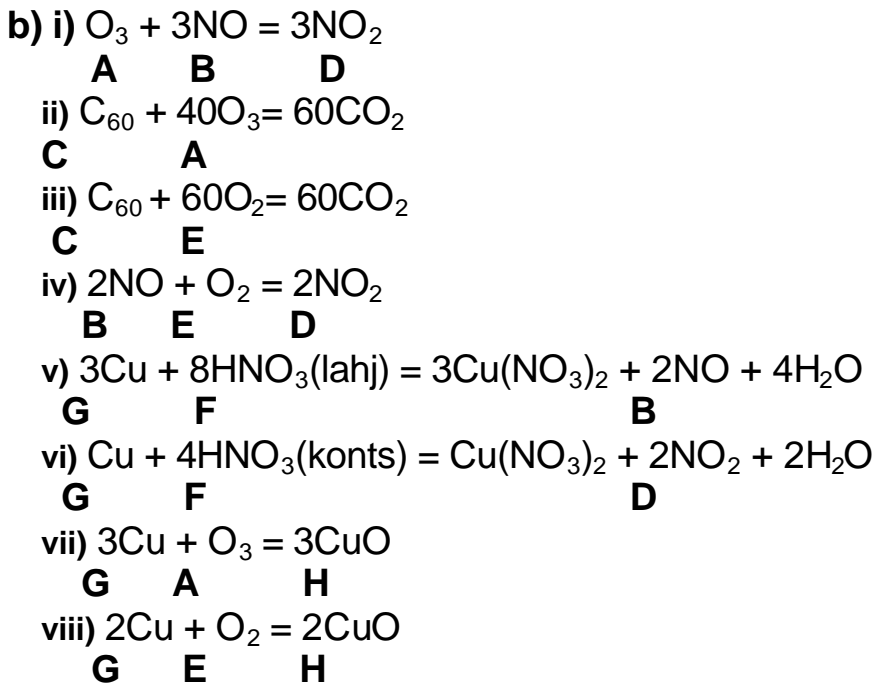


3. a) **A** – O₃, osoon, gaas, lihtaine, mürgine
B – NO, lämmastikmonooksiid, gaas, mürgine
C – C₆₀, fullereen, tahke, lihtaine
D – NO₂, lämmastikdioksiid, gaas, mürgine
E – O₂, hapnik, gaas, lihtaine
F – HNO₃, lämmastikhape
G – Cu, vask
H – CuO, vask(II)oksiid



b) i) $n(\text{N}) = 35 \text{ g} \cdot \frac{1 \text{ mol}}{14 \text{ g}} = 2,5 \text{ mol}$

$n(\text{O}) = 60 \text{ g} \cdot \frac{1 \text{ mol}}{16 \text{ g}} = 3,75 \text{ mol}$

$n(\text{H}) = 5 \text{ g} \cdot \frac{1 \text{ mol}}{1 \text{ g}} = 5 \text{ mol}$

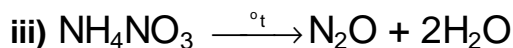
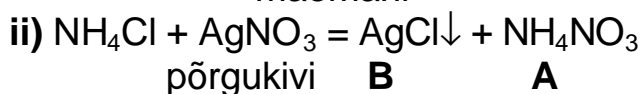
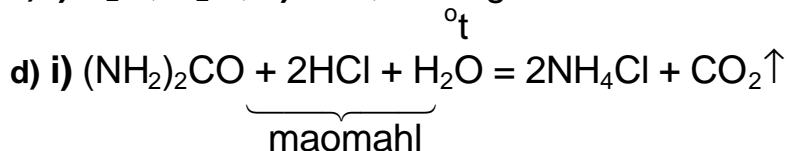
Väikseimad täisarvud saame siis, kui moolide arvud jagame arvuga 1,25.

Lihtsaim brutovalem on seega N₂H₄O₃.

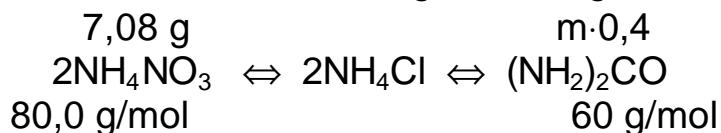
A - NH₄NO₃

ii) ammooniumnitraat

c) i) H_2O , N_2O ; ii) vesi, naerugaas



e) Veerand untsi on $28,35 \text{ g}/4 = 7,08 \text{ g}$



$$m[(\text{NH}_2)_2\text{CO}] = \frac{1}{2} \cdot 7,08 \text{ g} \cdot \frac{1 \text{ mol}}{80,0 \text{ g}} \cdot 60 \text{ g/mol} \cdot \frac{1}{0,4} \cdot \frac{1 \text{ unts}}{28,35 \text{ g}} = \mathbf{0,234 \text{ untsi}}$$

f) Ei saa, sest tina reageerib soolhappega: $\text{Sn} + 2\text{HCl} = \text{SnCl}_2 + \text{H}_2\uparrow$
Katel võib liiga ruttu lekkima hakata.

g) AgCl laguneb aeglaselt valguse toimel, seepärast viiakse katse läbi hämaras.

5. a) i) Element **A** – Rb, rubiidium

$$\text{ii) } M_{r(37\text{Rb})} = 85; \quad N(\text{elektron}) = 85 - 37 = 48$$
$$48 - 37 = 11$$

b) i) $4\text{Rb} + \text{O}_2 = 2\text{Rb}_2\text{O}$

A **B** – rubiidiumoksiid

ii) $2\text{Rb} + \text{O}_2 = \text{Rb}_2\text{O}_2$

A **C** – rubiidiumperoksiid

iii) $\text{Rb} + \text{O}_2 = \text{RbO}_2$

A **D** – rubiidiumhüperoksiid

iv) $2\text{Rb} + 3\text{O}_2 = 2\text{RbO}_3$

A **E** – rubiidiumosoniid

v) $2\text{RbO}_3 + \text{Rb} = 3\text{RbO}_2$

E **A** **D**

vi) $\text{RbO}_2 + \text{Rb} = \text{Rb}_2\text{O}_2$

D **A** **C**

vii) $\text{Rb}_2\text{O}_2 + 2\text{Rb} = 2\text{Rb}_2\text{O}$

C **A** **B**

viii) $4\text{RbO}_2 + 2\text{CO}_2 = 2\text{Rb}_2\text{CO}_3 + 3\text{O}_2$

D **F** – süsinik- **G** – rubiidium- **I** – hapnik
dioksiid karbonaat

6. a) NG (vedelik) segatakse peenpulbriliste ainetega (puidujahu, talk vm), mis neelavad juhuslikult lagunenud NG molekulist moodustunud energia ega lase tekkida ahelreaktsiooni.

b) i) **A** – NaOH, naatriumhüdroksoid

X – $\text{CH}_2\text{OHCHOHCH}_2\text{OH}$, glütserool, 1,2,3–propaantriool

ii) **B** – seep; (rasvhappe) sool
elektrikaar

c) i) $N_2 + O_2 = 2NO$
lämmastik hapnik **C** – lämmastikoksiid

ii) $2NO + O_2 = 2NO_2$
C **D** – lämmastikdioksiid

iii) $4NO_2 + O_2 + 2H_2O = 4HNO_3$
D vesi **Y** – lämmastikhape

iv) $S + O_2 = SO_2$
väävel **E** – vääveldioksiid
katalüsaator

v) $2SO_2 + O_2 = 2SO_3$
E **F** - vääveltrioksiid

vi) $SO_3 + H_2O = H_2SO_4$
F **Z** – väävelhape

d) $CH_2OHCHOHCH_2OH + 3HONO_2 \xrightarrow{H_2SO_4} \begin{array}{c} CH_2-CH-CH_2 \\ | \quad | \quad | \\ ONO_2 \quad ONO_2 \quad ONO_2 \end{array} + 3H_2O$
X – glütserool **Y** **Z** NG

e) $4C_3H_5O_9N_3 = 6N_2 + 10H_2O + 12CO + 7O_2$