

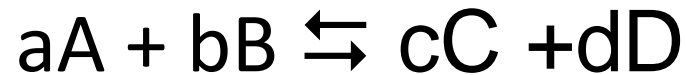
A black and white photograph capturing a person from the waist down, wearing a light-colored, tiered, ruffled dress. They are walking barefoot on a railway track, with their feet positioned on the metal rails. The ground is covered in dark gravel. In the foreground, a pair of dark-colored sneakers with white laces and stripes is lying on the gravel. The overall scene suggests a moment of transition or a choice between different paths.

Constante de Equilíbrio

Talita M.

A constante de equilíbrio

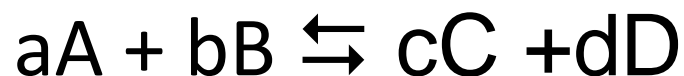
- Considere a reação reversível:



- $V_{\text{direta}} = k_1 \cdot [A]^a \cdot [B]^b$
- $V_{\text{inversa}} = k_2 \cdot [C]^c \cdot [D]^d$

A constante de equilíbrio

- Considere a reação reversível:



$$V_{\text{direta}} = V_{\text{inversa}}$$

$$k_1 \cdot [A]^a \cdot [B]^b = k_2 \cdot [C]^c \cdot [D]^d$$

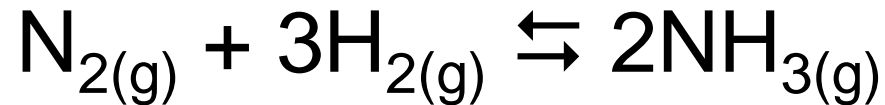
$$\frac{k_1}{k_2} = \frac{[C]^c \cdot [D]^d}{[A]^a \cdot [B]^b}$$

Constante de Equilíbrio

$$K_c = \frac{[C]^c \cdot [D]^d}{[A]^a \cdot [B]^b}$$

Exemplo 1

- Considere a reação reversível:

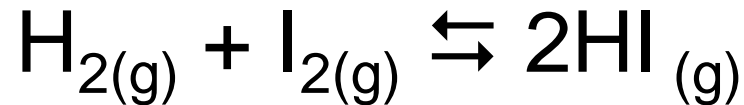


$$K_c = \frac{[\text{NH}_3]^2}{[\text{N}_2] \cdot [\text{H}_2]^3}$$

Constante de Equilíbrio – Talita M.

Exemplo 2

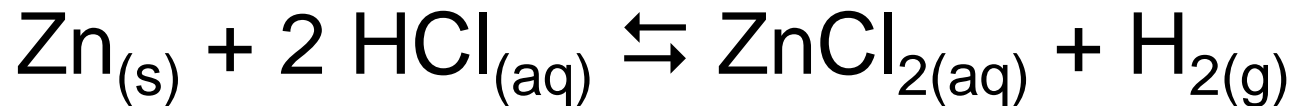
- Considere a reação reversível:



$$K_p = \frac{(p_{\text{HI}})^2}{(p_{\text{H}_2}) \cdot (p_{\text{I}_2})}$$

Exemplo 3

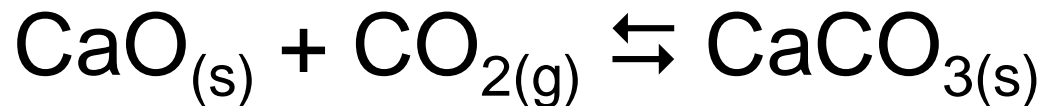
- Considere a reação reversível:



$$K_c = \frac{[\text{ZnCl}_2] \cdot [\text{H}_2]}{[\text{HCl}]^2} \quad K_p = p_{\text{H}_2}$$

Agora é a sua vez!

- Considere as reações reversíveis:



Determine K_c e K_p para cada uma delas.