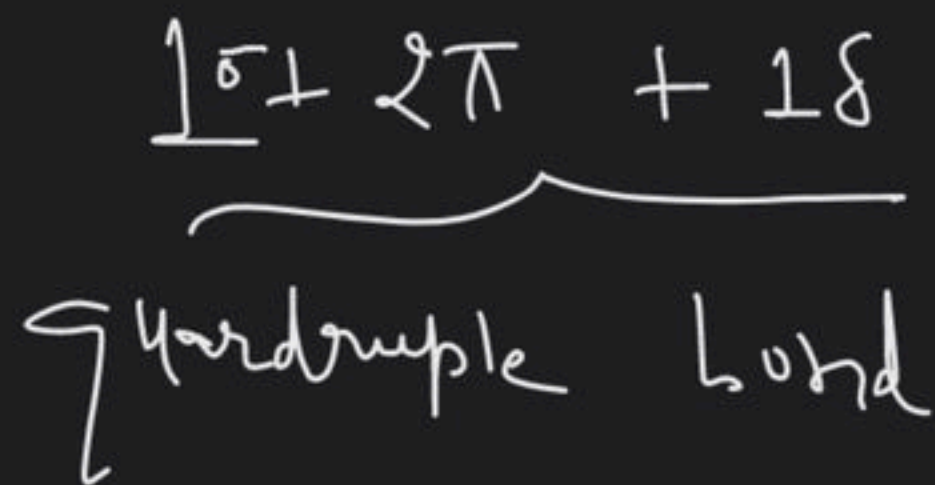
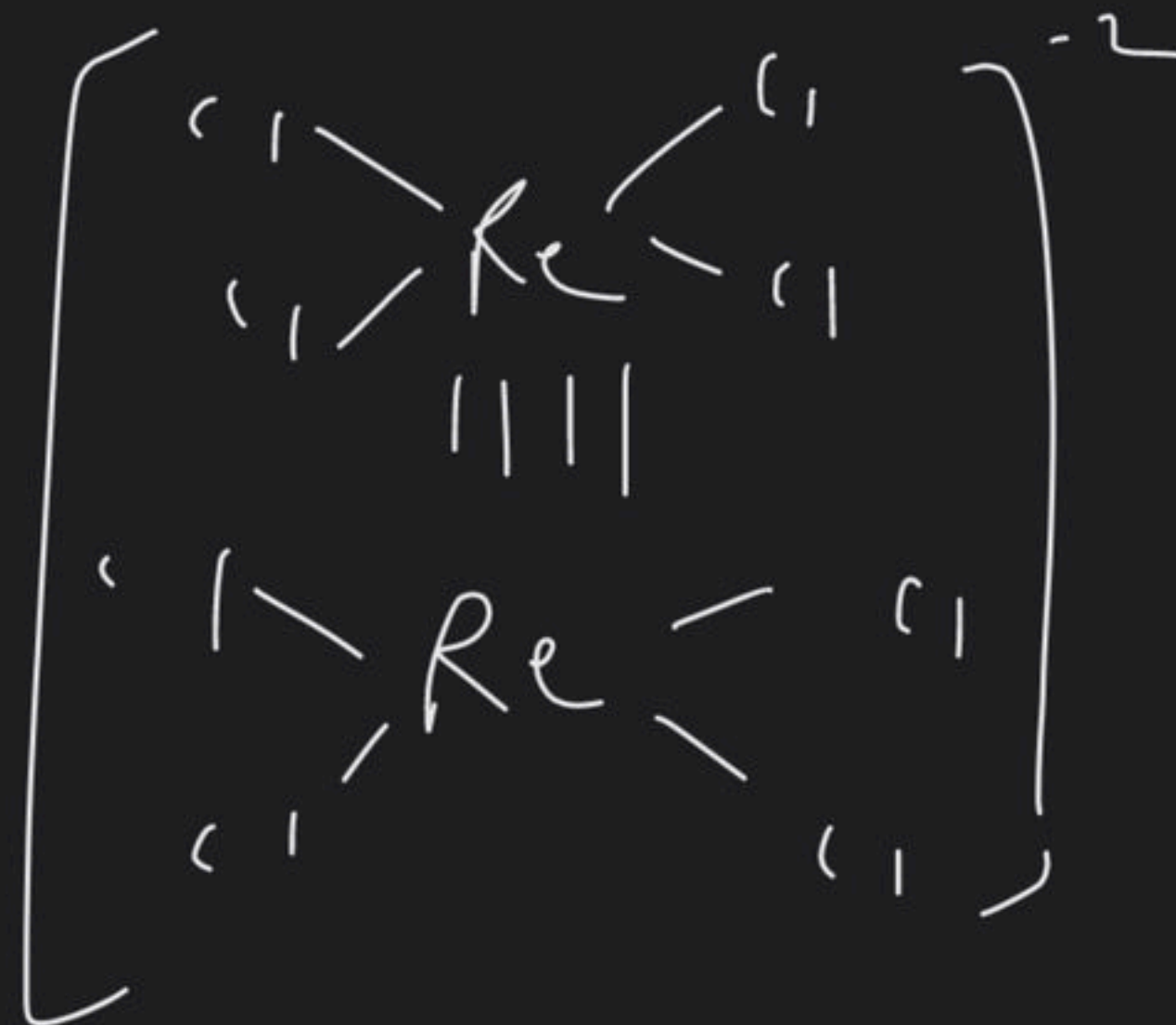
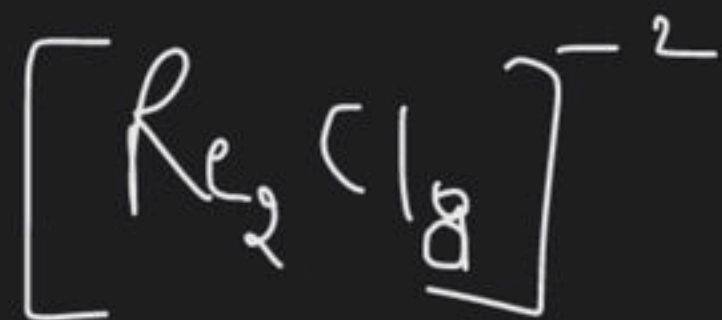


