



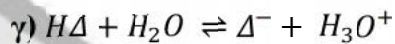
1. 2. 3. 4. 5.

1.) ,) ,) ,) ,)

2.) : , μ μ

: , μ μ p .

) Το 3 η, εκ νι ος τό 2 μ (, ία).



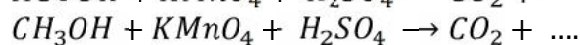
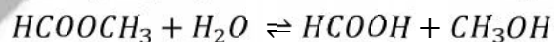
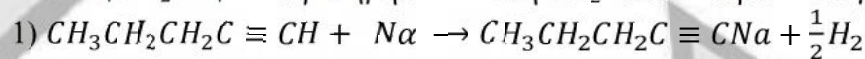
$$K_\alpha = \frac{[\Delta^-][H_3O^+]}{[H\Delta]} \Rightarrow \frac{[\Delta^-]}{[H\Delta]} = \frac{K_\alpha}{[H_3O^+]} \Rightarrow \frac{[\Delta^-]}{[H\Delta]} = \frac{10^{-5}}{10^{-3}} \Rightarrow \frac{[\Delta^-]}{[H\Delta]} = 10^{-2}$$

ή $\frac{[H\Delta]}{[\Delta^-]} = 100 > 10$ άρα επικρατεί το χρώμα της όξινης μορφής (κόκκινο).

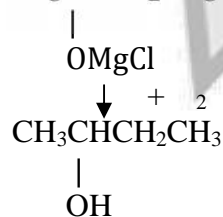
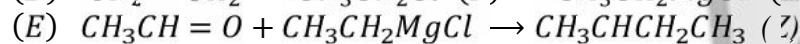
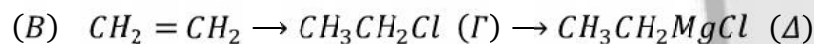
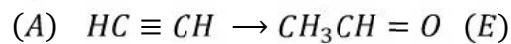
δ) πει $H > 7$ επ εί ον μ το $K_b(A^-) > K_\alpha(NH_4^+)$ ή $K_\alpha(HA) < K_b(NH_3)$ ή $K_\alpha(HA) < 10^{-5}$

1.) $CuCl / NH_3$

ρ) Θα υδρολύσει με κινε εσ ο χωριστα και οξει σονμ $KMnO_4 / H_2SO_4$ α παρατηρηθ έκλυση CO_2 τότε πρόι ται γ $HC CH_3$.



2.





Δ3. Έστω V_1 L NaOH V_2 L NH_4Cl

$$n_{NaOH} = 0,1 V_1 \text{ mol}$$

$$n_{NH_4Cl} = 0,1 V_2 \text{ mol}$$



$$0,1 V_1 \quad 0,1 V_2$$

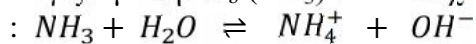
$$-0,1 V_1 \quad -0,1 V_1 \quad 0,1 V_1 \quad 0,1 V_1$$

$$- \quad 0,1(V_2 - V_1) \quad 0,1 V_1 \quad 0,1 V_1$$

$$pH \approx 9 \Rightarrow [H_3O^+] = 10^{-9} \text{ M} \quad [OH^-] = 10^{-5} \text{ M}$$

$$[OH^-] = \frac{K_b C_B}{C_{οξ}} = \frac{K_b n_B}{n_{οξ}} \Rightarrow 10^{-5} = K_b \frac{0,1 V_1}{0,1 (V_2 - V_1)} \quad (1)$$

ορίζουμε την $K_b(NH_3)$: $2 \text{ έ;ε } c = 0,1 \text{ M}$



$$0,1 - x \quad x \quad x$$

$$\mu_{\text{...}} = 10^{-3} \text{ α;α } K_b = \frac{(10^{-3})^2}{0,1} \text{ ή } K_b = 10^{-5}$$

ό; (1) οκύατει ό;:

$$10^{-5} = 10^{-5} \frac{V_1}{V_2 - V_1} \Rightarrow \frac{V_1}{V_2 - V_1} = 1 \Rightarrow V_1 = V_2 - V_1 \Rightarrow 2V_1 = V_2 \text{ ή } \frac{V_1}{V_2} = \frac{1}{2}$$

4. $< <$

μ

μ

μ

μ

$$= 10V$$

Henderson

2

μ

$$X = 100V.$$

μ

4