



O

47

>

Si

28

>

Al

8

>

Fe

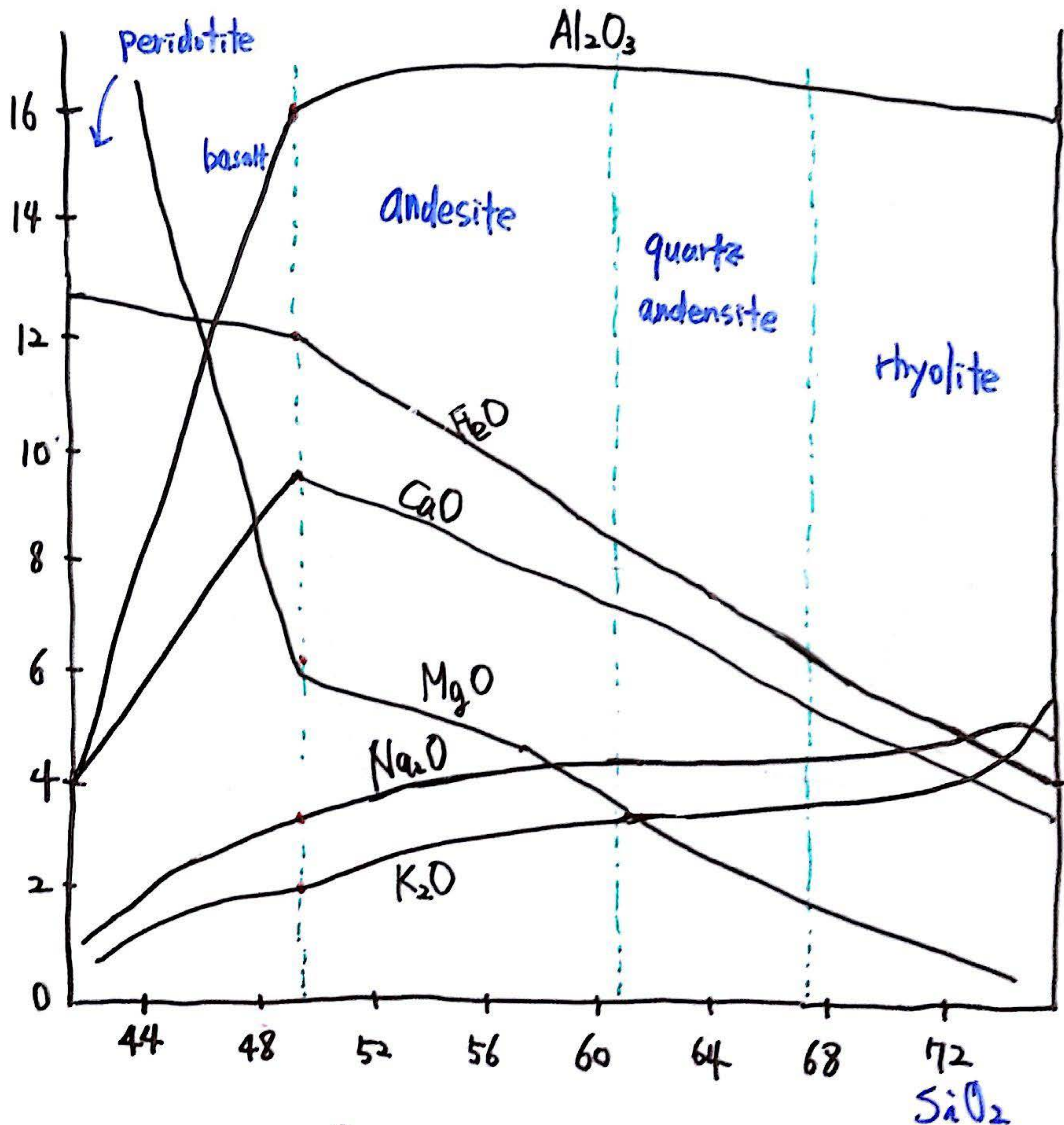
