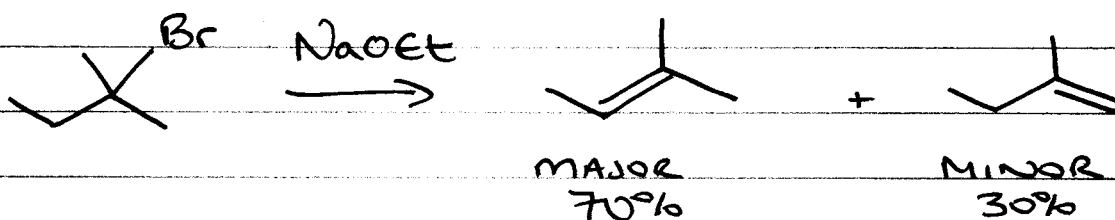


- ① ZAITSEV / HOFMANN
- ② SYN ELIMINATION
- ③ E1/E2 SUMMARY
- ④ SUBSTITUTION vs ELIMINATION
- ⑤ SYNTHESIS

READ: Chapter 8

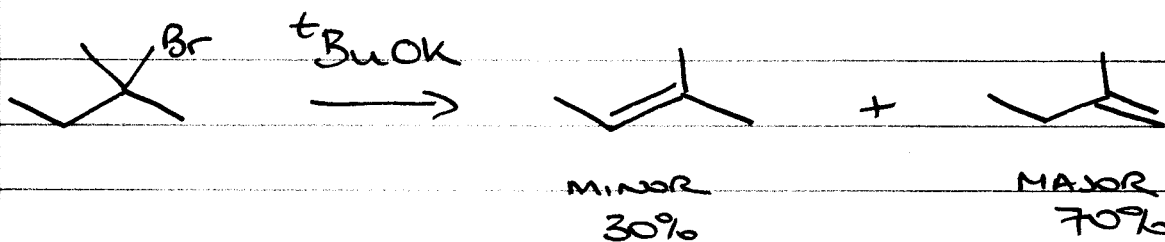
PROBLEMS: 8.42 - 8.50 (NOT 8.46 f, g, h)

