CHEMISTRY

BOOKS - BRILLIANT PUBLICATION

ALCOHOL PHENOL AND ETHERS

Level I Homework

1. Total number of structural isomers possible for the $C_4H_{10}O$ is

A. 4

B. 5

C. 6

D. 7

Answer:

Watch Video Solution

2. Which among the following is a tertiary alcohol?

A. 3,3-dimethyl butan-2-ol

B. 2, 2-dimethyl propan-1-ol

C. 2-phenyl butan-2-ol

D. pentan-3-ol

Answer:

Watch Video Solution

3. When 2-methoxy propane is heated with dil. H_2SO_4 under pressure, the products are

A. Propan-1-ol and methanol

B. Propan-2-ol and methanol

C. Propan-2-ol and ethanol

D. Ethanol and methanol

Answer:

4. Which of the following is most soluble is water?

A. Butan-1-ol

B. isobutylalcohol

C. Tert-butyl alcohol

D. Sec-butyl alcohol

Answer:

Watch Video Solution

5. A fruity smell is produced by the reaction of ethanol with

A. PCl_5

B. CH_3COCH_3

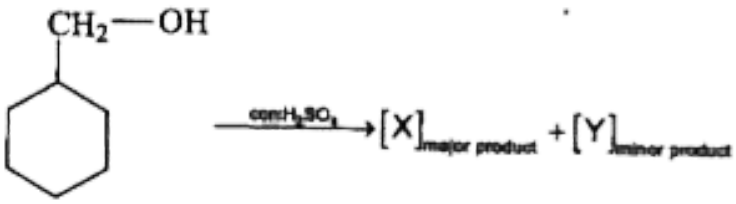
C. CH_3COOH

D. CH_3CHO

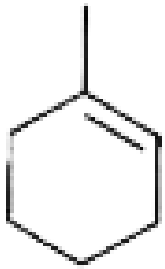
Answer:

Watch Video Solution

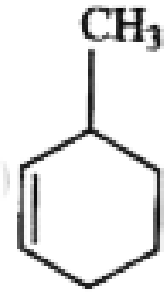
6. In the following reaction, the minor product 'Y' is



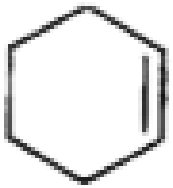
A.



B.



C.



D. 

Answer:

Watch Video Solution

7. Benzene diazonium chloride on heating in water gives mainly

A. Benzene

B. o-chlorophenol

C. phenol

D. chlorobenzene

Answer:

 Watch Video Solution

8. Reduction of pyruvaldehyde with Na and ethanol gives

A. propan-1-ol

B. propylene glycol

C. propan-2-ol

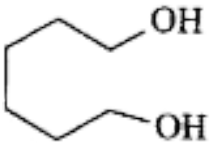
D. lactic acid

Answer:

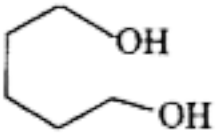
Watch Video Solution

9. 

A.

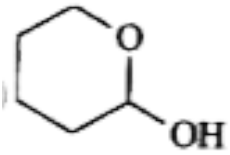


B.



C.

D.



Answer:

Watch Video Solution

10. The alcohol that will not produce alkene on heating with conc. H_2SO_4 is

A. propan-1-ol

B. Ethanol

C. Carbinol

D. Butan-1-ol

Answer:

Watch Video Solution

11. $C_2H_5OH \xrightarrow[300^\circ C]{Cu} A \xrightarrow{[O]} B \xrightarrow[2)\ H_2O]{1)\ LiAlH_4} C$

'C' in the above reaction sequence is

A. CH_3OH

B. CH_3COOH

C. CH_3CHO

D. C_2H_5OH

Answer:

Watch Video Solution

12. Allyl alcohol on warming with Lucas reagent

A. There is no reaction

B. Allyl chloride is formed

C. 2-chloropropane is formed

D. Isobutyl chloride is formed

Answer:

Watch Video Solution

13. The intermediate species involved in the acid catalysed dehydration of alcohol is

A. Free radical

B. Carbocation

C. Carbanion

D. Carbene

Answer:

 Watch Video Solution

14. $C_6H_5Cl + 10\,\%\,NaOH \xrightarrow[300\ \text{atm}]{623^\circ C}$ Sodum phenoxide. This reaction is known as

