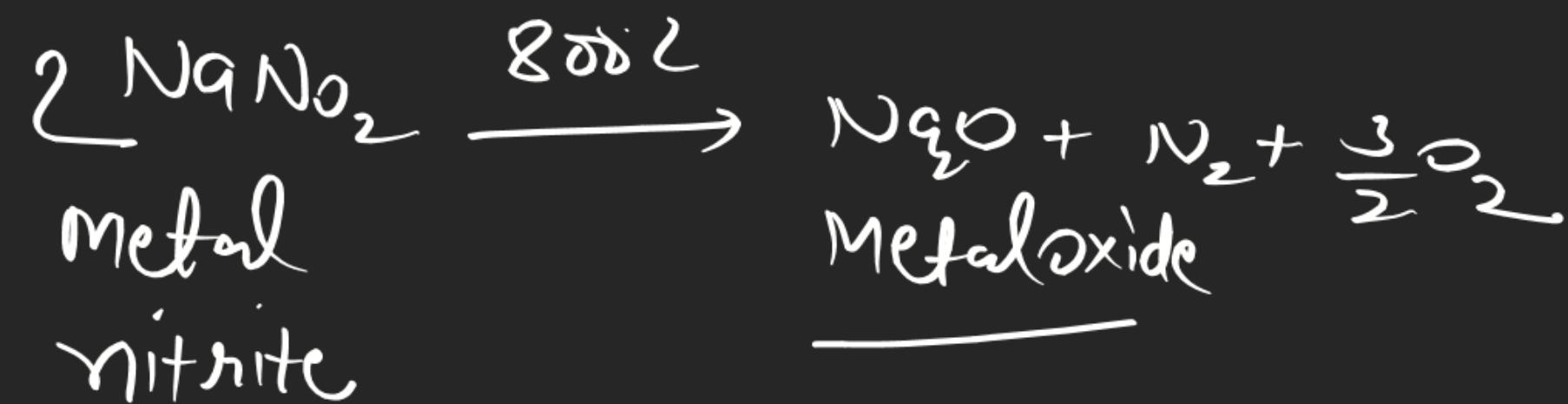


CHEMICAL BONDING

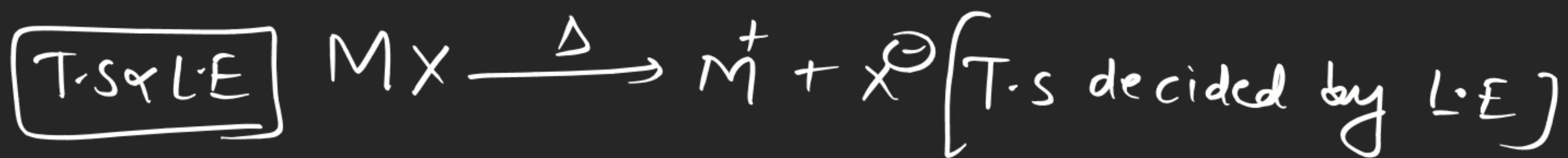
Note = M = Na K Rb Cs

Metal nitrate Metal nitrite



CHEMICAL BONDING

Thermal stability of Ionic compound having monoatomic anion



L.E = amount of released energy when one
of Ionic compound is formed.

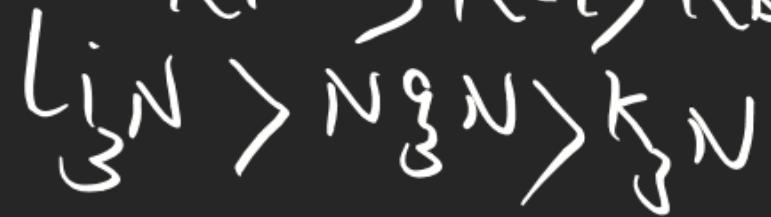
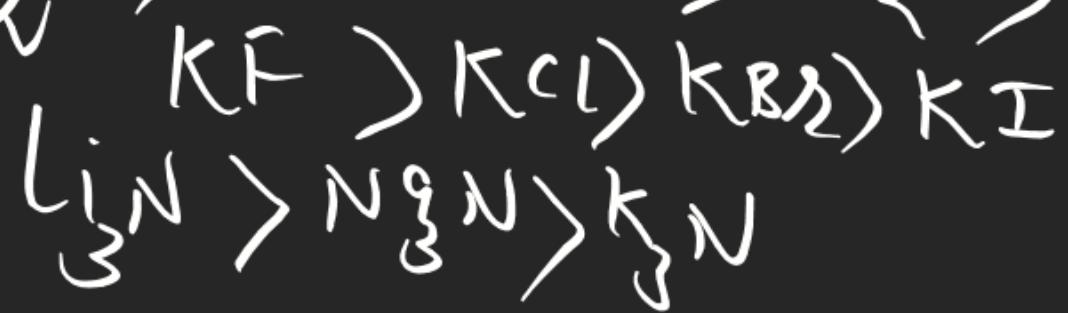
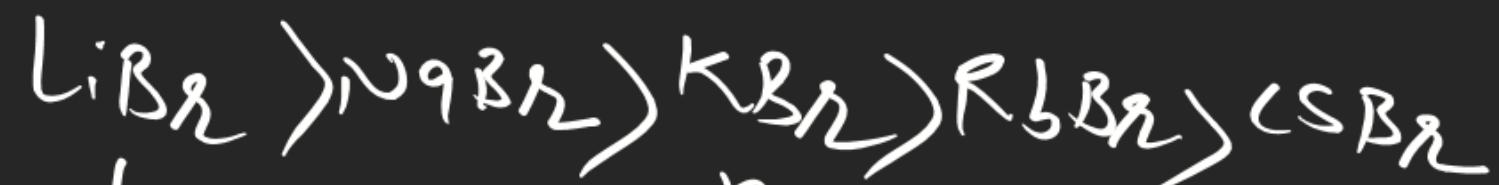
— amount of required energy to break
one mole of Ionic compound.

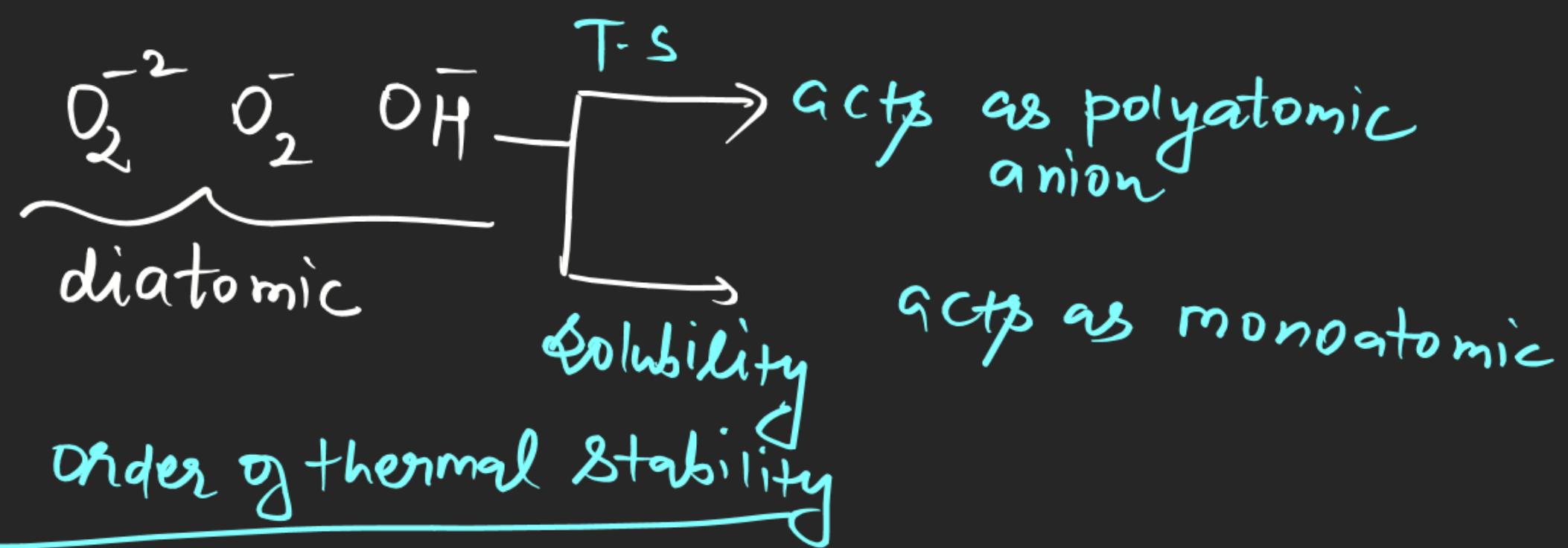
$$L \cdot E = -K \frac{q_1 q_2}{r}$$

T-S & L.E

$L \cdot E \propto \text{Charge}$, $L \cdot E \propto \frac{1}{\text{size}}$

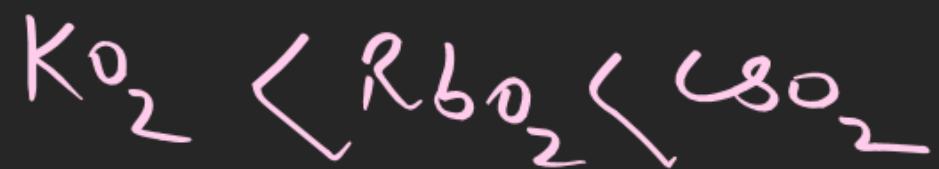
Order of thermal stability



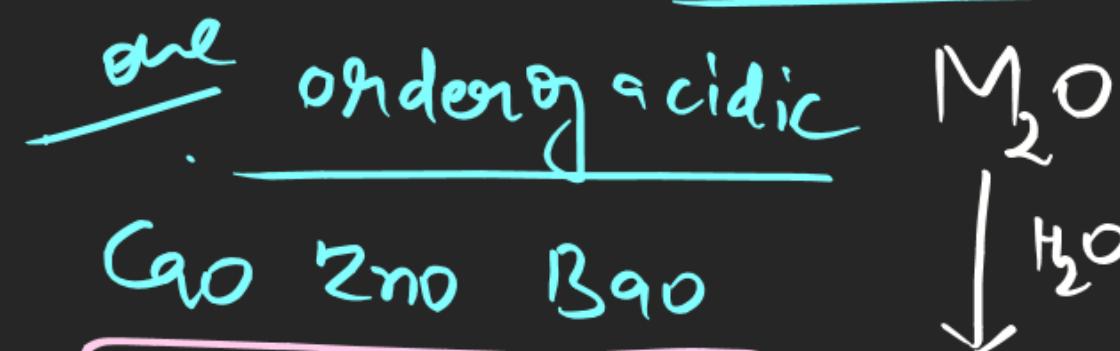


Key point for T-S	
Polyatomic anion	< <
Monatomic	> >

Order of thermal stability

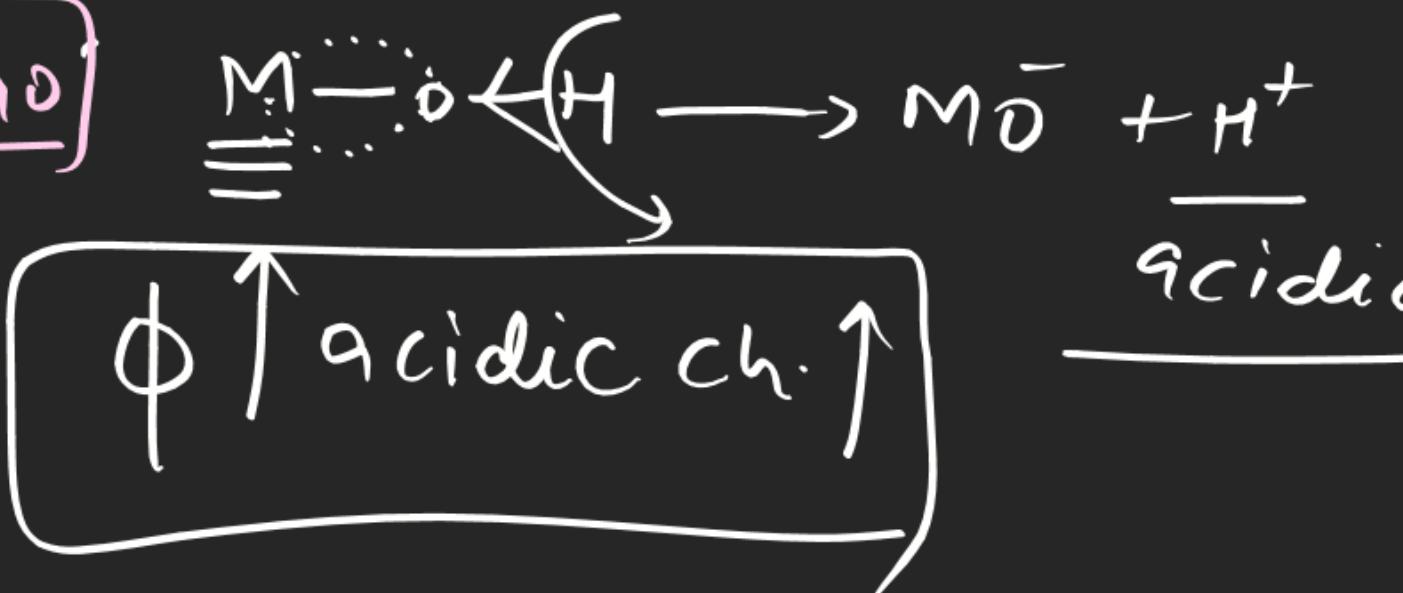


Nature of oxide



$ZnO > CaO > BaO$

Pseudo
Inert gas
Conf.



Keypoint

Li Be
Na Mg
K Ca
Rb Sr
Cs Ba

$\phi \downarrow$ acidic
 $Ch. \downarrow$

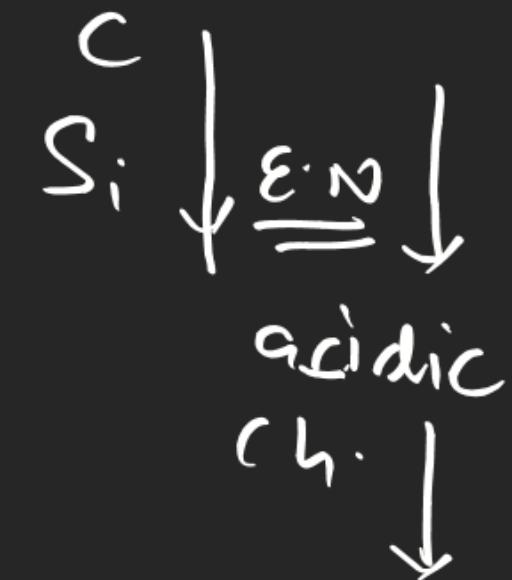
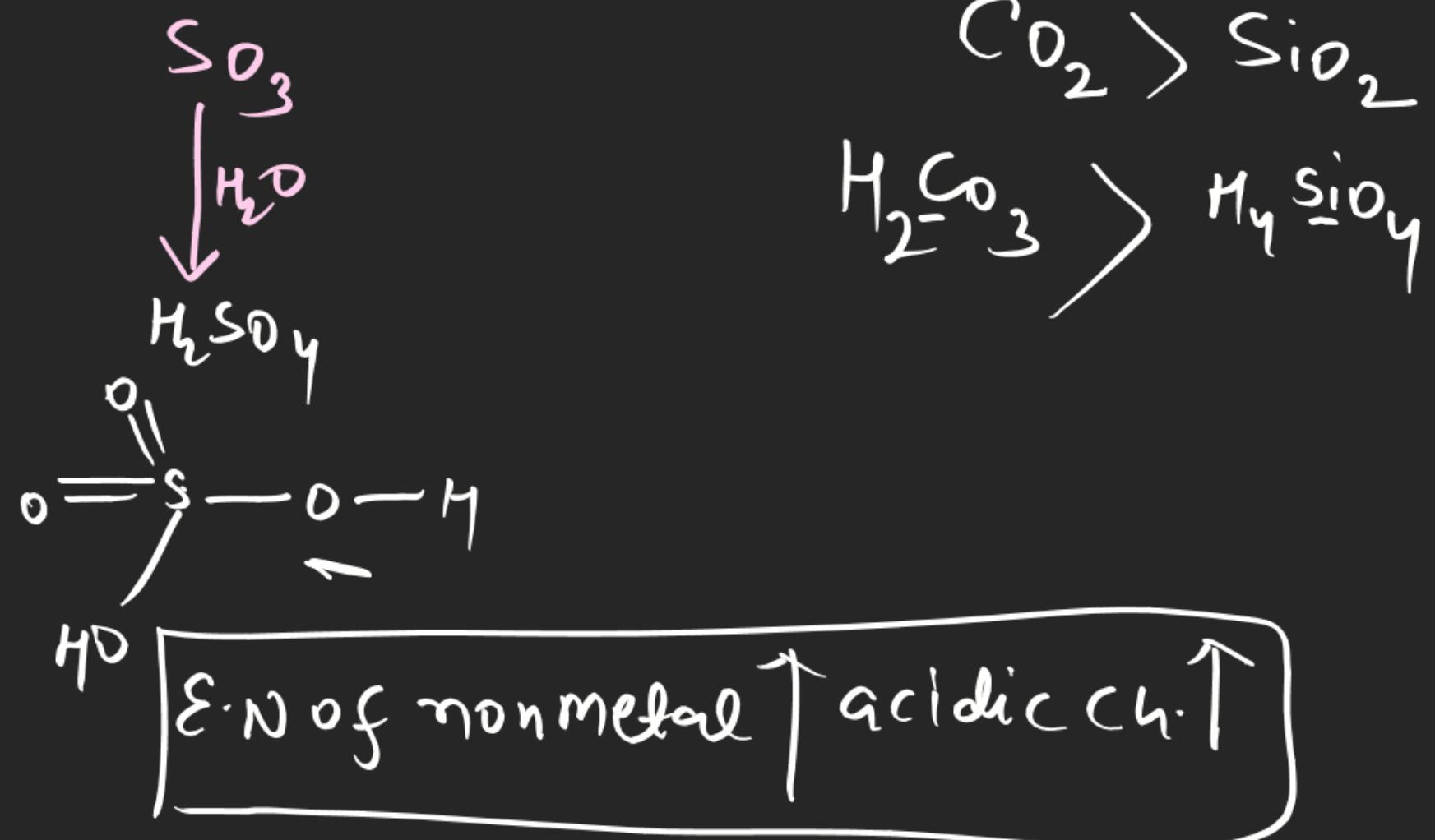
order of acidic ch.

