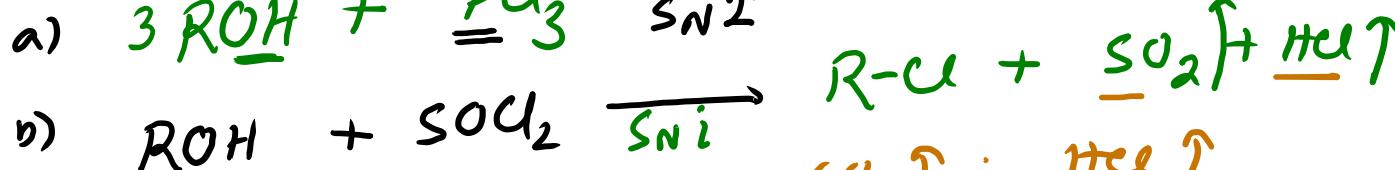
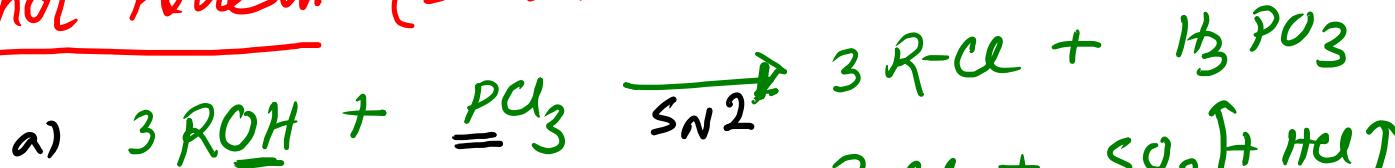
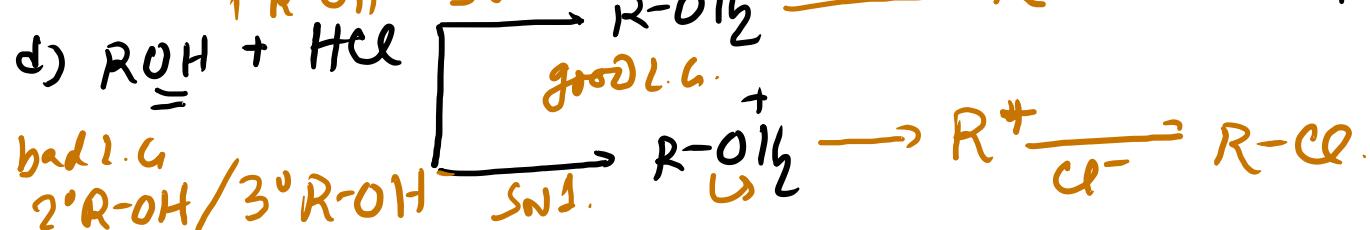
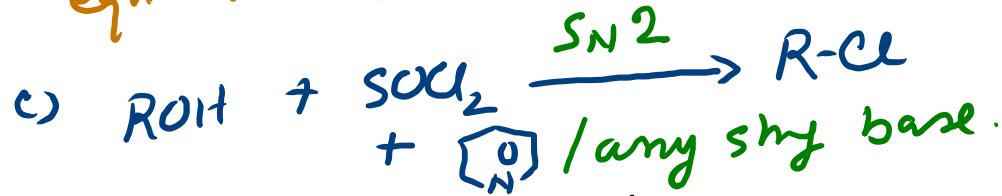


: Alkyl Halide preparation from Alcohol:

Alcohol Reactions (Substitution Reaction)



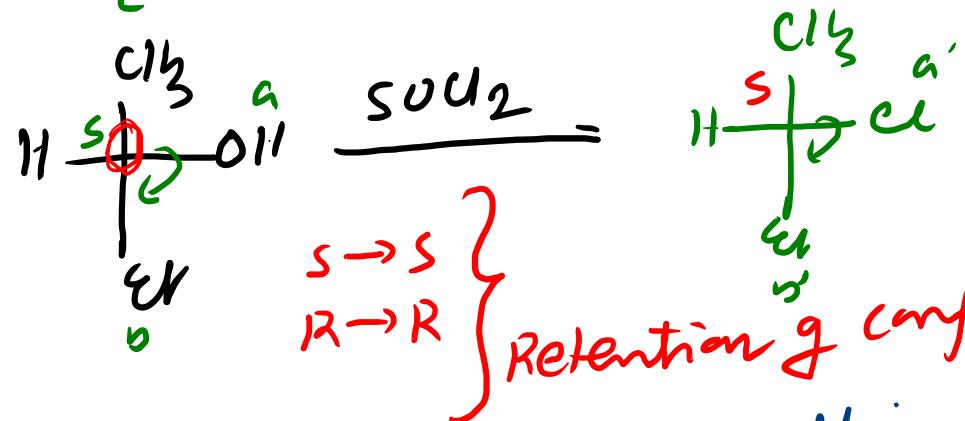
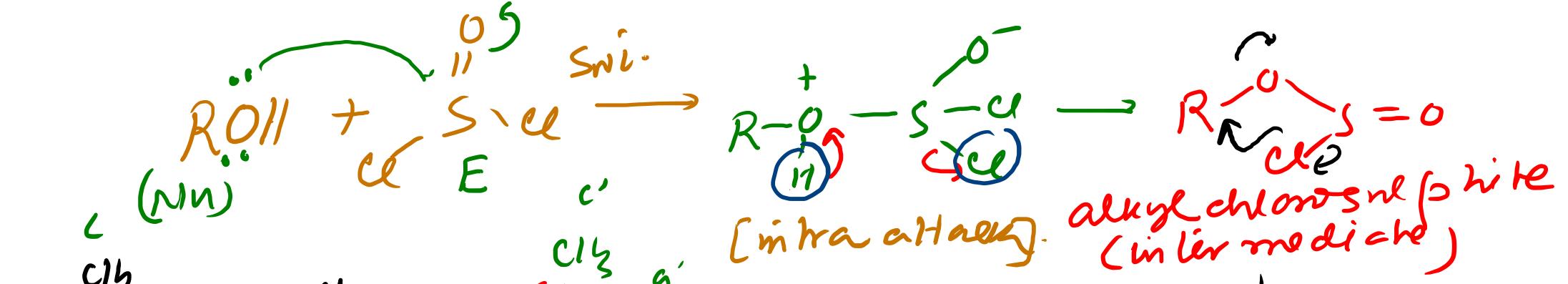
yielding R-Cl is very high. $\text{SO}_2 \uparrow$; $\text{HCl} \uparrow$
 gaseous product, removed from the system.
 eqn is shifted to forward direction.



