

LISTA 3 PARTE B

1) Teoria de BRÖNSTED - LOWRY

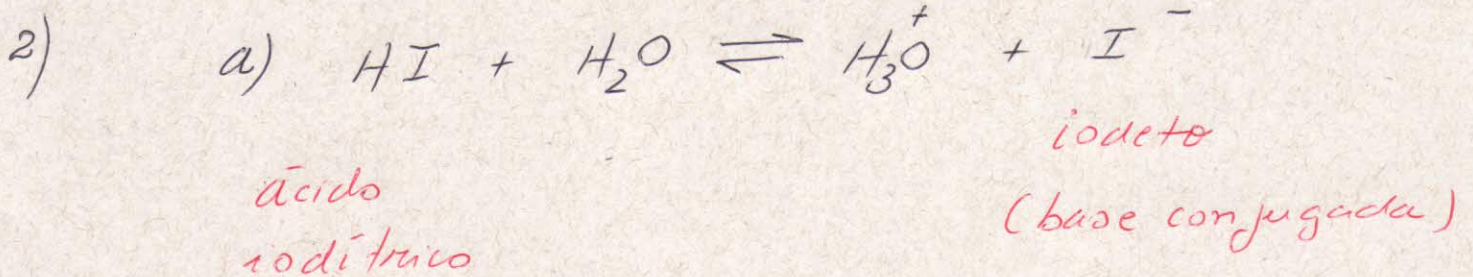
Ácido \Rightarrow doador H^+ (PROTON)

BASE \Rightarrow receptor H^+

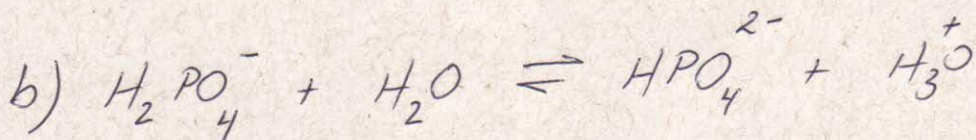
Teoria LEWIS

Ácido: Recebe / coordena par elétrons / ELETRÓFILO

Base: doa / par elétrons / NUCLEÓFILO

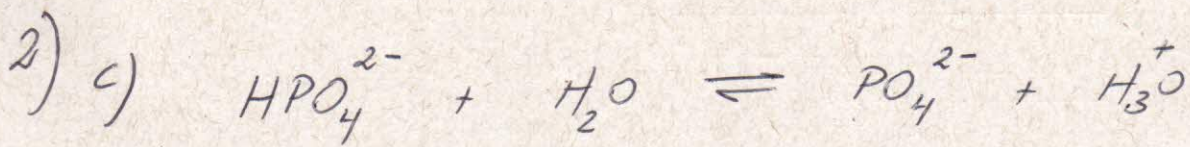


$$K_a = \frac{[H_3O^+][I^-]}{[HI]} \gg 1 \quad pK_a = -\log K_a \approx -10$$



ácido di-hidrogeno fosfato *hidrogenio fosfato*
(ácido) *(base conjugada)*

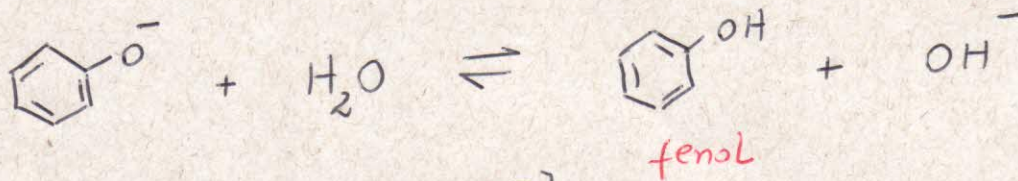
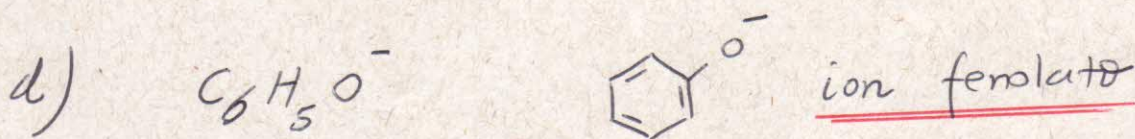
$$K_a = \frac{[H_3O^+][HPO_4^{2-}]}{[H_2PO_4^-]} \quad pK_a = 7,2$$



hidrogeno
fosfato

fosfato
(base cony)

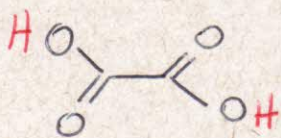
$$K_a = \frac{[\text{PO}_4^{2-}][\text{H}_3\text{O}^+]}{[\text{HPO}_4^{2-}]} \quad pK_a = 12,7$$



$$K_b = \frac{[\text{fenol}][\text{OH}^-]}{[\text{fenolato}]} \quad pK_a = 10,0$$

Assim: $pK_b = pK_w - pK_a = 14 - 10 = 4,0$

e) Ac. Oxálico (diácido)

