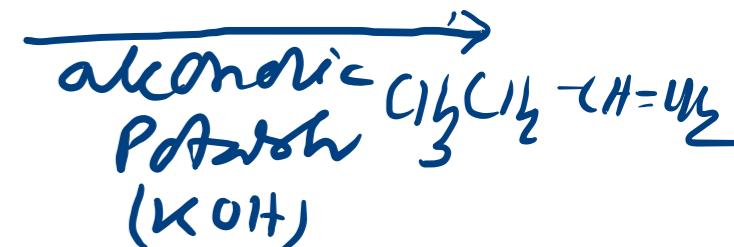


: Elimination Reacn:



1-chloro
butane



* Alkaline KOH

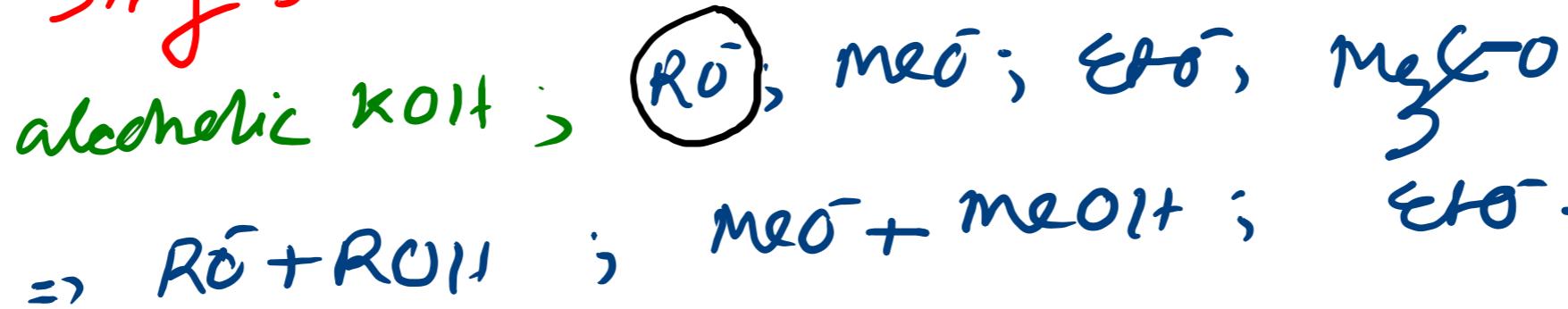


=> Strong base must be used.



always give

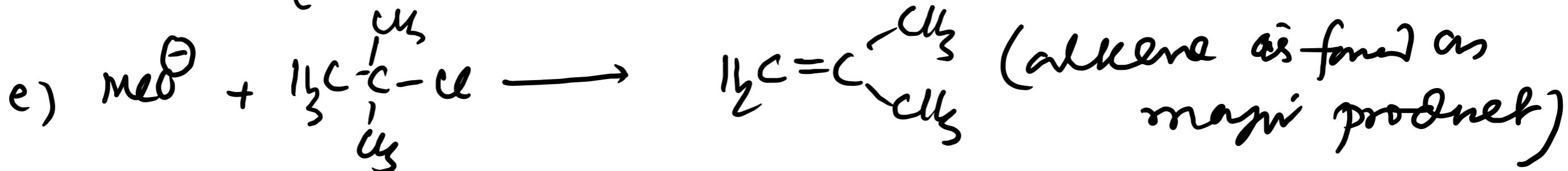
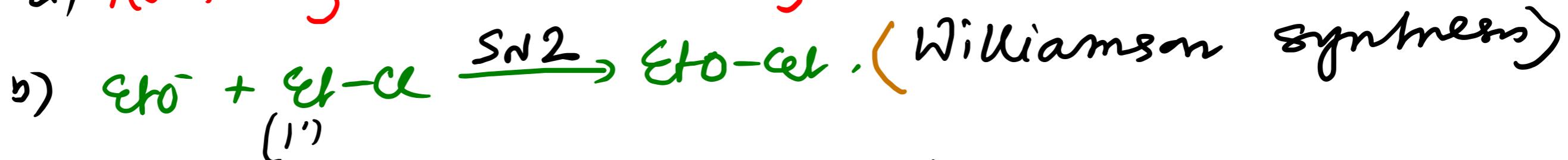
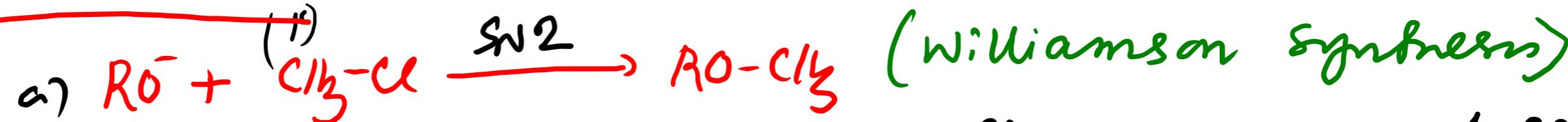
elimination products