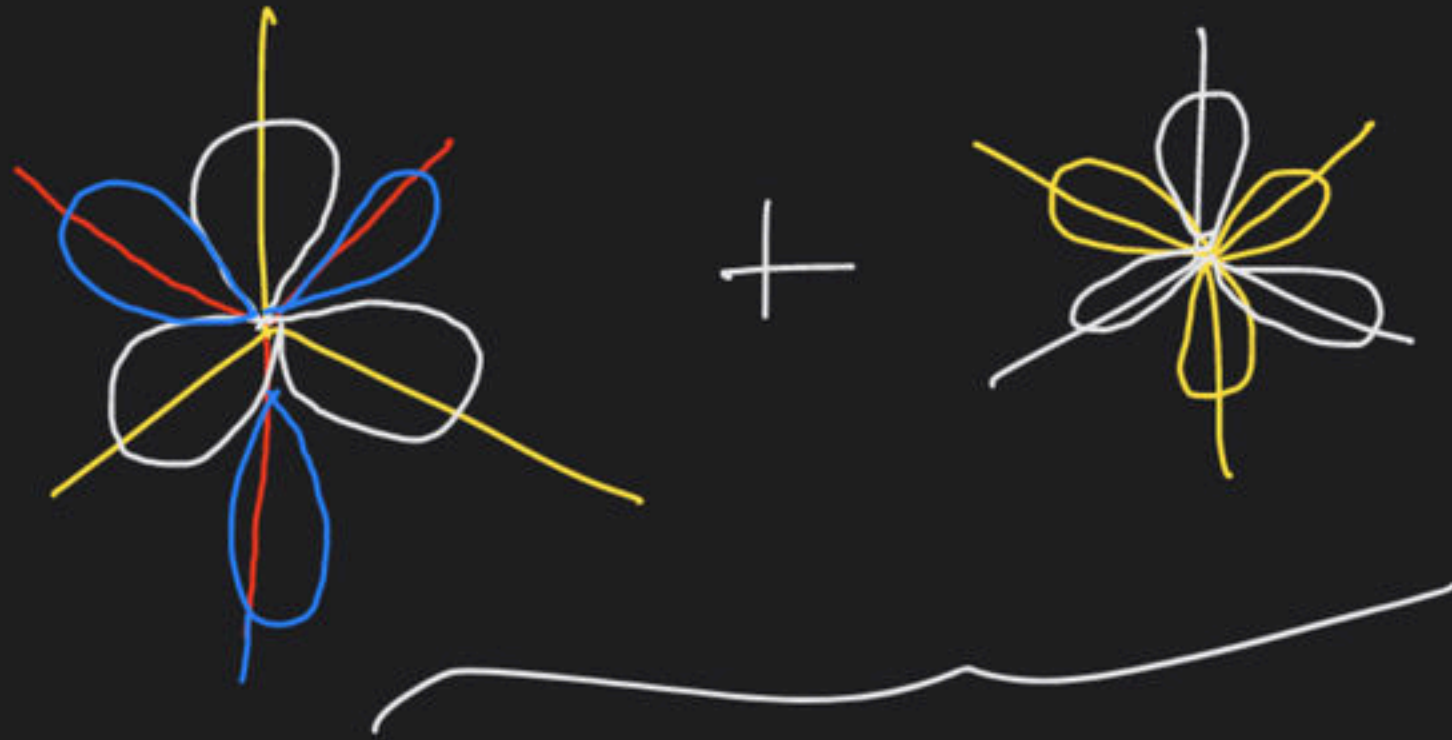


Hybridisation - II

Course on Chemical Bonding for Class XI 2023



