These equations contain "drawing features", such as arrows and some bonds, that need to be added to the equations in the text.

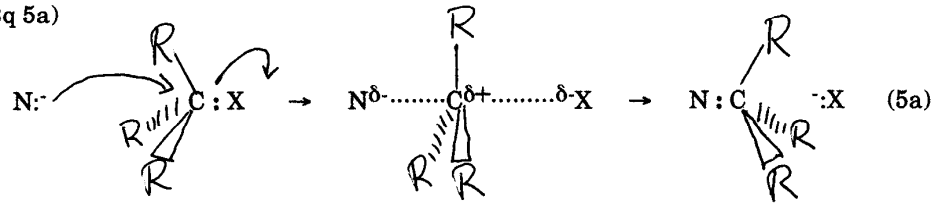
(Eq 1) $R_3C:X \rightarrow R_3C^+ \ ^-:X$ (1)

(Eq 2) $R_3C^+ \ ^-:N \rightarrow R_3C:N$ (2)

(Eq 3) $R_3C:X \rightarrow R_3C^+ \ ^-:X$ (3)

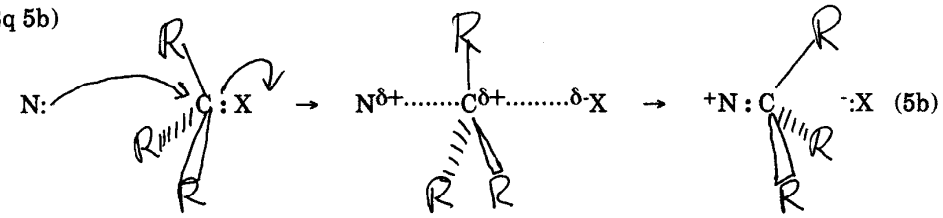
(Eq 4) $R_3C^+ :N \rightarrow R_3C:N^+$ (4)

(Eq 5a)



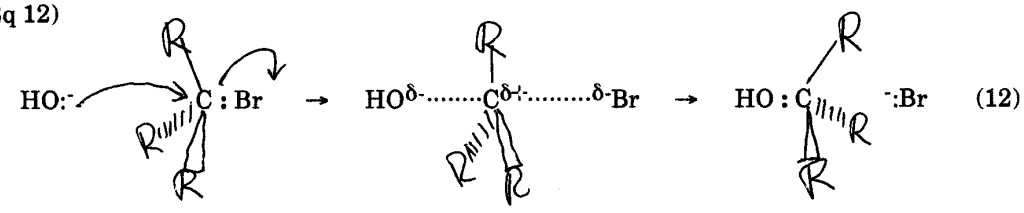
(5a)

(Eq 5b)



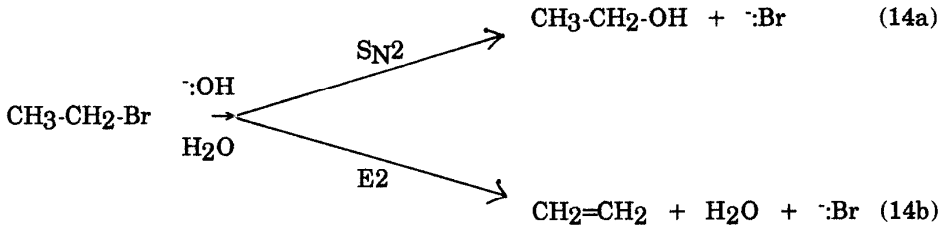
(5b)

(Eq 12)



(12)

(Eqs 14a and b)

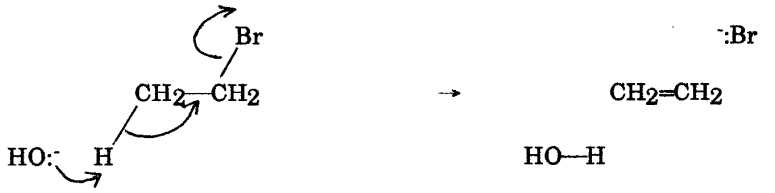


(14a)

(14b)

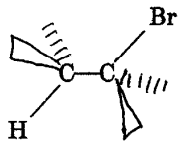
These equations contain "drawing features", such as arrows and some bonds, that need to be added to the equations in the text.

(Eq 15)



(15)

(Eq 16)

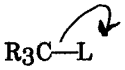


(16)

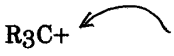
(Eq 17)

(17)

(Eqs 22a and b)

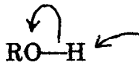


(slow step) (22a)



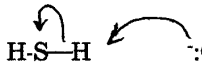
(fast step) (22b)

(Eq 23)



(23)

(Eq 30)

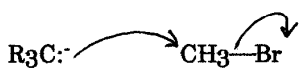


(30)

(Eq 42)

(42)

(Eq 43)



(43)

Figure 7.1

Figure 7.5. Solvation of a Carbocation and a Halide Ion by Water.

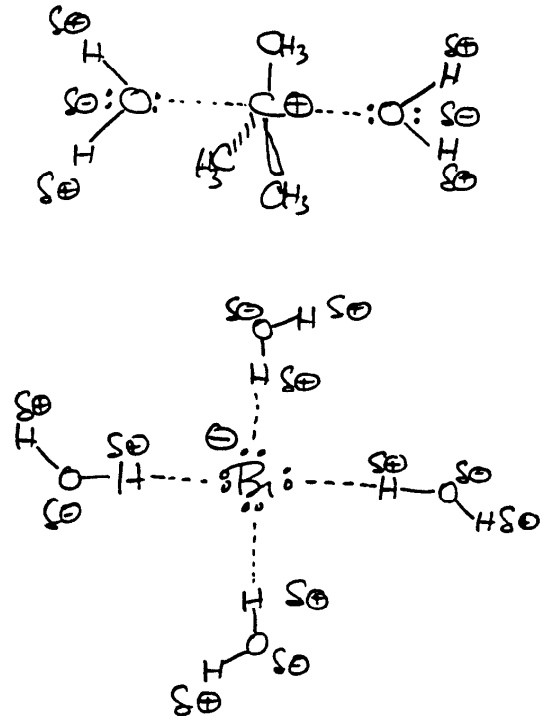


Figure 7.11. Steric Hindrance to Approach of N: During an S_N2 Reaction.

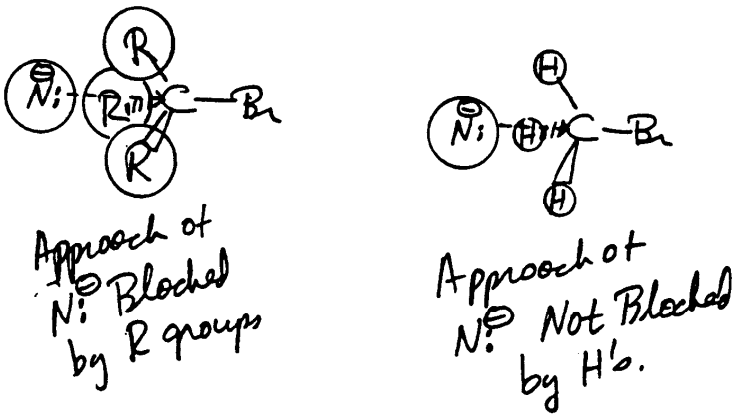


Figure 7.12

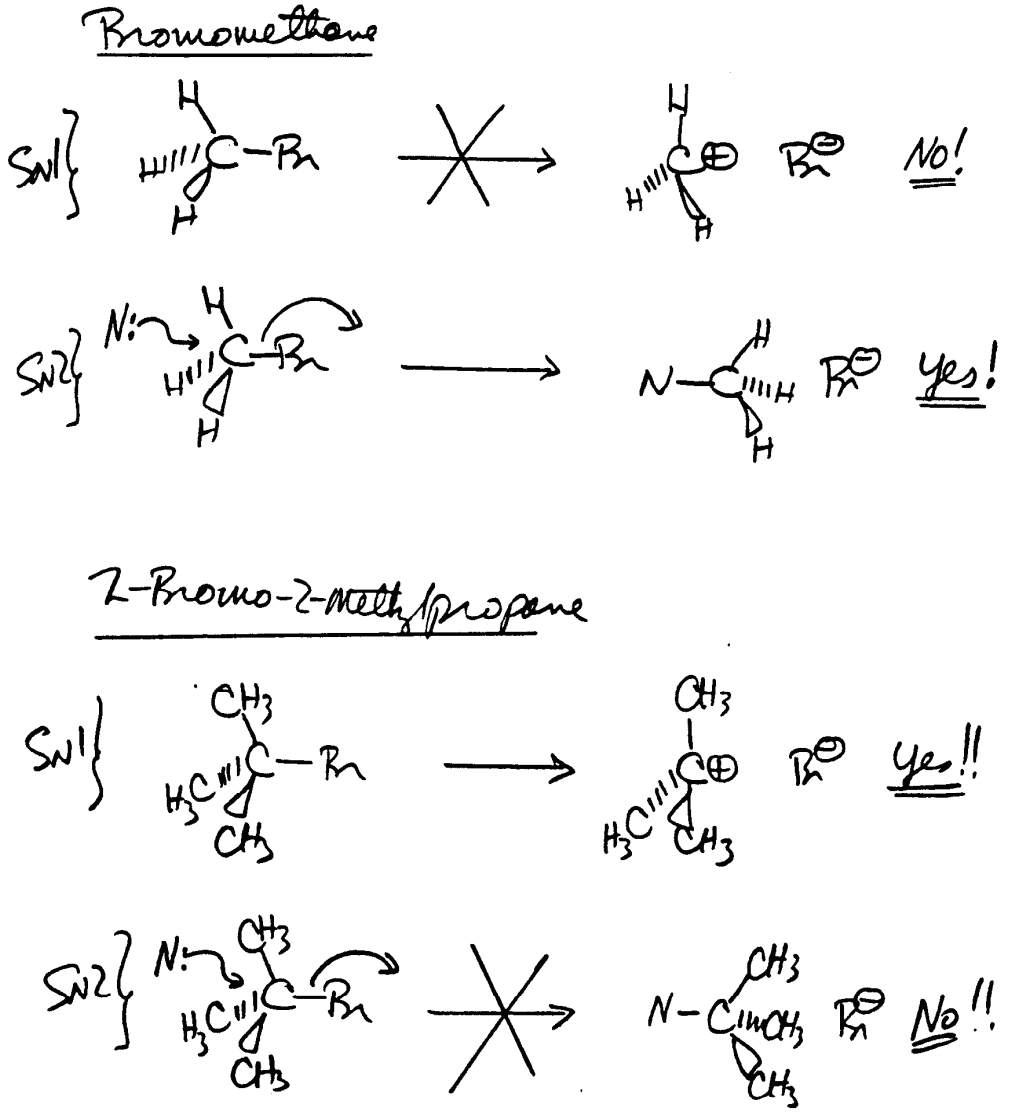


Figure 7.14. Compounds of the Structure R-CH_2-Br.