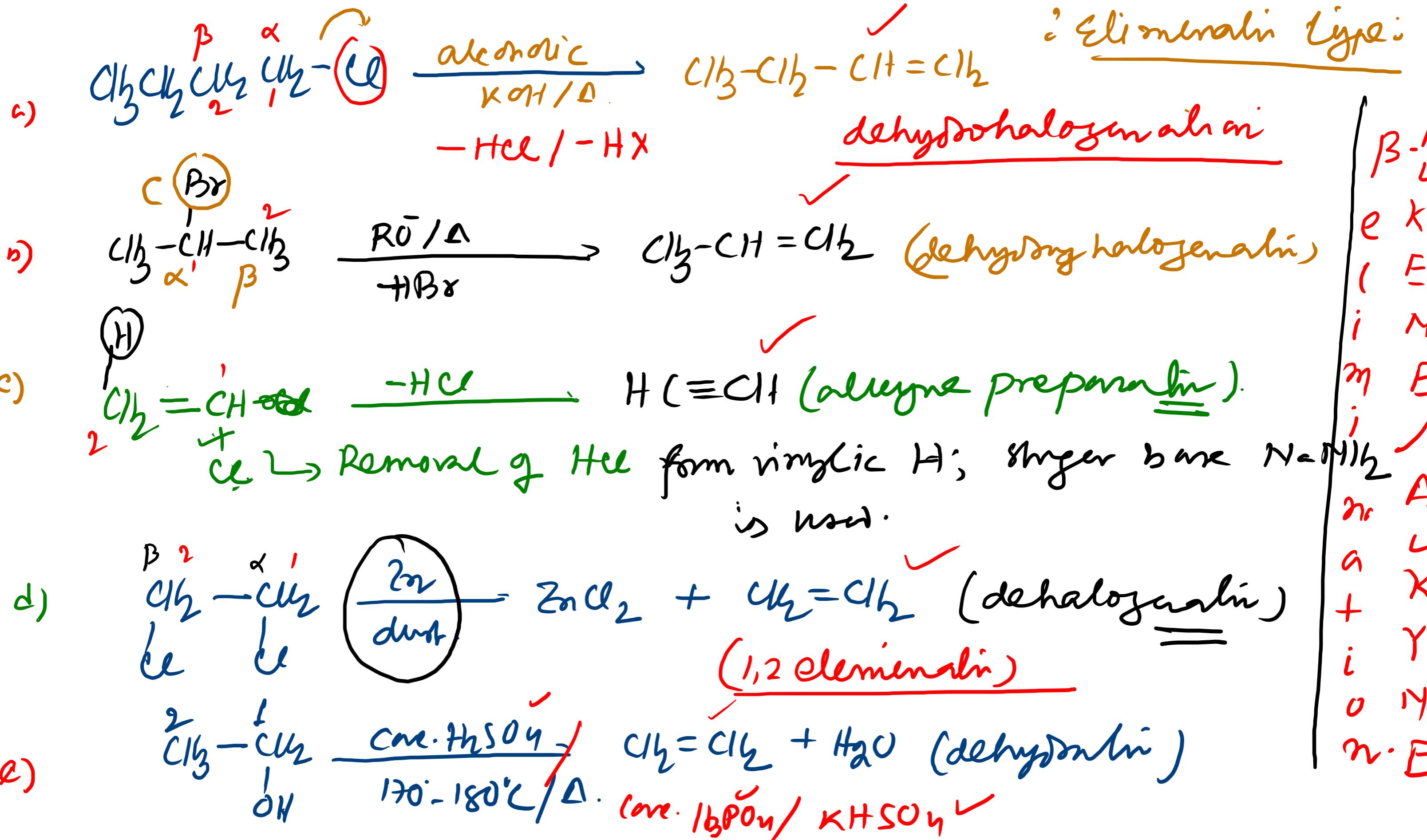


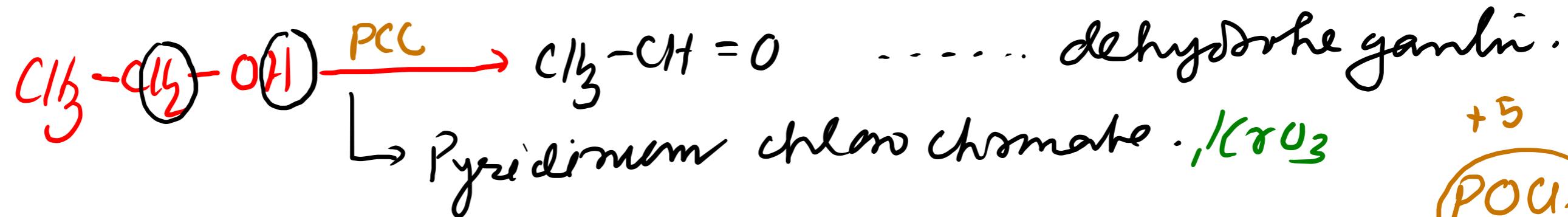
in preference to



extremely
strong base
which gives
elimination
prod as a
major prod







RCH_2OH
↓ oxidising reagent

$\text{RCH}=\text{O} - \text{H}_2\text{O}$; dehydrinki $\xrightarrow{\text{Reagents won-}}$ Reagents won-
 conc. H_2SO_4 ; conc. Li_3PO_4 ; KH_2PO_4 ; $\text{P}_2\text{O}_1\text{O}$, Al_2O_3
 $\xrightarrow{+5}$ $\xrightarrow{+5}$ $\xrightarrow{+5}$

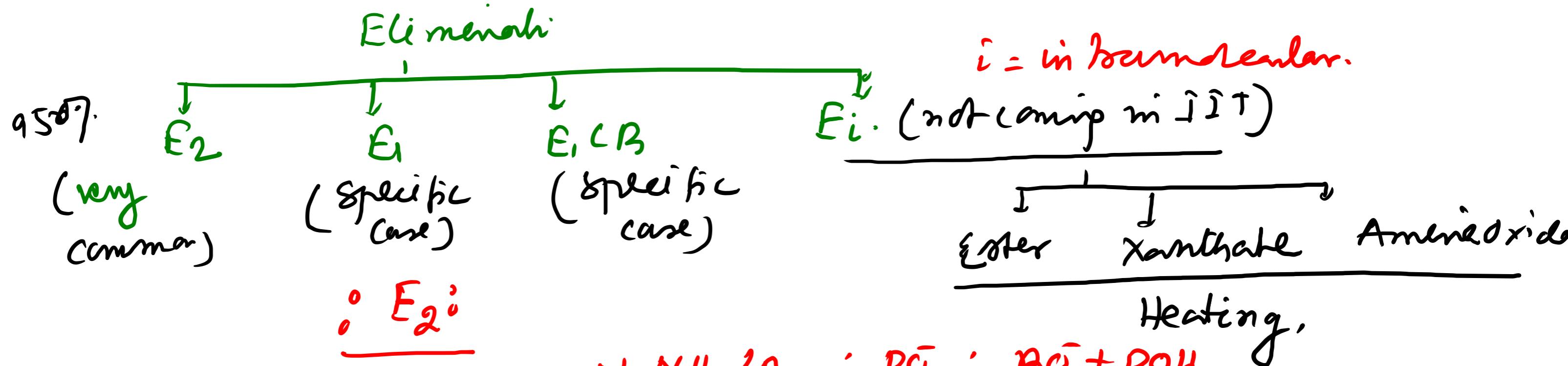
- HX : dehydrhalogenahr · alc. KOH ; $\text{R}\ddot{\text{O}}/\text{A}$; NaNH_2 ; RO^- ; $\text{RO}^- + \text{ROH}$
 (Fransland) ↪ (D.E)

- X_2 : dehydrogenation - $\xrightarrow[\text{Wutz.}]{\text{Zn}; \text{Mg}; \text{Na}}$ (metals)



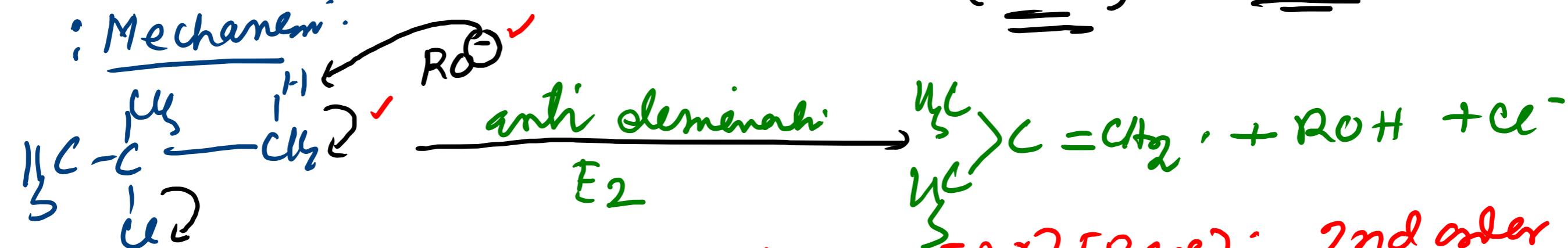
- H_2 : dehydrogenahr. $\xrightarrow[\text{Nc (D.E)}]{\text{CoO}_3; \text{PCC.}; \text{Collins}; \text{Savet.}}$ $\text{CH}_2 = \text{CH}_2$





