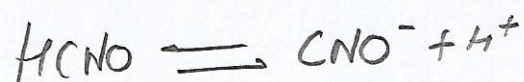


1

Valencia 2006



[eq

$$0.04 - x \quad 0.06 + x \quad x$$

$$K_a = \frac{(0.06 + x) x}{(0.04 - x)} = 2.13 \cdot 10^{-4}$$

o desprecia

$$0.06x + x^2 = 2.13 \cdot 10^{-4}$$

$$x^2 + 0.06x - 2.13 \cdot 10^{-4} = 0$$

$$x = \frac{-0.06 \pm \sqrt{0.06^2 - 4 \cdot (-2.13 \cdot 10^{-4})}}{2} = 3.36 \cdot 10^{-3} \text{ [H}^+]$$

$$\boxed{\text{pH} = 2.47} \quad \swarrow \quad \text{pH} = -\log[\text{H}^+]$$

b) Diluyo 100 veces

$$[\text{H}^+] = \frac{3.36 \cdot 10^{-3}}{100} = 3.36 \cdot 10^{-5}$$

$$\boxed{\text{pH} = 4.47}$$