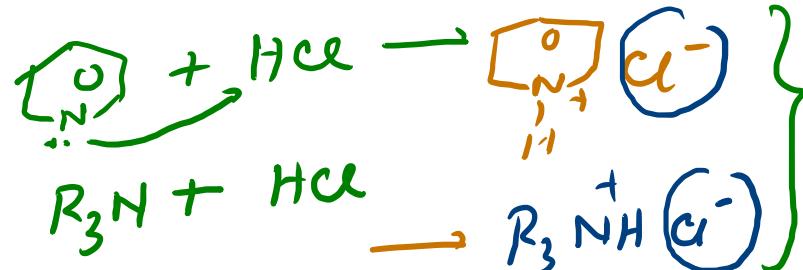
H
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F

$\text{ROH} \xrightarrow{\text{gt can be}} \text{R-Cl}$
 i) $\text{S}_{\text{N}}2$
 ii) $\text{S}_{\text{N}}1$.
 iii) $\text{S}_{\text{N}}1$

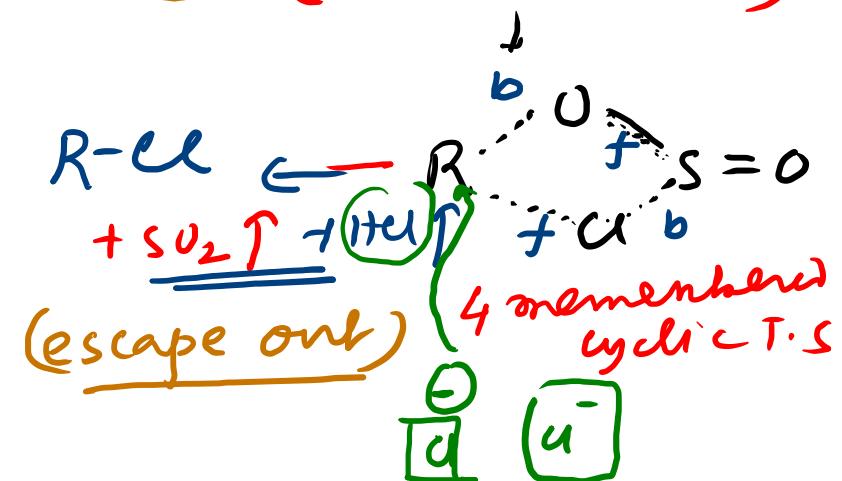
ALKOHOL.

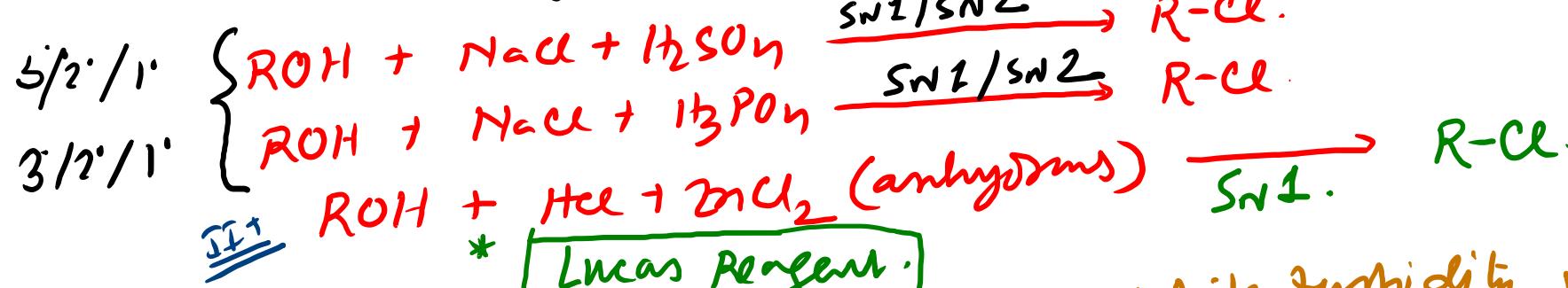
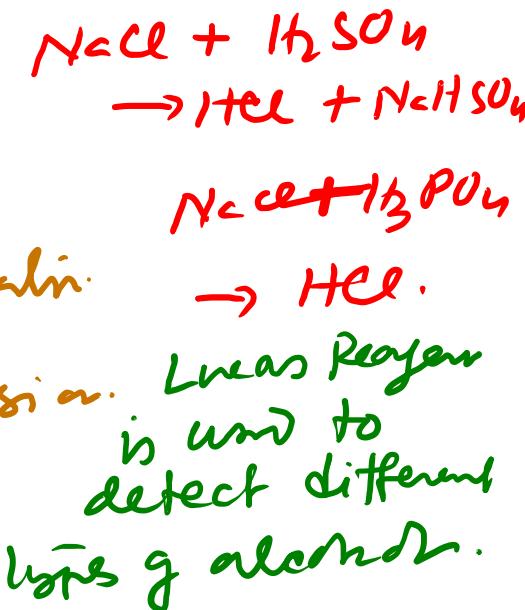
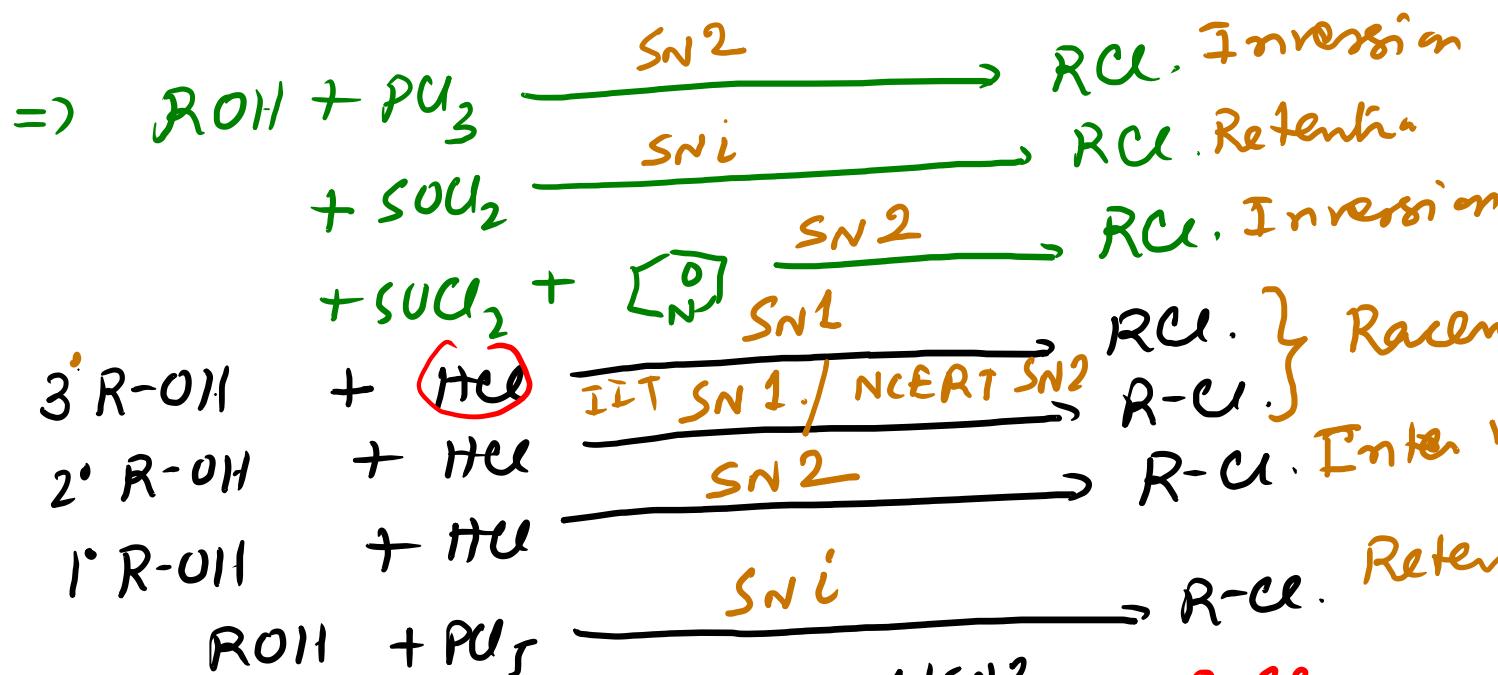


In presence of 3° Amine / N^+



free Cl^- is generated; it can attack from back side, inversion configuration takes place

