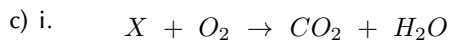


Vecka 13 Lektion 3

Uppgift B1



$$m(X) = 9.70 \text{ g}$$

$$m(H_2O) = 9.01 \text{ g}$$

$$V(CO_2) = 12.3 \text{ dm}^3$$

$$M(H_2O) = 2 * 1 + 16 = 18$$

$$n(H_2O) = \frac{9.01}{18} = 0.50056 \text{ mol}$$

$$n(H)_{(innuti X)} \approx 1 \text{ mol}$$

$$n(CO_2) = 0.040816 * 12.3 = 0.502 \text{ mol}$$

molförhållande i X:

$$n(H) : n(C) \\ 1.0010 : 0.5020$$

$$m(H)_{(innuti X)} = n(H) * M(H)$$

$$m(H)_{(innuti X)} = 1.0010 * 1 = 1 \text{ g}$$

$$m(C)_{(innuti X)} = n(C) * M(C)$$

$$m(C)_{(innuti X)} = 0.5020 * 12 = 6 \text{ g}$$

$$m(O)_{(innuti X)} = n(O) * M(O)$$

$$\left(\begin{array}{l} n(O)_{(innuti X)} = \frac{m(O)}{M(O)} \\ m(O)_{(innuti X)} = m(X) - (m(C) + m(H)) \\ m(O)_{(innuti X)} = 9.7 - (6 + 1) = 2.7 \text{ g} \end{array} \right)$$

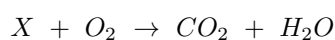
$$n(O)_{(innuti X)} = \frac{2.7}{16} = 0.16875 \text{ mol}$$

molförhållande i X (revision 2):

$$n(H) : n(C) : n(O) \\ 1.0010 : 0.5020 : 0.16875$$

$$X = C_{0.5}H_1O_{0.17}$$

Vi vill ha en kemisk formel med heltal, formeln ovan är inte så användbar.



$$M(X) = 58.1 \text{ g/mol}$$

$$16 * x * 0.16875 + x * 1 * 1 + x * 0.5 * 12 = 58.1$$

$$x = 6$$



$$Molvolum = 24.5 \text{ dm}^3/\text{mol}$$

$$Volummol = \frac{1}{Molvolum} = 0.040816 \text{ mol/dm}^3$$

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

$$C = \frac{n}{V} \rightarrow n = C * V$$

$$\frac{0.5}{0.16875} = 2.963$$

$$\frac{1}{0.16875} = 5.926$$

$$\frac{0.16875}{0.16875} = 1$$