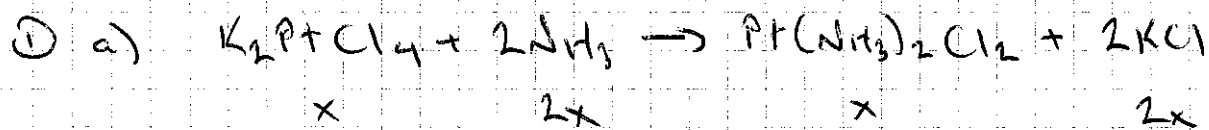


% Yield WS.



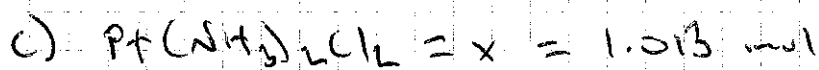
$$\text{b) } \text{NH}_3: \frac{34.5 \text{ g}}{17.03 \text{ g/mol}} = 2.026 \text{ mol}$$

$$2x = 2.026$$

$$x = 1.013$$

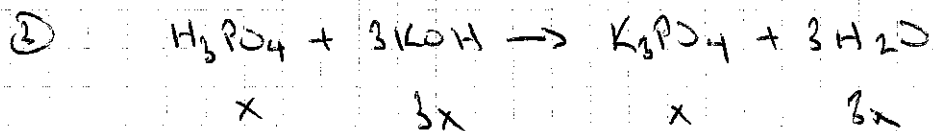
$$\text{KCl} = 2x = 2(1.013) = 2.026 \text{ mol}$$

$$2.026 \text{ mol} \times 74.6 \text{ g/mol} = \boxed{151.1 \text{ g}}$$



$$1.013 \text{ mol} \times 300.16 \text{ g/mol} = 304.0 \text{ g theoretical}$$

$$\frac{76.4 \text{ g}}{304 \text{ g}} \times 100 = \boxed{25.1\%}$$

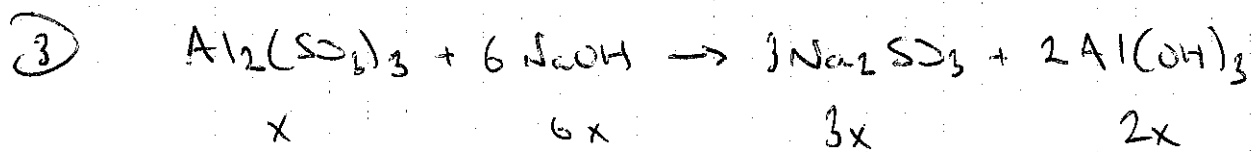


$$\text{a) } \text{H}_3\text{PO}_4: \frac{49 \text{ g}}{98.03 \text{ g/mol}} = 0.5 \text{ mol} = x$$

$$\text{K}_3\text{PO}_4 = x = 0.5 \text{ mol}$$

$$0.5 \text{ mol} \times 212.3 \text{ g/mol} = \boxed{106.1 \text{ g}}$$

$$\textcircled{2} \quad b) \quad \frac{49 \text{ g}}{106.1 \text{ g}} \times 100 = \boxed{46.2\%}$$



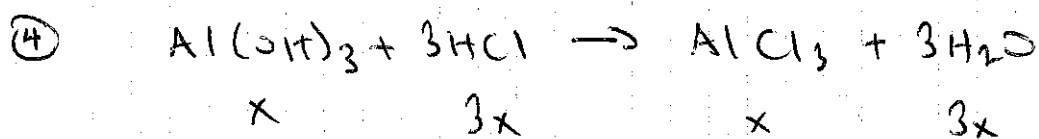
$$\text{Al}_2(\text{SO}_4)_3: \frac{389.4 \text{ g}}{294.3 \text{ g/mol}} = 1.323 \text{ mol}$$

$$x = 1.323 \text{ mol}$$

$$\text{Na}_2\text{SO}_4 = 3x = 3(1.323) = 3.969 \text{ mol}$$

$$3.969 \text{ mol} \times 126.1 \text{ g/mol} = 500.5 \text{ g theoretical}$$

$$\frac{212.4 \text{ g}}{500.5 \text{ g}} \times 100 = \boxed{42.4\%}$$



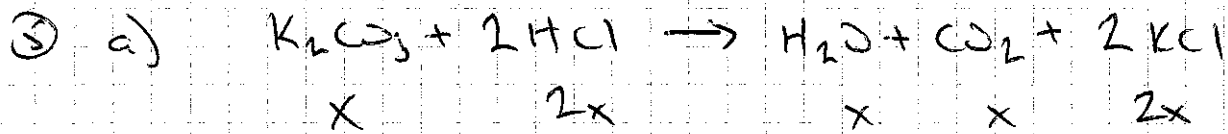
$$\text{Al}(\text{OH})_3: \frac{50.3 \text{ g}}{78.05 \text{ g/mol}} = 0.645 \text{ mol}$$

