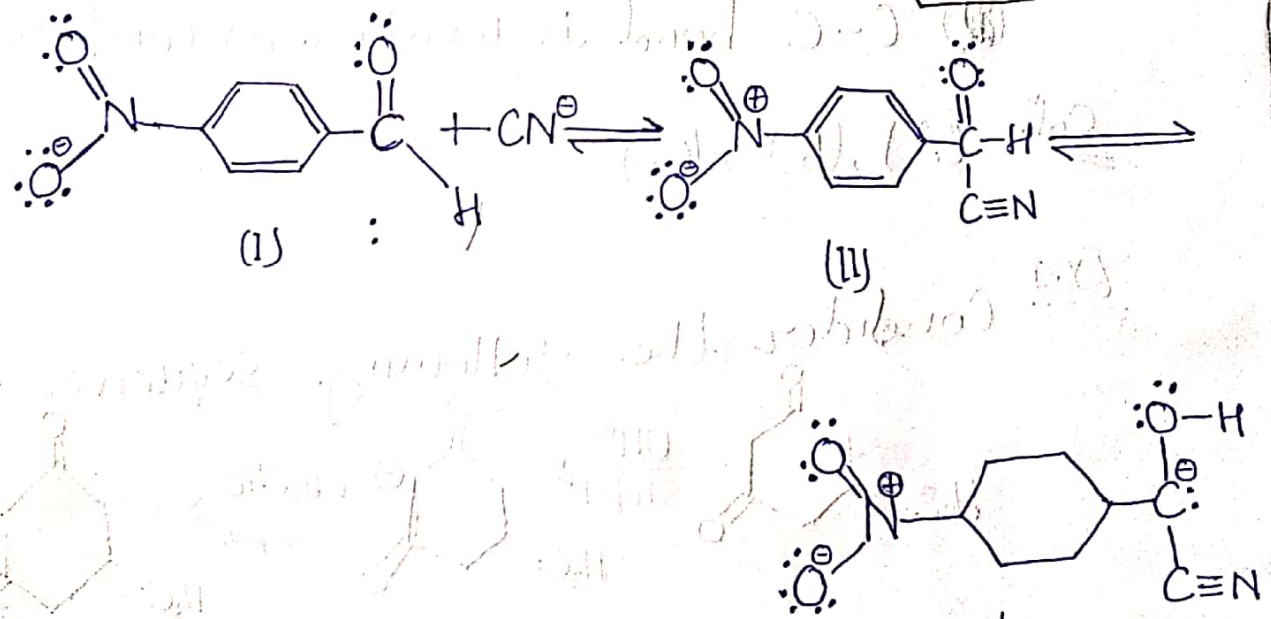


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Ex. 5 In which of the following substances, rate of Benzoin Condensation will be maximum?

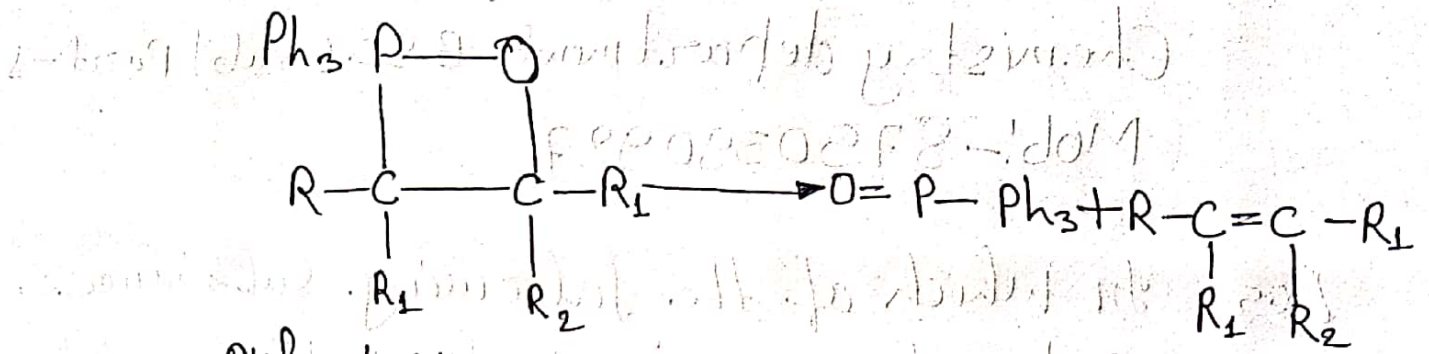
- (A) O=[N+]([O-])c1ccc(C=O)cc1 (B) Cc1ccc(C=O)cc1  
 (C) Oc1ccc(C=O)cc1 (D) Nc1ccc(C=O)cc1

Sol<sup>n</sup>



Benzoin Condensation is due to stability of intermediate (III) when negative charge on C extensively delocalised in benzene ring, nitro and  $\text{C}\equiv\text{N}$  group. In all other cases, such dispersal is not extensively possible. On the other hand,  $\text{NO}_2^-$  is also creating a positive charge center on carbonyl carbon, making it more susceptible to nucleophilic attack of  $\text{CN}^-$ .

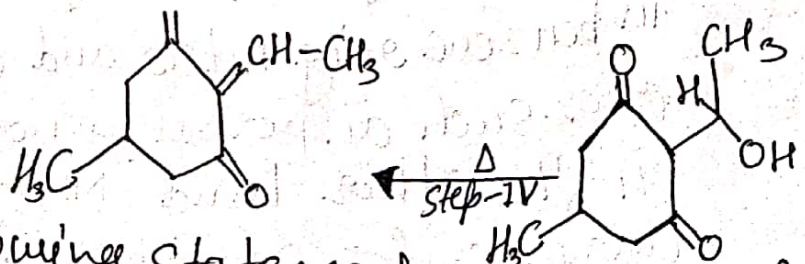
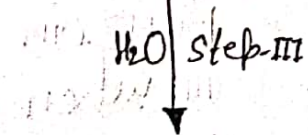
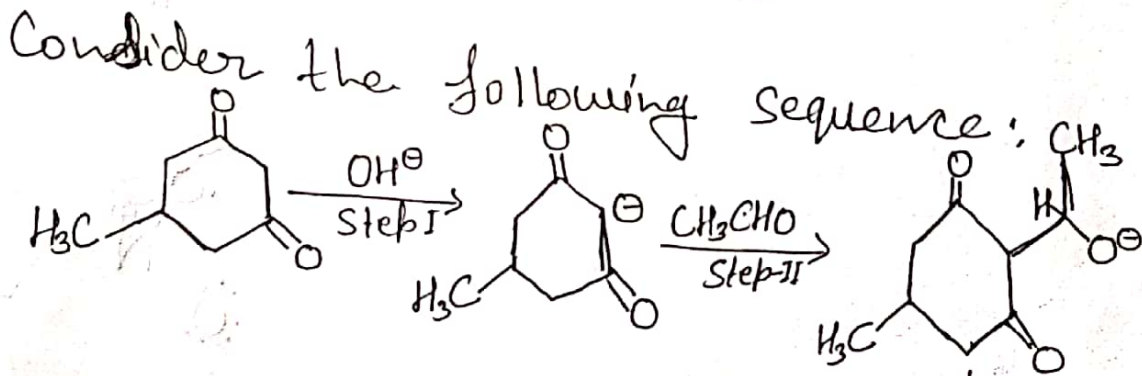
Ex. 6. This intermediate is converted into product in the Wittig reaction, describe.



- Out of following which statements are correct?
- (A) C-O bond is weaker as compared to P-O bond
  - (B) Lone pair of oxygen atom participate in  $\pi$ - $d\pi$  bonding with phosphorous atom
  - (C) C-P bond is weaker as compare to C-C bond
  - (D) C-C bond is weaker as compare to C-O bond

Sol<sup>n</sup> (A), (B), (C)

Ex-7



Which of following statements are correct for above reaction sequence?

(A) Step I is acid-base reaction

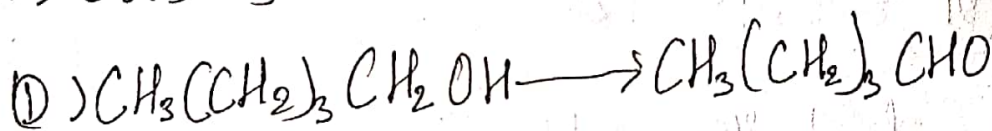
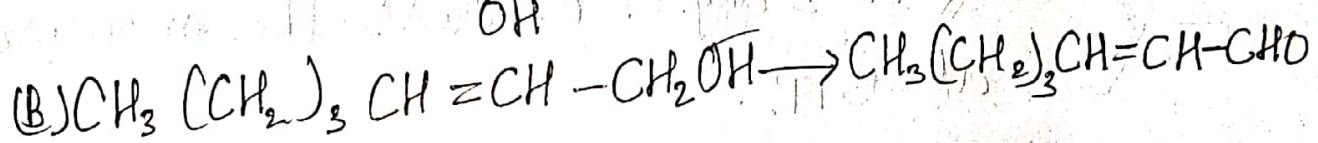
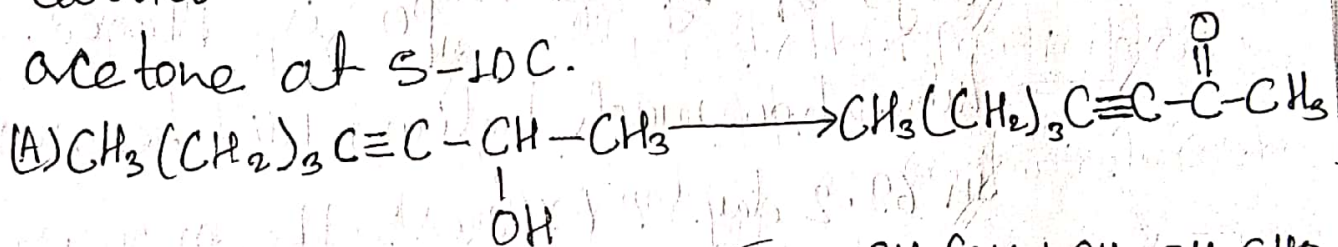
(B) Step II is nucleophilic addition reaction

(C) Step III is acid base reaction

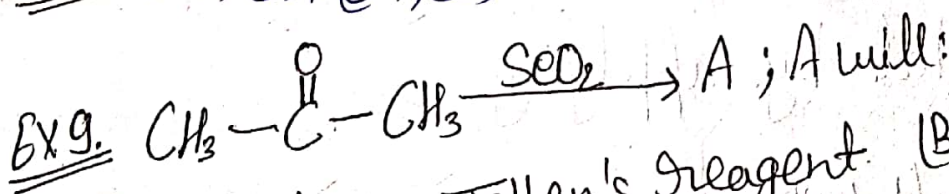
(D) Step IV is elimination reaction

Sol<sup>n</sup> (A), (B), (C), (D)

Ex. 8 which of the following oxidation reaction can be carried out with chromic acid in aqueous acetone at 5-10°C.



Sol<sup>n</sup> (A), (B), (C), (D)



(A) Reduce Tollen's reagent (B) Give iodoform test

(C) Form oxime (D) Give Cannizzaro reaction

Sol<sup>n</sup>  $\text{SeO}_2$  oxidises  $-\alpha-\text{CH}_2-$  w.r.t. keto group

∴ (A), (B), (C) and (D)