CHEMISTRY

BOOKS - GRB CHEMISTRY (HINGLISH)

ALCOHOLS AND ETHERS

EXERCISE 1

1. An alkene obtained by the dehydration of an alcohol (A), on ozolysis gives two molecules of acetaldegyde for ever molecule of alkene. The alcohol (A) is

A. $CH_3CH_2CH_2OH$

B. CH_3CH_2OH

C. $CH_3CH=CHCH_2OH$

D. $CH_3CH_2\underset{\underset{OH}{|}}{C}HCH_3$

Answer: D

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EXERCISE 2

1. $R \to COOH \to R \to CH_2OH$. This mode of reductoin of an acid to alcohol can be effected by:

A. Zn/HCl

B. Na-alcohoi

C. Aluminium isopropoxide and isopropyl alcohol

D. $LiAlH_4$

Answer: D

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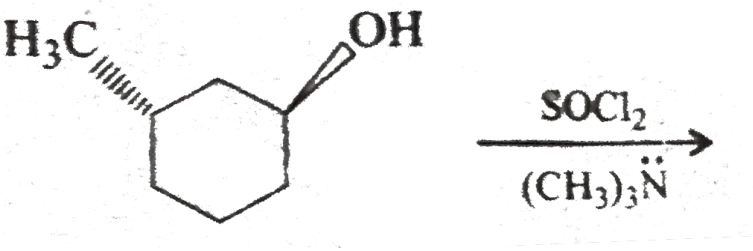
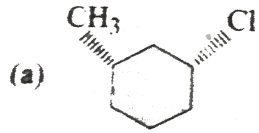
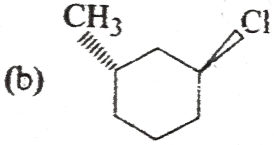
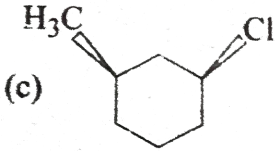
EXERCISE 3

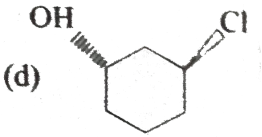
1. Find the major product of the following reaction.



A. 

B. 

C. 

D. 

Answer: A

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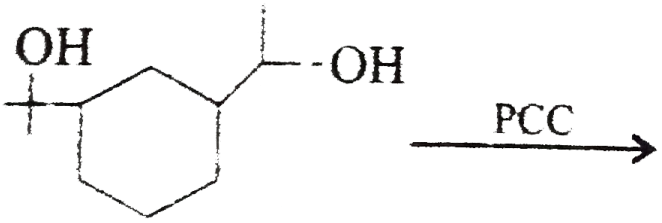
EXERCISE 4

1. What is product of the followin reaction:



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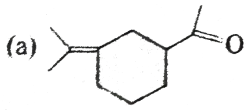

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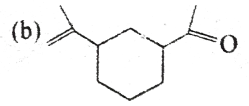

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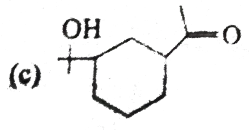
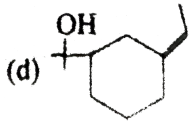


D. 

Answer: C

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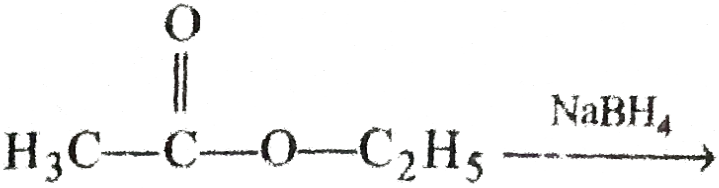
EXERCISE 5

1. Perdict product of the following reaction,



A. $CH_3 - CH_2 - OH$

B. No reaction

C. $H_3C - \overset{O}{\overset{||}{C}} - OH$

D. $H_2C = CH_2$

Answer: B

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EXERCISE 6

1. $1-$ Propanol and $2-$ propanal can be best distinguished by

A. oxidation with alkaline $KMnO_4$ followed by reaction with Fehling's solution

B. oxidation with alkaline dichromate followed by reaction with Fehling's solution

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

D. oxidation with alkaline H_2SO_4 followed by reaction with Fehling's solution

Answer: C

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EXERCISE 7

1. On heating glycerol with $KHSO_4/\Delta$, a compound is obtained, which has a bad odour. The compound is:

A. Acrolein

B. Formic acid

C. Allyl alcohol

D. Methyl isocyanide

Answer: A

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EXERCISE 8

1. A compound X with moleuclar formula C_3H_8O can be oxidized to a compoud Y with the molecular formula $C_3H_6O_2$. X is most likely to be a:

A. primary alcohol

B. secondary alcohol

C. aldehyde

D. ketone

Answer: A

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EXERCISE 9

1. Identify (Z) in the following series.

$$Ethanol \xrightarrow{PBr_3} (X) \xrightarrow{Alc./KOH} (Y) \xrightarrow[(ii)\ (H_2O, Heat)]{(i)\ H_2SO_4/\ (\text{Room temp})} (Z)$$

A. $C_2 = CH_2$

B. CH_3CH_2OH

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

D. $CH_3 - CH_2 - SO_3H$

Answer: B

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EXERCISE 10

1. Which of the following is not characteristic of alcohols?

A. Their boiling points rise fiarly uniformly with a rise in molecular weight

B. Lower member have a pleasant smell but buring taste nad the higher ones are odourless and tasteless

C. These are lighter than water

D. Lower member are insoluble in water and organicn solvents bu the solublity goes on increasing with the rise of molecular weight

Answer: D

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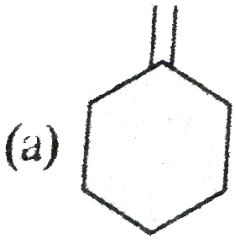
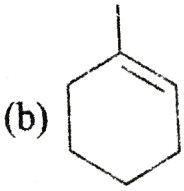
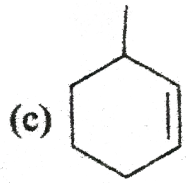
EXERCISE 11

1. A $\xrightarrow{Dil.\ H_2SO_4 / Hg^+}$ $1-$ Methylcyclohexanol. Here A is:

A. 

B. 

C. 

D. (d) (a) or (b)

Answer: D

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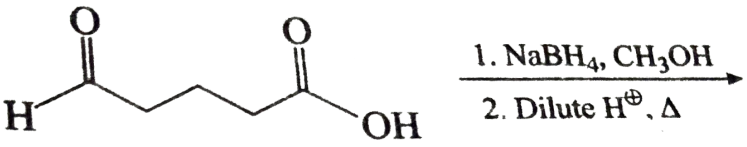
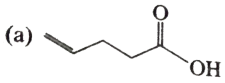
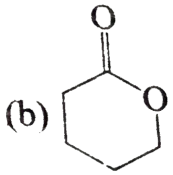
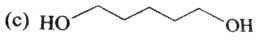
EXERCISE 12

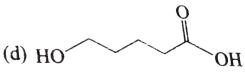
1. Find the product of reaction



A. 

B. 

C. 

D. 

Answer: B

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EXERCISE 13

1. 2-Phenylbutan-2-ol can eb prepared by which of the following combinations?

A. $C_6H_5COCH_3 + C_2H_5MgBr$

B. $C_2H_5COCH_3 + C_6H_5MgBr$

C. $C_6H_5COC_2H_5 + CH_3MgBr$

D. All of these

Answer: D

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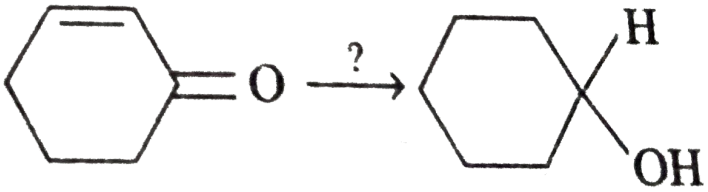
EXERCISE 14

1. Predict tha nature of reducing agent in the following reaction.



A. $LiAlH_4$

B. $NaBH_4$

C. H_2 / Pt

D. Both a and c

Answer: C

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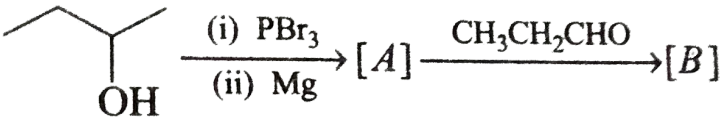
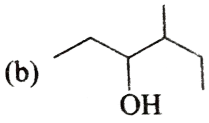
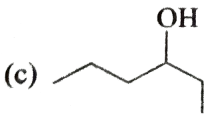
EXERCISE 15

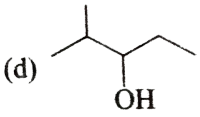
1. The correct structure for compound B will be:



A. 

B. 

C. 

D. 

Answer: B

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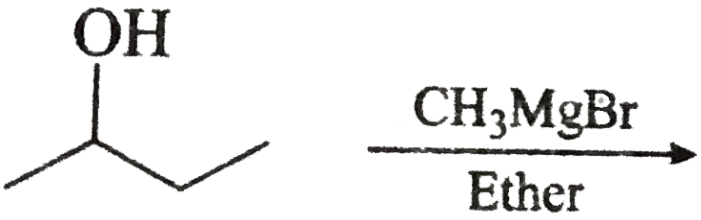
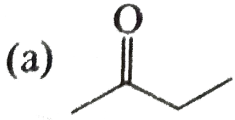
EXERCISE 16

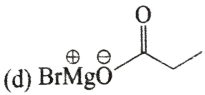
1. Find the product of following reaction,



A. 

B. CH_2

C. 

D. 

Answer: C

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EXERCISE 17

1. $CH_3 - CH_2 - Br \xrightarrow{Dry\,Ag_2O}$ Product of reaction is:

A. $CH_3 - CH_2 - OH$

B. $H_2C = CH_2$

C. $CH_3 - \overset{\overset{O}{||}}{C} = H$

D. $CH_3 - CH_2 - O - CH_2 - CH_3$

Answer: D

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EXERCISE 18

1. The product when glyerol reacts PCl_5 is:

A. 1,2,3-trichoropropane

B. glycero monochlorophydrin

C. glycero dichlorohydrin

D. All of these

Answer: A

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EXERCISE 19

1. Glycerol $\xrightarrow{KHSO_4} A \xrightarrow{LiAlH_4} B.$

A. Acrolein, Allyl Alcohol

B. glyceryl, sulphate, acrylic acid

C. allyl alcohol, acrolein

D. only acrolein (B is not formed)

Answer: A

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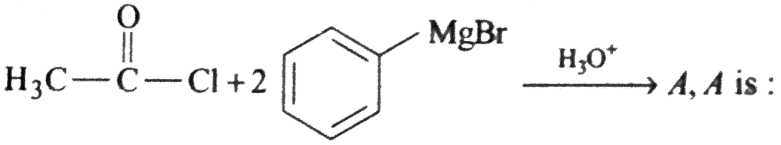
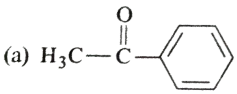
EXERCISE 20

1. Complete the following reaction



A.



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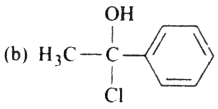
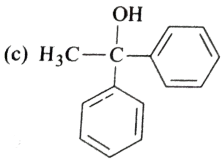
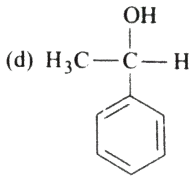


C.



(d) 

D.

Answer: C

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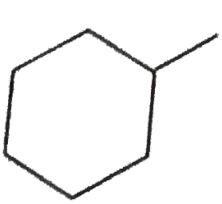
EXERCISE 21

1. Choose the correct option for the given structure



CH_2OH

is changed into

A. $(i) Cu, 300^\circ C - (ii) CH_3CH_2MgBr, H_3O^+$

B. $(i) CrO_3 - (ii) CH_3CH_2MgBr, H_3O^+$

C. $(i) KMnO_4 - (ii) CH_3CH_2MgBr, H_3O^+$

D. $(i)Na_2Cr_2O_7 + H_2SO_4 - (ii)CH_3CH_2MgBr, H_3O^+$

Answer: A

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EXERCISE 22

1. $H_3C - \overset{O}{\overset{||}{C}} - CH_2CH_2CO_2CH_3 \rightarrow H_3C - \overset{OH}{\overset{||}{C}}H - CH_2CH_2CH_2OH$

can be effected using:

A. $LiAlH_4$ and $thenH^+$

B. $NaBH_4$ and $thenH^+$

C. H_2 / Pt carbon

D. All of these

Answer: A

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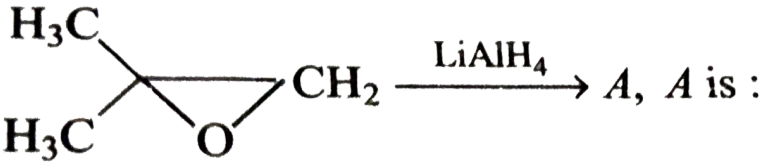
EXERCISE 23

1. 

A. CH_3CHCH_2OH (with CH_3 as a branch on the second carbon)

B. $CH_3CH_3CH_2CH_2OH$

C. No reaction

D.

Answer: C

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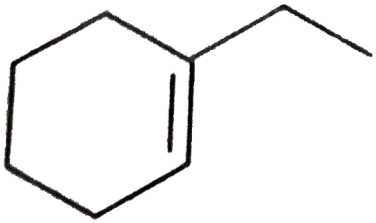
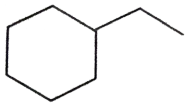
EXERCISE 24

1. Complete the following reaction

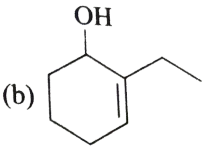


$\xrightarrow{SeO_2}$ A, A is :

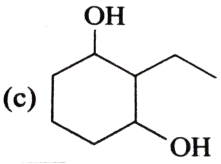
A. (a)



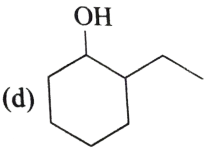
B. (b)



C. (c)



D. (d)



Answer: B

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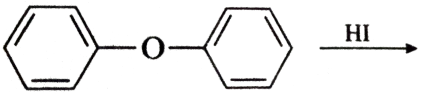
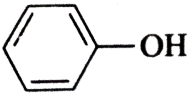
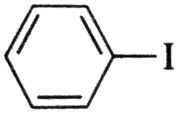
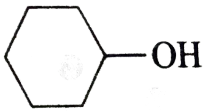
EXERCISE 25

1.  , Predict the correct option :

A. (a) 

B. (b) 

C. (c) 

D. No reaction

Answer: D

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EXERCISE 26

1. An aromatic amine (X) was treated with alcoholic potash and another compound (Y) when foul smelling gas was formed C_6H_5NC. The compound (Y) was formed by reacting a compound (Z) with Cl_2 in the presence of slaked lime. The compound (Z) is:

A. $C_6H_5NH_2$

B. C_2H_2OH

C. C_2H_2OH

D. $CHCl_3$

Answer: B

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EXERCISE 27

1. An alcohol (a) on dehydration gives (B), which on ozonolysis gives acetone and formaldehyde.(B) decolourises alkaline $KMnO_4$ solution but

(A) doies not .(A) and (B) are respectively:

A. $CH_3CH_2CH_2CH_2OH$ and $CH_2CH_2CH=CH_2$

B. $CH_3CH_2-\underset{\underset{OH}{|}}{CH}-CH_2$ and $CH_2-CH=CH=CH_2$

C. $(CH_3)_3C-OH$ and $(CH_3)_2C=CH_2$

D. $(CH_3)_3CHCH_2-OH$ and $(CH_3)_2C=CH_2$

Answer: C

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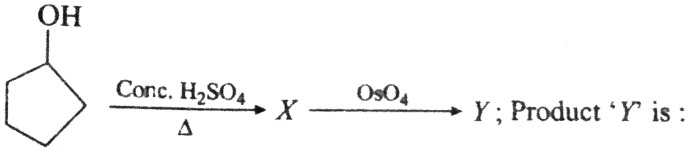
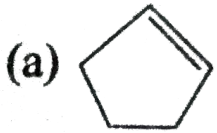
EXERCISE 28

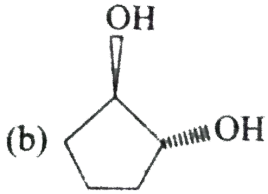
1. Complete the following reaction



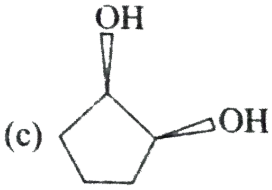
A.



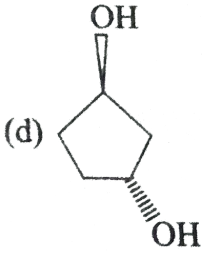
B.



C.



D.



Answer: C

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EXERCISE 29

1. If phenol1 magnesium bromide and acetaldehyde are the reactants, the product formed after hydrolysis would be:

A. benzyl alcohol

B. 1-Phenylethanol

C. 2-Phenylethonal

D. Acetone

Answer: B

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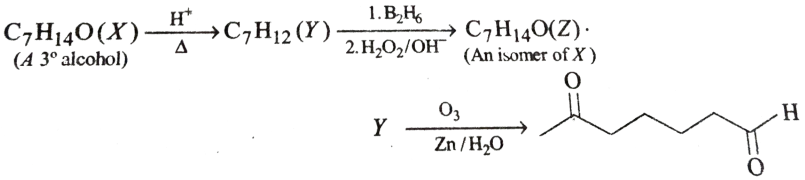
EXERCISE 30

1.



A. $CH_3CH_2CH_2MgBr$ and hydrolysis

B. $CH_3CH(Br)CH_3$. $AlCl_3$

C. $(CH_3)_2CHMgBr$ and acid hydrolysis

D. $CH_3CHCHCH_3$, Zn

Answer: C

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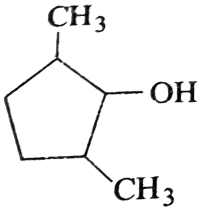
EXERCISE 31

1. Complete the following reaction

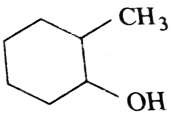
A.

(a)

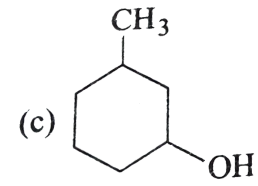


B.

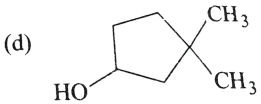
(b)



C.



D.



Answer: B

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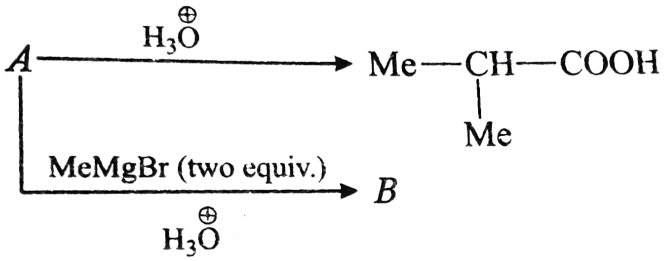
EXERCISE 32

1. Complete the following reaction



B is :

A. $Me_2CHCOMe$

B. $Me_2CH - \underset{\underset{OH}{|}}{CMe_2}$

C. $Me_2CHCOCHMe_2$

D. $Me_2\underset{\underset{OH}{|}}{C}HCHCHMe_2$

Answer: B

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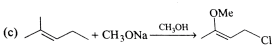
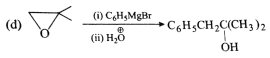
EXERCISE 33

1. Which of the following reactions is possiblw?

A. $C_6H_5OH + HBr \rightarrow C_6H_5Br + H_2O$

B. $(CH_3)_3CCl + NaOCH_3 \rightarrow (CH_3)_3COCH_3 + NaCl$

C. 

D. 

Answer: D

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EXERCISE 34

1.

$$H_3C - \underset{CH_3}{\overset{CH_3}{\overset{|}{\underset{|}{C}}}} - CH = CH_2 \xrightarrow{X} H_3C - \underset{CH_3}{\overset{CH_3}{\overset{|}{\underset{|}{C}}}} - \underset{OH}{\overset{|}{CH0}} = -CH_3. Xcanbe$$

A. $BH_3/THF, H_2O_2/OH^-$

B. H_3O^+

C. $Hg(OAc)_2/NaBH_4, NaOH$

D. All of these

Answer: C

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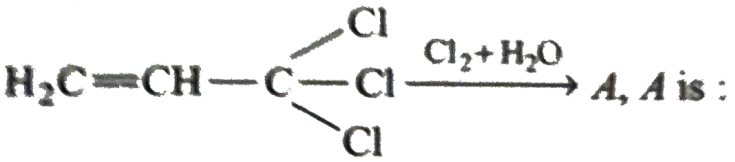
EXERCISE 35

1. Complete the following reaction



A. $CCl_3\underset{\underset{OH}{|}}{CH}-CH_2Cl$

B. $CCl_3\underset{\underset{Cl}{|}}{CH}-CH_2OH$

C. $CCl_3\underset{\underset{Cl}{|}}{CH}-CH_2Cl$

D. $CCl_3\underset{\underset{OH}{|}}{CH}-\underset{\underset{OH}{|}}{CH_2}$

Answer: B

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EXERCISE 36

1. $CH_3CH=CH_2 \xrightarrow[H_2O_2/OH]{NaBD_4}$ Product X, X is:

A. $CH_3\underset{\underset{OH}{|}}{C}HCH_2D$

B. $CH_3\underset{\underset{D}{|}}{C}HCH_2OH$

C. $CH_3\underset{\underset{OD}{|}}{C}HCH_3$

D. None is correct

Answer: B

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EXERCISE 37

1. Identify end product A,B and C of the following:

A. $CH_3\underset{\underset{OH}{|}}{C}HCH_3$ in all cases

B. $CH_3CH(OH)CH_2D, CH_3CH(OD)CH_3CH(OD)CH_2D$

C. $CH_3\underset{\underset{OD}{|}}{C}HCH_3$ in all cases

D. $CH_3\underset{\underset{OH}{|}}{C}HCH_3D$ in all cases

Answer: B

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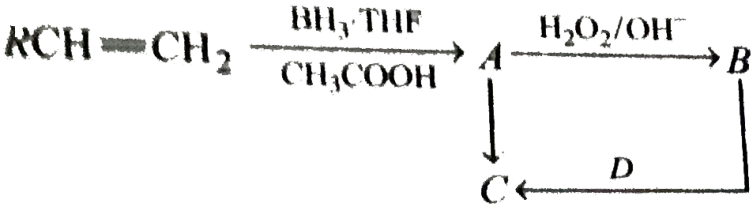
EXERCISE 38

1. Complete the following reaction



A. $(RCH_2CH_2)_3, RCH_2CH_2OH, RCH_2CH_3, HI$

B. $(RCH_2CH_2)_3, \underset{\underset{OH}{|}}{R}CHCH_3, RCH_2CH_3, HI$

C. $(RCH_2CH_3)_3$, $\underset{\underset{OH}{|}}{R}CH - CH_2CH_3$, RCH_2CH_3, HI

D. None is correct

Answer: A

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EXERCISE 39

1. $H_3C - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - CH = CH_2 \rightarrow H_3C - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - \underset{\underset{OH}{|}}{CH} - CH_3$. This change can be done by.

A. acid catalysed hydration

B. oxymercuation-demercuation

C. hyrdroboration-oxidation

D. any method mentioned above

Answer: B

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EXERCISE 40

1. $CH_3\underset{\underset{Br}{|}}{C}HCH_3 \xrightarrow{alc./KOH} A \xrightarrow{\text{HBr//peroxide}} B \xrightarrow{CH_3Na} C$

In the above reaction sequence, the final product is:

A. diethyl ether

B. 1-methoxypropane

C. isopropyl alcohol

D. propylene glycol

Answer: B

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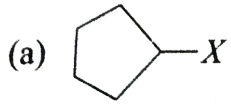
EXERCISE 41

1. Sodium teritary butoxide forms ether only with:

A. 

B. $CH_3 - X$

C. $H_3C - \overset{\overset{CH}{|}}{C}H - CH_3$

D. $H_3C - \overset{\overset{X}{|}}{\underset{\underset{CH_3}{|}}{C}}H - CH_3$

Answer: B

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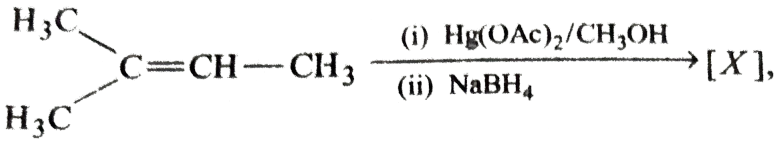
EXERCISE 42

1. In the give reaction



A. $H_3C - \underset{\underset{CH_3}{|}}{\overset{\overset{OMe}{|}}{C}} - CH_2 - CH_3$

B. $H_3C - \underset{\underset{CH_3}{|}}{C} - \overset{\overset{OMe}{|}}{C}H_2 - CH_3$

C. $H_3C - \underset{\underset{CH_3}{|}}{C} - CH_2 - CH_3$

D. $H_3C - \underset{\underset{CH_3}{|}}{OH} - CH_2 - CH_3$

Answer: A

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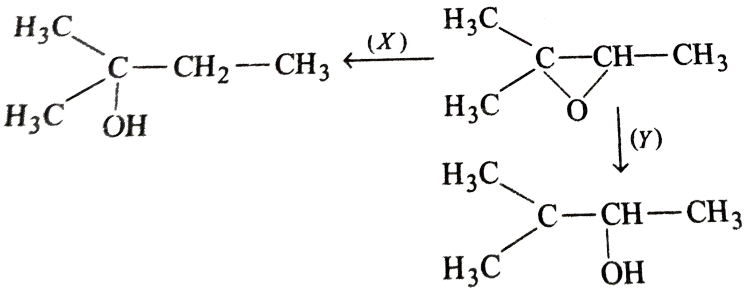
EXERCISE 43



1.

A. $LiAlH_4$ and $NaBH_4$

B. $LiAl\frac{H_4}{A}lCl_3$ and $LiAlH_4$

C. $LiAlH_4$ and $LiAl\frac{H_4}{A}lCl_3$

D. H_2/Ni and H_2/Pt

Answer: C

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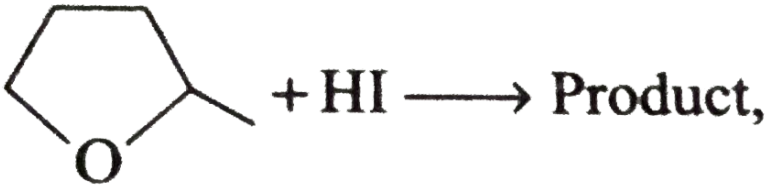
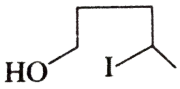
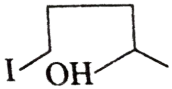
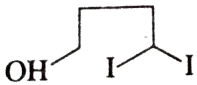
EXERCISE 44

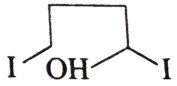
1. Complete the following reaction



A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: B

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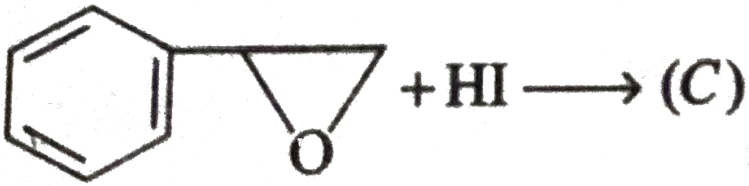
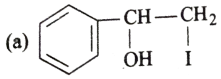
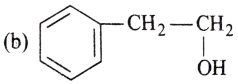
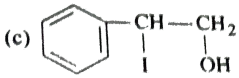
EXERCISE 45

1. Complete the following reaction



A. 

B. 

C. 

D. None is correct

Answer: A

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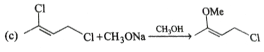
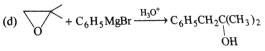
EXERCISE 46

1. Which of the following reactions is possible?

A. $C_6H_5OH + HBr \rightarrow C_6H_5Br + H_2O$

B. $(CH_3)_3CCl + NaOCH_3 \rightarrow (CH_3)_3COCH_3 + NaCl$

C. 

D. 

Answer: D

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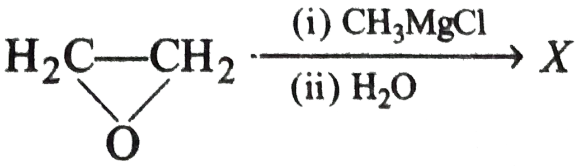
EXERCISE 47

1. Complete the following reaction



A. CH_3CH_2OH

B. $(CH_3)_2CHOH$

C. $CH_3CH_2CH_2OH$

D. $HO-CH_2-CH_2-CH_2-CH_2-OH$

Answer: C

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EXERCISE 48

1. What is Z in the following sequence of reactions?

$$Z \xrightarrow{PCl_3} X \xrightarrow{alc.KOH} Y \xrightarrow[(ii)\,H_2Oboil]{(i)\,Conc.H_2SO_4} Z$$

A. $H_2C=CH-CH_2-OH$

B. $CH_3CHOHCH_3$

C. $(CH_3CH_2)COOH$

D. $CH_3CH = CH_2$

Answer: B

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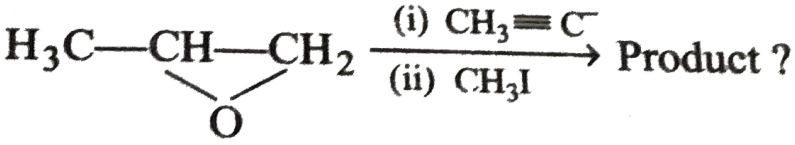
EXERCISE 49

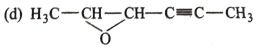
1. Complete the following reaction



A. $H_3C - \underset{\underset{OMe}{|}}{CH} - CH_2 - CH = CH_2 - CH_3$

B. $H_3C - \underset{\underset{OMe}{|}}{CH} - CH_2 - C \equiv C - CH_3$

C. $H_3C - \underset{\underset{OH}{|}}{CH} - CH_2 - C \equiv C - CH_3$

D. 

Answer: B

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EXERCISE 50

1. Which of the following reagents cannot be used for the oxidation of 1° alcohol aldehyde?

A. PCC

B. Collin's reagent

C. MnO_2

D. MnO_2

Answer: D

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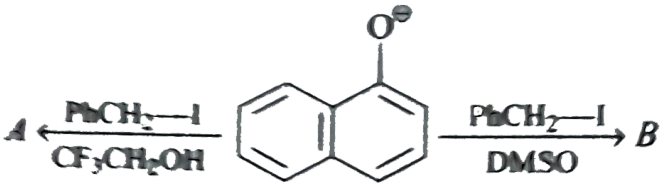
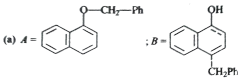
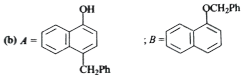
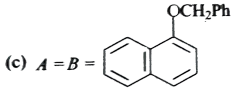
level 2

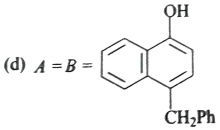
1. 

A and B respectively:

A. 

B. 

C. 

D. 

Answer: B

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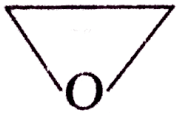
level 3

1. When-2-chloroethenol is wanted with dilute NaOH, the major product formed is:

A. $Cl - CH_2 - CH_2 - O - CH_2 - CH_2 - Cl$

B. $HO - CH_2 - CH_2 - CH_2 - CH_2 - OH$

C. $HO - CH_2 - CH_2 - OH$

D. (d) 

Answer: D

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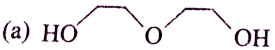
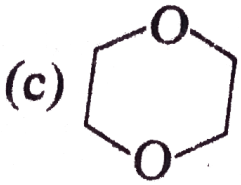
level 4

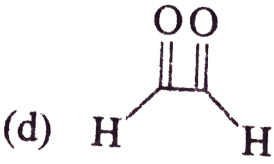
1. Ethylene glycol

on heating with conc. H_2SO_4 gives mainly:

A. 

B. 

C. 

D. 

Answer: C

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level 5

1. Which of the following reaction would give the best yield of t- butyl methly ether ?

A. $(CH_3)_3C - OH \xrightarrow[140^\circ C]{H_2SO_4}$

B. $(CH_3)_3C - Br + CH_3OH \rightarrow$

C. $(CH_3)_3C - Br + \overset{\ominus}{C}H_3ONa \rightarrow$

D. $(CH_3)_3C - \overset{\ominus}{C}\overset{\oplus}{K} + CH_3Br \rightarrow$

Answer: D

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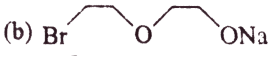
level 6

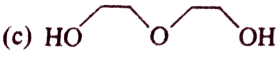
1. Consider the following reactions:

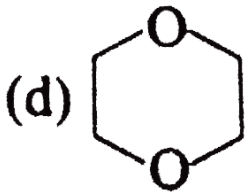
$$\underset{\underset{Br}{|}}{CH_3} - \underset{\underset{Br}{|}}{CH_2} \xrightarrow[H_2O,\,\Delta]{NaOH} A \xrightarrow{NaH} B, B + \underset{\underset{Br}{|}}{CH_2} - \underset{\underset{Br}{|}}{CH_2} \rightarrow C$$

The major product formed is:

A. 

B. 

C. 

D. 

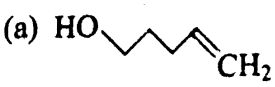
Answer: D

Watch Video Solution

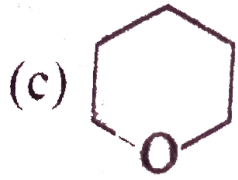
level 7

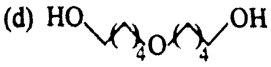
1. In the reaction

The major product formed is:

A. 

B. 

C. 

D. 

Answer: C

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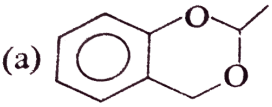
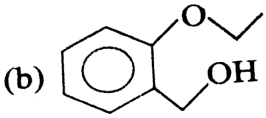
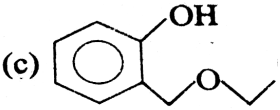
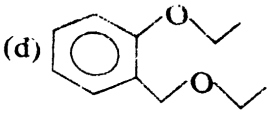
level 8

1. The major product formed in the reaction is"

A. 

B. 

C. 

D. 

Answer: B

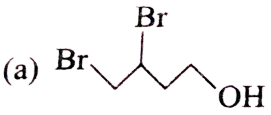
Watch Video Solution

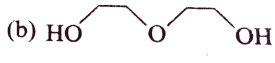
level 9

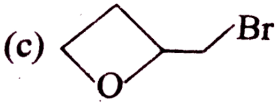
1. Consider the following reaction

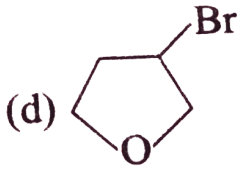
$$H_2C = CH - CH_2CH_2 - OH \xrightarrow{Br_2 / CCl_4} A \xrightarrow[25^\circ C]{Dil.KOH} B$$

The product B is:

A. 

B. 

C. 

D. 

Answer: D

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level 10

1. Find out correct product of reaction:

A. 

B. $CH_2 + CH_2$

C. 

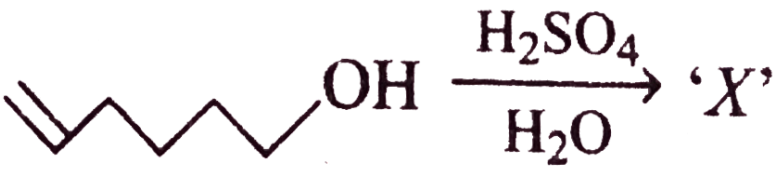
D. CH_(3)CH_(2)OH`

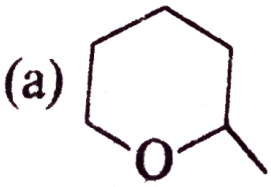
Answer: C

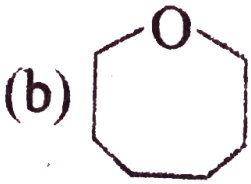
Watch Video Solution

level 11

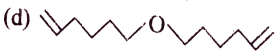
1. The major product X of the reaction



A. 

B. 

C. 

D. 

Answer: A

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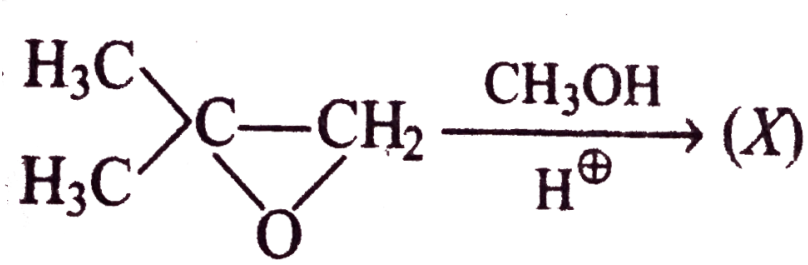
level 12

1. In the reaction



The product X has the structure"

A. $H_3C - \overset{CH_3}{\underset{OCH_3}{\overset{|}{\underset{|}{C}}}} - CH_2OH$

B. $H_3C - \overset{CH_3}{\underset{OH}{\overset{|}{\underset{|}{C}}}} - CH_2 - OCH_3$

C. $H_3C - \overset{CH_3}{\underset{OCH_3}{\overset{|}{\underset{|}{C}}}} - CH_3$

D. $CH_3C - \overset{CH_3}{\overset{|}{C}} - CH_2 - OCH_3$

Answer: A

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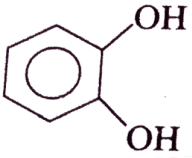
level 13

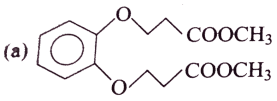
1. Consider the following sequence of reactions

$$H_2C=CH-COOCH_3 + Br_2 \xrightarrow{CCl_4} A$$

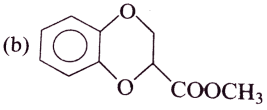


$$+ A \xrightarrow[\text{acetone}]{K_2CO_3} B$$

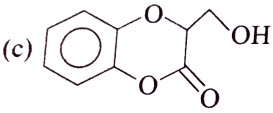
A.



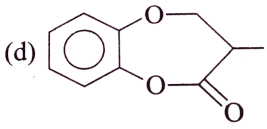
B.



C.



D.



Answer: B

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level 14

1. In the reaction:

$$Me_3C - O - CH_2CH_3 + \underset{1\text{ mole}}{HI} \xrightarrow{\Delta}$$

A. $Me_3C - OH + CH_3CH_2I$

B. $Me_3C - I + CH_3CH_2OH$

C. $Me_3C - I + CH_3CH_2I$

D. $Me_3C - OH + CH_3CH_2OH$

Answer: B

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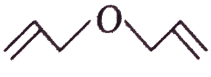
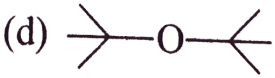
level 15

1. Which of the following ethers ethers is the most unreactive to cleavage with conc. HBr?

A. $Ph - CH_2 - O - CH_3$

B. $Ph - O - Ph$

C. 

D. 

Answer: B

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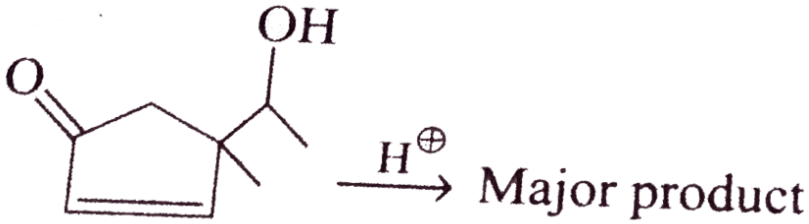
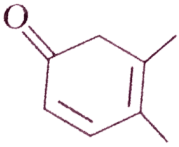
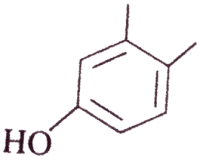
level 16

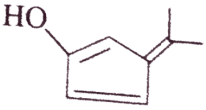
1. 

Major Product:

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: C

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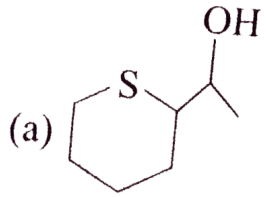
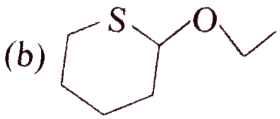
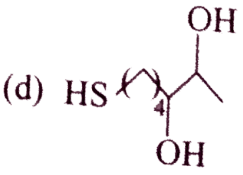
level 17

1. The product of the reaction is:

A. 

B. 

C. 

D. 

Answer: A

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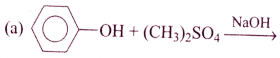
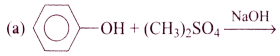
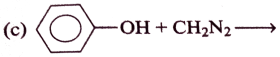
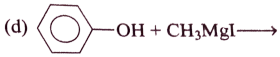
level 18

1. Which of the following reactions will not result in the formatio of anisole?

A. 

B. 

C. 

D. 

Answer: D

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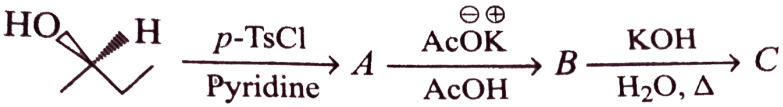
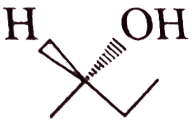
level 19

1. Consider the following sequence of reactions



A. (a) 

B. (b) 

C. (c) 

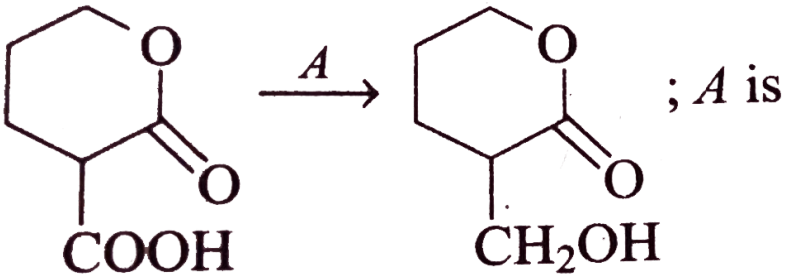
D. $(\pm) - 2$ butanol

Answer: A

Watch Video Solution

level 20

1. Complete the following reaction



; A is

A. B_2H_6 / H_2O

B. $LiAIH_4$

C. CH_3OH / Na

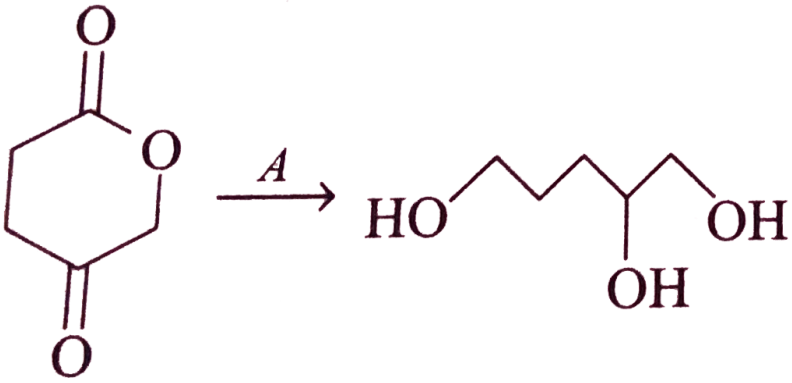
D. P/HI

Answer: A

Watch Video Solution

level 21

1. Complete the following reaction



A. B_2H_6

B. $LiAlH_4$

C. Sn/HCl

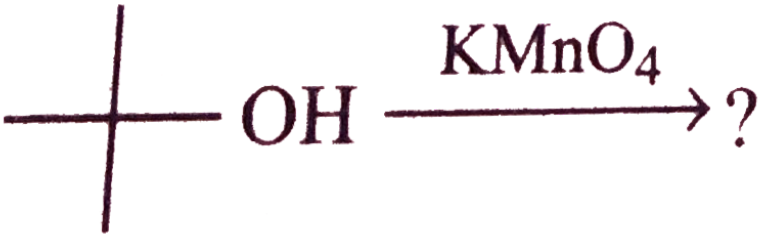
D. $NaBH_4$

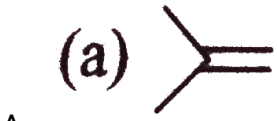
Answer: B

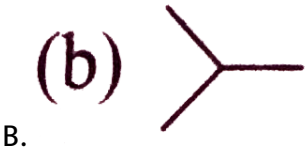
Watch Video Solution

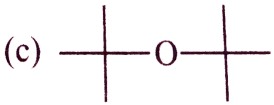
level 22

1. Complete the following reaction



A. 

B. 

C. 

D. No reaction

Answer: D

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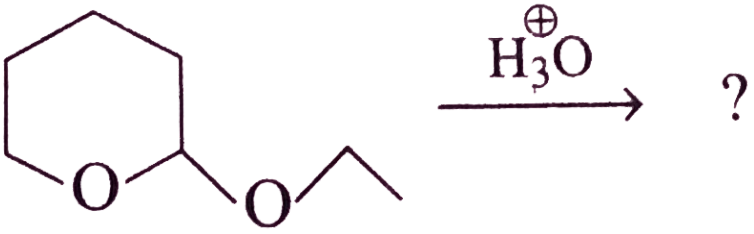
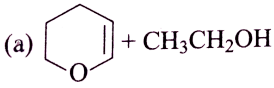
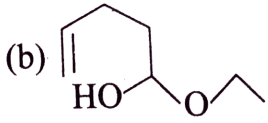
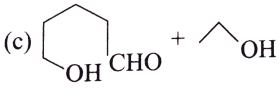
level 23

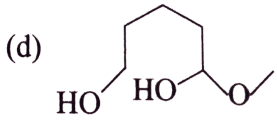
1. The major product formed in the reaction is"



A. 

B. 

C. 

D. 

Answer: C

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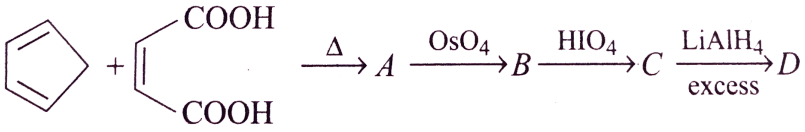
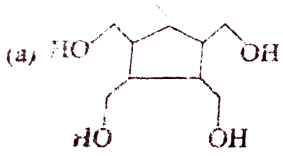
level 24

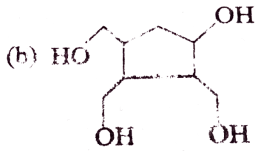
1. Complete the following reaction



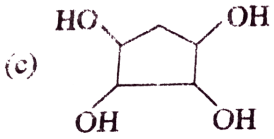
A.



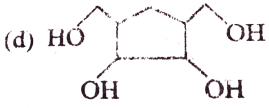
B.



C.



D.



Answer: A

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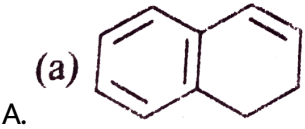
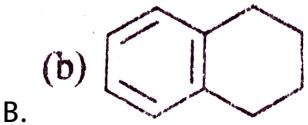
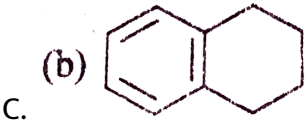
level 25

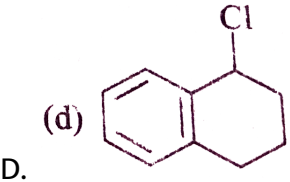
1. 

Product B of the above reaction is:

A. 

B. 

C. 

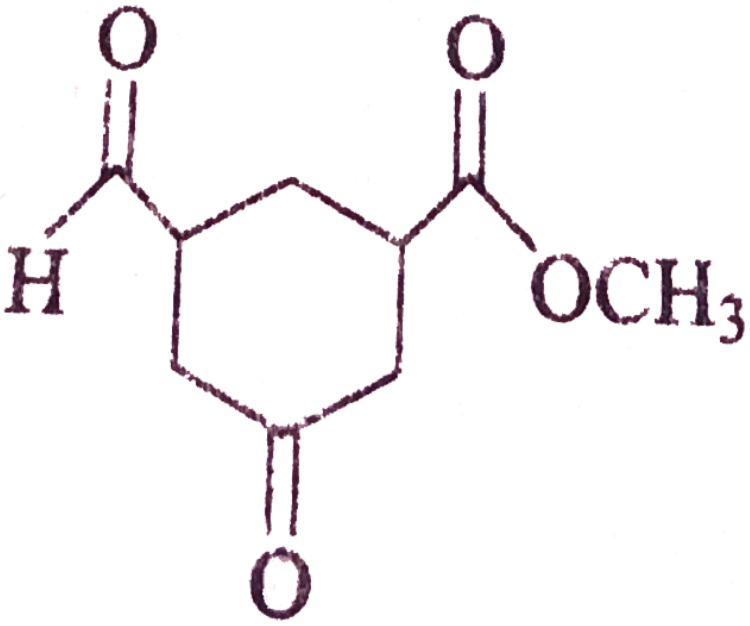
D. 

Answer: B

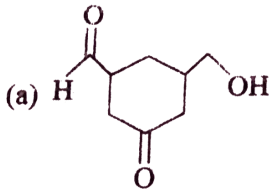
Watch Video Solution

level 26

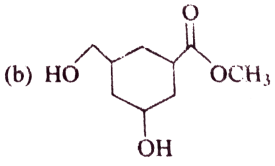
1. Find out the product when compound reacts with $NaBH_4$:



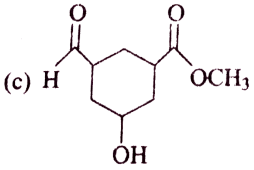
A.



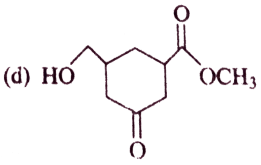
B.



C.



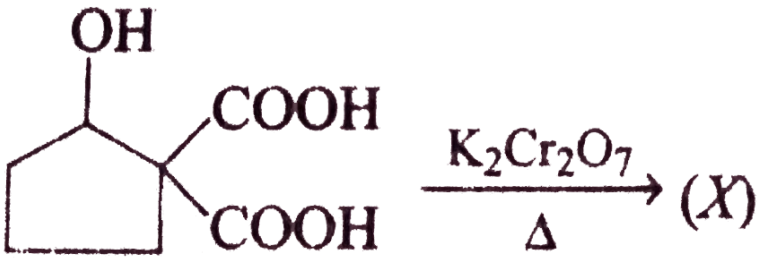
D.



Answer: B

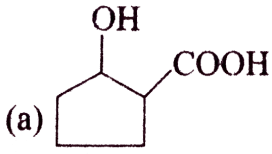
Watch Video Solution

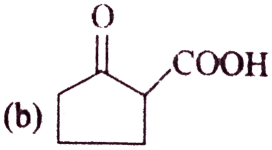
level 27

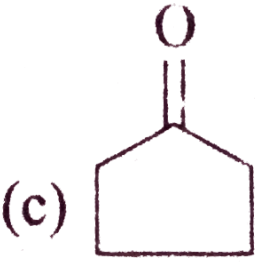


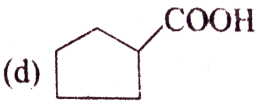
1.

Find out X:

A. 

B. 

C. 

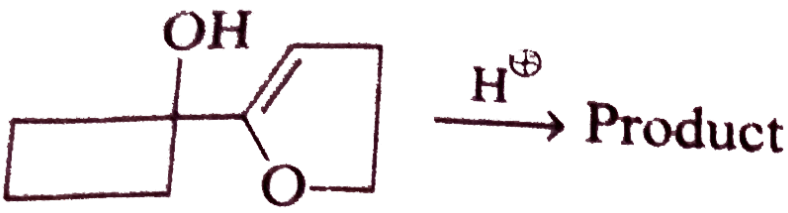
D. 

Answer: C

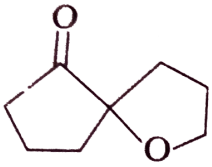
Watch Video Solution

level 28

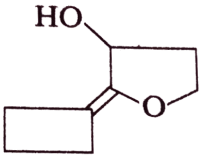
1. Complete the following reaction



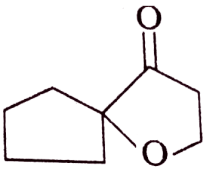
A. (a)



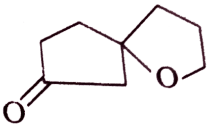
B. (b)



C. (c)



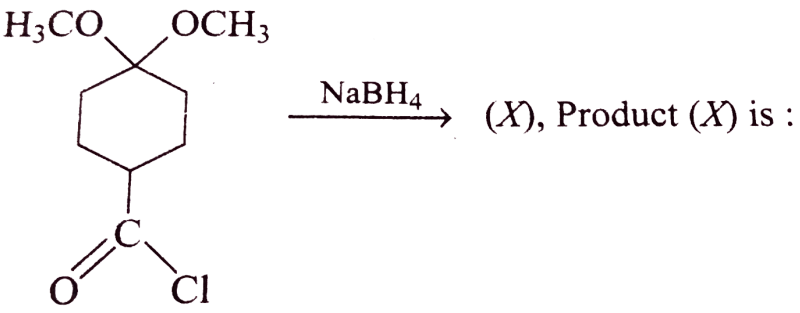
D. (d)



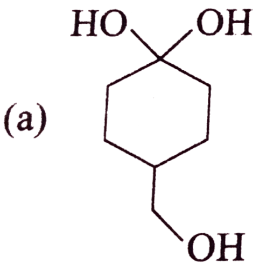
Answer: A

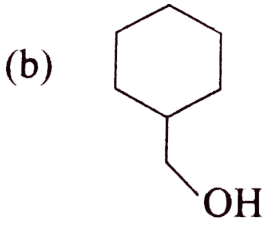
Watch Video Solution

level 29

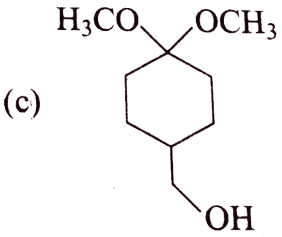
1. 

X, Product is:

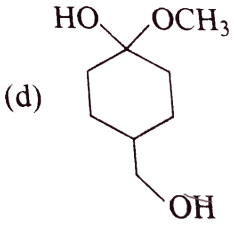
A. 

B. 

C.



D.



Answer: C

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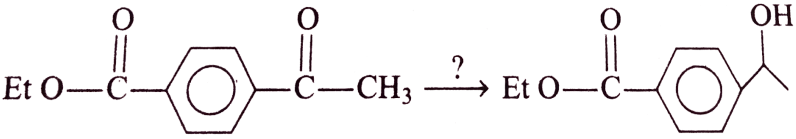
level 30

1.



Which of the following is best set of reagents to performs to the above conversion?

A. $LiAlH_4$

B. $NaBH_4$

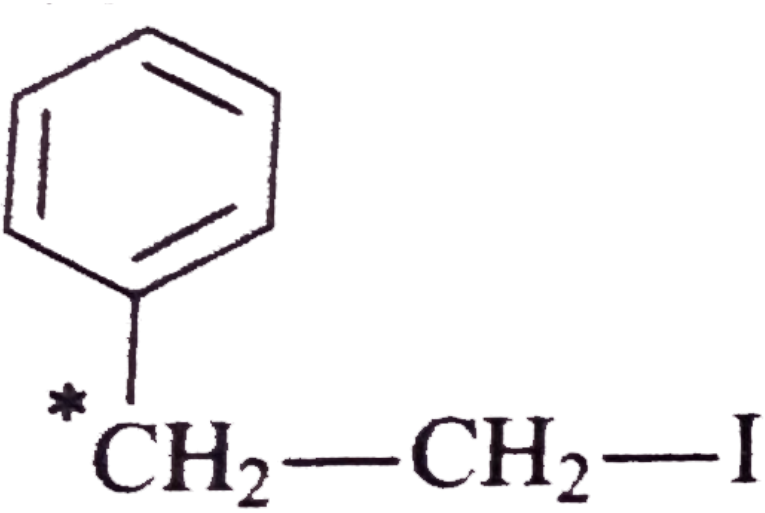
C. $K_2Cr_2O_7$

D. None of these

Answer: B

Watch Video Solution

level 31



1.

Product of the reaction is:

A. $Ph - \overset{*}{C}H_2 - CH_2 - SH$

B. $Ph - CH_2 - \overset{*}{C}H_2 - SH$

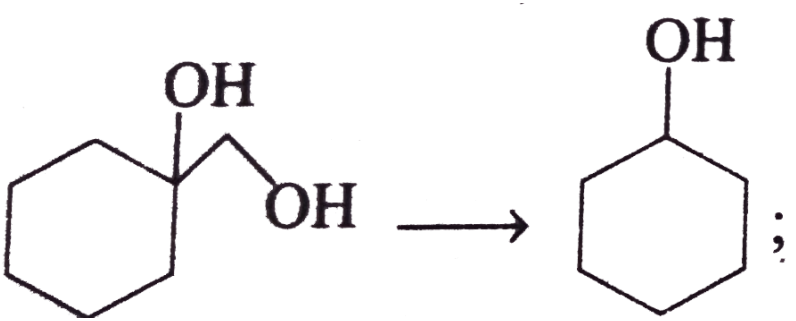
C. Both of these

D. None of these

Answer: C

Watch Video Solution

level 32

1. 

This conversion can be carried out by:

A. $H_2SO_4/\Delta, HIO_4$

B. $NaIO_4, H^{\oplus}/\Delta$

C. $HIO_4, NaBH_4$

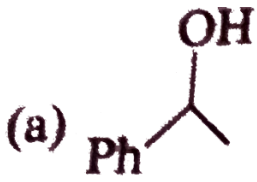
D. $H^{\oplus}/De < s, Zn(Hg - HCl)$

Answer: C

Watch Video Solution

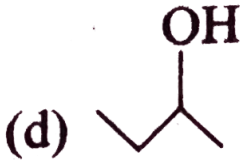
level 33

1. Which of the following alcohols will show positive iodoforms test?

A. 

B.

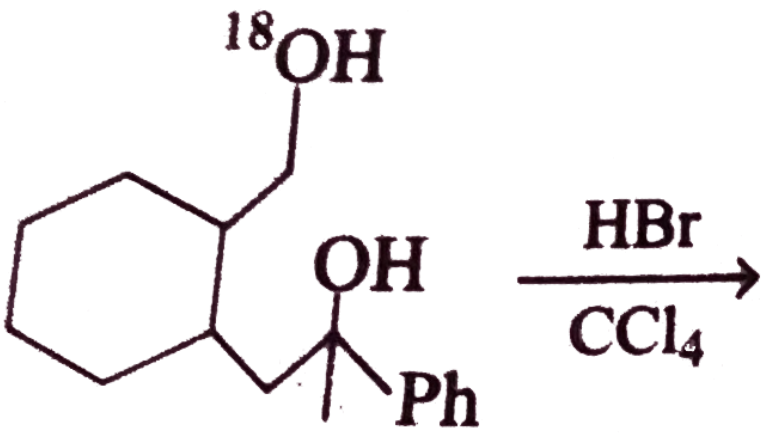
C. $CH_3 - CH_2 - OH$

D. 

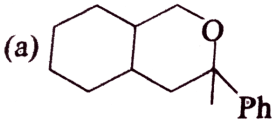
Answer: C

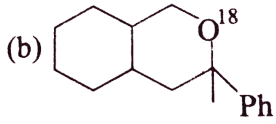
Watch Video Solution

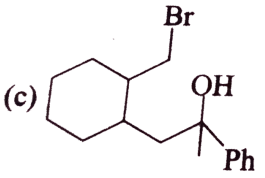
level 34

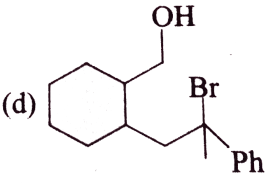
1. 

Major product obtained in this reaction is:

A. 

B. 

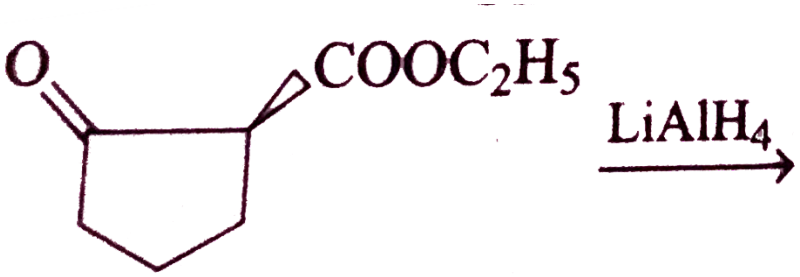
C. 

D. 

Answer: B

Watch Video Solution

level 35



1. , Products of the reaction is:

A. racemic

B. diastereomers

C. meso

D. optically pure

Answer: B

Watch Video Solution

level 36

1. Reduction of $R - CH_2OH - RCH_3$ can be carried out by:

A. $LiAlH_4$

B. $H_2 - Ni$

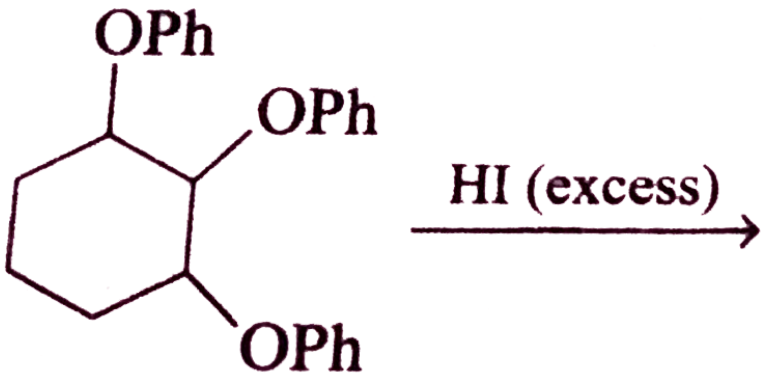
C. $RedP + HI$

D. $NaBH_4 / AlCl_3$

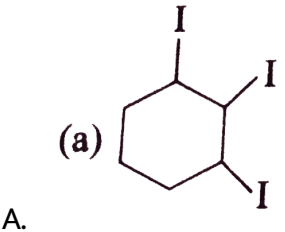
Answer: C

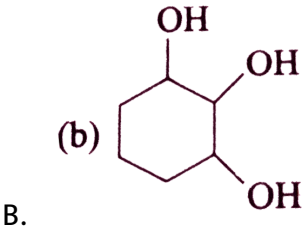
Watch Video Solution

level 37

1. 

, which of the following is major product?

A. 

B. 

C. 

D. None of these

Answer: A

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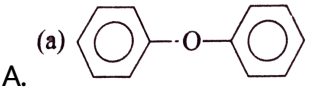
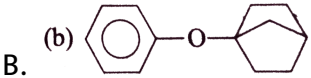
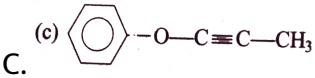
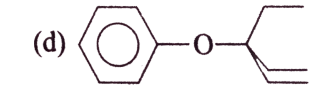
level 38

1. Which of the following ethers will get hydrolysed by $H^{\oplus}/H_2O$?

A. 

B. 

C. 

D. 

Answer: D

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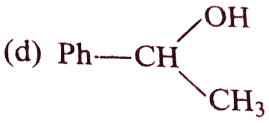
level 39

1. Which of the following alcohols will not react with Cu / Δ

A. $CH_3 - CH_2 - OH$

B. $Ph - \underset{\underset{Ph}{|}}{\overset{\overset{Ph}{|}}{C}} - OH$

C. $H_3C - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{C}} - OH$

D. 

Answer: B

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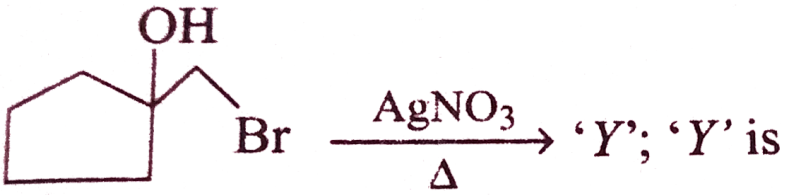
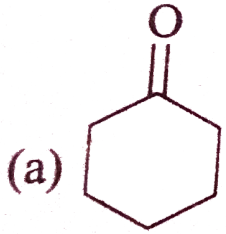
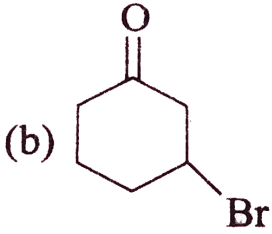
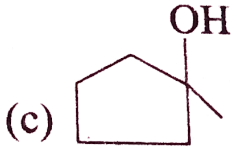
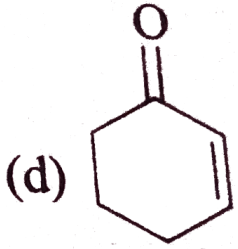
level 40

1. 

A. 

B. 

C. 

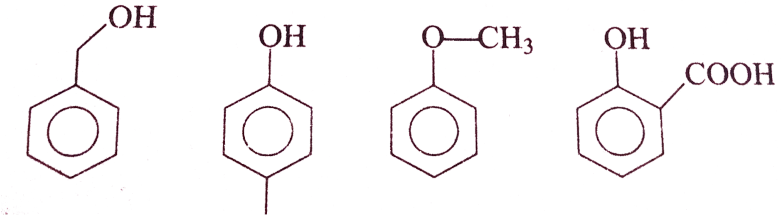
D. 

Answer: A

Watch Video Solution

level 41

1. Which of the following can give purple colour with neutral $FeCl_3$



A. ii and iv

B. I and iii

C. ii and iii

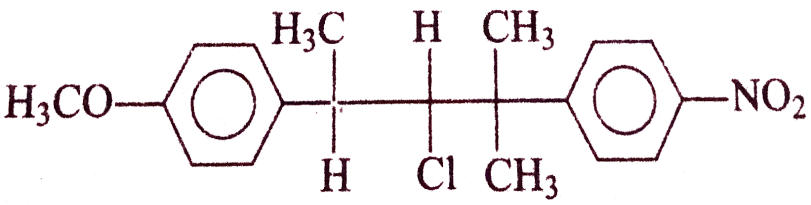
D. iii and iv

Answer: A

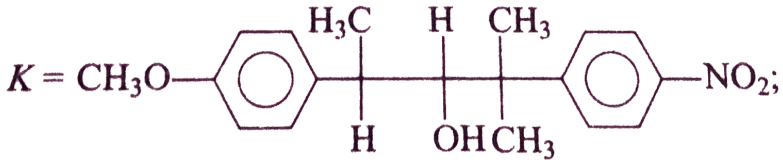
Watch Video Solution

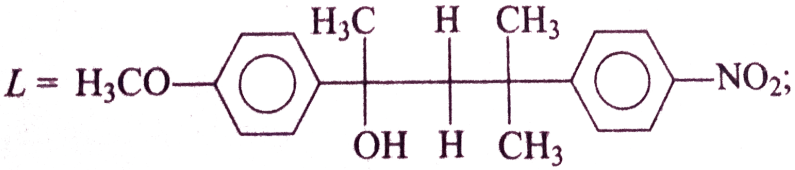
level 42

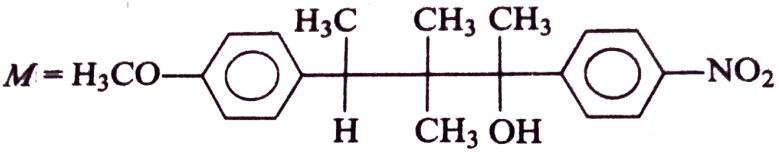
1. The hydrolsed of



in aqueous acetone gives.







A. K and L

B. Only K

C. L and M

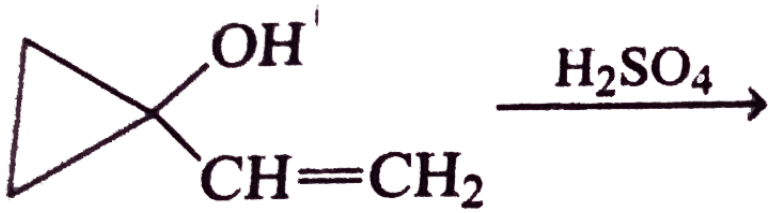
D. Only M

Answer: A

View Text Solution

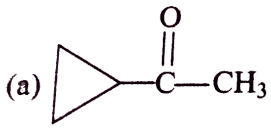
level 43

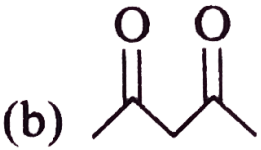
1.

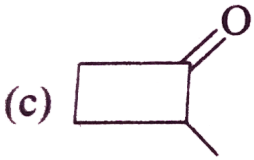


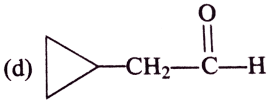
identify 'P' in the reaction:

A.



B. 

C. 

D. 

Answer: C

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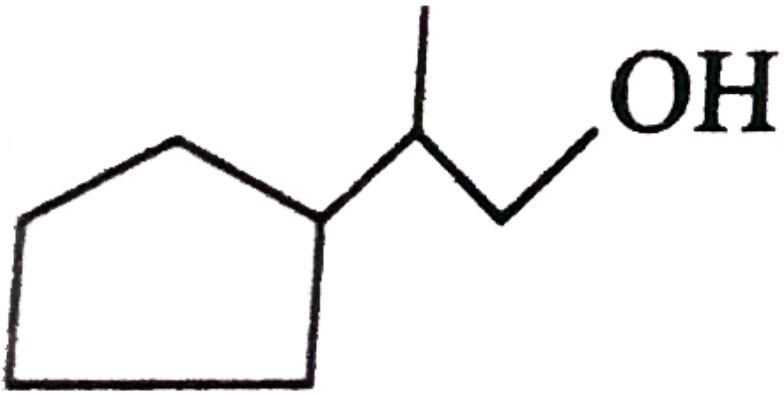
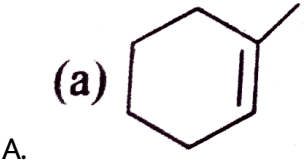
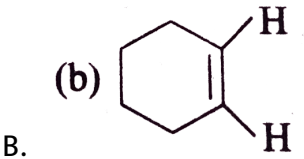
level 44

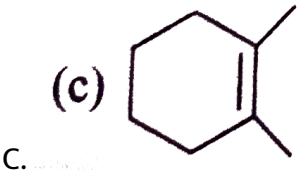


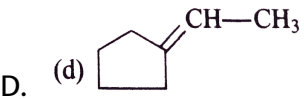
1.

identify 'P' in the reaction:

A. 

B. 

C. 

D. 

Answer: C

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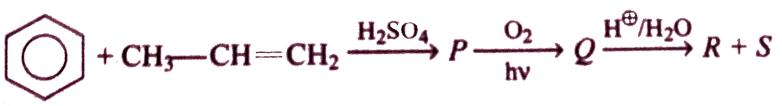
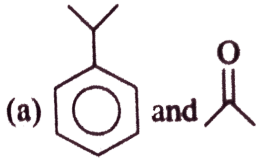
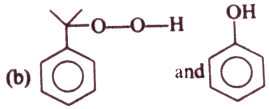
level 45

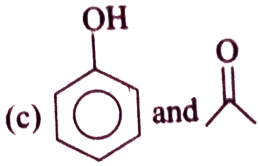


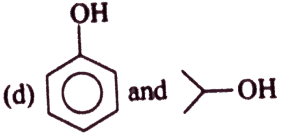
1.

identify 'P' in the reaction:

A. 

B. 

C. 

D. 

Answer: C

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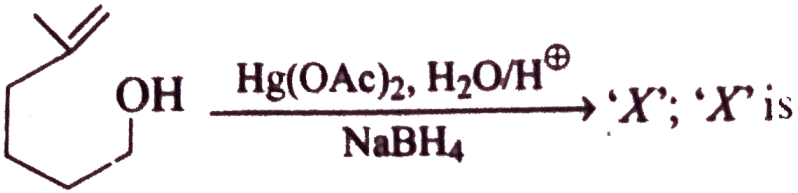
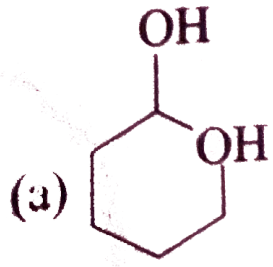
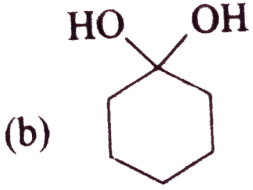
level 46

1. 

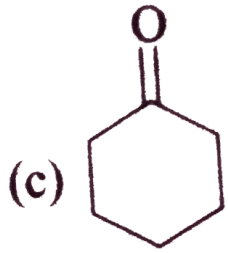
identify 'P' in the reaction:

A. 

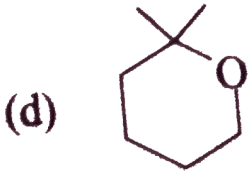
B.



C.



D.



Answer: D

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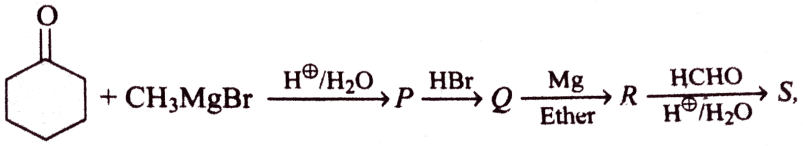
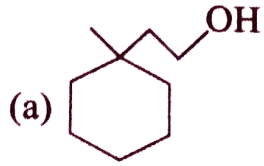
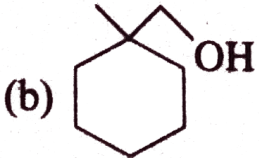
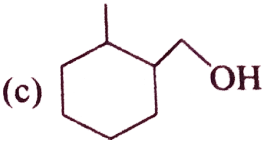
level 47

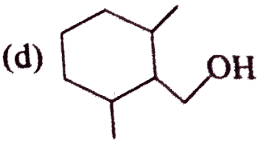
1. 

identify 'P' in the reaction:

A. 

B. 

C. 

D. 

Answer: B

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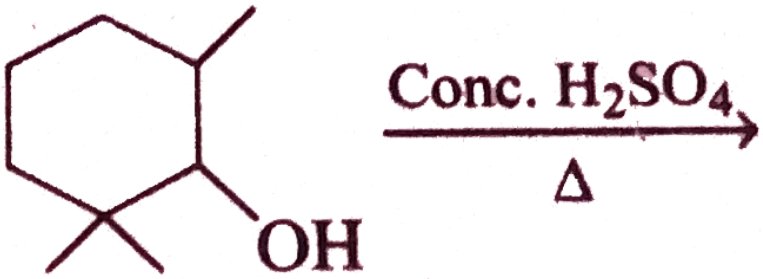
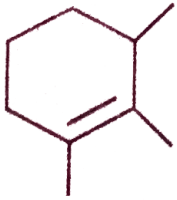
level 48

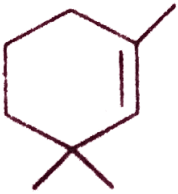
1. Identify the major product of the following reation:



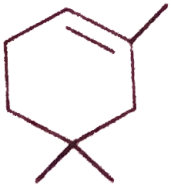
A. (a)

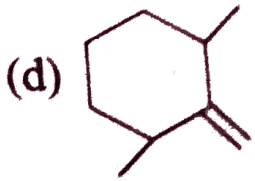


B. (b)



C. (c)



D. 

Answer: A

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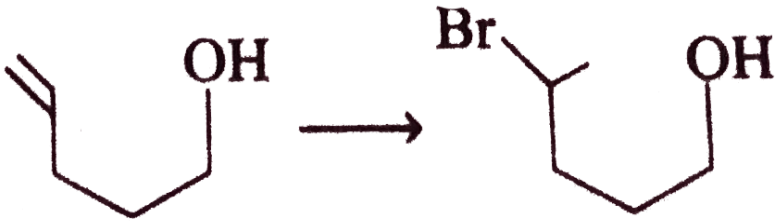
level 49

1. Find the correct method for the following conversion:



A. $\overset{\ominus}{H}, HBr$

B. $Conc.\ H_2SO_4, \Delta$

C. $H^{\oplus}, HBr$

D. None of these

Answer: C

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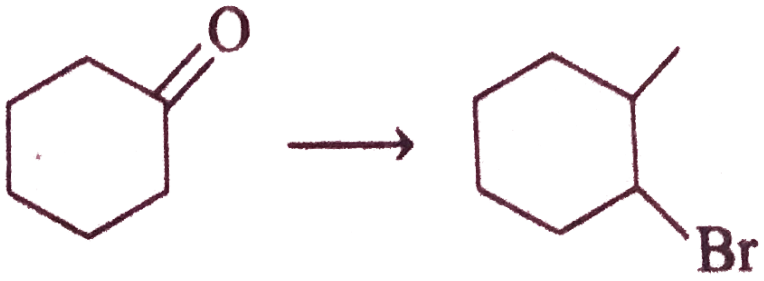
level 50

1. Which combination of reagents will bring about the following conversion?



A. $MeMgBr / H^{\oplus}, H_2SO_4 / \Delta, HBr / H_2O_2$

B. $MeMgBr / H^{\oplus}, H_2SO_4 / \Delta, HBr$

C. $MeMgBr / H^{\oplus}, HBr / CCl_4$

D. $HBr / H_2O_2, MeMgBr / H^{\oplus}$

Answer: A

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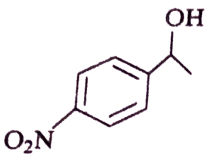
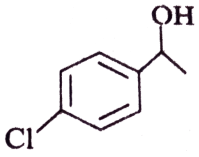
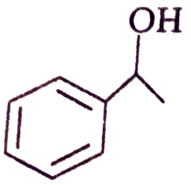
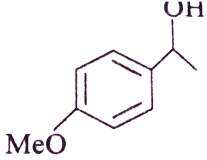
level 52

1. Which of the following alcohols will undergo easiest dehgydration?

A. 

B. 

C. 

D. (d) 

Answer: D

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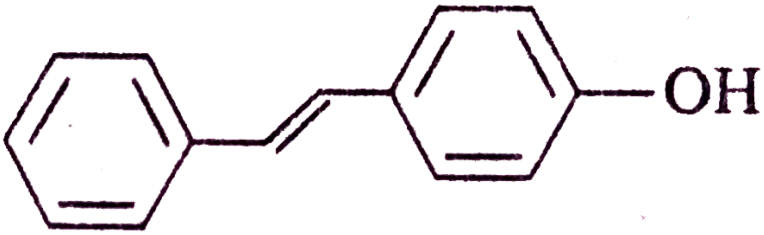
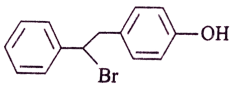
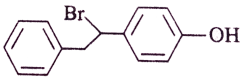
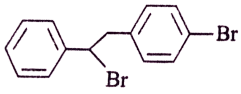
level 53

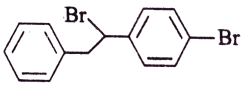
1. The reactio of HBr with the followin compound would produce



A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: B

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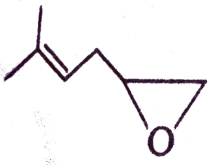
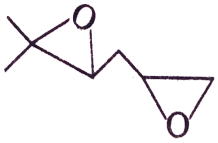
level 54

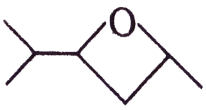
1. In the following

$$Me_2C = CH - CH_2 - CH = CH_2 + C_6H_5CO_3H(1\text{equiv.}) \rightarrow X, Xis$$

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: C

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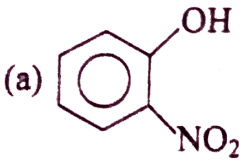
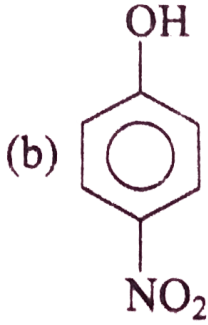
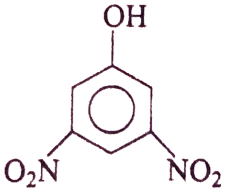
level 55

1. The most steam volatile species is:

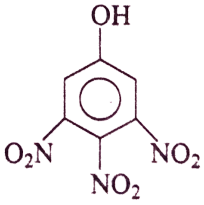
A. (a) 

B. (b) 

C. (c)



D. (d)



Answer: A

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level 56

1. In the Libermann nitroso reaction, change in the colour of phenol occur as:

A. Brown or red green red deep blue

B. Red deep blue green

C. Red brown white

D. White red green

Answer: B

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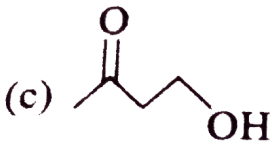
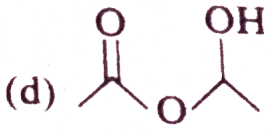
level 57

1. Which one of the following compounds will be most readily dehydrated?

A. 2-butanol

B. 1-phenyl-1-propanol

C. 

D. 

Answer: B

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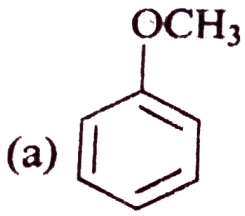
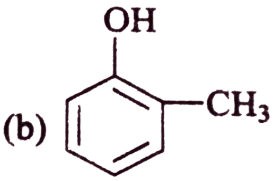
level 58

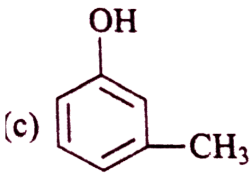
1. Compound A, C_7H_8O, is insoluble in water, dilute HCl, and aquenous $NaHCO_3$, it dissolves in dilute $NaOH$. When A is treated with bromine water is is converted rapidly into a compound of formula $C_7H_5Obr_3$. The structure of A is

A.

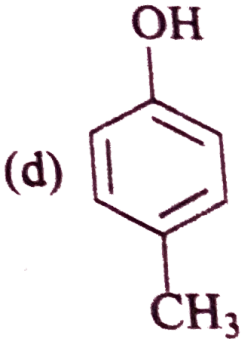


B.





C.



D.

Answer: C

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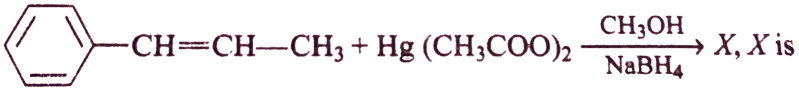
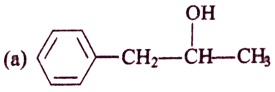
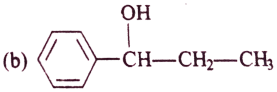
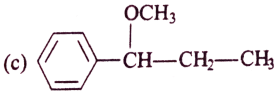
level 59

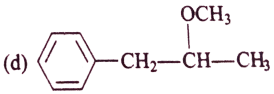
1. In the following sequence of reaction



A. 

B. 

C. 

D. 

Answer: C

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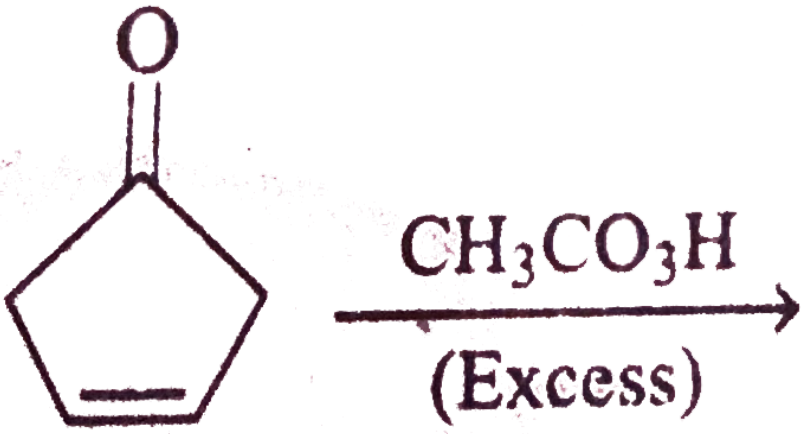
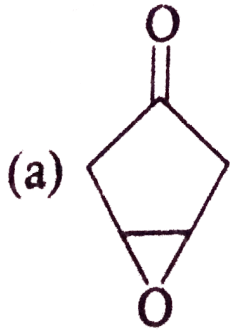
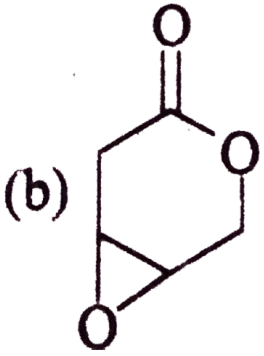
level 60

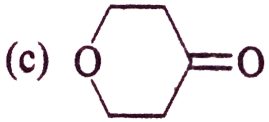
1. 

, Product of the reaction is:

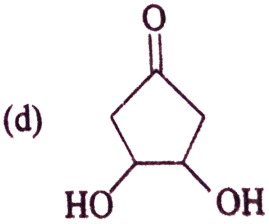
A. 

B. 

C.



D.



Answer: B

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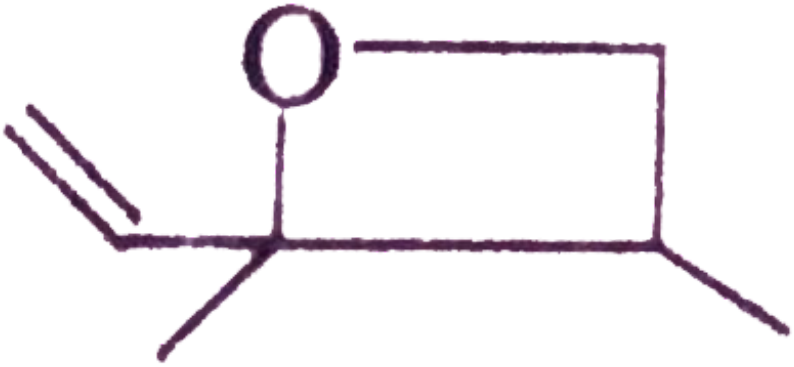
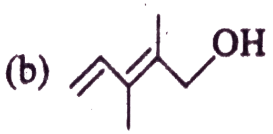
level 61



1. When is treated with proton acid, a resonance stablized cation is produced. Which dience listed below when treated with acid will give the same carbocation?

A. 

B. 

C. 

D.

Answer: B

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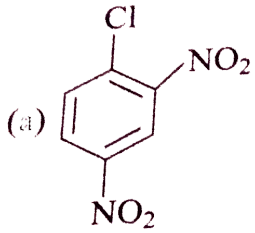
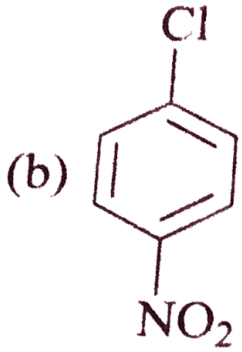
level 62

1. Which of the following would undergo most rapid hydrolysis with aqueous to furnish the corresponding hydroxy derivatives?

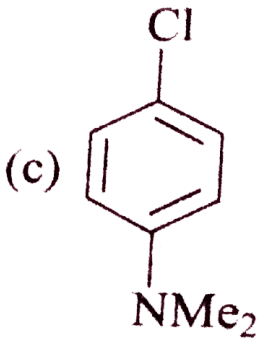
A.



B.



C.



D.

Answer: A

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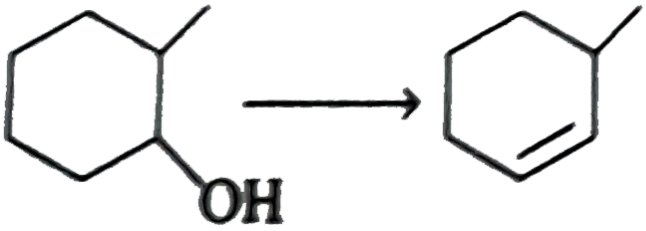
Others

1. 

Which of the following is best set of reagents to performs to the above conversion?

A. ThO_2, Δ

B. H_3PO_4, Δ

C. $Conc.\ H_2SO_4, \Delta$

D. Al_2O_3, Δ

Answer: A

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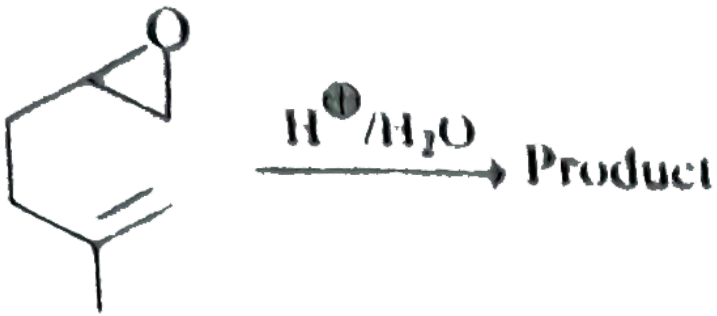
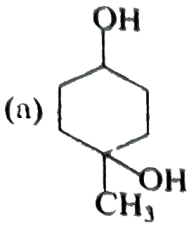
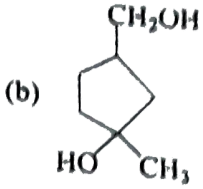
2. Complete the following reaction



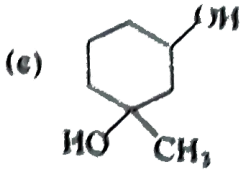
A.

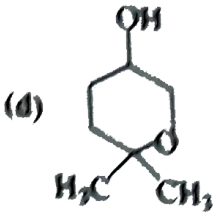


B.



C.





D.

Answer: B

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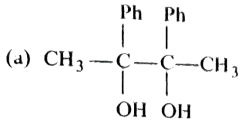
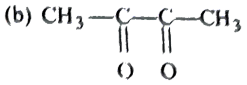
3. $2Ph - \overset{\overset{O}{||}}{C} - CH_3 \xrightarrow[H_2O]{Mg-Hg} \xrightarrow[\Delta]{Conc.H_2SO_4} \xrightarrow{KMnO_4, H^{\oplus}}$

The final product is

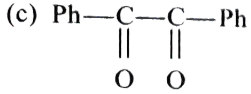
A.

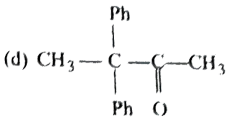


B.



C.



D. 

Answer: C

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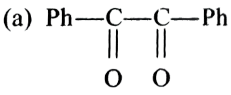
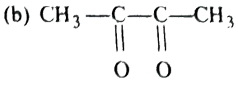
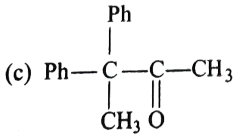
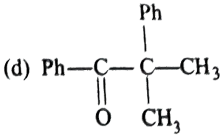
4. $2Ph - \underset{\underset{O}{||}}{C} - CH_3 \xrightarrow[H_2O]{Mg-Hg} \xrightarrow{Dil.\,H_2SO_4} Product$

The main product is

A. 

B. 

C. 

D. 

Answer: C

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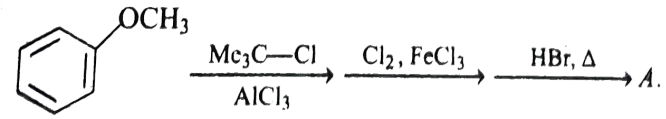
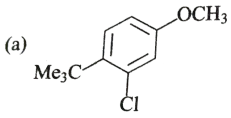
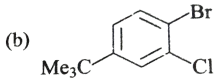
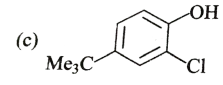


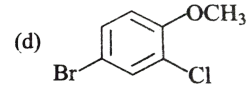
5.

The final product A is:

A. 

B. 

C. 

D. 

Answer: C

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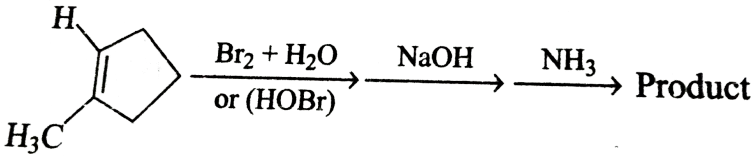
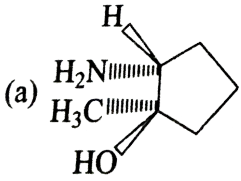
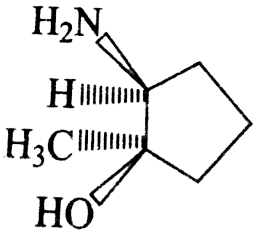
6. 

The product is

A. 

B. 

C. (c) $Ph_3P=CHCH_2CH_3$; B_2H_6, H_2O_2, $\overset{\ominus}{O}H$

D. (d) $Ph_3P=CHCH_2CH_3$; H_2SO_4, H_2O

Answer: A

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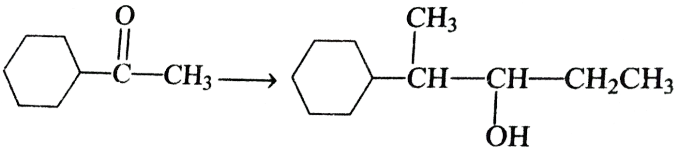
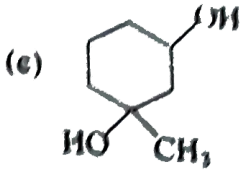
7. Which of the following sets of reagents would accomplish the following conversation



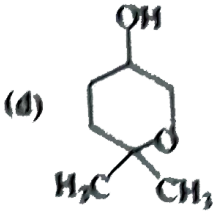
A. (a) $CH_3CH_2CH_2MgBr\,;\,H^{\oplus}\,/\,H_2O,\,PCC,\,CH_2Cl_2$

B. (b) $CH_3CH_2CH_2MgBr\,;\,H^{\oplus}\,/\,H_2O\,;\,H_2SO_4,\,\Delta\,;\,PCC,\,CH_2Cl_2$

C.



D.



Answer: C

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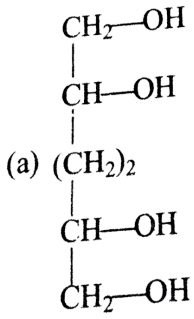
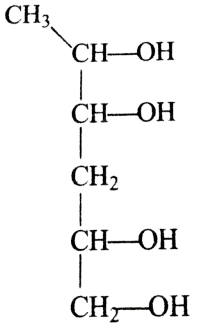
8. An organic compound A (Molecular formula $C_6H_{12}O_4$) on treatment with Na metal liberates H_2 gas and on treatment with HIO_4 gives 2 moles of $CH_3CHO, HCOOH(1\text{mole})$ and $CO_2(1\text{mole})$. Find the structure on A.

(a)



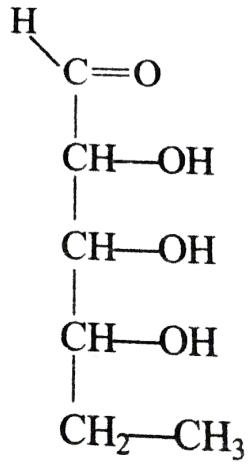
A.

(b)

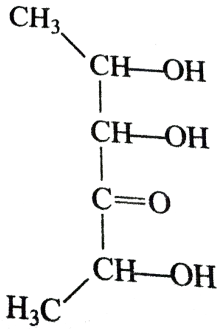


B.

C.



D.



Answer: D

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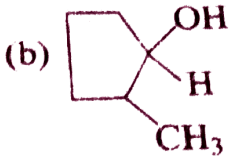
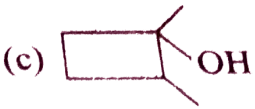
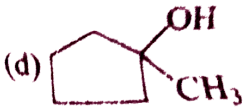
9. An organic compound A (Molecular formula $C_6H_{12}O_4$)does not change the colour of acidic dichromate solution. Compound A on treatment with

H_2SO_4 produces alkene, which on oxiative ozonolysis gives a molecule $(C_6H_{10}O_3)$ which gives positive iodoform test. Find the structure of 'A'.

A. 

B. 

C. 

D. 

Answer: D

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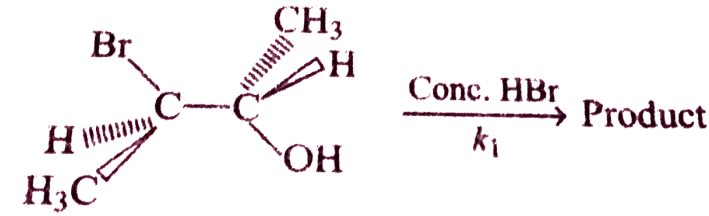

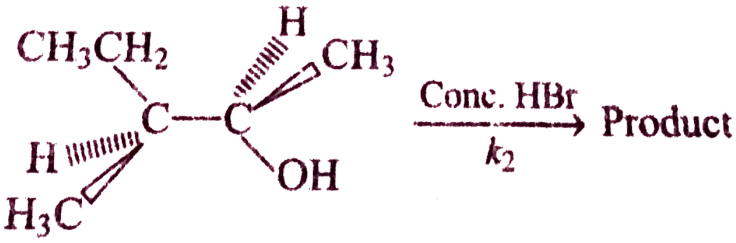

10.

-OH group is substituted by -Br. The slowest step is dehydration. Which of the following is correct comparison of rate constant K_1 and K_2?

A. $k_1 = k_2$

B. $k_1 > k_2$

C. $k_1 < k_2$

D. cannot be predict

Answer: C

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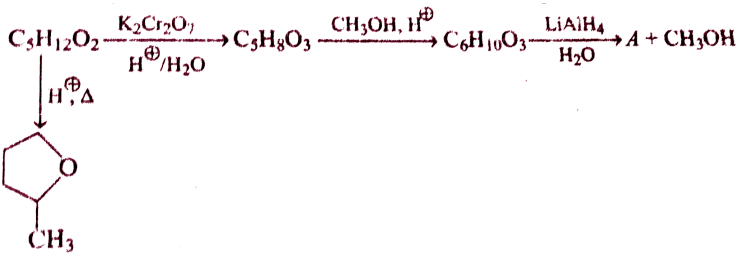
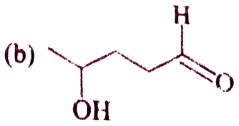
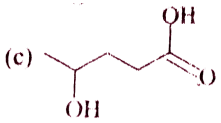
11. 

The molecule A in the sequence reaction is

A. 

B. 

C. 

D. 

Answer: D

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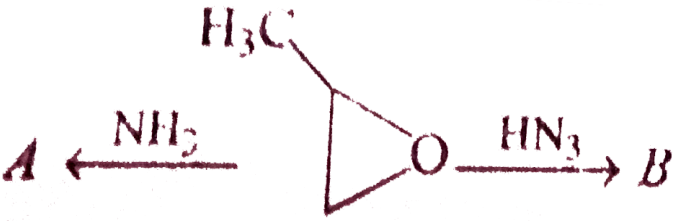
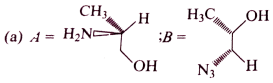
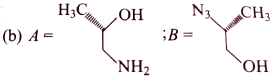
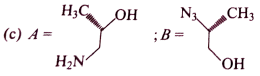
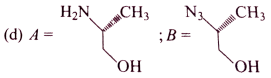
12. 

The product A and B respectively:

A. 

B. 

C. 

D. 

Answer: C

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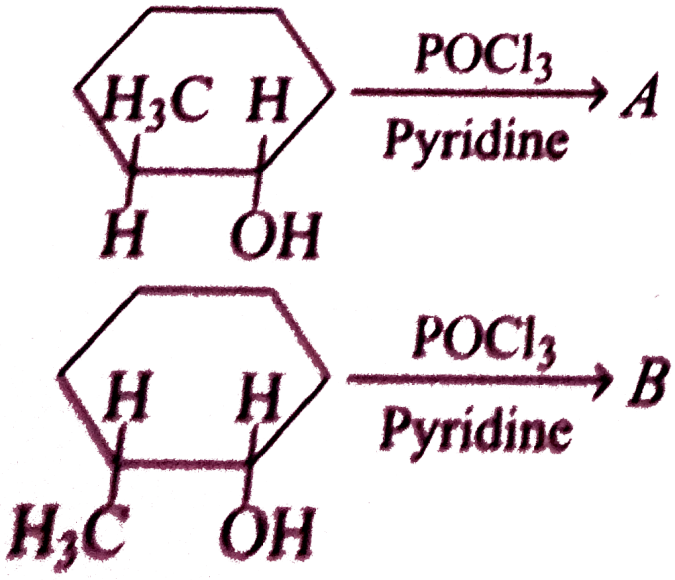
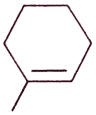
13.

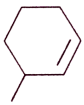


Product A and B respectively :

A. (a) $A =$  ; $B =$ 

B. (b) $A = B =$ 

C. (c) $A =$  ; $B =$ 

D. (d) $A = B =$ 

Answer: C

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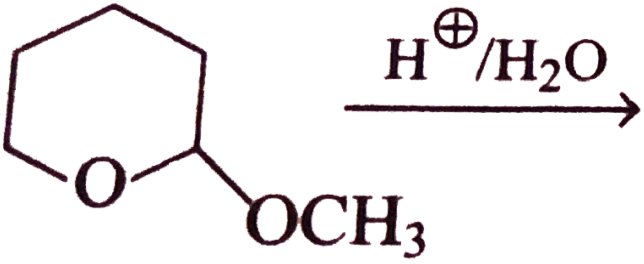
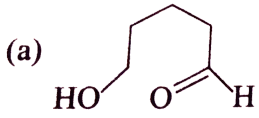
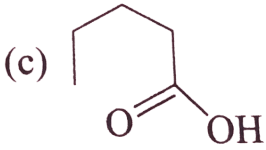
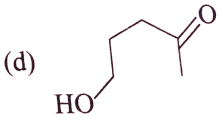
14. Complete the following reaction



A. 

B. $(b)\ CH_3CH_2 - OH$

C. 

D. 

Answer: A

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15. The releative rate or acid catalyssed dehydration of following alcohols would be:

(P) $Ph - \overset{CH_3}{\underset{|}{C}} - \underset{OH}{\underset{|}{CH}} - CH_3$

(Q) $Ph - \overset{CH_3}{\underset{|}{C}} - CH_2 - CH_2 - OH$

(R) $Ph - \overset{CH_3}{\underset{OH}{\underset{|}{\overset{|}{CH}}}} - CH_2CH_3$

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

A. $R > P > S > Q$

B. $R > S > P > Q$

C. $P > R > S > Q$

D. $R > S > Q > P$

Answer: A

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16. Which of the following alcohols will show positive iodoforms test?

A. $CH_3 - \overset{OH}{\overset{|}{C}}H - CH_2 - NO_2$

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

C. $ICH_2 - \overset{OH}{\overset{|}{C}}H - CH_2CH_3$

D. None is correct

Answer: C

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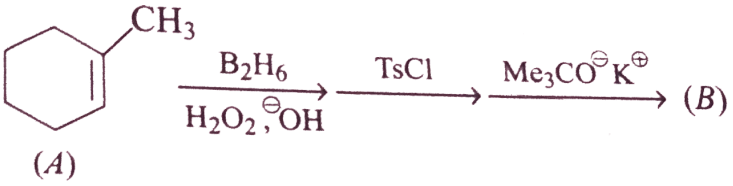
17. In the given reaction



The product B is:

A. Identical to B

B. Chain isomer of A

C. a positional isomer of 'A'

D. reduced product of A

Answer: C

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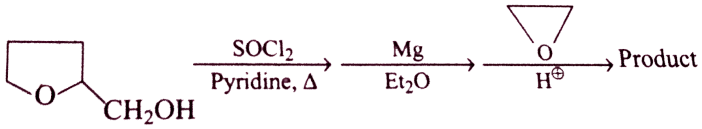
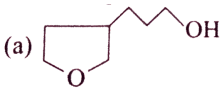
18.

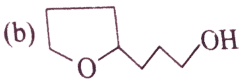


The final product is :

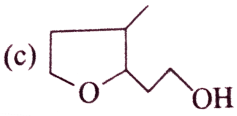
A.

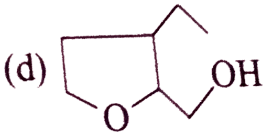


B.



C.



D. 

Answer: B

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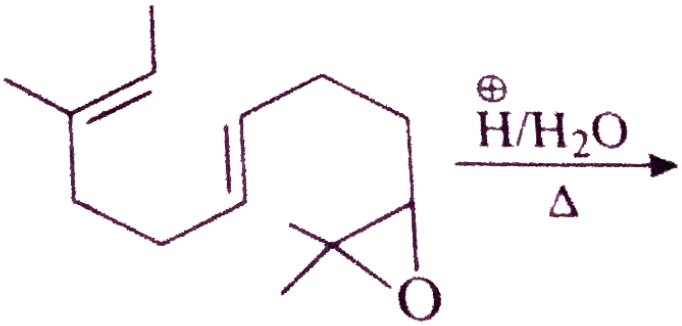
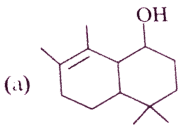
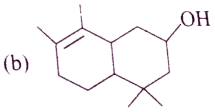
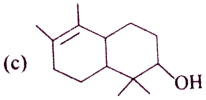


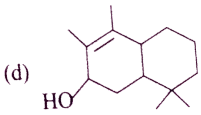
19.

The final product is :

A. 

B. 

C. 

D. 

Answer: C

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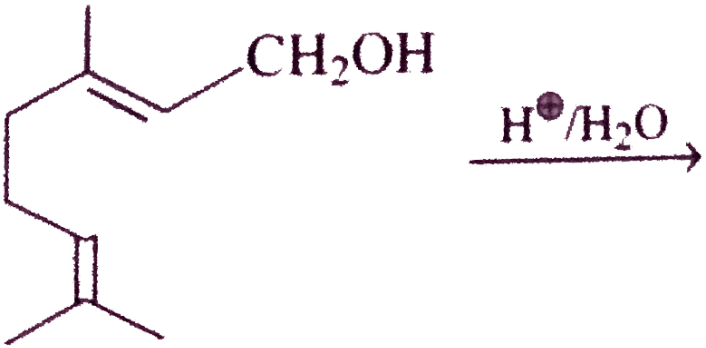

20.

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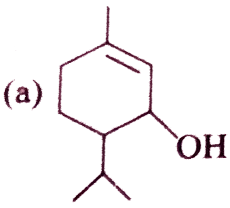
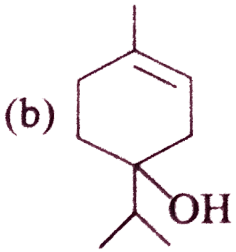
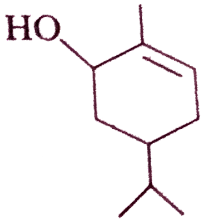
A. 

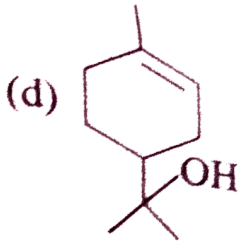
B.



C.



D.



Answer: D

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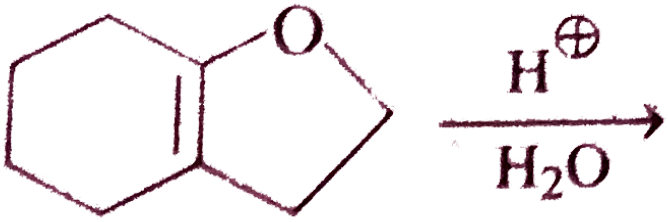
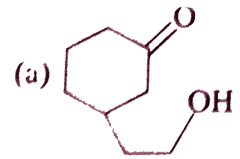
21.



The final product is :

A.



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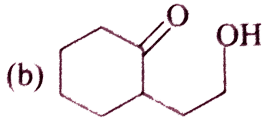
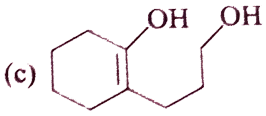
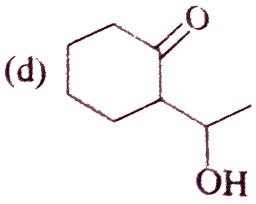


C.



D.



Answer: B

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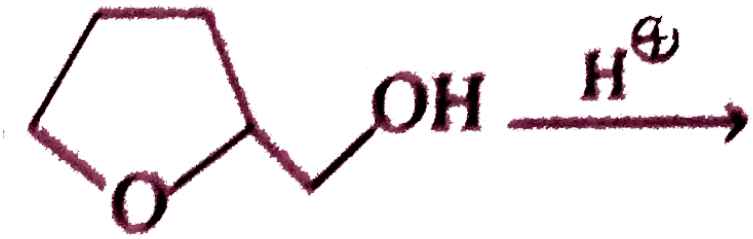
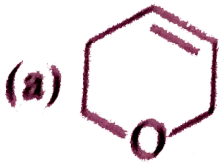
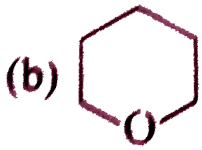
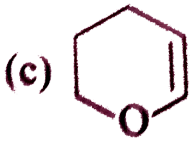
22.

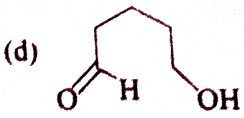


The final product is :

A. 

B. 

C. 

D. 

Answer: C

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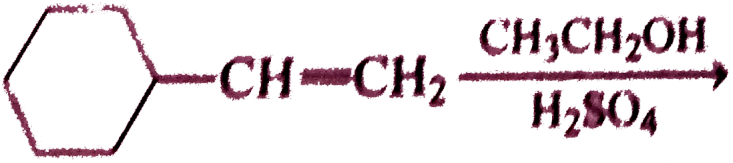
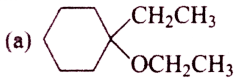
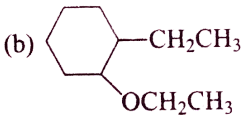
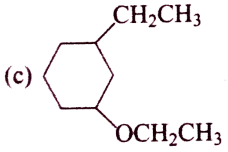
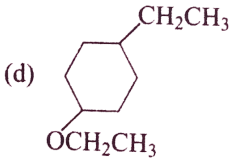
23. 

The final product is :

A. 

B. 

C. 

D. 

Answer: A

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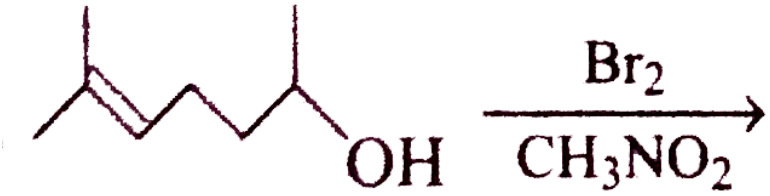
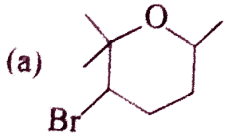
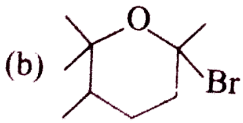
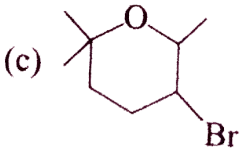


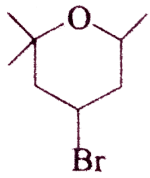
24.

The final product is :

A. 

B. 

C. 

(d) 

D.

Answer: A

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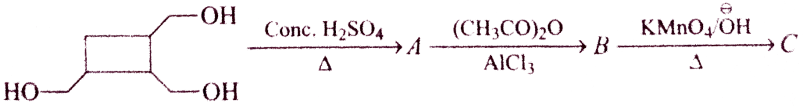

25.

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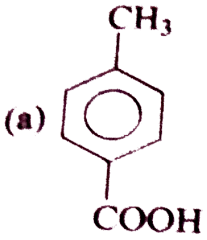
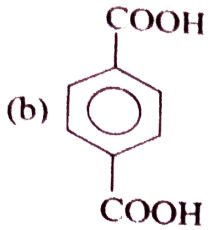
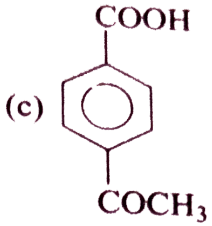


A.

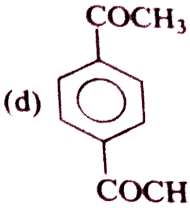
B.



C.



D.



Answer: B

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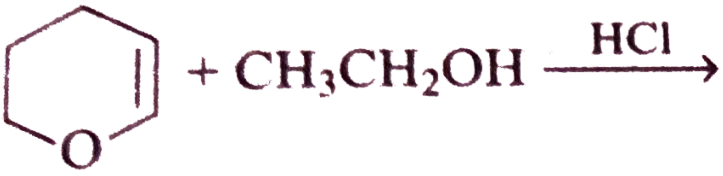
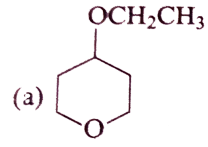
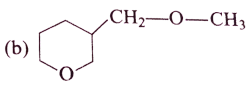
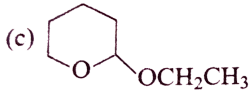


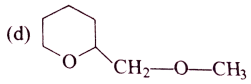
26.

The final product is :

A. 

B. 

C. 

D. 

Answer: C

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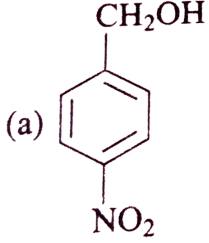
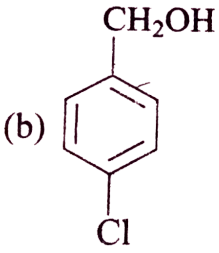
27. Which of the following reacts fastest with HBr?

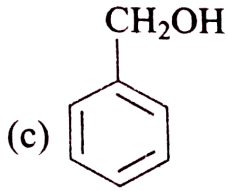
A.



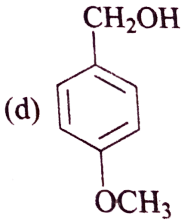
B.



C.



D.



Answer: D

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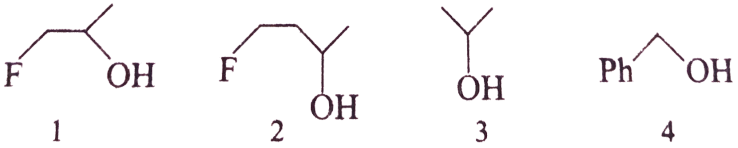
28. The order of reactivity of the following alcohols towards HCl is :



A. $1 > 2 > 3 > 4$

B. $1 > 3 > 2 > 4$

C. $4 > 3 > 2 > 1$

D. $4 > 3 > 1 > 2$

Answer: C

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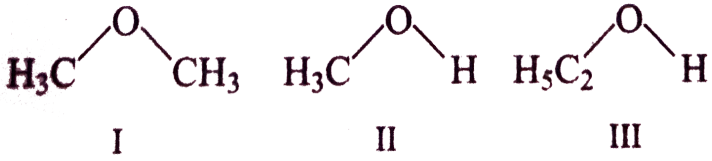
29. The order of solubility of



A. $I > II > III$

B. $I < II < III$

C. $II > III > I$

D. $II > I > III$

Answer: C

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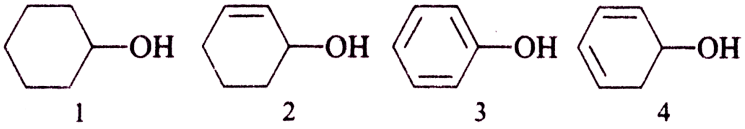
30. Degydration of the following alcohols will be in order:



1 2 3 4

A. $1 < 2 < 3 < 4$

B. $4 < 3 < 1 < 2$

C. $4 > 2 > 1 > 3$

D. $1 > 3 > 4 > 2$

Answer: C

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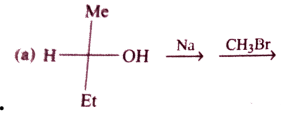
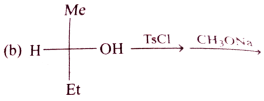
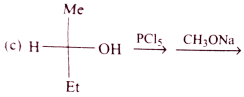
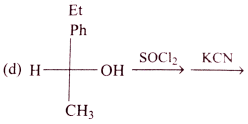
31. Which of the following reactions proceeds with retention of configuration?

A. 

B. 

C. 

D. 

Answer: A

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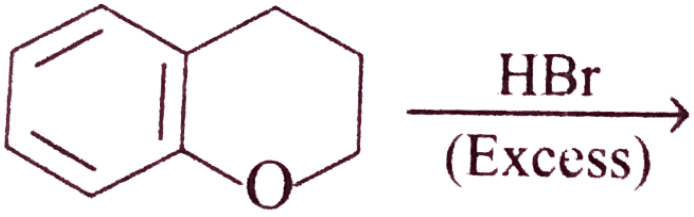
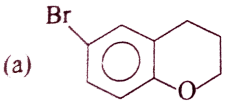
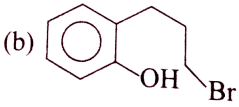
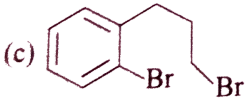
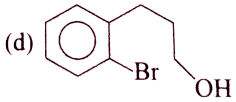
32. Find out correct product of reaction:



A. 

B. 

C. 

D. 

Answer: B

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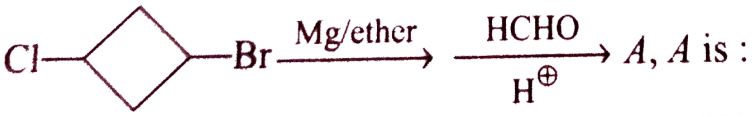
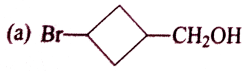
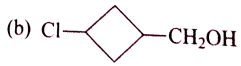
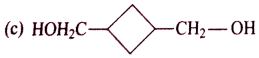
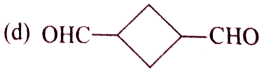
33. 

A, A is :

A. 

B. 

C. 

D. 

Answer: B

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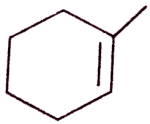
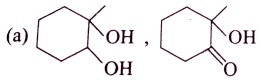
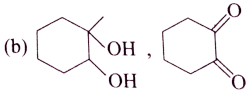
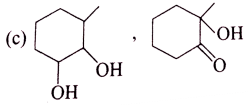
34. 

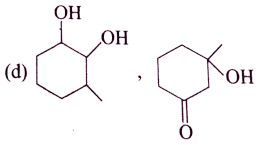
B, A and B are :

$\xrightarrow{coldKMnO_4} A \xrightarrow[AcOH]{CrO_3} B, A$ and $Bare$

A. 

B. 

C. 

D. 

Answer: A

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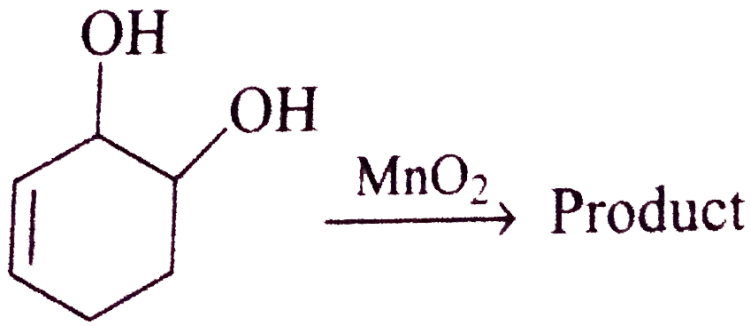
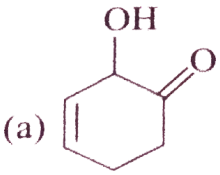
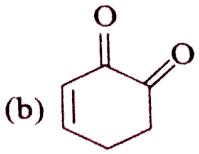
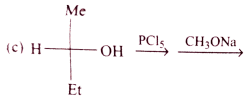
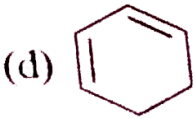
35. 

(MnO_(2))` Product

A. 

B. 

C. 

D. 

Answer: C

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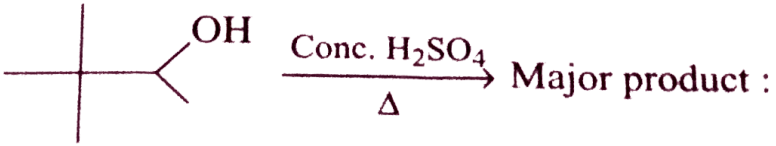
36. Complete the following reaction



A. 

B. 

C. 

D. None of these

Answer: B

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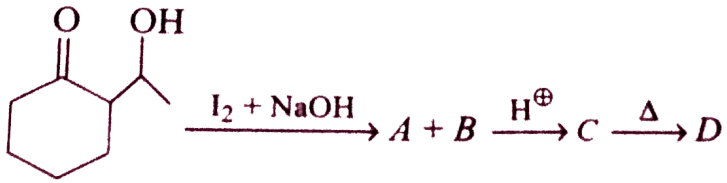
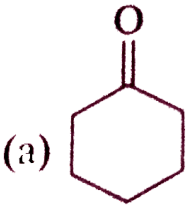
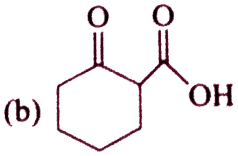
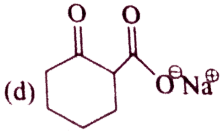
37. 

Identify product D in this reaction

A. 

B. 

C. CHI_3

D. 

Answer: A

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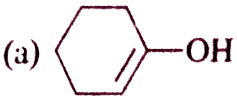
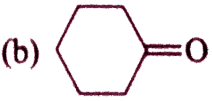
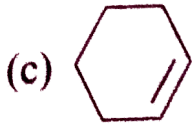
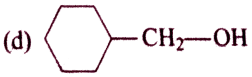
38. In the given reaction

P will be:

A. 

B. 

C. 

D. 

Answer: B

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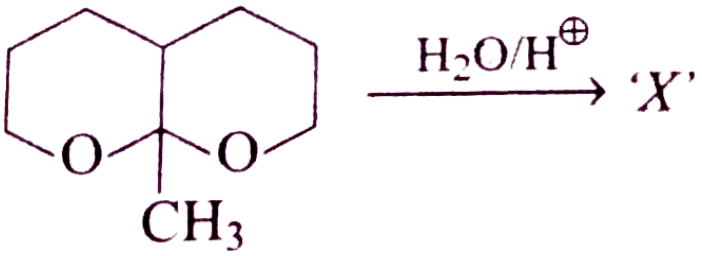
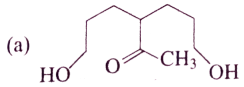
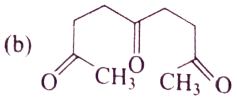
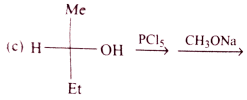
39. 

'X' will be

A. 

B. 

C. 

D. All of these

Answer: A

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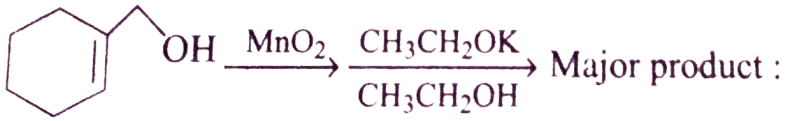
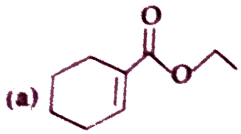
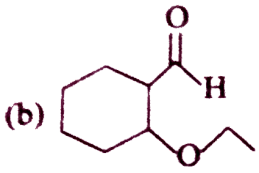
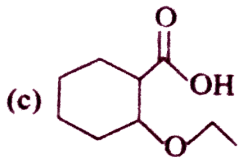


40.

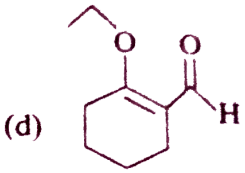
A. 

B. 

C.



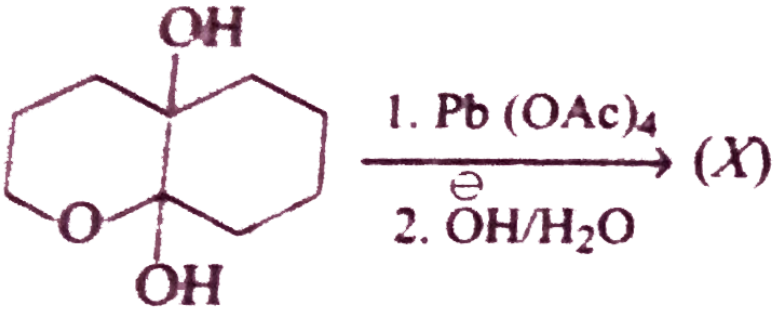
D.



Answer: B

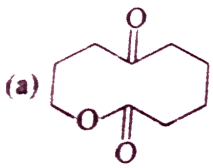
View Text Solution

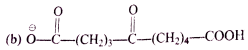
41.

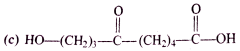


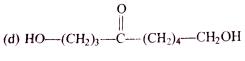
'X' will be

A.



B. 

C. 

D. 

Answer: C

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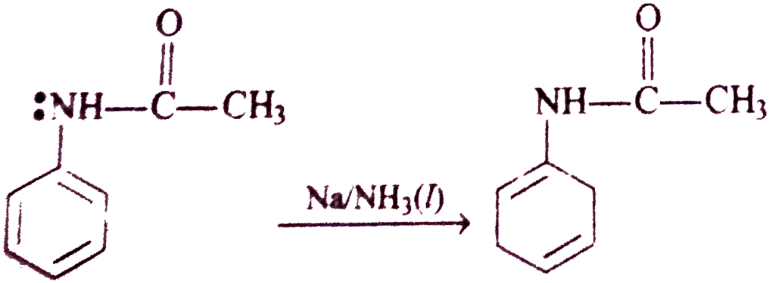
42. 

The above reaction is known as:

A. Clemmensen reduction

B. Birch reduction

C. MPV reaction

D. Wolff-Kishmer reaction

Answer: B

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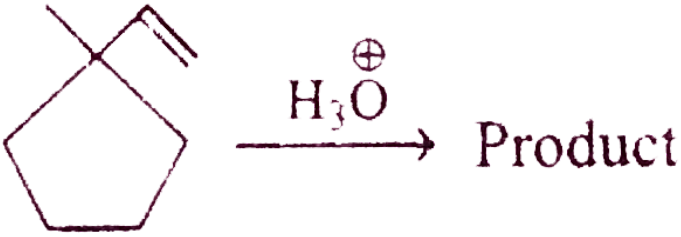
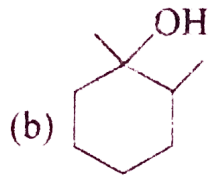
43. In the following reaction



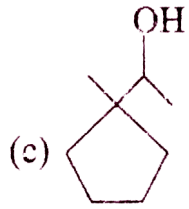
The main product is:

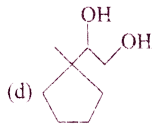
A.

B.



C.





D.

Answer: B

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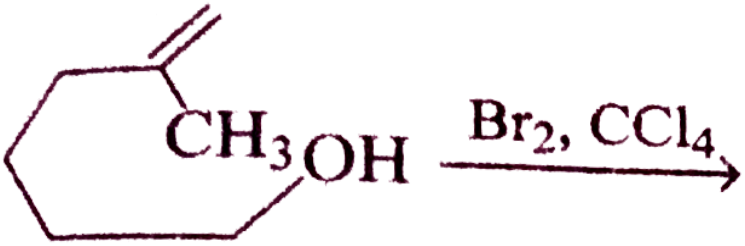
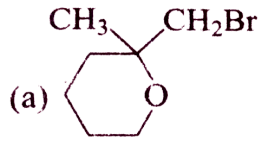
44.

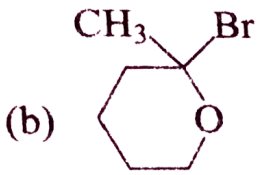


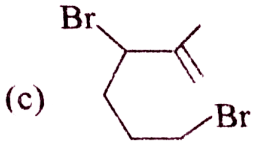
The major product obtained in this reaction is:

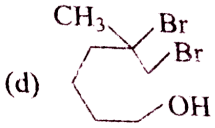
A.



B.



C. 

D. 

Answer: A

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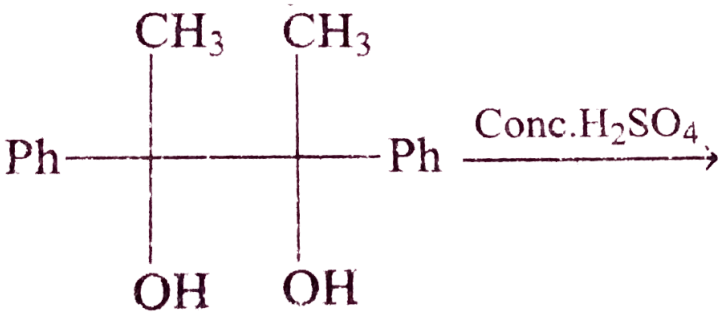
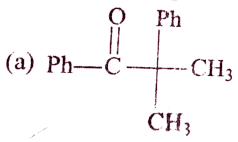
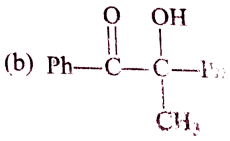
45. Complete the following reaction

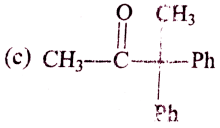


A. 

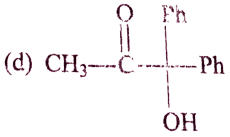
B.



C.



D.



Answer: C

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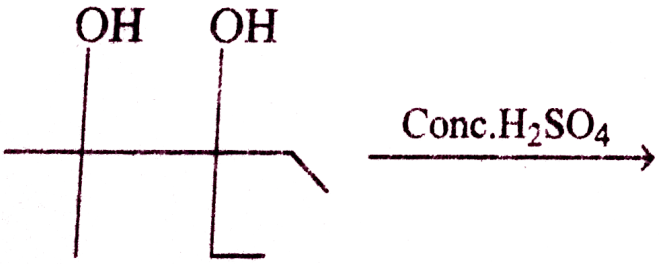
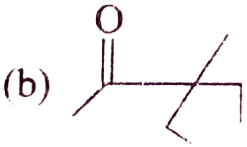
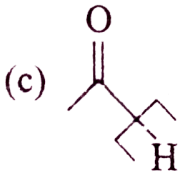
46. Complete the following reaction



A. 

B. 

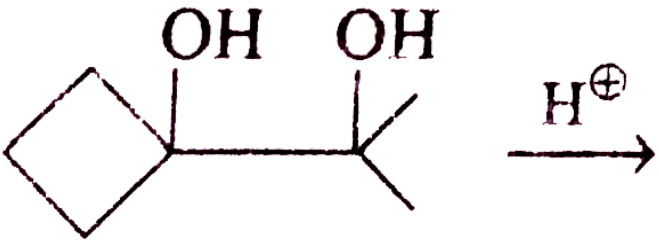
C. 

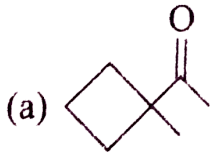
D. None of these

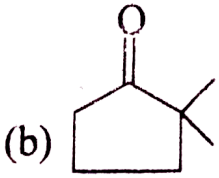
Answer: A

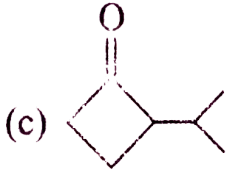
Watch Video Solution

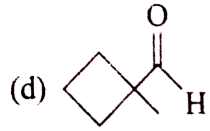
47. Complete the following reaction



A. 

B. 

C. 

D. 

Answer: B

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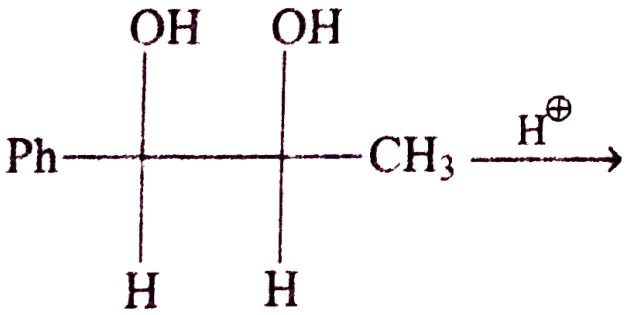
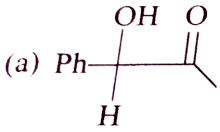
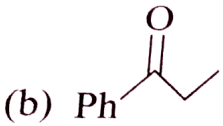
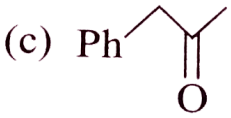
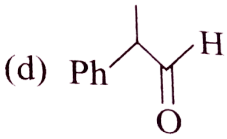
48. Complete the following reaction



A. 

B. 

C. 

D. 

Answer: C

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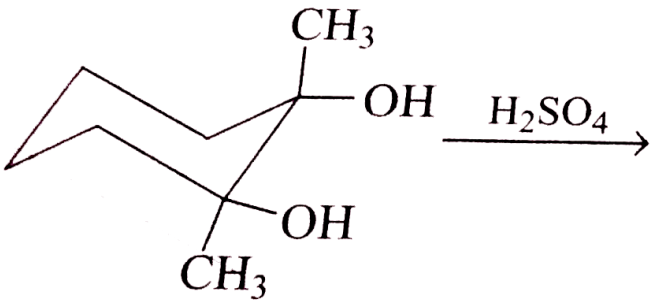
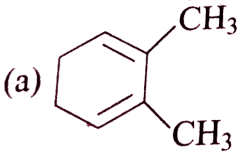
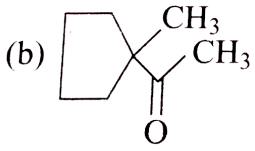
49. Complete the following reaction



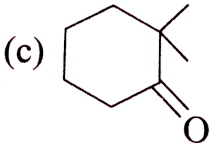
A.

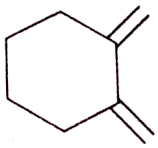


B.



C.



D. (d) 

Answer: B

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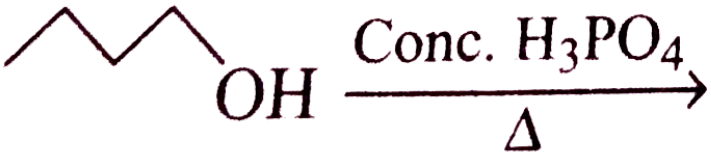
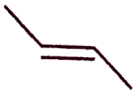
50. Complete the following reaction



A. (a) 

B. (b) 

C. (c) 

D. None of thses

Answer: C

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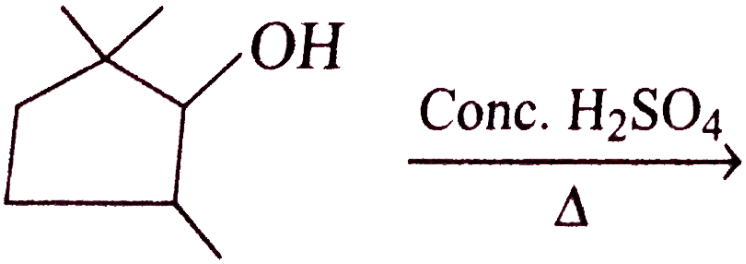
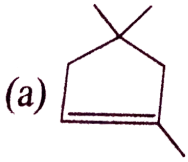
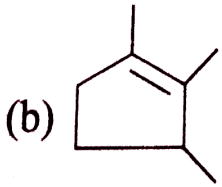
51. Complete the following reaction



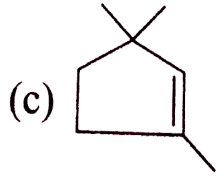
A.



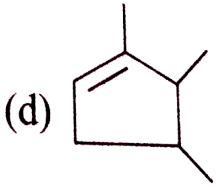
B.



C.



D.



Answer: A

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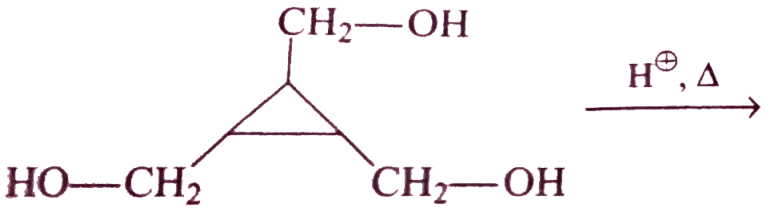
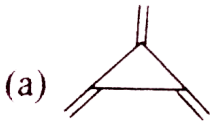
52. Complete the following reaction



A.



(b) 

B.

(c) 

C.

(d) 

D.

Answer: D

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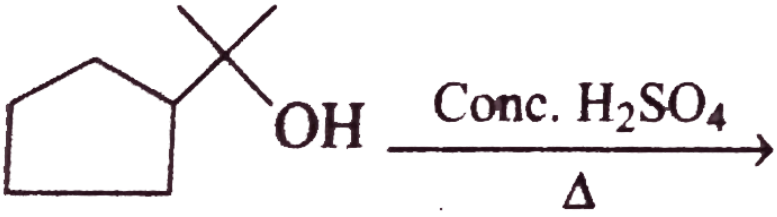
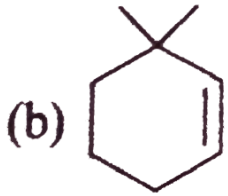
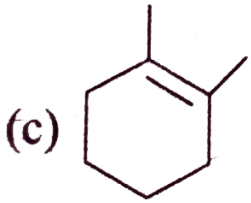
53. Complete the following reaction



A. 

B. 

C. 

D. 

Answer: C

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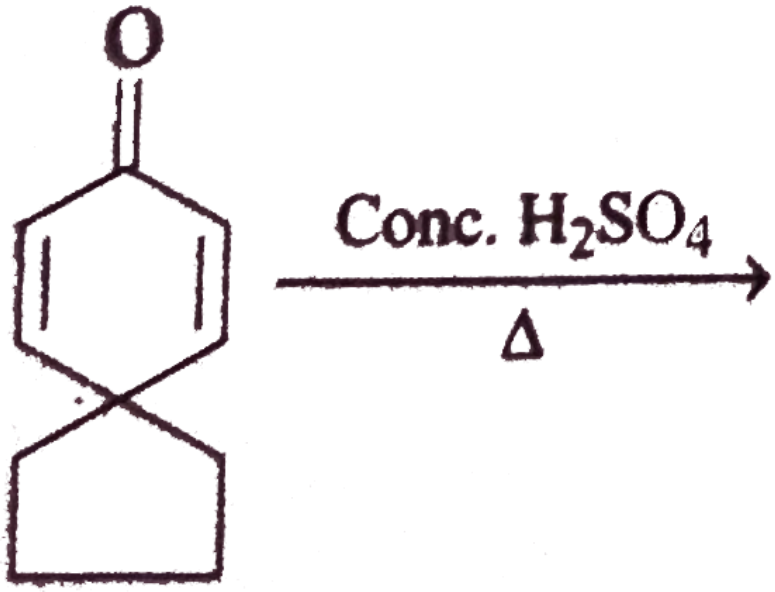
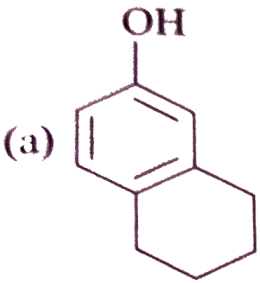
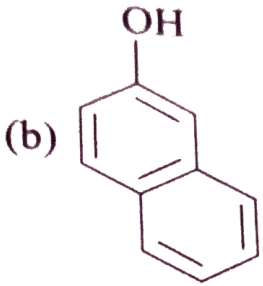
54. Complete the following reaction



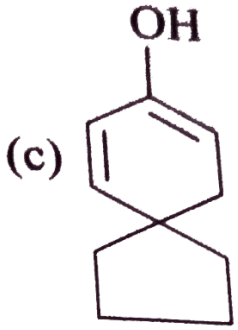
A.



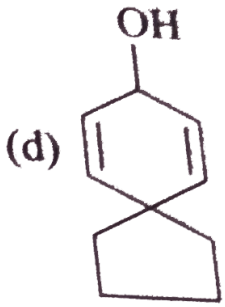
B.



C.



D.



Answer: A

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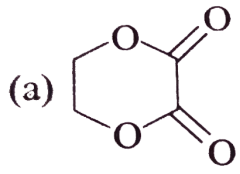
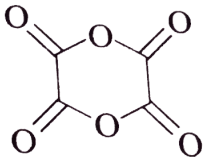
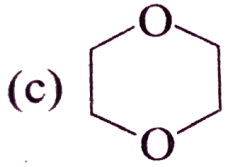
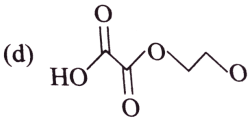
55. When ethylene glycol is heated with oxalic acid in this presence of conc. H_2SO_4, the product formed is:

A.



B. (b) 

C. (c) 

D. (d) 

Answer: A

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56. An organic compoun having molecular formula C_3H_6O does not react with 2,4-dintrophenol hydrazine and does not react Na metal. The compound is expected to be:

A. CH_3CH_2CHO

B. CH_3COCH_3

C. $CH_2 = CH - CH_2 - OH$

D. $CH_2 = CH - O - CH_3$

Answer: D

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57. Which of the following statements is correct?

A. Phenol is less acidic than ethanol

B. Phenol is more acidic than ethanol

C. Phenol is more acidic than p-nitrophenol

D. Phenol is more acidic than acetic acid

Answer: B

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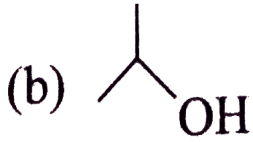
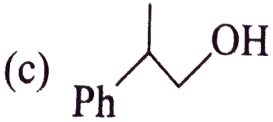
58. The vapour of an alcohol X are passed over Cy heated at $300^{\circ}C$ whereby an alkene is formed as prduct . The alcohol X is expected to be:

A. 

B. 

C. 

D. 

Answer: D

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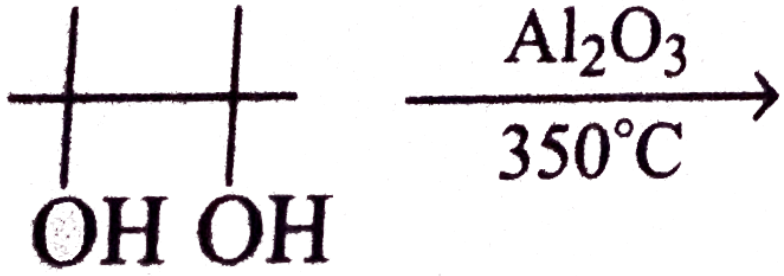
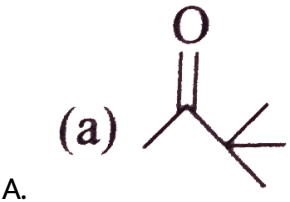
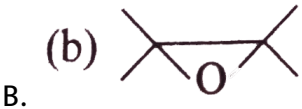
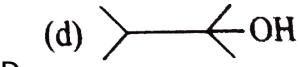
59. 

The major product formed in the reaction is:

A. 

B. 

C. 

D. 

Answer: C

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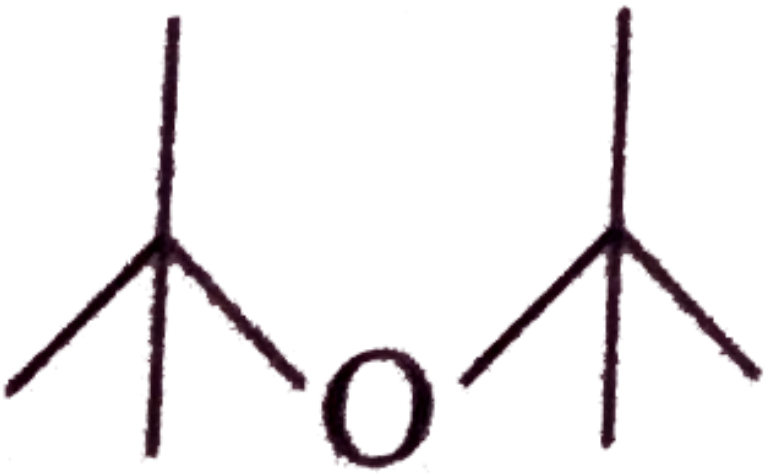

60.

The major product formed in the reaction is:

A. $(CH_3)_3C - Br + (CH_3)_3COK \rightarrow$

B. $(CH_3)_3C - OH \xrightarrow[140^\circ C]{H_2SO_4}$

C. $(CH_3)_3C - OH \xrightarrow[240^\circ C]{Al_2O_3}$

D. overset

Answer: D

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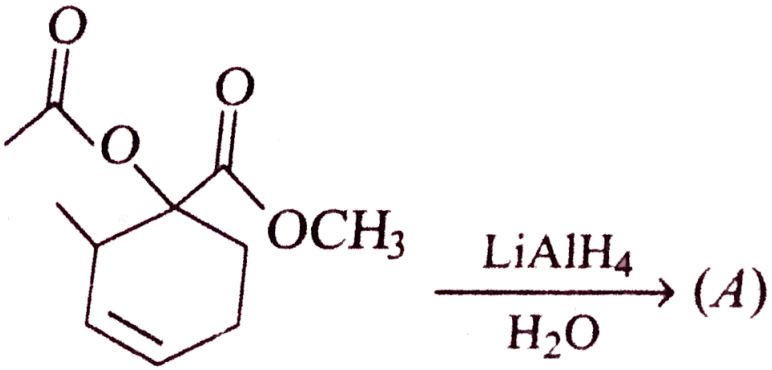
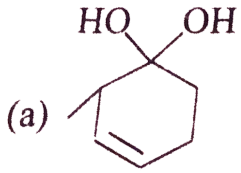
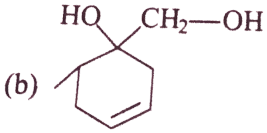
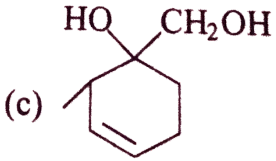


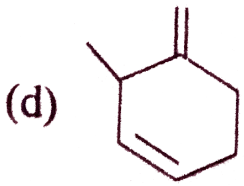
61.

Find out 'A' of the reaction:

A. 

B. 

C. 

D. 

Answer: C

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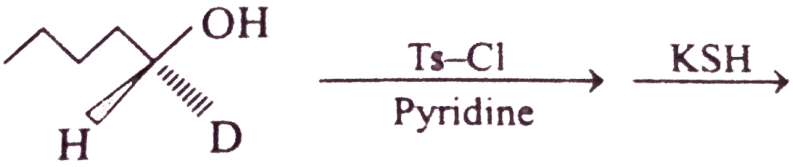
62. Identify the major product of the following reation:



A.

B.

C.

D. No reaction

Answer: B

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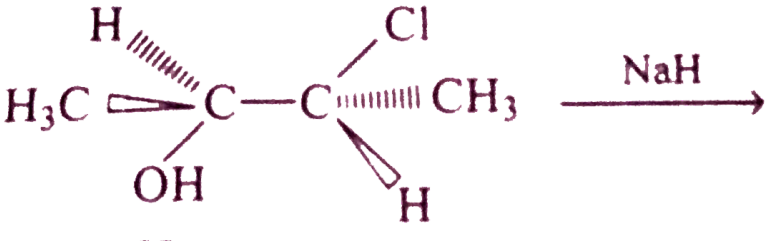
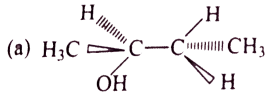
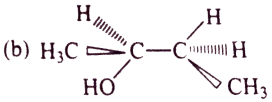
63. Find the product of the following reaction with sterechemistry.



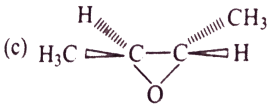
A.



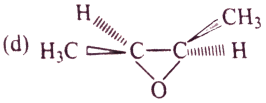
B.



C.



D.



Answer: C

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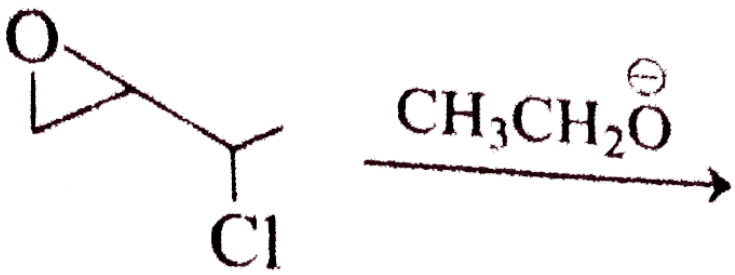
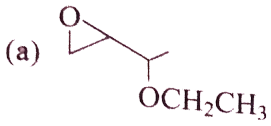
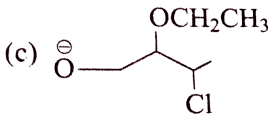
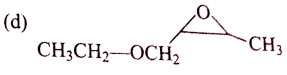
64. Select the major product of the following reaction:



A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: D

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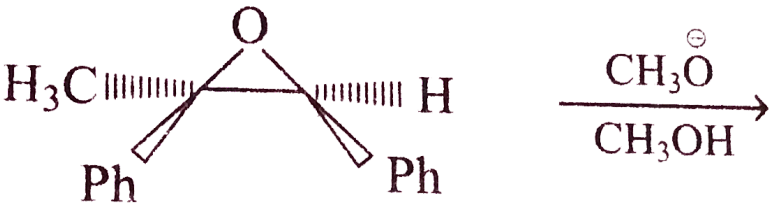
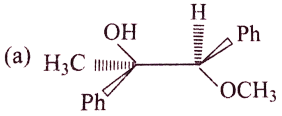
65. What would be the major product of the following reaction?



A.


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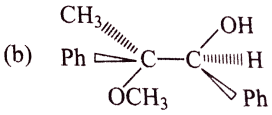
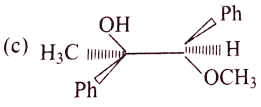


C.


D. None of these

Answer: A

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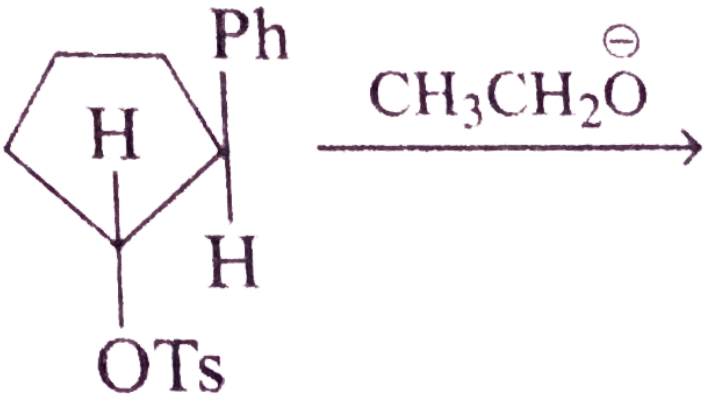
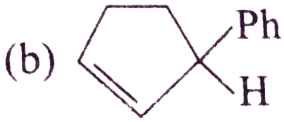
66. Find out the major product of the following reaction:

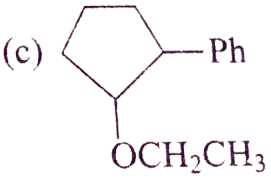


A.

B.



C.



D. No reaction

Answer: B

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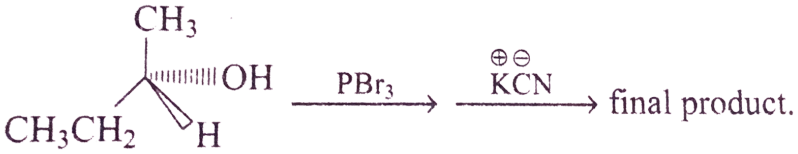
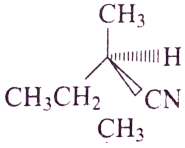
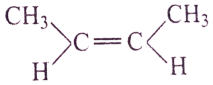
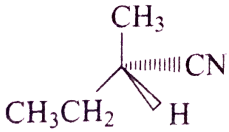
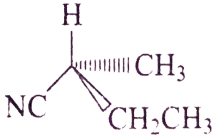
67. 

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: C

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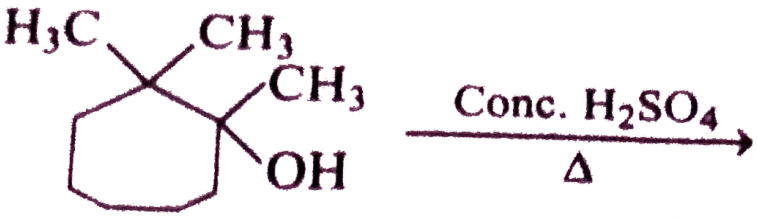
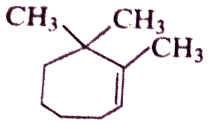
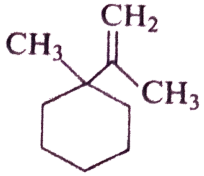
68. What would be the major product of the following reaction?



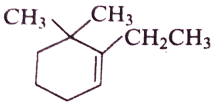
A. (a)



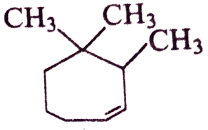
B. (b)



C. (c)



D. (d)



Answer: B

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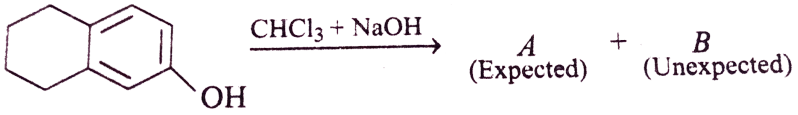
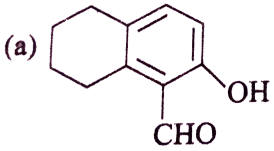
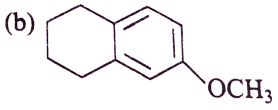
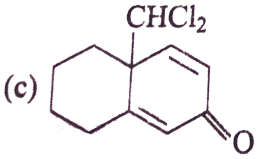
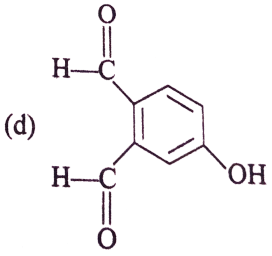
69. 

The unexpected product B is:

A. 

B. 

C. 

D. 

Answer: C

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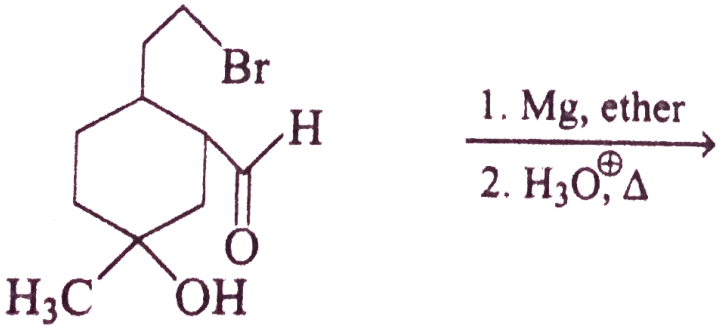
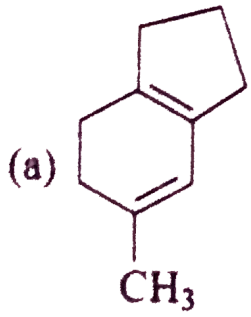
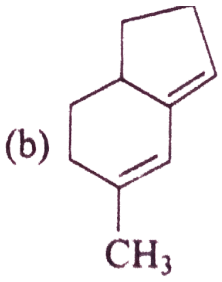
70. The final product in the following reaction is :



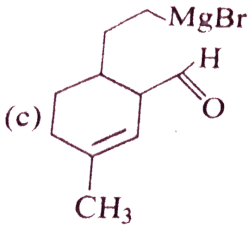
A.



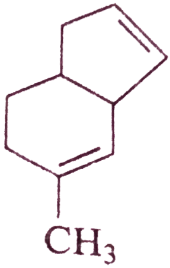
B.



C.



D. (d)



Answer: A

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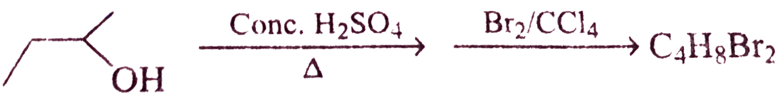
71. How many structure of final products are possible?



$$\xrightarrow[\Delta]{Conc.\,H_2SO_4} \xrightarrow{Br_2\,/\,CCl_2} C_4H_8Br_2$$

A. 2

B. 5

C. 6

D. 3

Answer: B

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72. Chosse the correct statements regarding the following reaction:

A. Syn addition of -H (from BH_3) and -OH (from solution) occur.

B. Syn addition of -H (from BH_3) and -OH (from H_2O_2) occur.

C. The product is optically active.

D. Addition follows anti Markownikoff orientation

Answer: A::C

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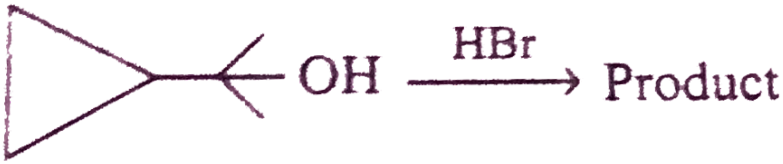
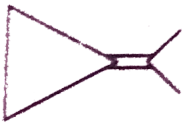
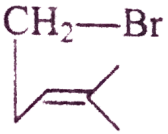
73. 

Which of the following are possible are possible products in significant amounts?

A. (a) 

B. (b) 

C. (c) 

D. (d) 

Answer: B::C::D

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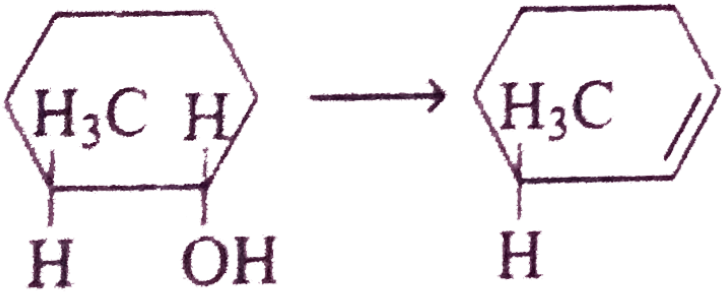
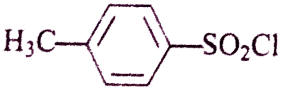


74.

Which of the following represent conditions to perfoem given conversation?

A. $POCl_3$, pyridine

B. Na – metal, $CS_2 heat$

C. 

D. CF_3SO_2Cl, pryidine, $Me_3CO^{\ominus}K^{\oplus}$

Answer: B::C::D

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75. Which of the following alcohols do not give white turbidity on treatment $HCl/ZnCl_2$?

A. CH_3CH_2OH

B. 

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

D. $CH_3 - \overset{\displaystyle CH_3}{\overset{|}{\underset{\displaystyle CH_3}{\underset{|}{CH}}}} - OH$

Answer: A::C

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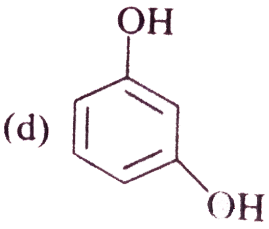
76. Which of the followin wil give iodoform?

A. CH_3CH_2OH

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

C. 

D. 

Answer: A::B::D

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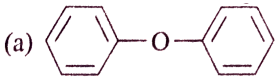
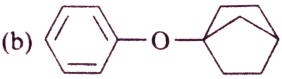
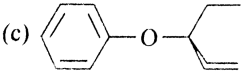
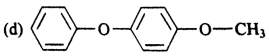
77. which of the following ethers will get hydrolysed by HI?

A. 

B. 

C. 

D. 

Answer: C::D

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78. Which of the following reactions are correctly matched?

A. $CH_3 - \underset{\underset{CH_3}{|}}{\overset{\overset{CH_3}{|}}{CH}} - O - CH_3 \xrightarrow{HI} S_N1$

B. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - O - CH_3 \xrightarrow{H^{\oplus} / H_2O} S_N1$

C. $CH_3 - \underset{\underset{CH_3}{|}}{CH} - O - CH_3 \xrightarrow{HI} S_N2$

D. $CH_3 - O - CH_2 \xrightarrow{HI} S_N1$

Answer: A::B::C

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79. Which of the following compounds will give positive Victor Meyer test?

A. CH_3CH_2OH

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

C. $CH_3CH_2 - I$

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

Answer: A::C::D

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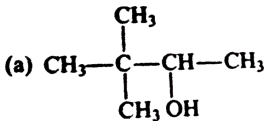
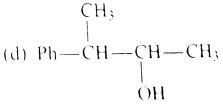
80. Which of the followin alcohols undergo rearrangement during degydration reaction?

A. (a) 

B. 

C. 

D. 

Answer: A::B::D

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81. $C_2H_50C_2H_5$ and  can be distnguished by:

A. aq.$FeCl_3$

B. Na metal

C. Tollen's reagent

D. $K_2Cr_2O_7$

Answer: B::D

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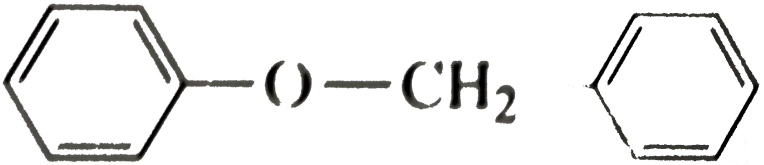
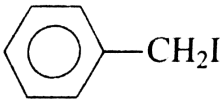
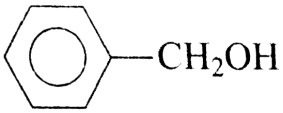
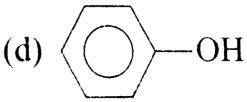
82. The ether 

when treated with HI produces:

A. 

B. 

C. 

D. 

Answer: B::D

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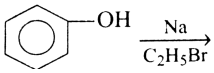
83. Which of the following reactions will give ether as main product?

A. 

B. $Me_3C - OH \xrightarrow[C_6H_5Br]{Na}$

C. $Me_3C - OH \xrightarrow[CH_3CH_2CH_2Br]{Na}$

D. $CH_3CH_2CH_2OH \xrightarrow[Me_3C-Br]{Na}$

Answer: A::D

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84. C_2H_5Br can be converted into $C_2H_5 - O - C_2H_5$ by:

A. reacting by C_2H_5ONa

B. heating with moist Ag_2O

C. heating with dry Ag_2O

D. treating with C_2H_5MgBr

Answer: A::C

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85. $1^\circ, 2^\circ \text{ and } 3^\circ$ alcohols can be distinguished by:

A. $Cu/573K$

B. Victor Meyer test

C. $ZnCl_2/HCl$

D. $Br_2 + H_2O$

Answer: A::B::C

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86. Alcohols can be replaced by-Cl group by the followin reagents:

A. Cl_2

B. $SOCl_2$

C. PCl_5

D. $HCl + ZnCl_2$

Answer: B::C::D

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87. Glycerol can be converted to acrolein by dehydration in presence of

A. $Conc.\ H_2SO_4$

B. $KHSO_4$

C. $CaCl_2$

D. $Anhyd.\ ZnCl_2$

Answer: A::B

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88. $CH_3CH_2 - OH$ can be converted to CH_3CH_2CN by the following reaction:

A. $CH_3CH_2OH + KCN \xrightarrow{\Delta}$

B. $CH_3CH_2OH + HCN \xrightarrow{\Delta}$

C. $CH_3CH_2OH + HCN \xrightarrow{TsCl} \xrightarrow{KCl}$

D. $CH_3CH_2OH + HCN \xrightarrow{SOCl_2} \xrightarrow{KCN}$

Answer: C::D

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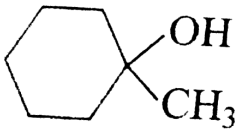
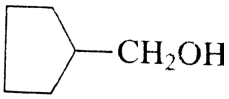
89. Which of the following will oxidise to salt of acid by $Br_2 + KOH$?

A. $CH_3 - CH_2 - OH$

B. 

C. (d) 

D. 

Answer: A::B

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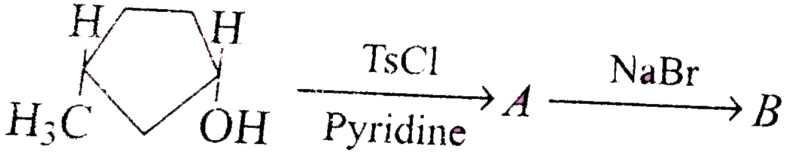
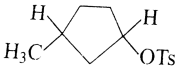
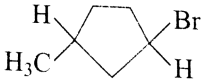
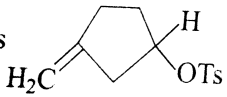
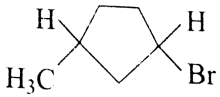
90.



A. (a) *A* is 

B. *B* is 

C. *A* is 

D. *B* is 

Answer: A::B

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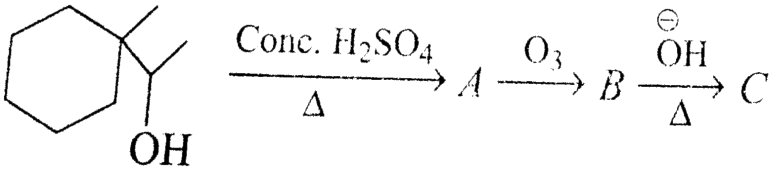
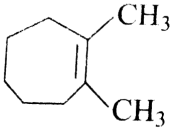
91.



A.

(a) *A* is 

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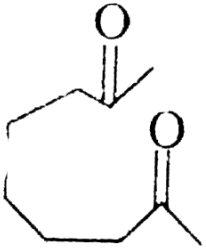

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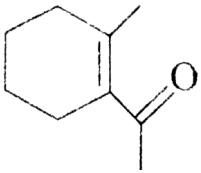
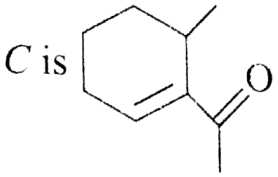
C is 



D.

Answer: A::B::C

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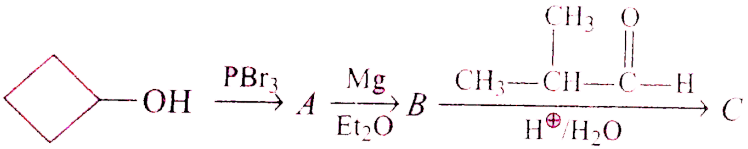
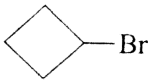
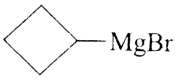
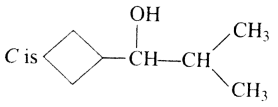
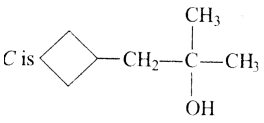
92.



A. (a) *A* is 

B. (b) *B* is 

C. 

D. 

Answer: A::B::C

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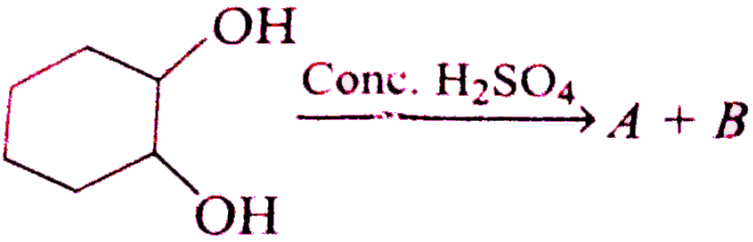
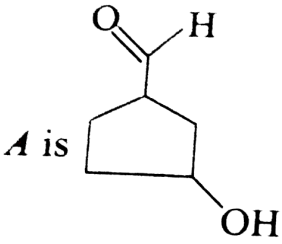
93.



A.



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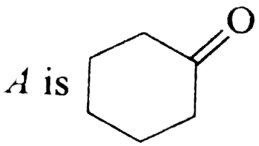
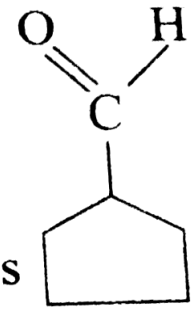
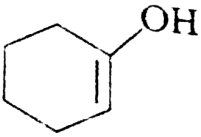




B is

C.



B is

D.

Answer: B::C::D

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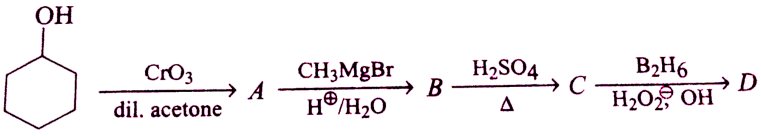
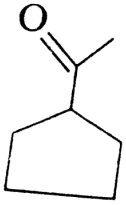
94.



(a) A is



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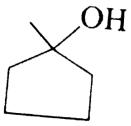
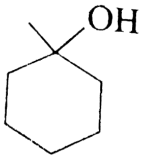
(b) *B* is 

B.

(c) *C* is 

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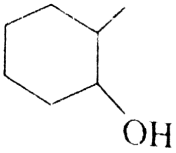
D is 

D.

Answer: C::D

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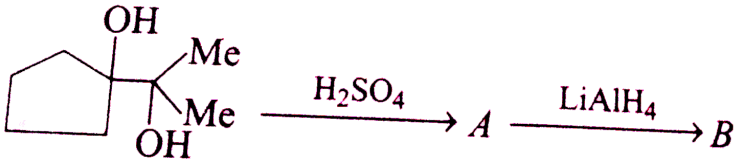
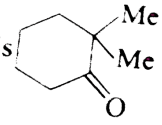
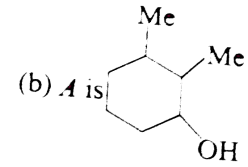
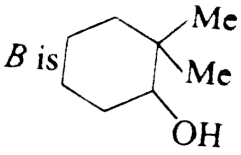
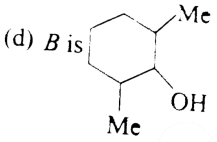
95. 

(a) *A* is 

A.

B. (b) A is 

C. B is 

D. (d) B is 

Answer: A::C

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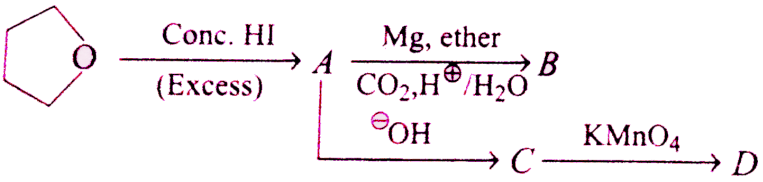
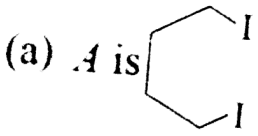
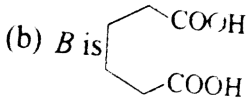
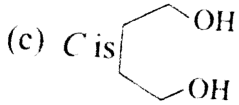
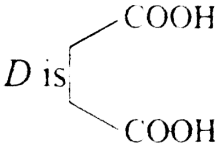
96.



A. (a) A is 

B. (b) B is 

C. (c) C is 

D. D is 

Answer: A::B::C::D

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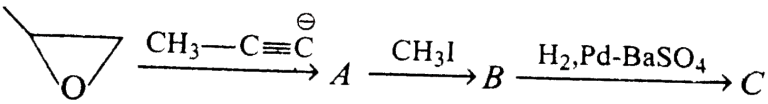
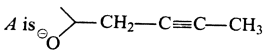
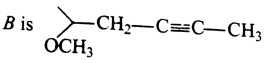
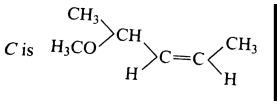
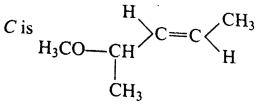
97. 

A. A is 

B. B is 

C. C is 

D. C is 

Answer: A::B::C

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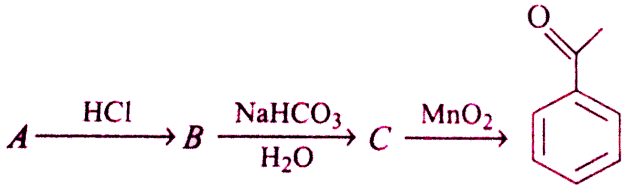
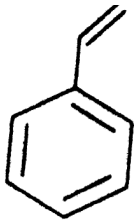
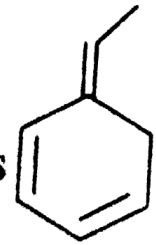
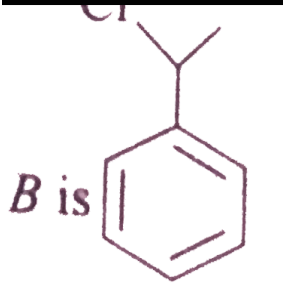
98. 

A. A is 

B. A is 



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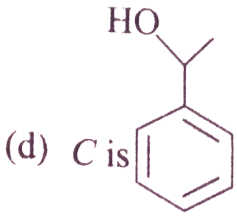

D.

Answer: A::C::D

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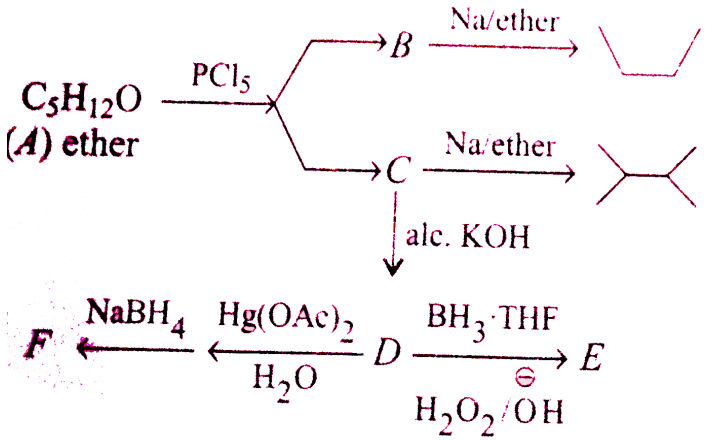
99.



A. DsiCH_(3)-CH=CH_(2)`

B. E is $CH_2 - CH_2 - CH_2 - OH$

C. FisCH_(3)underset(OH)underset(|)(CH)-CH_(3)`

D. B is CH_3CH_2CI

Answer: A,B,C,D

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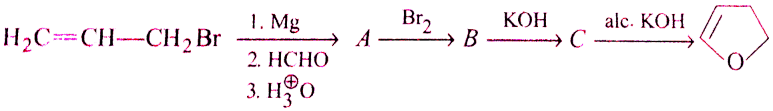
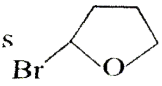


100.

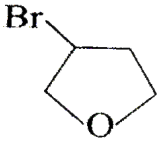
A. $Ais H_2C = CH - CH_2CH_2OH$

B. $BisCH_2(Br) - CH(Br) - CH_2 - CH_2 - OH$

C. (c) C is



D. C is



Answer: A,B,D

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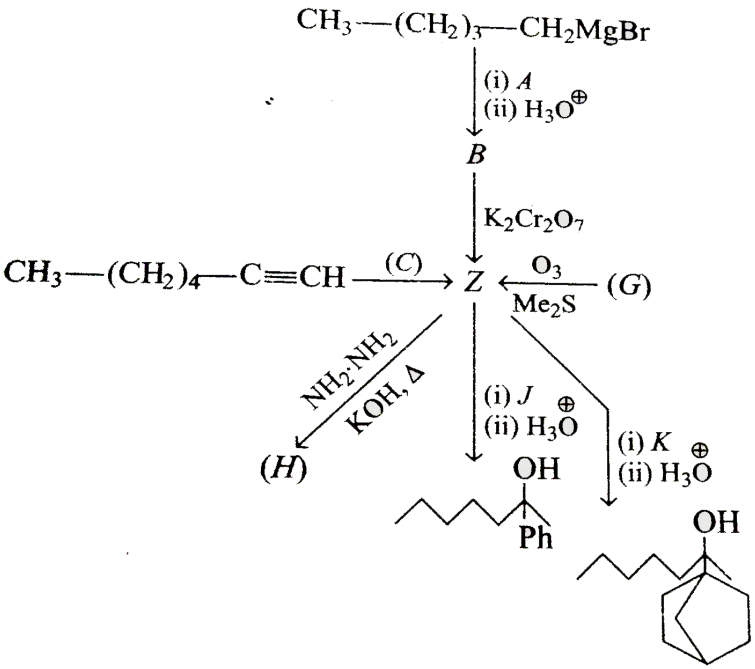
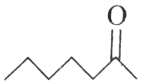
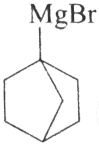


101.

A. (a) Z is 

B. J is PhMgBr

C. $CisHg^{2+}/H_2SO_4$

D. (d) K is 

Answer: A,B,C,D

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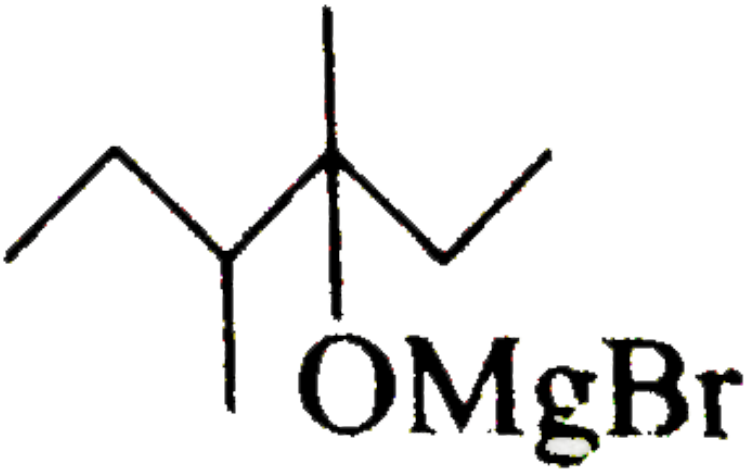
102. Compound A is an optically active alcohol. Treatment with oxidising agent converts it to a ketone B. In a separate reaction A is treatment with PBr_3, converting it into C. C on reaction with Mg is added to B to yield 

. Identify the correct option.

A. A is 2-butanol.

B. A is 1-butanol

C. C is 2-bromobutane

D. C is 1-bromobutane

Answer: A,C

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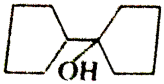
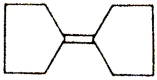
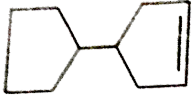
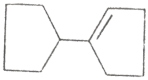
103. Alcohol A $(C_{10}H_{18}O)$ is converted into mixture of alkene B and C on heating with conc. H_3PO_4. Catalytic hydrogenation of B and C yields the same product. Assuming that dehydration of alcohol A proceed without rearrangement. Alkene B on ozonolysis form cyclopentanone. Identify the correct options.

A. (a) *A* is 

B. (b) *B* is 

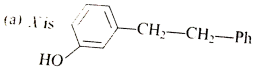
C. C is 

D. (d) C is 

Answer: A,B,D

View Text Solution

104. A compound 'X' $(C_{14}H_{14}O)$ on mild oxidation yields $C_{14}H_{12}(Y)$. If X is treated with a dehydratingg agent, it loses a molecule of H_2O and resulting product on vigoporus oxidation yields two molecule of benzoic acid. Identify the structure of X and Y.

A. 

B. X is $Ph - \overset{OH}{\overset{|}{C}}H - CH_2 - Ph$

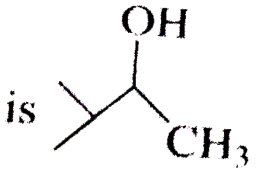
C. y is $Ph - \overset{O}{\overset{||}{C}} - CH_2 \_ Ph$

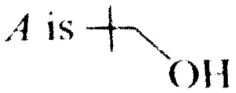
D. 

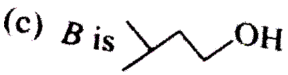
Answer: B,C,D

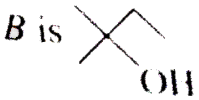
View Text Solution

105. Compounds A, B and C are isomeric alcohols with formula $C_5H_{12}O$. A on oxidation given ketone, B gives acid while C is not oxidised, A gives test with $I_2/NaOH$. The three isomerice alcohols react with HBr with decreasing rates $C > A > B$. Identify A and B.

A. 

B. 

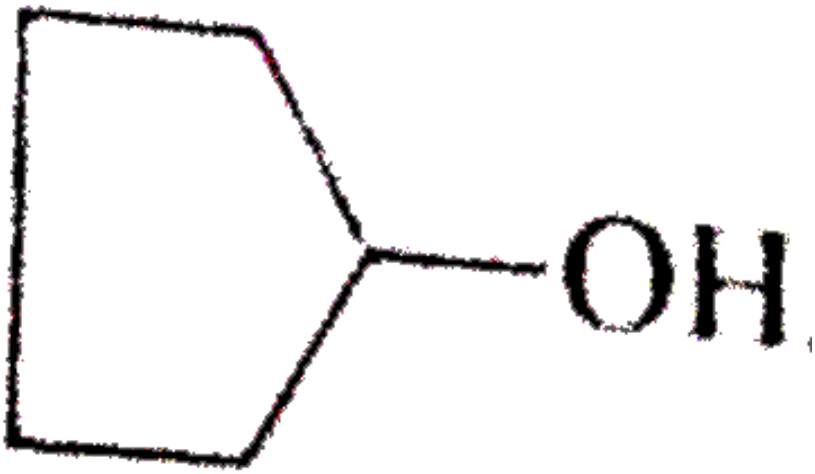
C. 

D. 

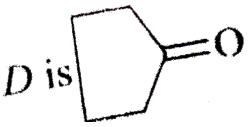
Answer: A,C

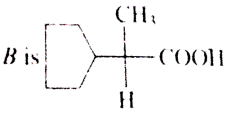
View Text Solution

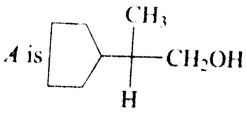
106. An optically active alcohol A $(c_8H_{16}O)$ on oxidation gives B. A on heating gives $C(C_8H_{14})$ as major product. C on ozonlysis produces $D(C_5H_8O)$ and $CH_3 - \underset{\underset{O}{||}}{C} - CH_3$. D on reduction with $LiAlH_4$ gave

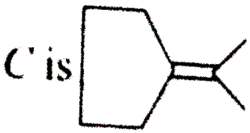


. Identify correct answers.

A. 

B. 

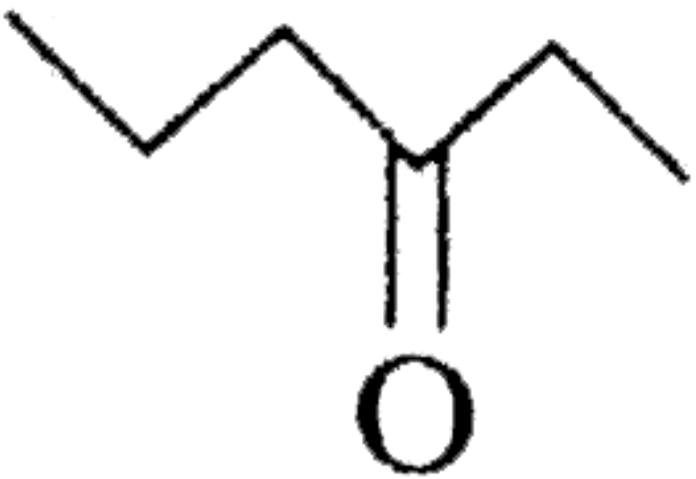
C. 

D. 

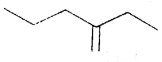
Answer: A,B,C,D

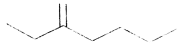
View Text Solution

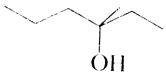
107. Compound A (C_7H_{14}) decolouries Br_2 in CCl_4 and reacts with $Hg(Oac)_2$ followed by ruduction with $NaBH_4$ to produce a resolvable compound B.A undergoes redutive ozonolysis to give

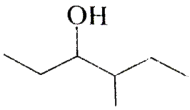


as one of the compound

A. (a) A is 

B. (b) A is 

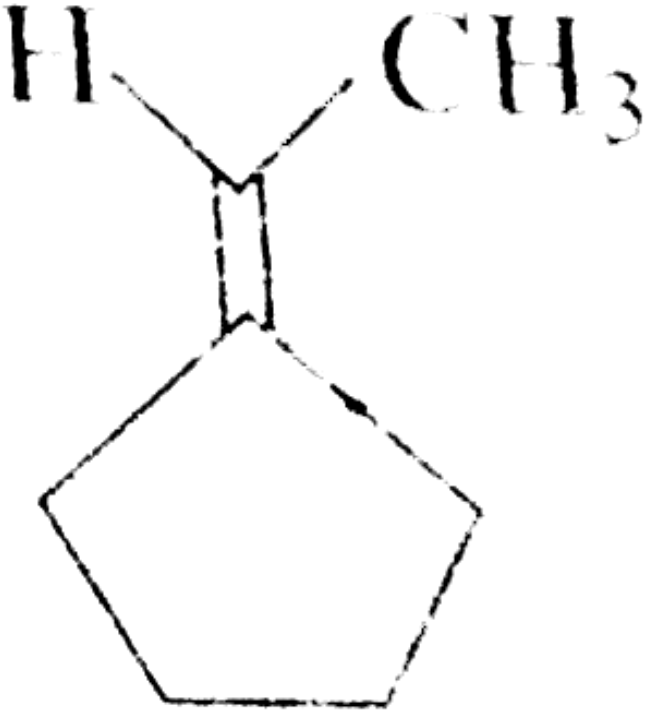
C. (c) B is 

D. B is 

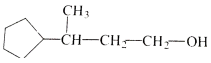
Answer: A,C

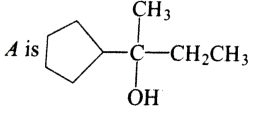
View Text Solution

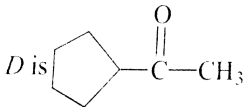
108. A 3° optically active alcohol $C_9H_{18}O$ 'A' on dehydration with conc. H_2SO_4 produces $B(C_9H_{16})$ which exists in two stereoisomeric forms. For ozonolysis of B followed by work up with $Zn - H_2O$ produces $CH_3 - \underset{\underset{O}{||}}{C} - H$ and $C(C_7H_{12}O$. C on treatment with $LiAlH_4$ produces $D(C_7H_{14}O)$. D on hehydration produced

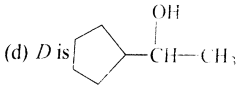


Identify the correct the correct answers.

A. (a) *A* is 

B. 

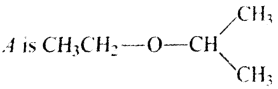
C. 

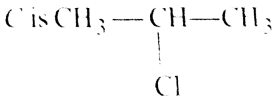
D. 

Answer: B::D

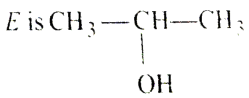
View Text Solution

109. A $(C_5H_{12}O)$ produces, on reaction PCl_5 from alkyl chloride B and C. B and C both on reaction with aqueous KOH form alcohol D and E . Both D and E give iodoform test. Identify the correct answers.

A. 

B. 

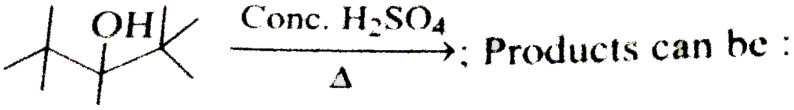
C. C is $CH_3CH_2CH_2CI$



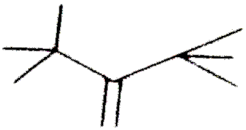
D.

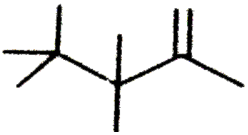
Answer: A::B::D

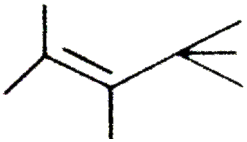
View Text Solution

110. 

, Product can be

A. 

B. 

C. 

D. (d) 

Answer: A::B

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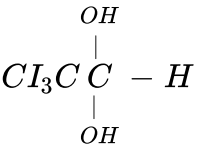
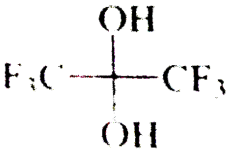
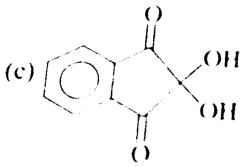
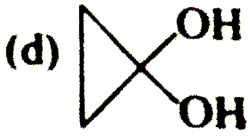
111. Among of the following gemdiols which are stable with respect to corresponding carbonyls:

A. 

B. 

C. 

D. 

Answer: A::B::C::D

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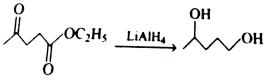
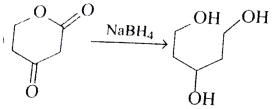
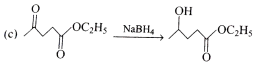
112. Which of the following reactions are correct

A. 

B. 

C. 

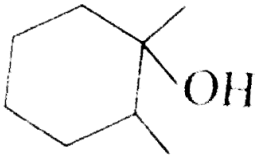
D. $CH_3 - C \equiv N \xrightarrow{LiAlH_4} CH_3CH_2NH_2$

Answer: A::C::D

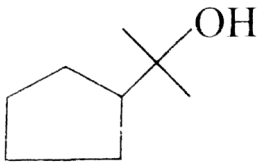
Watch Video Solution

113. Which of the following alcohols will give same alkene on reaction with conc.

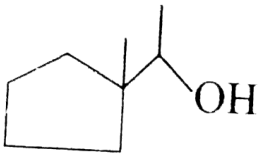
A.



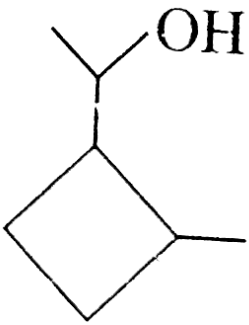
B.



C.



D.



Answer: A::B::C

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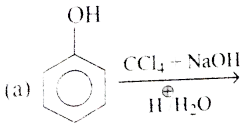
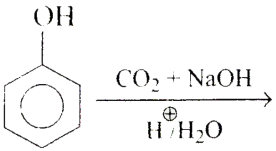
114. Which of the following reactions would produce same product?

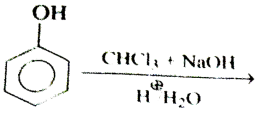
A.



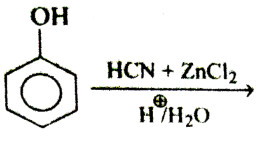
B.



C.



D.



Answer: A::B

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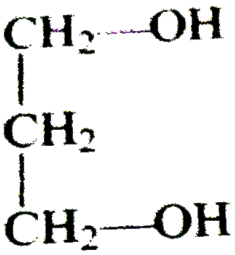
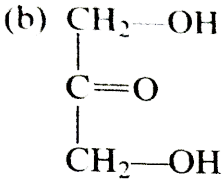
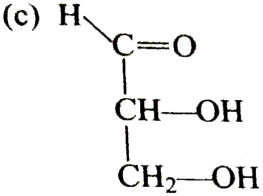
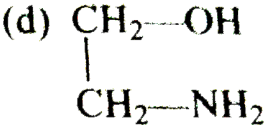
115. Which of the following compound are oxidised by HIO_4?

A. 

B. 

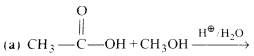
C. 

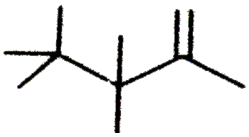
D. 

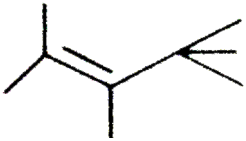
Answer: B::C::D

View Text Solution

116. Which of the following esterification reactions are unimolecular?

A. 

B. 

C. 

D. (d) 

Answer: B::C::D

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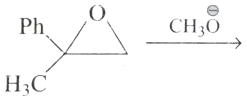
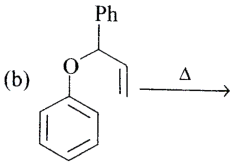
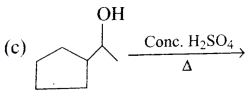
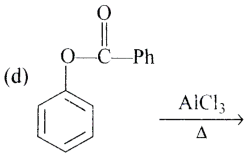
117. Which of the following reaction involve rearrangement?

A. 

B. 

C. 

D. 

Answer: B::C::D

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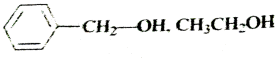
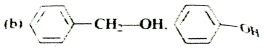
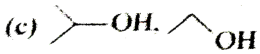
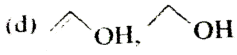
118. Which of the following paris can be distinguished by using Lucas reagent?

A. 

B. 

C. 

D. 

Answer: A::B::C

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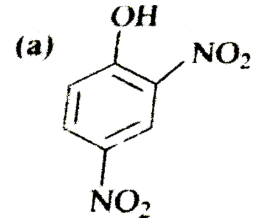
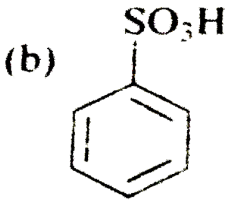
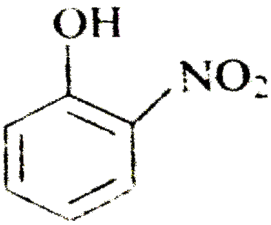
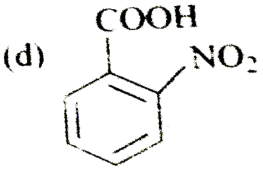
119. Which of the following compounds are soluble in $NaHCO_3$?

A. 

B. 

C. 

D. 

Answer: A::B::D

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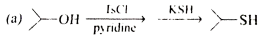
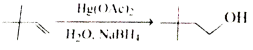
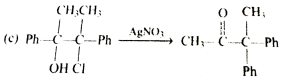
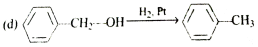
120. Which of the following reactions are correctly interpreted?

A. 

B. 

C. 

D. 

Answer: A::C::D

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121. Which of the following reagents can be used for identification of phenol?

A. Neutral $FeCl_3$

B. $NaNO_2 + HCl$

C. $(NH_4)_2[Ce(NO_3)_6]$

D. $ZnCl_2 / HCl$

Answer: A::B::C

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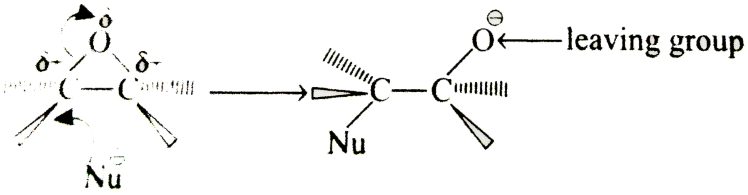
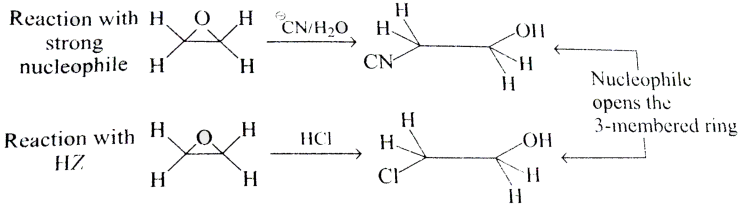
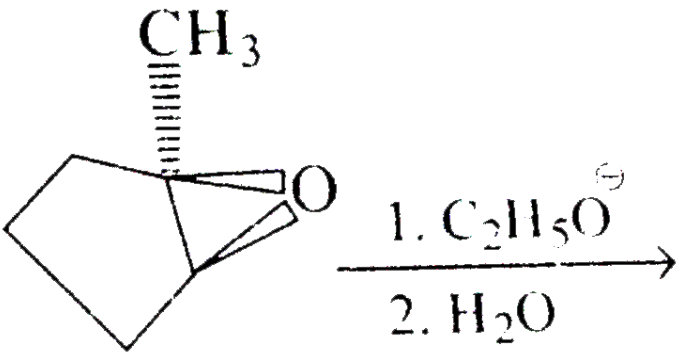
122. Althought epoxides do not contain a good leaving group, they contains a strained three membered ring with polar bonds. Nucleophilic attack opens the strained three membered ring making it favorable process even with the poor leaving group.



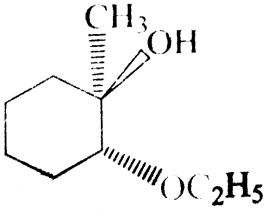
This reaction occurs readily with strong nucleophilic , and with acids like HZ, where Z is nucleophilic atom.



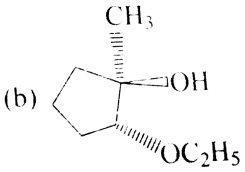
Find out the correct product of the reaction



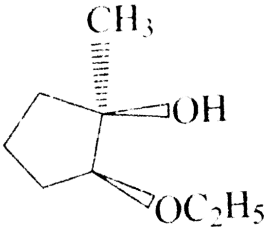
A.



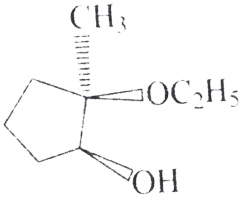
B.



C.



D.



Answer: B

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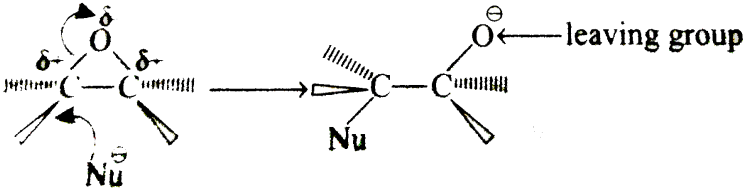
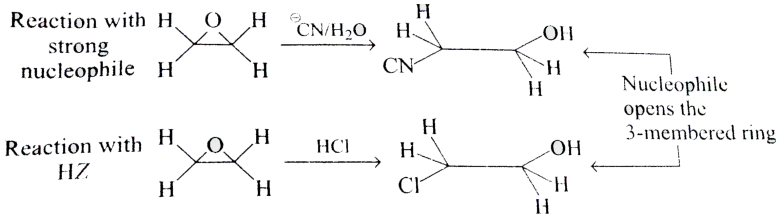
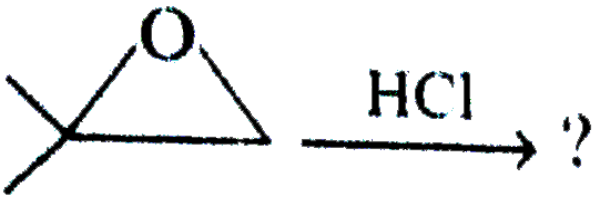
123. Althought epoxides do not contain a good leaving group, they contains a strained three membered ring with polar bonds. Nucleophilic attack opens the strained three membered ring making it favorable process even with the poor leaving group.

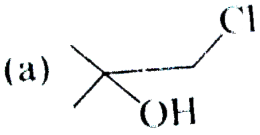


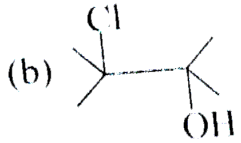
This reaction occurs readily with strong nucleophilic , and with acids like HZ, where Z is nucleophilic atom.

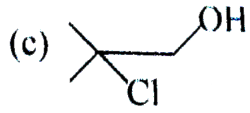


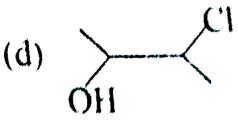


What would be the major product of reaction?

A. 

B. 

C. 

D. 

Answer: C

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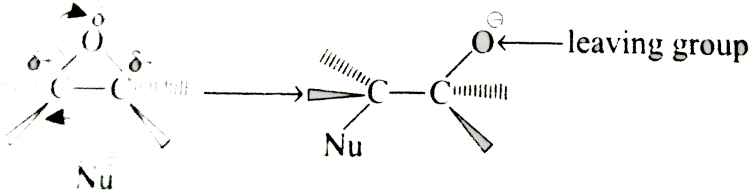
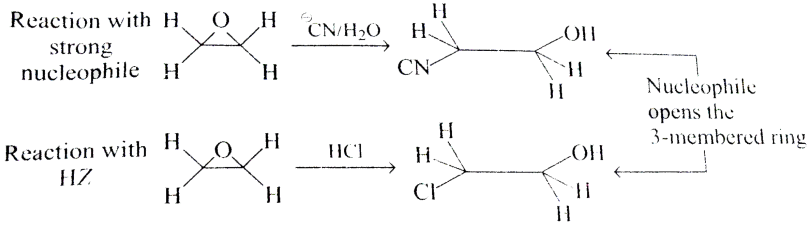
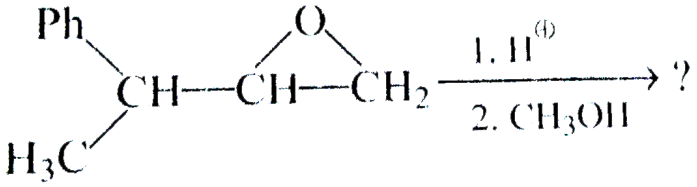
124. Althought epoxides do not contain a good leaving group, they contains a strained three membered ring with polar bonds. Nucleophilic attack opens the strained three membered ring making it favorable process even with the poor leaving group.

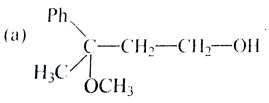


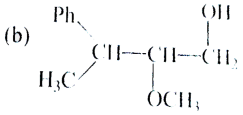
This reaction occurs readily with strong nucleophilic , and with acids like HZ, where Z is nucleophilic atom.

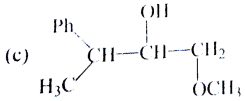




Find out major product of reaction:

A. 

B. 

C. 

D. None of these

Answer: A

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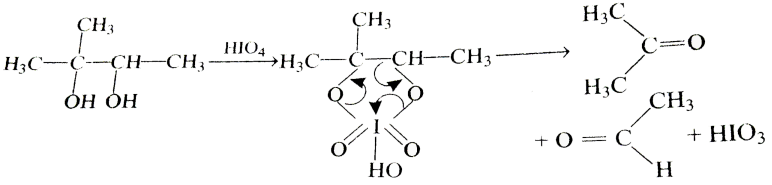
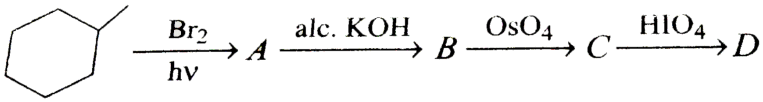
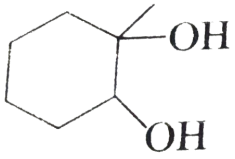
125. 1,2-diols are oxidised to ketones or aldehydes by periodic acid HIO_4. Periodic acid reacts with dipol to form a cyclic intermeditate. The reaction takes places because iodine is in a highly positive oxidation state, so it readily accepts electrons. When the intermeidate breaks down, the bond between the two carbon bonded to the OH group break.



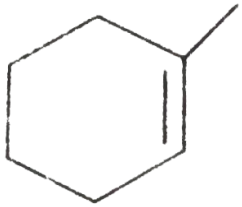


Identify D.

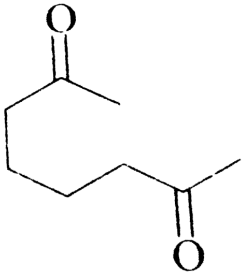
A.



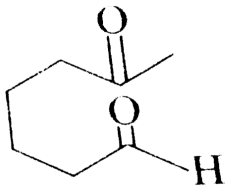
B.



C.



D.



Answer: D

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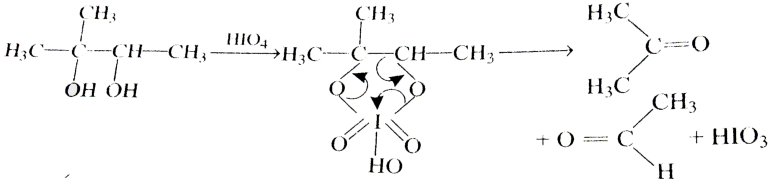
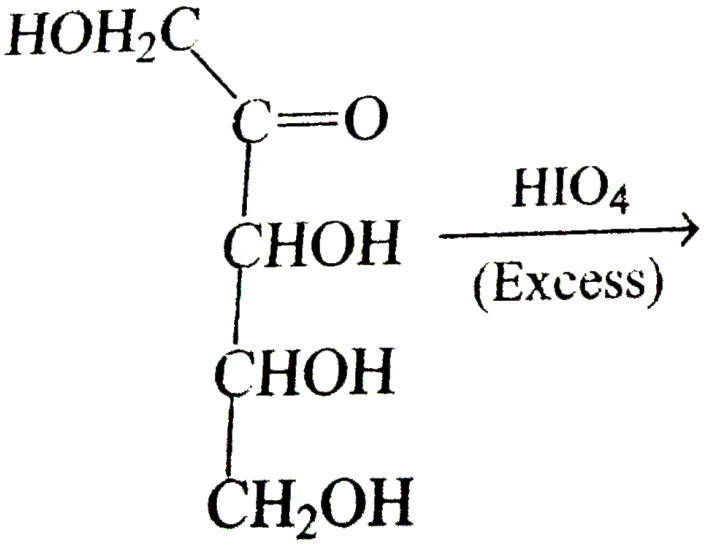
126. 1,2-diols are oxidised to ketones or aldehydes by periodic acid HIO_4. Periodic acid reacts with dipol to form a cyclic intermeditate. The reaction takes places because iodine is in a highly positive oxidation state, so it readily accepts electrons. When the intermeidate breaks down, the bond between the two carbon bonded to the OH group break.





Which of the following will not form by above reaction?

A. $H-\overset{\overset{O}{||}}{C}-H$

B. CH_3OH

C. CO_2

D. $H-\overset{\overset{O}{||}}{C}-OH$

Answer: B

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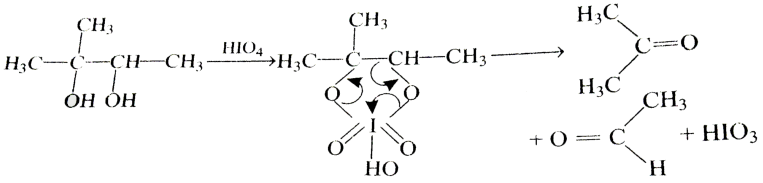
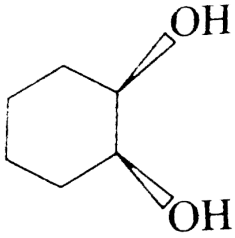
127. 1,2-diols are oxidised to ketones or aldehydes by periodic acid HIO_4. Periodic acid reacts with dipol to form a cyclic intermeditate. The reaction takes places because iodine is in a highly positive oxidation state, so it readily accepts electrons. When the intermeidate breaks down, the bond between the two carbon bonded to the OH group break.

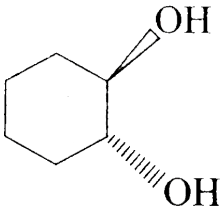


Which of the following compounds will not react with HIO_4?

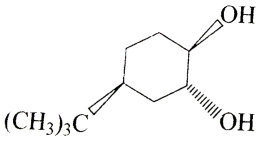
A.



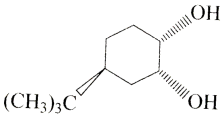
B.



C.



D.



Answer: C

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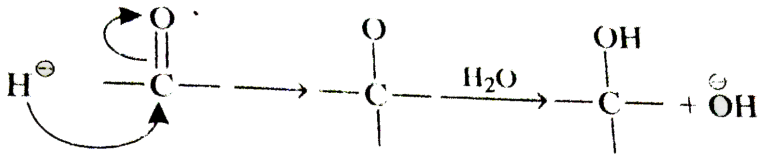
128. Carbon oxygen double bond are easily reduced by $NaBH_4$ or $LiAlH_4$. The actual reducing agent in these reduction is

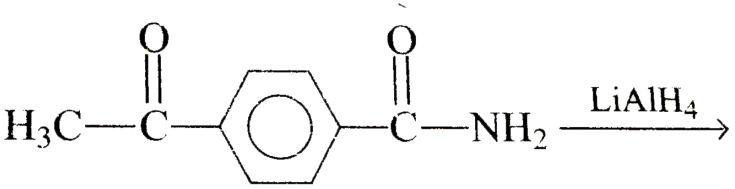
hrdride ion (H^-)

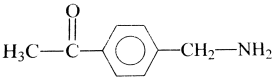


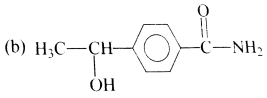
The metal hydrogen bond in $LiAlH_4$ is more than polar than metal hydrogen bond in $NaBH_4$. As a result $LiAlH_4$ is strong reducing agent than $NaBH_4$. Esters, carboxylic acids, amides cannot be reduced by $NaBH_4$

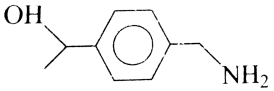
The carbonyl group of amide of reduced to methylene group by $LiAlH_4$

Find the correct product of the following reaction:



A. 

B. 

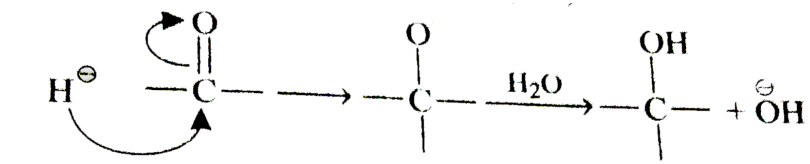
C. 

D. No reaction

Answer: C

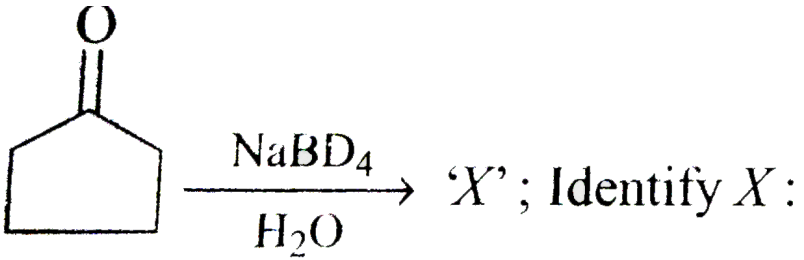
Watch Video Solution

129. Carbon oxygen double bond are easily reduced by $NaBH_4$ or $LiAlH_4$. The actual reducing agent in these reduction is hrdride ion $\left(H^-\right)$



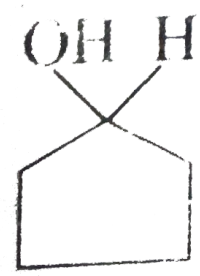
The metal hydrogen bond in $LiAlH_4$ is more than polar than metal hydrogen bond in $NaBH_4$. As a result $LiAlH_4$ is strong reducing agent than $NaBH_4$. Esters, carboxylic acids, amides cannot be reduced by $NaBH_4$

The carbonyl group of amide of reduced to methylene group by $LiAlH_4$

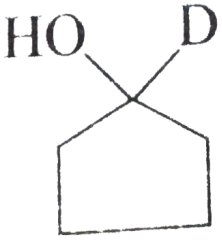


, Identify X:

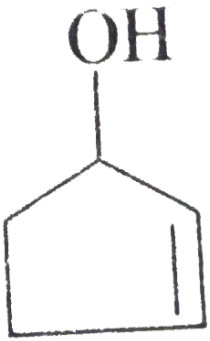
A.



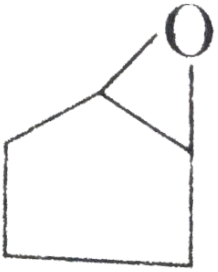
B.



C.



D.



Answer: B

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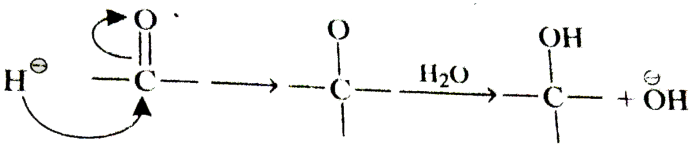
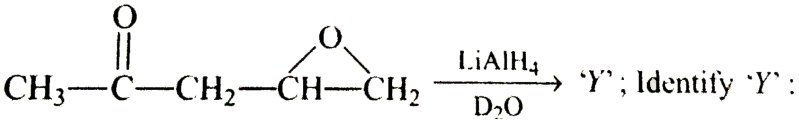
130. Carbon oxygen double bond are easily reduced by $NaBH_4$ or $LiAlH_4$. The actual reducing agent in these reduction is hrdride ion $\left(H^-\right)$



The metal hydrogen bond in $LiAlH_4$ is more than polar than metal hydrogen bond in $NaBH_4$. As a result $LiAlH_4$ is strong reducing agent than $NaBH_4$. Esters, carboxylic acids, amides cannot be reduced by $NaBH_4$

The carbonyl group of amide of reduced to methylene group by $LiAlH_4$



'Y'; Identify 'Y':

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

B. $CH_3 - \overset{\overset{OH}{|}}{\underset{\underset{D}{|}}{C}} - CH_2 - CH_3 - OD$

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

D. $CH_3 - \overset{\overset{OD}{|}}{CH} - CH_2 - \overset{\overset{OD}{|}}{CH} - CH_3$

Answer: D

Watch Video Solution

131. An organic compound (A) on treatment with $CHCl_3$ and KOH gives (Y) and (Z) both of which in turn gives the same compound (T) when distilled with Zn. Oxidation of (T) Yields (S) of formula $C_7H_6O_2$. The sodium salt of (S) with sodalime gives (P) which can also be obtained by distilling (X).

The molecular weight of compound (X) is:

A. 122

B. 94

C. 106

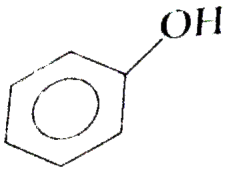
D. 78

Answer: B

Watch Video Solution

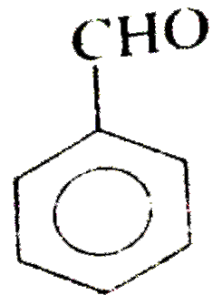
132. An organic compound (A) on treatment with $CHCl_3$ and KOH gives (Y) and (Z) both of which in turn gives the same compound (T) when distilled with Zn. Oxidation of (T) Yields (S) of formula $C_7H_6O_2$. The sodium salt of (S) with sodalime gives (P) which can also be obtained by distilling (X).

The compound (T) is

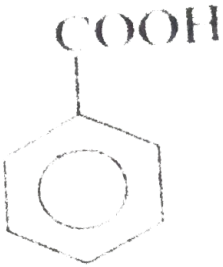
A. 

B. 

C.



D.



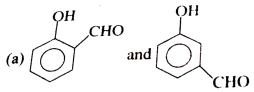
Answer: C

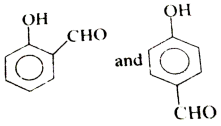
Watch Video Solution

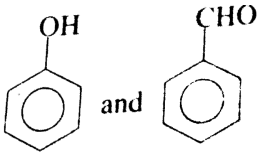
133. An organic compound (A) on treatment with $CHCl_3$ and KOH gives (Y) and (Z) both of which in turn gives the same compound (T) when distilled with Zn. Oxidation of (T) Yields (S) of formula $C_7H_6O_2$. The sodium salt of (S) with sodalime gives (P) which can also be obtained by

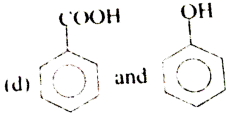
distilling (X).

Compounds (Y) and (Z) could be:

A. 

B. 

C. 

D. 

Answer: B

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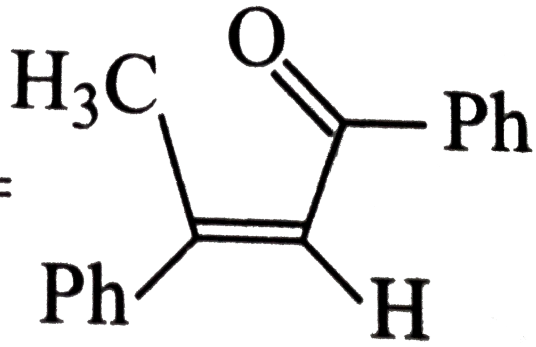
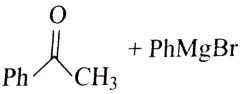
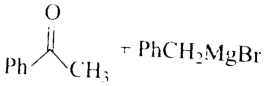
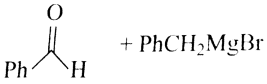
134. A tertiary alcohol (H) upon acid-catalysed dehydration gives a product (I). Ozonolysis of (I) leads to compounds (J) and (K). Compound (J) upon reaction with KOH gives benzyl alcohol and a compound (L), whereas (K) on reaction with KOH gives only (M).

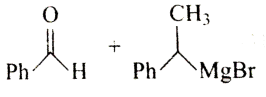
(M) = 

Compound (H) is formed by the reaction of:

A. 

B. 

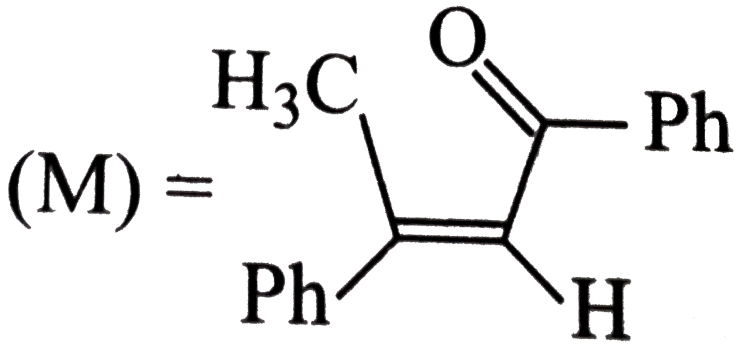
C. 

D. 

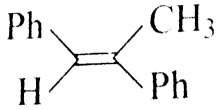
Answer: B

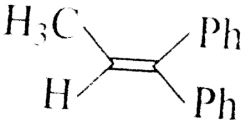
Watch Video Solution

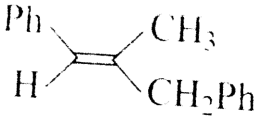
135. A tertiary alcohol (H) upon acid-catalysed dehydration gives a product (I). Ozonolysis of (I) leads to compounds (J) and (K). Compound (J) upon reaction with KOH gives benzyl alcohol and a compound (L), whereas (K) on reaction with KOH gives only (M).

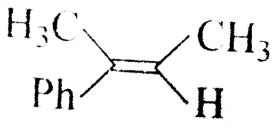


The structurer of compound (I) is:

A. (a)


B.


C.


D. 

Answer: A

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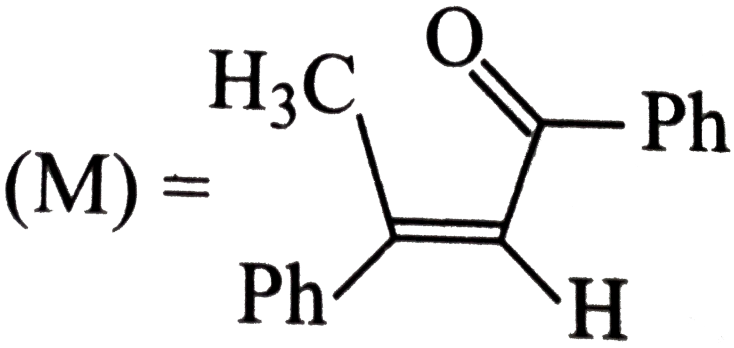
136. A tertiary alcohol (H) upon acid-catalysed dehydration gives a product (I). Ozonolysis of (I) leads to compounds (J) and (K). Compound (J) upon reaction with KOH gives benzyl alcohol and a compound (L), whereas (K) on reaction with KOH gives only (M).



The structures of compounds (J), (K), and (L), respectively, are:

A.

$$Ph-\overset{O}{\overset{|}{C}}-CH_3, Ph-CH_2-\overset{O}{\overset{||}{C}}-CH_3 \text{ and } Ph-CH_2-\overset{O}{\overset{||}{C}}-O^{\ominus}$$

B. $Ph-\overset{O}{\overset{||}{C}}-H, Ph-CH_2-\overset{O}{\overset{||}{C}}-H$ and $Ph-\overset{O}{\overset{||}{C}}-O^{\ominus}K^{\oplus}$

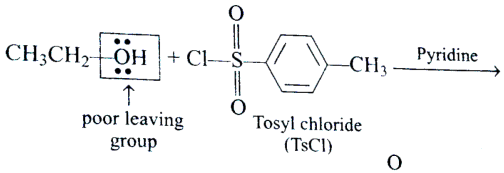
C. $Ph-\overset{O}{\overset{||}{C}}-CH_3, Ph-CH_2-\overset{O}{\overset{||}{C}}-H$ and $CH_3-\overset{O}{\overset{||}{C}}-O^{\ominus}K^{\oplus}$

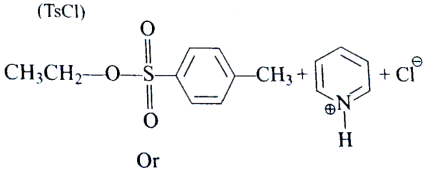
D. $Ph-\overset{O}{\overset{||}{C}}-H, Ph-\overset{O}{\overset{||}{C}}-CH_3$ and $Ph-\overset{O}{\overset{||}{C}}-O^{\ominus}K^{\oplus}$

Answer: D

Watch Video Solution

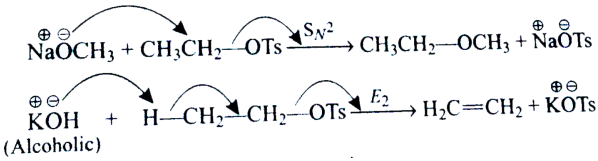
137. Alcohols are converted to tosylates by treatment with p-toluence sulfonyl chloride (TsCl) in the presence of pyridine. This overall process converts a poor leaving group $\left(\overset{\ominus}{H}\right)$ into good one $\left(\overset{\ominus}{Ts}\right)$. A tosylate is a good leaving group its conjugates acid p-touence sulfonic acid is strong acid. Beacuse alkyl tosylates have food leaving groups, they undergo both nucleophilic substitution and $\beta-$ elimination.



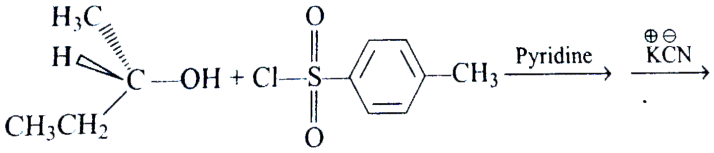


Or

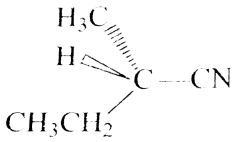
CH_3CH_2—OTs ↑ Good leaving group



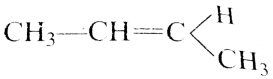
Find the major product of the following reaction:



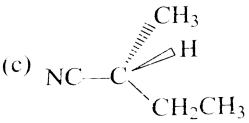
A.



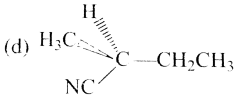
B.



C.



D.



Answer: C

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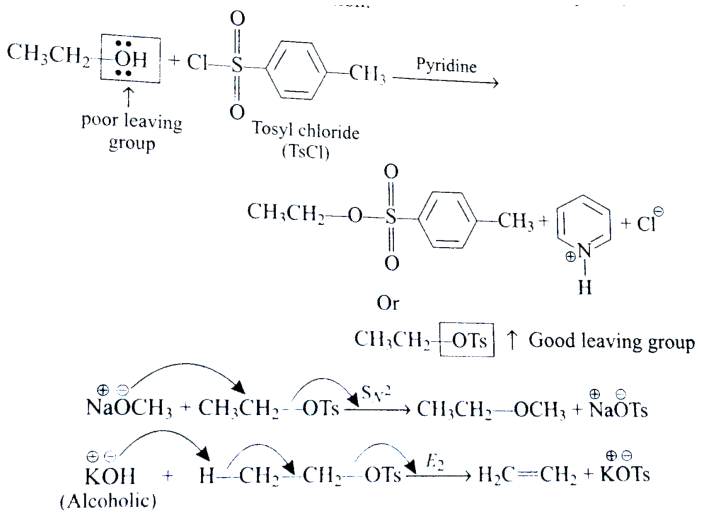
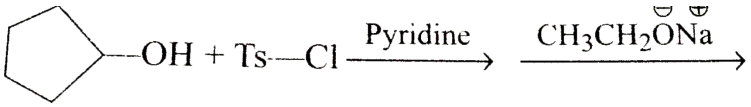
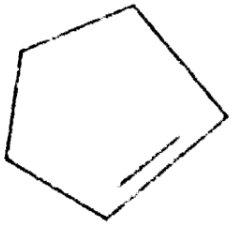
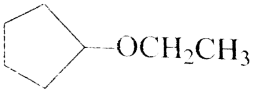
138. Alcohols are converted to tosylates by treatment with p-toluence sulfonyl chloride (TsCl) in the presence of pyridine. This overall process converts a poor leaving group $\left(\overset{\ominus}{H}\right)$ into good one $\left(\overset{\ominus}{Ts}\right)$. A tosylate is a good leaving group its conjugates acid p-touence sulfonic acid is strong acid. Beacuse alkyl tosylates have food leaving groups, they undergo both nucleophilic substitution and $\beta -$ elimination.

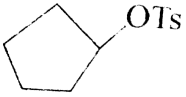


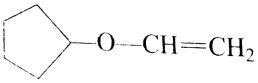
What would be the major product of the following reactions?



A. 

B. 

C. (c) 

D. 

Answer: A

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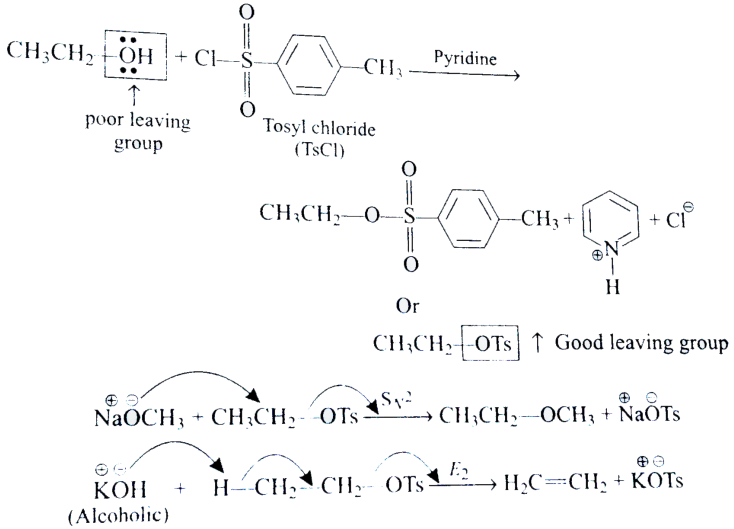
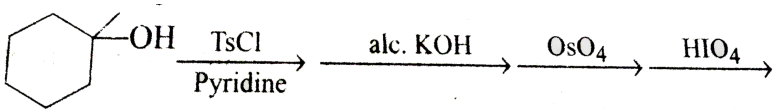
139. Alcohols are converted to tosylates by treatment with p-toluence sulfonyl chloride (TsCl) in the presence of pyridine. This overall process

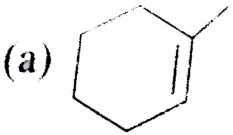
converts a poor leaving group $\left(\overset{\ominus}{H}\right)$ into good one $\left(\overset{\ominus}{Ts}\right)$. A tosylate is a good leaving group its conjugates acid p-touence sulfonic acid is strong acid. Beacuse alkyl tosylates have food leaving groups, they undergo both nucleophilic substitution and $\beta -$ elimination.

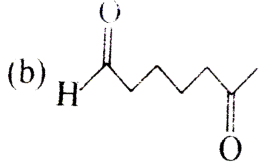


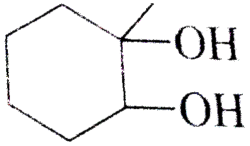
Idetify the final product of the following sequences of reactions:

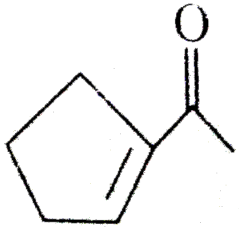


A.



B. 

C. 

D. 

Answer: B

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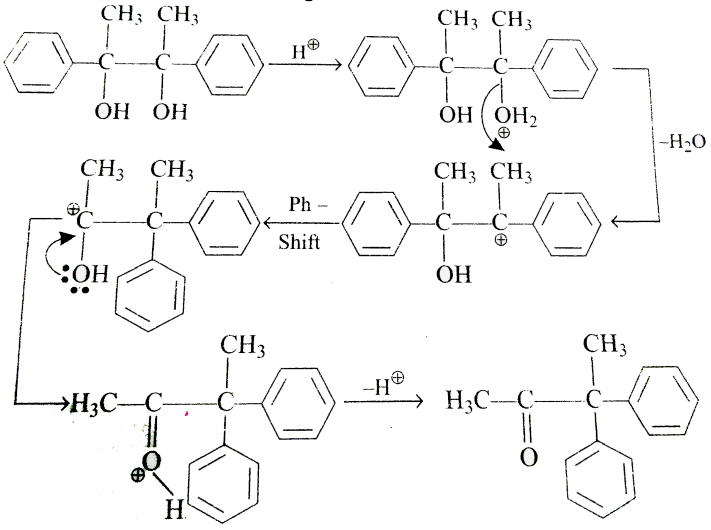
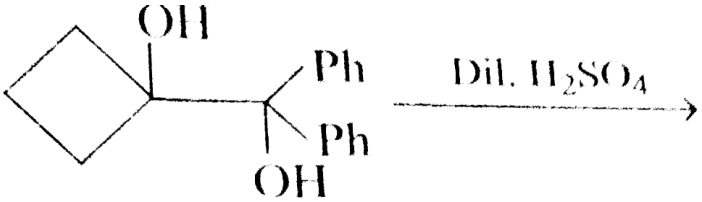
140. Acid catalysed conversation of 1,2-diol or vicinal, into carbonyl compound known as pinocaol-pinacolone rearrangement.

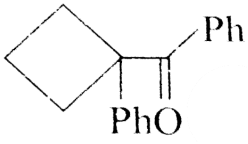


Generally more electron donating group migrate during mechanism, migration of H is faster because of its smaller size.

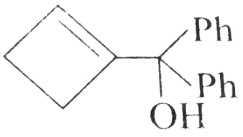
What would be the major product of reaction?



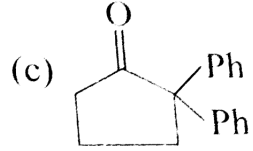
A.



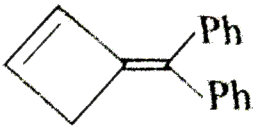
B.



C.



D.



Answer: C

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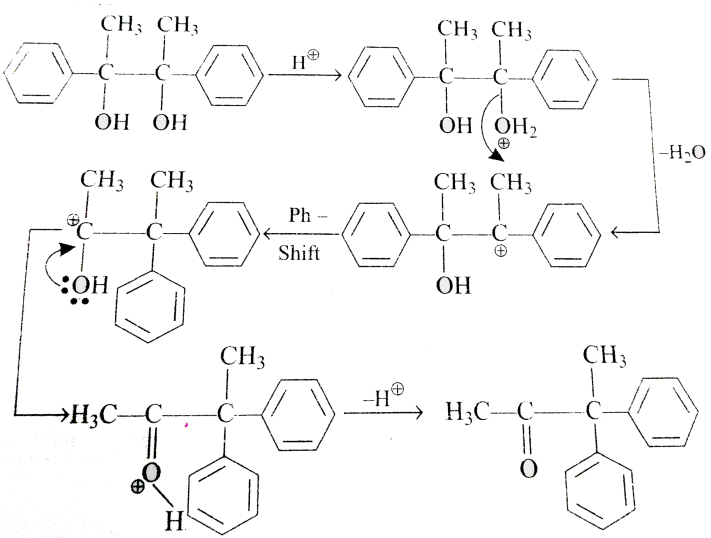
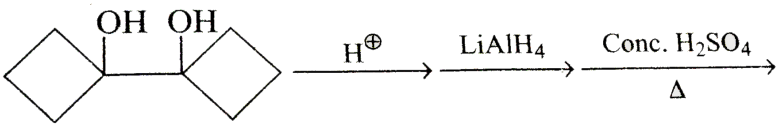
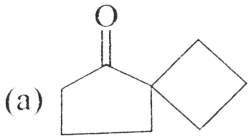
141. Acid catalysed conversation of 1,2-diol or vicinal, into carbonyl compound known as pinocaol-pinacolone rearrangement.

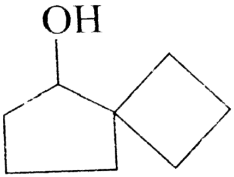


Generally more electron donating group migrate during mechanism, migration of H is faster because of its smaller size.

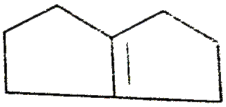


In this sequence of reaction final product is"

A. 

B. 

C. 

D. 

Answer: D

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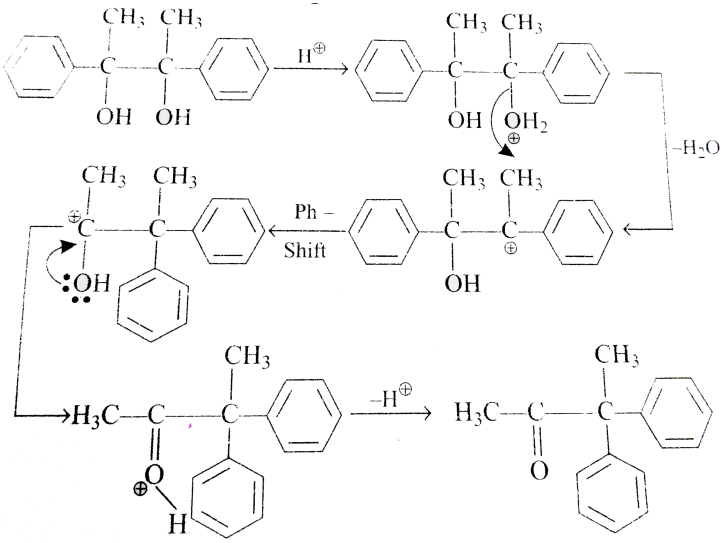
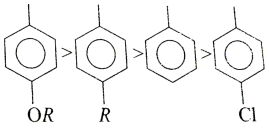
142. Acid catalysed conversation of 1,2-diol or vicinal, into carbonyl compound known as pinocaol-pinacolone rearrangement.



Generally more electron donating group migrate during mechanism, migration of H is faster because of its smaller size.

Which of the following is not correct about this rearrangement?

A. 

B. The carboncation is stabilised by 1,2-shift

C. Migration aptitude for substituent is in $R- > H- > C_6H_5$

D. Product of reaction is carbonyl compound.

Answer: C

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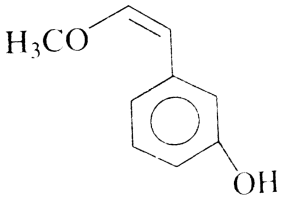
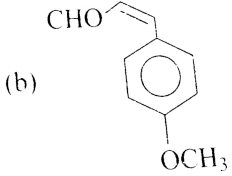
143. Compound (A) $C_{10}H_{22}0_2$ is insoluble in aq. NaOH bu not is $NaHCO_3$. Treatment of (A) with DMSO $\left(CH_3 - \overset{\overset{S}{||}}{S} - CH_3\right)$ in alkali give (B) $C_{11}H_{14}O_2$. Treatment of (A) with strong alkali alone give an isomeric compound (C). When (A) is reflux with HI, CH_3I is obtained, compound (B) is insoluble in alkali and decolurises Br_2/CCl_4. (B) on treating with strong base gives (D), an isomer of (B). Ozonolysis (C) of gives (E), C_8H_8O and isomer of vanilline. Ozolysis of (D) gives (F) $C_9H_{10}O_3$, which is identical with product of methylation of vanilline (4-hydroxy-3-methoxy benzaldehyde).

Structure of compound (A) is:

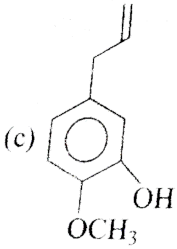
A.



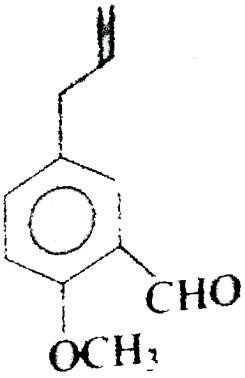
B.



C.



D.

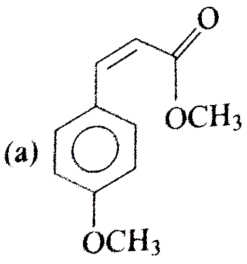


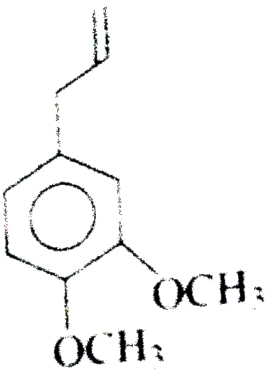
Answer: C

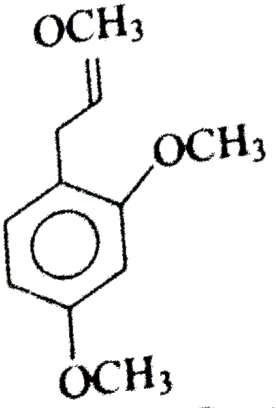
View Text Solution

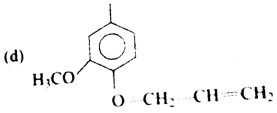
144. Compound (A) $C_{10}H_{22}0_2$ is insoluble in aq. NaOH bu not is $NaHCO_3$. Treatment of (A) with DMSO $\left(CH_3 - \overset{\overset{S}{||}}{S} - CH_3 \right)$ in alkali give (B) $C_{11}H_{14}O_2$. Treatment of (A) with strong alkali alone give an isomeric compound (C). When (A) is reflux with HI, CH_3I is obtained, compound (B) is insoluble in alkali and decolurises Br_2/CCl_4. (B) on treating with strong base gives (D), an isomer of (B). Ozonolysis (C) of gives (E), C_8H_8O and isomer of vanilline. Ozolysis of (D) gives (F) $C_9H_{10}O_3$, which is identical with product of methylation of vanilline (4-hydroxy-3-methoxy benzaldehyde).

Compound (B) is:

A. 

B. 

C. 

D. 

Answer: B

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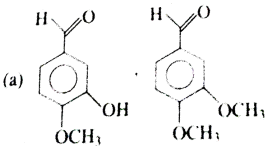
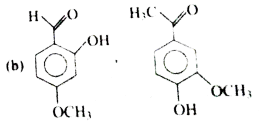
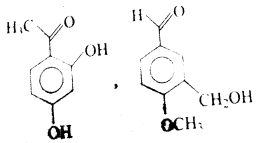
145. Compound (A) $C_{10}H_{22}0_2$ is insoluble in aq. NaOH bu not is $NaHCO_3$. Treatment of (A) with DMSO $\left(CH_3 - \overset{\overset{S}{||}}{S} - CH_3 \right)$ in alkali give (B) $C_{11}H_{14}O_2$. Treatment of (A) with strong alkali alone give an isomeric compound (C). When (A) is reflux with HI, CH_3I is obtained, compound (B) is insoluble in alkali and decolurises Br_2/CCl_4. (B) on treating with strong base gives (D), an isomer of (B). Ozonolysis (C) of gives (E), C_8H_8O and isomer of vanilline. Ozolysis of (D) gives (F) $C_9H_{10}O_3$, which is identical with product of methylation of vanilline (4-hydroxy-3-methoxy benzaldehyde).

Compound (E) and (F) are respectively:

A. 

B. 

C. 

D. None of these

Answer: A

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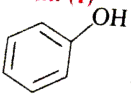
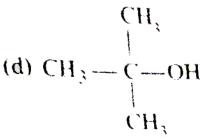
146.

Column (I)

(a) 

(b) CH_3CH_2OH

(c) $CH_3-\underset{\underset{Ph}{|}}{CH}-OH$

(d) 

Column (II)

P. White turbidity with $HCl/ZnCl_2$

Q. Violet colour with $FeCl_3$

R. Colour change of $Na_2Cr_2O_7, H^{\oplus}$

S. I_2/OH, gives bright yellow ppt.

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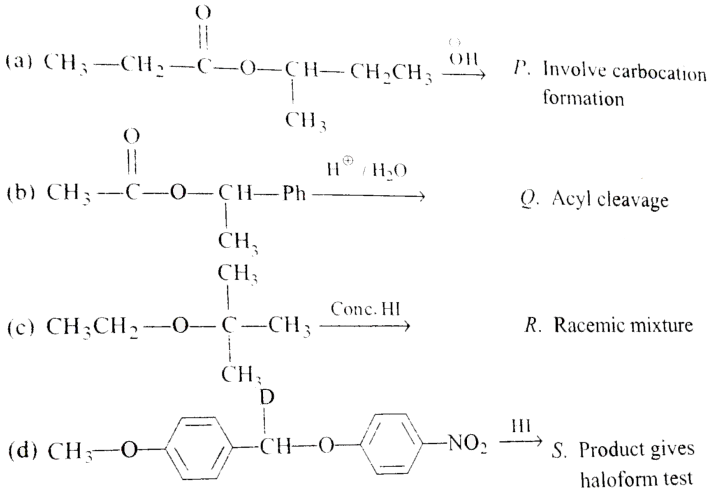
147.



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148.

(a)	Fries rearrangement	(P)	Acid catalysed rearrangement
(b)	Claisen rearrangement	(Q)	Concerned with ester
(c)	Buyer-Viliger's rearrangement	(R)	Involve electrophilic substitut
(d)	Pinacole-Pinacolone	(S)	Intramolecular rearrangement

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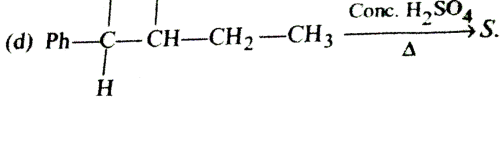
(a) Fries rearrangement
(b) Claisen rearrangement
(c) Bayer-Villiger's rearrangement
(d) Pinacole-Pinacolone rearrangement

P. Acid catalysed rearrangement
Q. Concerned with ester
R. Involve electrophilic substitution
S. Intramolecular rearrangement

149. (d)  *S*. Bimolecular elimination

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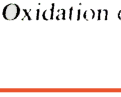
(a) Oxidation of 1° alcohol in aldehyde
(b) 
(c) 

P. $KMnO_4, \Delta, OH$
Q. Collin's reagent
R. Jone's reagent
S. PCC

150. (d) Oxidation of alkyne into acid

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151.

(a)	Identification of $1^\circ, 2^\circ$ and 3° Alcohol	(P)	Oxyme
(b)	Identification of $1^\circ, 2^\circ$ and 3° Nitroalkane	(Q)	$Cu/30$
(c)	Formation of alcohol by anti-Markownikoff's additioin	(R)	Victor
(d)	Formation of alcohol by Markownikoff's addition	(S)	Huydr

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152.

$((a)$, Phenol+Neutral$FeCl_3$, (P), No reaction$)$, $((b)$, PhenolBr_2(aq.$)$, (Q),
$((d)$, Picric acid + $NaHCO_3$, (S), CO_2gas is envoled$)$

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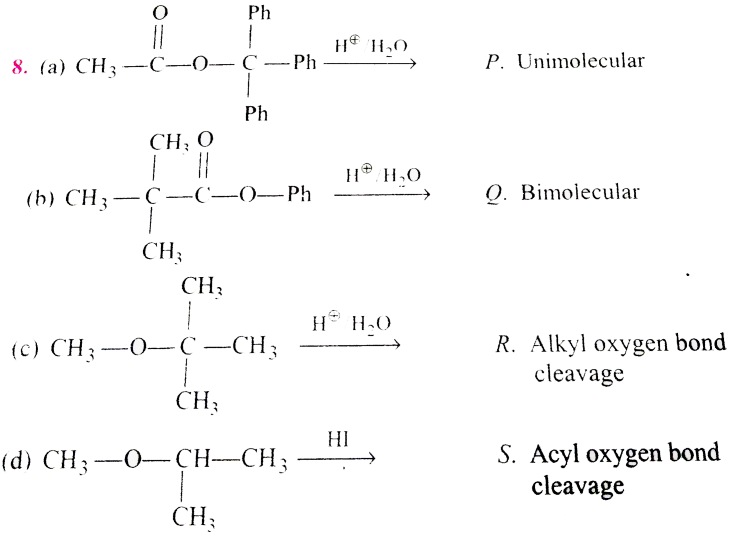
153.



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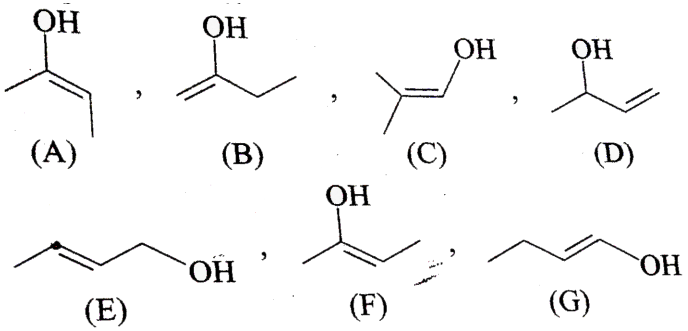
154. How many compounds A through G are enol tautomer of 2-butanone?



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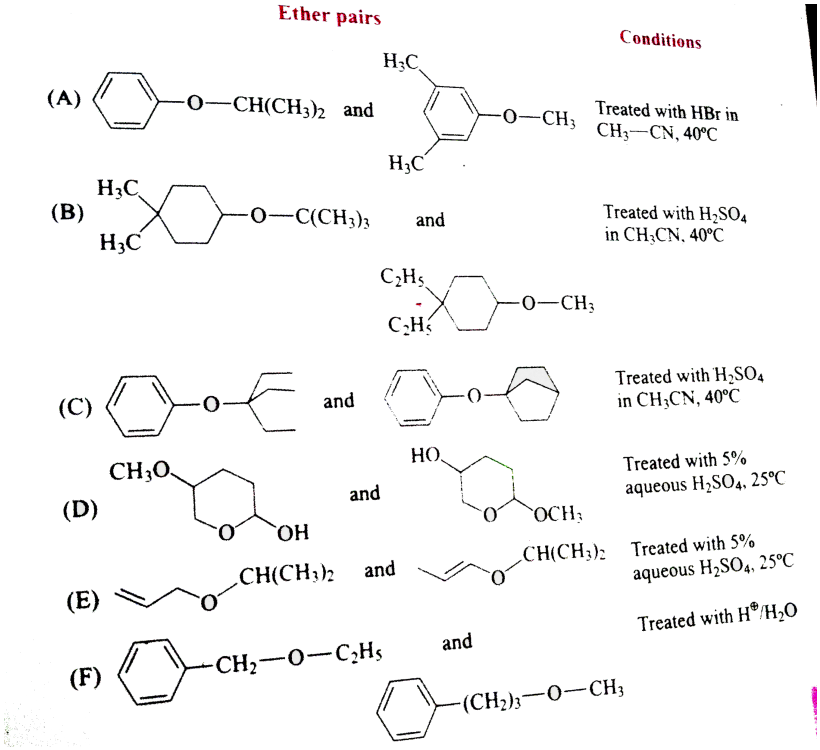
155. Consider the pairs of ethers A through F shown below. To the right of each pairs is a description of reaction conditions to be applied to each. One compound of the pair will react more rapidly than the other. Find out number of reactions in which first ether more rapidly cleaved than

second.



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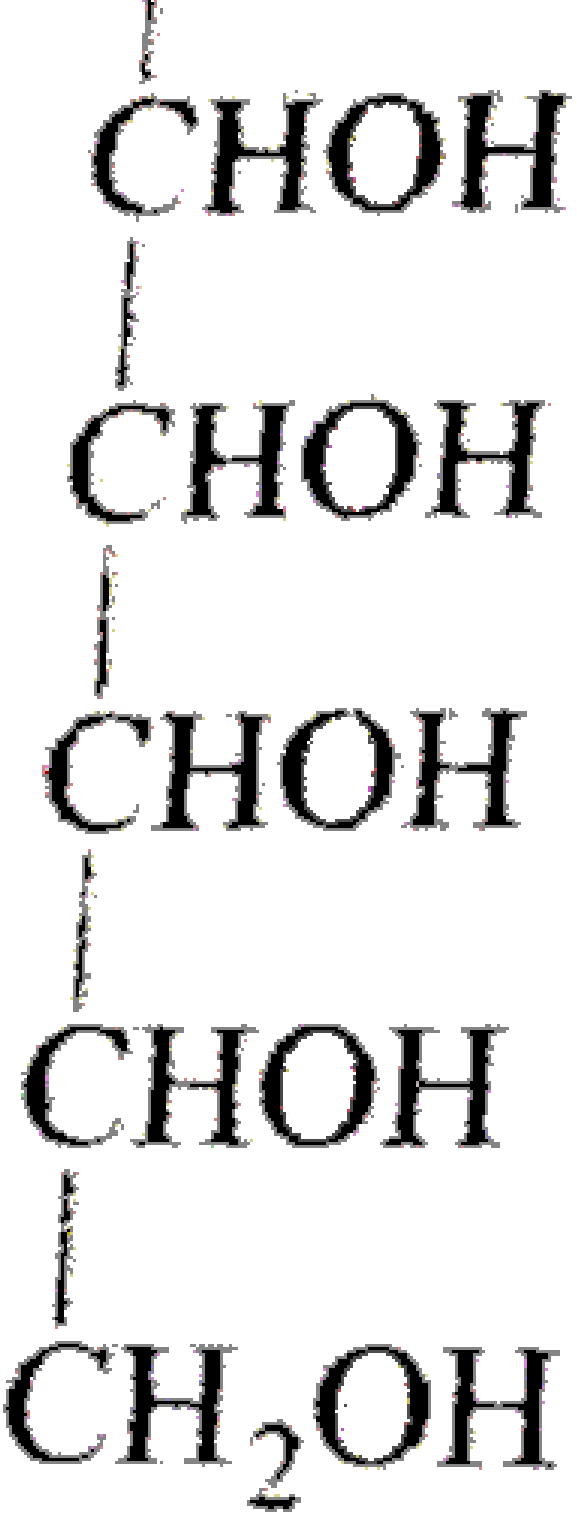
156. Find out number of moles of HIO_4 that will react with following compund


CHOH
CHOH
CHOH
CHOH
CH2OH

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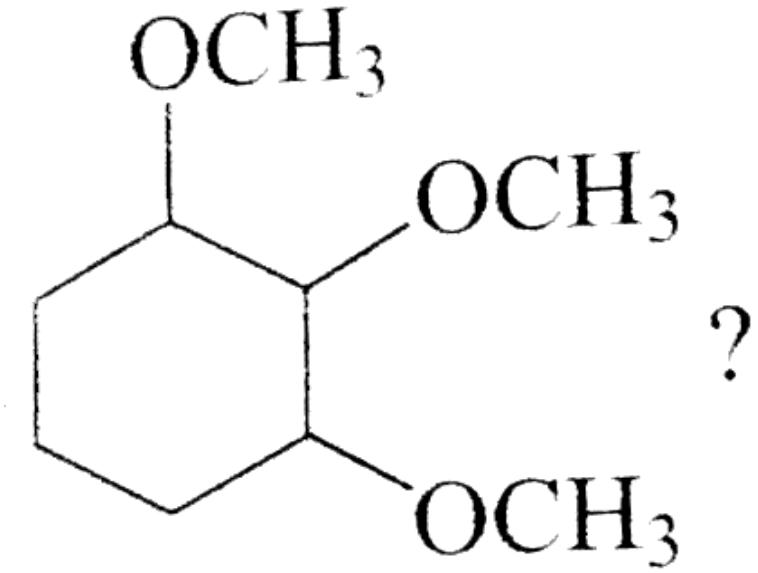
157. How many mole of 'HI' will react with



?

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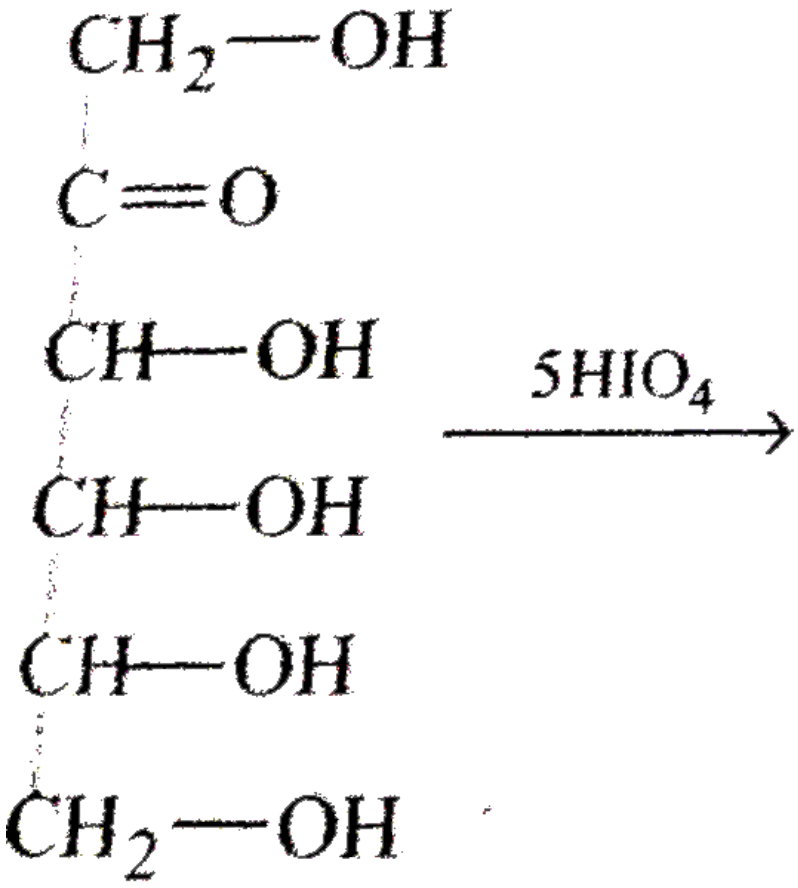

158. , Find out the value of 'X'

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159. $R - CH_2 - OH \xrightarrow{?} R - CH_2 - Cl$

find out the number that can be used for above conversion, from the

following.

$HCl, ZnCl_2, PCl_3, PCl_5, POCl_3, SOCl_2, NaCl, TsCl$

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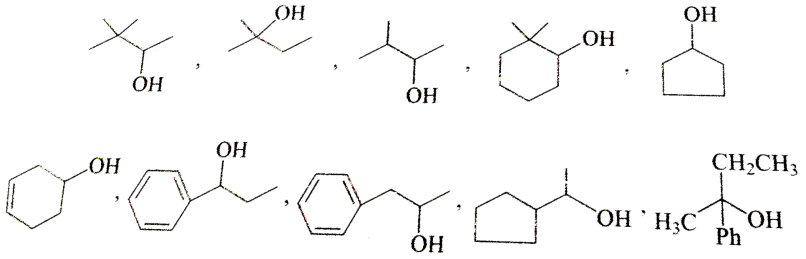
160. Identify number of alcohols those will show rearrangement during dehydration will concentrate H_2SO_4.



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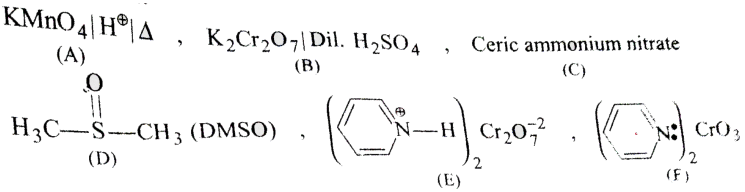
161. Find out number of reagents that converts $1(\circ)$ alcohols to aldehyde.



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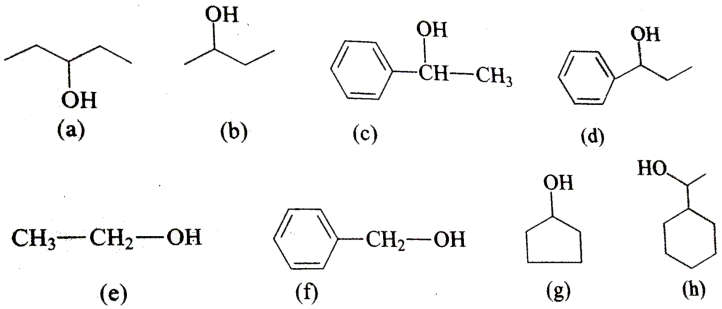
162. Find out number of alcohols that can give positive iodoform test.



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163. How many mole of HI racts with glycerol to give 2-iodopropane?

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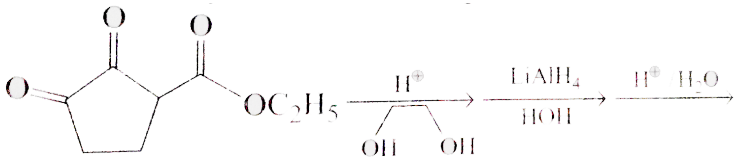
164. Find out final product of following reactions:



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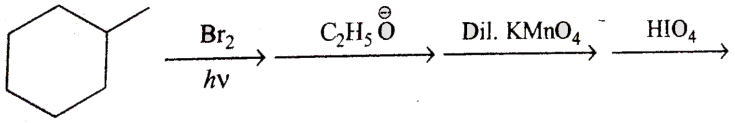
165. Find out final product of following reactions:



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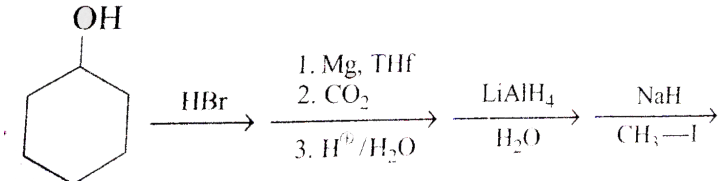
166. Find out final product of following reactions:



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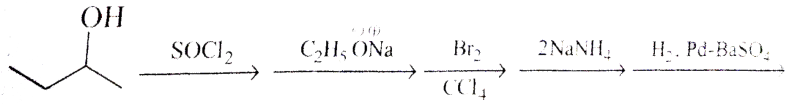
167. Find out final product of following reactions:



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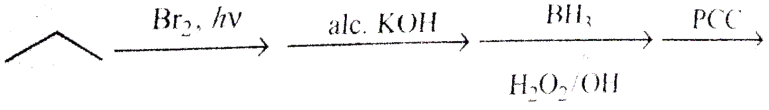
168. Find out final product of following reactions:



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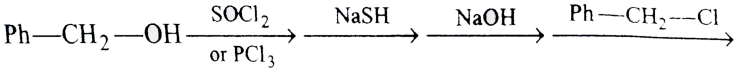
169. Find out final product of following reactions:



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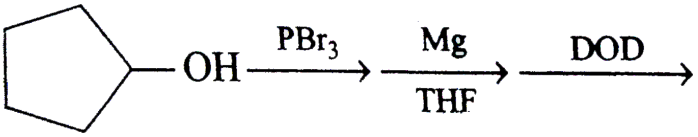
170. Find out final product of following reactions:



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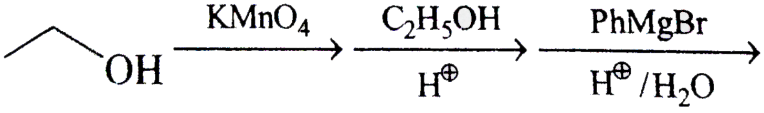
171. Find out final product of following reactions:



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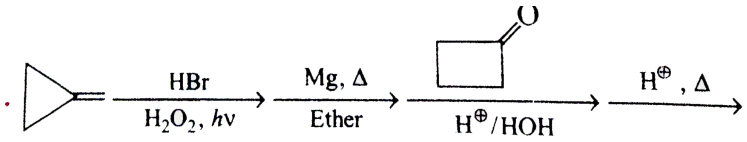
172. Find out final product of following reactions:



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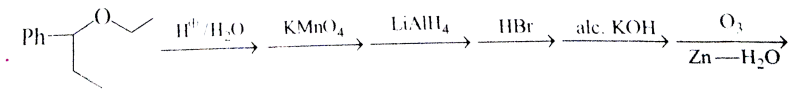
173. Find out final product of following reactions:



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