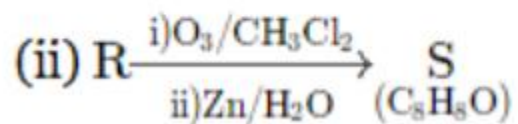
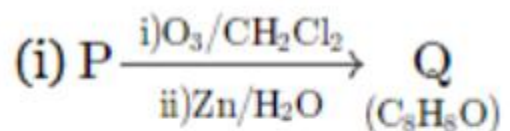


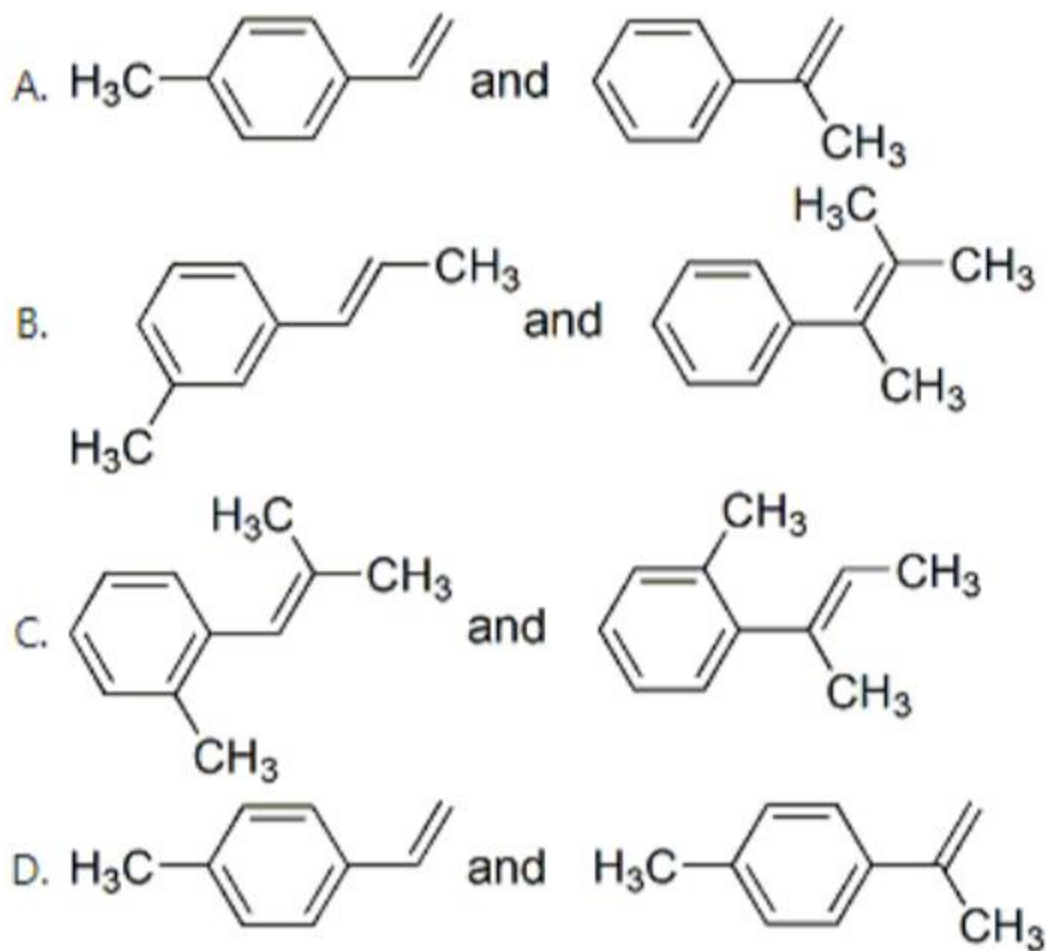
JEE Advanced Questions Based on Most Repeated Concepts of Aldehydes, Ketones, Carboxylic Acids

Q: Consider all possible isomeric ketones, including stereoisomers of MW = 100. All these isomers are independently reacted with NaBH_4 . (NOTE: stereoisomers are also reacted separately). What is the total number of ketones that give a racemic product(s)?

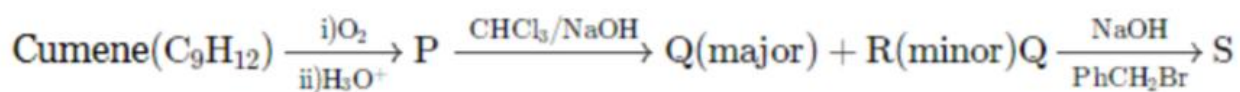
Q: Compounds P and R upon ozonolysis produce Q and S, respectively. The molecular formula of Q and S is $\text{C}_8\text{H}_8\text{O}$. Q undergoes Cannizzaro reaction but not haloform reaction, whereas S undergoes haloform reaction but not Cannizzaro reaction.



The option(s) with a suitable combination of P and R, respectively, is(are).