5

>

11

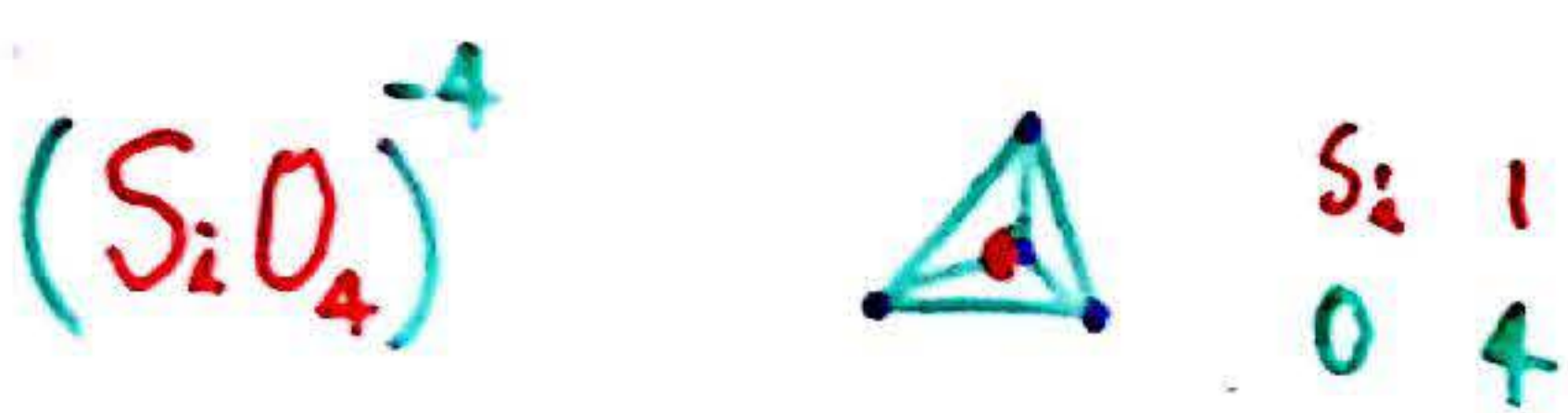
(  
Ca  
Mg  
K  
Na  
)



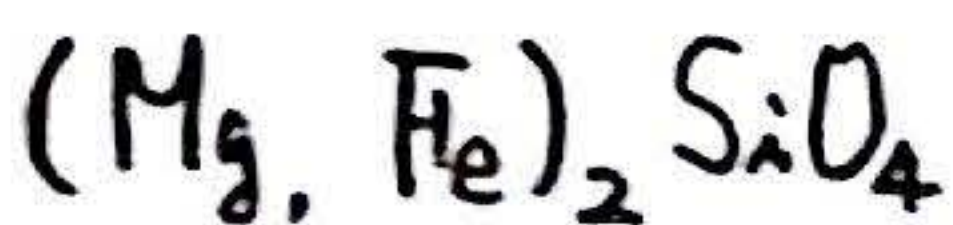



$$\text{SiO}_2 \quad 49 + 2 + 3 + 6 + 9 + 12 + 16$$

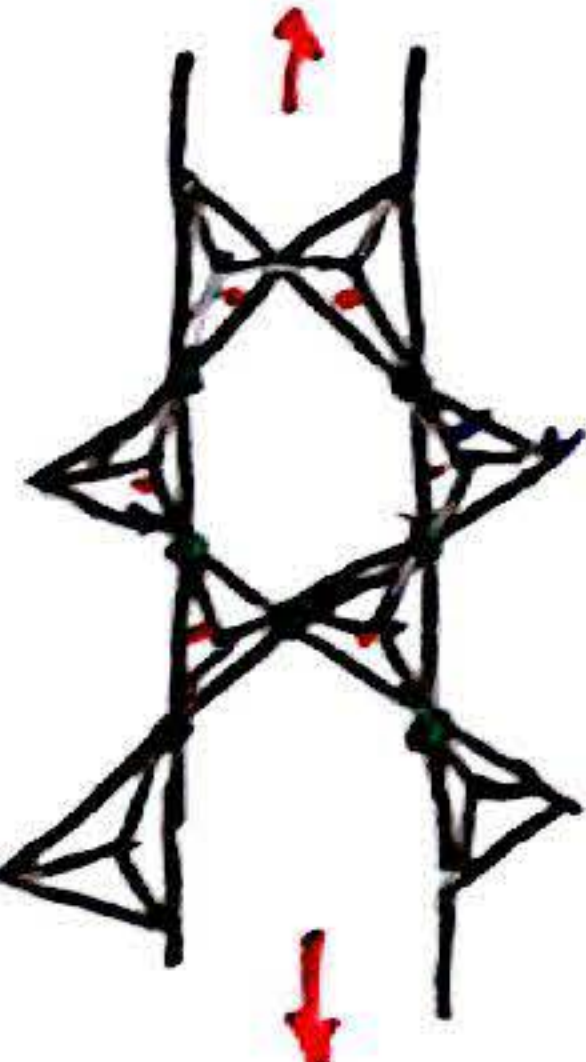


