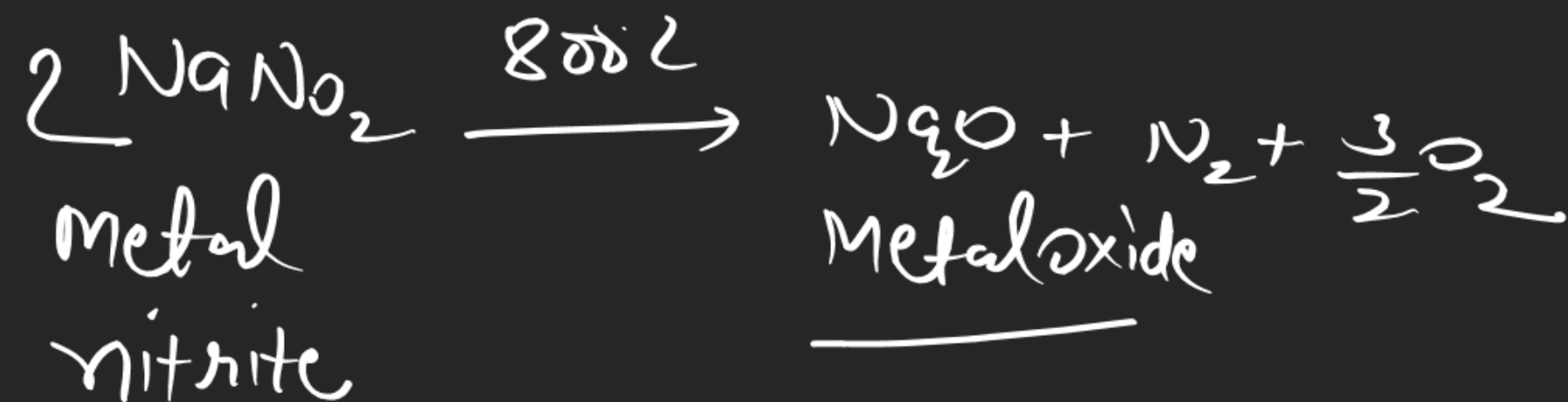
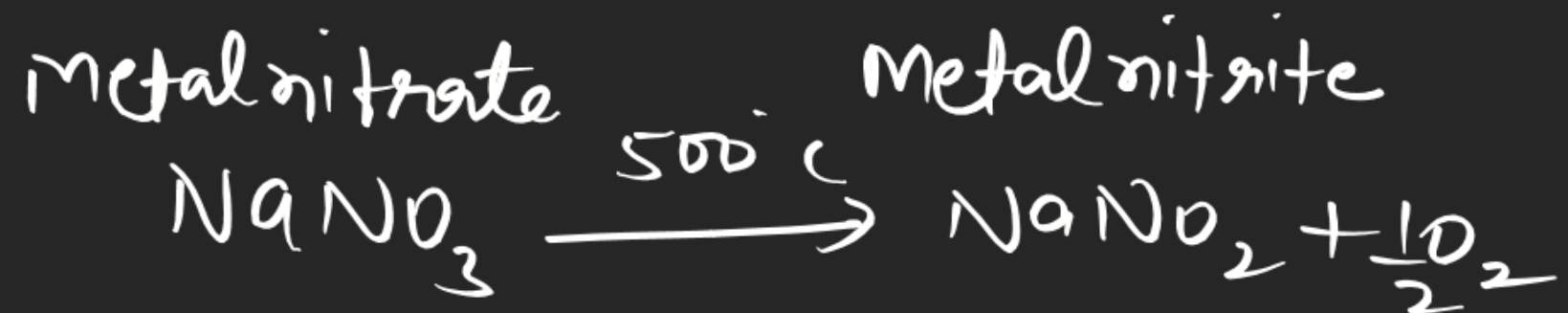


