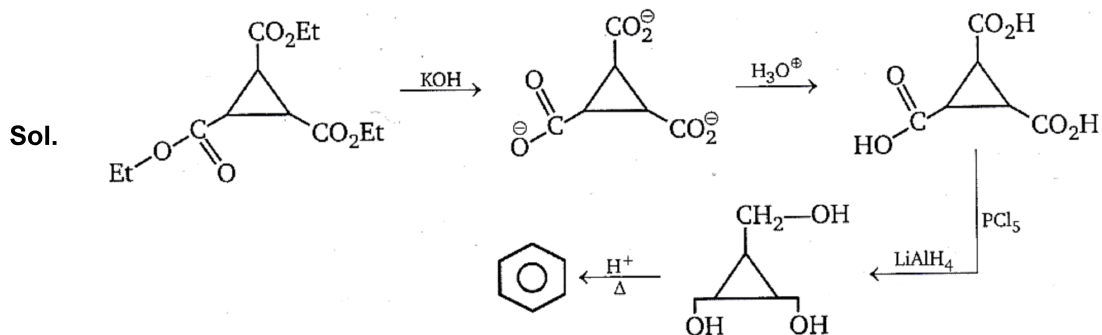
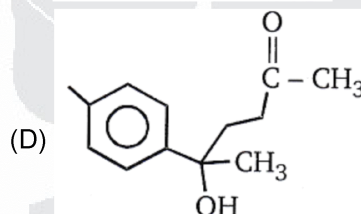
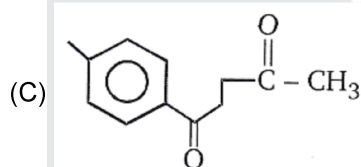
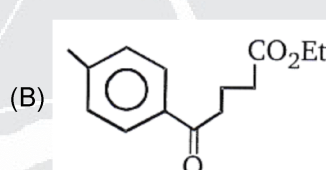
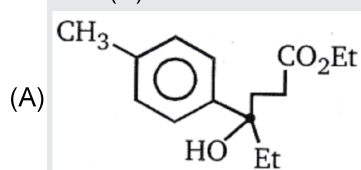
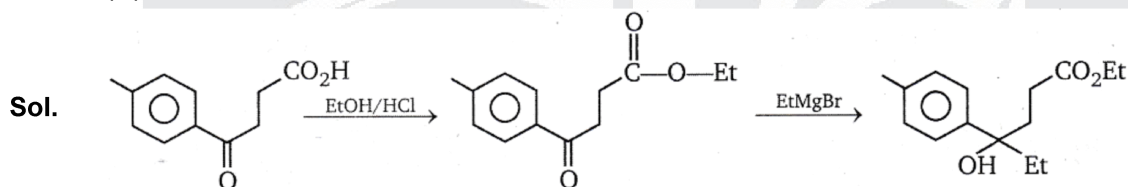


Product (A) of the reaction is

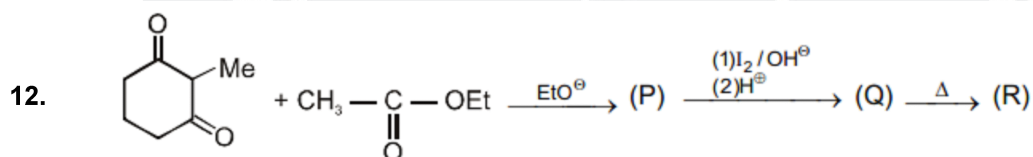


Ans. (A)

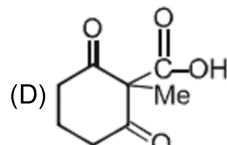
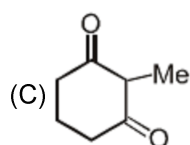
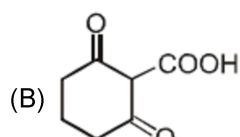
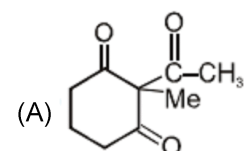


Ketone is more reactive than ester toward nucleophilic attack.