A. Oxo process

B. Raschig process

C. Dow process

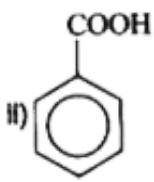
D. Kolbe reaction

Answer:

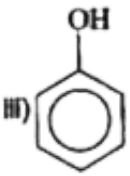
Watch Video Solution

15. What is the correct order of acidic strength for the following compounds?

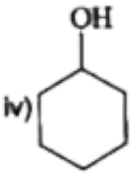
i) $CF_3CH_2 - OH$ ii)



ii)



iii)



iv)

A. I $<$ iv $<$ iii $<$ ii

B. iii $<$ iv $<$ I $<$ ii

C. iv $<$ I $<$ iii $<$ ii

D. ii $<$ iii $<$ I $<$ iv

Answer:

Watch Video Solution

16. How many grams of CH_4 will be formed, when 6.2 g ethylene giycol is treated with excess of CH_3Mgl?

A. 32 g

B. 3.2 g

C. 16 g

D. 1.6 g

Answer:

Watch Video Solution

17. Consider the reaction sequence,

Ethanol

$\xrightarrow{PBr_3} X \xrightarrow[\text{heat}]{\text{Alco. KOH}} Y \xrightarrow[2)H_2O/\text{boil}]{1)\text{Con, } H_2SO_4 \text{ at } 0^\circ C} Z.$ The product 'Z' Is

A. $C_2H_5 - OH$

B. $C_2H_5 - O - SO_3H$

C. C_2H_6 and $C_2H_5 - O - C_2H_5$

D. C_2H_6 and $C_2H_5NO_2$

Answer:

Watch Video Solution

18. Ethanol reacts with PCl_5 to give A. A reacts with $AgNO_2$ to form B. A and B are

A. C_2H_5Cl and $C_2H_5 - O - C_2H_5$

B. C_2H_5Cl and $C_2H_5NO_2$

C. C_2H_6 and $C_2H_5 - O - C_2H_5$

D. C_2H_6 and $C_2H_5NO_2$

Answer:

Watch Video Solution

19. Match the following

List-I	List-II
a) Propane-1,2,3-triol	1) Cyclic ether
b) Ethane-1, 2-diol	2) Dynamite
c) Tetrahydrofuran	3) Denatured alcohol
d) Methylated spirit	4) Terylene

A. $\frac{abcd}{1234}$

B. $\frac{abcd}{1342}$

C. $\frac{abcd}{3241}$

D. $\frac{abcd}{2413}$

Answer:

Watch Video Solution

20. Among the following compounds, the one with lowest pKa value is : $CH \equiv CH$, C_6H_6, CH_3OH, H_2O

A. $CH \equiv CH$

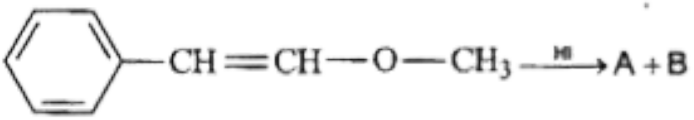
B. C_5C_6

C. CH_3OH

D. H_2O

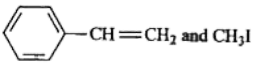
Answer:

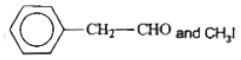
Watch Video Solution

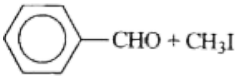
21. 

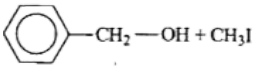
,

A and B are respectively

A. 

B. 

C. 

D. 

Answer:

Watch Video Solution

22. Which among the following ether will not form hydroperoxide?

A. Ethoxy propane

B. Ethoxy ethane

C. Di tert : butyl ether

D. Tert : butyl ethyl ether

Answer:

Watch Video Solution

23. Number of oxygen atoms in a crown ether of ring size 15 is

A. 5

B. 6

C. 4

D. 3

Answer:

Watch Video Solution

24. Which among the following will give a turbidity on shaking with Lucas reagent?

A. Butan-1-ol

B. 2-phenyl ethanol

C. Phenylmethanol

D. Carbinol

Answer:

Watch Video Solution

25. Oxymercuration-demercuration of methylene cyclohexane gives

A. Cyclohexyl methanol

B. 1-methyl cyclohexanol

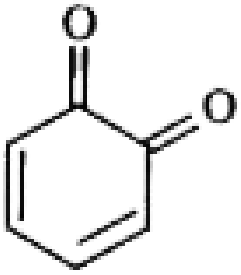
C. 2-methyl cyclohexanol

D. Cyclohexanol

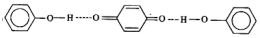
Answer:

Watch Video Solution

26. Phenol $\xrightarrow{\text{Aerial oxidation}}$ coloured product. This is due to the formation of

A. 