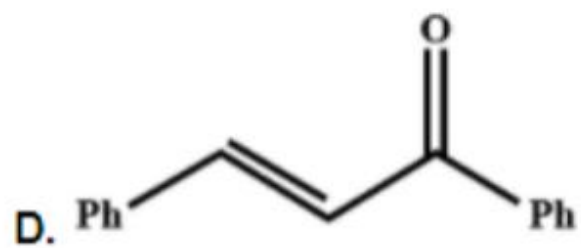
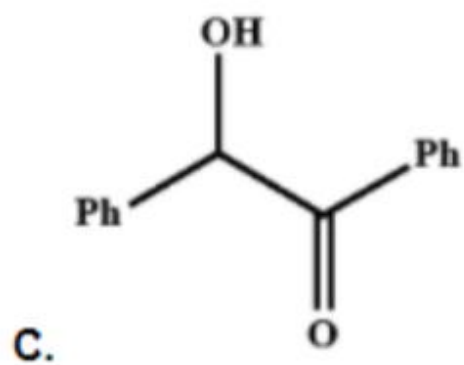
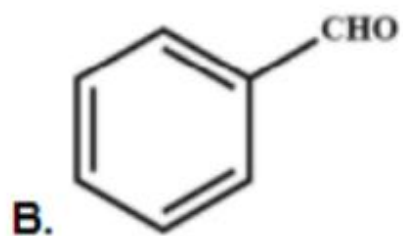
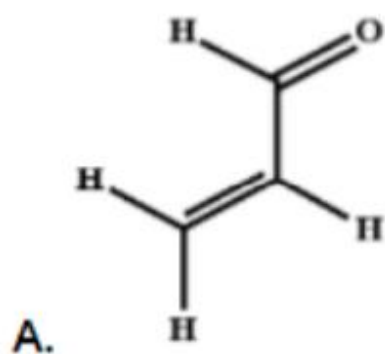


Q: The correct statement about the following reaction sequence is(are)

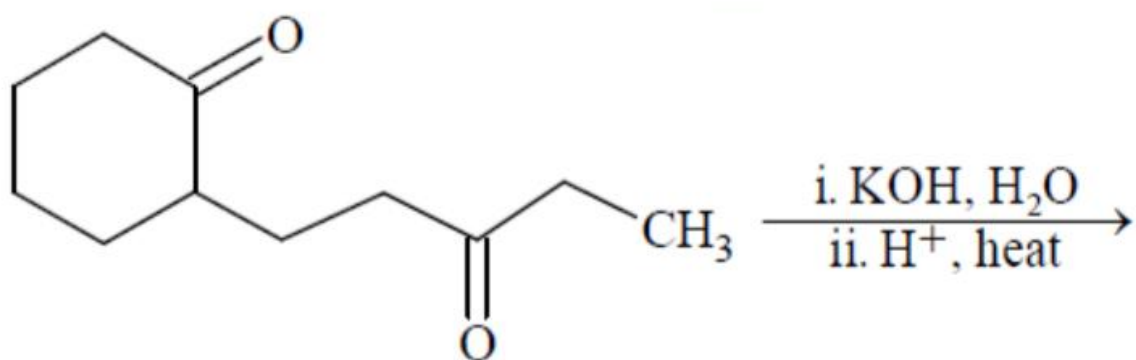


- A. R is steam volatile
- B. Q gives dark violet colouration with 1% aqueous FeCl_3 solution
- C. S gives a yellow precipitate with 2,4-dinitrophenylhydrazine
- D. S gives dark violet colouration with 1% aqueous FeCl_3 solution

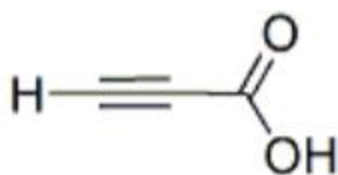
Q: Positive Tollens' test is observed for:



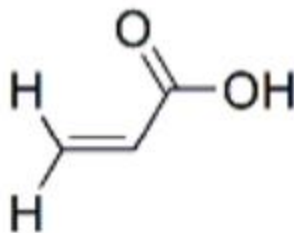
Q: The major product of the following reaction is:



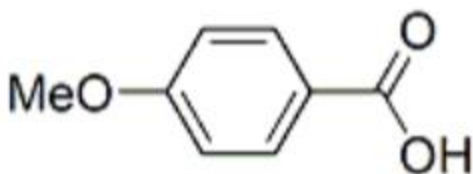
Q: The correct order of acid strength of the following carboxylic acids is:



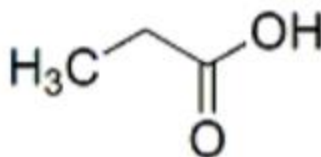
I



II



III

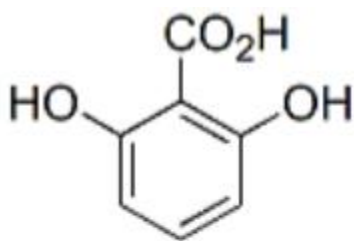


IV

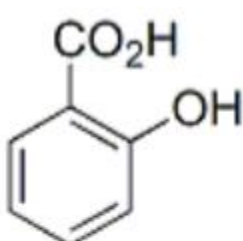
Q: Question 14. The sodium salt of an organic acid 'X' produces effervescence with conc. H_2SO_4 . 'X' reacts with the acidified aqueous CaCl_2 solution to give a white precipitate that decolourises the acidic solution of KMnO_4 . 'X' is

- A. $\text{C}_6\text{H}_5\text{COONa}$
- B. HCOONa
- C. CH_3COONa
- D. $\text{Na}_2\text{C}_2\text{O}_4$

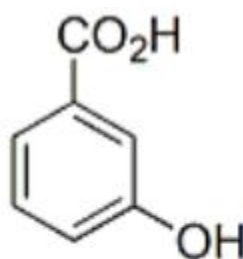
Q: The correct order of acidity for the following compound is:



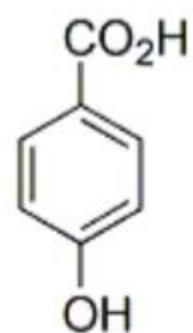
I



II



III

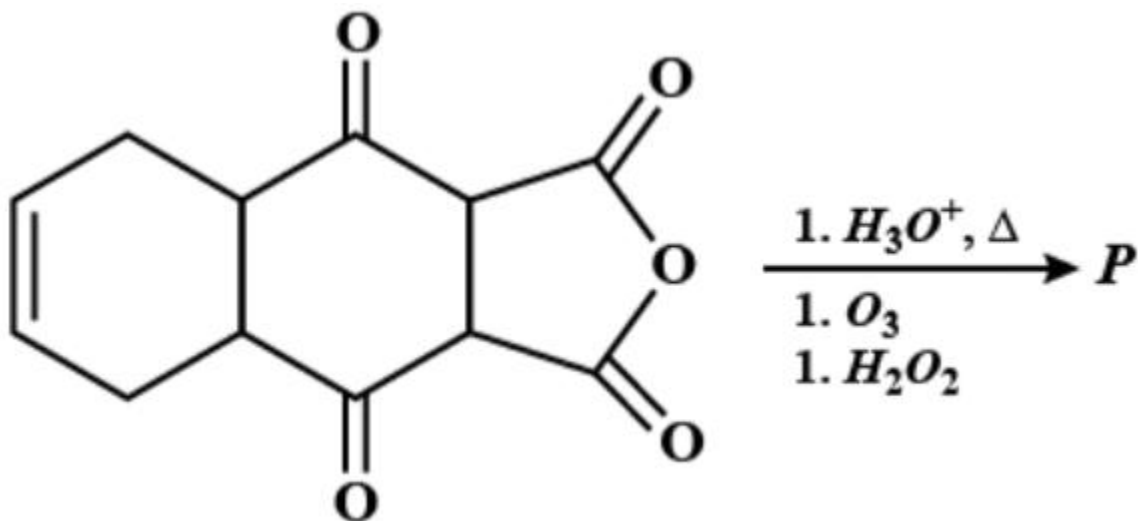


IV

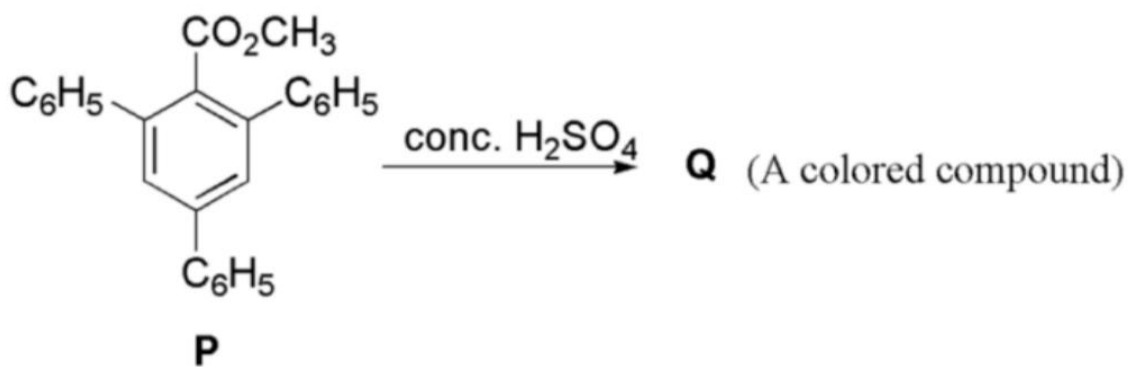
Q: The compound that does not liberate CO_2 , on treatment with aqueous NaHCO_3 solution, is:

- A. Benzoic acid
- B. Benzenesulphonic acid
- C. Salicylic acid
- D. Carbolic acid

Q: The total number of carboxylic acid groups in the product 'p' is (numeral) ____.



Q: In the following reaction, compound Q is obtained from compound P via an ionic intermediate.



What is the degree of unsaturation of Q?

Q: Reagent(s) which can be used to bring about the following transformation is/are:

