TO

1 -

$MM\ KMnO_4 = 1 \times 39,1 + 1 \times 54,94 + 4 \times 16,0$

$= 158.03\ g/mole$

$V = 50\ mL$

$[KMnO_4] = 4 \times 10^{-4}\ M$

$[C] = \frac{n^o\ moles}{Volume}$

$n^o\ moles\ KMnO_4 = [KMnO_4] \times Volume$

$= 4 \times 10^{-4}\ M \times 50 \times 10^{-3}\ L$

$= 2 \times 10^{-5}\ moles$

$massa\ KMnO_4 = 2 \times 10^{-5} \times 158,03 = 3,16 \times 10^{-3}\ g$

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$C_1 V_1 = C_2 V_2$

V_1 - volume a pipetar

$4 \times 10^{-4}\ M \times V_1 = 2 \times 10^{-4}\ M \times 10\ mL$

$V_1 = 5\ mL$

TO

2) $A = \varepsilon l C$

$\varepsilon l \Rightarrow$ igual nos 2 casos

$A_1 \quad - \quad C_1$

$A_2 \quad - \quad C_2$

$0,88 \quad - \quad 4 \times 10^{-4}$

$A_2 \quad - \quad 2 \times 10^{-4}$

$A_2 = 0,44$

I2

1- $m_{salicílico} = 2{,}00\ g$

$MM_{salicílico} = 138{,}121\ g\ mol^{-1}$

$m_{aspirina} = 1{,}90\ g$

$MM_{aspirina} = 180{,}158\ g\ mol^{-1}$

$$\%\ Rendimento = \frac{m_{aspirina}}{m_{salicílico}} \times 100$$

$$= \frac{1{,}9 / 180{,}158}{2 / 138{,}121} \times 100 = 72{,}8\ \%$$

2 - $d = 1{,}08\ g\ mL^{-1}$

$10\ \mu L \Rightarrow 1{,}08 \times 10 = 10{,}8\ g$

$$m_{salicílico} = \frac{5}{138{,}121} = 0{,}036\ mole$$

$$m_{anidrido} = \frac{10{,}8}{102{,}09} = 0{,}106$$

$$Excesso\ anidrido = (0{,}106 - 0{,}036) \times 102{,}09$$

$$= 7{,}1\ g$$