MCQ

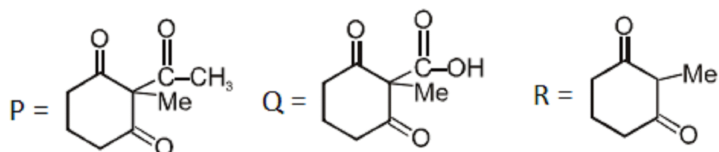


The products of the above reaction is / are :

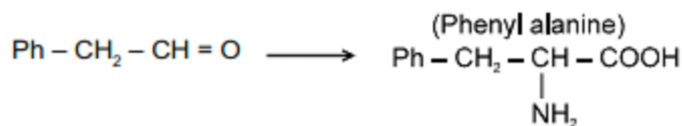


Ans. (ACD)

Sol. First nucleophilic addition-elimination reaction then haloform reaction followed by decarboxylation will gives R.

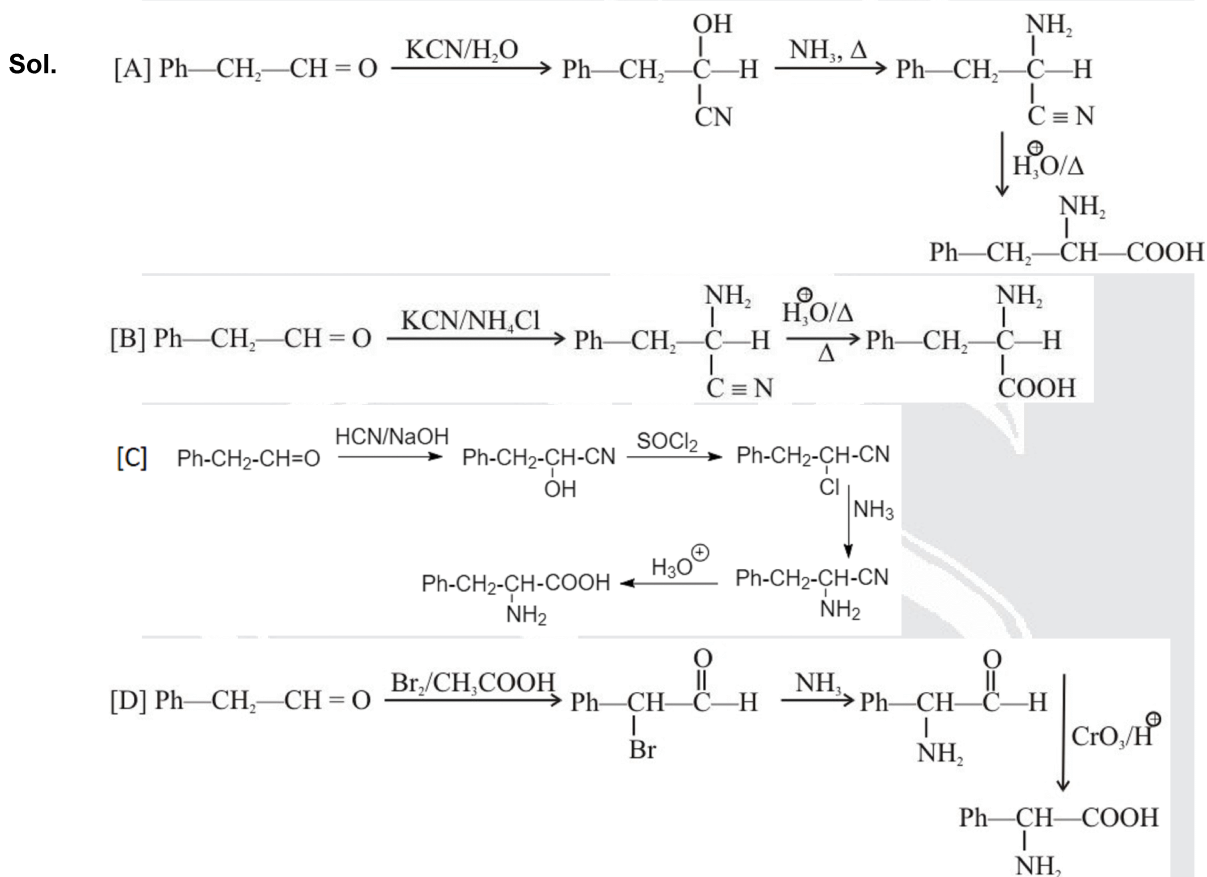


13. The following conversion is/are possible by

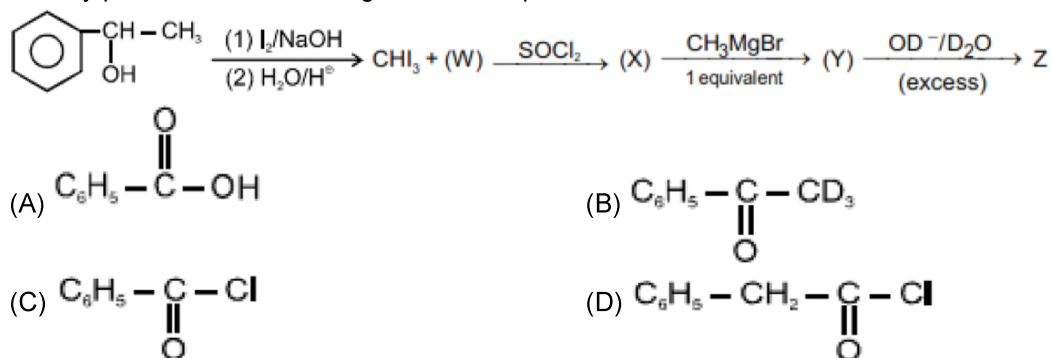


- (A) $\xrightarrow{\text{KCN} / \text{H}_2\text{O}} \xrightarrow{\text{NH}_3, \Delta} \xrightarrow{\text{H}_3\text{O}^+, \Delta}$