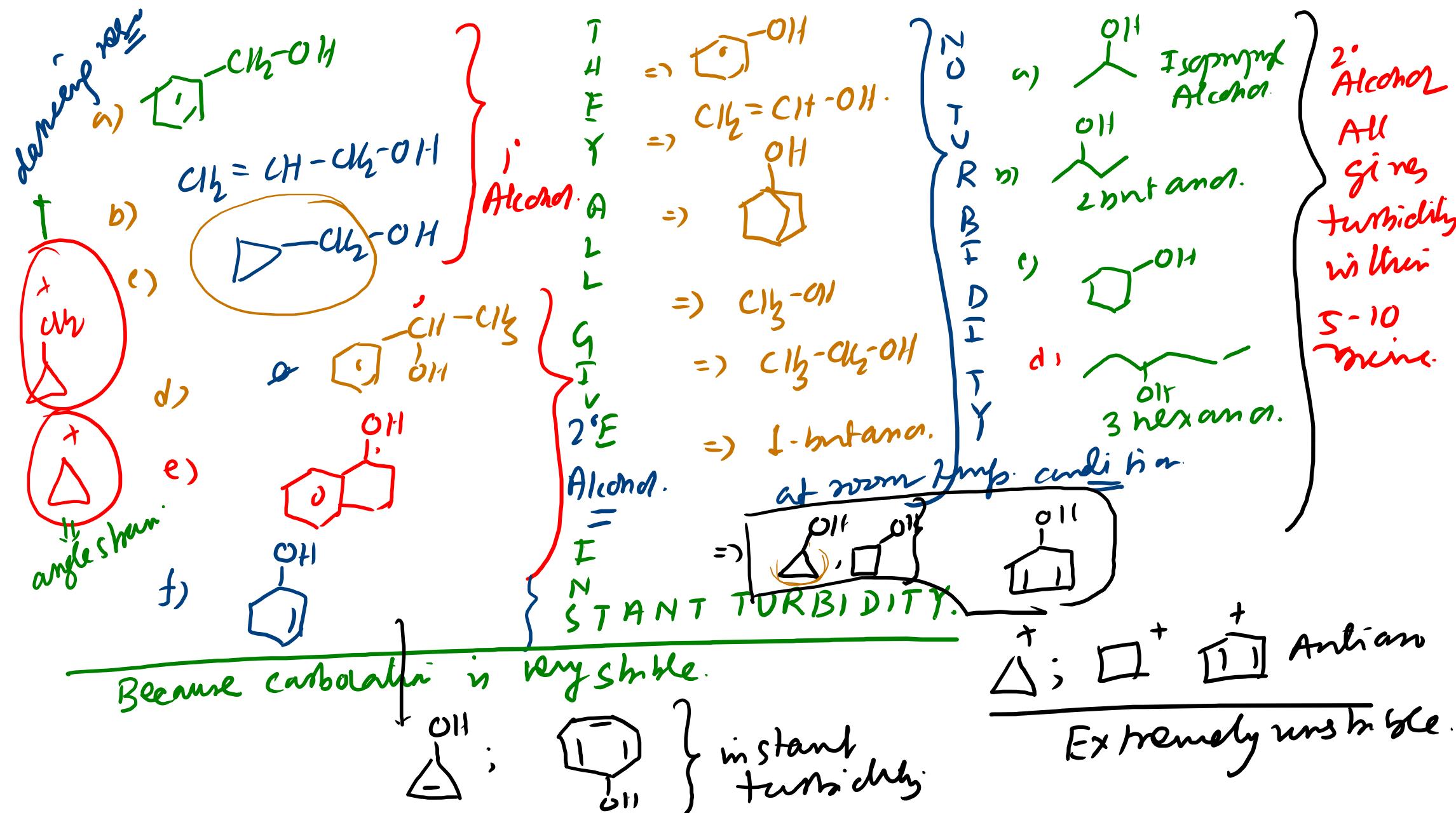


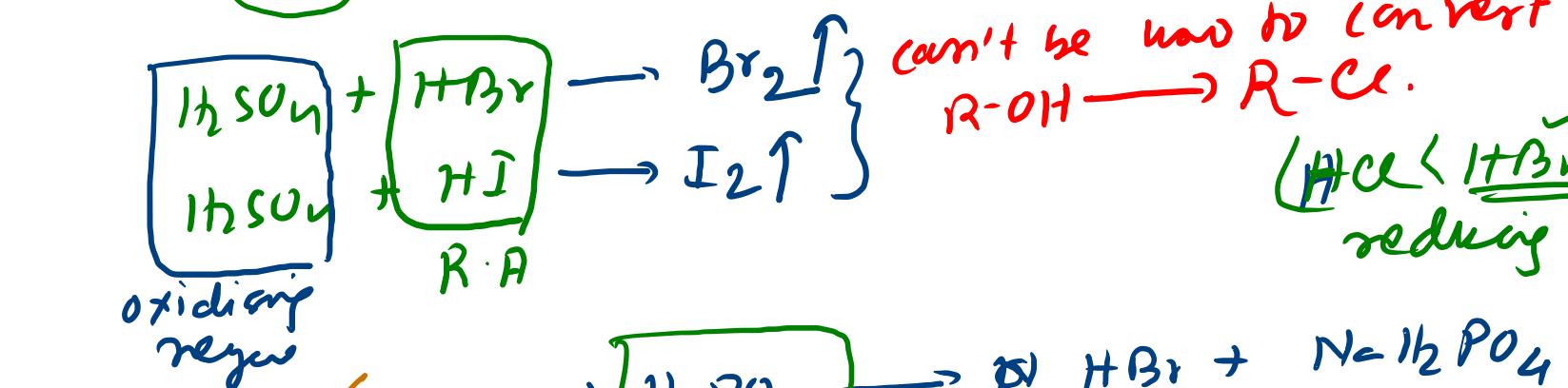
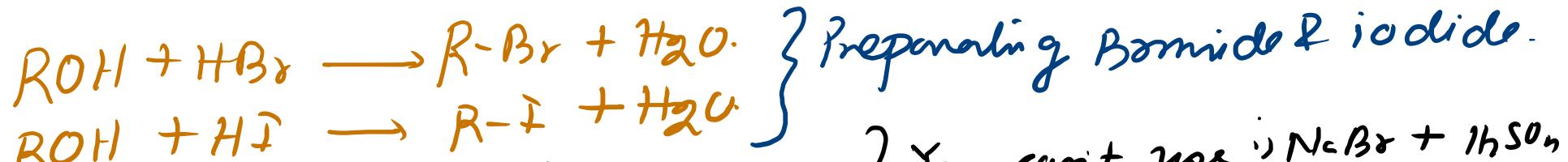


