

## Correction activité S1.13 : Les molécules organiques

### activité 13.1 Analyse centésimale

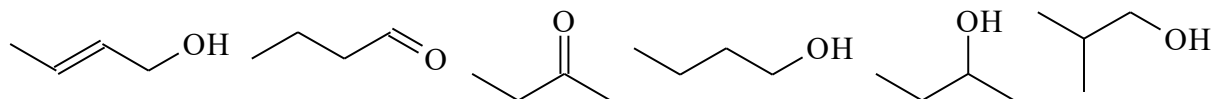
$$C_xH_yO_z : M = 12x + y + 16z = 180 \text{ g.mol}^{-1}$$

$$\%C = \frac{12x}{M} \times 100 \Rightarrow x = \frac{M}{12} \times \frac{\%C}{100} = 6$$

$$\%H = \frac{y}{M} \times 100 \Rightarrow y = M \times \frac{\%H}{100} = 12 \Rightarrow \text{le glucose a pour formule brute } C_6H_{12}O_6$$

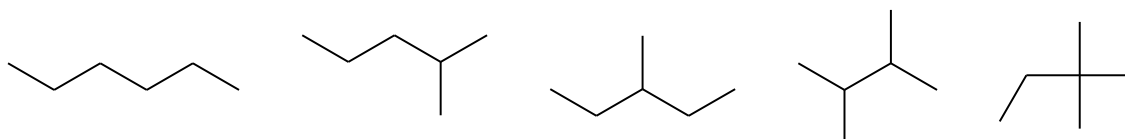
$$\%O = \frac{16z}{M} \times 100 \Rightarrow z = \frac{M}{16} \times \frac{\%O}{100} = 6$$

### activité 13.2 Formules topologiques

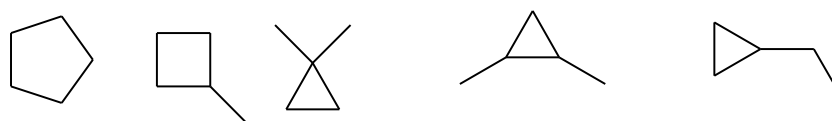


### activité 13.3 Isomérisation de chaîne

a°) Les alcanes de formules brutes  $C_6H_{14}$  :  $n_{\text{ins}} = \frac{2 \times 6 + 2 - 14}{2} = 0$



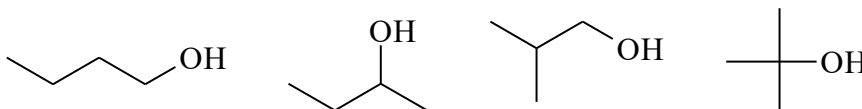
b°) Les cycloalcanes de formules brutes  $C_5H_{10}$  :  $n_{\text{ins}} = \frac{2 \times 5 + 2 - 10}{2} = 1$  ; donc un seul cycle



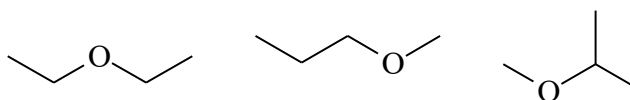
### activité 13.4 Isomérisation de fonction ou de position

a°)  $C_4H_{10}O$  :

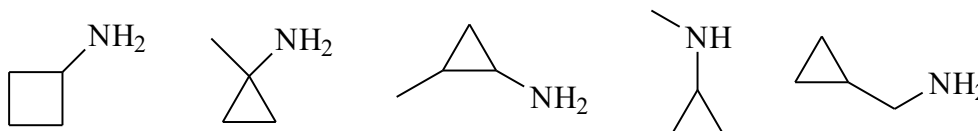
$$\Rightarrow C_4H_9(OH) \Rightarrow y = 9 + 1$$



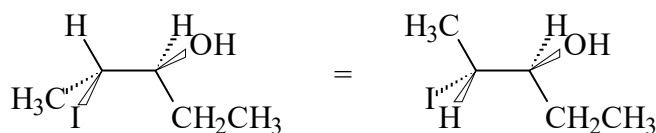
$$n_{\text{ins}} = \frac{2 \times 4 + 2 - 10}{2} = 0$$



b°)  $C_4H_9N$  (cycloalcanes uniquement) :  $\Rightarrow C_4H_7(NH_2) \Rightarrow y = 7 + 1$   $n_{\text{ins}} = \frac{2 \times 4 + 2 - 8}{2} = 1$



### activité 13.5 Projection de NEWMAN



liaison  $C_2$  (devant) –  $C_3$  (derrière)