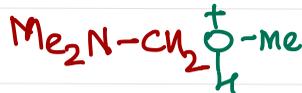
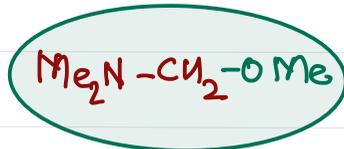
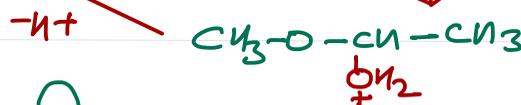
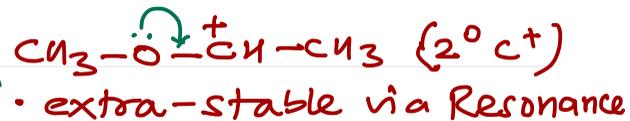
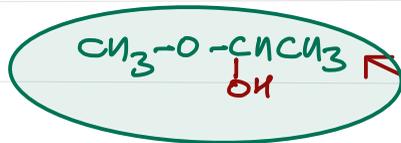
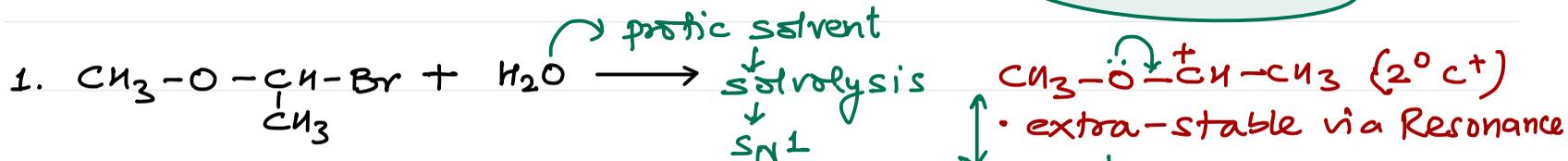