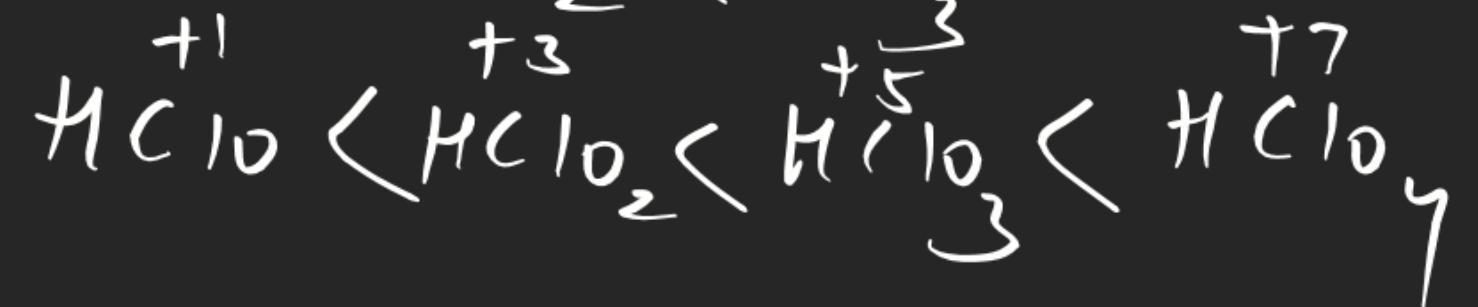
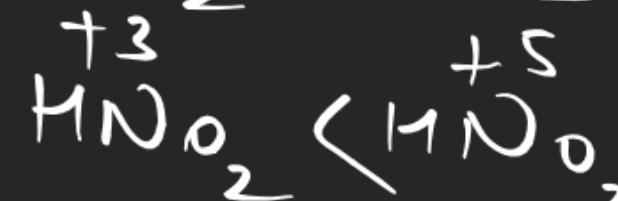
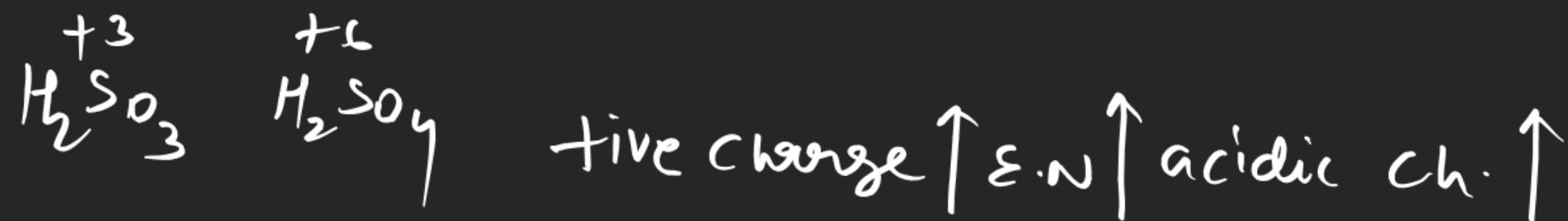
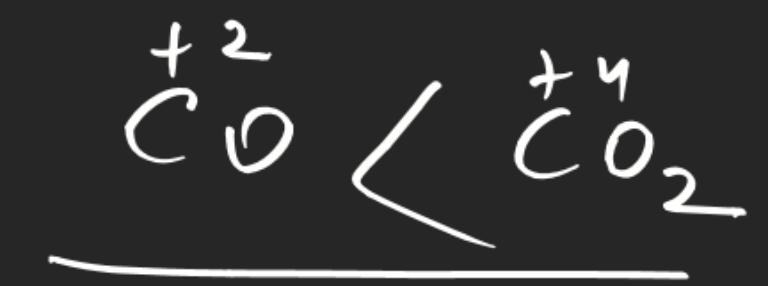
$Li_2O > Na_2O > K_2O > Rb_2O > Cs_2O$

$BeO > MgO > CaO > SrO > BaO$

C_{ao} S_r_o B_a_o N_i_o

N_i_o > C_{ao} > S_r_o > B_a_o
↓
3d⁸





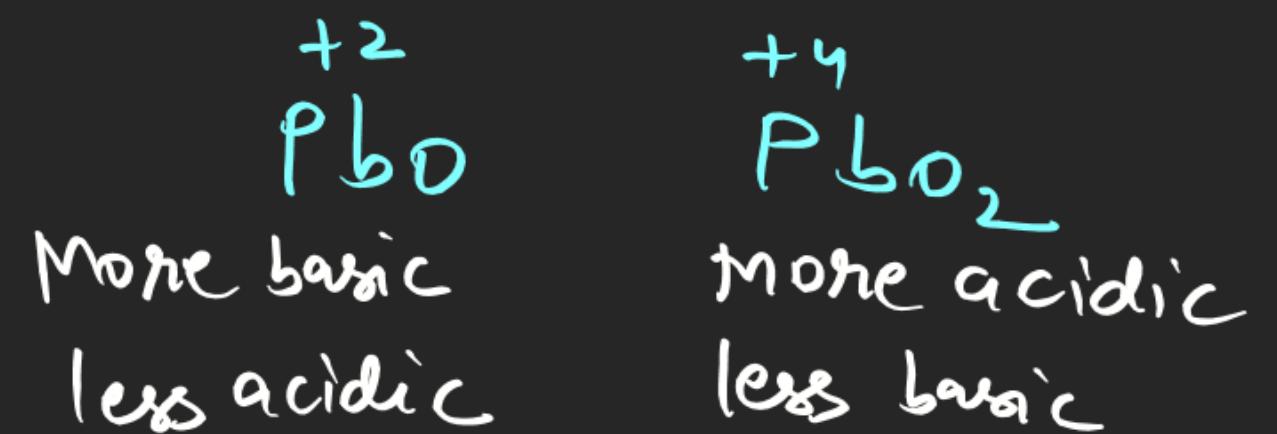
Generally s-block metal oxide — Basic
except BeO [Amphoteric]

परं तथा वे अली गाना सुनाओ +३/+५ कार्य में
Pb Zn Be Al Ga Sn Cr

Oxides and hydroxides are
Amphoteric



Amphoteric

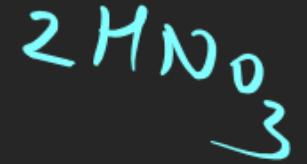
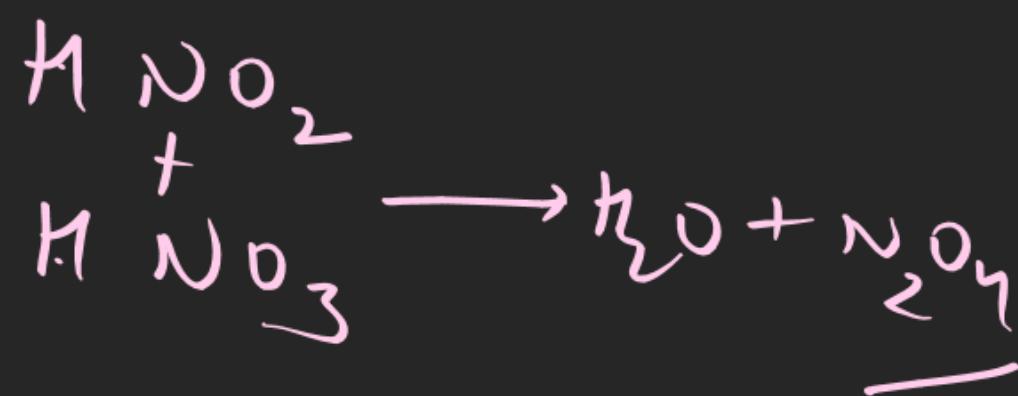
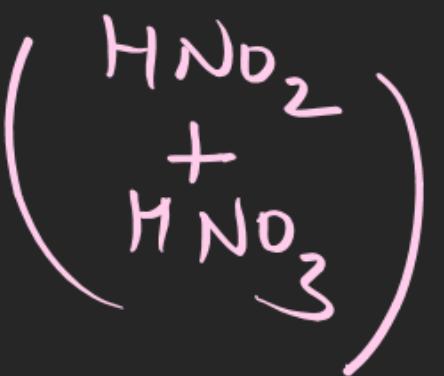
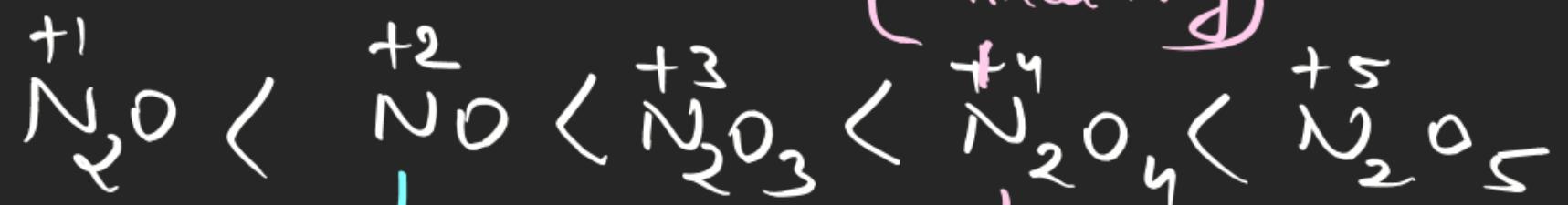


Note \Rightarrow NO $\overset{\text{N}_2\text{O}}{\text{NO}}$ CO_2 H_2O
neutral oxide

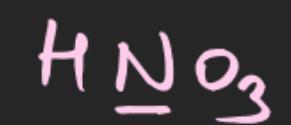
CHEMICAL BONDING

Order of acidic ch.

(Mixed anhy.)



O^{-2}



$$1 + x + 3(-2) = 0$$

$$x = +5$$



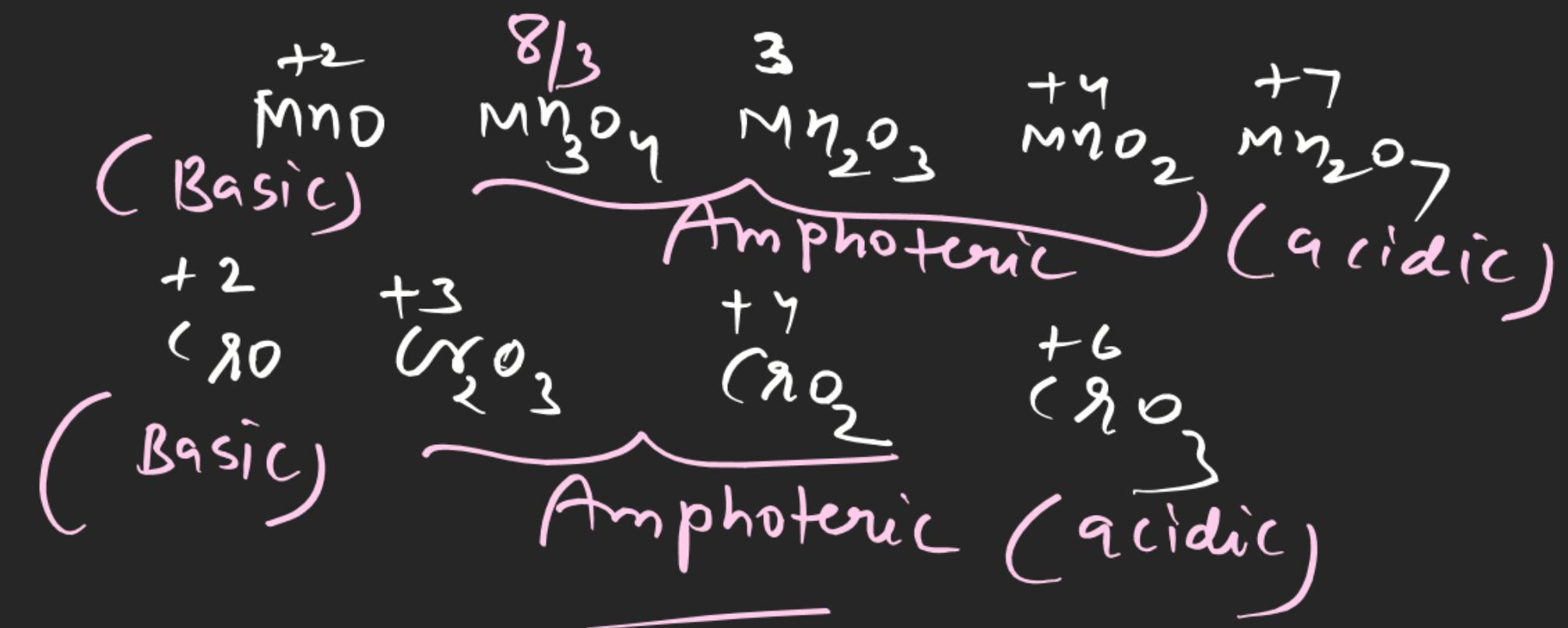
$$2 + x + 3(-2) = 0 \quad \left| \begin{array}{l} N_2O \\ 2x + (-2) = 0 \end{array} \right.$$

