

579. Kolika je koncentracija H^+ jona (mol/L) u rastvoru sirćetne kiseline, koncentracije 0,01 mol/L i konstante disocijacije $1,8 \cdot 10^{-5}$?

$$[H^+] = ?$$

$$c = 0.01 \frac{\text{mol}}{\text{dm}^3} = 10^{-2} \frac{\text{mol}}{\text{dm}^3}$$

$$k = 1.8 \cdot 10^{-5} \frac{\text{mol}}{\text{dm}^3}$$

$$k = \alpha^2 c$$

$$\alpha^2 = \frac{k}{c}$$

$$\alpha = \sqrt{\frac{k}{c}}$$

$$\alpha = \sqrt{\frac{1.8 \cdot 10^{-5} \frac{\text{mol}}{\text{dm}^3}}{0.01 \frac{\text{mol}}{\text{dm}^3}}}$$

$$\alpha = \sqrt{1.8 \cdot 10^{-3}}$$

$$\alpha = 4.24 \cdot 10^{-2}$$

$$[H^+] = \alpha \cdot c$$

$$[H^+] = 4.24 \cdot 10^{-2} \cdot 10^{-2} \frac{\text{mol}}{\text{dm}^3}$$

$$[H^+] = 4.24 \cdot 10^{-4} \frac{\text{mol}}{\text{dm}^3}$$