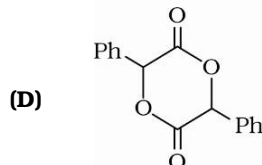
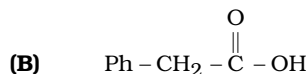
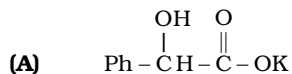


Date Planned : __ / __ / __	Daily Tutorial Sheet-8	Expected Duration : 30 Min
Actual Date of Attempt : __ / __ / __	Level-2	Exact Duration : _____



97. The self aldol condensation of acetone is in equilibrium with its ketol. Which of the following conditions is most likely to shift the position of equilibrium towards forward direction?

- (A) By using a catalytic amount of NaOH
(B) By using only a catalytic amount of acetone
(C) By removing product A as soon as it is formed by heating
(D) By using acid instead of base

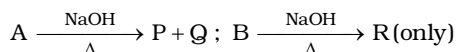
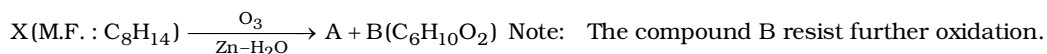
98. How many aldol products are possible when 2-butanone and acetaldehyde reacts in presence of dilute base?

- (A) 4 (B) 5 (C) 6 (D) 7

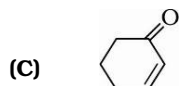
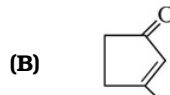
PARAGRAPH FOR QUESTIONS 99 - 100

In hydrocarbons, one of the best ways to identify the position of a double/triple bond is to do reductive ozonolysis to give carbonyl compounds. The carbonyl compounds having two α -H usually give a stable (α, β -unsaturated carbonyl) compounds on heating in alkaline medium. This is referred to as aldol condensation reaction.

Using the above two reactions, an organic compound with molecular formula, C₈H₁₄ was analysed as follows :

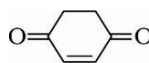
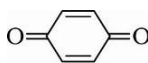
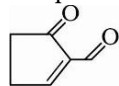


99. The possible structure of compound (R) is :

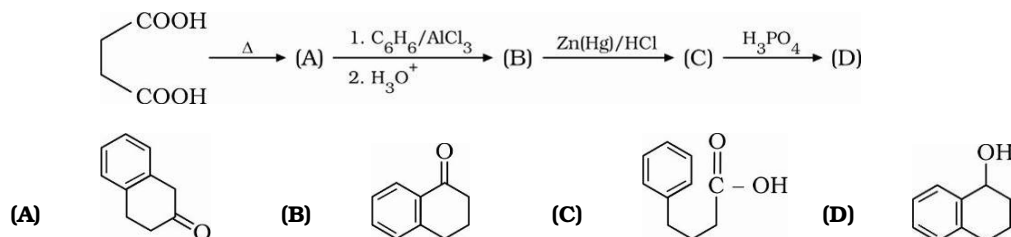


(D) None of these

100. Now if (R) is ozonolysed in presence of Zn - H₂O and the product is heated with NaOH, it gives a compound S. The structure of (S) is :



101. Identify the end product D :



FOR QUESTIONS 26 TO 29

- (A) Statement 1 is true, Statement 2 is true and Statement 2 is a correct explanation for Statement 1
 (B) Statement 1 is true, Statement 2 is true and Statement 2 is NOT a correct explanation for Statement 1
 (C) Statement 1 is true, Statement 2 is false
 (D) Statement 1 is false, Statement 2 is True
102. **Statement-1 :** $\text{Me}_3\text{C}-\text{COMe}$ and MeCOMe can be distinguished by reaction with NaHSO_3 .
Statement-2 : HSO_3^- is the nucleophile in bisulphite addition.
103. **Statement-1 :** Aldol condensation can be catalysed both by acids and bases.
Statement-2 : Aldols are dehydrated by heating in presence of base via E1cB path.
104. **Statement-1 :** Aldehydes possessing α -H atoms usually do not undergoes the Cannizzaro reaction under its reaction condition.
Statement-2 : Cannizzaro reaction goes via hydride ion transfer mechanism.
105. **Statement-1 :** Aldehydes are oxidised to acids by Tollen's reagent.
Statement-2 : Tollen's reagent is a strong oxidising agent.