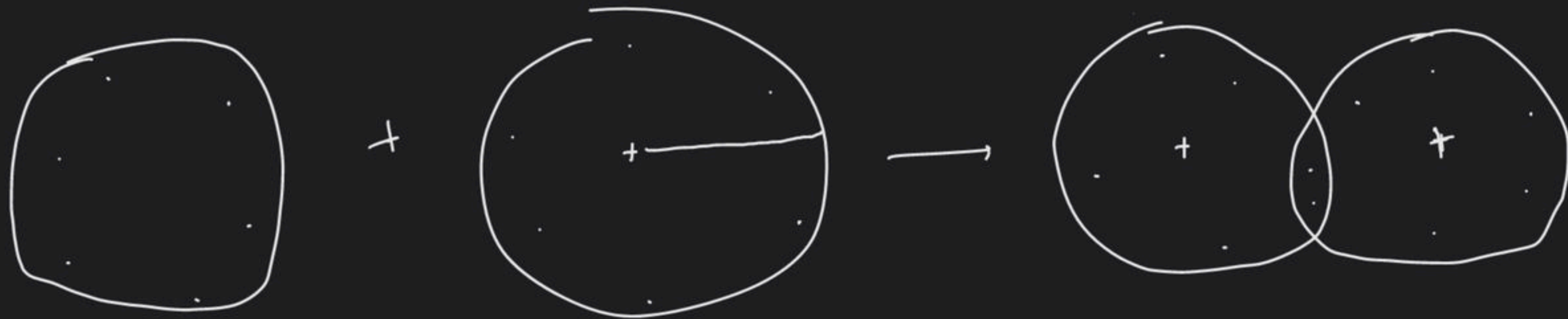
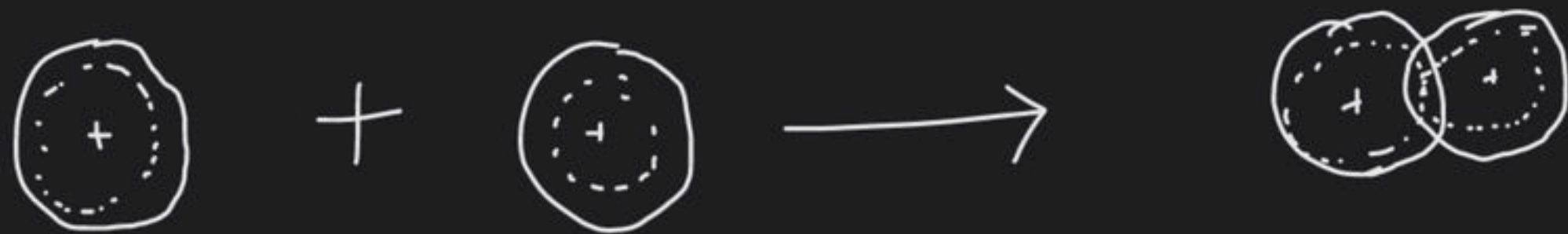
ϕ bond = 6-lobe interaction



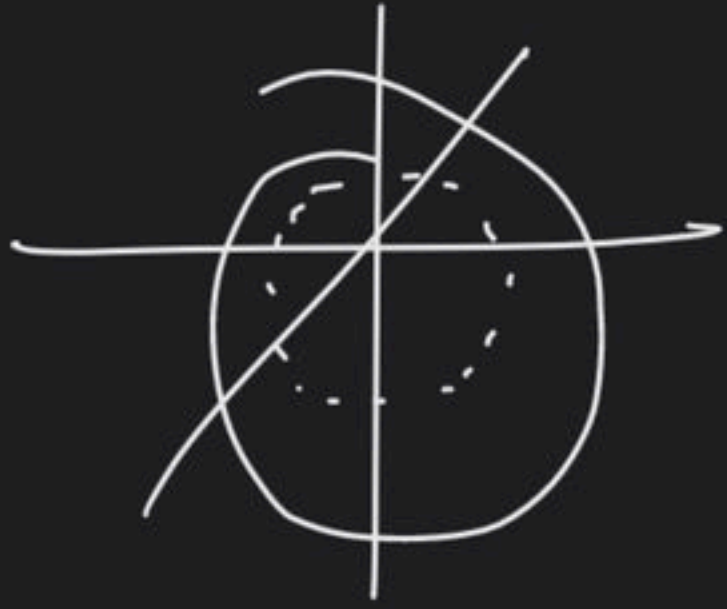
example $\underline{\underline{V_2}}$

↓ Bond Strength $\propto \frac{1}{\text{size (dominate)}}$

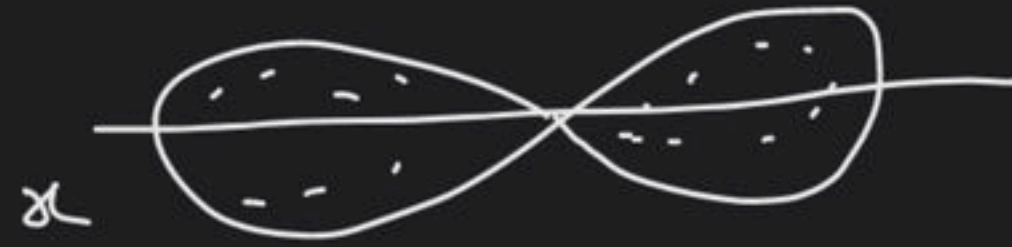
Bond Strength \propto directional character $\left[\begin{array}{l} \% \text{ p character} \\ \text{const.} \end{array} \right]$
(When size is const.)