B. 

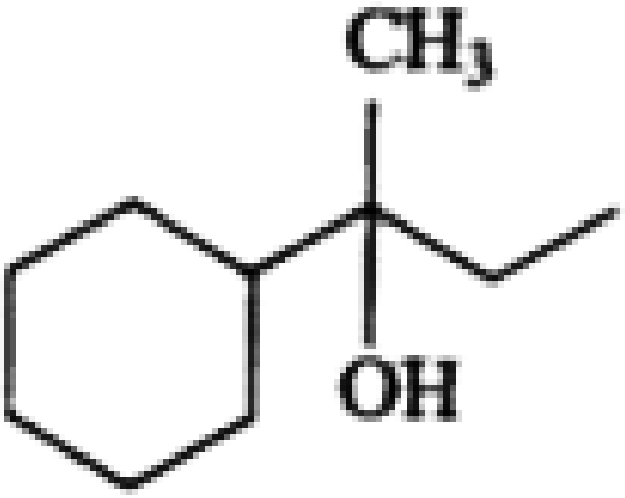
C. 

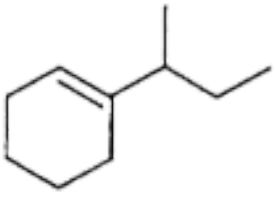
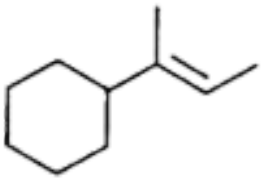
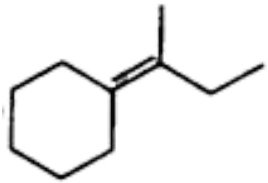
D. All of these

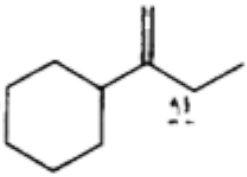
Answer:

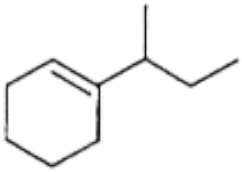
Watch Video Solution

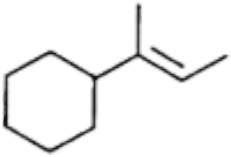
27. Which of the following is not the dehydration product of the alcohol

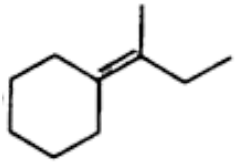


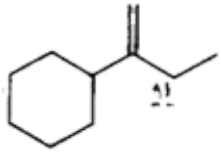

,

,

,



A. 

B. 

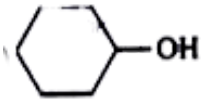
C. 

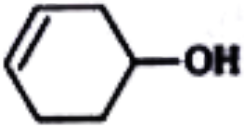
D. 

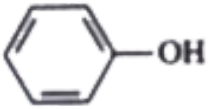
Answer:

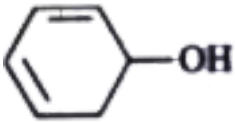
Watch Video Solution

28. Which of the following is least reactive towards dil. $H_2SO_4(60\ \%)$

A. 

B. 

C. 

D. 

