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Exc 2. $2C_2H_5OH(OH) \rightleftarrows (C_2H_5)_2O(E) + H_2O(W)$

1 Mecanismo: Adsorção / LH / Dessorção

AD1: $[OH] + \wedge \rightleftharpoons [OH]\wedge$

AD2: $[OH] + \wedge \rightleftharpoons [OH]\wedge$

$[OH] + [S] \underset{K_{DES}^{OH}}{\overset{K_{ADS}^{OH}}{\rightleftharpoons}} [OH-S]$

REAÇÃO DE SUPERF: $[OH]\wedge + [OH]\wedge \rightleftharpoons [E]\wedge + [W]\wedge$

$[OH-S] + [OH-S] \underset{K_2}{\overset{K_1}{\rightleftharpoons}} [E-S] + [W-S]$

DES1 $[E]\wedge \rightleftharpoons [E] + \wedge$

DES2 $[W]\wedge \rightleftharpoons [W] + \wedge$

$[E-S] \underset{K_{ADS}^{E}}{\overset{K_{DES}^{E}}{\rightleftharpoons}} [E] + [S]$

$[W-S] \underset{K_{ADS}^{W}}{\overset{K_{DES}^{W}}{\rightleftharpoons}} [W] + [S]$

$(-rOH)_{ADS} = K_{ADS}^{OH} \cdot C_{OH} \cdot C_S - K_{DES}^{OH} \cdot C_{OH,S}$

$(-rOH)_{reação} = K_1 \cdot C_{OH,S} \cdot C_{OH,S} - K_2 \cdot C_{E,S} \cdot C_{W,S}$

$(-rE)_{DES} = K_{DES}^{E} \cdot C_{E,S} - K_{ADS}^{E} \cdot C_E \cdot C_S$

$(-rW)_{DES} = K_{DES}^{W} \cdot C_{W,S} - K_{ADS}^{W} \cdot C_W \cdot C_S$

Definindo:

$K_{OH} = \frac{K_{ADS}^{OH}}{K_{DES}^{OH}}$ $K_E = \frac{K_{ADS}^{E}}{K_{DES}^{E}}$

$K_W = \frac{K_{ADS}^{W}}{K_{DES}^{W}}$

AD1: $(-rOH)_{ADS} = K_{ADS}^{OH} \left[C_{OH} \cdot C_S - \frac{C_{OH,S}}{K_{OH}} \right]$

AD2: $(-rOH)_{ADS} = K_{ADS}^{OH} \left[C_{OH} \cdot C_S - \frac{C_{OH,S}}{K_{OH}} \right]$

R: $(-rOH)_{REA} = K_1 \cdot C_{OH,S} C_{OH,S} - K_2 \cdot C_{E,S} \cdot C_{W,S}$

DES1: $(+rE)_{DES} = K_{DES}^{E} [C_{E,S} - K_E \cdot C_E \cdot C_S]$

DES2: $(+rW)_{DES} = K_{DES}^{W} [C_{W,S} - K_W \cdot C_W \cdot C_S]$

Intermediários: C_S; $C_{OH,S}$; $C_{E,S}$; $C_{W,S}$.

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