CH_3-CH_2Br	CH_3CH_2-CH_2Br	$(CH_3)_2CH$-CH_2Br	$(CH_3)_3C$-CH_2Br
R = CH_3	R = CH_3CH_2	R = $(CH_3)_2CH$	R = $(CH_3)_3C$

Figure 7.13. S_N1 versus S_N2 Reaction Preference for Variously Substituted Bromoalkanes.

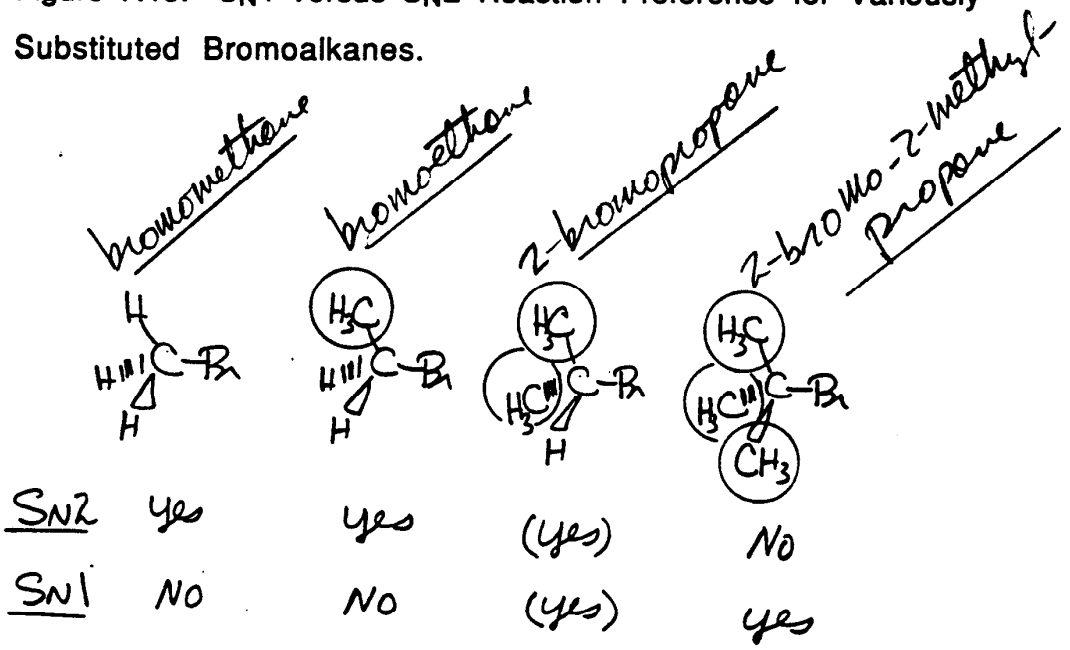


Figure 7.15. Steric Crowding by R Groups on C_β During Approach of N: to C_α.

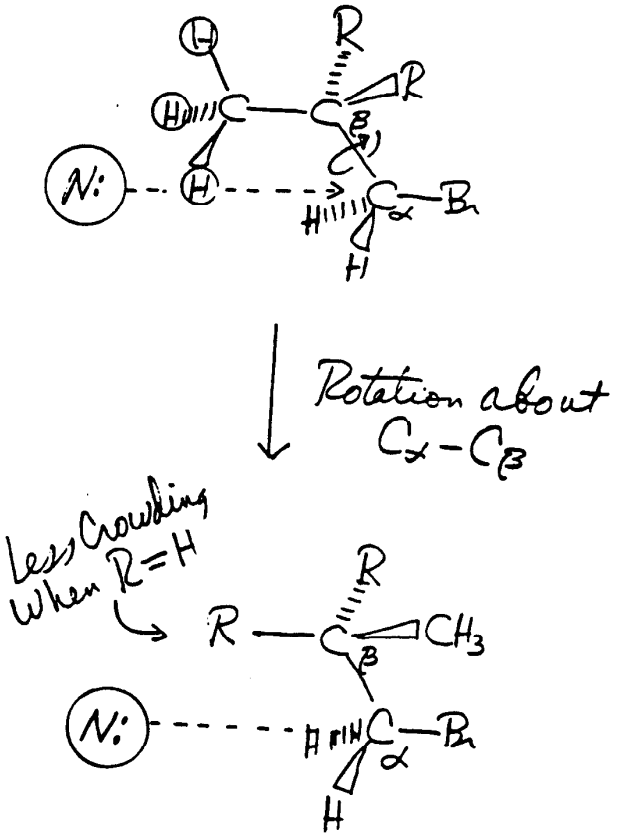


Figure 7.16. Carbocation Structure.

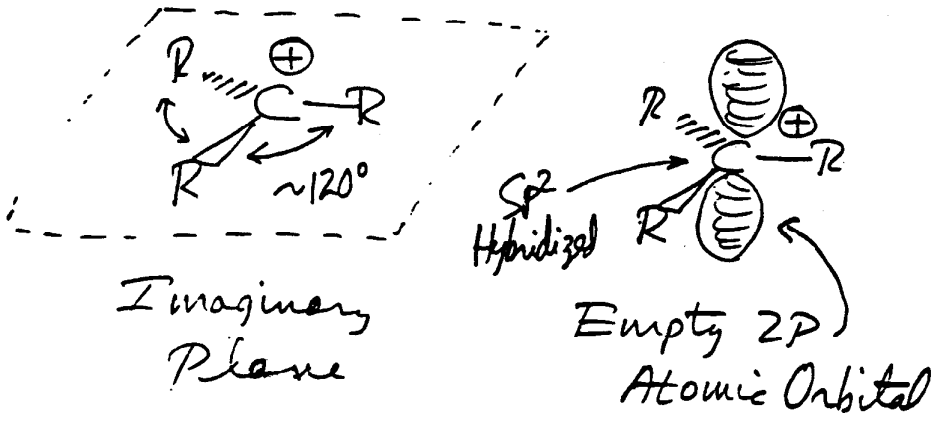


Figure 7.17. Changes in Substrate Structure During S_N1 Ionization.

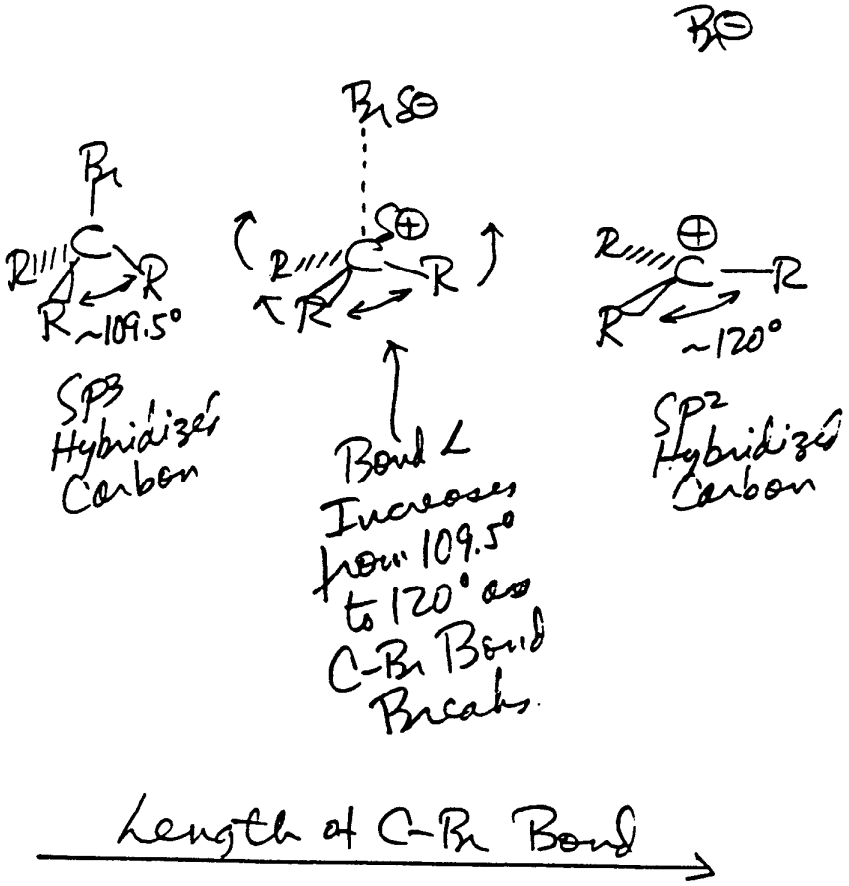


Figure 7.18. C-H Electron Donation (Hyperconjugation) Stabilizing Neighboring C+ Center.

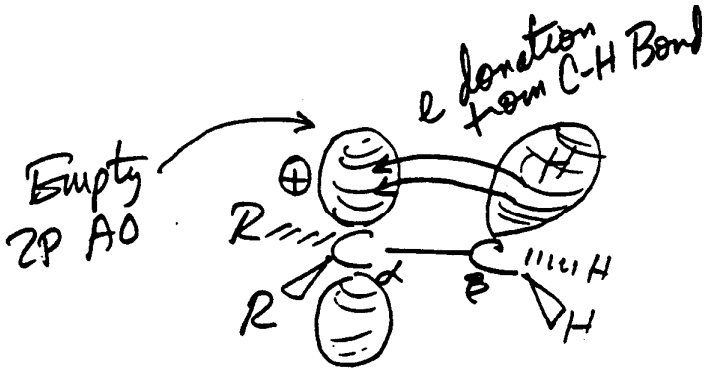


Figure 7.19. Effects of Alkyl Substitution on C+ Stabilization.

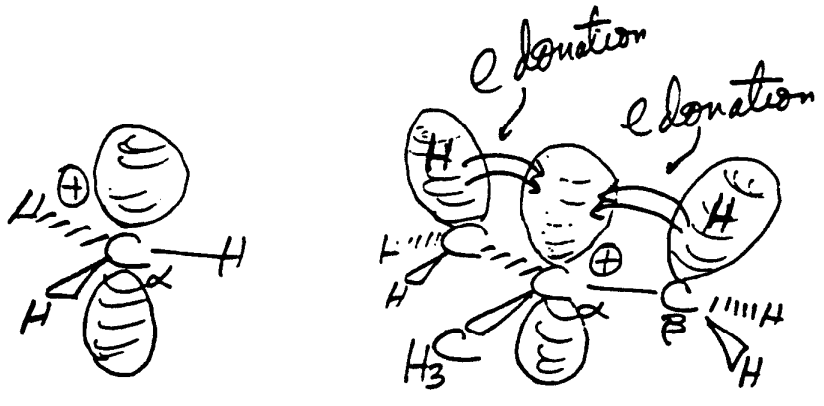


Figure 7.20. Changes in Substrate Structure During S_N2 Displacement.

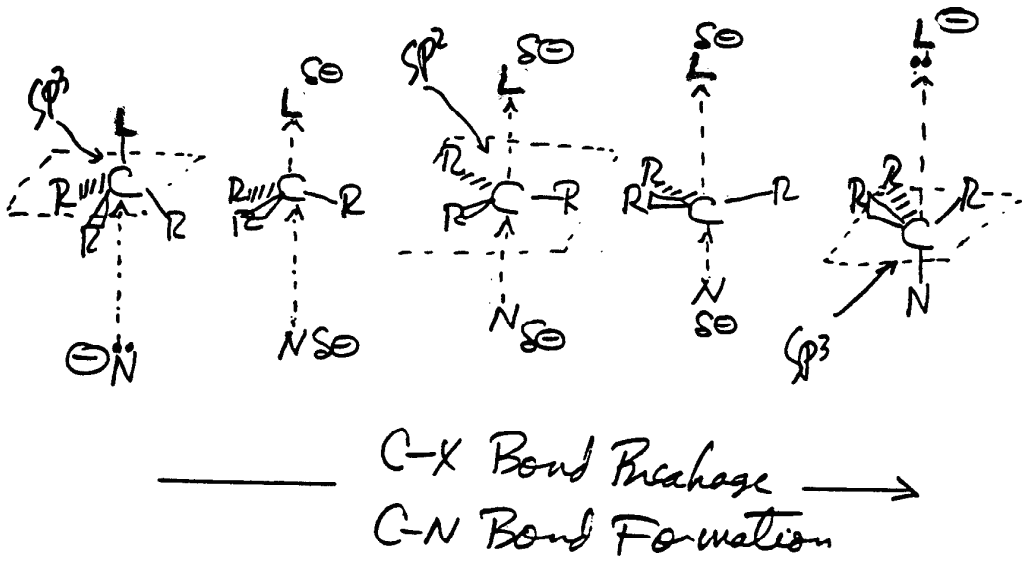


Figure 7.21. Backside versus Hypothetical Frontside Attack by Nucleophiles on CH_3Br.

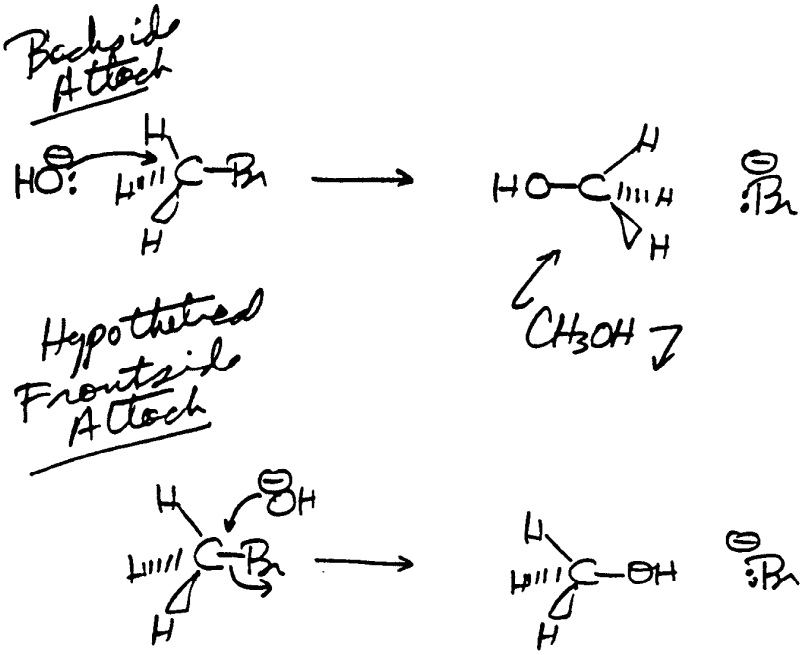


Figure 7.22. Backside versus Hypothetical Frontside Attack by Nucleophiles on $CH_3CH_2CH(CH_3)Cl$.

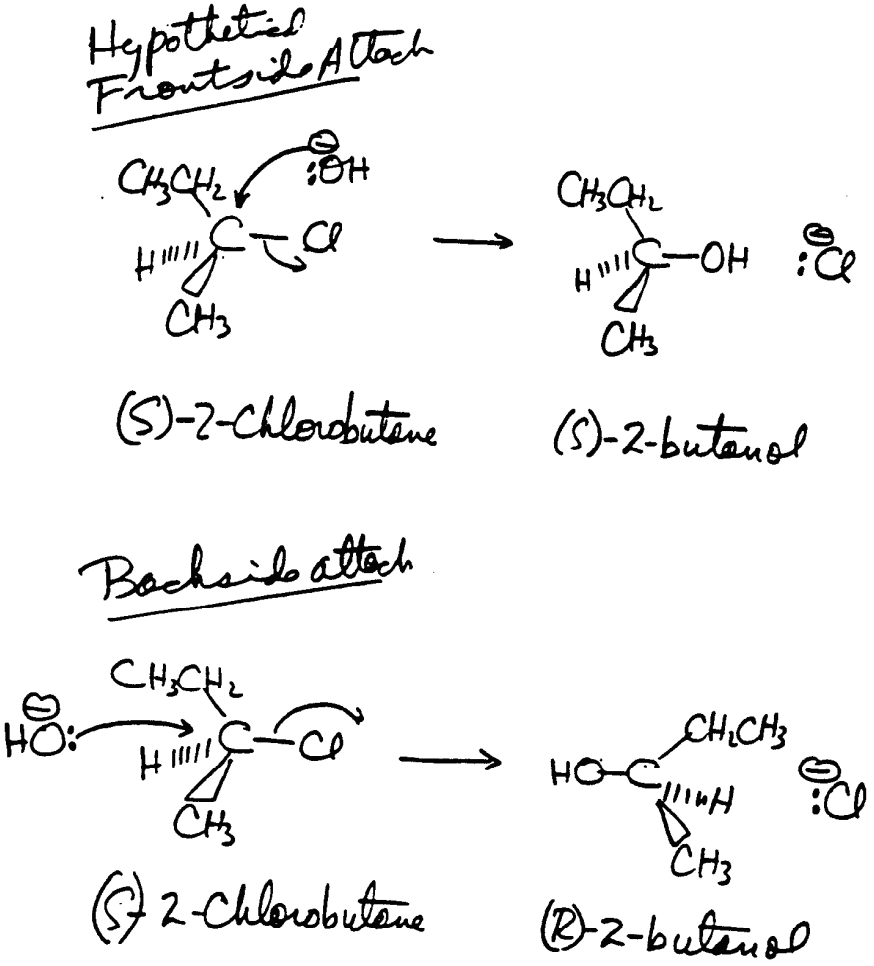


Figure 7.24. Stereochemical Results of Attack of N: on Symmetrical Carbocation Intermediate.

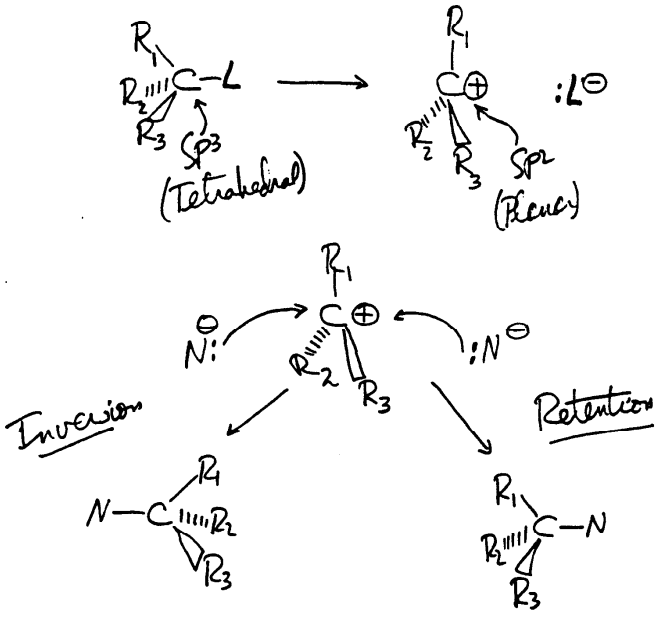
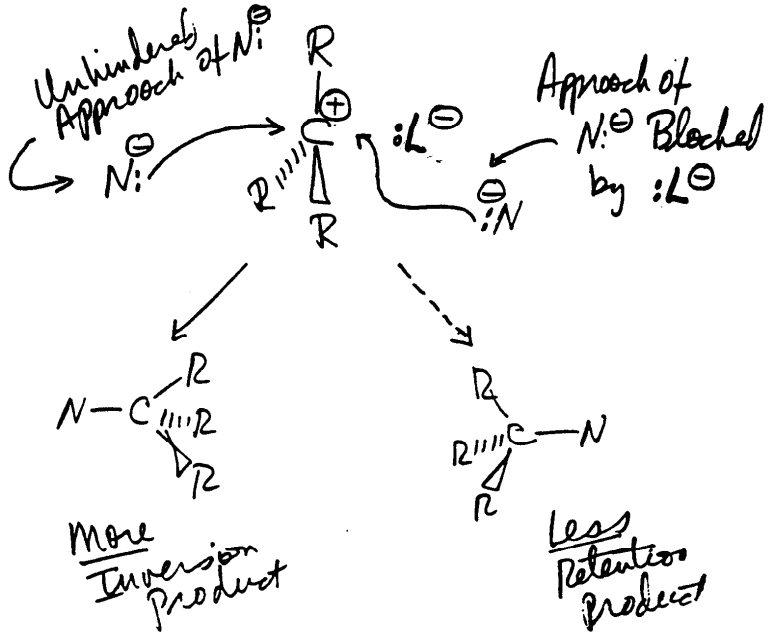


Figure 7.25. Stereochemical Results of Attack of N: on Carbocation Intermediate with One Face Blocked.



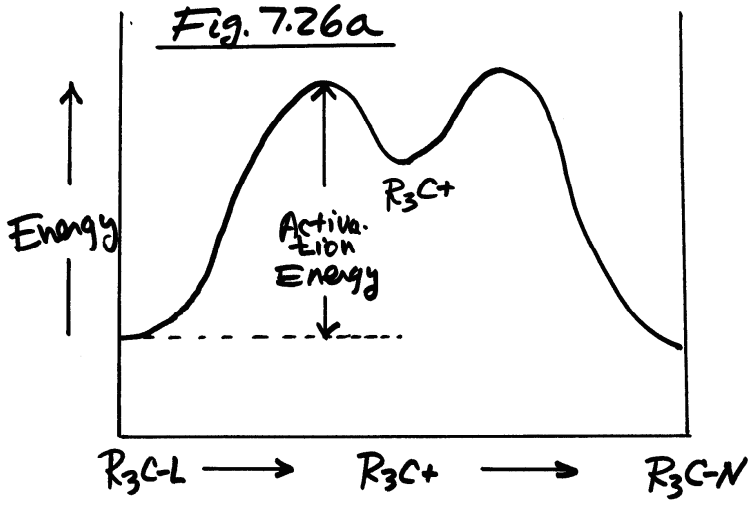


Figure 7.26. Generalized Energy Diagram for a One-Step Chemical Reaction.

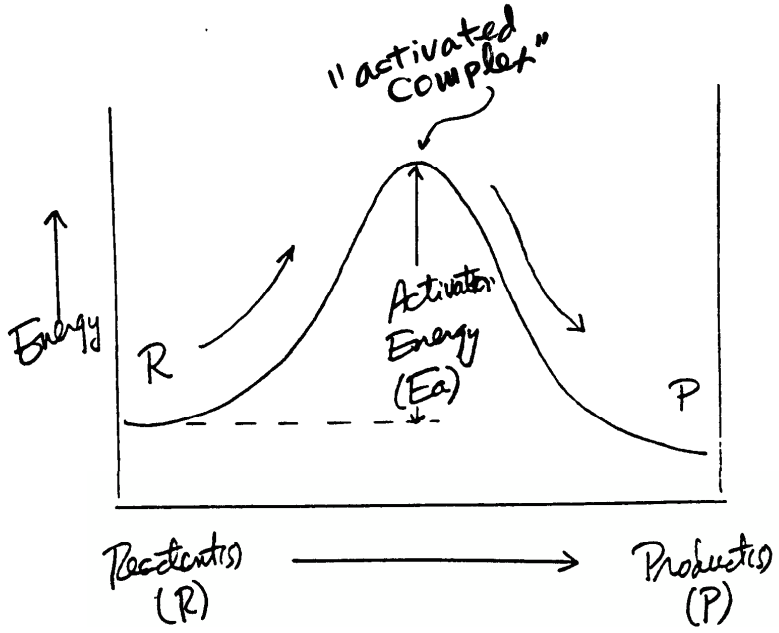


Figure 7.27. Transition State for S_N2 Reaction between N^- and CH_3-L

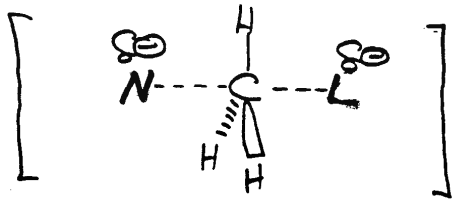


Figure 7.33

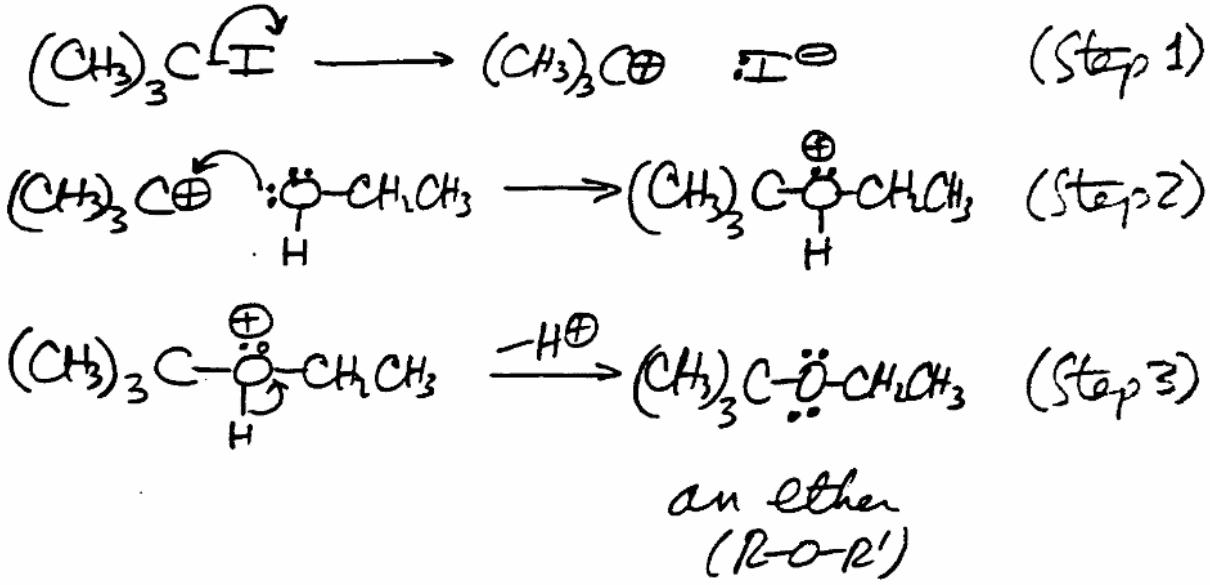


Figure 7.34

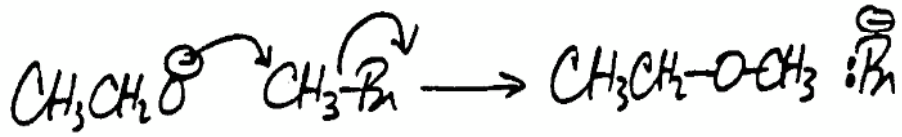


Fig 7.34a

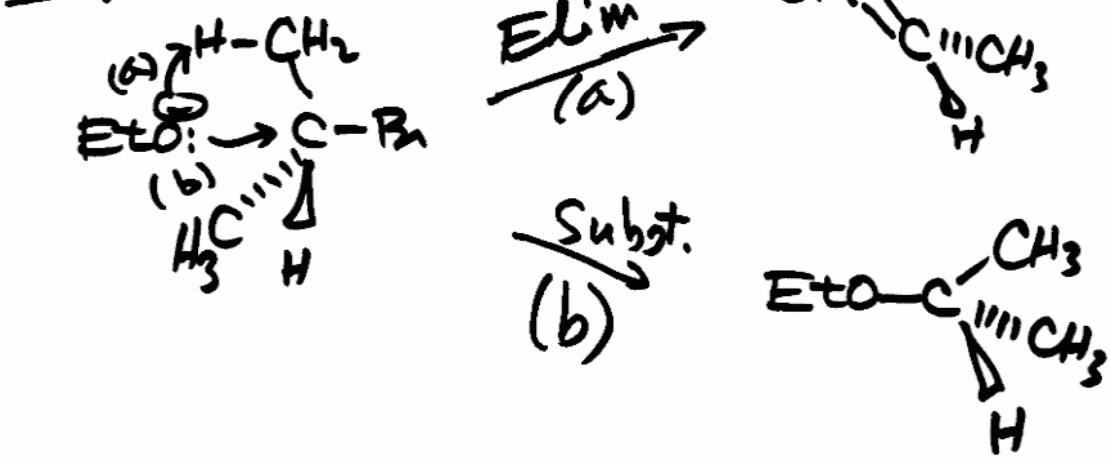


Figure 7.35

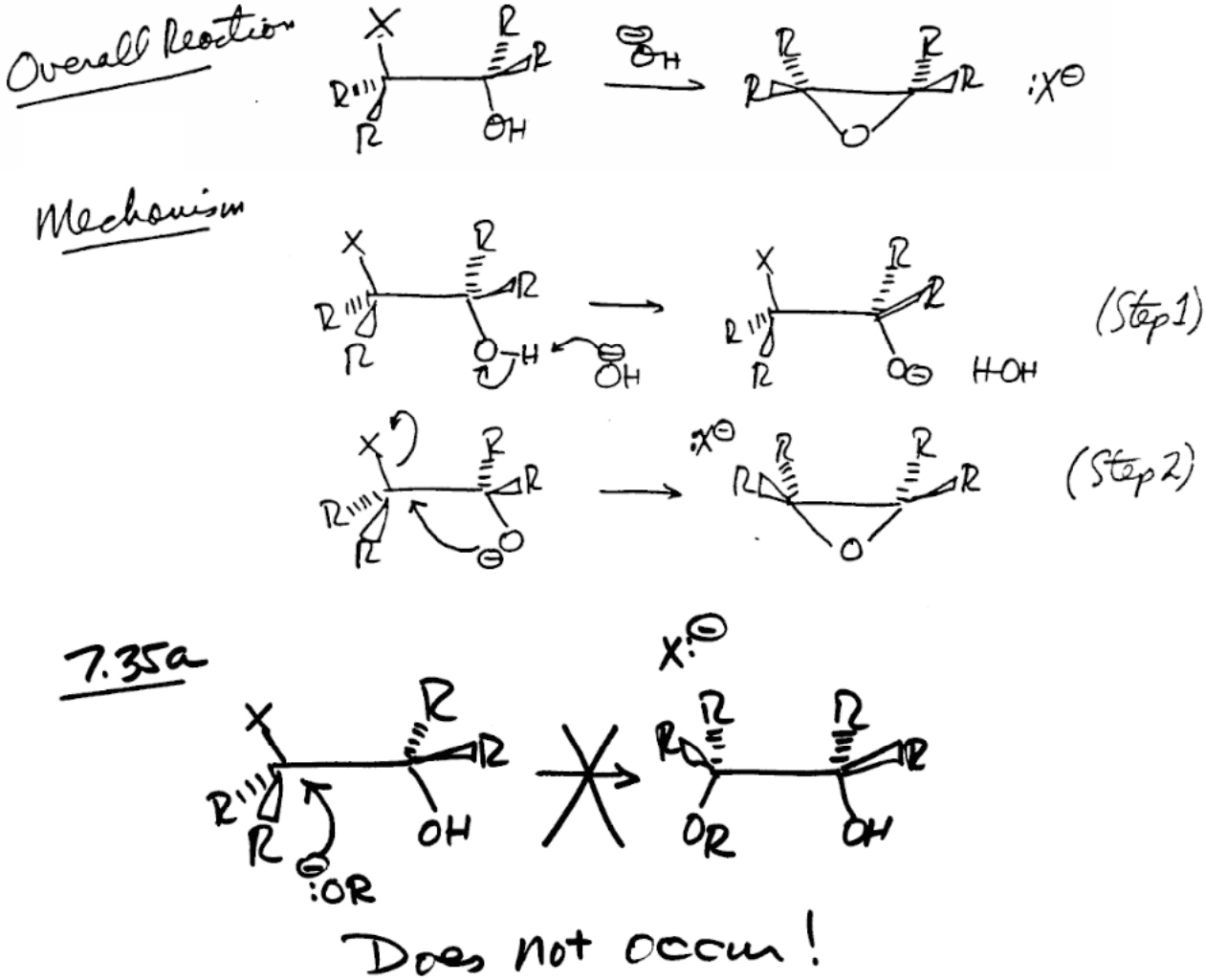


Figure 7.37. S_N2 Mechanisms for Reaction of Ammonia with 1-Bromoethane.

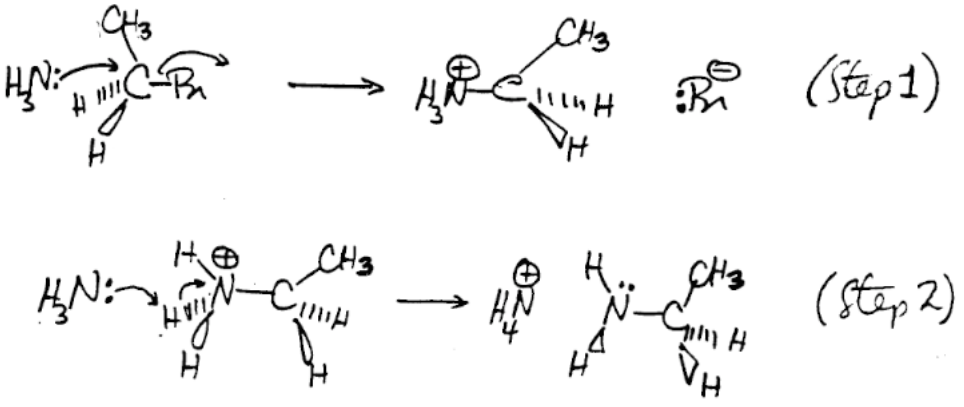


Figure 7.38

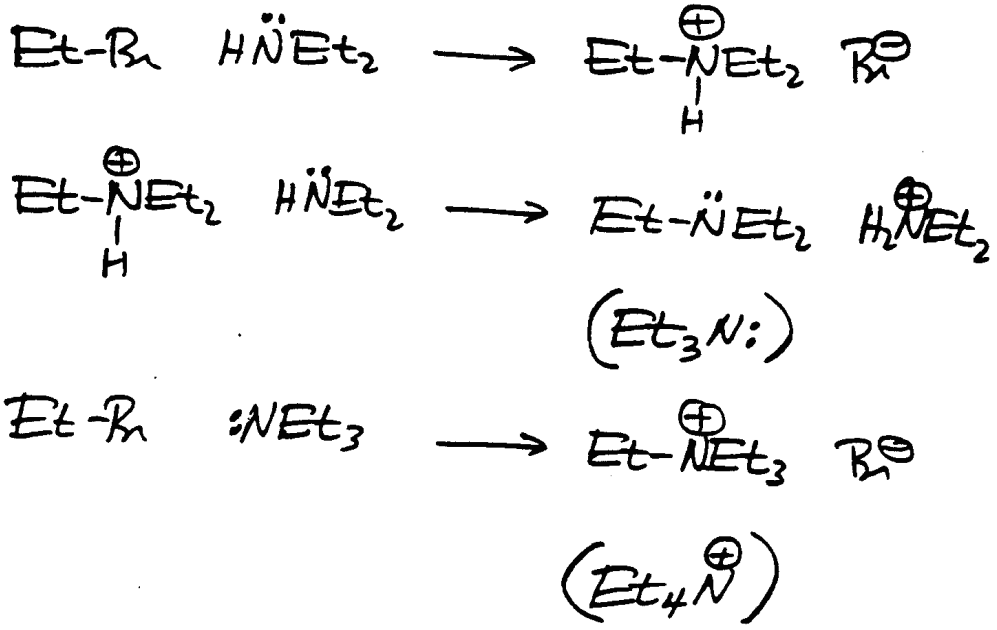


Figure 7.39

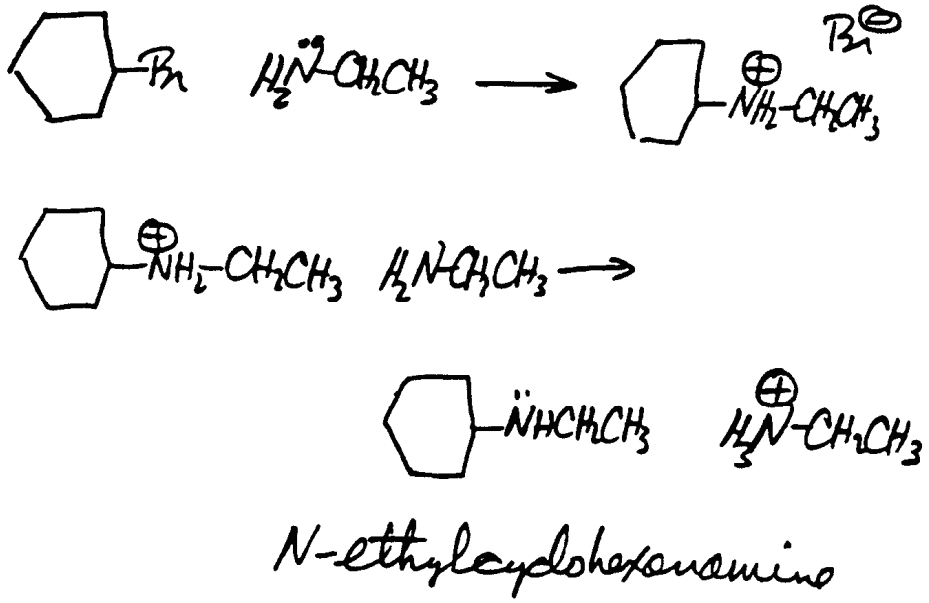


Figure 7.40. Carbocations React with All Nucleophiles Present in the Reaction Mixture.

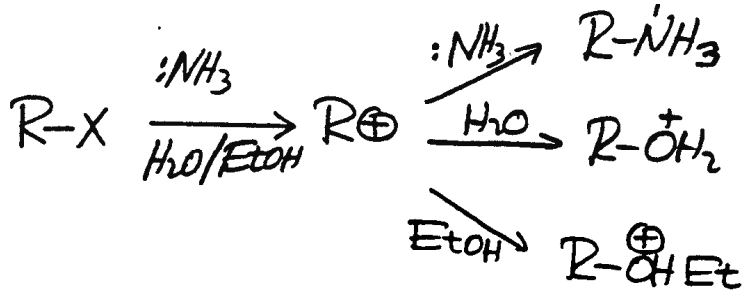


Figure 7.41

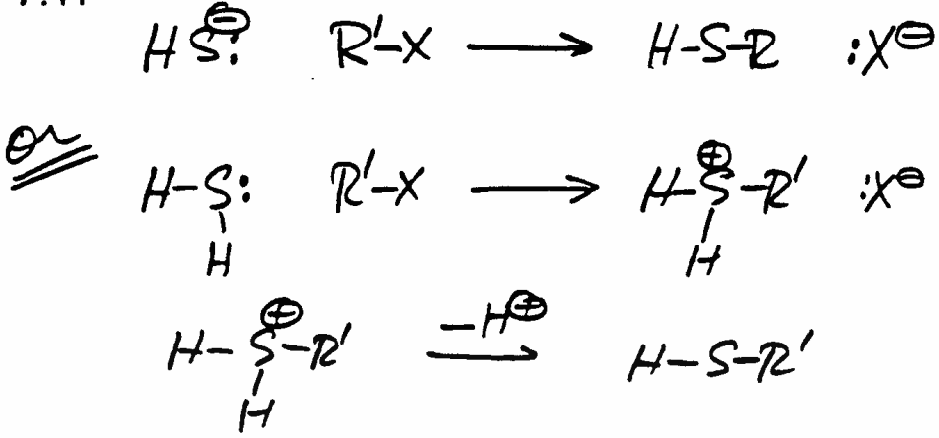


Figure 7.42

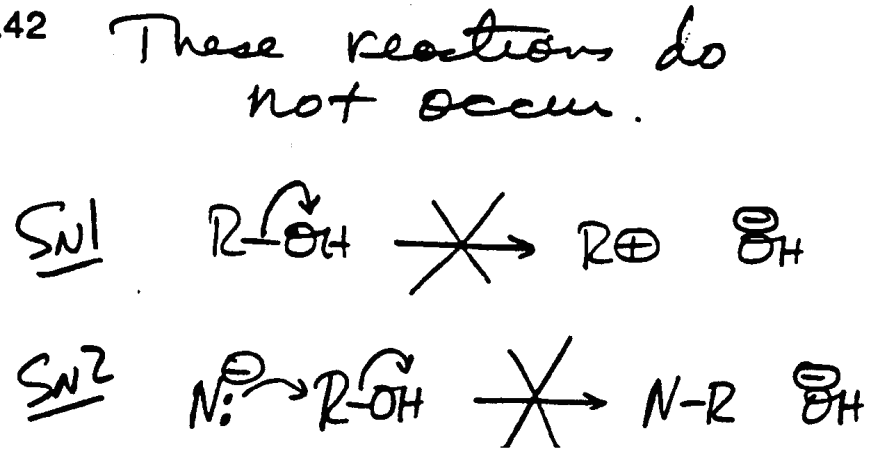


Figure 7.43

These reactions can occur!

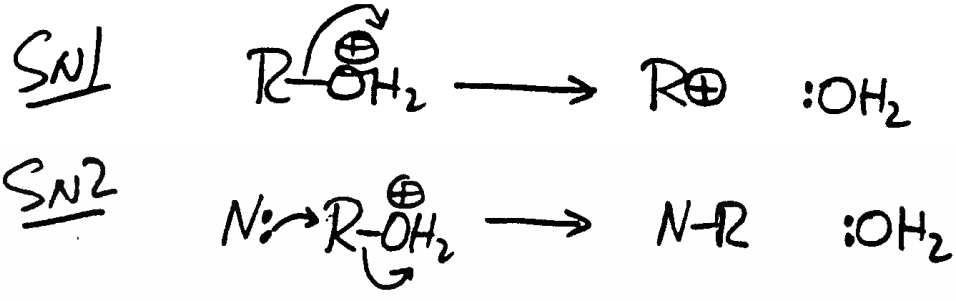


Figure 7.44

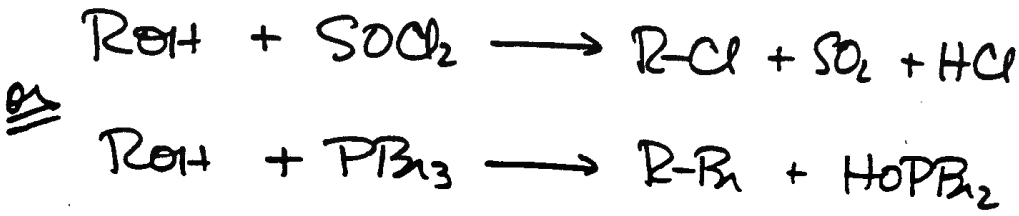


Figure 7.45

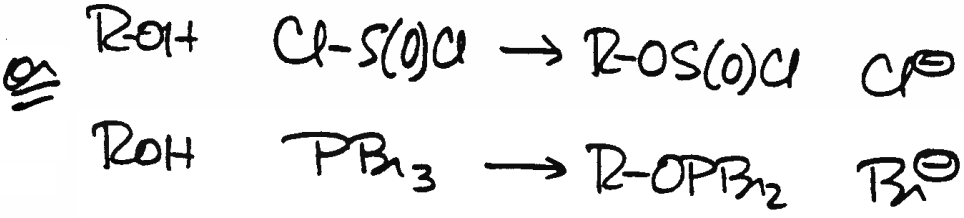


Figure 7.46

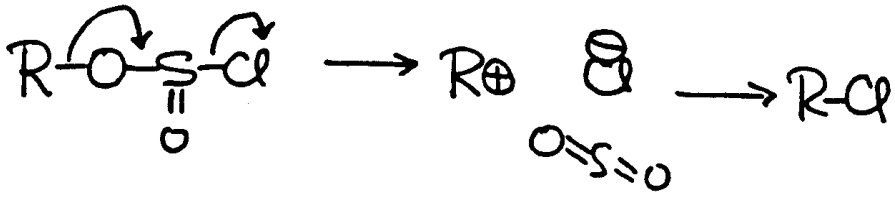


Figure 7.47

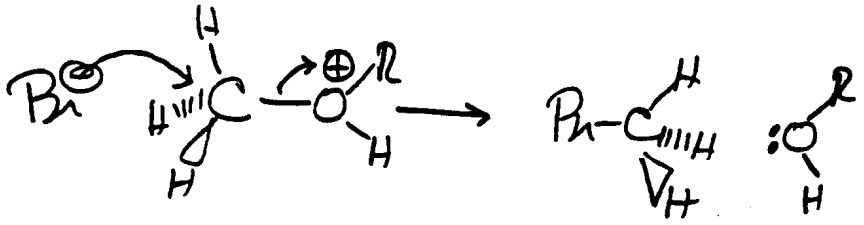


Figure 7.48

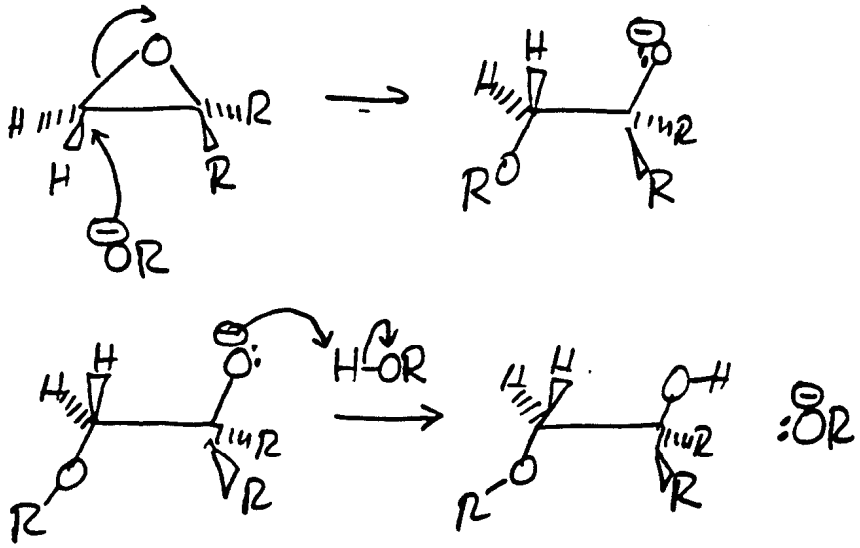


Figure 7.49

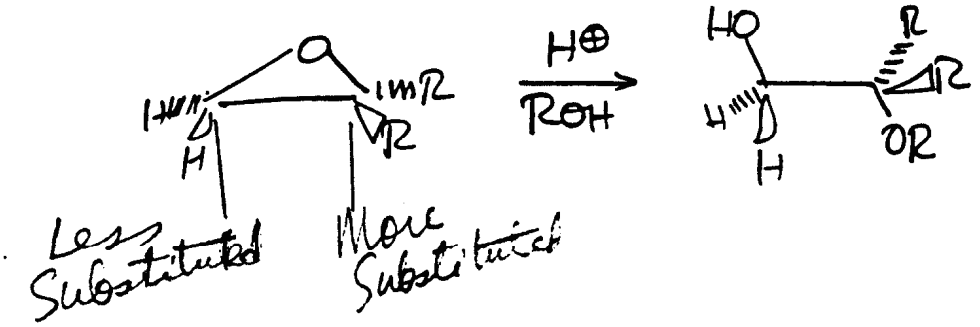


Figure 7.50

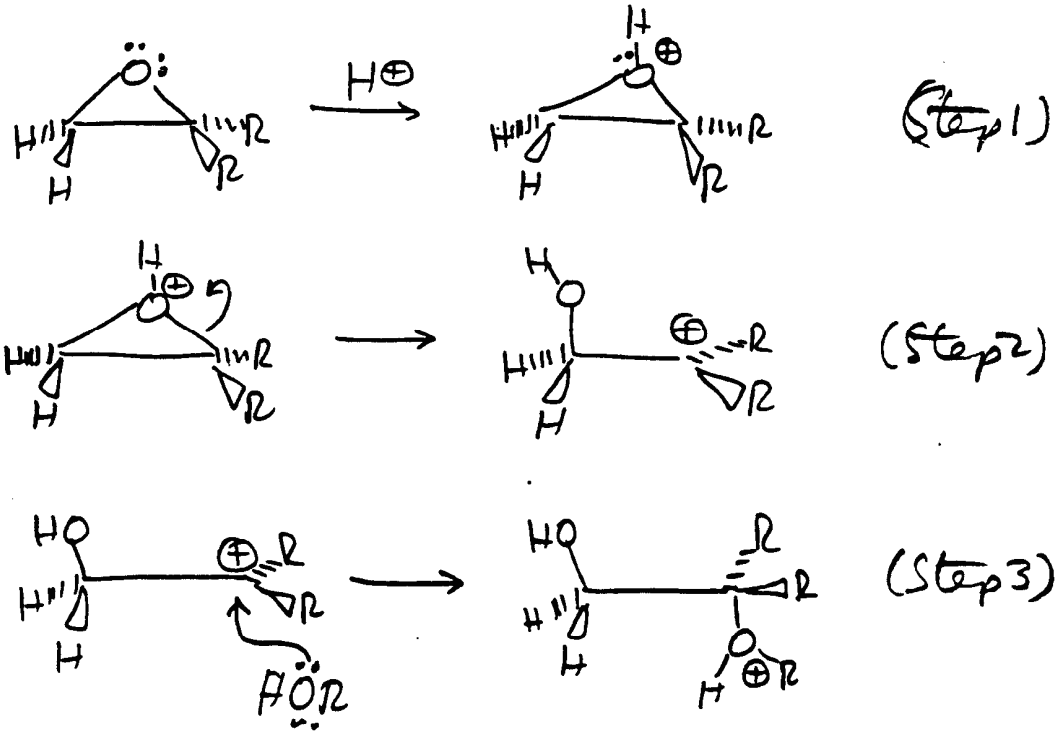


Figure 7.51

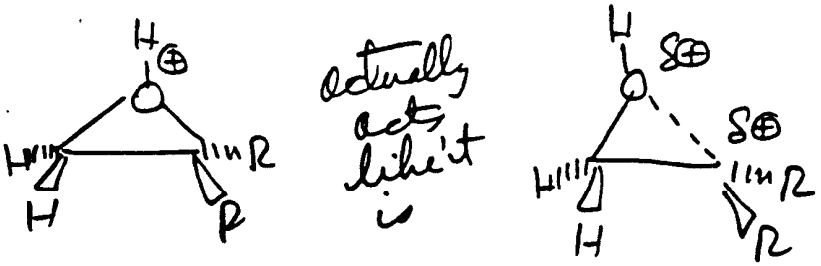
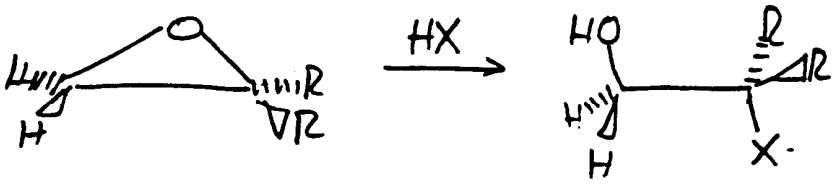


Figure 7.52



7.50a

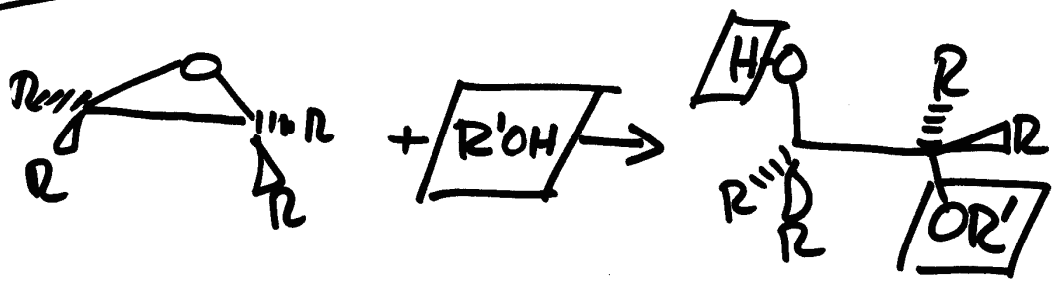
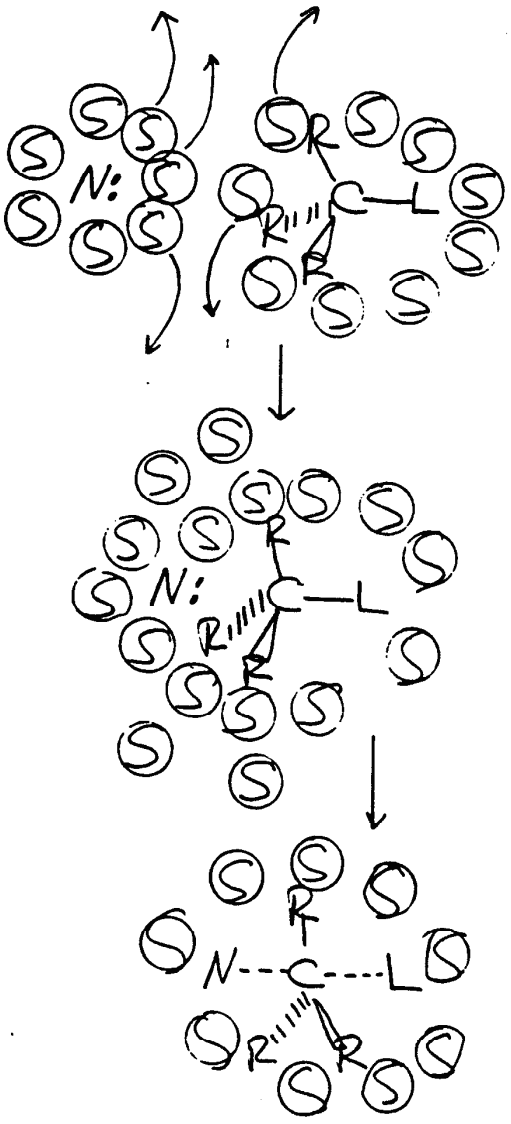


Figure 7.53. Solvation Changes During an S_N2 Reaction.



Solvent Separated N: and R_3C-L at beginning of Reaction.

N: and R_3C-L in an encounter

Activated Complex (transition state) for SN2 Displacement of L by N:

Figure 7.54. Solvation of Halide Ions by H-Bonding with H_2O.

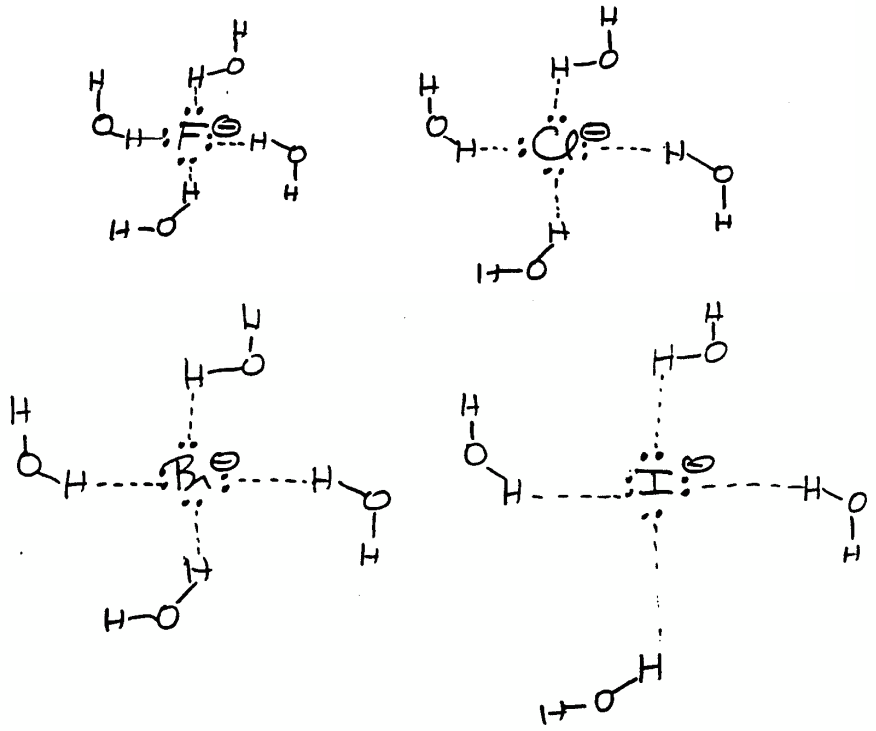


Figure 7.55. Several Polar Aprotic Solvents.

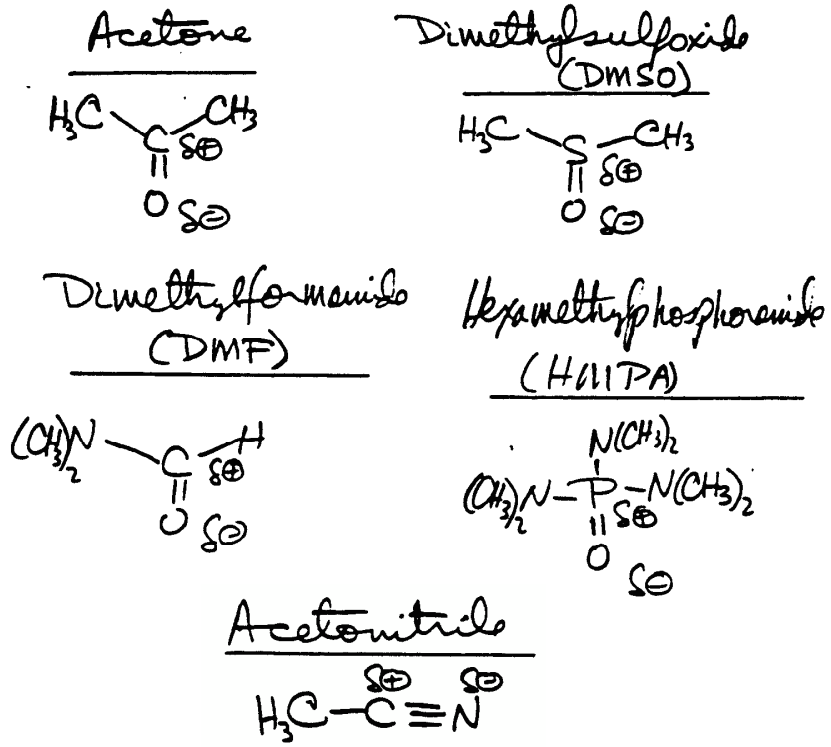


Figure 7.57

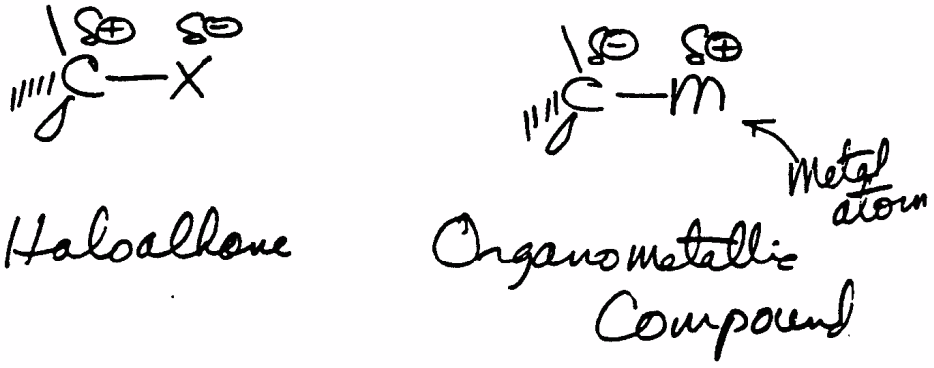


Figure 7.58

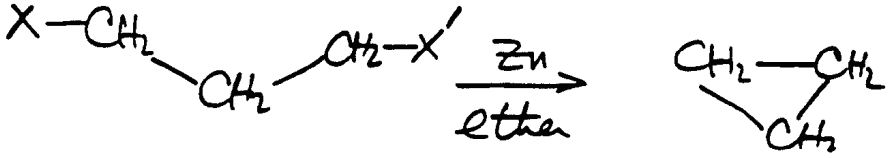


Figure 7.59

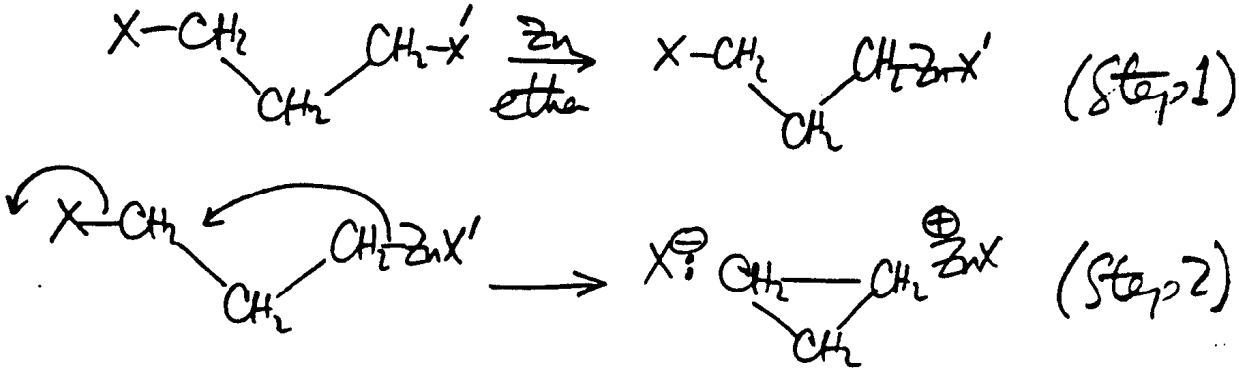


Figure 7.60

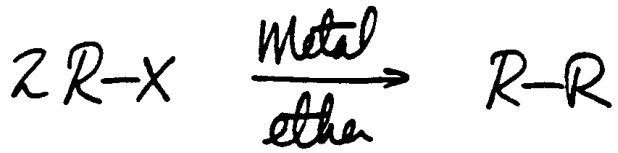


Figure 7.61

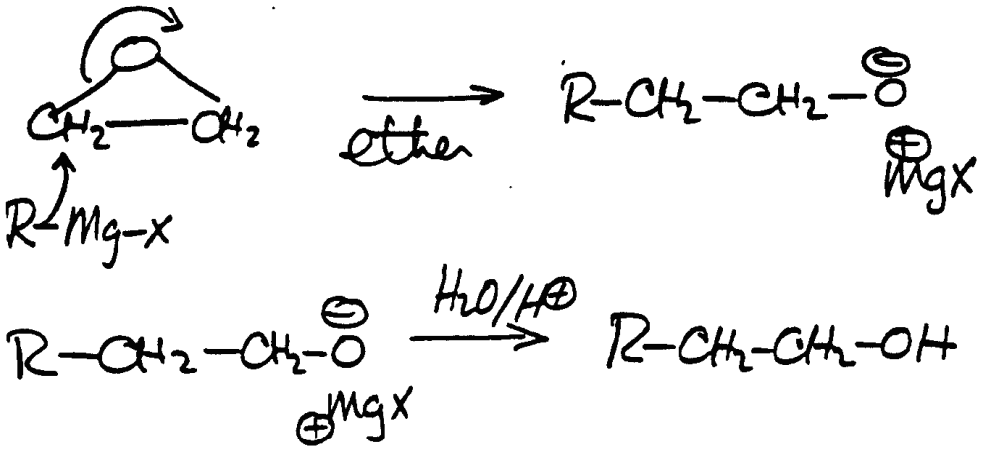
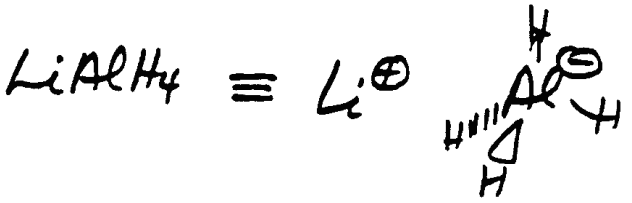


Figure 7.62

Lithium Aluminum Hydride (LAH)



Sodium Borohydride

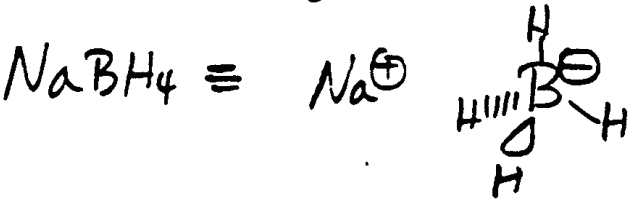


Figure 7.63

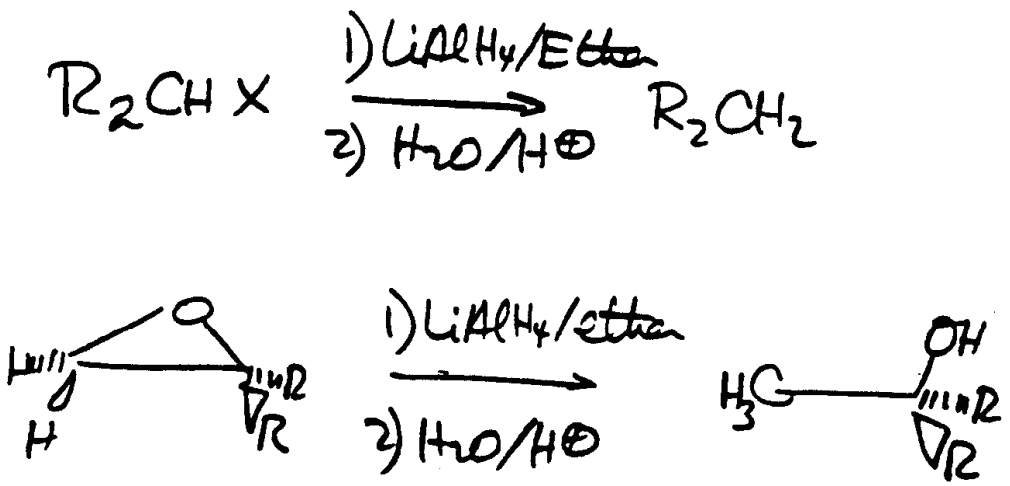


Figure 7.64