### ① ZAITSEV / HOFMANN

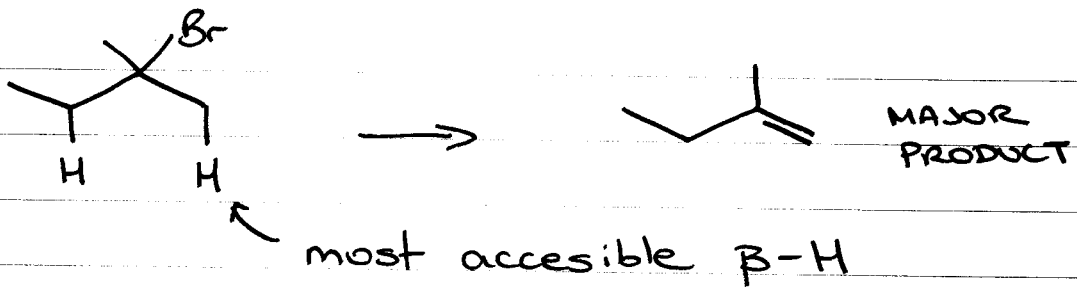


ZAITSEV  $\rightarrow$  more substituted, more stable alkene

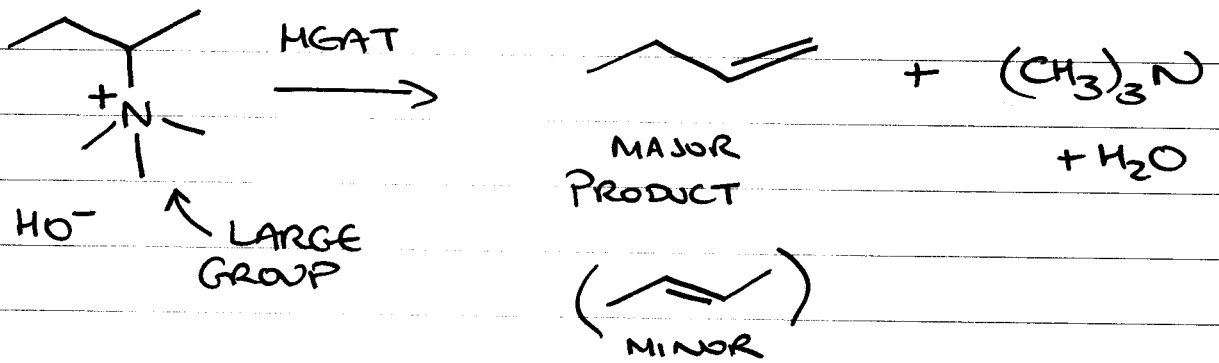
BULKIER BASES CAN GIVE OPPOSITE SELECTIVITY



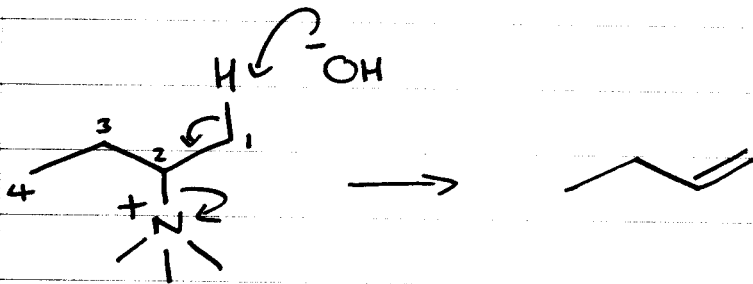
HOFMANN  $\rightarrow$  least substituted alkene preferred



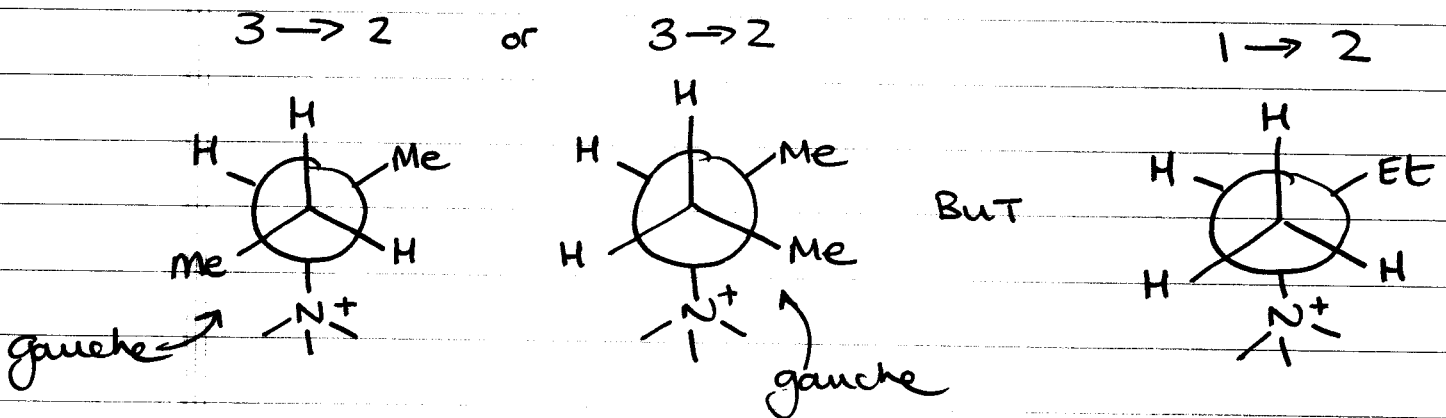
- Common reaction with quaternary ammonium salts



PROCEEDS w/ ANTISTEREOSPECIFICITY

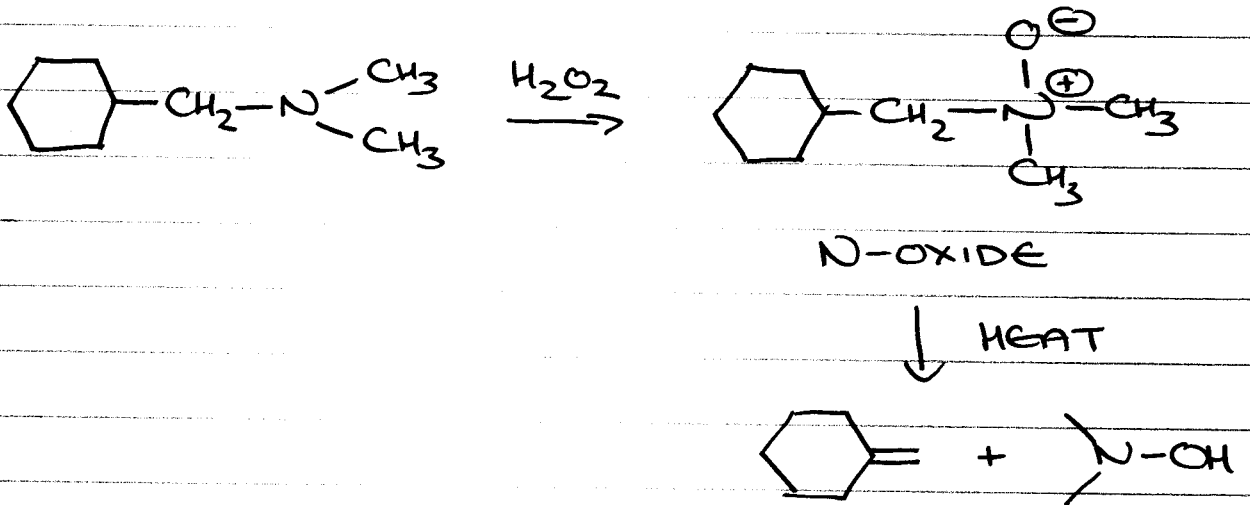


Consider NEWMAN PROJECTIONS

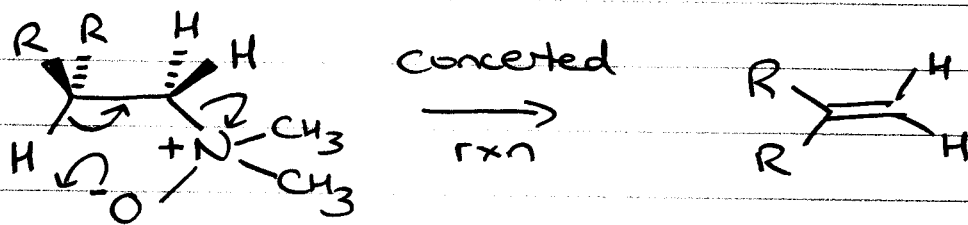


- also some electronic effects with Ammonium ion leaving groups

② SYN ELIMINATION  
- cope elimination

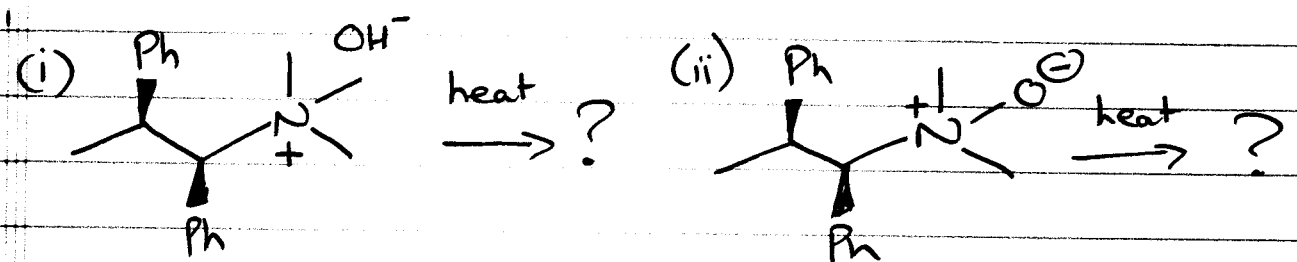


mechanism:



SYN

So, FIGURE OUT THE PRODUCTS OF THESE RXNS

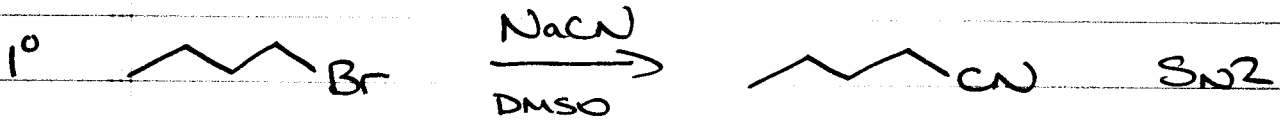


③ E1/E2 SUMMARY 2

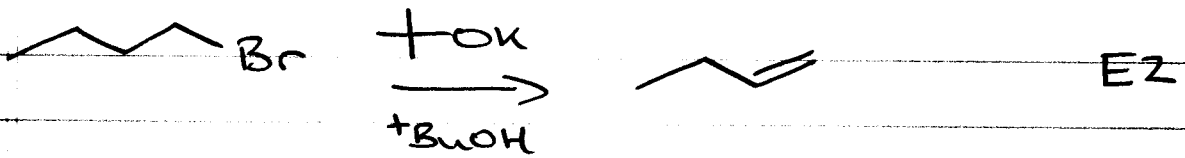
④ SUBSTITUTION VS ELIMINATION

See pages 6 thru 8 from LEC 22

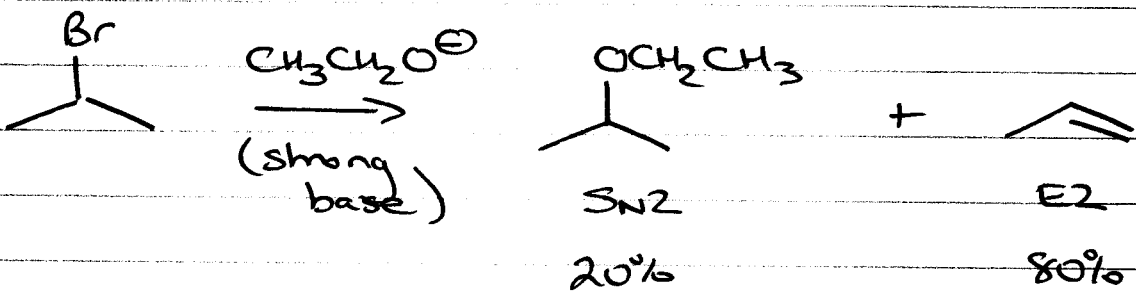
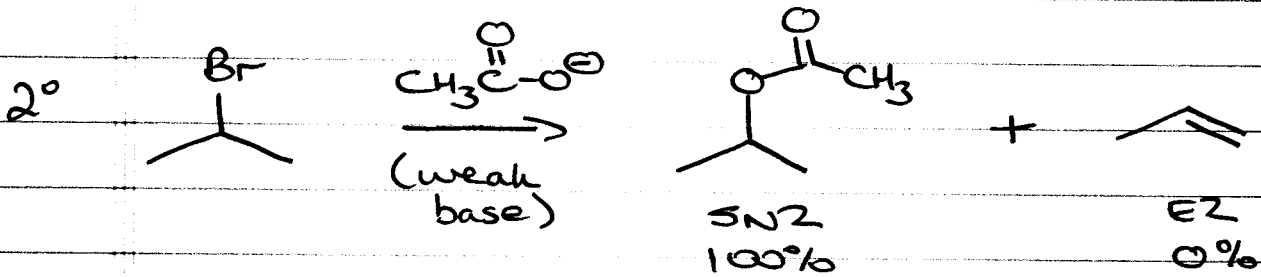
-examples



(CN<sup>-</sup>, RS<sup>-</sup>, NH<sub>3</sub>, Br<sup>-</sup>, I<sup>-</sup>) good nucleophiles

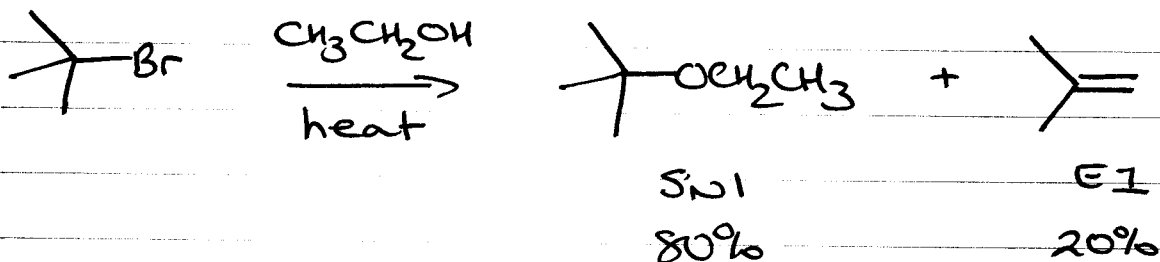
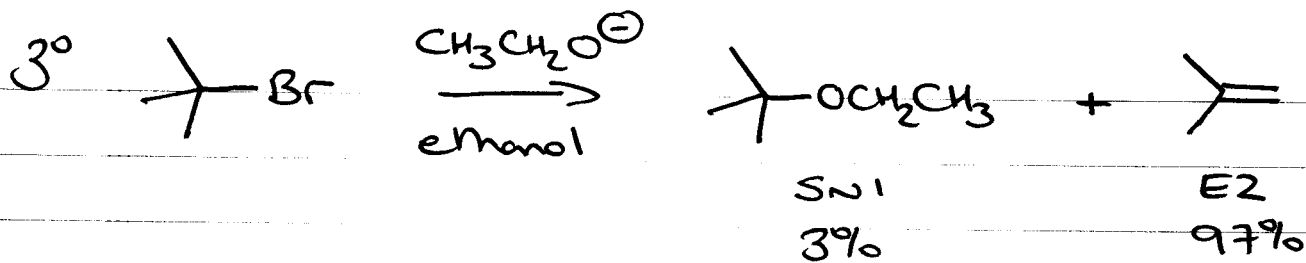


strong-hindered bases



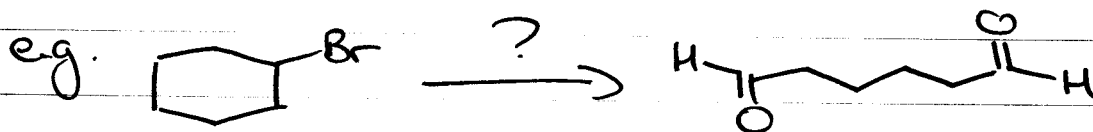
2° BENZYLIC/ALLYLIC SUBSTRATES CAN DO SN1/E1 WITH WEAKLY BASIC NUCLEOPHILES IN POLAR PROTIC SOLVENTS

(5)



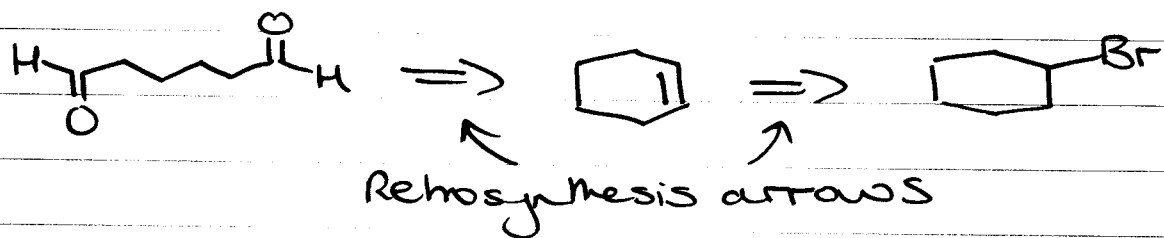
### ⑤ SYNTHESIS

- sequences of reactions



usually told if you need more than one step - and here you do.

RETROSYNTHESIS (work backwards)



So, forward synthesis:

