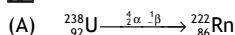


GABARITO

QUÍMICA

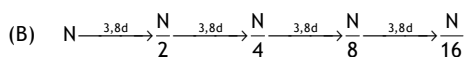
01



U = 238 para 222 $\longrightarrow$ 16 unidades; logo: $4\frac{1}{2}\alpha$

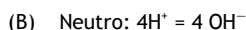
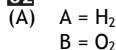
U = 92 $\longrightarrow$ 4 α $\longrightarrow$ 84

84 para 86 $\longrightarrow$ 2 β .

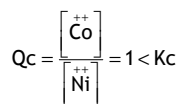
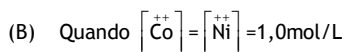
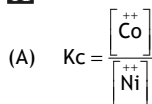


4MV = 3,8 x 4 = 15,2 dias

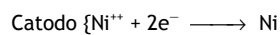
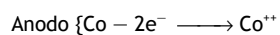
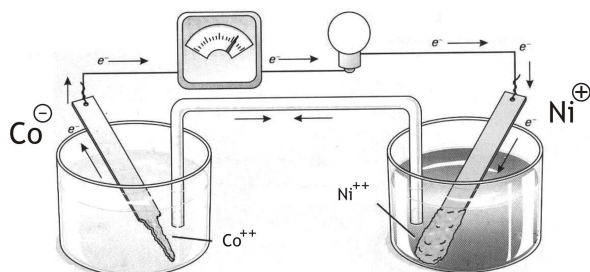
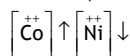
02



03

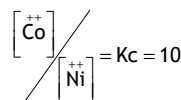


Portanto, a reação irá caminhar para a direita:

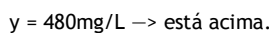
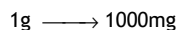
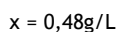
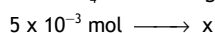
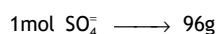
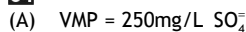


Pólo positivo $\longrightarrow$ Ni

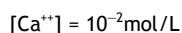
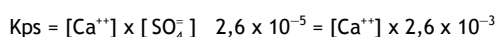
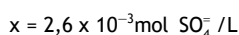
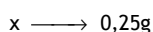
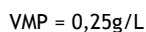
- (C) A pilha deixará de funcionar quando a reação atingir o equilíbrio, ou seja, quando a razão entre as concentrações de Co e Ni se igualar à K_c:



04

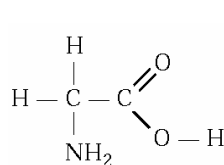


Logo, está inadequada para consumo humano.

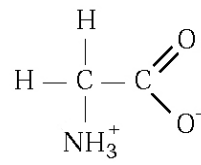


05

(A)

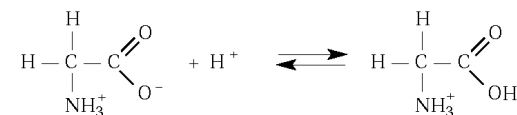


Ácido 2-aminobutanóico
GLICINA

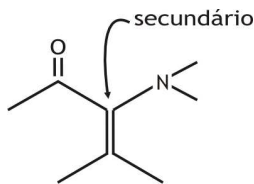


Zwitterion

- (B) Diminuição do pH (aumento de [H⁺]), ocorre a protonação do Zwitterion.



06
(A)



- (B) 200mL de café solúvel ____ 97mg cafeína
 $9,7 \times 10^{-2} \text{g}$

$$194\text{g} \longrightarrow 1\text{mol molecular}$$

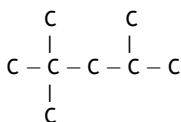
$$9,7 \times 10^{-2}\text{g} \longrightarrow x$$

$$x = 5 \times 10^{-4} \text{mol molec.}$$

07

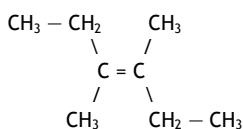
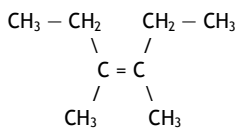
- (A) $\text{C}_2\text{H}_6\text{O} + 3 \text{O}_2 \longrightarrow 2 \text{CO}_2 + 3 \text{H}_2\text{O}$
 $\text{C}_6\text{H}_{12}\text{O}_6 \longrightarrow 2 \text{C}_2\text{H}_6\text{O} + 2 \text{CO}_2$

- (B) Destilação fracionada

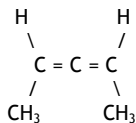


08

- (A) Geométrica, Cadeia e Posição.
 (B)



09

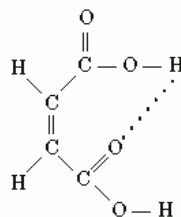


2,3-pentadieno dextrógiro e
 2,3-pentadieno levógiro.

10

- (A)
-
- cis trans

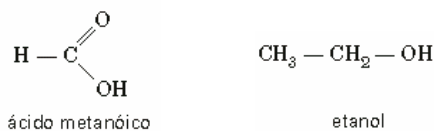
- (B) Durante a fusão, ocorrem quebras de ligações intermoleculares (ponte de hidrogênio).
 O PF do maleico (cis) é menor, pois parte das ligações de hidrogênio são intermoleculares:



Além disso, o ácido fumárico (trans) pode formar trímeros, tetrâmeros, entre outros, ou seja, estruturas maiores, ao passo que o ácido maleico só pode formar dímeros.

11

(A)



- (B) $\text{H}_3\text{C} - \text{O} - \text{CH}_3$ (éter)

metoxi-metano

Mesma massa molar que o álcool: as forças intermoleculares no éter (dipolo-dipolo) são menos intensas que as do álcool (pontes de hidrogênio).

12

- (A) $0,1\text{mol NaOH} \longrightarrow 1000\text{mL sol.}$
 $x \longrightarrow 62,4\text{mL}$

$$x = 6,24 \times 10^{-3} \text{mol NaOH}$$

Sendo um monoácido: (1 : 1)
 quantidade: a mesma

$$6,24 \times 10^{-3} \text{mol ácido} \longrightarrow 0,550\text{g ácido}$$

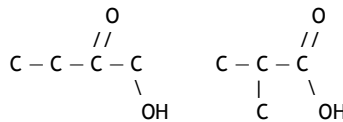
$$1 \text{ mol} \longrightarrow x$$

$$x = 88,14\text{g/mol}$$

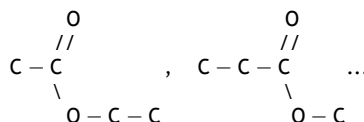
- (B) $(\text{C}_2\text{H}_4\text{O})_n = 88$ $(24 + 4 + 16)n = 88$ $n = 2$

Logo: $\text{C}_4\text{H}_8\text{O}_2$

(C)



(D)



13

- (A) ácido 4-aminopentanóico;
- (B) 6-hidroxi 3-heptanona;
- (C) 3-amino 1-pentanol;
- (D) 1-amino 3-metoxi ciclobutano.

14

- (A) A = fenol, ácido carboxílico;
B = DH e fenol.
- (B) I – não apresenta;
II – apresenta;
III – não apresenta.

15

$$N = 2^n \quad N = 2^2 \quad N = 4 \text{ isômeros.}$$