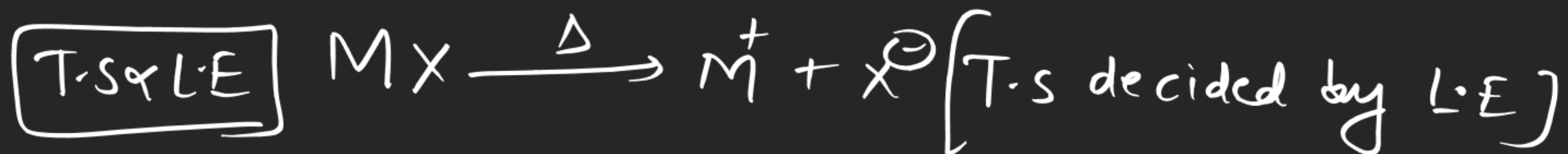
CHEMICAL BONDING

Note = M = Na K Rb Cs



CHEMICAL BONDING

Thermal stability of ionic compound having monoatomic anion



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

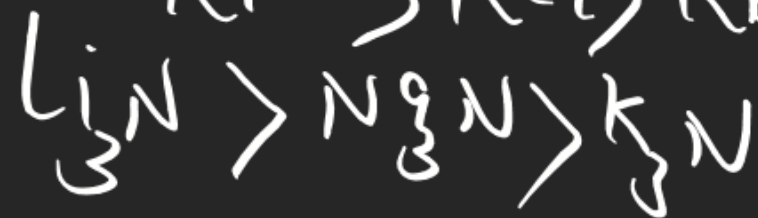
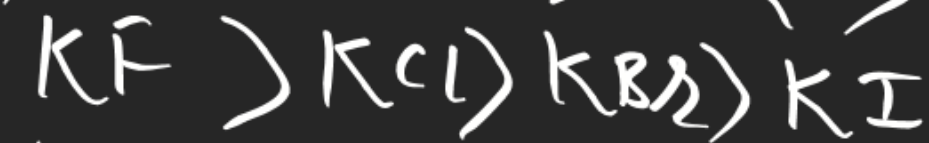
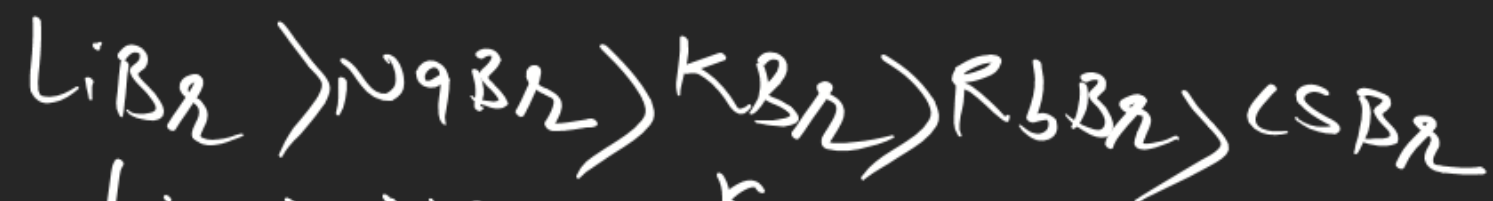
or
— amount of required energy to break
one mole of ionic compound.

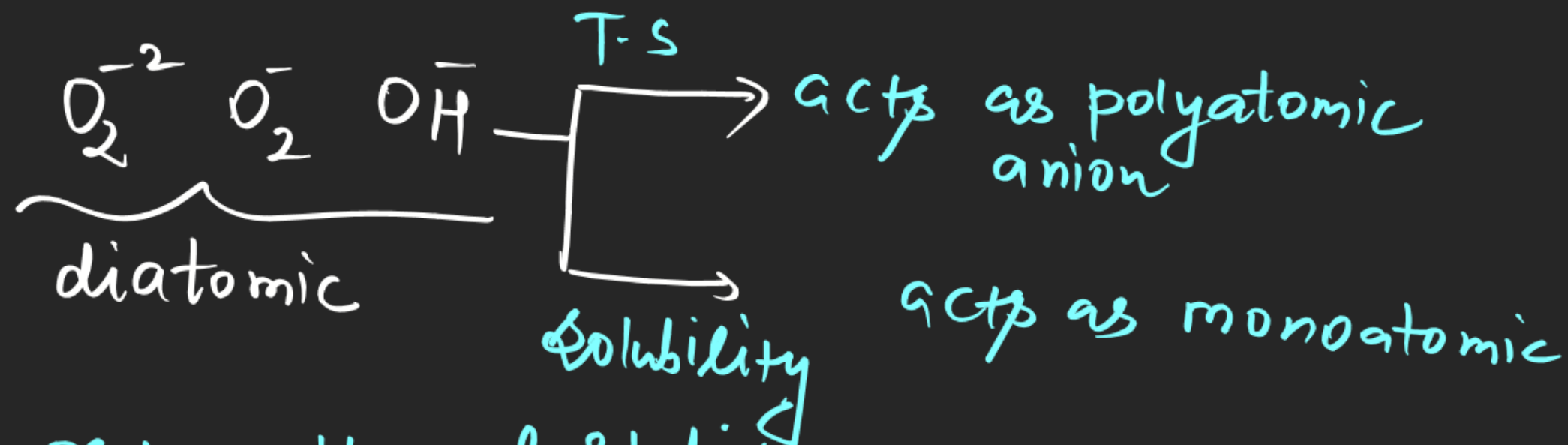
$$L.E = -\frac{K q_1 q_2}{r}$$

$T \propto L.E$

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

order of thermal stability





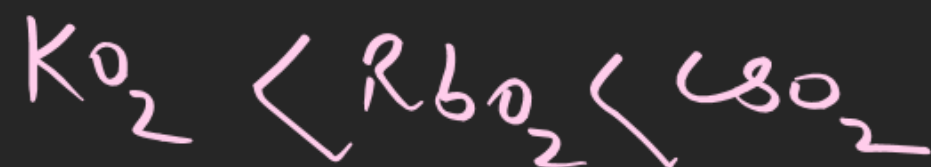
Key point for T.S

Order of thermal stability

Polyatomic anion



< <
Monoatomic



> >

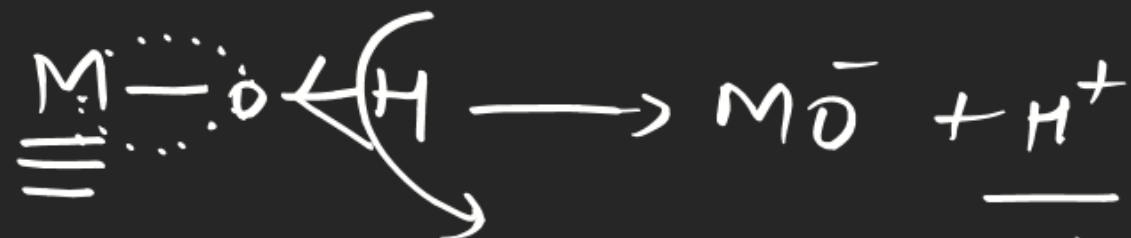
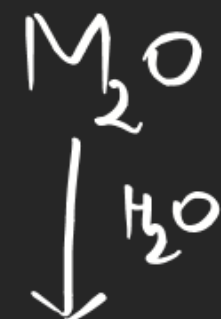
Nature of oxide

order of acidic

CaO ZnO BaO

$ZnO > CaO > BaO$

Pseudo
inert gas
Conf.



$\phi \uparrow$ acidic ch. \uparrow

Key point

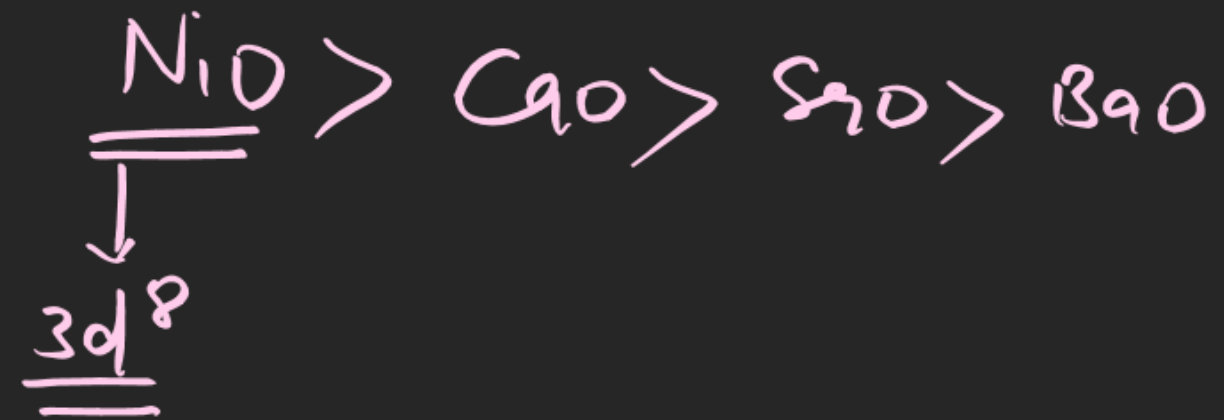
Li	Be
Na	Mg
K	Ca
Rb	Sr
Cs	Ba

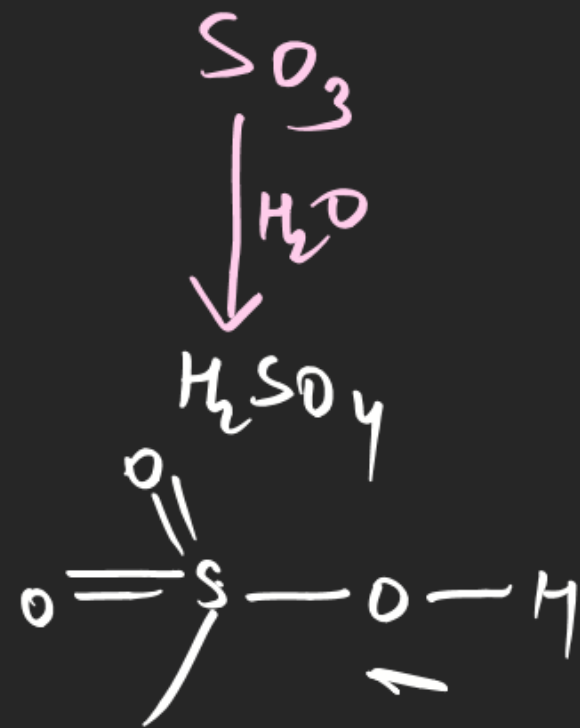
ϕ acidic
 \downarrow ch. \downarrow

order of acidic ch.

