

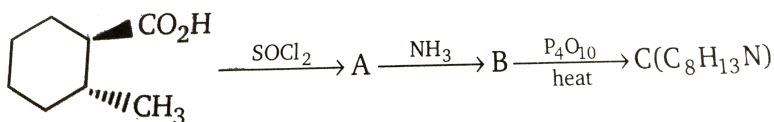
CHEMISTRY

BOOKS - MS CHOUHAN CHEMISTRY (HINGLISH)

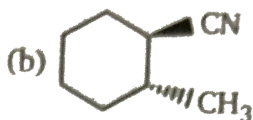
CARBOXYLIC ACID AND THEIR DERIVATIVES

Exercise

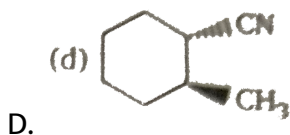
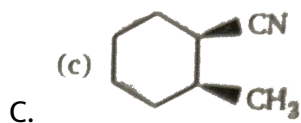
1. Identify C in the following sequence of reaction:



A.



B.



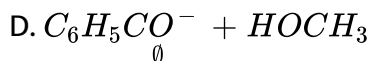
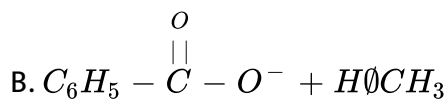
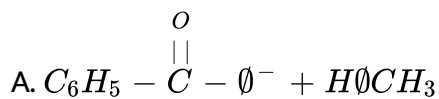
Answer: B



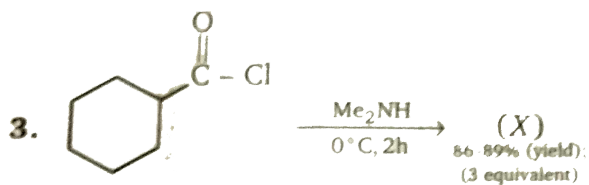
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2. Saponification (basic hydrolysis) of $C_6H_5\overset{\overset{O}{||}}{C}\emptyset CH_3$ will yield:

[\emptyset = mass -18 isotope of oxygen]

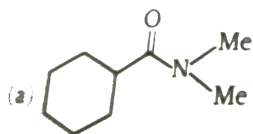


Answer: B

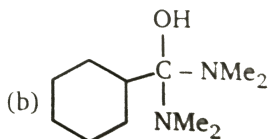


3.

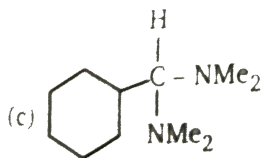
Product (X) of the reaction is:



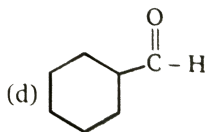
A.



B.



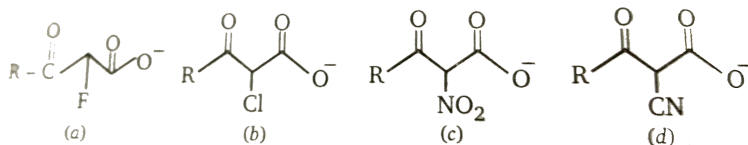
C.



D.

Answer: A

4. Which of the following is the correct order of decarboxylation of β -keto carboxylate anion?



A. $a > b > c > d$

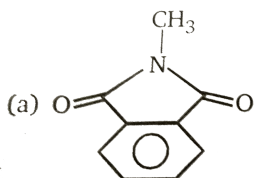
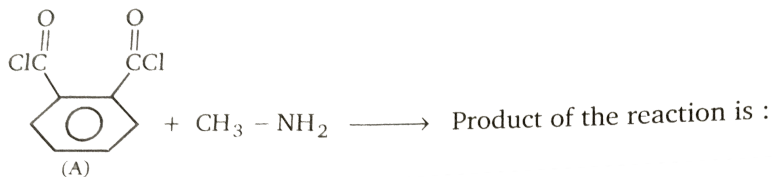
B. $c > d > a > b$

C. $c > d > b > a$

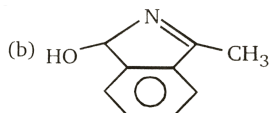
D. $d > c > a > b$

Answer: C

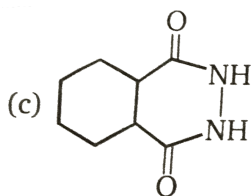
5. Complete the following reaction



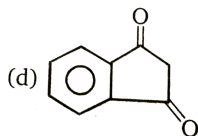
A.



B.



C.



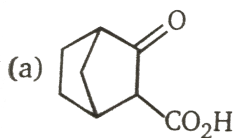
D.

Answer: A

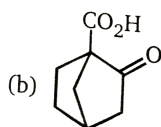


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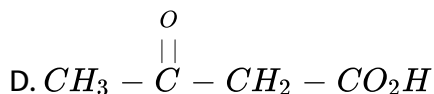
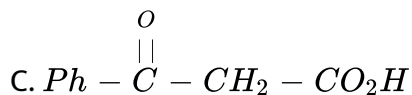
6. Which β -keto acid shown will not undergo decarboxylation?



A.



B.

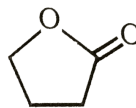
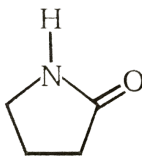
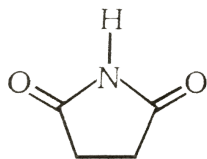


Answer: B



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7. Choose the response that matches the correct functional group classification with the following group of structural formulas.



A. Anhydride Lactam Lactone

B. Lactam Imide Lactone

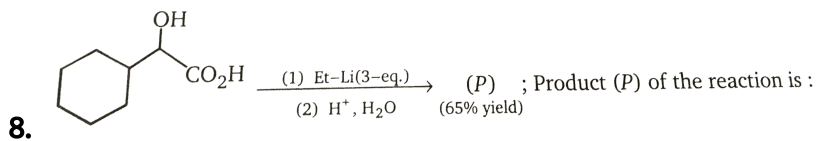
C. Imide Lactone Anhydride

D. Imide Lactam Lactone

Answer: D

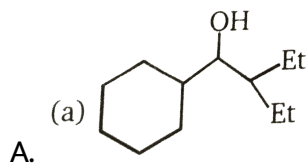


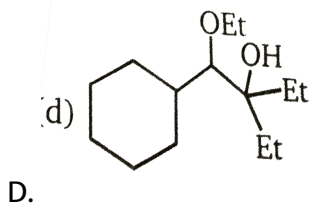
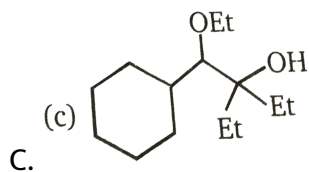
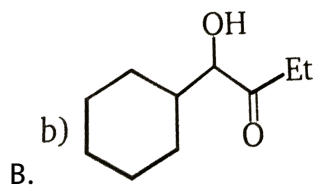
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Product (P)

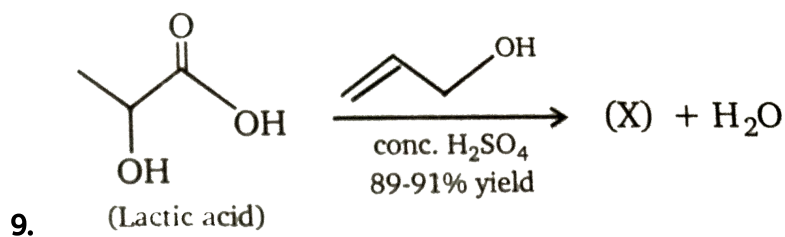
of the reaction is:



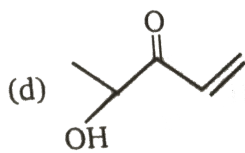
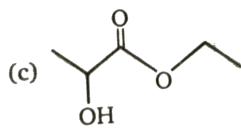
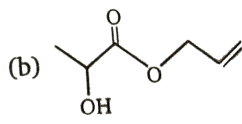
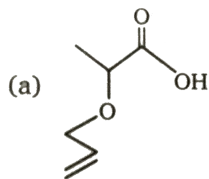


Answer: B

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Product (X) of the reaction is:

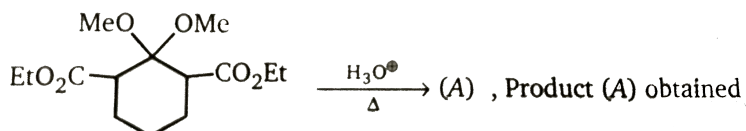


Answer: B



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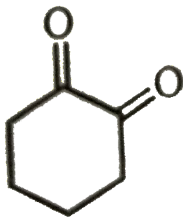
10.