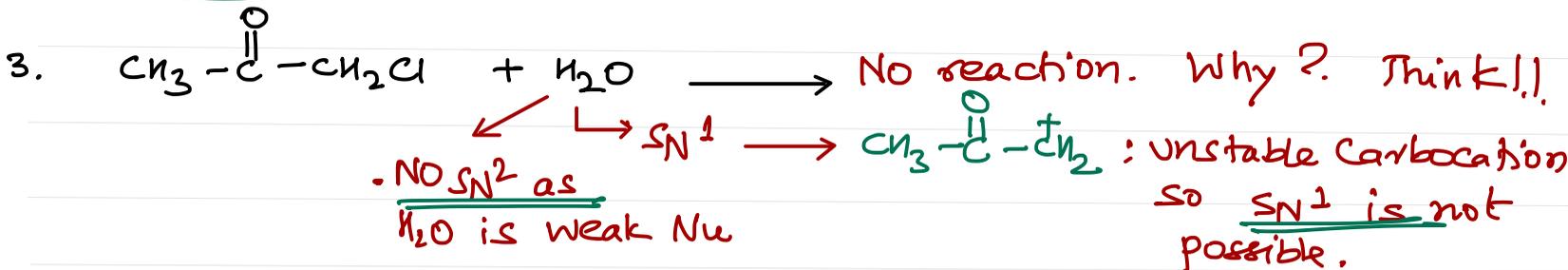
Organic Concepts Homework

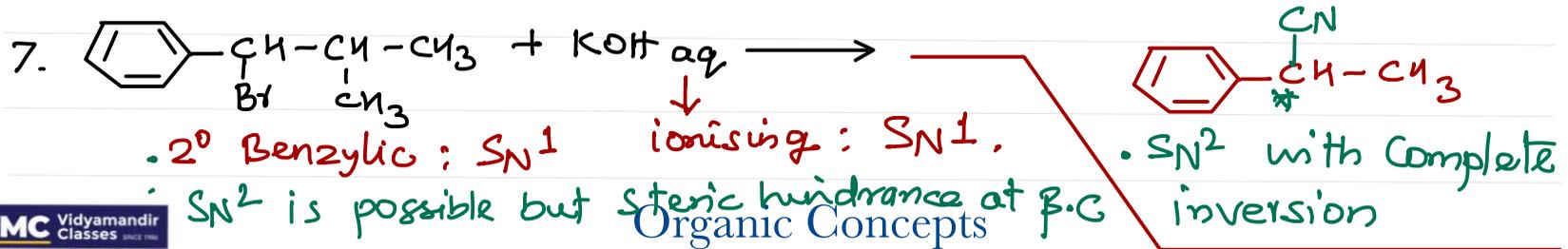
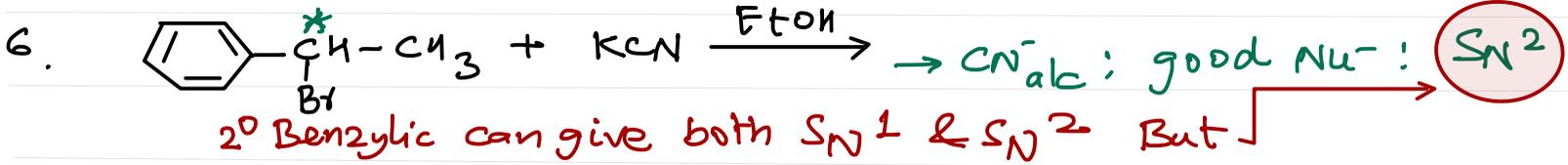
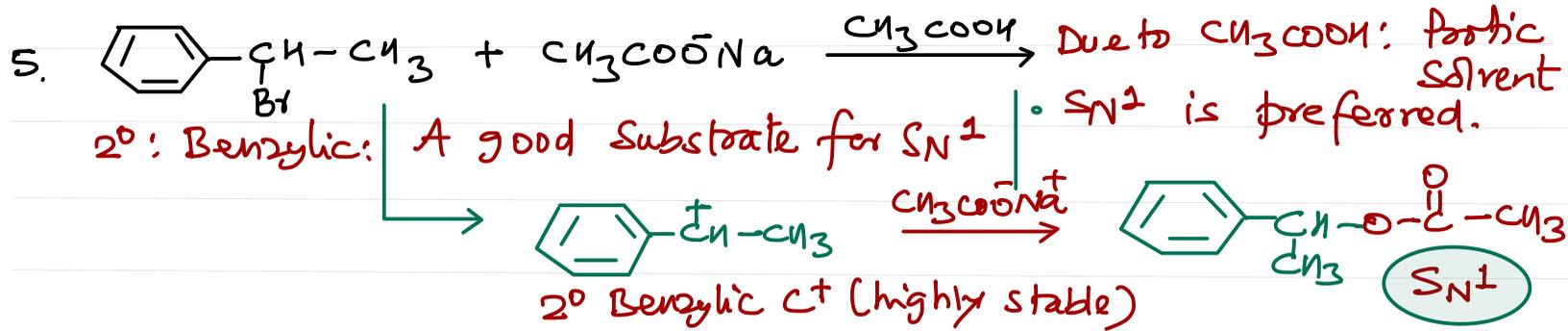
Solutions to HomeWork-Sheet-3

