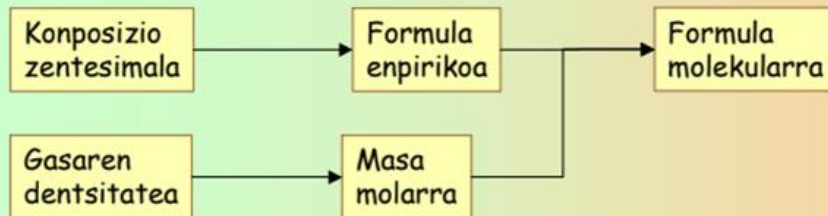


4-

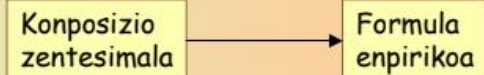
Substantzia organiko baten dentsitatea, gas egoeran, 1,28 g/L-koa da 56°C eta 454 mmHg-tan. Bere konposizio zentesimala hauex da: C=%62,0 H=%10,4 eta O=%27,6. C=12; O=16; H=1.

- a) Kalkulatu formula molekularra  
 b) Idatzi eta izendatu bi isomero A eta B

### Estrategia



### 1. Formula enpirikoaren kalkulua



$$\begin{aligned}
 n(C) &= 62 \text{ g C} \cdot \frac{1 \text{ mol C}}{12 \text{ g C}} = 5,17 \text{ mol C} & x(C) &= \frac{5,17 \text{ mol}}{1,73 \text{ mol}} = 3 \\
 n(H) &= 10,4 \text{ g H} \cdot \frac{1 \text{ mol H}}{1 \text{ g H}} = 10,4 \text{ mol H} & x(H) &= \frac{10,4 \text{ mol}}{1,73 \text{ mol}} = 6 \\
 n(O) &= 27,6 \text{ g O} \cdot \frac{1 \text{ mol O}}{16 \text{ g O}} = 1,73 \text{ mol O} & n(O) &= \frac{1,73 \text{ mol}}{1,73 \text{ mol}} = 1
 \end{aligned}$$

$(C_3H_6O)_n$

### 2. Masa molarra kalkulua



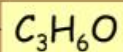
$$PV = nRT \rightarrow PV = \frac{m}{Mm} RT \rightarrow Mm = \frac{m}{V} \frac{RT}{P} \rightarrow Mm = d \frac{RT}{P}$$

$$Mm = 1,28 \frac{\text{g}}{\text{L}} \frac{(0,082 \text{ atm L/K mol}) (273+56) \text{ K}}{454/760 \text{ atm}} = 57,8 \text{ g/mol}$$

### 3. Formula molekularren kalkulua

$$Mm ((C_3H_6O)_n) = 57,8 = (3 \cdot 12) n + 6 n + 16 n = 58 n$$

$$n = \frac{57,8}{58} = 1$$



### 4. Isomeroak

A)  $CH_3-CH_2-CHO$  propanal

B)  $CH_3-CO-CH_3$  propanona