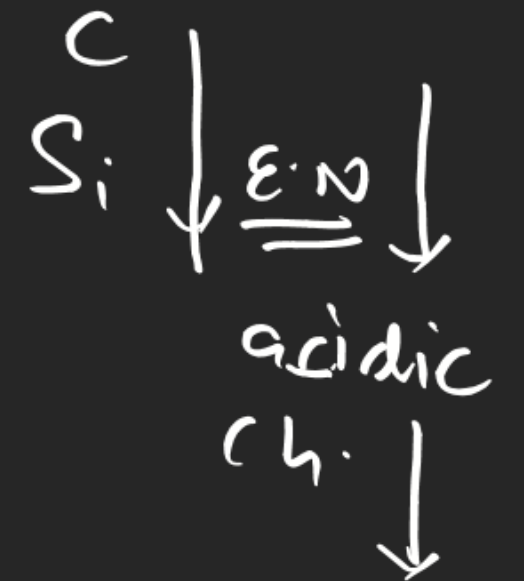
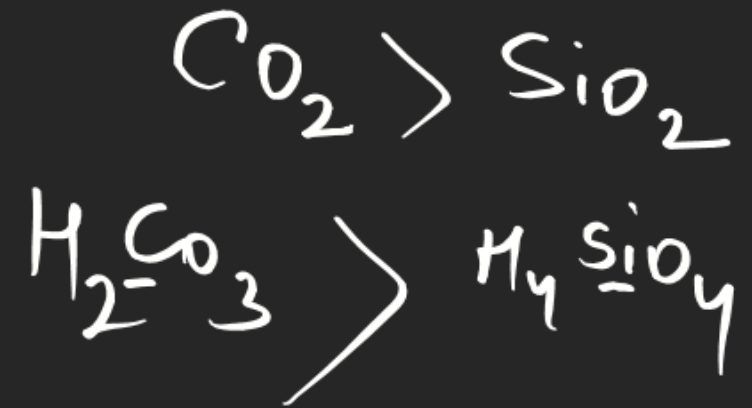
$Li_2O > Na_2O > K_2O > Rb_2O > Cs_2O$
 $BeO > MgO > CaO > SrO > BaO$

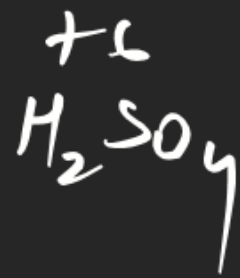
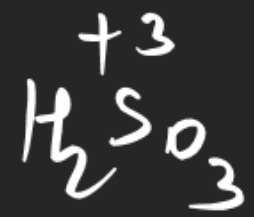
acidic



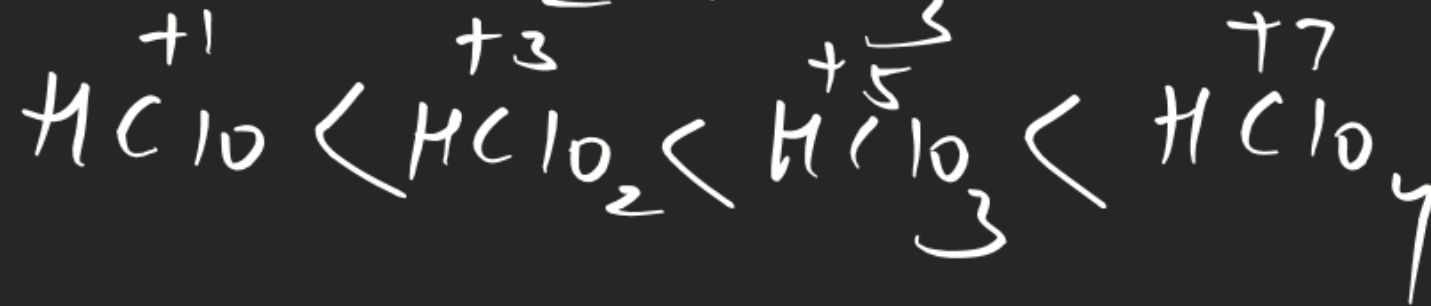
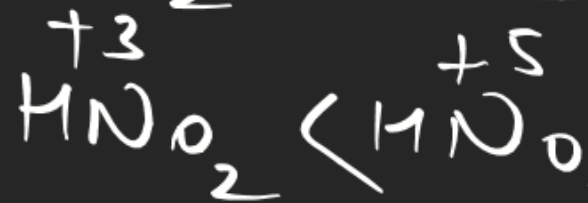


$\boxed{\text{E.N of nonmetal} \uparrow \text{acidic ch.} \uparrow}$





↑
+ive charge ↑ e.n ↑ acidic ch. ↑



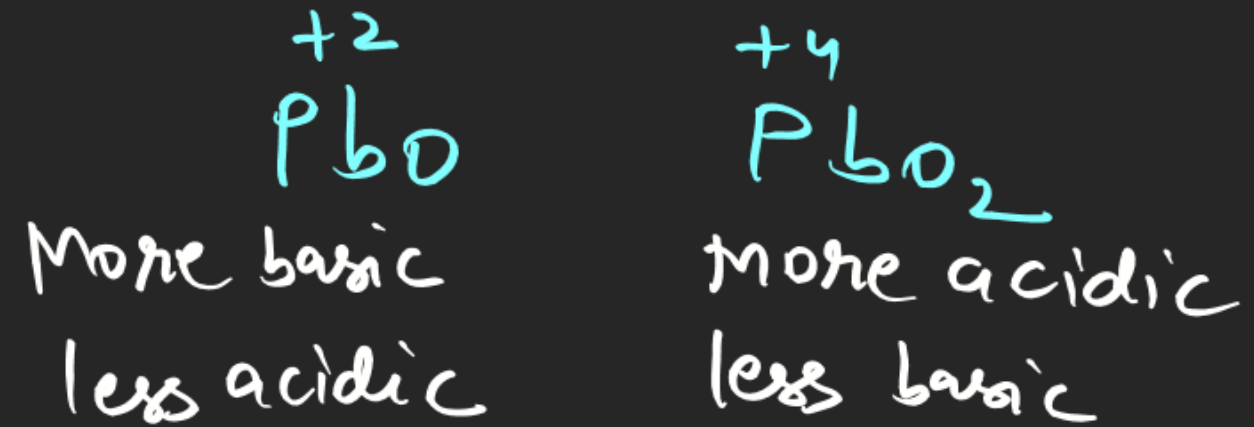
Generally s-block metal oxide — Basic
except BeO (Amphoteric)

पं जा वे अली गाना मुनाओ +3/+4 कार में
Pb Zn Be Al Ga Sn Cr

oxides and hydroxides are
Amphoteric

V_2O_5 SiO_2 As_2O_3

Amphoteric

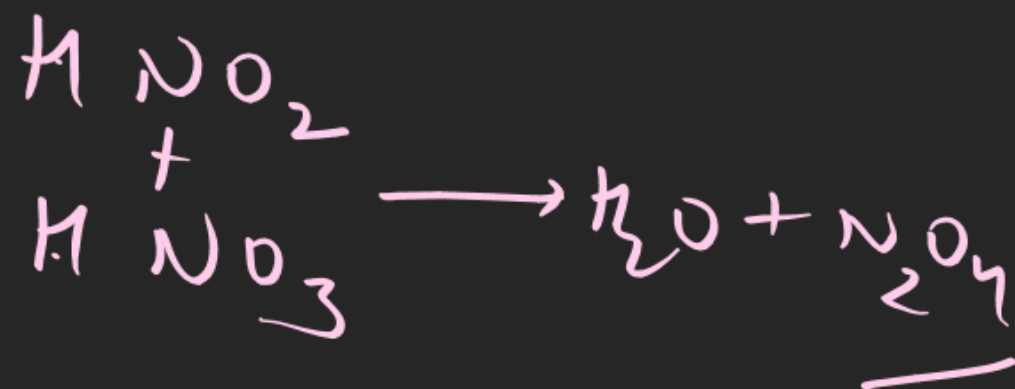
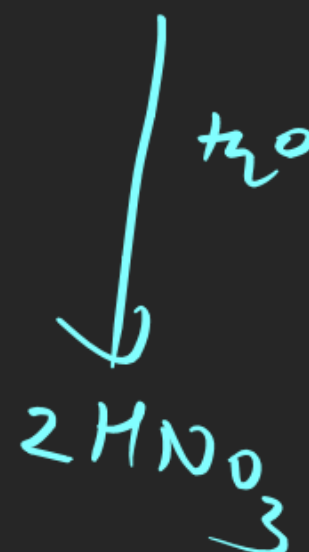
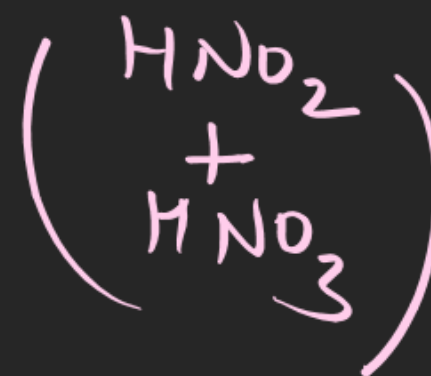
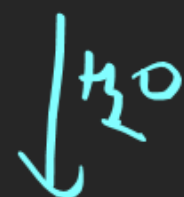
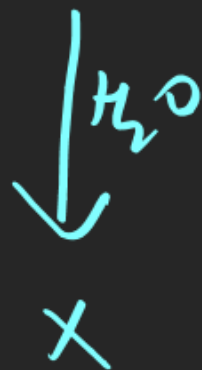
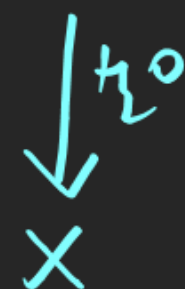
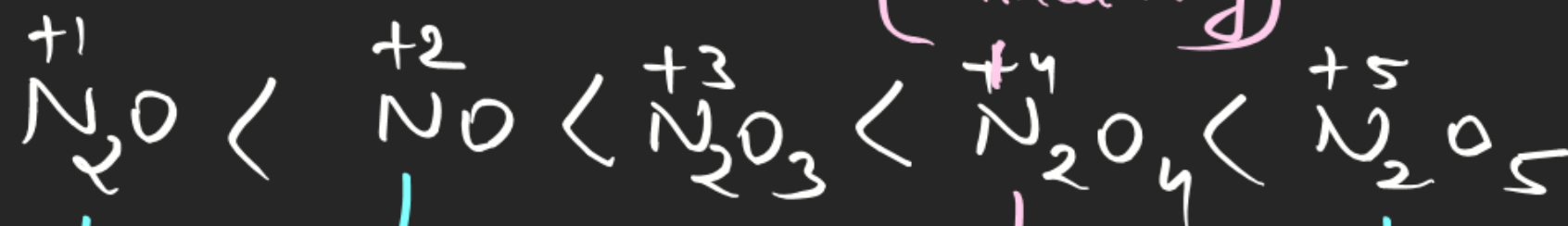