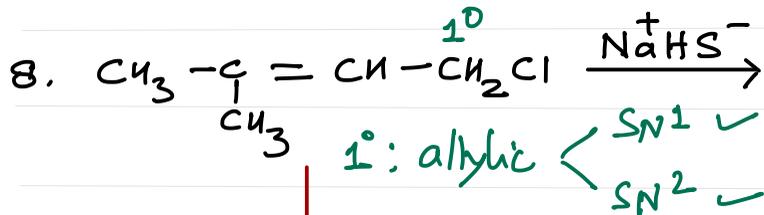
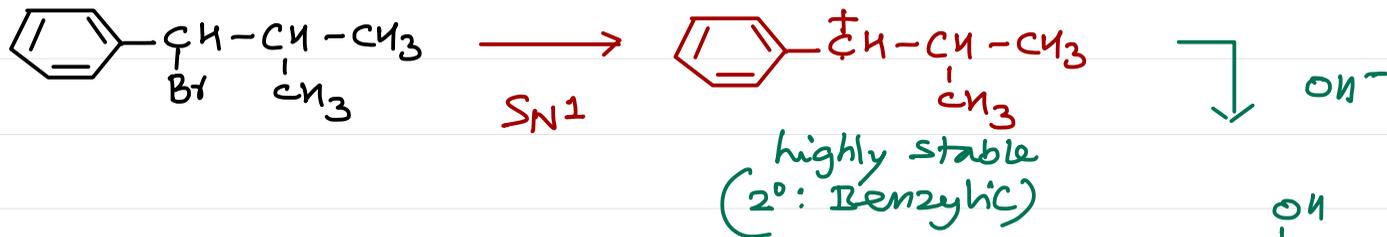
Solutions



extrastable due to resonance



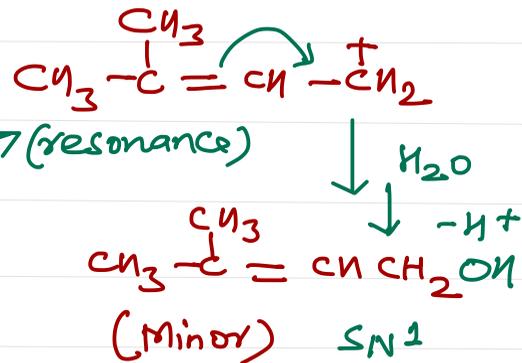
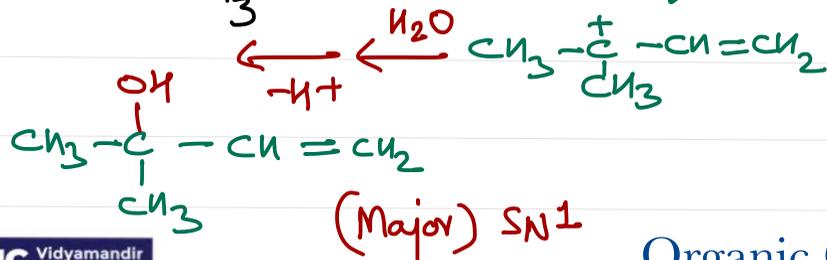
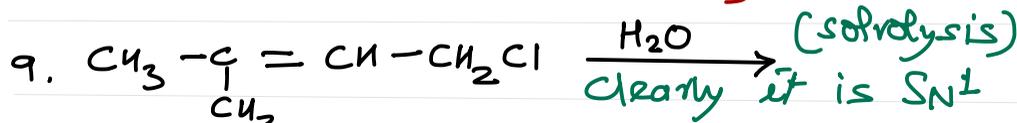




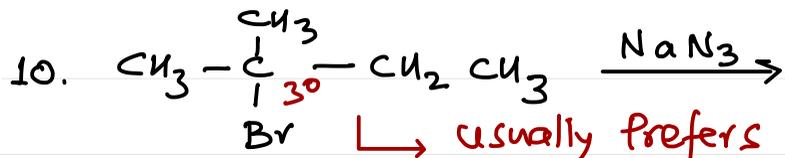
But here HS^- : Strong Nu^- so visualise S_N2 Path



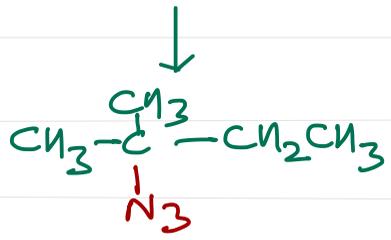
(±) Racemic Mixture due to S_N1 .