$$x = +4$$

$$2x = 2$$

$$x = 1$$

CHEMICAL BONDING



CHEMICAL BONDING

$\lceil \phi < \underline{2.1}$ Basic

$\lceil \phi = 2.1$ to 3.2 Amphoteric

$\lceil \phi > 3.2$ acidic

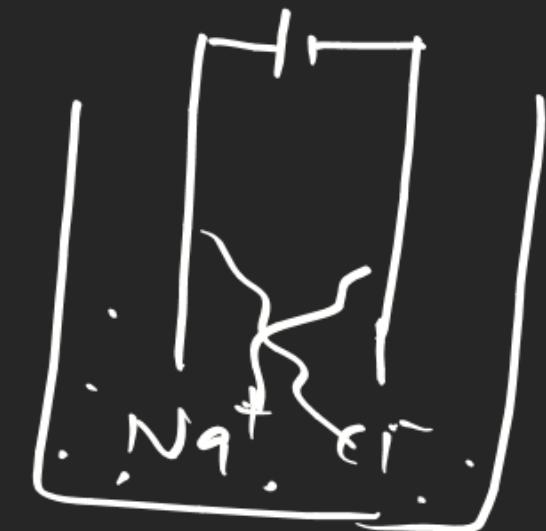
CHEMICAL BONDING

Ques Predict the nature of metal oxide
if polarising power of metal cation is
2.1

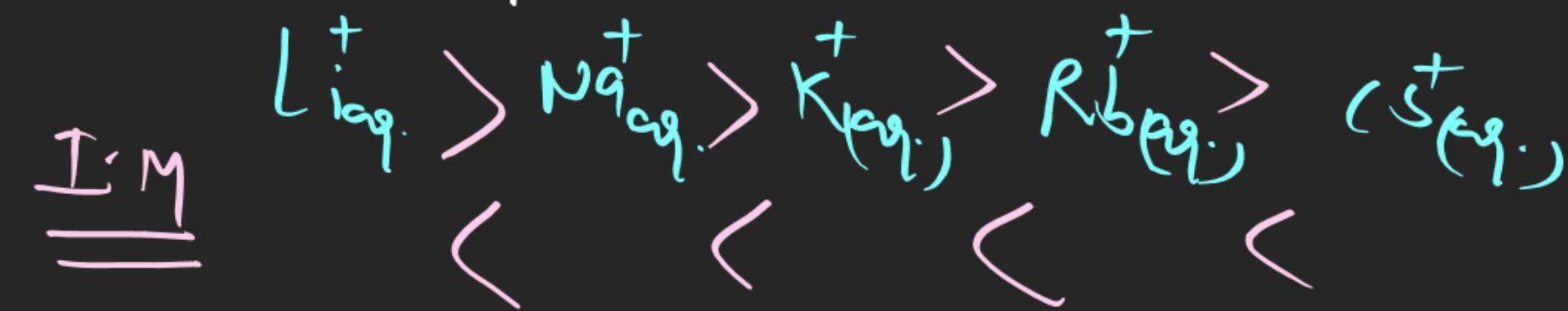
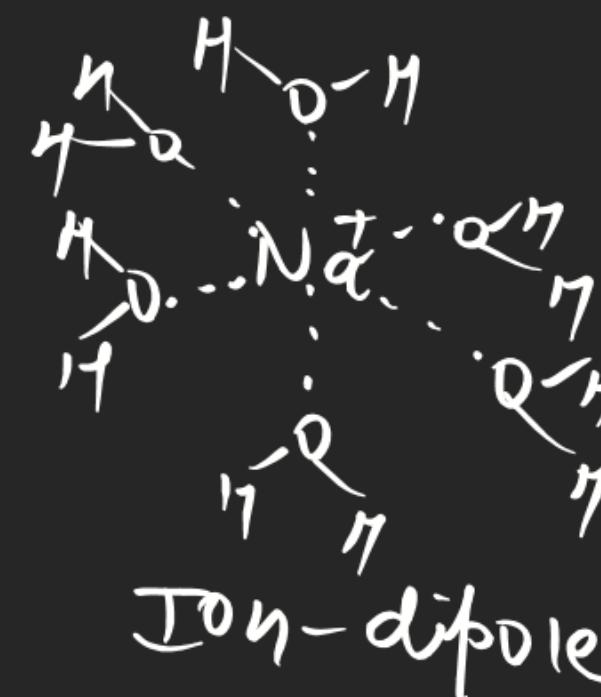
Ans = Basic