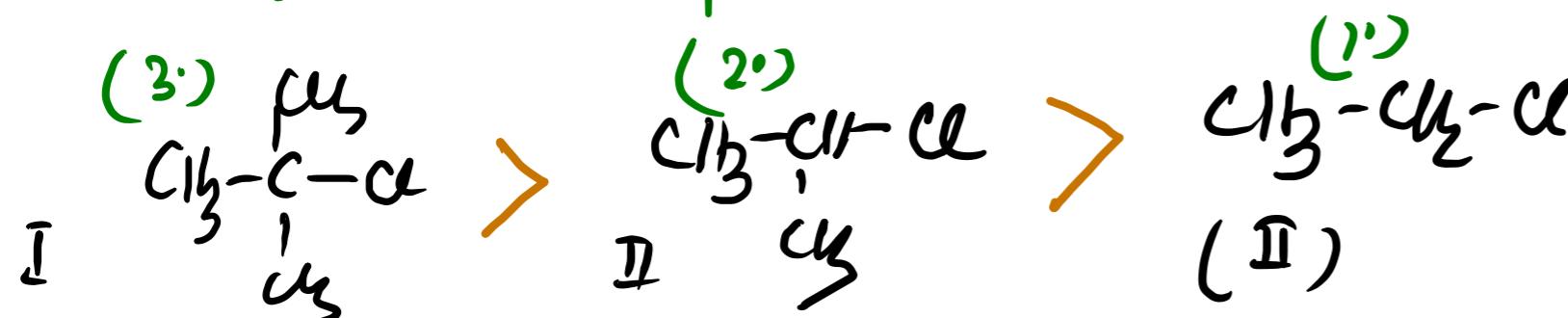
\Rightarrow Alcoholic KOH ; RO^-/Δ ; $\text{NaNH}_2/\Delta.$; R^- ; $\text{R}^- + \text{ROH}$

$(2^\circ + 3^\circ)$ $\underset{=}{\equiv}$ $(2^\circ/3^\circ)$



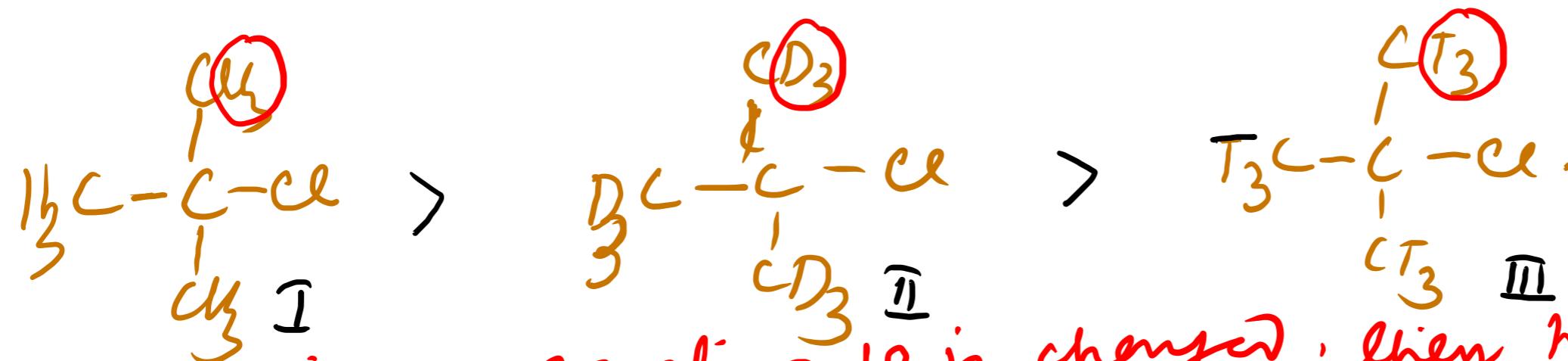
\Rightarrow single step ; Bimolecular; $\text{rate} = k[\text{R-X}][\text{Base}]$; 2nd order kinetics

\Rightarrow Better L.G; faster in the reaction



$\text{R-I} > \text{R-Br} > \text{R-Cl} > \text{R-F}$.



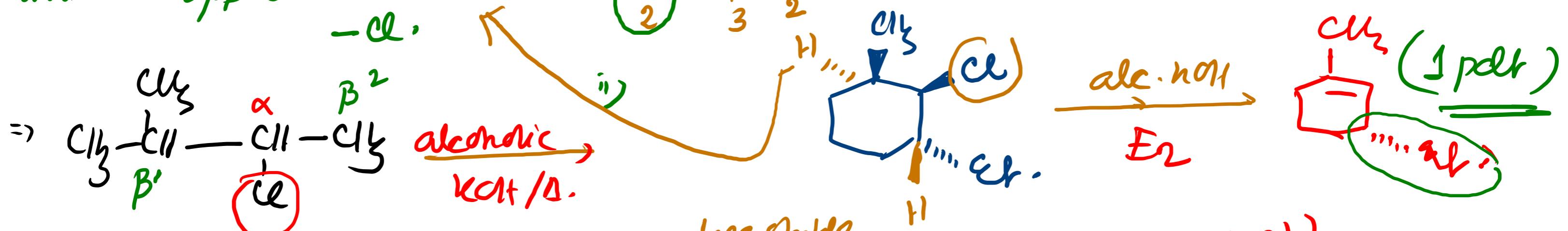


$\text{(-T)} > \text{(-D)} > \text{(-H)}$
bond dissociation
energy order.

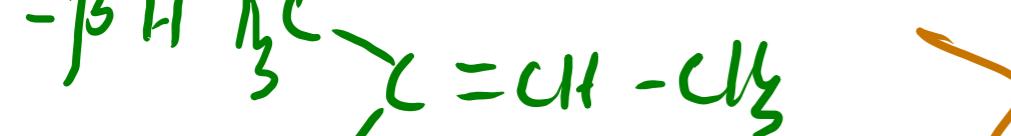
If changing isotope reaction rate is changed, then this reaction shows kinetic isotope effect.

\Rightarrow Anti elimination.

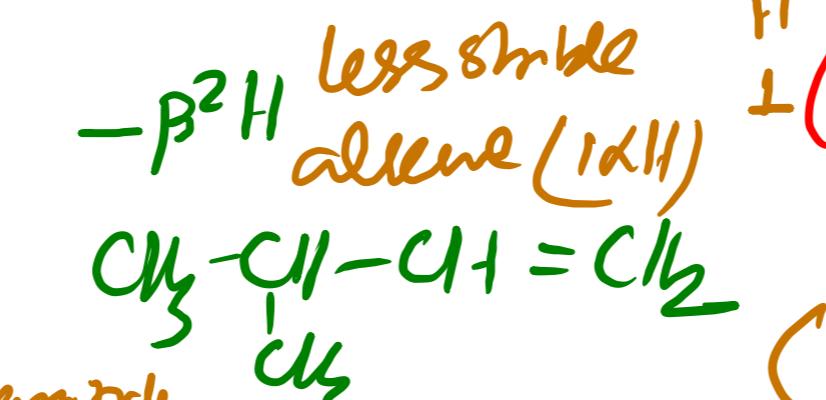
That H will be removed
which is opposite side w.r.t. Cl .