$$|s \neg s \rangle \quad |s \neg 2p \rangle \quad 2p \neg 2f$$



non directional



p_x



p_z

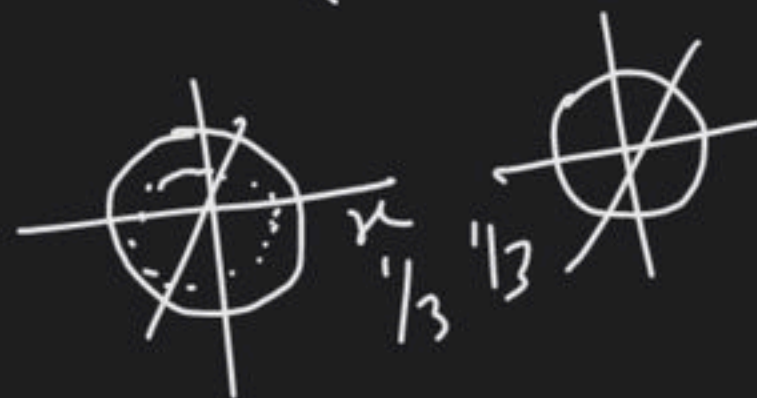


directional

$$1s - 1s > 1s - 2s$$

$$1s - 1s > 1s - 2s > 2s - 2s$$

$$2s - 2s < 2s - 2p < 2p - 2p$$



$$1s - 1s > 1s - 2s$$

$$1s - 1s > 1s - 2s > 2s - 2s$$

$$2s - 2s < 2s - 2p < 2p - 2p$$

out decreasing order of B.S

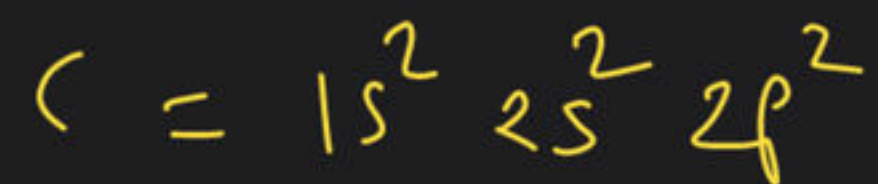
$1s-1s$ $1s-2s$ $1s-2p$

$2s-2s$ $2s-2p$ $2p-2p$

