

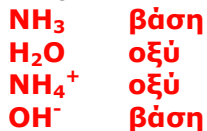
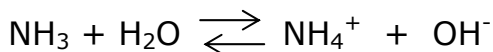
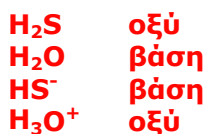
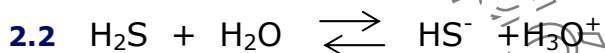
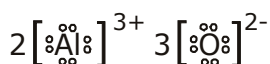
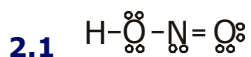
**ΑΠΟΛΥΤΗΡΙΕΣ ΕΞΕΤΑΣΕΙΣ Δ' ΤΑΞΗΣ
ΕΣΠΕΡΙΝΟΥ ΕΝΙΑΙΟΥ ΛΥΚΕΙΟΥ
ΤΕΤΑΡΤΗ 28 ΜΑΪΟΥ 2003
ΕΞΕΤΑΖΟΜΕΝΟ ΜΑΘΗΜΑ ΘΕΤΙΚΗ ΚΑΤΕΥΘΥΝΣΗΣ:
ΧΗΜΕΙΑ**

ΑΠΑΝΤΗΣΕΙΣ ΘΕΜΑΤΩΝ:

ΘΕΜΑ 1°

- 1.1 → α
1.2 → δ
1.3 → β
1.4.α. → Σωστό
1.4.β. → Σωστό
1.4.γ. → Σωστό
1.5 → $2s \rightarrow 1$
 $4p \rightarrow 3$
 $3d \rightarrow 5$
 $5f \rightarrow 7$

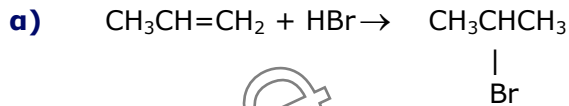
ΘΕΜΑ 2°



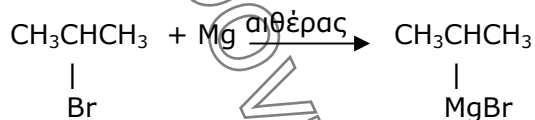
- 2.3 ${}_{19}\text{K} : 1s^2, 2s^2, 2p^2, 3s^2, 3p^6, 4s^1$
 ${}_{3}\text{Li} : 1s^2, 2s^1$
 ${}_{11}\text{Na} : 1s^2, 2s^2, 2p^6, 3s^1$

Η σειρά είναι Li, Na, K

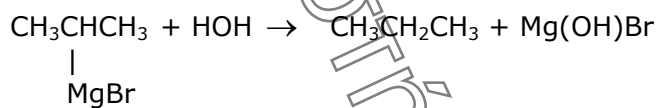
ΘΕΜΑ 3^ο



0,1 mol 0,1 mol



0,1 mol 0,1 mol



0,1 mol 0,1 mol

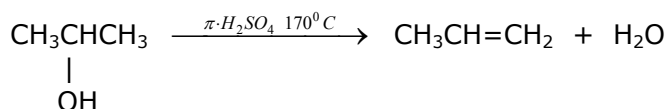
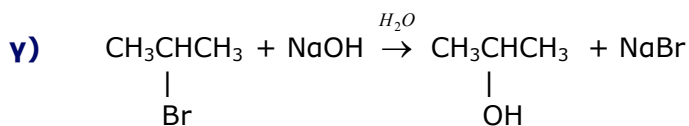
Άρα Α: CH_3CHCH_3 ισοπροπυλοβρωμίδιο
|
Br

Β: CH_3CHCH_3 ισοπροπυλο-μαγνησιο-βρωμίδιο
|
MgBr

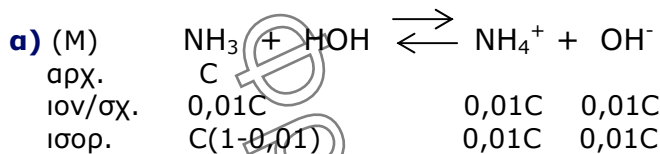
Γ: $\text{CH}_3\text{CH}_2\text{CH}_3$ προπάνιο

β) $n_{\text{προπενίου}} = \frac{m}{M_r}$ ή $n_{\text{προπενίου}} = \frac{4,2}{42} = 0,1 \text{ mol}$

με βάση τις στοιχειομετρίες σχηματίζονται **0,1 mol προπανίου (Γ)**

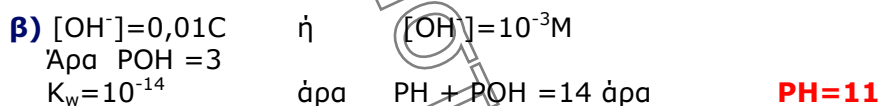


Άρα: **Δ: CH_3CHCH_3 2-προπανόλη**
|
OH

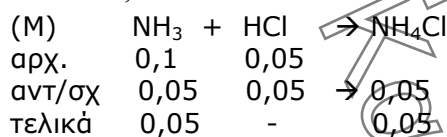
ΘΕΜΑ 4^ο


$$K_\beta = \frac{[\text{NH}_4^+][\text{OH}^-]}{[\text{NH}_3]} \quad \text{ή} \quad 10^{-5} = \frac{0,01C \cdot 0,01C}{C(1-0,01)}$$

$$1 - 0,01 \approx 1 \quad \Rightarrow \quad 10^{-5} = 0,01^2 C \quad \text{ή} \quad \mathbf{C = 0,1 \text{ M}}$$



γ) $C_{\text{HCl}} = \frac{0,02}{0,4} = 0,05 \text{ M}$



$$\text{PH} = \text{PK}_a + \log \frac{C_{\text{βασης}}}{C_{\text{οξέως}}} \quad (\text{I})$$

$$K_\alpha \cdot K_\beta = K_w \quad \text{ή} \quad K_\alpha = \frac{K_w}{K_\beta} = \frac{10^{-14}}{10^{-5}} = 10^{-9} \quad \text{ή} \quad \text{PK}_\alpha = 9$$

$$(\text{I}) \Rightarrow \text{PH} = 9 + \log \frac{0,05}{0,05} \quad \text{ή} \quad \mathbf{\text{PH} = 9}$$