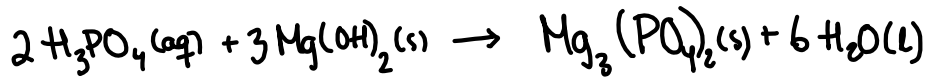


11 c.

$$V(\text{H}_3\text{PO}_4) = ?$$

$$V = \frac{n}{c}$$

$$c(\text{H}_3\text{PO}_4) = 0,075 \frac{\text{mol}}{\text{l}}$$

$$m(\text{Mg}(\text{OH})_2) = 130 \text{ mg} = 0,130 \text{ g}$$

$$c = \frac{n}{V}$$

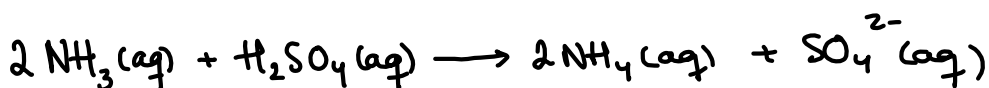
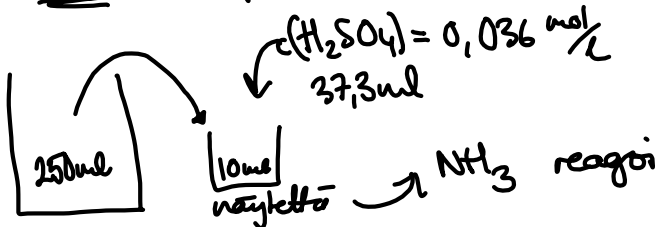
$$n(\text{Mg}(\text{OH})_2) = \frac{m}{M} = 0,0022288 \text{ mol}$$

$$n = \frac{m}{M}$$

$$\frac{n(\text{H}_3\text{PO}_4)}{n(\text{Mg}(\text{OH})_2)} = \frac{2}{3} \rightarrow n(\text{H}_3\text{PO}_4) = \frac{2}{3} n(\text{Mg}(\text{OH})_2) = 0,00148585 \text{ mol}$$

$$V(\text{H}_3\text{PO}_4) = \frac{n}{c} = 0,01981 \text{ l} \approx \underline{\underline{20 \text{ ml}}}$$

2.18 $m(\text{puhdistusaine}) = 25,37 \text{ g}$, $V_0 = 250 \text{ ml}$



$$n(\text{H}_2\text{SO}_4) = c \cdot V = 0,036 \frac{\text{mol}}{\text{l}} \cdot 0,0373 \text{ l} = 0,0013428 \text{ mol}$$

$$n(\text{NH}_3) = 2 \cdot n(\text{H}_2\text{SO}_4) = 0,0026856 \text{ mol}$$

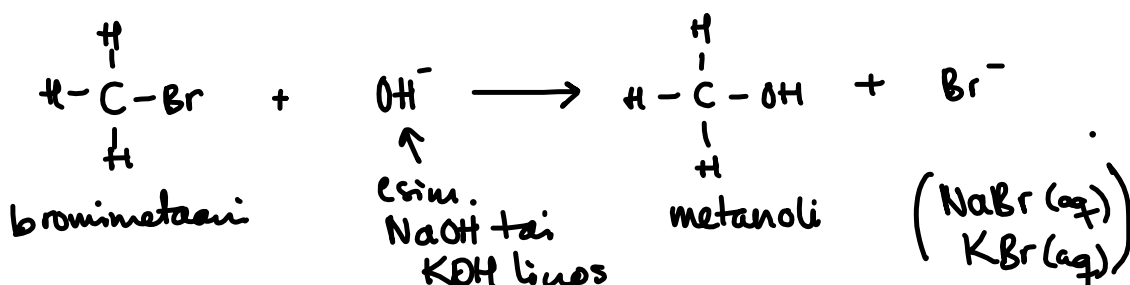
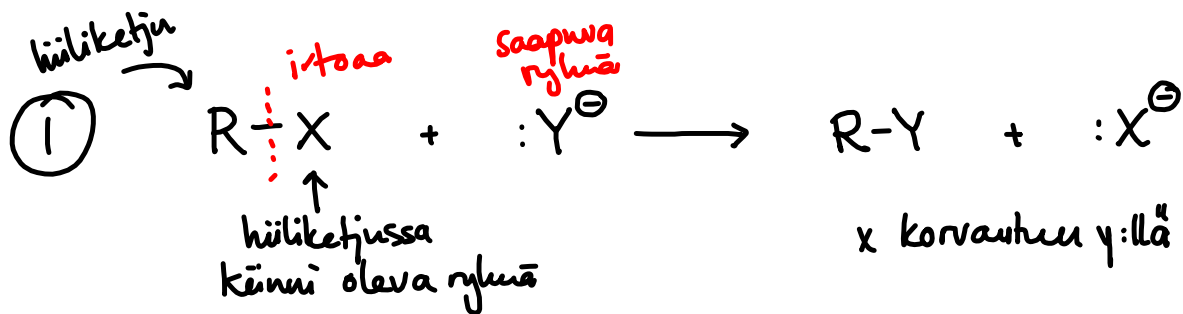
alkup. 25,37g näytteenä $\frac{250 \text{ ml}}{10 \text{ ml}} = 25$ - kertainen määrä

$$n_0(\text{NH}_3) = 25 \cdot n(\text{NH}_3) = 0,06714 \text{ mol}$$

$$m_0(\text{NH}_3) = n_0 \cdot M = 1,1437 \text{ g}$$

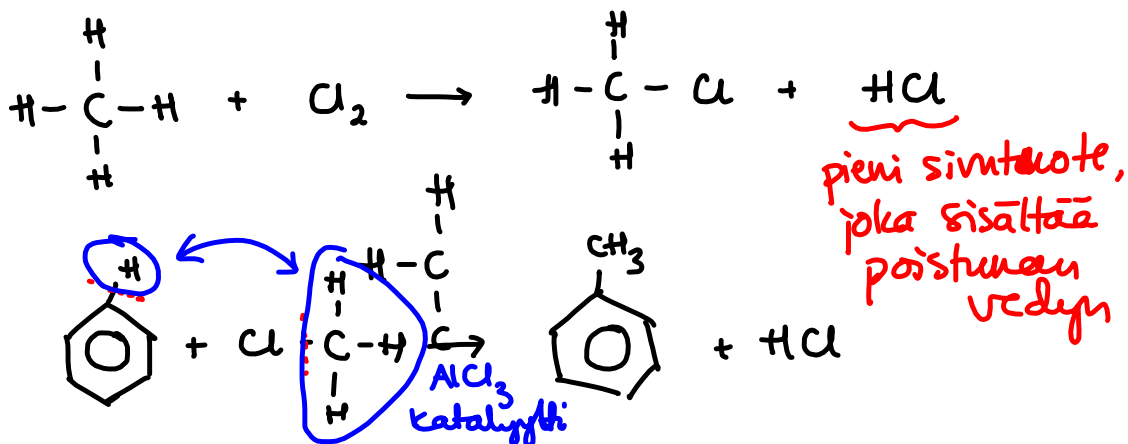
Osuus $\frac{1,1437 \text{ g}}{25,37 \text{ g}} = 0,045079 \approx 4,5 \text{ m}^\circ\%$
4,51 m^o%

SUBSTITUUTIOREAKTIO



Vaihtoehtoisia merkintätapoja ks. kirja kpl.3.1

② Perus-substituutiosta vety korvautuu toisella ryhmällä (radikaalireaktio)



3.1

3.3

3.4

3.7

3.8

Ketcher