$-\beta^1\text{H}$ more stable (90%)

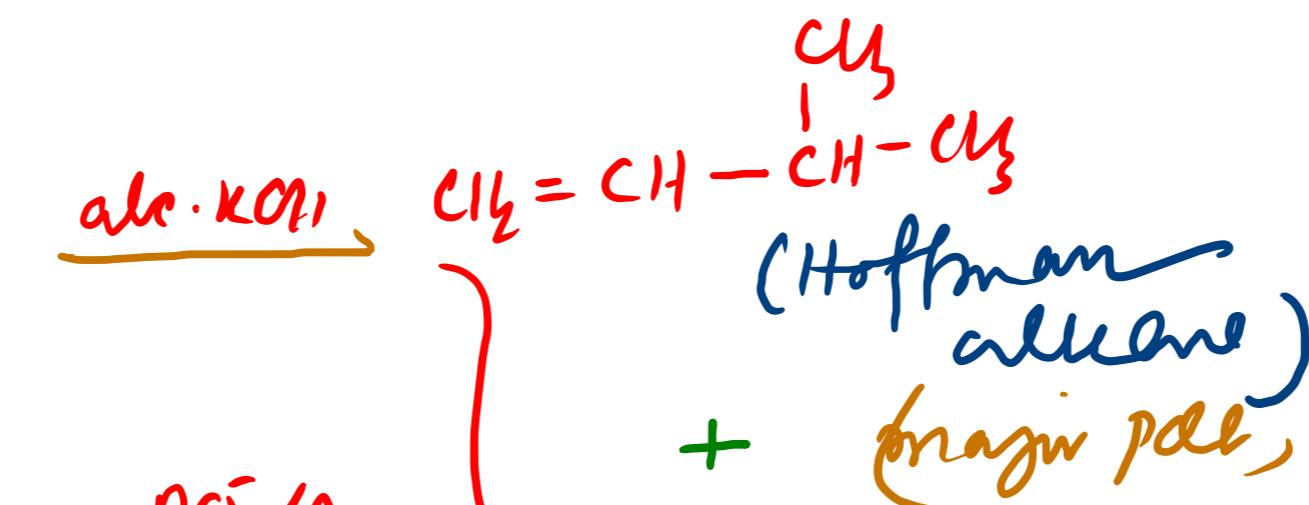
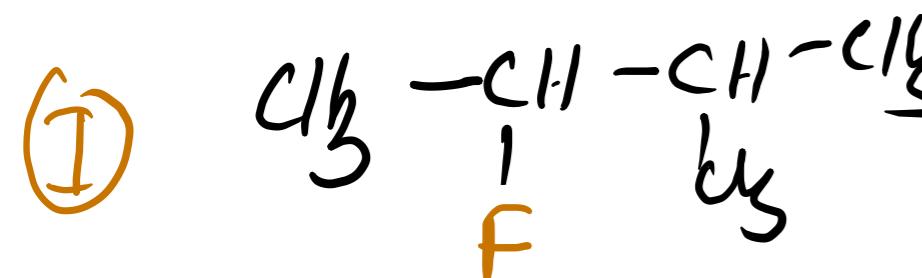


Saytzeff rule (major pd)



(Hoffmann pd) (minor pd)
 \perp (can't be removed)
It carries the syn Clémenti.

(A) • Exception of E₂ reacn. (where Hoffmann pdt is the major pdt) E₂



\Rightarrow if L.G is

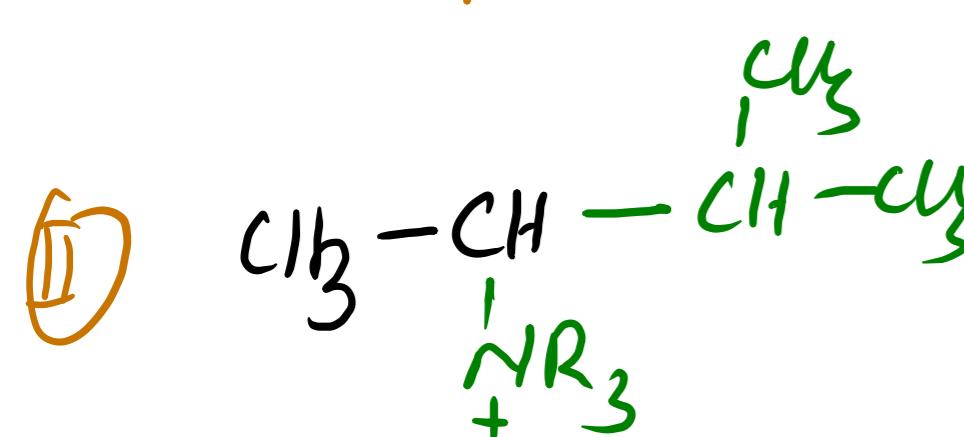
a) -F +

b) -NMe₂

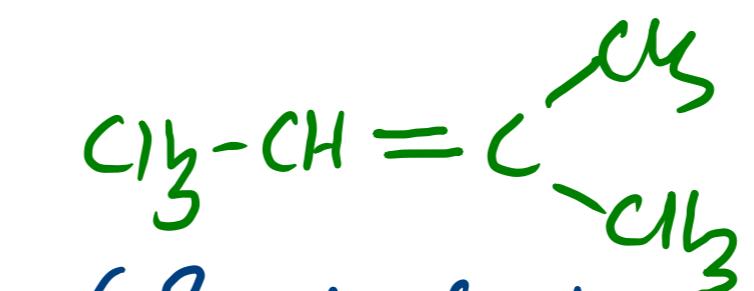
c) -NN₃

d) -SMe / -SR₂

(A)

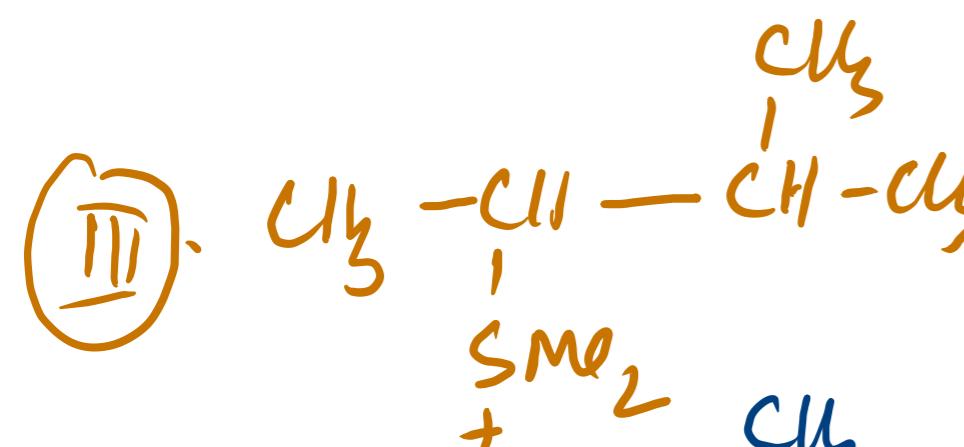


$\xrightarrow{\text{R0}^-/\Delta}$



(Saytzeff) Zaitsev alkene
 G (minor pdt)

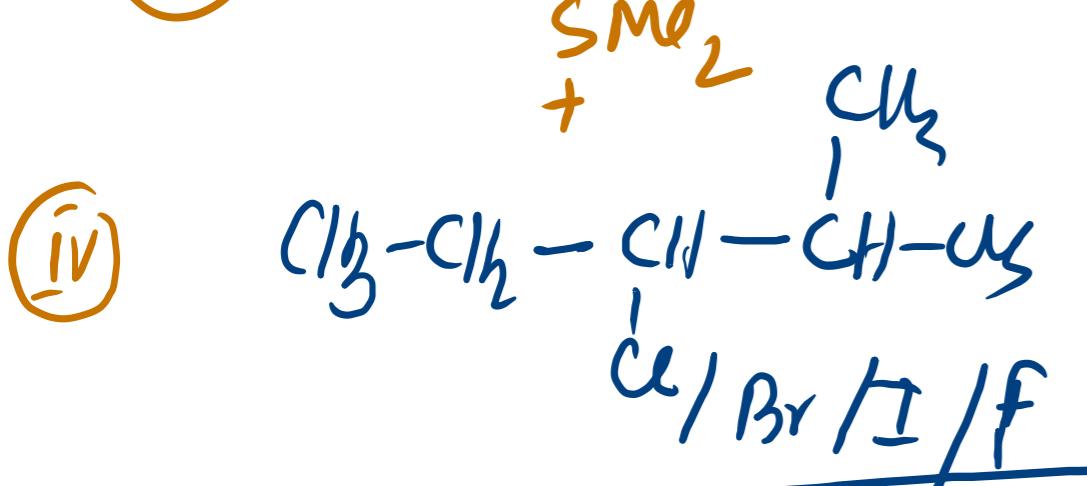
(B)



$\xrightarrow{\text{MeO}^-/\Delta}$



2) Saytzeff
 b) Zaitsev



(a)/(b)/(c)
(d)/(e)

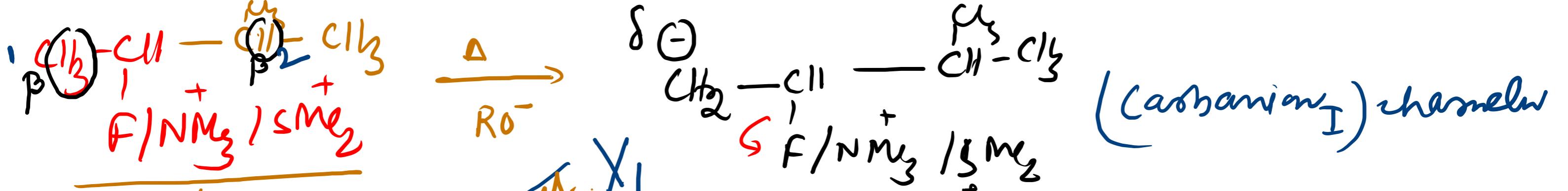
Hoffmann
 pdt is major pdt

b)

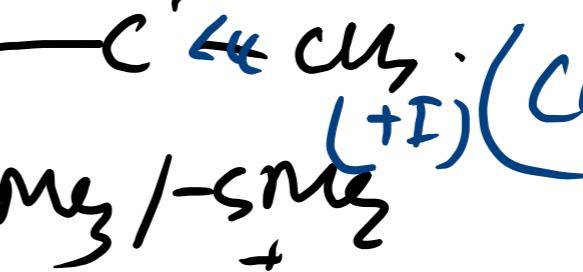
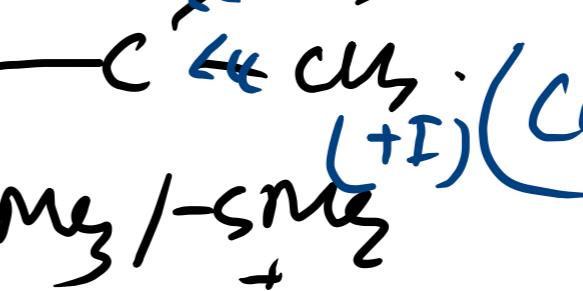
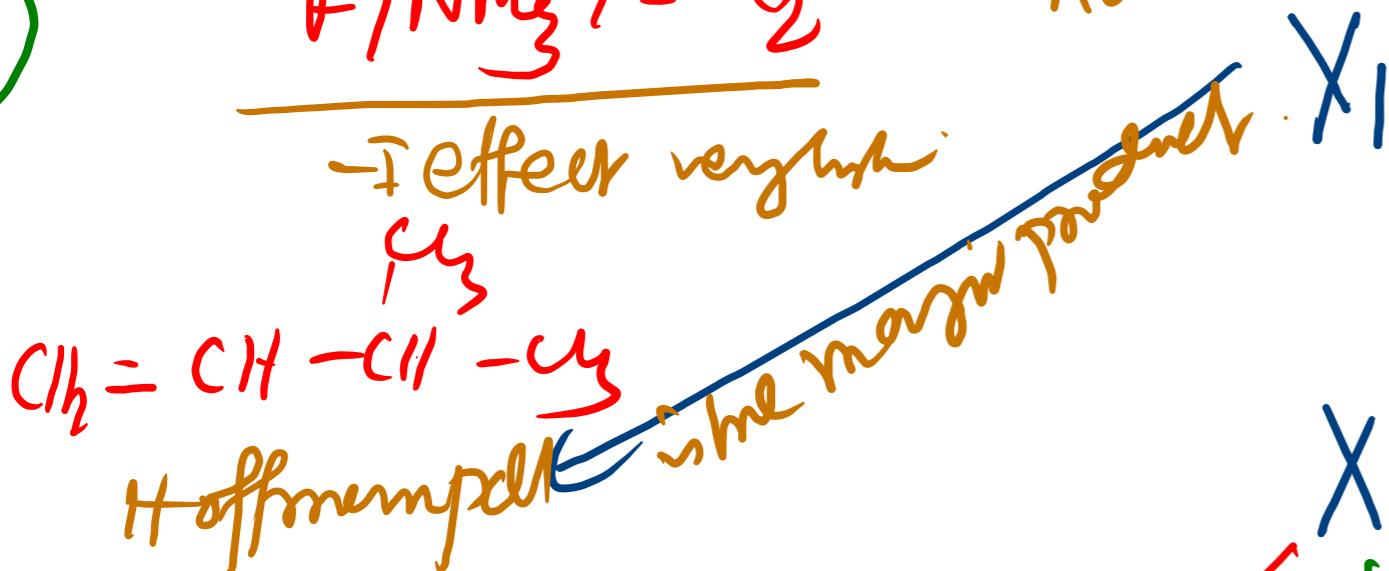


b) now

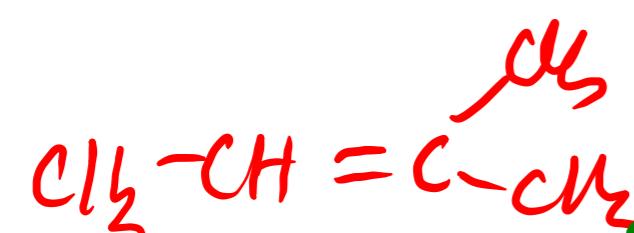
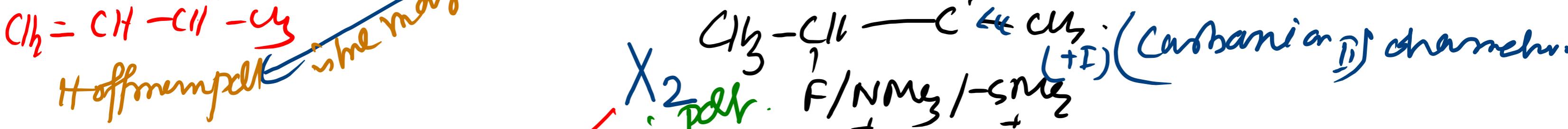
g) now



