**1**

$m_{solut} = 10\,g$ clorur de sodi
$V_{dissolvent} = 350\,mL$ aigua
$C\,(g/L) = ?$

$$C_m = \frac{\text{massa solut}}{\text{volum dissolució}}$$

Suposem que a l'afegir el solut no canvia el volum total, que expressat en litres serà:

$$350\,\cancel{mL} \cdot \frac{1\,L}{1000\,\cancel{mL}} = \frac{350}{1000} = 0{,}35\,L$$

Per tant:

$$C_m = \frac{10\,g \text{ clorur de sodi}}{0{,}35\,L} = 28{,}57\,g/L$$

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**2**

% massa = ?

$$\%\,m = \frac{\text{massa solut}}{\text{massa dissolució}} \cdot 100$$

$m = 30\,g$ solut
$V_{dissolvent} = 1\,L$ aigua → com sé la massa? Utilitzant densitat aigua = 1 g/mL

$$1\,L \text{ aigua} \cdot \frac{1000\,mL}{1\,L} \cdot \frac{1\,g}{1\,mL} = 1000\,g \text{ aigua}$$

$$\%\,\text{massa} = \frac{30\,g \text{ solut}}{(1000\,g + 30\,g)} \cdot 100 = \frac{3000}{1030} = 2{,}91\,\%$$

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**3**

$C_m = 15\,g/L$
$V_{dissolució} = 250\,cm^3 \rightarrow L$

$$C_m = \frac{\text{massa solut}}{\text{volum dissolució}} \Rightarrow 15\,g/L = \frac{m_{solut}}{0{,}25\,L}$$

$$m_{solut} = 15 \cdot 0{,}25$$

$$250\,cm^3 \cdot \frac{1\,dm^3}{1000\,cm^3} \cdot \frac{1\,L}{1\,dm^3} = \frac{250}{1000} = 0{,}25\,L$$

$$m_{solut} = 3{,}75\,g$$

5

a) % massa = ?

$m = 30\,g$ clorur de sodi

$V = 0{,}5\,l$ aigua $= 0{,}5\,kg$ aigua $= 500\,g\ H_2O$

$$\%\ massa = \frac{m\ solut}{m\ dissolució} \cdot 100$$

$$\%\ massa = \frac{30\,g}{(500 + 30)} \cdot 100$$

$$\%\ massa = \frac{3000}{530} = 5{,}66\%$$

b) $m_{solut}$ ?

$V = 200\,cm^3\ H_2O = 200\,mL = 200\,g$

% 5,66

$$\%_m = \frac{m_{solut}}{m_{dissol.}} \cdot 100$$

$$5{,}66 = \frac{m_{solut}}{(200 + m_{solut})} \cdot 100$$

$$5{,}66\,(200 + m_{solut}) = 100\,m_{solut}$$

$$1132 + 5{,}66\,m_{solut} = 100\,m_{solut}$$

$$1132 = 94{,}34\,m_{solut}$$

$$m_{solut} = \frac{1132}{94{,}34}$$

$$m_{solut} = 11{,}99 \simeq 12\,g$$