Answer:

Watch Video Solution

29. Bouveault-Blanc reduction of ethyl acetate will give

A. Propanol and methanol

B. Ethanol and methanol

C. Ethanol and propanol

D. Ethanol only

Answer:

 Watch Video Solution

30. $\begin{matrix}\text{CHO}\\|\\\text{CHO}\end{matrix} \xrightarrow{H_2/Ni} A \xrightarrow{\text{anhy:}ZnCl_2} B.$ 'B' is

A. CH_3COOH

B. CH_3CHO

C. HCHO

D. HCOOH

Answer:

Watch Video Solution

Level Ii

1. Number of 2° alcohols among the structural isomers of $C_5H_{12}O$ is

A. 2

B. 3

C. 4

D. 1

Answer:

Watch Video Solution

2. $CH_3 - \overset{\overset{CH_3}{|}}{CH} - CH_2 - NH_2 \xrightarrow{HNO_2}$ Major product is

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

B. $CH_3 - CH_2 - \overset{\overset{CH_3}{|}}{CH} - CH_2 - OH$

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

D. $CH_3 - \overset{\overset{CH_3}{|}}{C} = CH_2$

Answer:

Watch Video Solution

3. The alcohol that cannot be prepared by the reduction of a ketone is

A. 3-methyl butan-2-ol

B. pentan-3-ol

C. Butan-2-ol

D. 2-methyl butan-2-ol

Answer:

Watch Video Solution

4. Grignard reagent 'A' $+HCHO \rightarrow$ Addition product $\xrightarrow{H_3O^+}$ 2-methyl propan-1-ol. Grignard reagent 'A' is

A. $CH_3CH_2CH_2 - MgBr$

B. CH_3CH_2MgBr

C. $CH_3 - \underset{\displaystyle CH_3}{\overset{\displaystyle |}{CH}} - MgBr$

D. $CH_3 - \underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\overset{\displaystyle |}{\underset{\displaystyle |}{C}}}} - MgBr$

Answer:

Watch Video Solution

5. Isobutene $\xrightarrow{\text{dil. } H_2SO_4}$ Alcohol. The alcohol is

A. Butan-1-ol

B. Butan-2-ol

C. 2-methyl propan-1-ol

D. 2-methyl propan-2-ol

Answer:

Watch Video Solution

6. Alkene 'X' $\xrightarrow{\text{dil. } H_2SO_4}$ 2-phenyl propan - 2 - ol.

Alkene 'X' is

A. 1-phenyl prop-1-ene

B. 3-phenyl prop-1-ene

C. 2-phenyl prop-1-ene

D. styrene

Answer:

Watch Video Solution

Watch Video Solution

7. The combination, that will not produce, 2-phenyl butan-2-ol is

A. Acetophenone $+C_2H_5MgBr$

B. Propiophenone $+CH_3MgBr$

C. Butanone $+C_6H_5MgBr$

D. Acetone $+C_6H_5MgBr$

Answer:

Watch Video Solution

8. The pKa values of the following alcohols. Methanol (A), Butan-1-ol (B), 2-methyl propan-2-ol (C), Butan-2-ol (D), are in the order

A. A $>$ B $>$ D $>$ C

B. D $>$ A $>$ B $>$ C

C. C $>$ A $>$ B $>$ D

D. C $>$ D $>$ B $>$ A

Answer:

Watch Video Solution

9. The correct order of boiling points of the following compounds is

A. Butan-2-ol > butan-1-ol > ethoxy ethane > 2-methyl propan-2-ol

B. Ethoxy ethane > butan-1-ol > butan-2-ol > 2-methyl propan-2-ol

C. Butan-1-ol > Butan-2-ol > 2-methyl propan-2-ol > ethoxy ethane

D. Butan-2-ol $>$ Butan-1-ol $>$ 2-methyl propan-2-ol $>$ ethoxy ethane

Answer:

Watch Video Solution

10. The relative ease of formation of the following alkoxides are in the order

A. Sodium methoxide $>$ sodium ethoxide $>$ potassium tert:butoxide $>$ sodium

tert:butoxide

B. Potassium tert:butoxide > sodium tert:butoxide > sodium ethoxide > sodium methoxide

C. Sodium methoxide > potassium tert : butoxide > sodium tert : butoxide > sodium ethoxide

D. Sodium tert butoxide > potassium tert : butoxide > sodium methoxide > sodium ethoxide

Answer:

Watch Video Solution

11. Benzyl magnesium bromide on reaction with methanol, produce the hydrocarbon .....

A. CH_4

B. C_6H_6

C. $C_6H_5CH_3$

D. $CH_3CH_2 - C_6H_5$

Answer:

Watch Video Solution

12. Rate of esterification of the following alcohols, with formic acid, will be in the order : Butan-1-ol $>$ propan-1-ol $>$ ethanol $>$ methanol, Methanol $>$ ethanol $>$ propan-1-ol $>$ butan-1-ol, Ethanol >methanol >propan-1-ol >butan-1-ol, Methanol = Ethanol $>$ propan-1-ol $>$ butan-1-ol

