

a) 50,05% zolfo 49,95% ossigeno

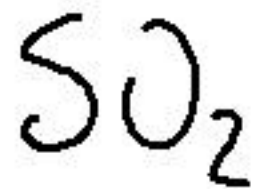
50,05g in 100g di S 49,95g di O in 100g

massa molare =  $32,07 \text{ g} \cdot \text{mol}^{-1}$

$$n_S = \frac{50,05 \text{ g}}{32,07 \text{ g} \cdot \text{mol}^{-1}} = 1,56 \text{ mol}$$

$$n_O = \frac{49,95 \text{ g}}{16,00 \text{ g} \cdot \text{mol}^{-1}} = 3,12 \text{ mol}$$

$$\text{Indice S} = \frac{1,56 \text{ mol}}{1,56 \text{ mol}} = 1 \quad \text{Indice O} = \frac{3,12 \text{ mol}}{1,56 \text{ mol}} = 2$$



$$C = 85,6\%$$

$$H = 14,4\%$$

massa molecolare 56,104 u

85,6 g di C in 100 g    14,4 g di H in 100 g

$$n_C = \frac{85,6\%}{12,01 \text{ g} \cdot \text{mol}^{-1}} = 7,1 \text{ mol} \quad n_H = \frac{14,4\%}{1,008 \text{ g} \cdot \text{mol}^{-1}} = 14,3 \text{ mol}$$

$$I_{\text{molice C}} = \frac{7,1 \text{ mol}}{7,1 \text{ mol}} = 1$$

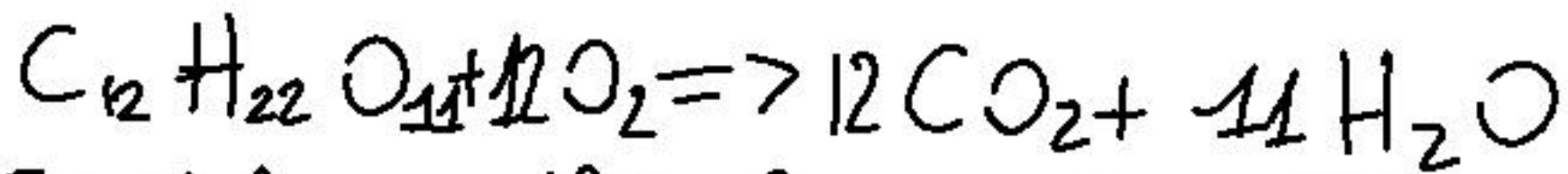
$$I_{\text{molice H}} = \frac{14,3 \text{ mol}}{7,1 \text{ mol}} = 2$$

CH<sub>2</sub> formula minima \*

$$MM_{CH_2} = 12,01 \text{ u} + 2 \cdot (1,008 \text{ u}) = 14,02 \text{ u}$$

$$\frac{56,104 \text{ u}}{14,02 \text{ u}} = 4 \quad C_4H_8$$

$$14,02 \text{ u}$$



Se si brucia il carbonio viene  $CO_2$

Quanti g di  $CO_2$  si liberano da 100g di zuccheri?

100g di  $C_{12}H_{22}O_{11}$

1 mol di  $C_{12}H_{22}O_{11}$  : 12 mol di  $CO_2$  Rapporto molare dato dalla reazione

$$m_{zucch.} = \frac{100g}{342g \cdot mol^{-1}} = 0,3 mol$$

$$M = (12 \cdot 12) + (22 \cdot 1) + (11 \cdot 16) = 144 + 22 + 176 = 342g \cdot mol^{-1}$$

$$1:12 = 0,3:X \quad X = 3,6 mol \text{ di } CO_2$$

$$m = 3,6 mol \cdot (12 \cdot 1) + (16 \cdot 2) \quad 3,6 mol \cdot \frac{44g}{mol} = 158,4g$$