 (B) $\xrightarrow{\text{KCN} / \text{NH}_4\text{Cl}} \xrightarrow{\text{H}_3\text{O}^+, \Delta}$
 (C) $\xrightarrow{\text{HCN} / \text{NaOH}} \xrightarrow{\text{SOCl}_2} \xrightarrow{\text{NH}_3} \xrightarrow{\text{H}_3\text{O}^+, \Delta}$
 (D) $\xrightarrow{\text{Br}_2 / \text{CH}_3\text{COOH}} \xrightarrow{\text{NH}_3} \xrightarrow{\text{CrO}_3 / \text{H}^+}$

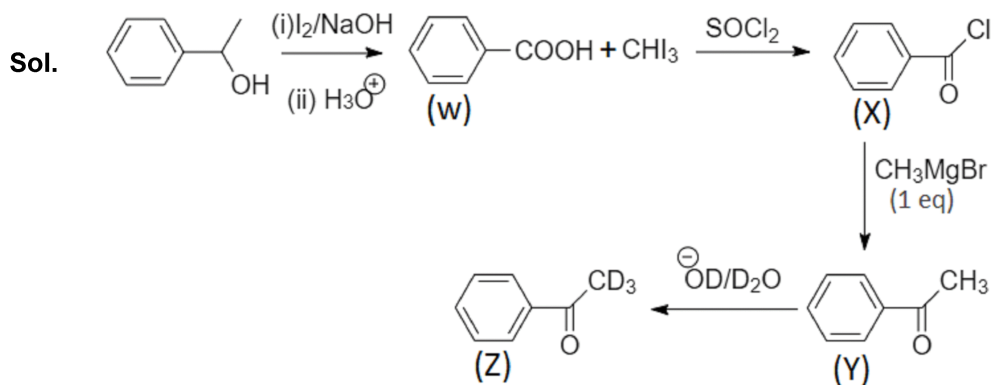
Ans. (ABC)



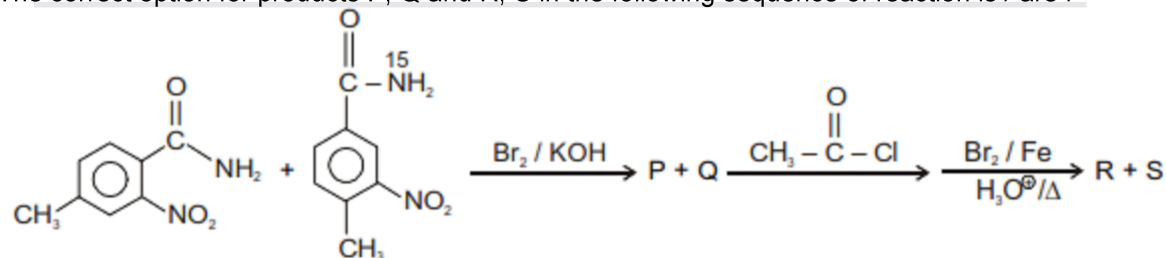
14. Identify product in the following reaction sequence