- Effect very high



(Carbanion I) charnelw



Saytelle pdl $\xrightarrow{\text{the minor prod}}$

carbanion charnelw

more extremely strong base / bulky base

carbanion charnelw
(major pdl)

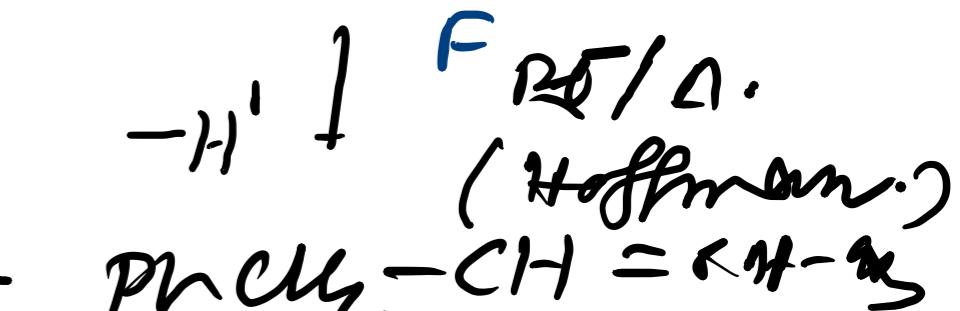
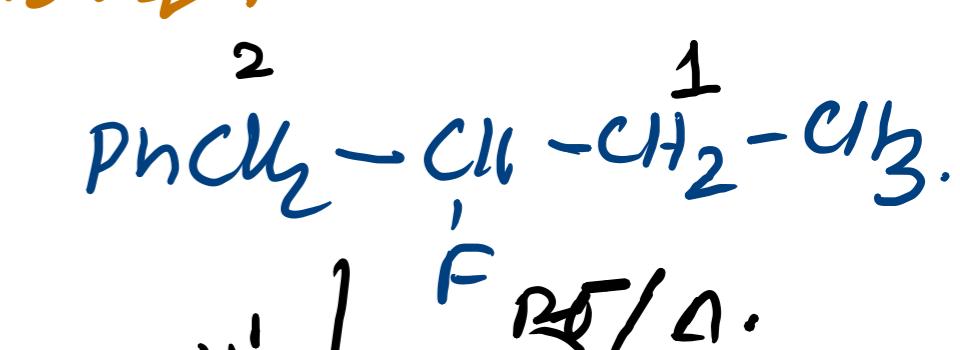
$\text{Me}_3\text{C}-\text{O}^-/\text{C}_3\text{H}_5\text{C}-\text{O}^-; \text{NMe}_3$

$-\text{H}^2$

(ren) (Saytelle) $\text{PhCH}=\text{CH}-\text{CH}_2-\text{Cl}_3 + \text{PhCH}_2-\text{CH}=\text{CH}-\text{Cl}_3$

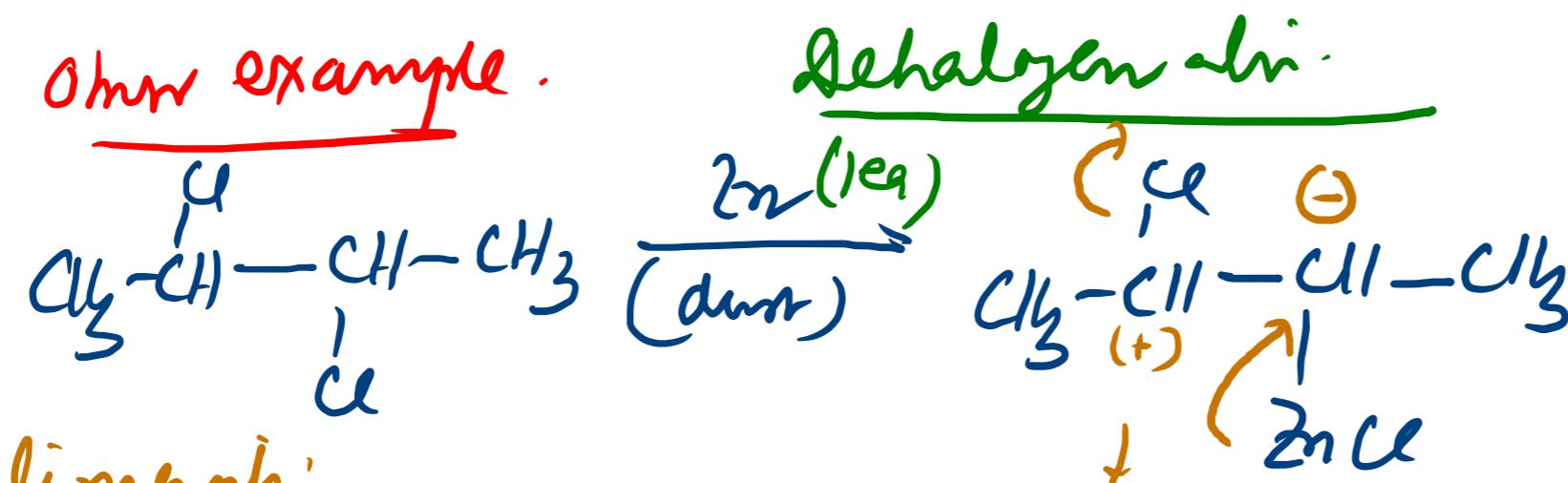
$X_1 > X_2$ (Stability)

It will abstract less sterically hindered hydrogen, Hoffmann pdl is the major product.



