Answer on Question #56243 - Chemistry – Inorganic Chemistry

Question

In a typical titration experiment a student titrates a 5.00 ml sample of formic acid with 26.59 ml of 0.1088 m NaOH. At this point the indicator turns pink. Calculate the concentration of formic adic in the original sample.

Answer:

At equivalence point:

$$C(HCOOH) \cdot V(HCOOH) = C(NaOH) \cdot V(NaOH)$$

The concentration of formic acid in the original sample:

$$C(HCOOH) = \frac{C(NaOH) \cdot V(NaOH)}{V(HCOOH)} = \frac{0.1088 \cdot 26.59}{5.00} = 0.579 \frac{mol}{L} = 0.579\ M$$

Answer: 0.579 M