Ans. (ABC)

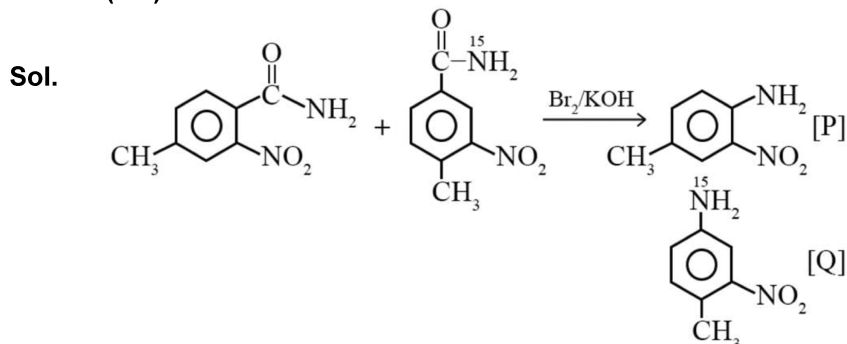


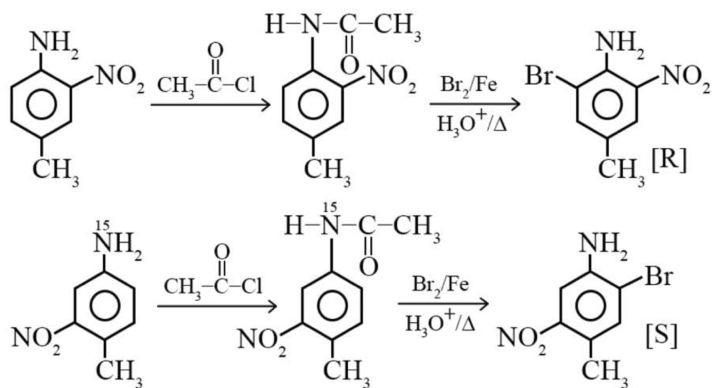
15. The correct option for products P, Q and R, S in the following sequence of reaction is / are :



- (A) P & Q are CC1=CC=C(C(=O)N)C=C1[N+](=O)[O-] + CC1=CC=C(C(=O)N)C=C1[N+](=O)[O-]
- (B) P & Q are CC1=CC=C(C(=O)N)C=C1[N+](=O)[O-] + CC1=CC=C(C(=O)N)C=C1[N+](=O)[O-]
- (C) R & S are CC1=CC=C(C(=O)N)C=C1[N+](=O)[O-] + CC1=CC=C(C(=O)N)C=C1[N+](=O)[O-]
- (D) R & S are CC1=CC=C(C(=O)N)C=C1[N+](=O)[O-] + CC1=CC=C(C(=O)N)C=C1[N+](=O)[O-]

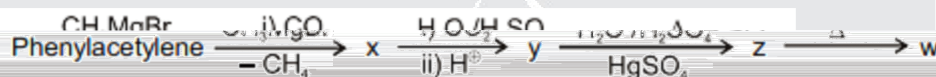
Ans. (BC)



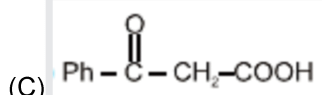
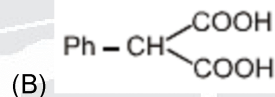
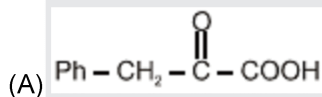