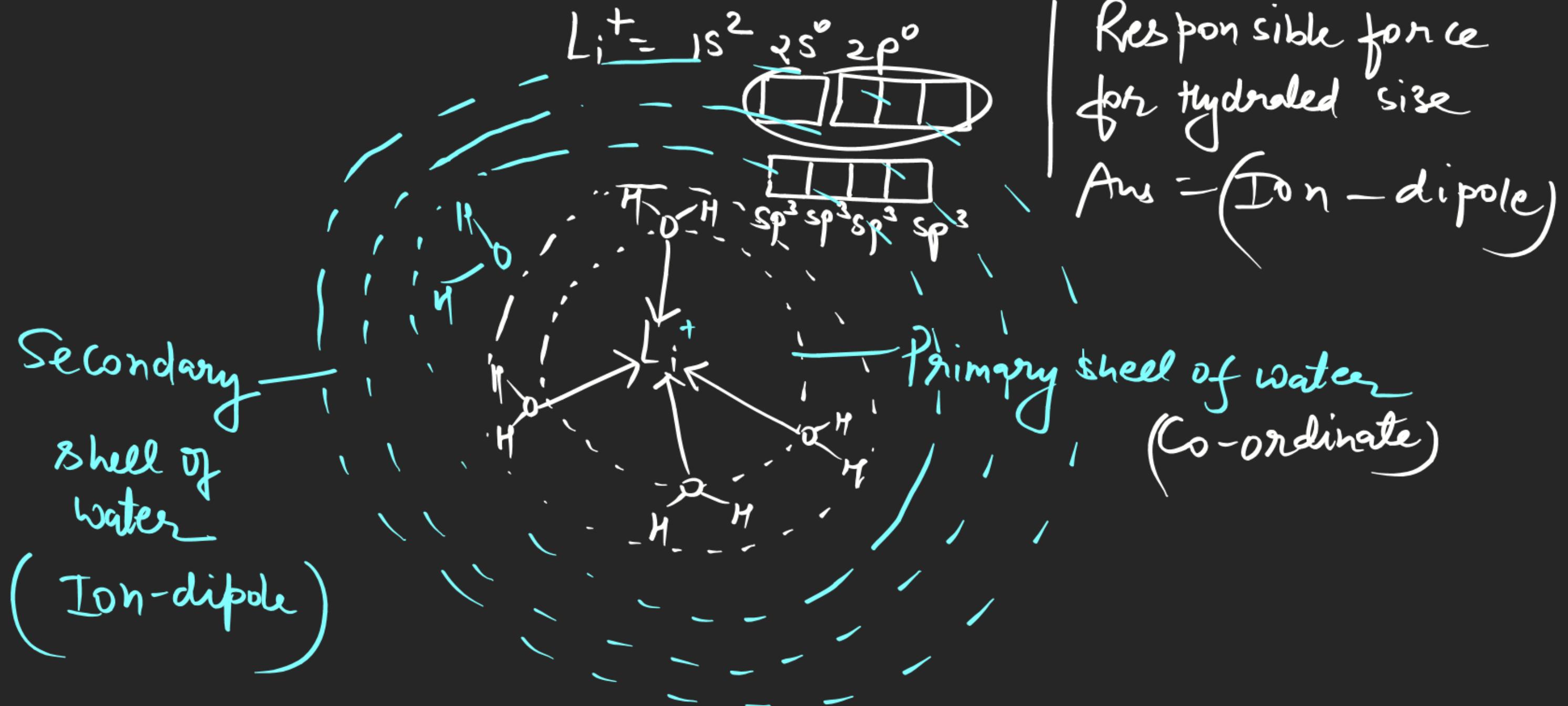
because in this question ϕ is given 2.1
and

Ionic mobility ($I \cdot M$)



$\phi \uparrow$ Hydrated size $\uparrow I \cdot M \downarrow$
Order of hydrated size





Colour of Ionic Compound



Generally Ionic Compounds colourless/white

When polarisation increases then tendency of colour in Ionic compound increases.

one

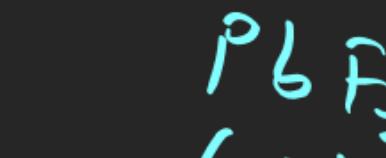
Correct statement or Not



Yellow

Not Correct

Colourless



Golden

Yes

Yellow

AgF AgCl AgBr AgI

White pale yellow yellow

Hg F₂
Colours

Mg I₂
scarlet red

one Predict the colour of CuCl and CuBr
if colour of CuI is white

Ans - white

Hydrated size