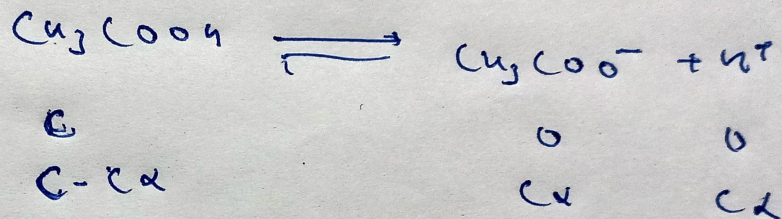


Q 4. 0.01 M Solution of Acetic Acid is 5% ionised at 25°C. Calculate its dissociation constant

Solⁿ Ostwald's Dilution law's



$$K = \frac{\alpha^2 C}{1 - \alpha} \quad \text{as } C = 0.01 \quad \alpha = 0.05$$

so we can't ignore

$$\begin{aligned} K &= \frac{(0.05) \times (0.05) \times 0.01}{(1 - 0.05)} \\ &= 2.63 \times 10^{-5} \quad \underline{\underline{\text{Ans}}} \end{aligned}$$