Comprehension for Question 16 to 18

Observe the following sequence of reaction and answer the questions based on it

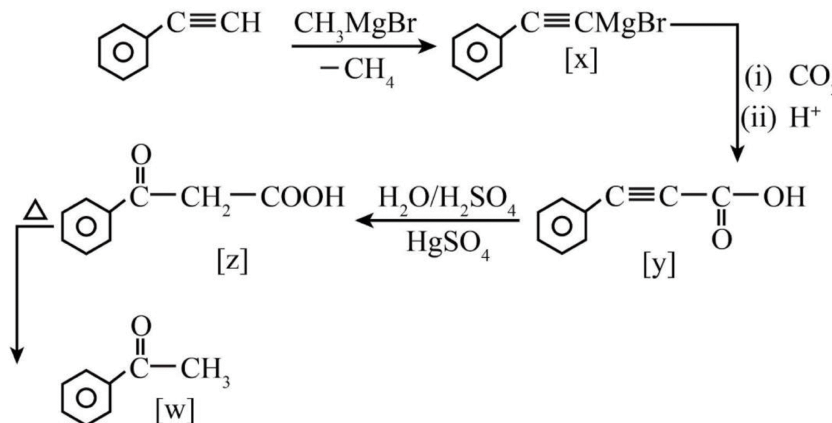


16. Compound z is:



Ans. (C)

Sol.



17. Which of the following statement is not correct

- (A) y decolourises $\text{Br}_2/\text{H}_2\text{O}$ solution
- (B) z on heating liberates CO_2 gas
- (C) w on reaction with NaOI gives yellow ppt
- (D) x liberates H_2 gas with Na metal

Ans. (D)

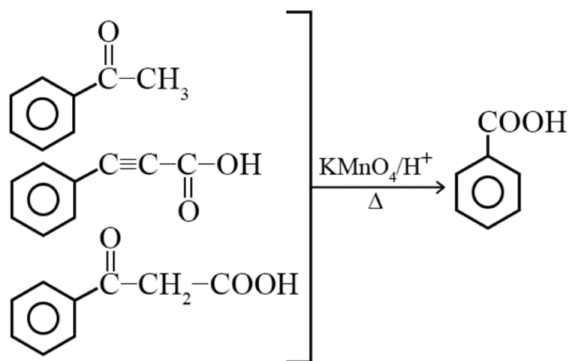
Sol. Y contained multiple C-C bond so it can decolourises $\text{Br}_2/\text{H}_2\text{O}$ solution. Z is beta keto acid which undergoes decarboxylation on heating. W is Acetophenone has methyl ketone group, can give haloform reaction. X do not contain any acidic hydrogen atom so not react with Na metal.

18. Which of the following compound give benzoic acid on KMnO_4 oxidation

- (A) w
- (B) y
- (C) z
- (D) all.

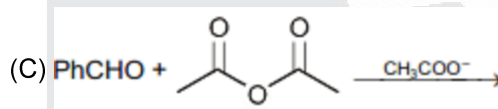
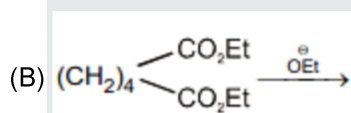
Ans. (D)

Sol.

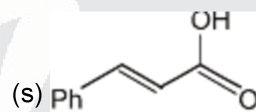
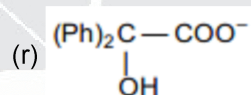
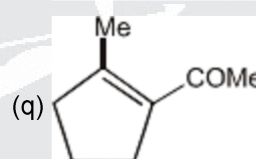
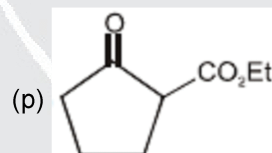