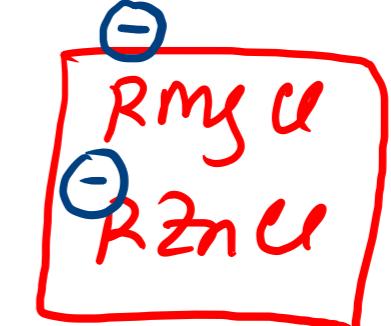
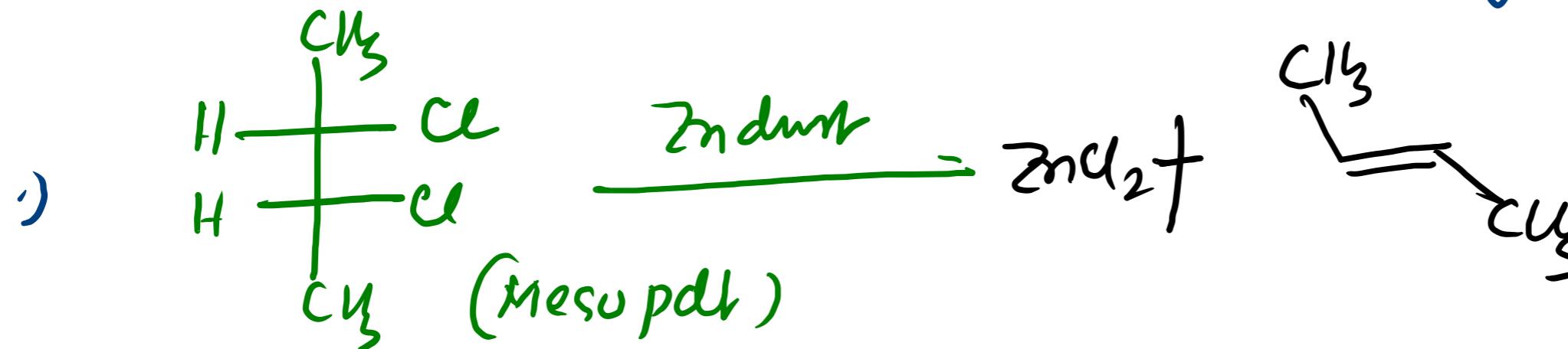
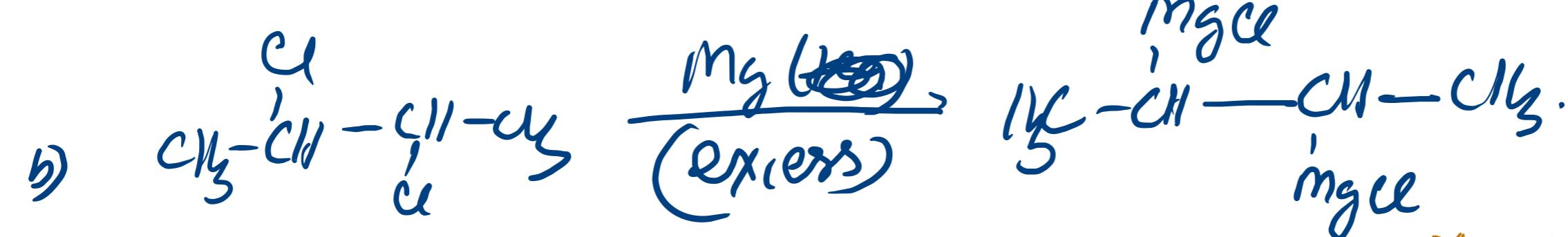
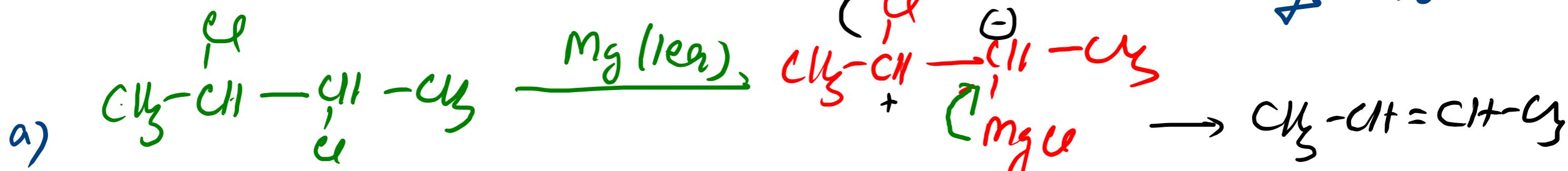
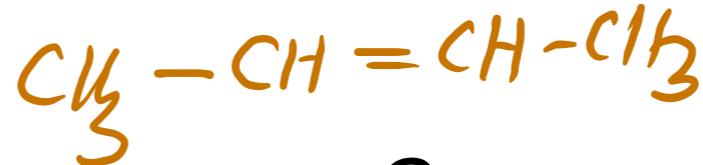
F_2

Other example.



\Rightarrow Anti-Elimination

\Rightarrow One type of F_2

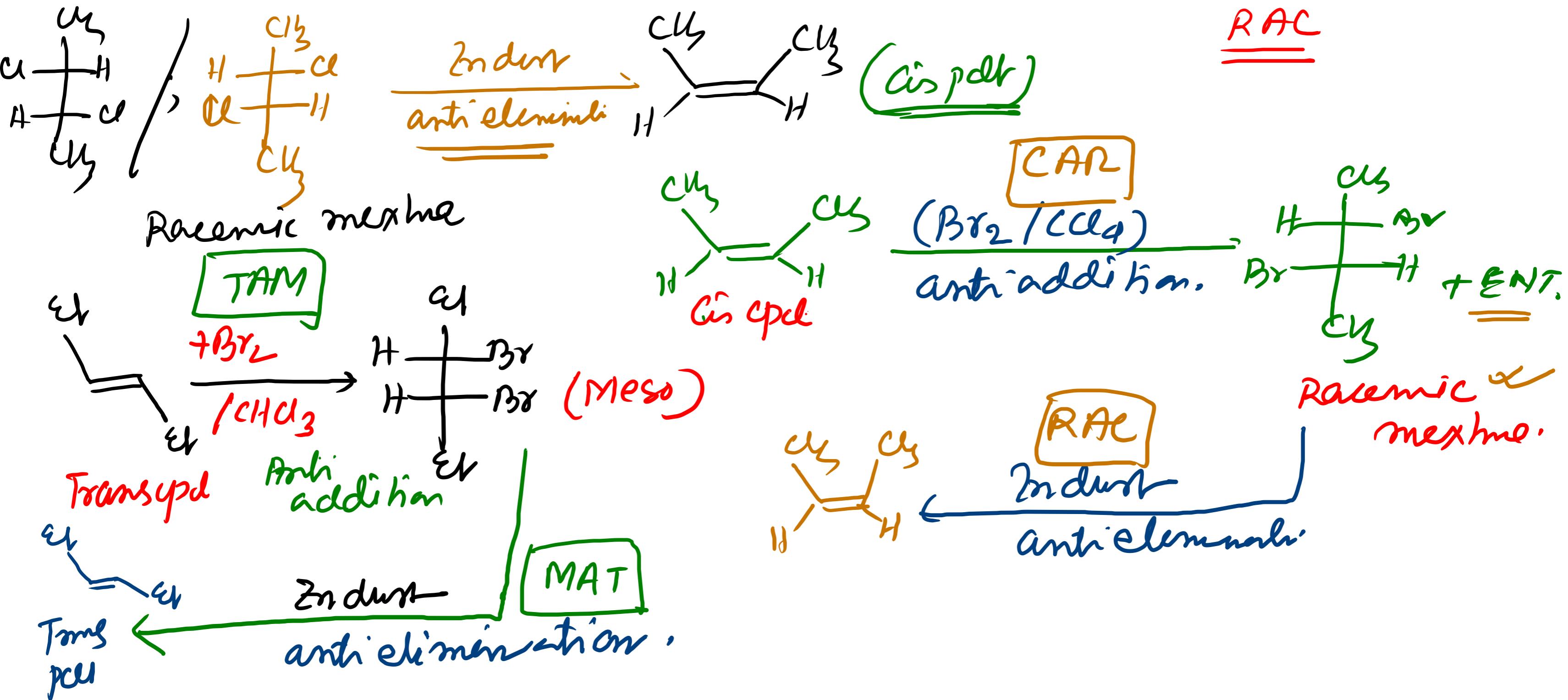


organometallic
comp.