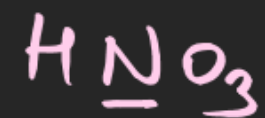
Note \Rightarrow $\underbrace{NO \quad N_2O}_{\text{neutral}} \quad \underbrace{CO \quad H_2O}_{\text{oxide}}$

CHEMICAL BONDING

Order of acidic ch.

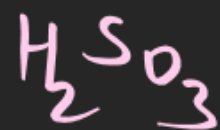
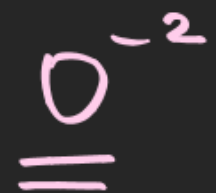
(mixed anhy.)





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

$$x = +5$$



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

$$x = +4$$

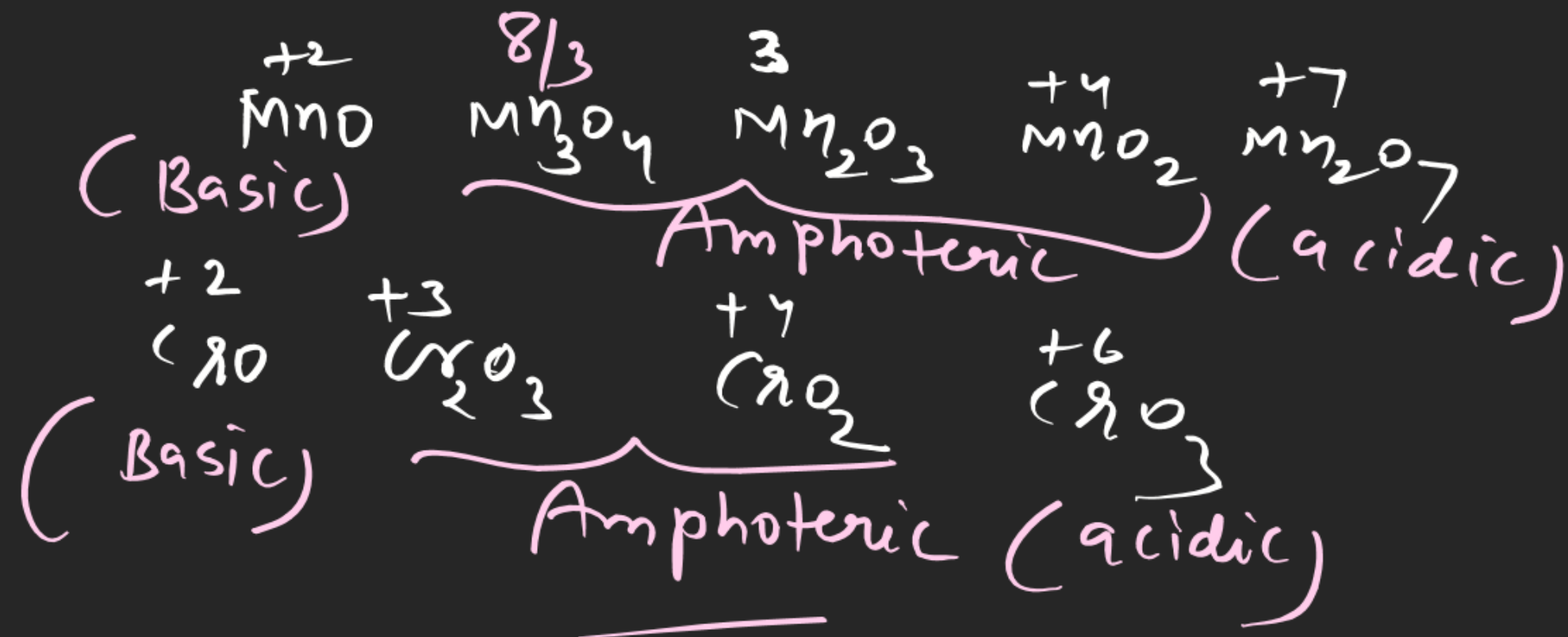


$$2x + (-2) = 0$$