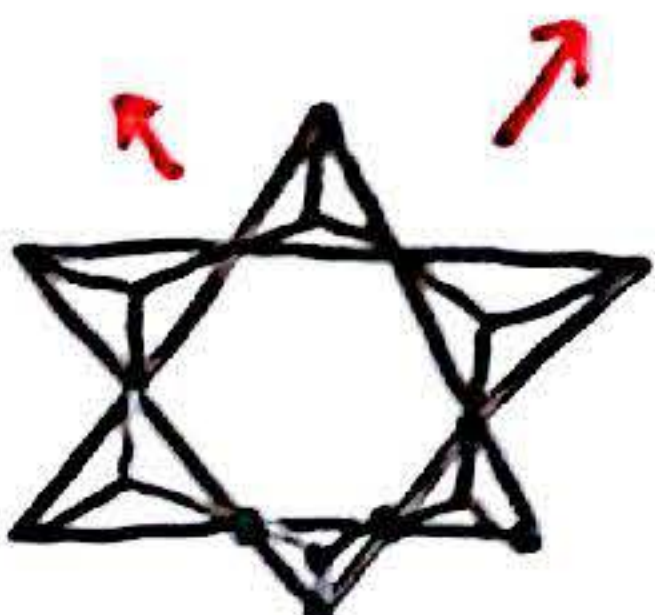


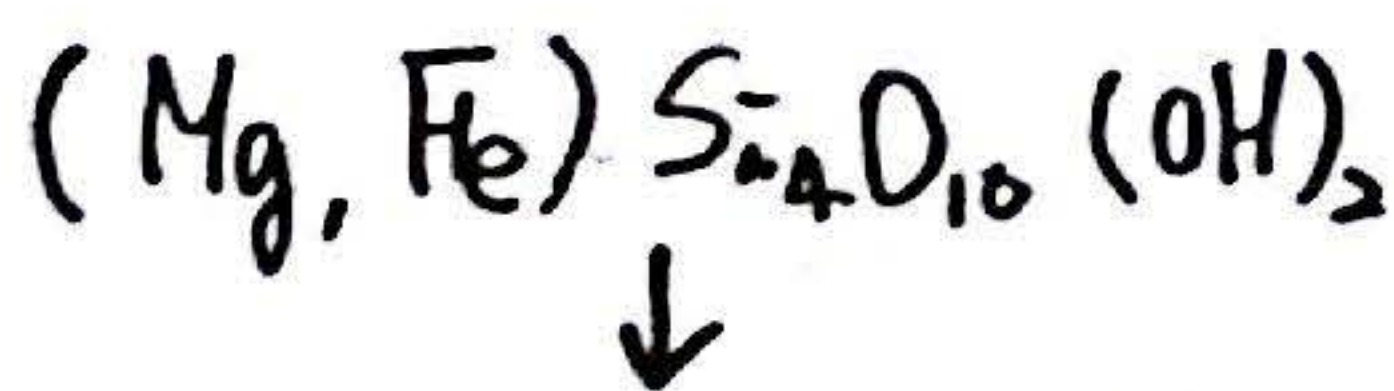
olivine   $Mg_2SiO_4, Fe_2SiO_4$



