

Ascorbinezuur (Vitamine C) bevat 40,91% koolstof , 4,59% waterstof en 54,50% zuurstof. Bereken de minimale formule?

Oplossing

100 g ascorbinezuur bevat:

$$\begin{array}{l} 40,91 \text{ g C} \\ \frac{40,91 \text{ g}}{12,011 \frac{\text{g}}{\text{mol}}} = 3,406 \text{ mol C} \end{array}$$

$$\begin{array}{l} 4,59 \text{ g H} \\ \frac{4,59 \text{ g}}{1,0079 \frac{\text{g}}{\text{mol}}} = 4,554 \text{ mol H} \end{array}$$

$$\begin{array}{l} 54,50 \text{ g O} \\ \frac{54,50 \text{ g}}{15,9994 \frac{\text{g}}{\text{mol}}} = 3,406 \text{ mol O} \end{array}$$

$$\frac{3,406 \text{ mol}}{3,406} = 1,000 \text{ mol C}$$

$$\frac{4,554 \text{ mol}}{3,406} = 1,337 \text{ mol H}$$

$$\frac{3,406 \text{ mol}}{3,406} = 1,000 \text{ mol O}$$

$$1,000 \text{ mol} \cdot \mathbf{3} = 3,000 \text{ mol C}$$

$$1,337 \text{ mol} \cdot \mathbf{3} = 4,011 \text{ mol H}$$

$$1,000 \text{ mol} \cdot \mathbf{3} = 3,000 \text{ mol O}$$

3

4

3

De minimale formule is dus **C₃H₄O₃** .