$$2x = 2$$

$$x = 1$$

CHEMICAL BONDING



CHEMICAL BONDING

$$\chi\phi < \underline{2.1} \text{ Basic}$$

$$\chi\phi = 2.1 \text{ to } 3.2 \text{ Amphoteric}$$

$$\chi\phi > 3.2 \text{ acidic}$$

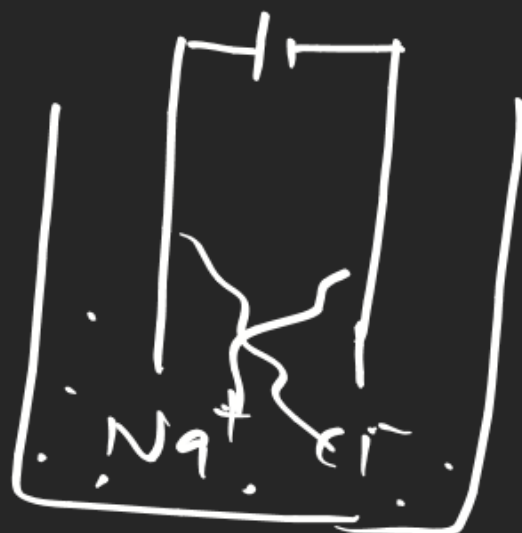
CHEMICAL BONDING

Ques Predict the nature of metal oxide
if polarising power of metal cation is
2-1

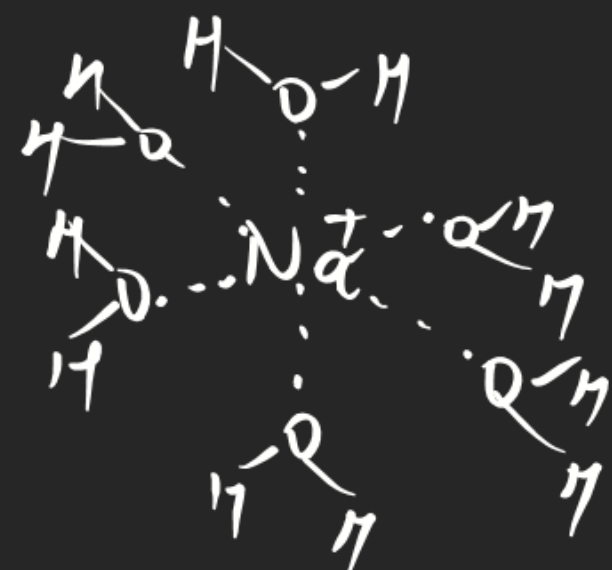
Ans = Basic

because in this question ϕ is given 2-1
and

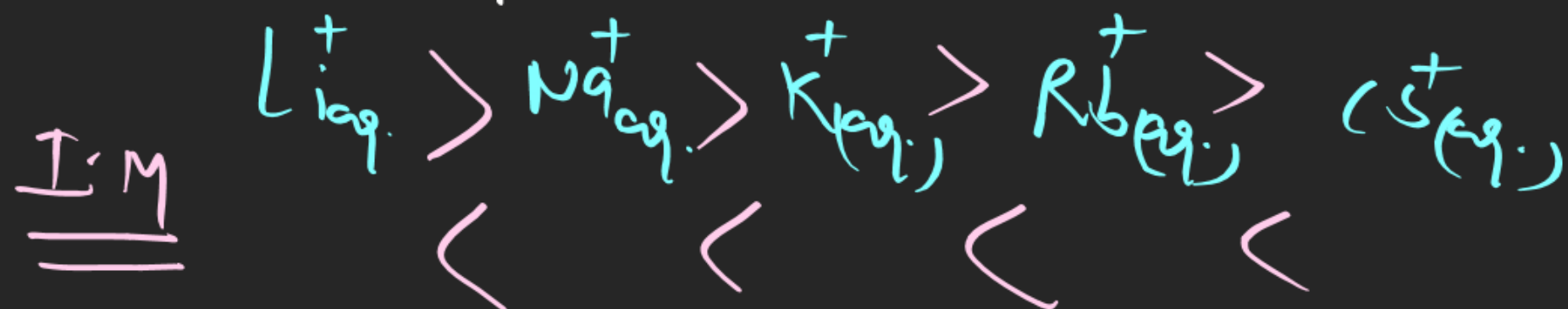
Ionic mobility (I-M)