A. Butan-1-ol $>$ propan-1-ol $>$ ethanol $>$ methanol

B. Methanol $>$ ethanol $>$ propan-1-ol $>$ butan-1-ol

C. Ethanol $>$ methanol $>$ propan-1-ol $>$ butan-1-ol

D. Methanol = Ethanol $>$ propan-1-ol $>$ butan-1-ol

Answer:

Watch Video Solution

13. The major product, in the reaction b/n neopentyl alcohol and Lucas reagent (on heating) is

A. Neopentyl chloride

B. 2-methyl-1-chlorobutane

C. 2-chloro-2-methyl butane

D. 1-chloro-3-methyl butane

Answer:

 Watch Video Solution

14. $CH_3 - CH = CH - CH_2 - OH \xrightarrow{HBr}$

Allylic bromide. The bromide obtained is

A. $CH_3 - CH = CH - CH_2 - Br$

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

C. Both 1 and 2

D. $CH_2 = CH - CH_2 - CH_2 - Br$

Answer:

Watch Video Solution

15. Which among the following alcohols on shaking with acid dichromate, will not produce a green colour?

A. Methanol

B. Ethanol

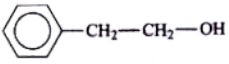
C. propan-2-ol

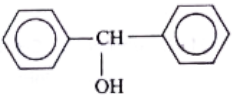
D. 2-methyl propan-2-ol

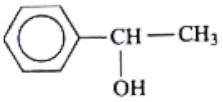
Answer:

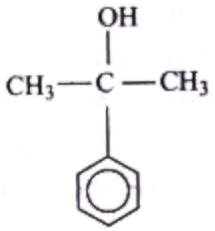
 Watch Video Solution

16. The alcohol, that will give an yellow ppt, on heating with iodine and alkali is

A. 2-phenyl ethanol 

B. Diphenyl methanol 

C. 1-phenyl ethanol 

D. 2-phenyl propan-2-ol 

Answer:

Watch Video Solution

17. How many structural isomers of $C_5H_{12}O$ will answer iodoform test?

A. 3

B. 4

C. 2

D. 1

Answer:

Watch Video Solution

Watch Video Solution

18. An alcohol of mol. Wt = 92, on treatment with acetylchloride, gave a product of molw.t = 218. Number of -OH groups in the alcohol is

A. 2

B. 3

C. 4

D. 5

Answer:

Watch Video Solution

19. Among the following compounds, the one that will not react with HNO_2 is

A. $CH_3 - \underset{\displaystyle CH_3}{\underset{|}{CH}} - NH_2$

B. $CH_3 - \underset{\displaystyle CH_3}{\underset{|}{CH}} - CH_2 - NO_2$

C. $CH_3 - \underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}} - NH_2$

D. $CH_3 - \underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\overset{|}{\underset{|}{C}}}} - NO_2$

Answer:

Watch Video Solution

20. Which among the following alcohols, on dehydration will produce alkene that exhibits cis-trans isomerism?

A. Butan-1-ol

B. propan-2-ol

C. pentan-3-ol

D. isobutyl alcohol

Answer:

Watch Video Solution

21. In the pure form, which among the following is a liquid at room temperature $(25^{\circ}C)$

A. meta-cresol

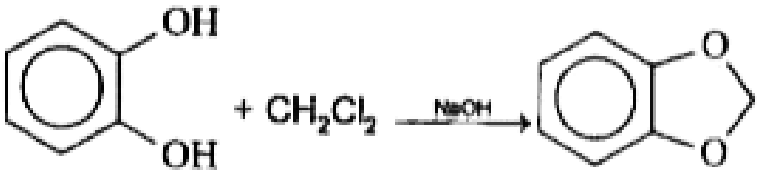
B. phenol

C. resorcinol

D. both 1 and 2

Answer:

Watch Video Solution

22. 

The above reaction, is known as

A. Reimer-Tiemann reaction

B. Fitting reaction

C. Williamson's reaction

D. Dakin reaction

Answer:

Watch Video Solution

23. Which among the following is not likely to dissolve in $NaHCO_3$ solution?

A. Ortho nitrophenol

B. Picric acid

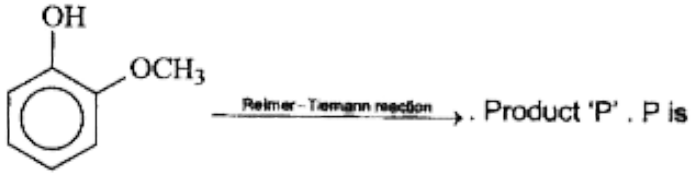
C. Benzoic acid

D. Benzene sulphonic acid

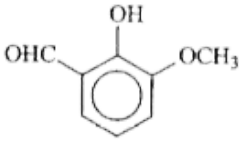
Answer:

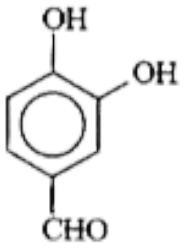
Watch Video Solution

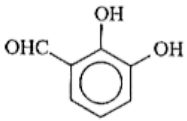
24.

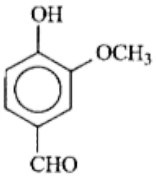


Product 'P'. P is

A. 

B. 

C. 

D. 

and 1

Answer:

Watch Video Solution

25. Which among the following will not produce a tribromo derivative, on treatment with bromine water?

A. Salicylic acid

B. P-cresol

C. m-cresol

D. 2-hydroxy benzene sulphonic acid

Answer:

 Watch Video Solution

26. A compound 'X' on heating with phthalic anhydride and a few drops of conc: H_2SO_4, produced a colourless substance, which gave a pink colour on adding NaOH solution. The compound 'X' is

A. Phenol

B. p-nitrophenol

C. p-cresol

D. Benzyl alcohol

Answer:

Watch Video Solution

27. Which among the following is a derivative of salicyclic acid?

A. Oil of Mirbane

B. Oil of bitter almonds

C. Oil of winter green

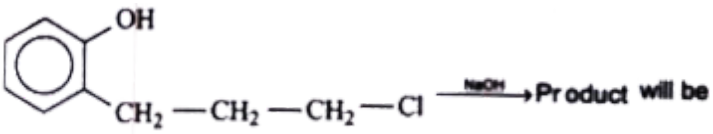
D. Nobel oil

Answer:

Watch Video Solution

Watch Video Solution

28. The product of the following reaction.



Product will be

A. An alcohol

B. Phenoxide

C. Cyclic ether

D. Alkoxide

Answer:

Watch Video Solution

29. Phenol + Acetyl chloride $\xrightarrow{NaOH} B \xrightarrow[\text{heat}]{\text{anhy: } AlCl_3} C + D$. C and D are

A. Phenyl acetic acid and acetic acid

B. Orthohydroxy acetophenone and para-hydroxy acetophenone

C. Acetophenone and propiophenone

D. Benzoic acid and acetic acid

Answer:

Watch Video Solution

30.

Then what is A?

A. Aldehyde

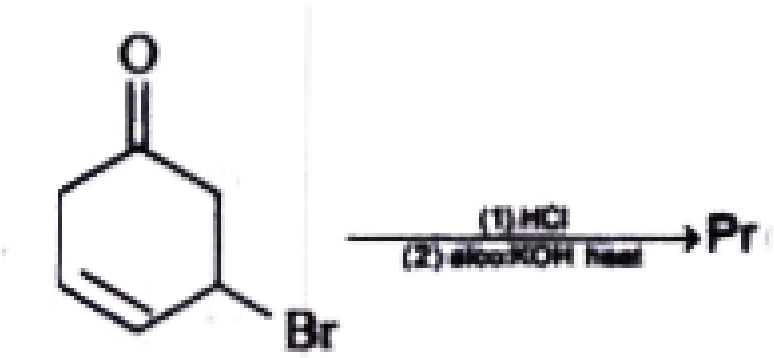
B. Alkyl halide

C. Acid

D. Ketone

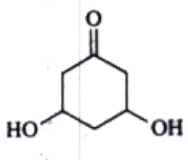
Answer:

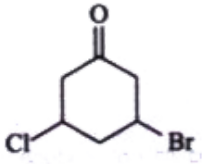
Watch Video Solution

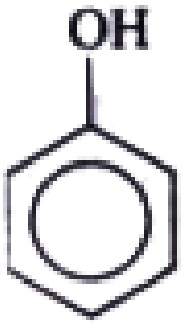


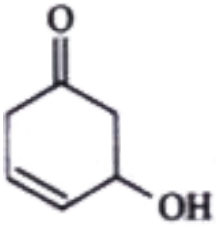
31.

Product is

A. 

B. 

C. 

D. 

Answer:

Watch Video Solution

32. When 1-methoxy prop-1-ene is treated with Hl acid the products are

A. Alcohol + alkyliodide

B. Aldehyde + Alcohol

C. Aldehyde + Alkyl iodide

D. Ketone + Alkyl iodide

Answer:

Watch Video Solution

33. Identify the final product 'B' in the following reaction, sequence

$$CH_3 - CH = CH_2 \xrightarrow{HBr\,/\,H_2O_2} A \xrightarrow{C_2H_5ONa} B.$$

'B' is

A. $CH_3(CH_2)_2 - O - CH_2 - CH_3$

B. $CH_3(CH_2)_3 - O - CH_3$

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

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

Answer:

Watch Video Solution

34. Assertion : Action of HNO_2 on propan-1-amine gives mainly propan-2-ol.

Reason : The reaction proceeds via carbocation intermediate and so rearranged products are possible.

A. If both Assertion and Reason are true and Reason is the correct explanation of assertion

B. If both Assertion and Reason are true and Reason is not the correct explanation of assertion

C. If Assertion is true, But Reason is false

D. If both assertion and reason are false

Answer:

35. Assertion : Acid catalysed hydration of 3,3-dimethyl but-1-ene gives mainly 3,3-dimethyl butan-2-ol.

Reason : Here addition of H_2O occur in Anti Markownikoff's direction.

A. If both Assertion and Reason are true and Reason is the correct explanation of assertion

B. If both Assertion and Reason are true and Reason is not the correct

explanation of assertion

C. If Assertion is true, But Reason is false

D. If both assertion and reason are false

Answer:

Watch Video Solution

36. Assertion : Alcohols cannot be converted into alkyl bromides by reaction with NaBr

Reason : Br^- being very weak base cannot displace strong base OH^-

A. If both Assertion and Reason are true and Reason is the correct explanation of assertion

B. If both Assertion and Reason are true and Reason is not the correct explanation of assertion

C. If Assertion is true, But Reason is false

D. If both assertion and reason are false

Answer:

37. Assertion : Tert : butyl halide with sodium methoxide will not give appreciable amount of tert: butyl methyl ether.

Reason : The reaction between alkoxide and alkyl halide that produces ether is an S_N2 reaction.

A. If both Assertion and Reason are true and Reason is the correct explanation of assertion

B. If both Assertion and Reason are true and Reason is not the correct explanation of assertion

C. If Assertion is true, But Reason is false

D. If both assertion and reason are false

Answer:

38. Assertion : Salicylic acid can be converted to picric acid by heating with conc: HNO_3.

Reason : This is an example of S_NAr reaction.

A. If both Assertion and Reason are true and Reason is the correct explanation of assertion

B. If both Assertion and Reason are true and Reason is not the correct explanation of assertion

C. If Assertion is true, But Reason is false

D. If both assertion and reason are false

Answer:

Watch Video Solution

39. Assertion : When 2, 3-dimethyl butane-2, 3-diol is treated with dil.H_2SO_4, the major product is pinacolone.

Reason : The reaction proceeds via carbocation intermediate and its rearrangement.

A. If both Assertion and Reason are true and Reason is the correct explanation of assertion

B. If both Assertion and Reason are true and Reason is not the correct explanation of assertion

C. If Assertion is true, But Reason is false

D. If both assertion and reason are false

Answer:

40. Assertion : For preparation of phenol from diazonium salt, benzene diazonium hydrogen sulphate is better than benzene diazonium chloride.

Reason : This is an S_N1 reaction so Cl^{Θ} may attack phenyl cation, producing some chlorobenzene.

A. If both Assertion and Reason are true and Reason is the correct explanation of assertion

B. If both Assertion and Reason are true and Reason is not the correct explanation of assertion

C. If Assertion is true, But Reason is false

D. If both assertion and reason are false

Answer:

 Watch Video Solution