19. Match the column

Column I



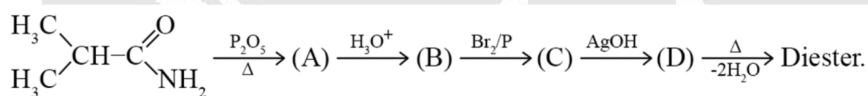
Column II



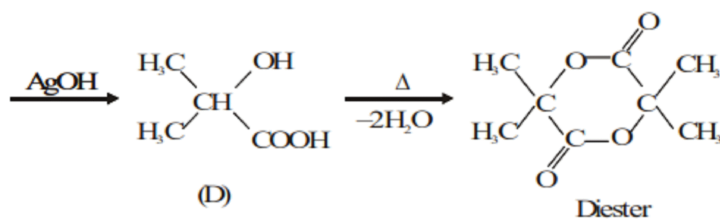
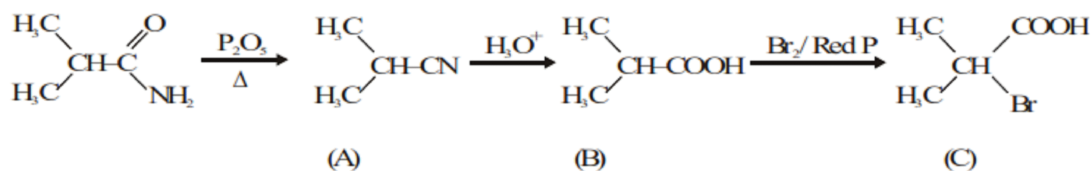
Ans. (A) – q, (B) – p, (C) – s, (D) – r

Sol. A : Intramolecular aldol condensation reaction. 1,6 diketo compound will give 5 membered alpha-beta unsaturated compound. (A) – q
 B : Intramolecular Claisen condensation. (B) – p
 C : Perkin condensation will give alpha-beta unsaturated acid. (C) – s
 D : Intramolecular cannizzaro's reaction. (D) – r

20. Complete the following sequence of reactions :



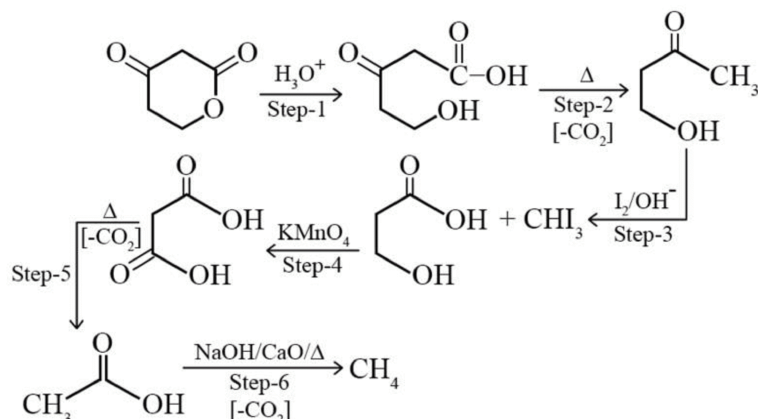
Sol.



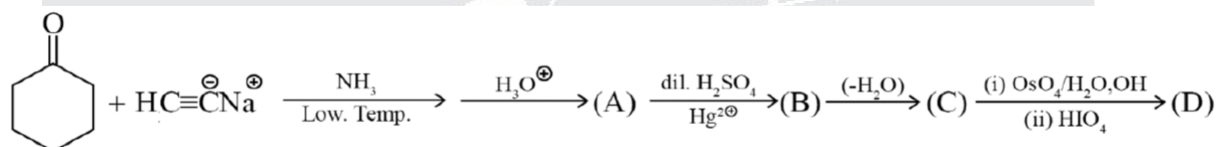
21. In how many steps decarboxylation reaction is taking place.



Sol.

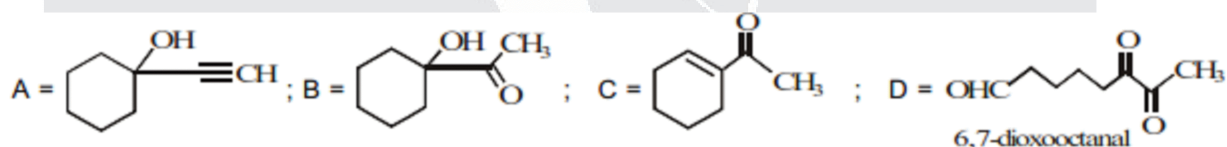


22. Complete the following reactions:



Write the structures of A to D and give the IUPAC name of (D).

Sol.



23. When acetone is treated with excess of benzaldehyde in the presence of base, the crossed condensation add two equivalents of benzaldehyde and expels two equivalent of water and forms [X]. Identify the structure of [X] when [X] reacts with NH₂OH how many stereoisomers are formed.