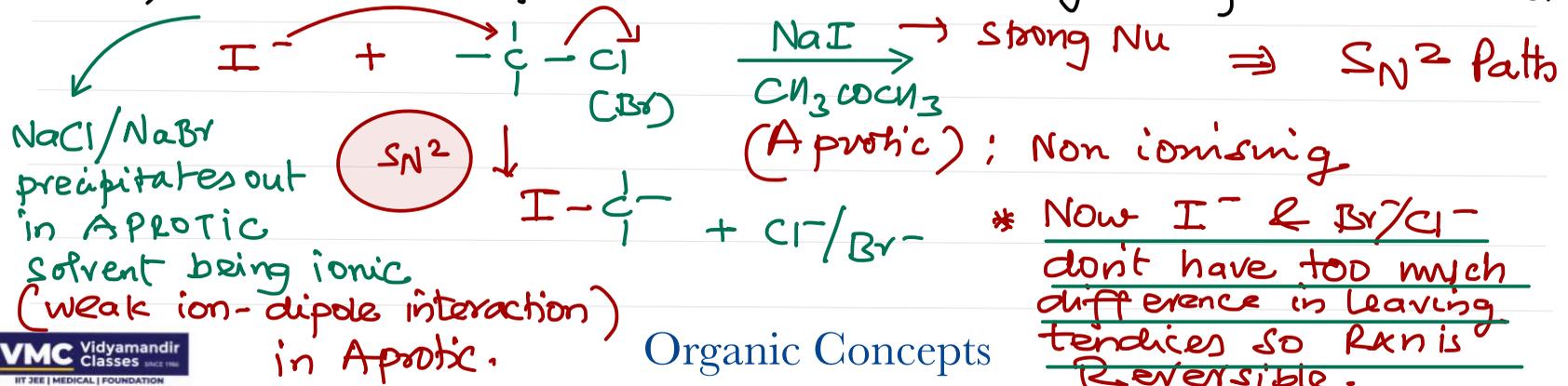
Organic Concepts



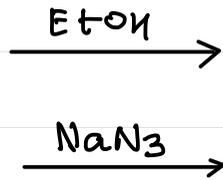
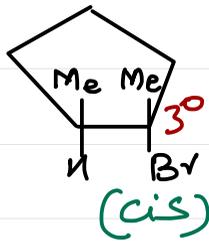
usually prefers $\text{S}_\text{N}1$ but here as a special case; N_3^- (azide) ion is linear & a very good Nu^- so (not much hindrance) $\text{S}_\text{N}2$ occurs even in 3° halides. [Remember it as a fact]



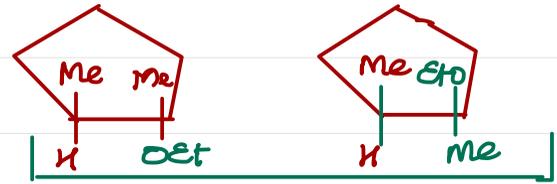
- II a) Visualise the reaction mechanism of Finkelstein reaction.
 b) Why it is a Reversible Reaction?
 c) How can one force the reaction to go in forward direction



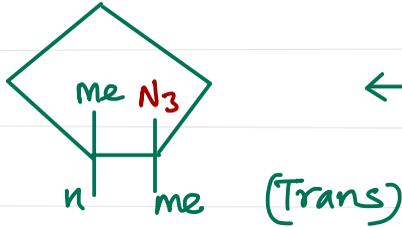
III



Solvolysis
S_N1

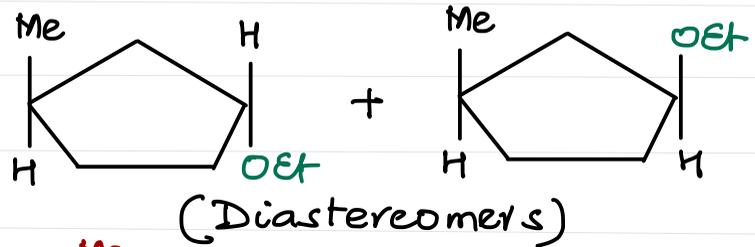
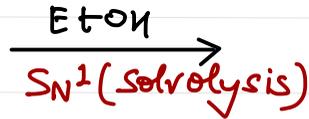
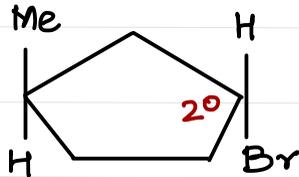