$3s-3s$ $2s-3p$

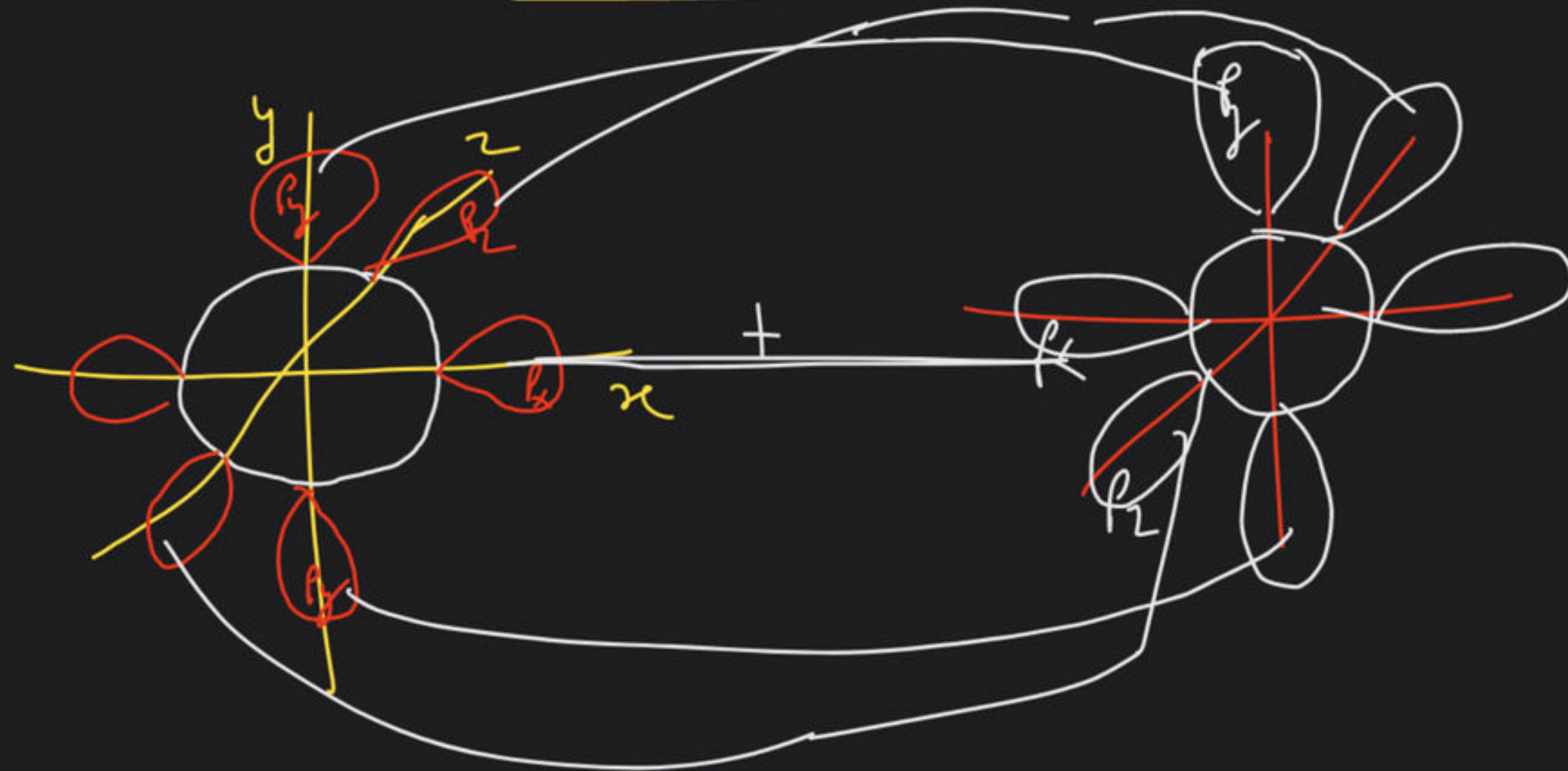
$3s-3s$ $3s-3p$ $3p-3p$

$1s-1s$ > $1s-2p$ > $1s-2s$ > $2p-2p$ > $2s-2p$ > $2s-2s$ > $2s-3p$ > $2s-3s$ > $3p-3p$ > $3s-3p$ > $3s-3s$



$$C = 1s^2 2s^2 2p^2$$

1	1	1	1
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Maximum three bonds form between two atoms of non metal in which one σ and two π

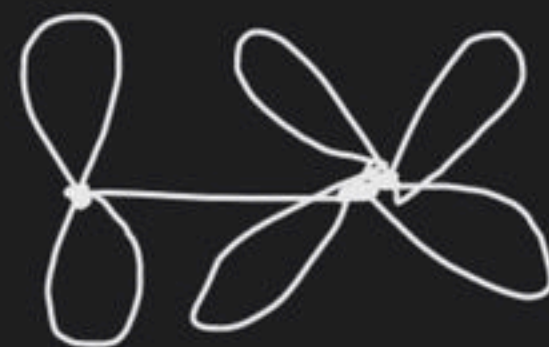
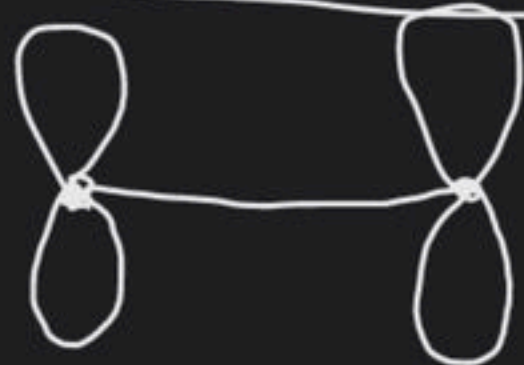
que

