentan-1-ol

C. Pentan-1-ol, butan-2-ol, butan-1-ol, propan-1-ol

D. Pentan-1-ol, butan-1-ol, butan-2-ol, propan- 1-ol

Answer:

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446. In the following questions two or more options may be correct. Which of the following are used to convert RCHO into RCH_2OH ?

A. H_2 / Pd

B. $LiAlH_4$

C. $NaBH_4$

D. Reaction with RMgX followed by hydrolysis

Answer:

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447. Which of the following reactions will not result in the formation of C - C bond ?

A.

B.

C.

D.

Answer:

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448. Which of the following reagents can be used to oxidise primary alcohols to aldehydes ?

A. CrO_3 in anhydrous medium.

B. $KMnO_4$ in acidic medium.

C. Pyridinium chlorochromate

D. Heat in the presence of Cu at 673K.

Answer:

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449. Phenol can be distinguished from ethanol by the reactions with _____ .

A. Br_2 water

B. Na

C. Neutral FeCl_3`

D. All the above

Answer:

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450. Which of the following are benzylic alcohols?

A. $C_6H_5 - CH_2 - CH_2OH$

B. $C_6H_5 - CH_2OH$

C. $C_6H_5 - \underset{\underset{CH_3}{|}}{CH} - OH$

D. $C_6H_5 - CH_2 - \underset{\underset{CH_3}{|}}{CH} - OH$

Answer:

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451. In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. (a) Assertion and reason both are correct and reason is correct explanation of assertion. (b) Assertion and reason both are wrong statements. (c) Assertion is correct statement but reason is wrong statement. (d) Assertion is wrong statement but reason is correct statement. (e) Both assertion and reason are correct statements but reason is not correct explanation of assertion. Assertion : Addition reaction of water to but-1-ene in acidic medium yields butan-1-ol. Reason : Addition of water in acidic medium proceeds through the formation of primary carbocation.

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452. Assertion : p-nitrophenol is more acidic than phenol. Reason : Nitro group helps in the stabilisation of the phenoxide ion by dispersal of negative charge due to resonance.

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453. Assertion : IUPAC name of the compound $CH_3 - \underset{\underset{CH_3}{|}}{CH} - O - CH_2 - CH_2 - CH_3$ is 2-Ethoxy-2-methylethane. Reason : In IUPAC nomenclature, ether is regarded as hydrocarbon derivative in which a hydrogen atom is replaced by -OR or -OAr group [where R = alkyl group and Ar = aryl group]

A. (a) Assertion and reason both are correct and reason is the correct explanation of the assertion.

B. (b) Assertion and reason both are correct and reason is not the correct explanation of the assertion.

C. (c) Assertion is correct but reason is correct.

D. (d) Assertion is incorrect but reason is correct.

Answer:

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454. Assertion : Bond angle in ethers is slightly less than the tetrahedral angle. Reason : There is a repulsion between the two bulky (-R) groups.

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455. Assertion: Boiling points of alcohols and ethers are high. Reason: They can form intermolecular hydrogen-bonding.

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456. Assertion : Like bromination of benzene, bromination of phenol is also carried out in the presence of Lewis acid. Reason : Lewis acid

polarises the bromine molecule.

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457. Assertion : o-Nitrophenol is less soluble in Water than the m-and p-isomers. Reason : m-and p-Nitrophenols exist as associated molecules.

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458. Assertion : Ethanol is a weaker acid than phenol. Reason : Sodium ethoxide may be prepared by the reaction of ethanol with aqueous NaOH.

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459. Assertion : Phenol forms 2, 4, 6 - tribromophenol on treatment with Br_2 in carbon disulphide at 273k. Reason : Bromine polarises in carbon disulphide.

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460. Assertion : Phenols give o- and p-nitrophenol on nitration with conc. HNO_3 and H_2SO_4 mixture. Reason : -OH group in phenol is o-, P-directing.

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461. Write chemical reaction for the preparation of phenol from chlorobenzene .

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462. Predict the product of the following reaction :

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

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463. Why di-tertiary butyl ether cannot be prepared byWilliamson's synthesis ?

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464. Which of the two, phenol or o-nitrophenol more acidic and why?

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465. What is the order of reactivity of 1°, 2° and 3° alcohols with sodium metal ?

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466. How will you convert : Propene to propan-1-ol .

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467. How will you convert phenol to salicylic acid ?

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468. Write the IUPAC name of the following : $CH_3CH_2OCH(CH_3)CH_2CH_3$

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469. Discuss the reaction and mechanism of acidic dehydration of ethyl alcohol to prepare ethene.

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470. Which of the two : C_6H_5OH or C_2H_5OH is more acidic and why?

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471. Cyclic C_4H_7OH has five isomers. Write their structure and names.

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472. Write the equations involved in the following reaction : Kolbe's reaction.

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473. Write the equations involved in the following reaction : Reimer Tiemann reaction.

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474. Write equations of the following reactions :

Friedel-Crafts acetylation of anisole.

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475. Write chemical equations for the following reaction : Bromination of phenol.

Watch Video Solution

476. Write chemical equations for the following reaction : Sulphonation of phenol.

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477. Give chemical tests to distinguish between Methanol and ethanol .

Watch Video Solution

478. Give chemical test to distinguish between the following : 1-Propanol and 2-propanol

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479. Express 3336 in roman numbers.

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480. How will you convert the following : Propene to propan-2-ol.

Watch Video Solution

481. How will you convert the following : Phenol to benzoic acid.

Watch Video Solution

482. How will you convert the following : Propan-1-ol to propan-2-ol .

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483. Ethers possess a dipole moment even if the alkyl groups in the molecule are identical. Explain.

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484. The Boiling Point of ethers are lower than isomeric alcohols why ?

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485. Why are ethers relatively inert compounds ?

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486. Explain how does -OH group attached to a carbon of benzene ring Activates it towards electrophilic substitution .

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487. Discuss the oxidation of alcohols.

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488. What is meant by hydroboration -oxidation reaction . Illustrate with an example .

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