- '2' products due to planarity of carbocation
- mixture of cis/trans
- Diastereomers.

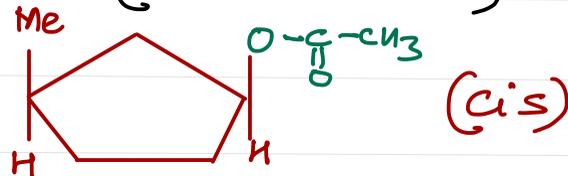
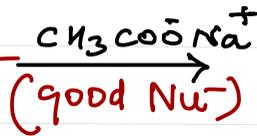


• Linear shaped good nucleophile does S_N2 even in 3° halides

IV



Trans

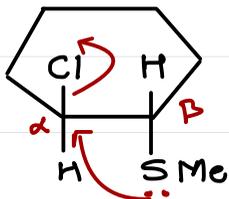


Capable of S_N2 attack at 2° cycloalkyl.

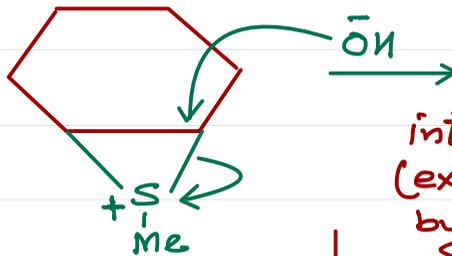
⇒ Visualise S_N2

Organic Concepts

Visualise
NGP



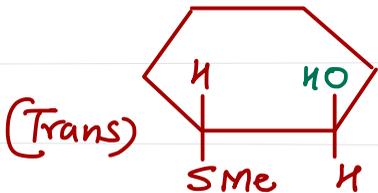
intramolecular
 SN^2 by 's' atom



intermolecular
(ext) SN^2 attack
by $-\text{OH}$ (NW)

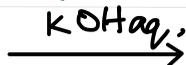
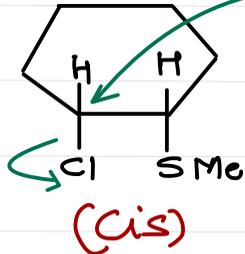
V

- (Trans)
- Cl & SMe are ANTI to each other

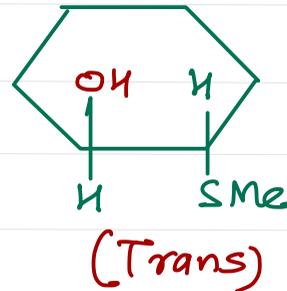


(Trans)

VI

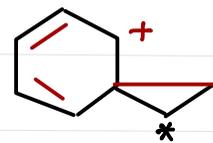
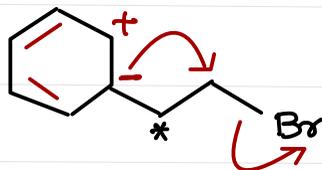
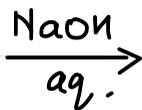
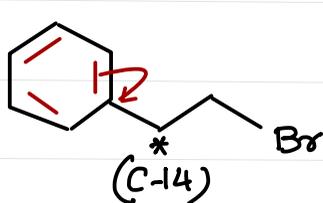


- No NGP?
- both Cl^- & SMe are on SAME SIDE (Syn to each other) \Rightarrow intermolecular SN^2 (Normal)



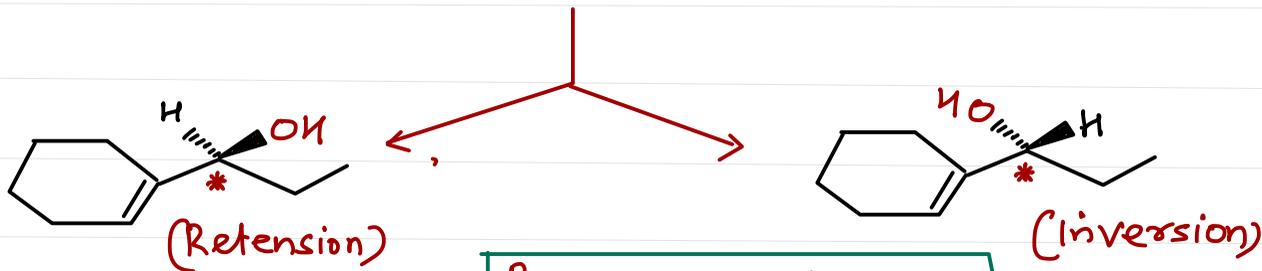
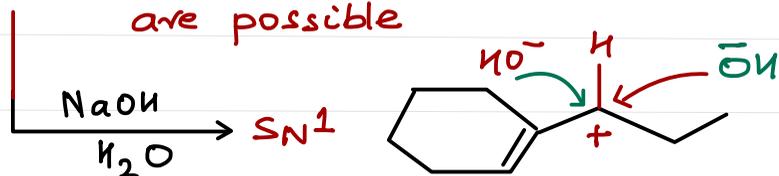
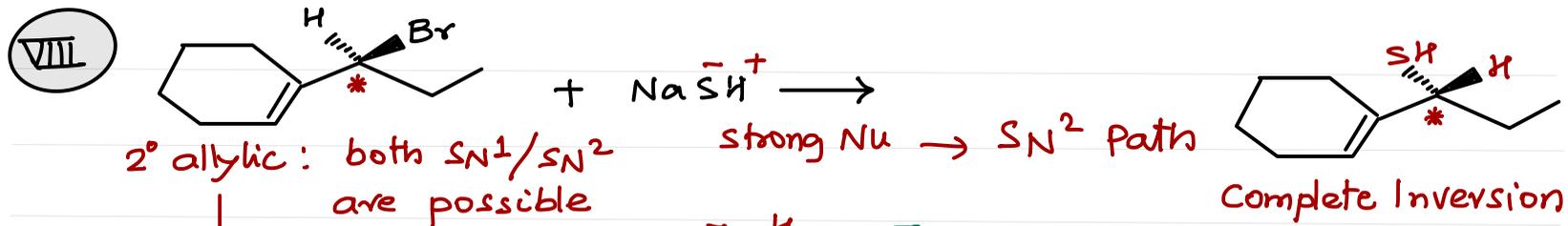
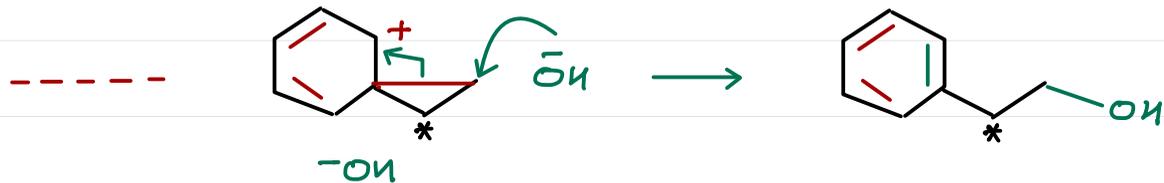
(Trans)

VII



contd....

Visualise NGP \equiv $(\text{SN}^2)_{\text{intra}}$ + $(\text{SN}^2)_{\text{inter}}$
Organic Concepts



Racemisation (Partial)

Organic Concepts

