

Zgjidhja Ushtrimeve të Olimpiadës Kimike XII Jazari

1) a. Niveli  $Z_B = 17 \Rightarrow B$  ka  $18e^-$  po këtë nr elektronesh ka  $A^{2+}$  dhe  $C^+$   
 $Z_A = 18 + 2 = 20$        $Z_C = 18 + 1 = 19$

b.  $Z_A = 20$   $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$       P4 Gr II A      Valenca II  
 $Z_B = 17$   $1s^2 2s^2 2p^6 3s^2 3p^5$       P3 Gr VII A      Valenca I, III, V, VII  
 $Z_C = 19$   $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$       P4 Gr I A      Valenca I

c. a. A → Elektropozitiv      b. Elektronegativ      c. Elektropozitiv

2) Te dënuat

a.  $NH_4OH + HCl = NH_4Cl + H_2O$  Asnjë anësim  
 b. pH e përcaktimit Hidroliza e  $NH_4Cl$   
 $NH_4^+ + Cl^- + H_2O = NH_4OH + H^+ + Cl^-$   
 $NH_4 + H_2O = NH_4OH + H^+$  Njësi Acid.

c.  $d = c_p \cdot m \cdot \Delta t$   
 $m = 220,1 - 156,59$   
 $\Delta t = 31,6 - 21,3$   
 $c_p = 4,184$

d.  $\Delta H_0 = \sum \Delta H_f^{\circ}$  produktet -  $\sum \Delta H_f^{\circ}$  reaktantet.

3) Te dënuat

zgjodhje:

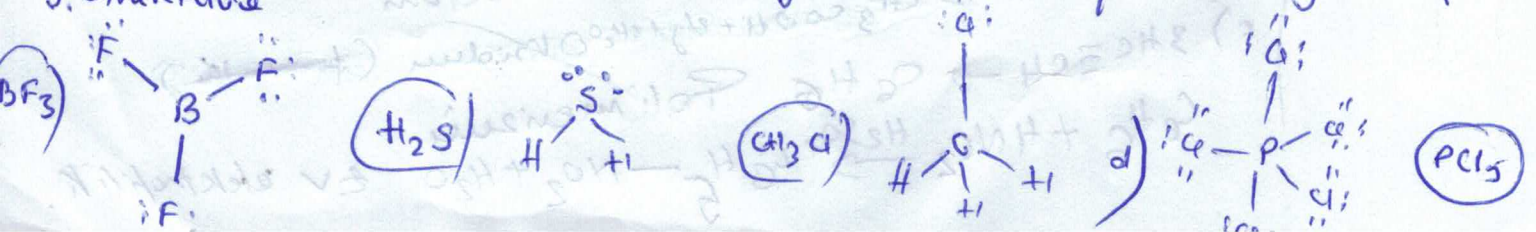
a. Shprehje  $[OH^-] = x \Rightarrow [H^+] = 2x$   
 $[OH^-][H_3O^+] = 10^{-14}$

$pH = -\lg 2x$   
 $pH = -\lg 1,42 \cdot 10^{-7}$   
 $= -(\lg 1,42 + \lg 10^{-7})$   
 $= -(0,152 - 7)$

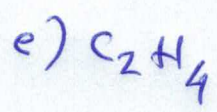
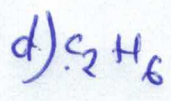
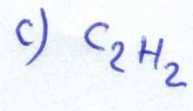
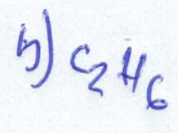
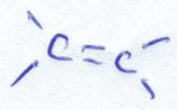
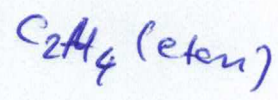
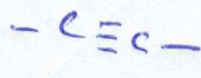
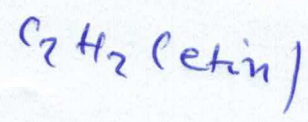
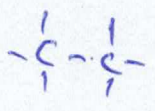
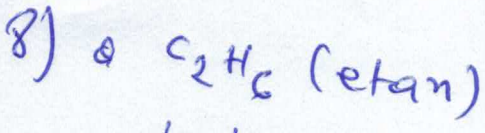
$pH + pOH = 14 \quad | \quad pOH = 14 - pH$

4) a. Nocëni për strukturën formulare dhe konfigurimin elektronik  
 Arsyetoni për secilin rast si formohen lidhjet në secilin përveç

b. Struktura

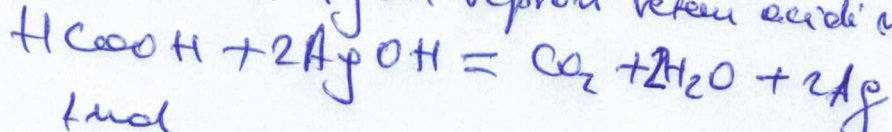






9) Te dăruet

Me tritericū e fjo OH vepron veteu acidi metanoic,



1 mol

2 mol

46 gr

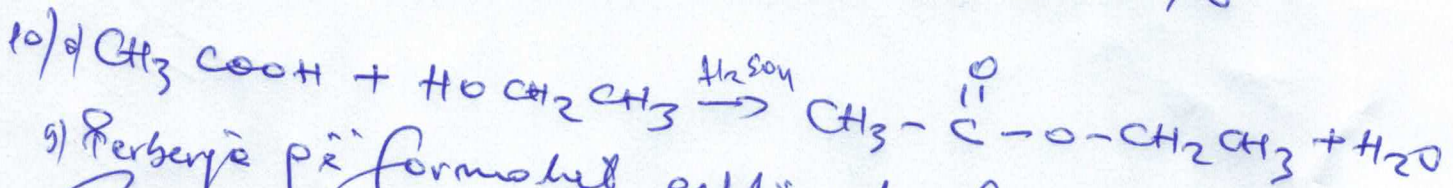
2 · 108 gr



X = 4,6 gr HCOOH gaudet ni perzorie

$\% HCOOH = \frac{4,6}{20} \cdot 100 = 23\%$

$\% CH_3COOH = 100 - 23 = 77\%$



g) Perberje pzi formulet este ester (etanoat i etilit)  
Reaxioni pullet reaxion esterifikimi.

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