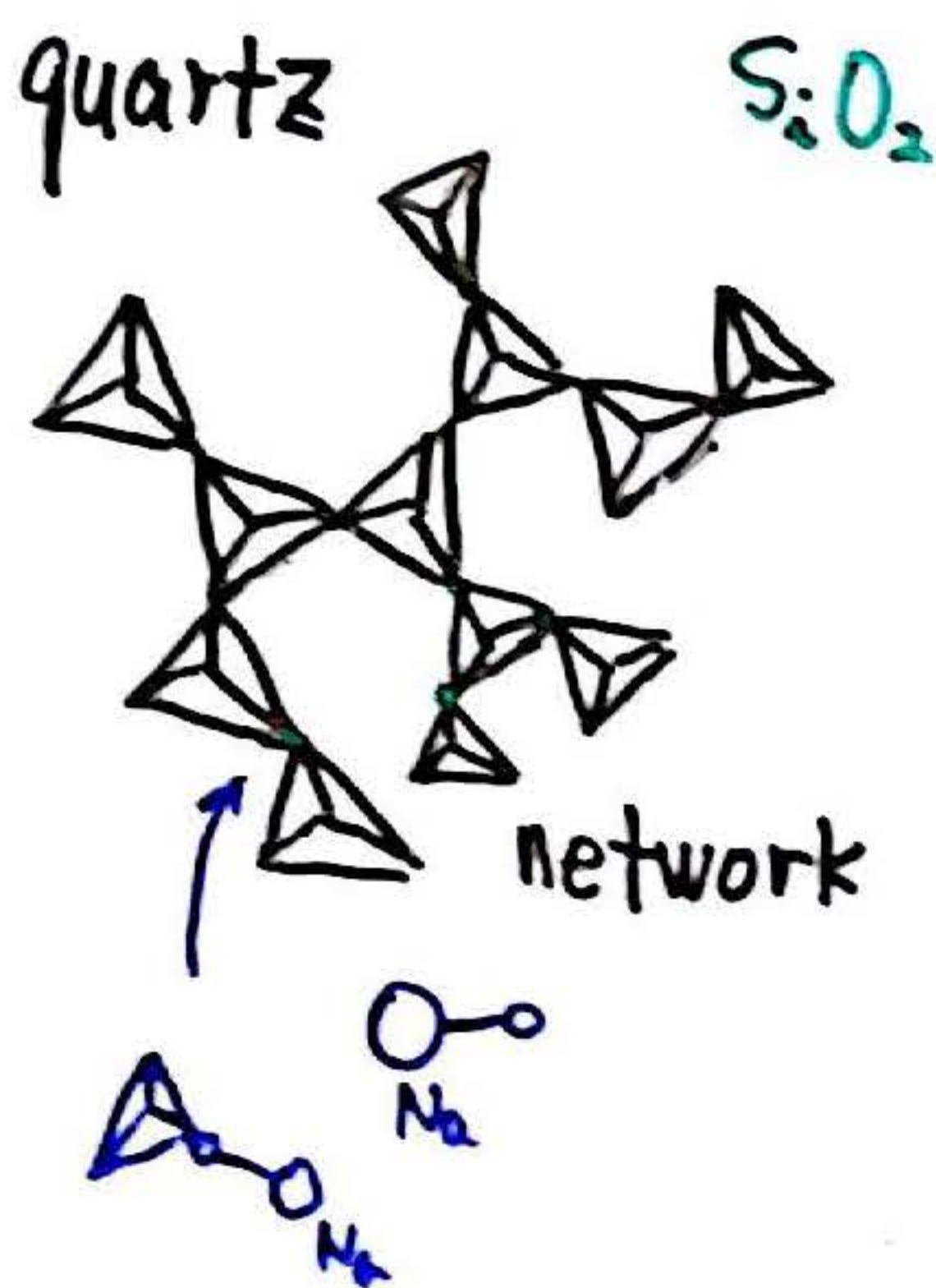
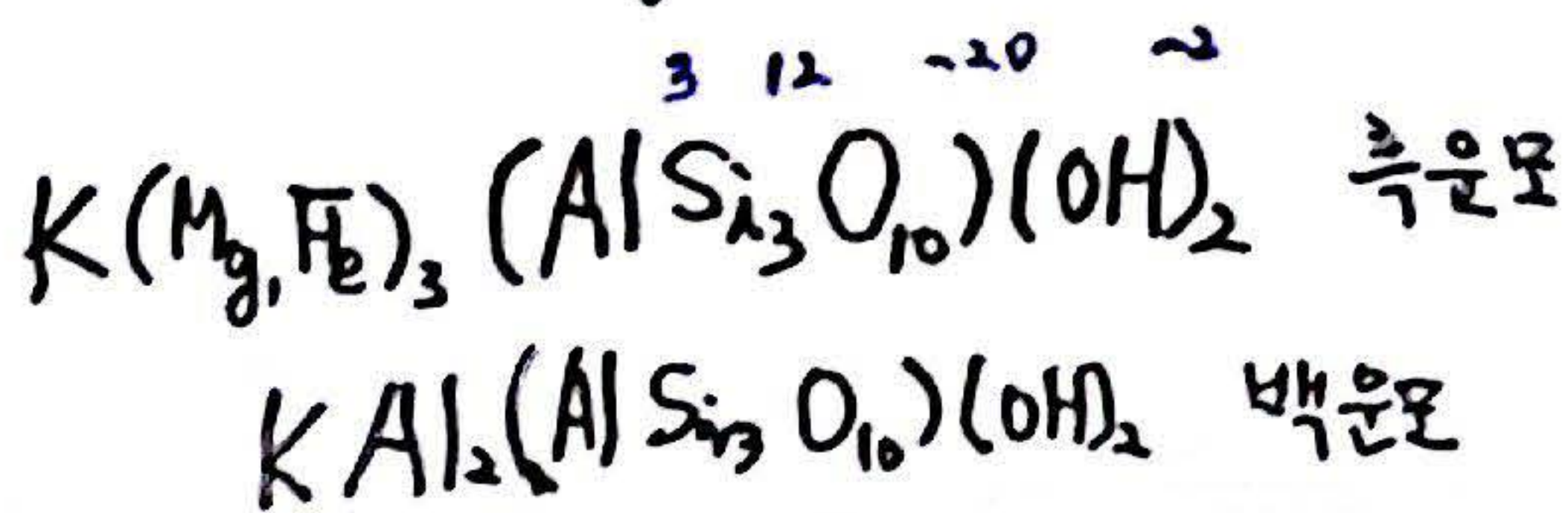
pyroxene   $SiO_3^{-2}$   $(Mg, Fe)SiO_3$

amphibole   $\frac{O}{Si} \Rightarrow Si + O = \frac{7}{2} + 6 = 5$   
 $Ca(Mg, Fe)_3Si_7O_{22}(OH)_2$   
 $16 \quad -22 \quad -2 \quad -8$

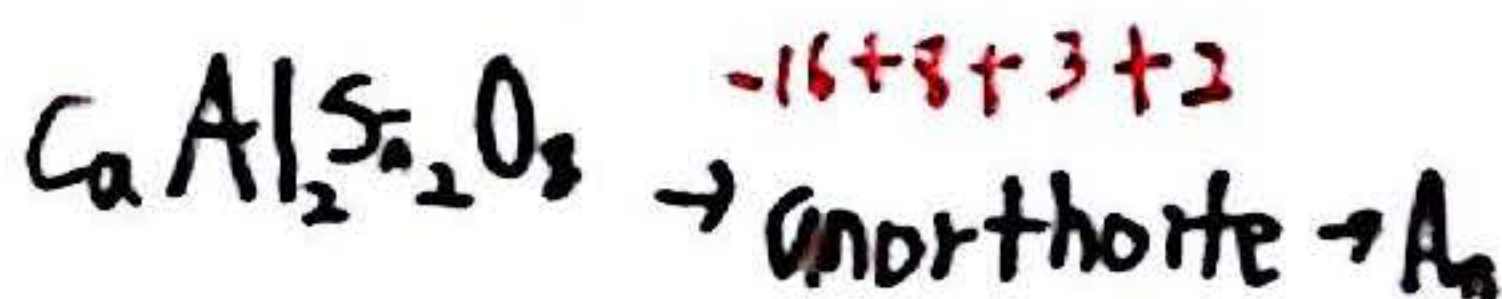
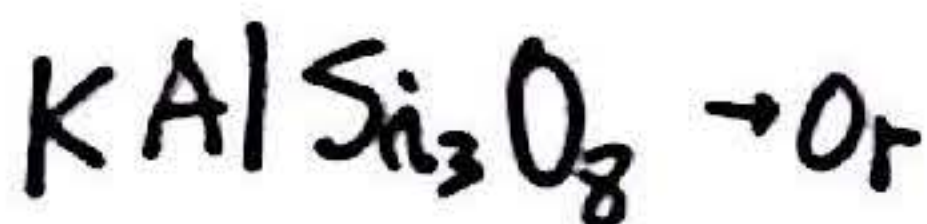
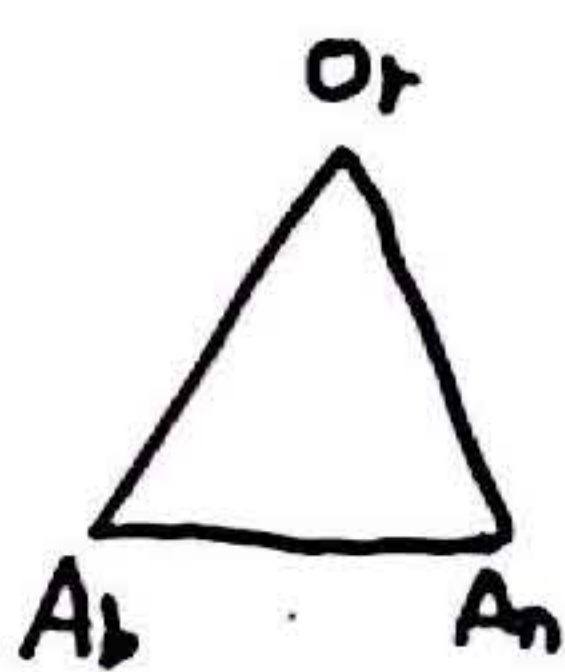
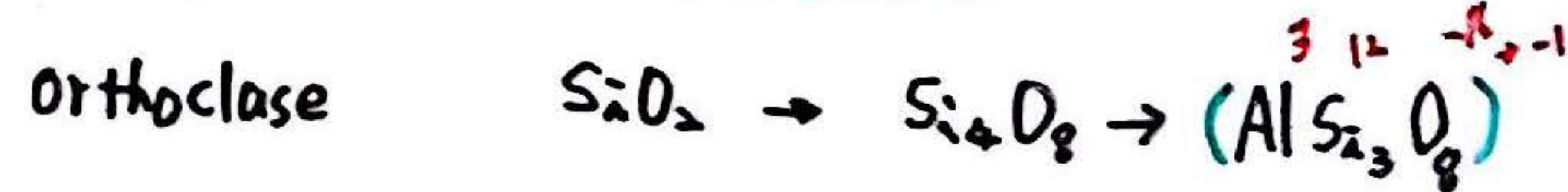
biotite   $\frac{O}{Si} \Rightarrow O = 1.5 + 1 = 2.5 \quad \frac{O}{Si} = 2.5 \quad Si_4O_{10}^{-4}$