Product

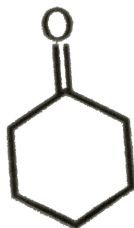
(A) obtained is:

(a)



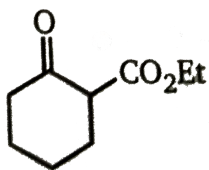
A.

(b)



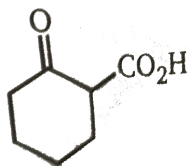
B.

(c)



C.

(d)



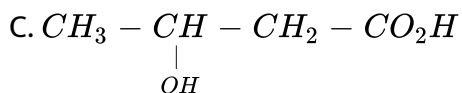
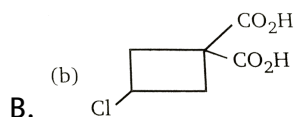
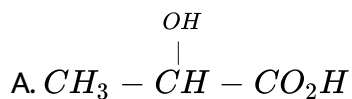
D.

Answer: B



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11. Which of the following acid on heating gives geometrical isomers as a product?

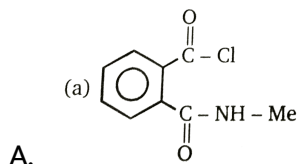
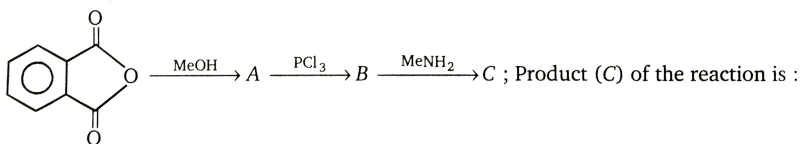


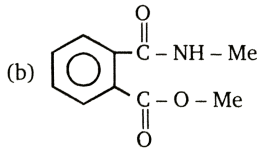
D. All of these

Answer: D

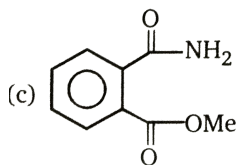
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12.

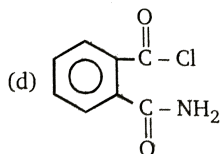




B.



C.



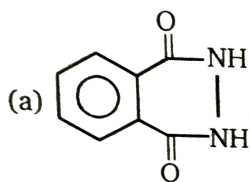
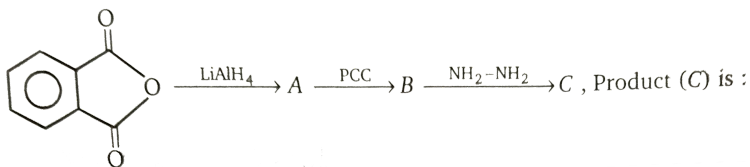
D.

Answer: B

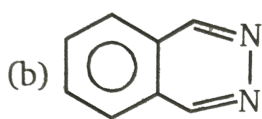


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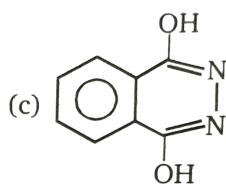
13.



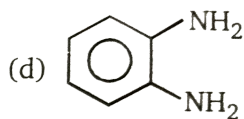
A.



B.



C.

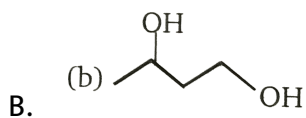
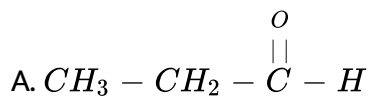
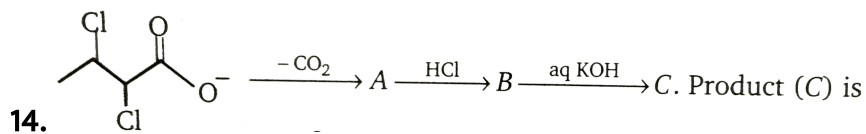


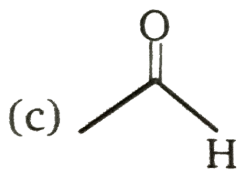
D.

Answer: B

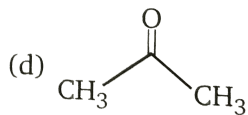


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C.

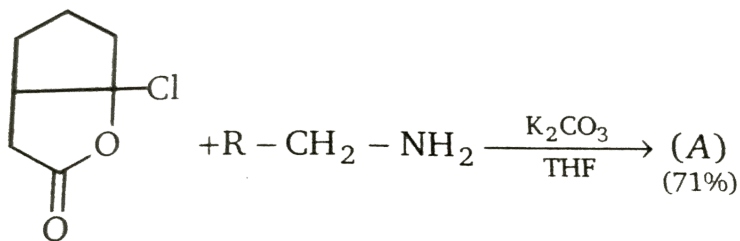


D.

Answer: A

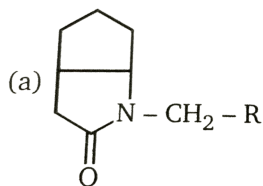


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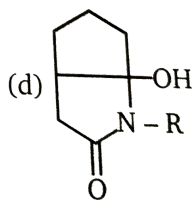
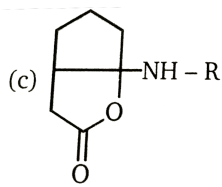
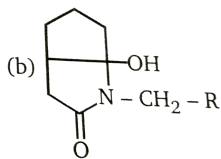


15.

In above reaction identify major product (A) of the reaction:



A.

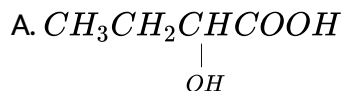


Answer: B



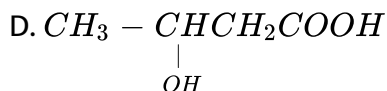
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16. An optically active compound 'X' having molecular formula $C_4H_8O_3$. It evolves CO_2 with $NaHCO_3$. 'X' on reaction with $LiAlH_4$ gives achiral compound. 'X' is:





C.



Answer: C



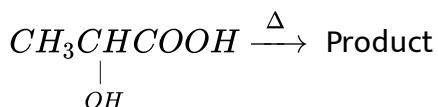
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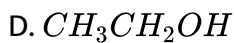
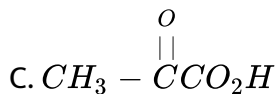
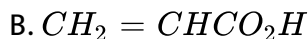
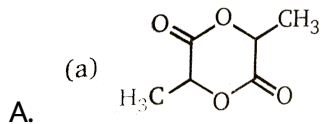
17. $CH_3 - \overset{\overset{O}{||}}{C} - O - CH_2 - CH_3 + H - \emptyset^- \rightarrow (\emptyset = O^{18})$ One of the product of the reaction is:



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18. Identify final product in the following reaction,



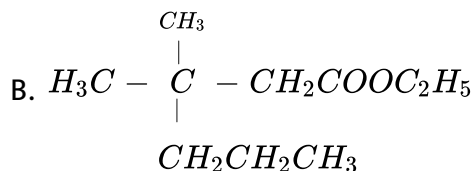
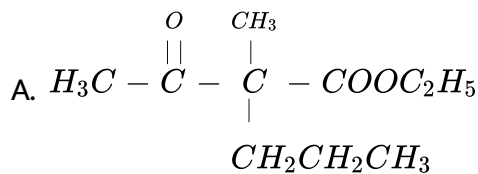
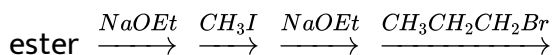


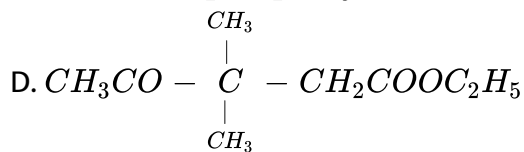
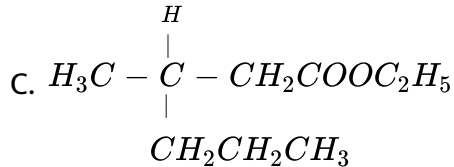
Answer: A



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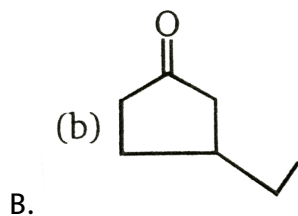
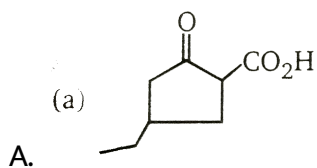
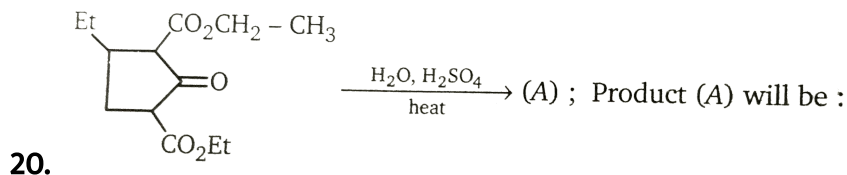
19. Select the final product from this sequence of reactions. Acetoacetic

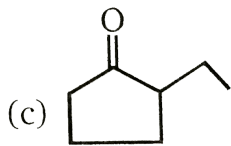




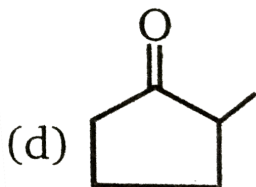
Answer: A

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C.

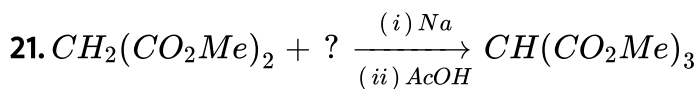


D.

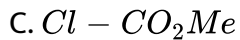
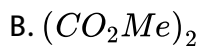
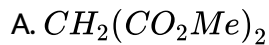
Answer: B



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Which of the following reactants will complete the above reaction?

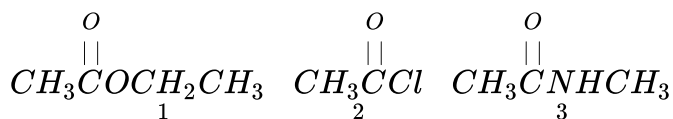


Answer: C



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22. Arrange the following in order of increasing reactivity (least → most) towards nucleophile



A. $1 < 2 < 3$

B. $3 < 1 < 2$

C. $1 < 3 < 2$

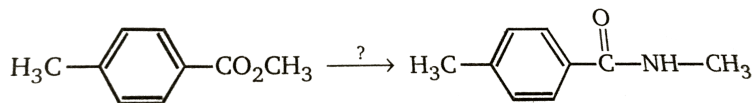
D. $2 < 1 < 3$

Answer: B



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23. Choose the best sequence of reactions for transformation given. Semicolons indicate separate reaction steps to be used in the order shown.



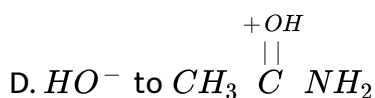
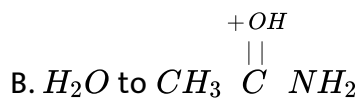
- A. H_3O^+ , $SOCl_2$, CH_3NH_2
- B. HO^- / H_2O , PBr_3 , Mg , CO_2 , H_3O^+ , $SOCl_2$, CH_3NH_2
- C. $LiAlH_4$, H_2O , HBr , Mg , CO_2 , H_3O^+ , $SOCl_2$, CH_3NH_2
- D. None of these would yield the desired product

Answer: A



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24. A key step in the hydrolysis of acetamide in aqueous acid proceeds by nucleophilic addition of:



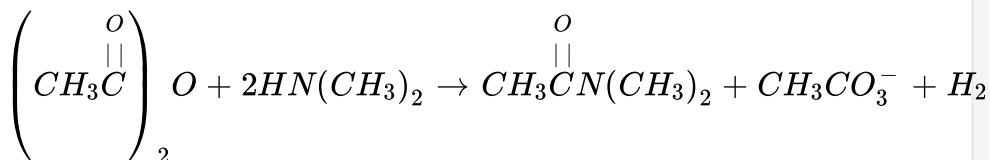
Answer: B



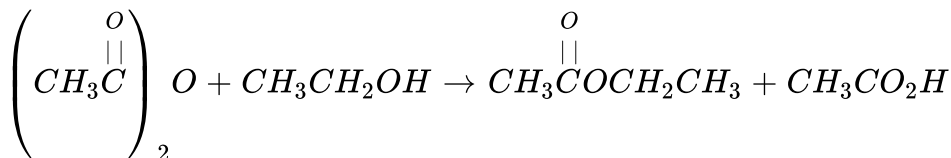
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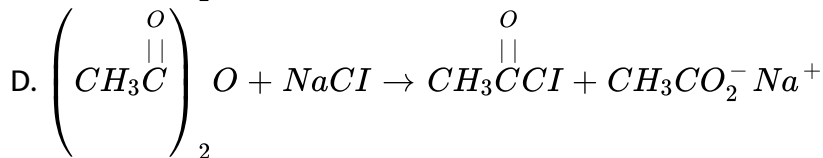
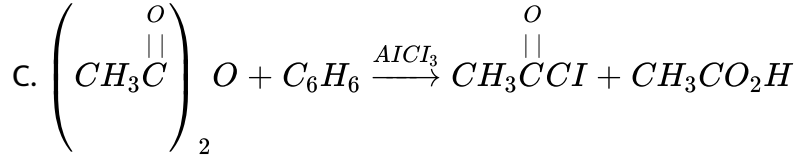
25. Which reaction is not possible for acetic anhydride?

A.



B.

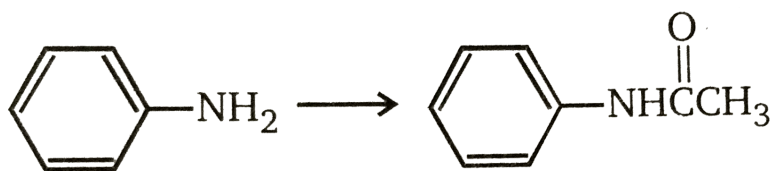




Answer: D

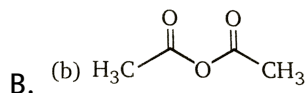
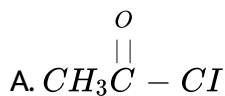
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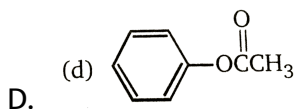
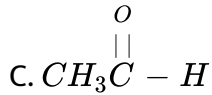
26. All but one of the following compounds react with aniline to give acetanilide. Which one does not?



Aniline

Acetanilide

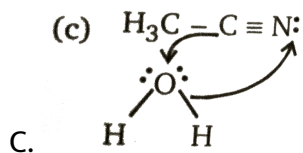
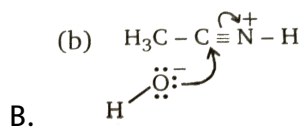
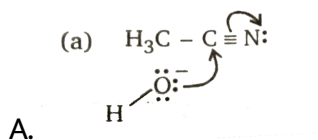


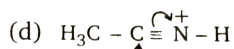


Answer: C

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27. Which of the following best describes the nucleophilic addition step in the acid-catalyzed hydrolysis of acetonitrile (CH_3CN)?





D.

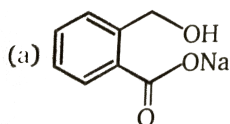


Answer: D

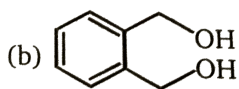


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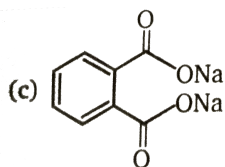
28. The major product expected, when Phthalamide is treated with NaOH , is



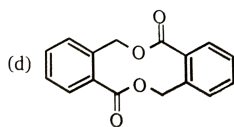
A.



B.



C.



D.

Answer: C

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29. Which of the following acid remains unaffected on heating ?

A. malonic acid

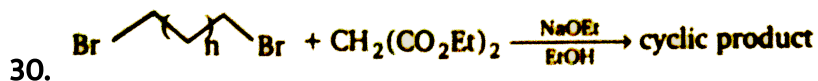
B. maleic acid

C. Fumaric acid

D. Succinic acid

Answer: C

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At which value of n the formation of six membered ring takes place?

A. $n = 2$

B. $n = 3$

C. $n = 5$

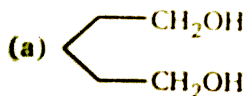
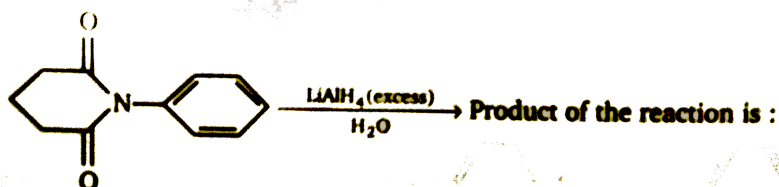
D. $n = 6$

Answer: B

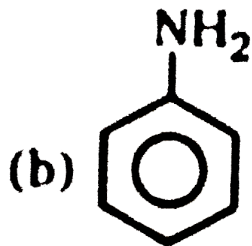


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31. Complete the following reaction

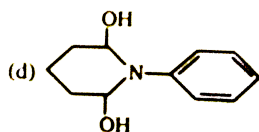
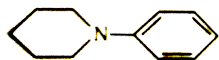


A.



B.

C.



D.

Answer: C



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32. Complete the following reaction



A. cis-anhydride

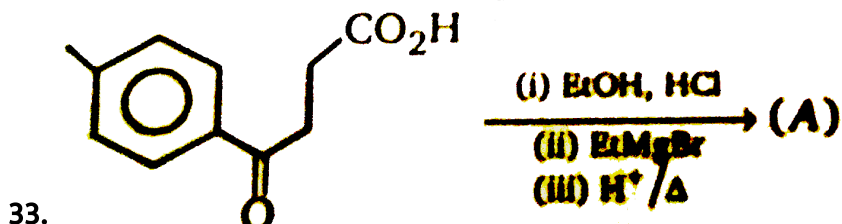
B. trans-anhydride

C. both (a) & (b)

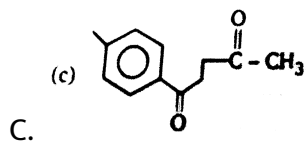
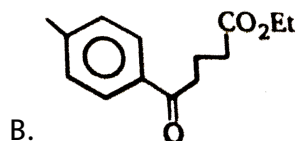
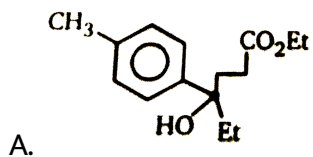
D. mono-basic acid

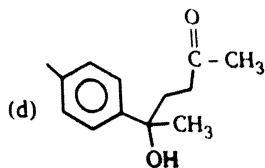
Answer: A

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Product (A) of the reaction is:



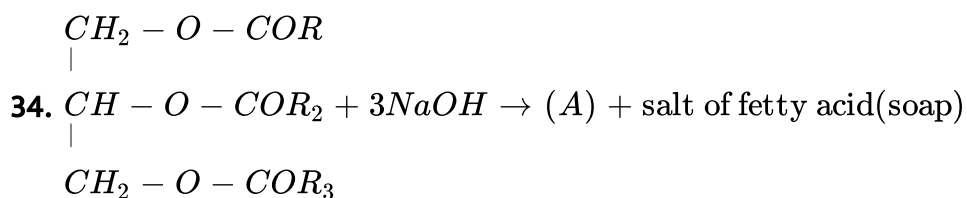


D.

Answer: A



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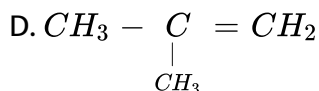
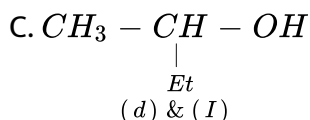
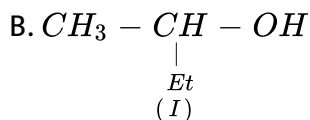
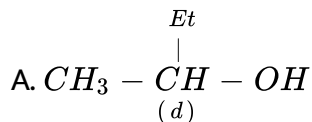
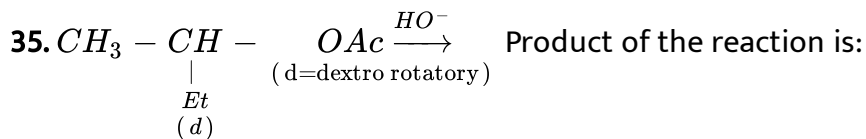
Product (A) of the reaction is:

- A. Ethylene glycol
- B. Glycerol
- C. Glycceryltrinitrate (explosive)
- D. Cumene hydrogen peroxide

Answer: B



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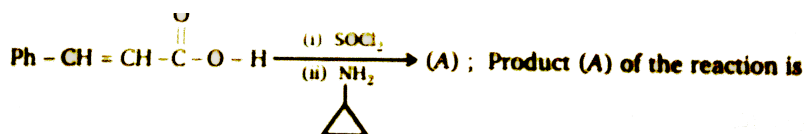


Answer: A



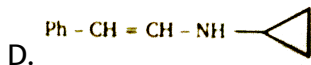
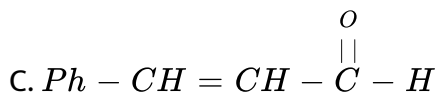
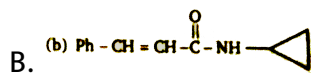
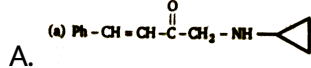
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36.



Product

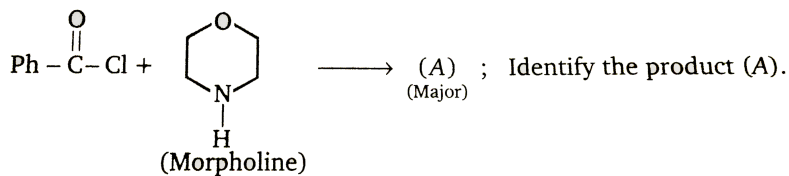
(A) of the reaction is:



Answer: B

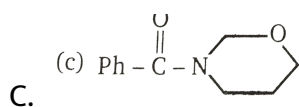
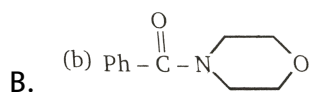
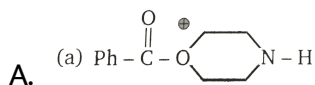


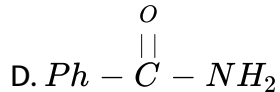
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Identify

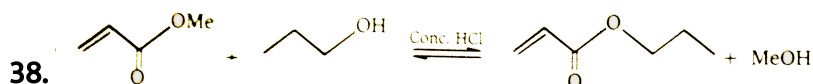
the product (A).





Answer: B

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Above reaction is an example of:

A. Esterification

B. Saponification

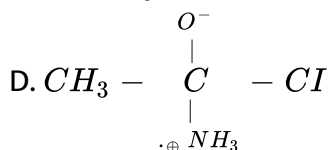
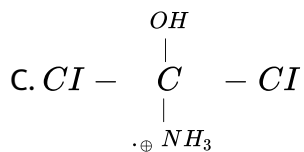
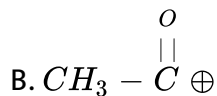
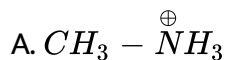
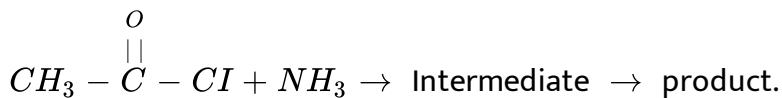
C. Hydrolysis

D. Trans Esterification

Answer: D

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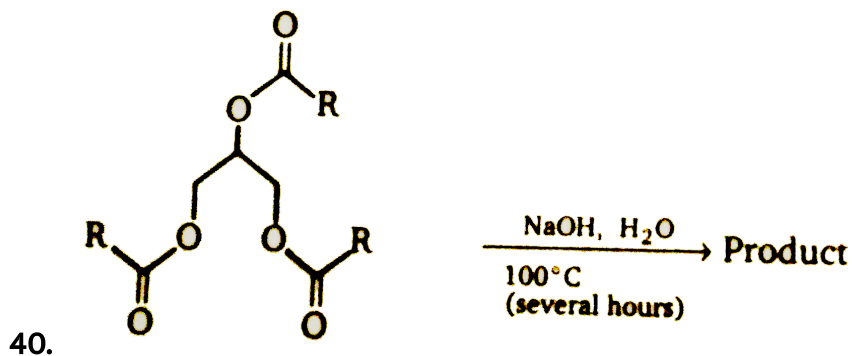
39. Which of the following is an intermediate formed in the reaction shown below



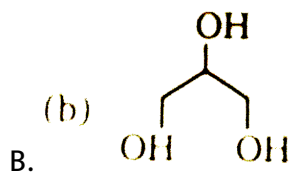
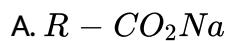
Answer: D



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Product is obtained in the above reaction is:



C. Both (a) and (b)

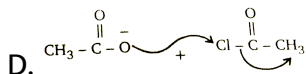
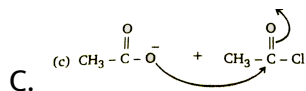
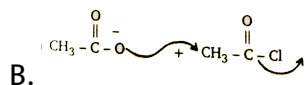
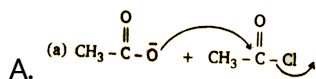
D. None of these

Answer: C



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41. The reaction of sodium with acetyl chloride proceeds through which of the following

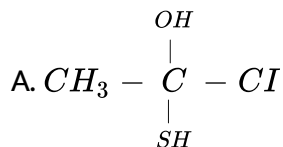
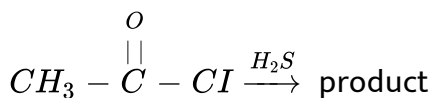


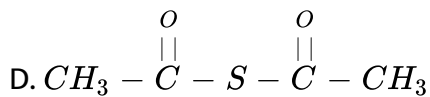
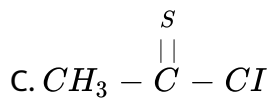
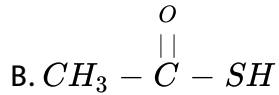
Answer: C



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42. Which of the major product of the following reaction?

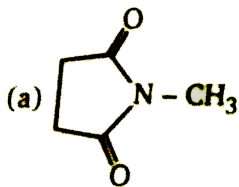
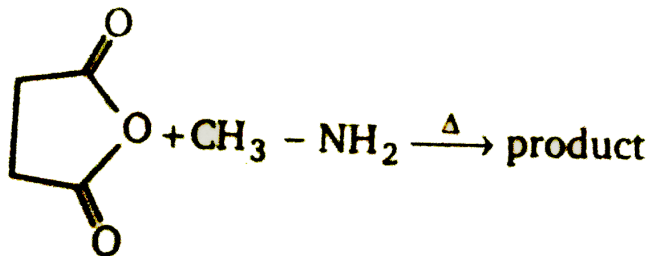




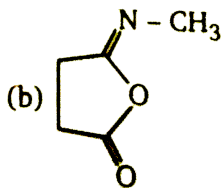
Answer: B

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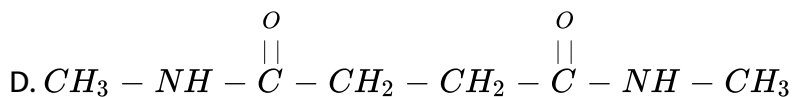
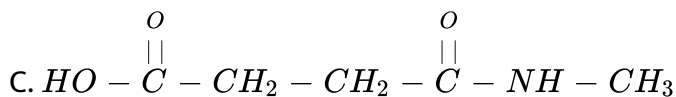
43. Which is the major product of the following reaction?



A.



B.

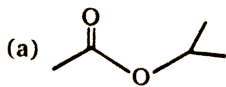


Answer: C

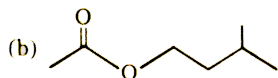


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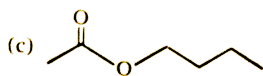
44. Ethanoic acid + 3-methyl-1-butanol $\xrightleftharpoons[\text{traces } H_2SO_4]{} (A)$, Compound (A) is:



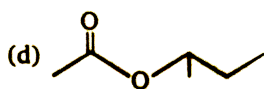
A.



B.



C.

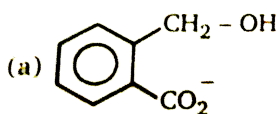
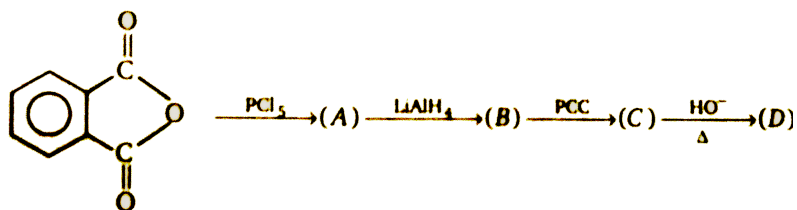


D.

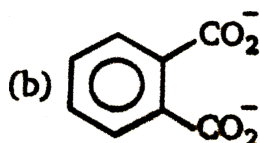
Answer: B

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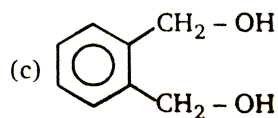
45. Complete the following reaction



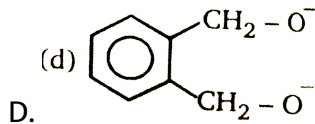
A.



B.



C.

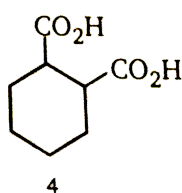
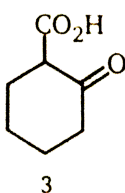
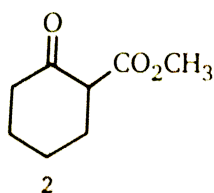
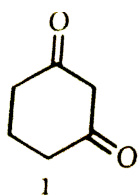


Answer: A



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46. Which of the following compounds will undergo decarboxylation on heating?



A. 2 and 3

B. 3 and 4

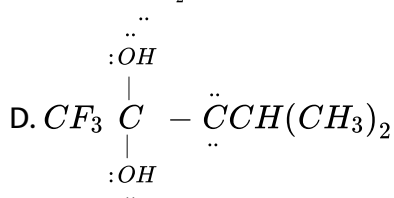
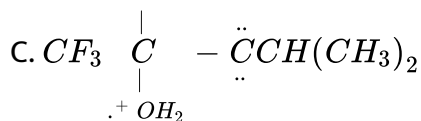
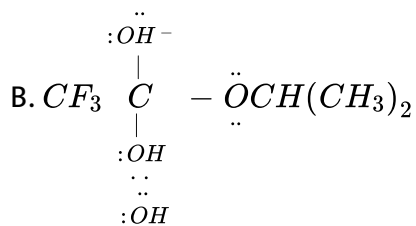
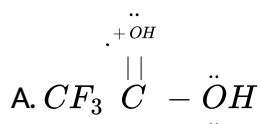
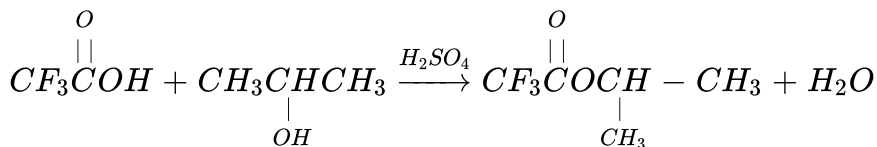
C. 3 only

D. 1 and 4

Answer: C

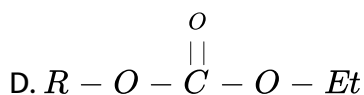
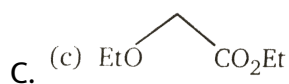
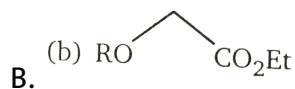
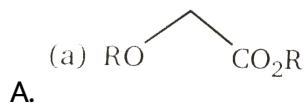
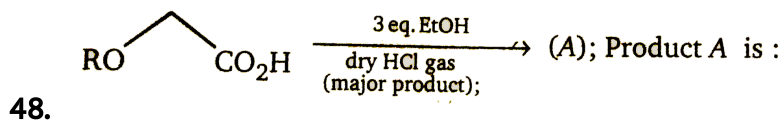
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47. Which one of the following is not an intermediate in the generally accepted mechanism for the reaction shown below?



Answer: B

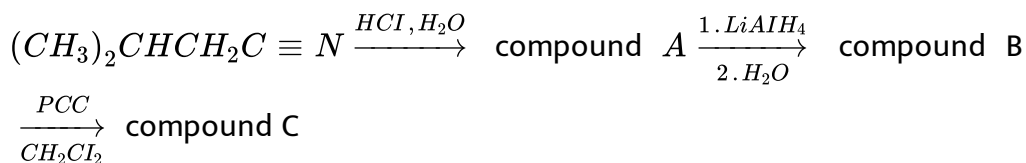
[Watch Video Solution](#)

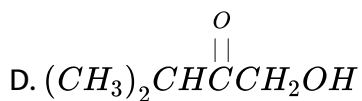
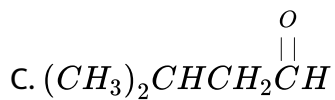
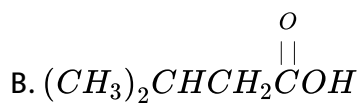
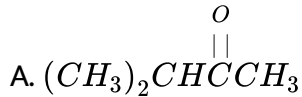


Answer: B

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49. Identify the compound C in the following sequence:

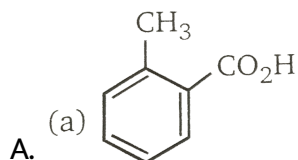
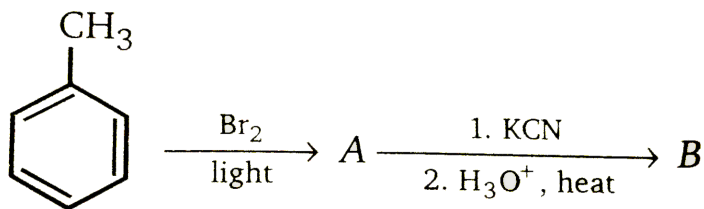


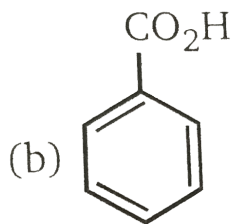


Answer: C

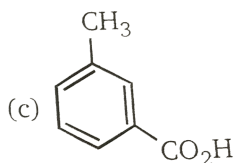
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50. What is the final product (B) of this sequence?

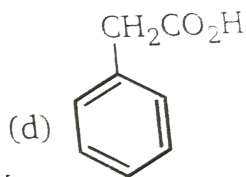




B.



C.



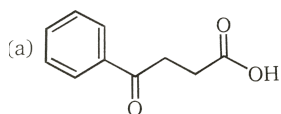
D.

Answer: D



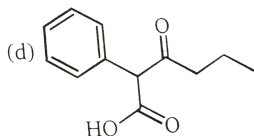
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51. Which of the following undergoes decarboxylation most readily on being heated?



A.

B. 



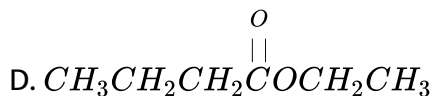
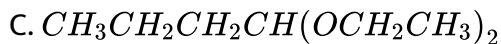
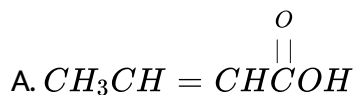
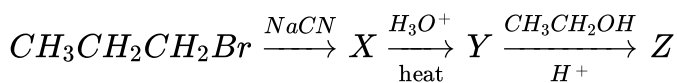
C.

Answer: D



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52. What is compound Z?



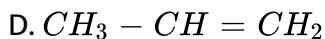
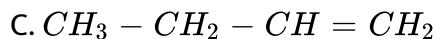
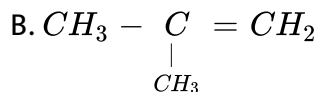
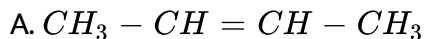
Answer: D



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53. $CH_3 - CH = CH - CH_2 - CO_2H \xrightarrow{\Delta} (X)$ (major), Product (X)

is:

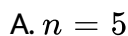


Answer: C



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54. $H - O - \overset{\overset{O}{||}}{C} - (CH_2)_n - \overset{\overset{O}{||}}{C} - O - H \xrightarrow{\Delta}$ product, At what value of (n) given compound will not evolve CO_2 gas?



B. $n = 4$

C. $n = 2$

D. $n = 1$

Answer: C



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55.
$$\begin{array}{c} CO_2H \\ | \\ (CH_2)_n, \text{ If } (n = 4) \text{ then di-carboxylic acid would be known as:} \\ | \\ CO_2H \end{array}$$

A. Malonic acid

B. Succinic acid

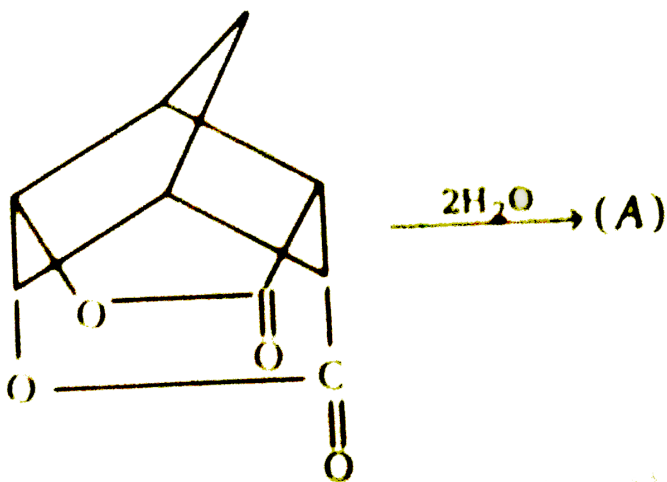
C. Adipic acid

D. Oxalic acid

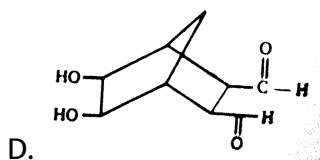
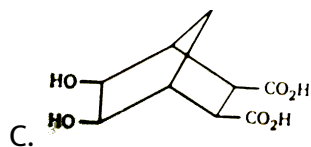
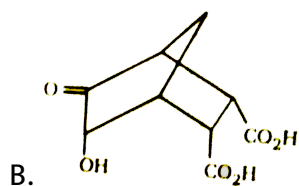
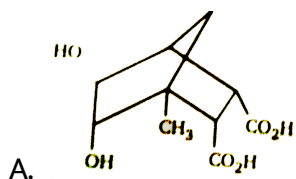
Answer: C



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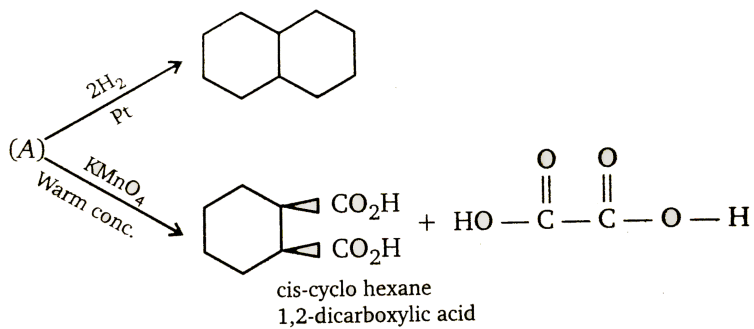
Product (A) of the above reaction is:



Answer: C

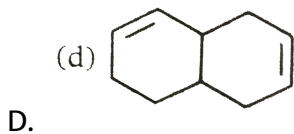
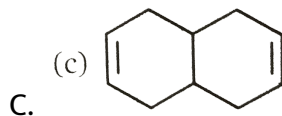
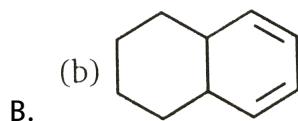
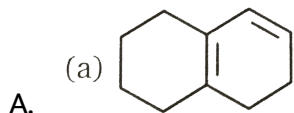


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57.

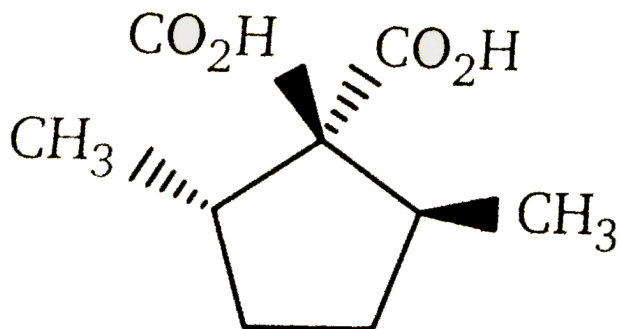
Identify (A)



Answer: B



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58.

How many product will be formed when above compound undergo decarboxylation?

A. 0

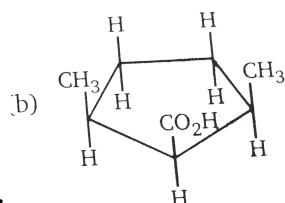
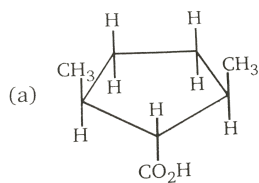
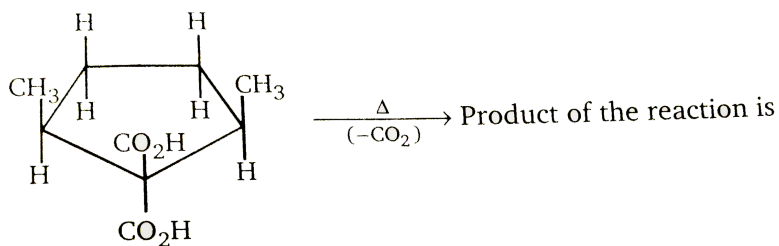
B. 1

C. 2

D. 3

Answer: B



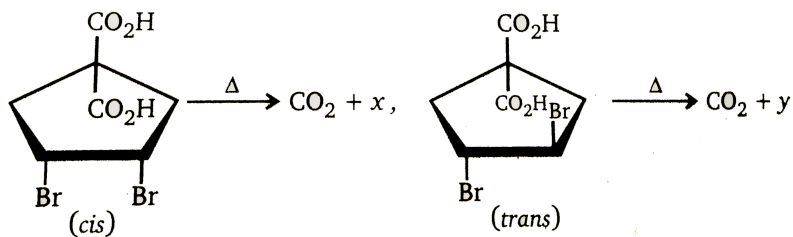


C. Both (a) and (b)

D. none of these

Answer: C

60. Products obtained in the given reactions are shown below.



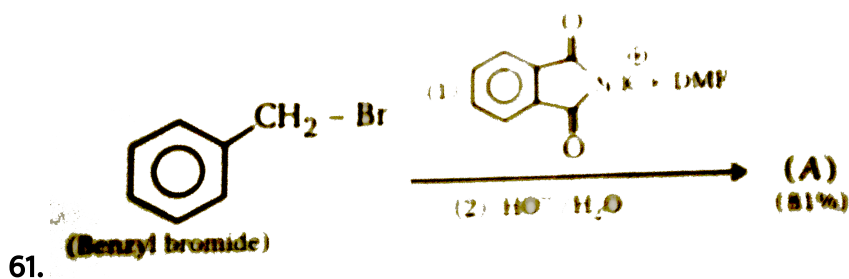
The number of possible products for x and y are:

- A. 1,1
- B. 1,2
- C. 2,1
- D. 2,2

Answer: C



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Product (A) of the above reaction is:

- A. $Ph - NH_2$
- B. $Ph - CH_2 - NH_2$
- C. $Ph - CH_2 - NH - CO_2H$
- D. $Ph - CH_2 - NH - CHO$

Answer: B

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62. Which of the following pair is C_2 -epimer?

- A. D-Glucose, D-Maltose

B. D-Glucose,D-Mannose

C. D-Allose,D-Ribose

D. D-Glucose,D-Arabinose

Answer: B



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63. Total number of enol possible for the compound formed during given reaction will be (including stereoisomer):



A. 2

B. 3

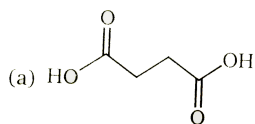
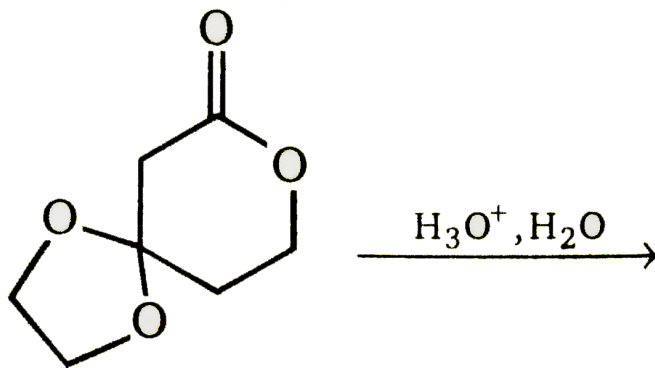
C. 4

D. 5

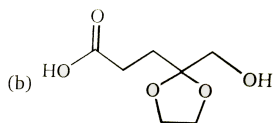
Answer: B



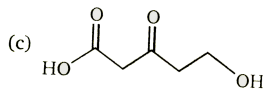
64. What is the product of the following reaction?



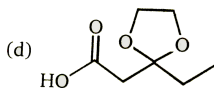
A.



B.

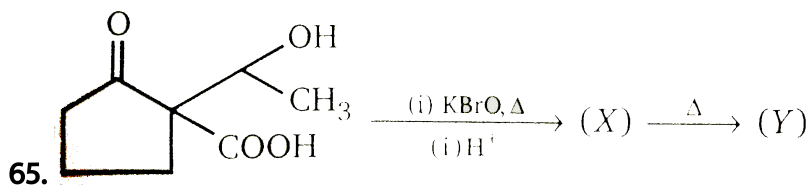


C.

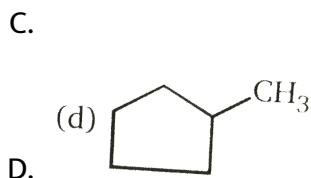
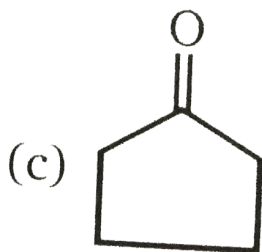
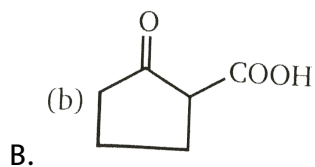
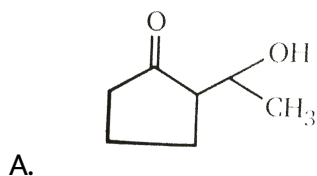


D.

Answer: C



Hence the product (Y) in the above sequence of reactions, is:



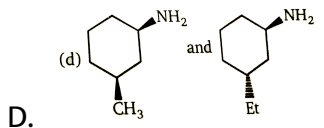
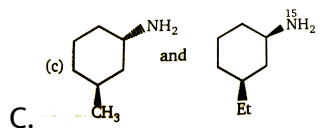
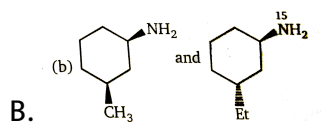
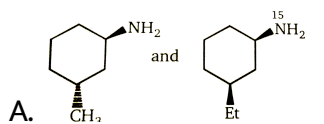
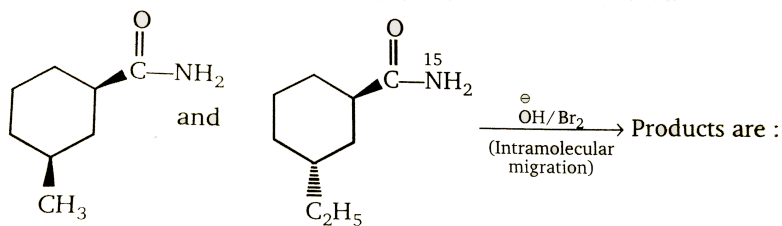
Answer: C



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66.

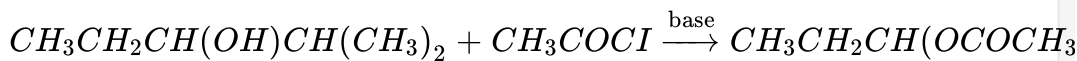


Answer: B



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67.



In the above reaction, if the reactant alcohol is a pure R-isomer the product would.

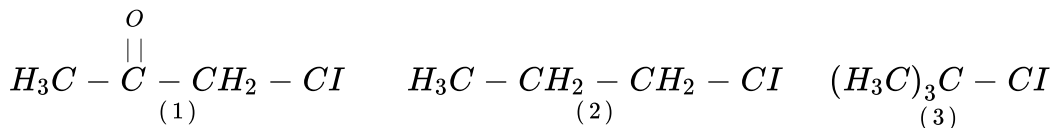
- A. have configuration inverted at the chiral atom
- B. be a racemic mixture
- C. have the same configuration at the chiral atom
- D. be optically inactive

Answer: C



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68. The order of S_N1 reactivity in aqueous acetic acid solution for the compounds



A. $1 > 2 > 3$

B. $1 > 3 > 2$

C. $3 > 2 > 1$

D. $3 > 1 > 2$

Answer: C



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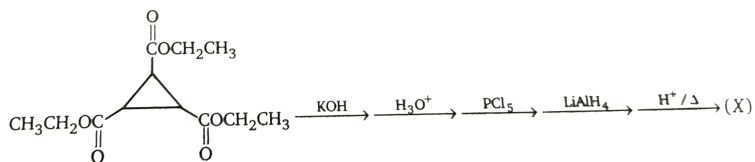
69. Match the column (I) and ((II). (Matrix)

| Column (I) | | Column (II) | |
|------------|--|-----------------|---------------------------------|
| Reaction | | Products formed | |
| (a) | | (p) | Diastereomers |
| (b) | | (q) | Racemic mixture |
| (c) | | (r) | Meso compound |
| (d) | | (s) | CO ₂ gas will evolve |



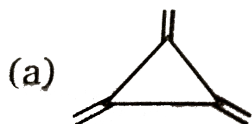
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Level 1 Q 1 To Q 30

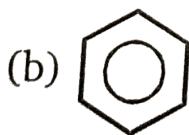


1. Product (X) is :

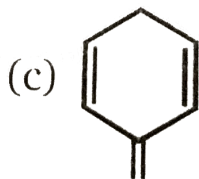
Product (X) is:



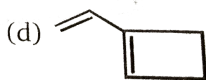
A.



B.



C.

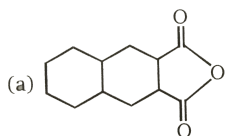
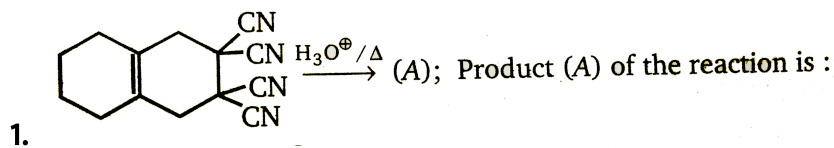


D.

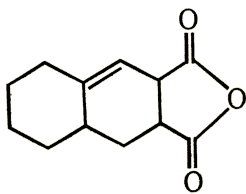
Answer: B



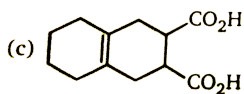
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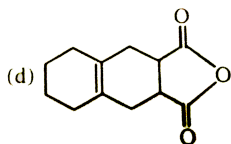
A.



B.



C.

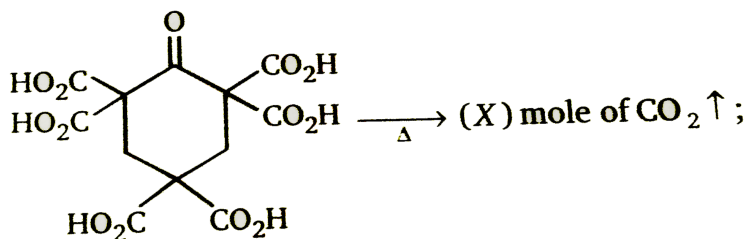


D.

Answer: D



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1.

(Y) is including stereoisomers. Value of (X+Y) will be



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