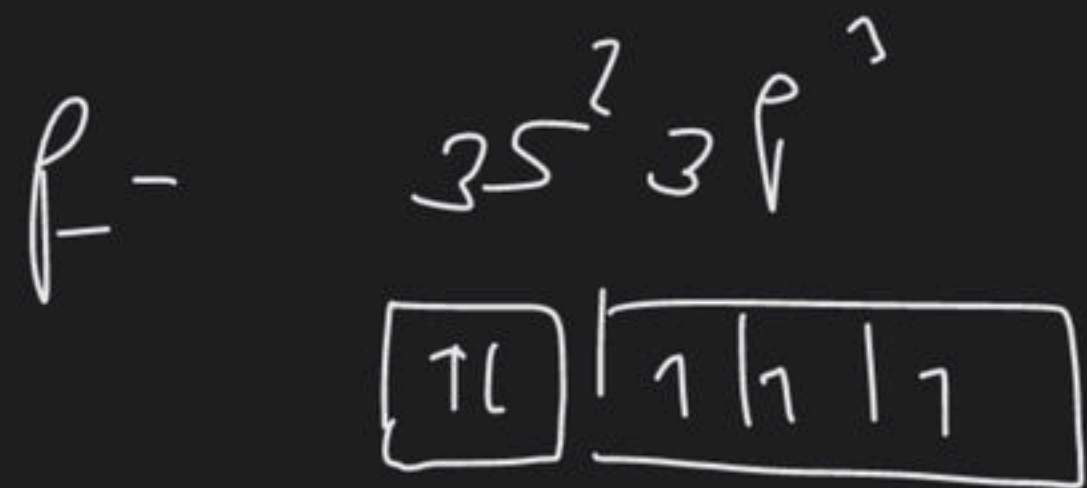
$N \equiv N$ exist but $P \equiv P$ does not

Ans

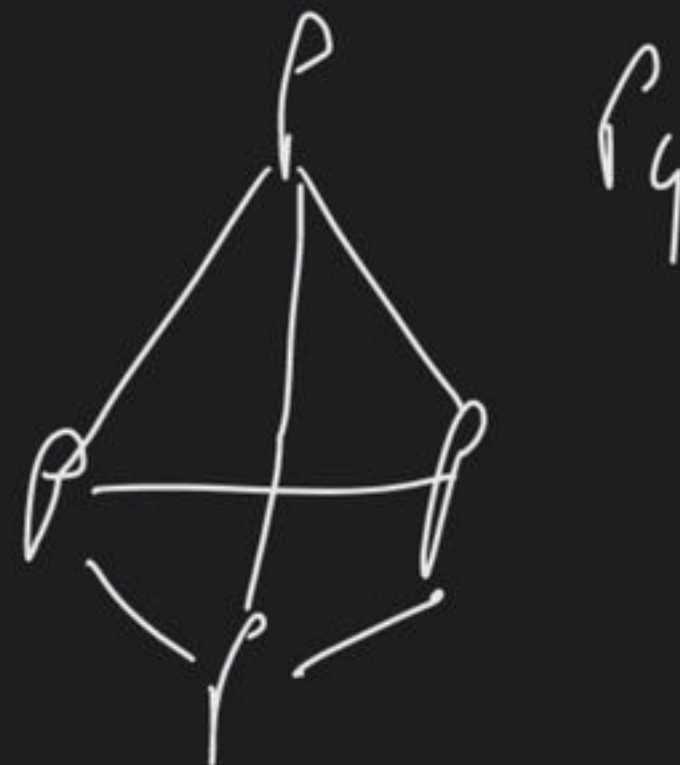
$$2P_{\pi} - 2P_{\pi} > 2P_{\pi} - 3P_{\pi} > 3P_{\pi} - 3P_{\pi}$$

$$3P_{\pi} - 3P_{\pi} < 3P_{\pi} - 3P_{\pi} < 3P_{\pi} - 3P_{\pi}$$



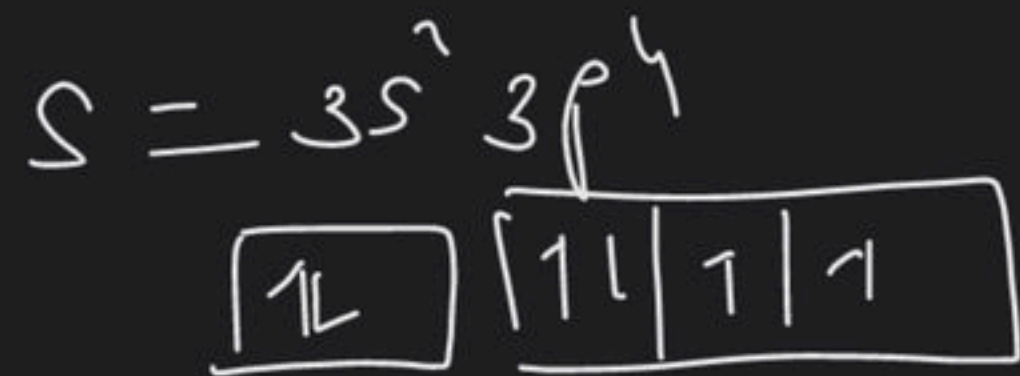


p_2 (solit)
does not exist
 $p \equiv p \times$



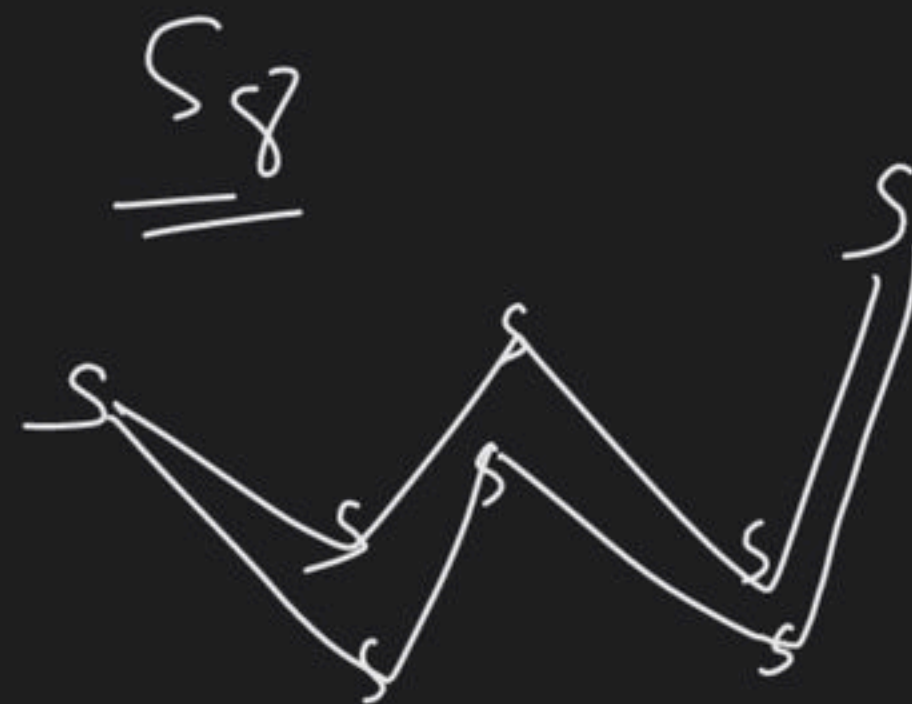
$3p_\pi - 3p_\pi$ sideways overlapping does not possible
due to large internuclear distance

$\odot = 0$ exist but $S=S$ do not exist



$3p_{\pi} - 3p_{\pi}$ do not exist due to large internuclear distance

$S_2(\text{solid})$ do not exist



(crown shape)

$\underbrace{S_2(\text{solid}) \quad P_2(\text{solid}) \quad S_2(\text{solid})}$

acc. to V.B.T ^{do not exist}

acc. to mut

$\underbrace{S_2(\text{vap.}) \quad P_2(\text{vap.}) \quad S_2(\text{vap.})}$ temp
exist at high

que Which of the following overlapping is strongest

- ① $3p_{\pi} - 3p_{\bar{\pi}}$ ② $2p_{\pi} - 2p_{\bar{\pi}}$ ③ $3s - 3s$ ④ $1s - 1s$