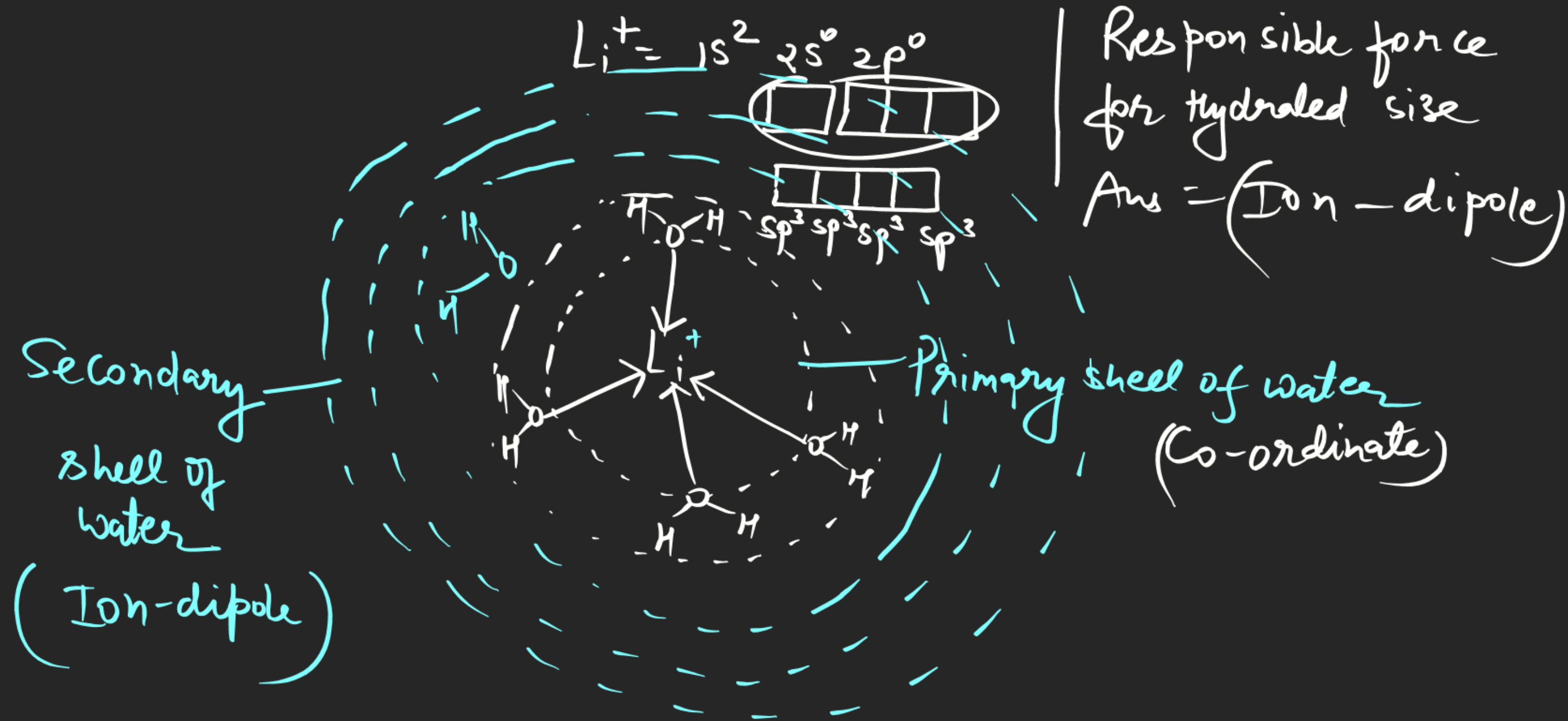


$\phi \uparrow$ Hydrated size \downarrow I-M
order of hydrated size



Ion-dipole





Colour of Ionic compound



Generally Ionic compounds colourless/white

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

U.V Black \rightarrow V I B G \rightarrow R \rightarrow I R Colourless

Correct statement or Not

Ans Not correct

Ans Yes

AgF AgCl AgBr AgI

White pale yellow yellow

PbF₂ PbI₂

Colourless Yellow

$Hg F_2$
Colours

$Hg I_2$
Scarlet Red

Ques Predict the colour of $CuCl$ and $CuBr_2$
if colour of CuI is white

Ans = white

Hydrated size