$3^{\circ} R-OH \xrightarrow{\text{Lucas}} \text{white turbidity is formed instead.}$

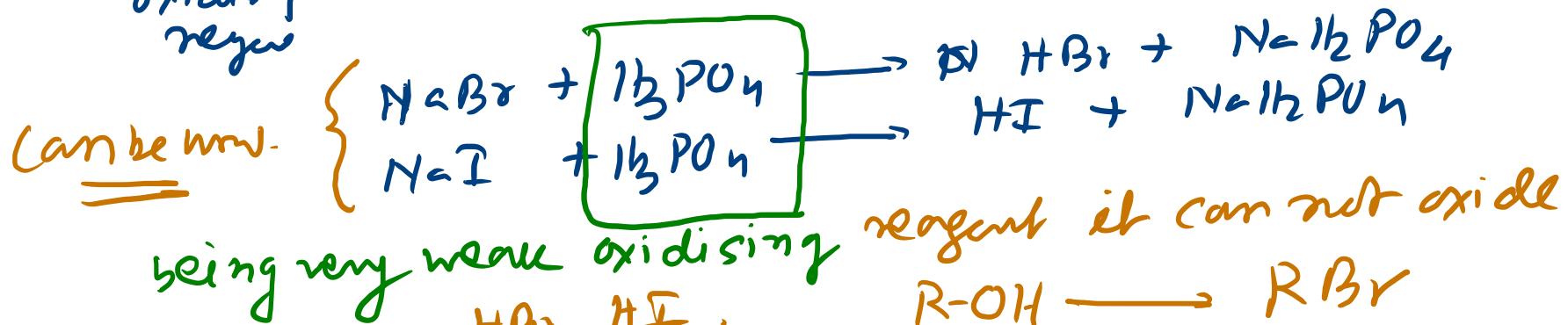
$2^{\circ} R-OH \xrightarrow{\text{Lucas}} \text{white turbidity is formed after 5-10 mins.}$

$1^{\circ} R-OH \xrightarrow{\text{Lucas.}} \text{no turbidity at room temp.}$





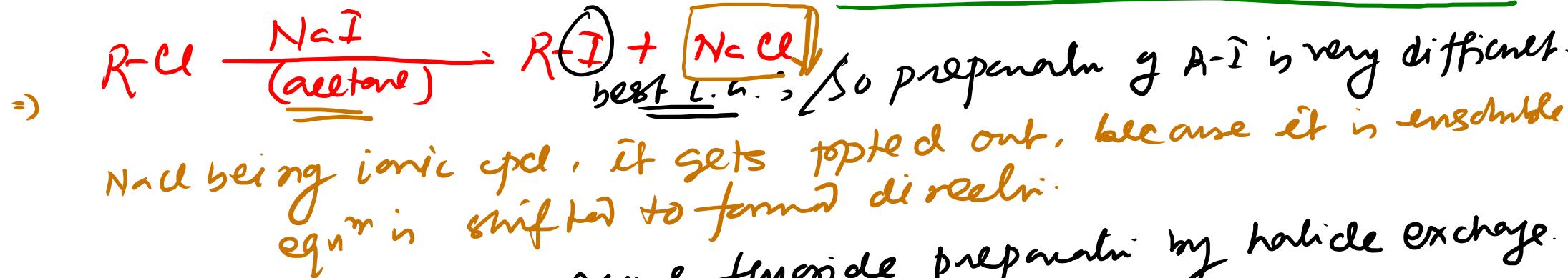
($HCl < \underline{HBr} < \underline{HI}$
 reducing power)



- ✓ a) PBr_3 ✓ b) $SOBr_2$ ✓ c) HBr d) $NaBr + H_3PO_4$ e) $NaBr + H_2SO_4$

Finkelstein Reachi

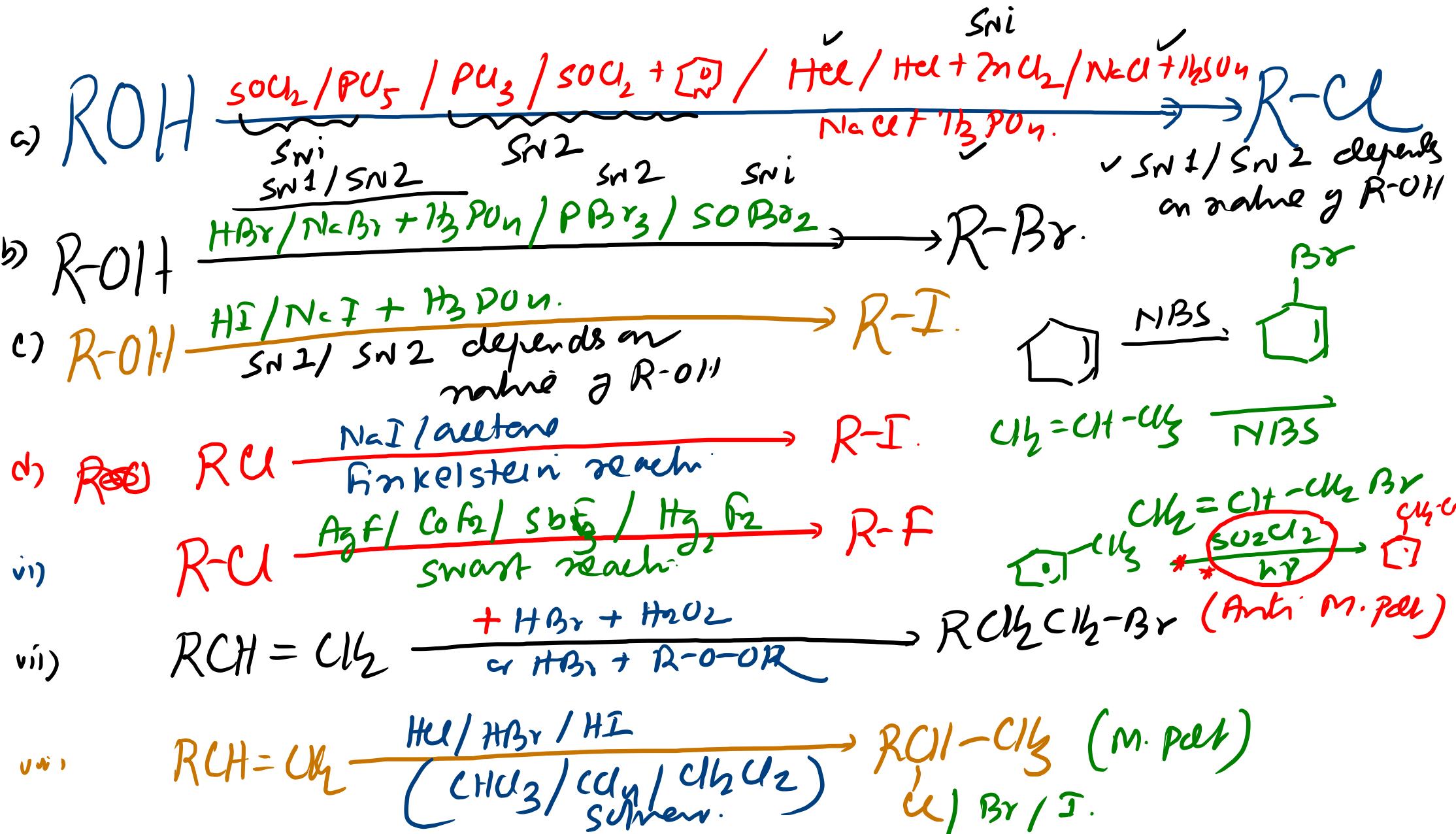
Ionic cpl. ↑ Iodide preparation by halide exchange.



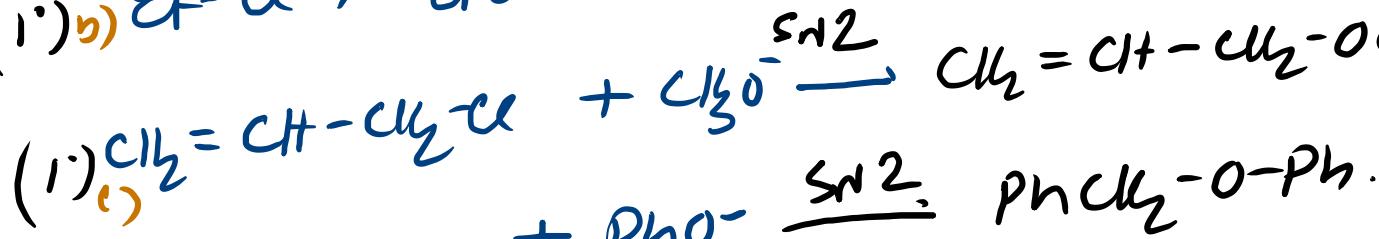
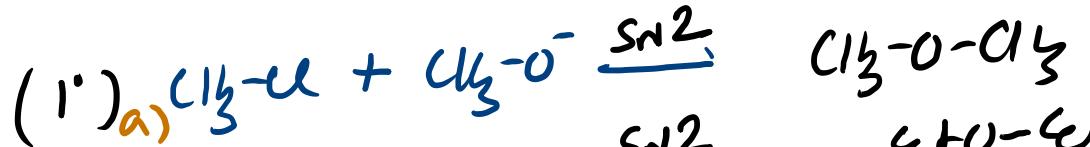
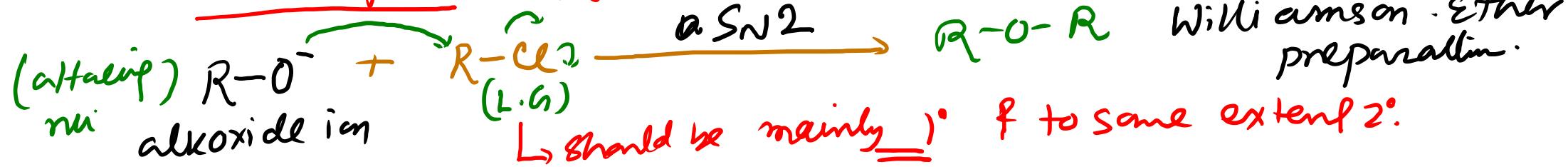
Savart Reachi

Alkyl fluoride preparation by halide exchange.

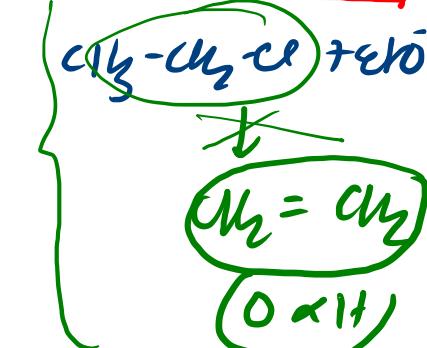
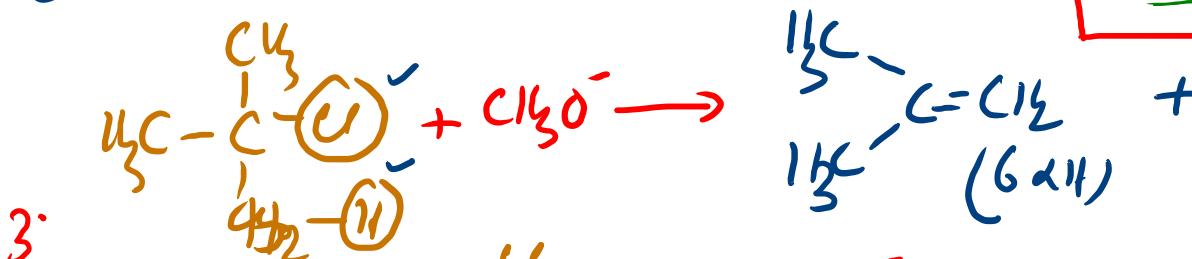




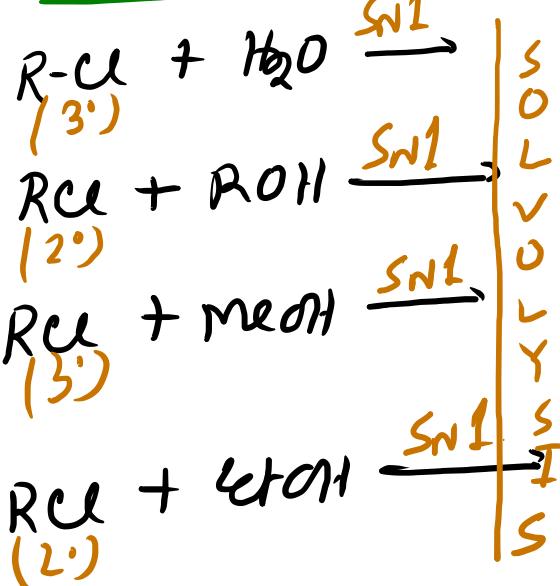
Ether preparation: (by substitution reaction).



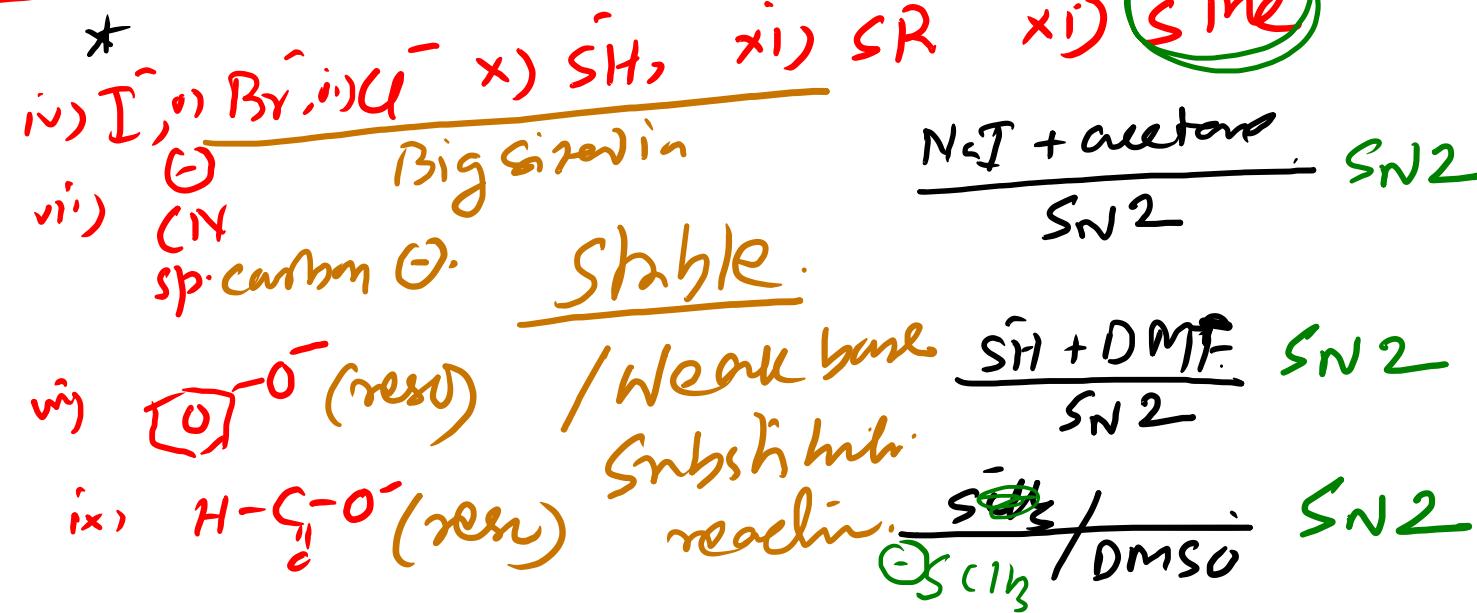
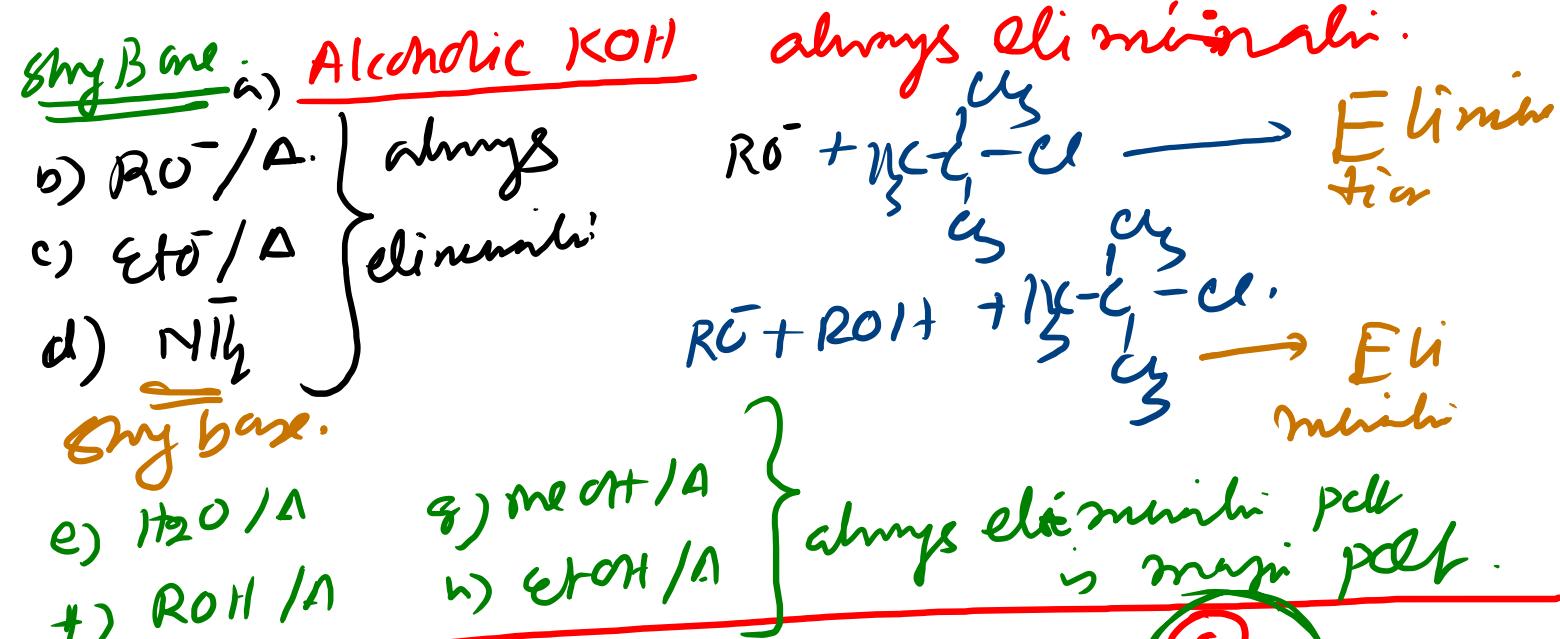
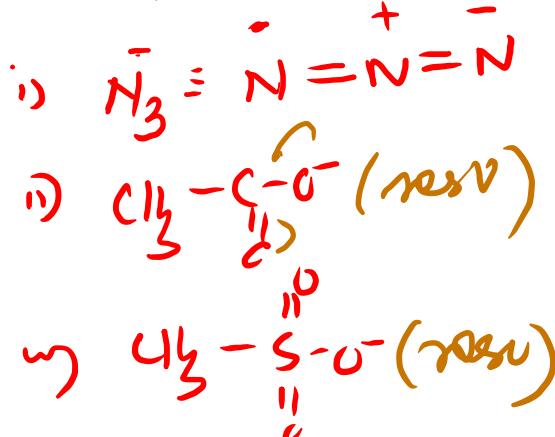
3° alkyl halide in presence of strong base $Cl_3O^- / RCO^- / EtO^-$ gives mainly elimination product. Acetene is found as major product rather than ether.



Weak Base



Weak base



Which reactions we used to prepare ethers?