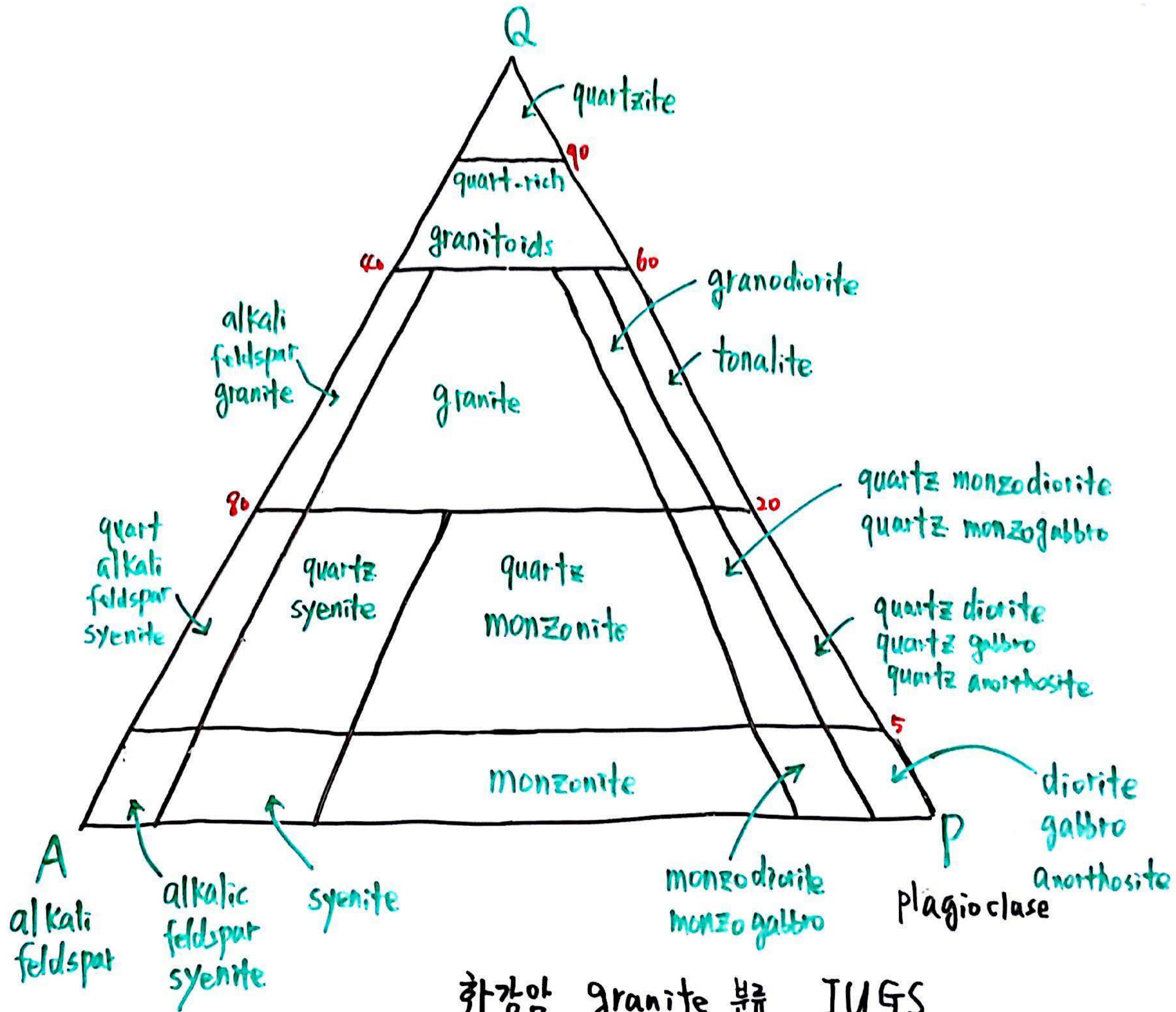
moskovite



feldspar 정.사.미.아.안.알.전.조.







화강암 granite 분류 IUGS



