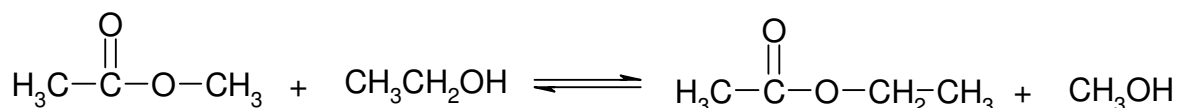
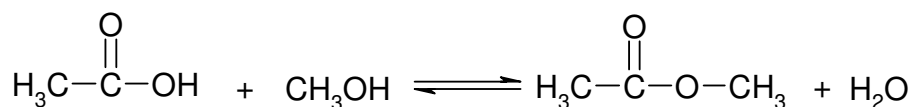
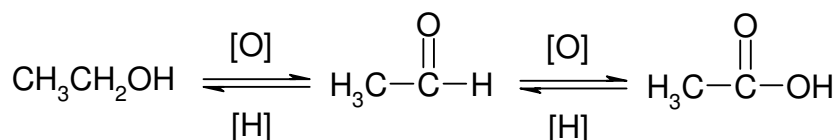


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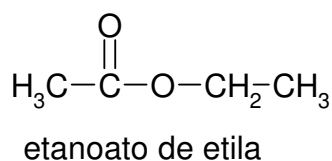
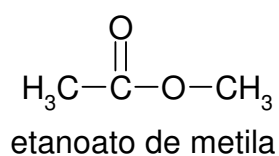
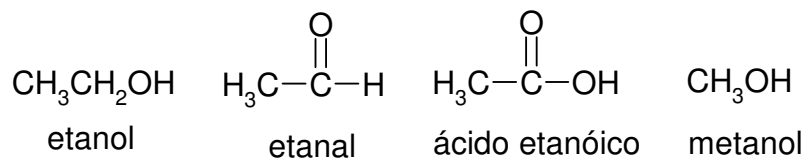
Expectativa de Respostas  
QUÍMICA

QUESTÃO 01

Ao elaborar a resposta exigida pela situação apresentada, o candidato deverá completar as reações de acordo com a expectativa que segue.



Em seguida, determinar as substâncias X, Y, Z e W, de acordo com a expectativa que segue.



## QUESTÃO 02

Ao elaborar a resposta exigida pela situação apresentada, o candidato deverá determinar

o calor molar de combustão do fenol.

$$\text{C}_6\text{H}_5\text{OH} = 94 \text{ g/mol}$$

$$5 \text{ g de } \text{C}_6\text{H}_5\text{OH} \rightarrow 65,48 \text{ kJ}$$

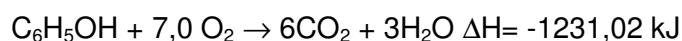
$$94 \text{ g de } \text{C}_6\text{H}_5\text{OH} \rightarrow X$$

$$X = 1231,02 \text{ kJ}$$

Com isso temos:

$$\Delta H_{\text{formação}} \text{C}_6\text{H}_5\text{OH} = - 1231,02 \text{ kJ}$$

O calor de formação do fenol.



$$\Delta H = H_{\text{produtos}} - H_{\text{reagentes}}$$

$$\Delta H_{\text{combustão}} = [ 6. \Delta H_f \text{CO}_2 + 3. \Delta H_f \text{H}_2\text{O} ] - [\Delta H_f \text{C}_6\text{H}_5\text{OH}]$$

$$- 1231,02 = [ 6. (-395,5) + 3. (-285,8) ] - [\Delta H_f \text{C}_6\text{H}_5\text{OH}]$$

$$\Delta H_f \text{C}_6\text{H}_5\text{OH} = - 1999,38 \text{ kJ}$$

A energia livre da combustão do fenol.

Calcular o  $\Delta S$ .

$$\Delta S = S_{\text{produtos}} - S_{\text{reagentes}}$$

$$\Delta S_{\text{combustão}} = [ 6. \Delta S_{\text{CO}_2} + 3. \Delta S_{\text{H}_2\text{O}} ] - [\Delta S_{\text{C}_6\text{H}_5\text{OH}}]$$

$$\Delta S_{\text{combustão}} = [ 6. \Delta S_{\text{CO}_2} + 3. \Delta S_{\text{H}_2\text{O}} ] - [\Delta S_{\text{C}_6\text{H}_5\text{OH}}]$$

$$\Delta S_{\text{combustão}} = [ 6. 213,60 + 3. 68,91 ] - [144]$$

$$\Delta S_{\text{combustão}} = 1344,33 \text{ J}$$

Calcular o  $\Delta G$ .

$$\Delta G = \Delta H - T. \Delta S$$

$$\Delta G = - 1231,02 \text{ kJ} - 298.1,344$$

$$\Delta G = - 1631,36 \text{ kJ}$$