it is the

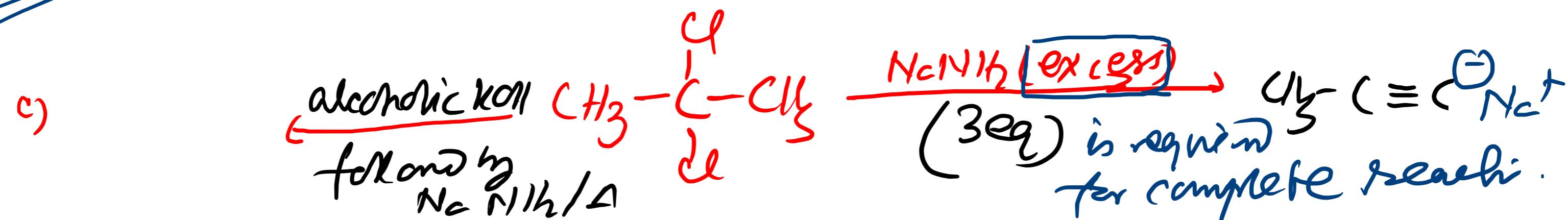
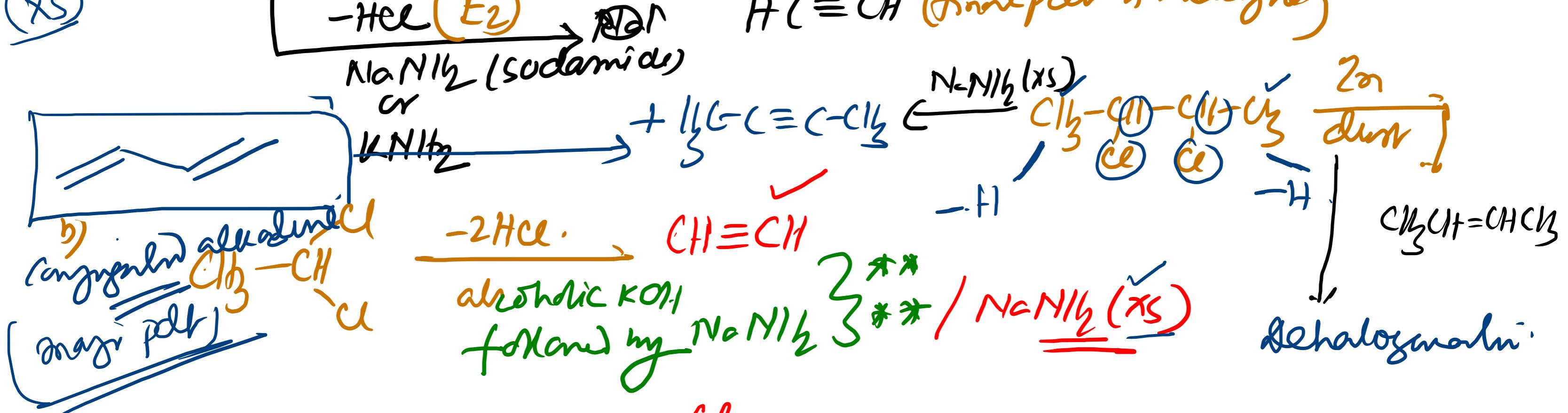
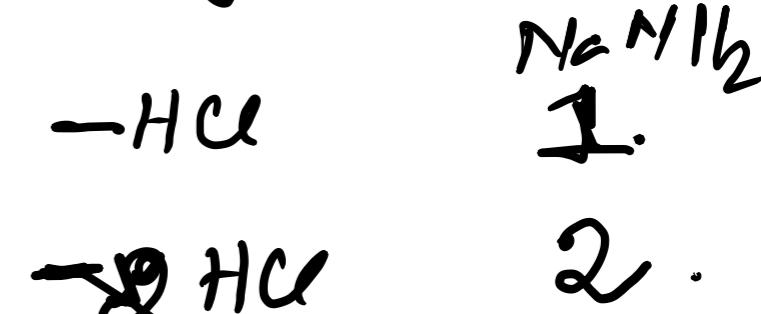
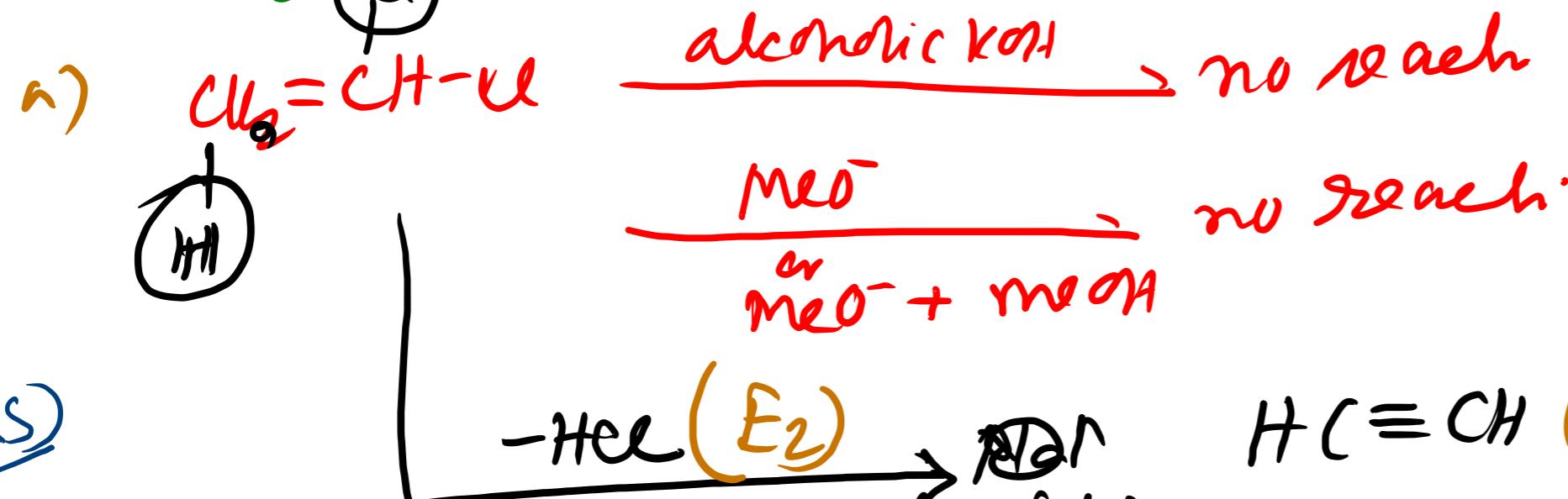
same carbion.

Mesogel - Anti-Elimination
 $\boxed{\text{MAT}}$ \rightarrow Transpol.



$\text{Cis cpd} + \text{Antiaddition} \rightarrow \text{R. M. } \leftarrow \text{CAR}$

Dehydrohalogenation from vinyl system (Preparation of alkyne.)



HOME WORK

Hälften
davon.

$$\left\{ \begin{array}{l} \text{O-I : } \underline{0.41 - 0.60070} \\ \text{O-II : } \underline{0.1 - 020} \end{array} \right.$$

Explanation:

