Question #46389, Chemistry, Physical Chemistry

0.1 M of HCl and 0.1M of CH3COOH each of 100ml are mixed. Find the pH of solution.

Answer:

In a solution containing a mixture of weak and strong acids, the hydrogen ion concentration is determined by the concentration of a strong acid.

$$pH=-lgC(HCl)$$

because solution volume increased by 2 times, then the concentration of hydrochloric acid in 2-fold decrease:

$$C(HCl)= 0.1M /2 = 0.05 M$$

$$pH= -lg(0.05) = \textbf{4.32}$$