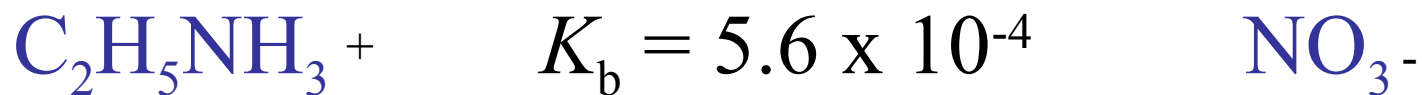
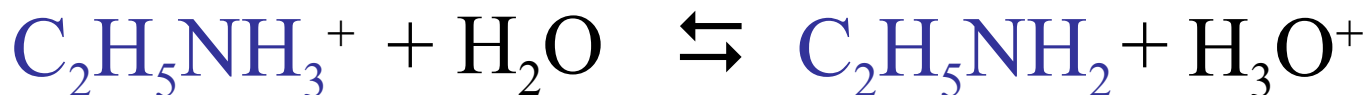


Calculate the pH of a **0.10** M $\text{C}_2\text{H}_5\text{NH}_3\text{NO}_3$ solution



weak base

strong acid



$$K_a \times K_b = K_w = 1.0 \times 10^{-14} \quad K_a = 1.8 \times 10^{-11}$$

$$1.8 \times 10^{-11} = \frac{[\text{H}_3\text{O}^+][\text{C}_2\text{H}_5\text{NH}_2]}{[\text{C}_2\text{H}_5\text{NH}_3^+]} = \frac{x^2}{0.1}$$

$$x = 1.34 \times 10^{-6} \quad \text{pH} = \mathbf{5.87}$$