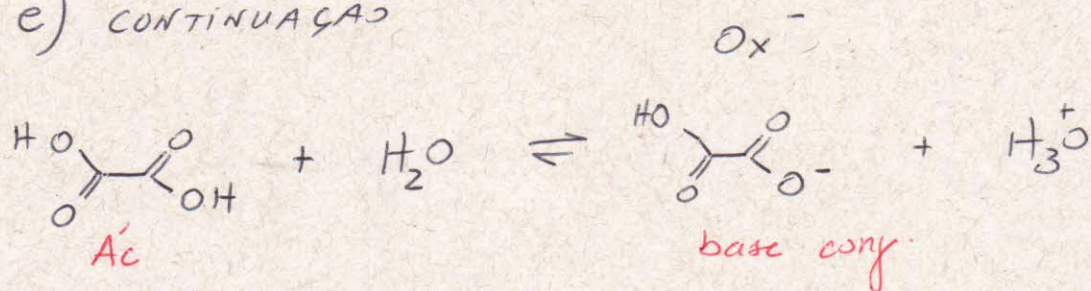


$pK_{a1} = 1,25$

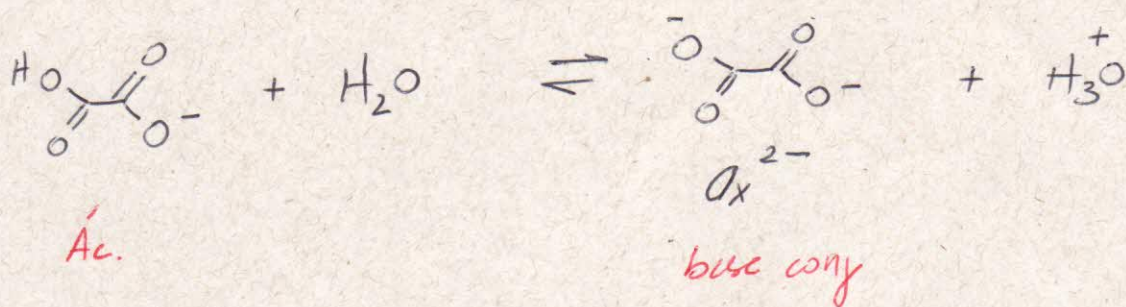
$pK_{a2} = 4,23$

Ac. Ox

2) e) CONTINUAÇÃO

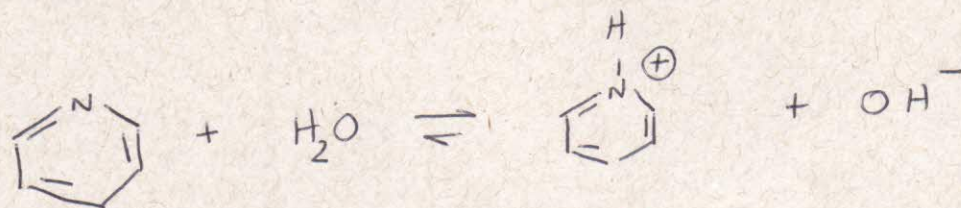


$$K_{a1} = \frac{[\text{Ox}^-][\text{H}_3\text{O}^+]}{[\text{AcOx}]} \Rightarrow \text{p}K_{a1} = 1,25$$



$$K_{a2} = \frac{[\text{Ox}^{2-}][\text{H}_3\text{O}^+]}{[\text{Ox}^-]} \Rightarrow \text{p}K_{a2} = 4,23$$

f) Piridina



base

pir

ácido cony

pir⁺ (piridínio)

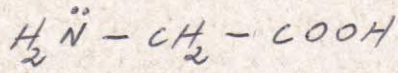
$$K_b = \frac{[\text{pir}^+][\text{OH}^-]}{[\text{pir}]} ; \text{p}K_a = 5,2$$

$$\text{p}K_b = \text{p}K_w - \text{p}K_a = 14 - 5,2 = 8,8$$

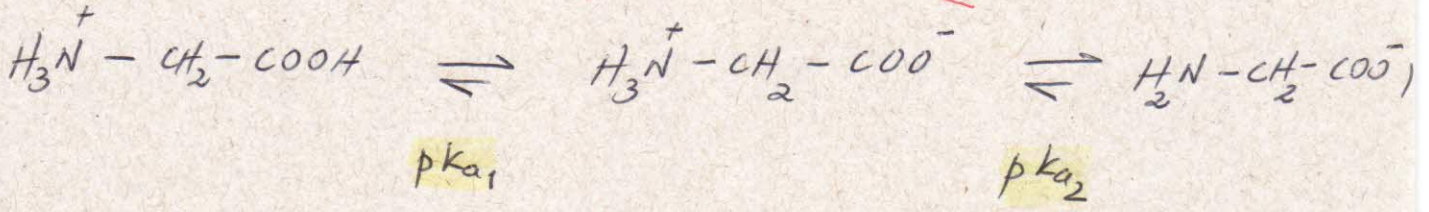
2)

g)

Glycine



Zwitterion



2,3

9.6