$$x = 0.645$$

$$\text{AlCl}_3 = x = 0.645 \text{ mol}$$

$$0.645 \text{ mol} \times 133.5 \text{ g/mol} = 86.1 \text{ g}$$

$$\frac{39.5}{86.1} \times 100 = \boxed{45.9\%}$$



$$\text{b)} \quad \text{K}_2\text{CO}_3: \frac{34.5 \text{ g}}{138.2 \text{ g/mol}} = 0.25 \text{ mol}$$

$$x = 0.25$$

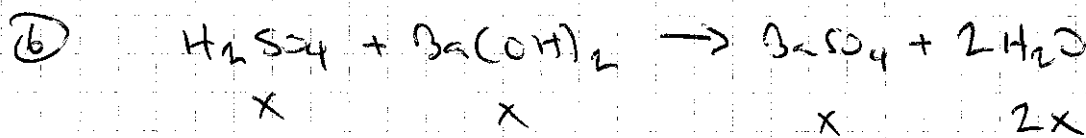
$$\text{KCl} = 2x = 2(0.25) = 0.499 \text{ mol}$$

$$0.499 \text{ mol} \times 74.6 \text{ g/mol} = \boxed{37.2 \text{ g}}$$

$$\text{c)} \quad \text{H}_2\text{O} = x = 0.25 \text{ mol}$$

$$0.25 \text{ mol} \times 18.02 \text{ g/mol} = 4.498 \text{ g}$$

$$\frac{3.4 \text{ g}}{4.498 \text{ g}} \times 100 = \boxed{75.6\%}$$



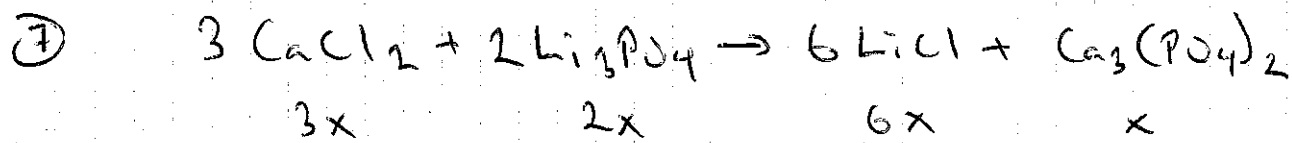
$$\text{a)} \quad \text{H}_2\text{SO}_4: \frac{98 \text{ g}}{98.12 \text{ g/mol}} = 0.999 \text{ mol}$$

$$x = 0.999$$

$$\text{BaSO}_4 = x = 0.999 \text{ mol}$$

$$0.999 \text{ mol} \times 233.4 \text{ g/mol} = \boxed{233.1 \text{ g}}$$

$$\textcircled{6} \quad b) \quad \frac{213.7}{233.1} \times 100 = \boxed{91.7\%}$$



$$\text{CaCl}_2 = \frac{82.4 \text{ g}}{111.1 \text{ g/mol}} = 0.742 \text{ mol}$$

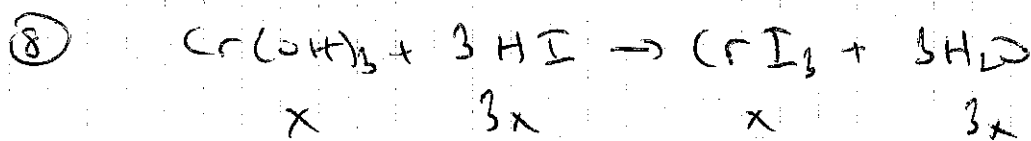
$$3x = 0.742$$

$$x = 0.247$$

$$\text{Ca}_3(\text{PO}_4)_2 = x = 0.247 \text{ mol}$$

$$0.247 \text{ mol} \times 310.3 \text{ g/mol} = 76.7 \text{ g}$$

$$\frac{76.7 \text{ g}}{111.1 \text{ g/mol}} \times 100 = \boxed{68.2\%}$$



$$\text{Cr}(\text{OH})_3 = \frac{52.3 \text{ g}}{103.03 \text{ g/mol}} = 0.488 \text{ mol}$$

$$x = 0.488$$

$$\text{CrI}_3 = x = 0.488 \text{ mol}$$

$$0.488 \text{ mol} \times 432.7 \text{ g/mol} = 211.2 \text{ g}$$

8) continued

$$\frac{39.5 \text{ g}}{211.2 \text{ g}} \times 100 = \boxed{18.7 \%}$$