

Figure 8.2

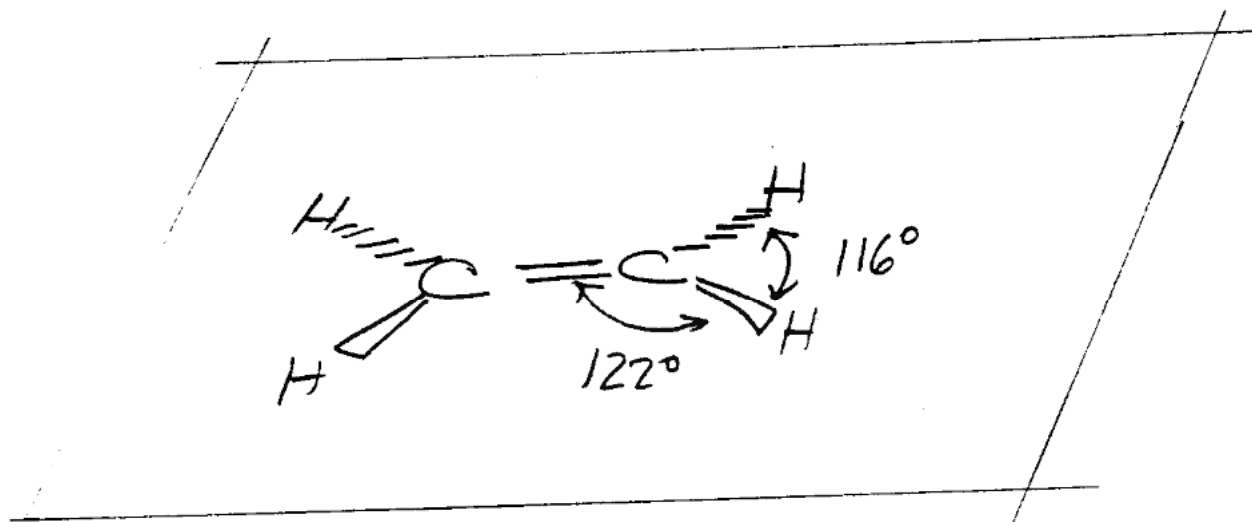


Figure 8.5 Propene



or

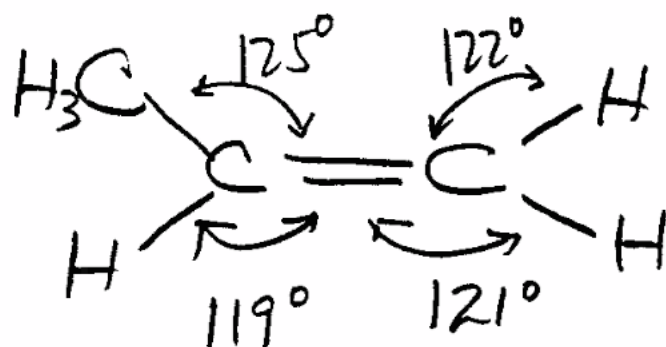
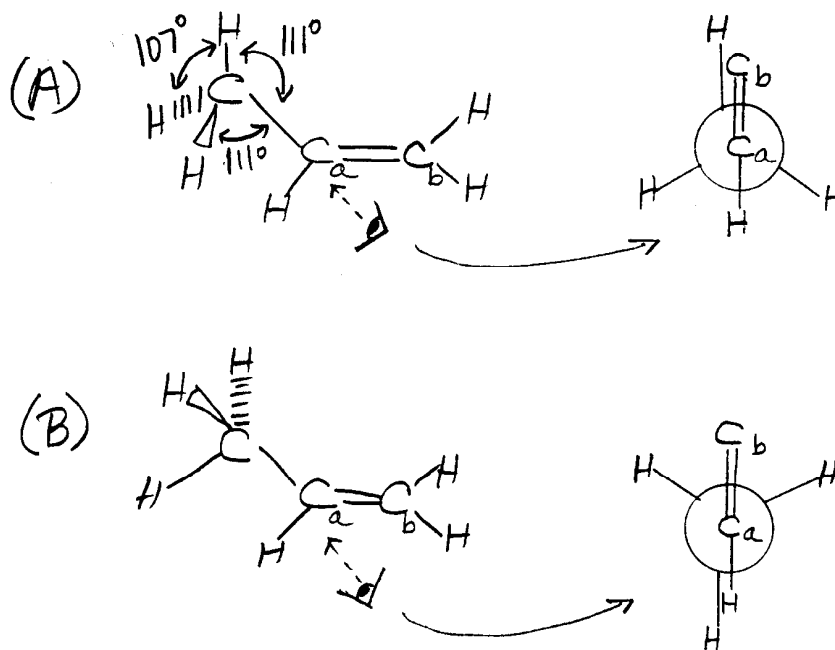


Figure 8.6



Sideways Views

Newman
Projection
Views

Figure 8.7

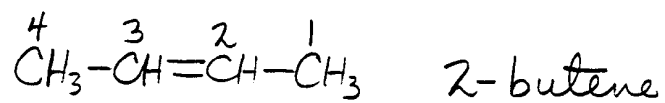
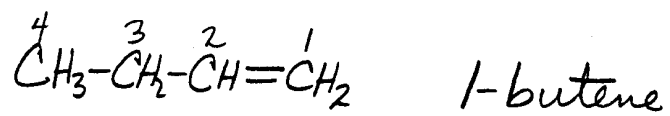


Figure 8.7a

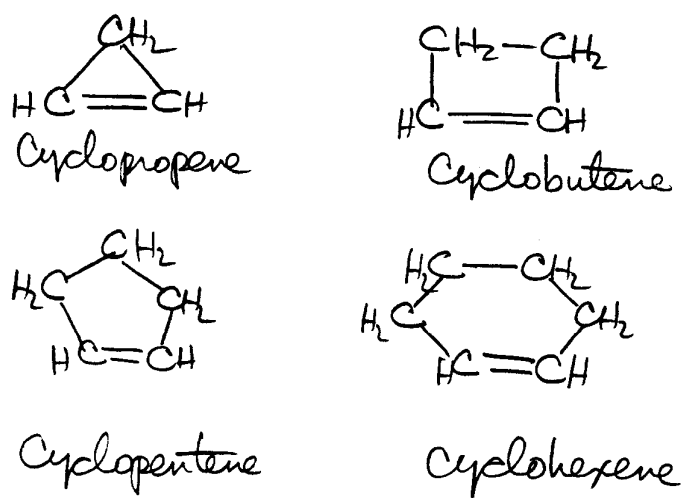


Figure 8.8

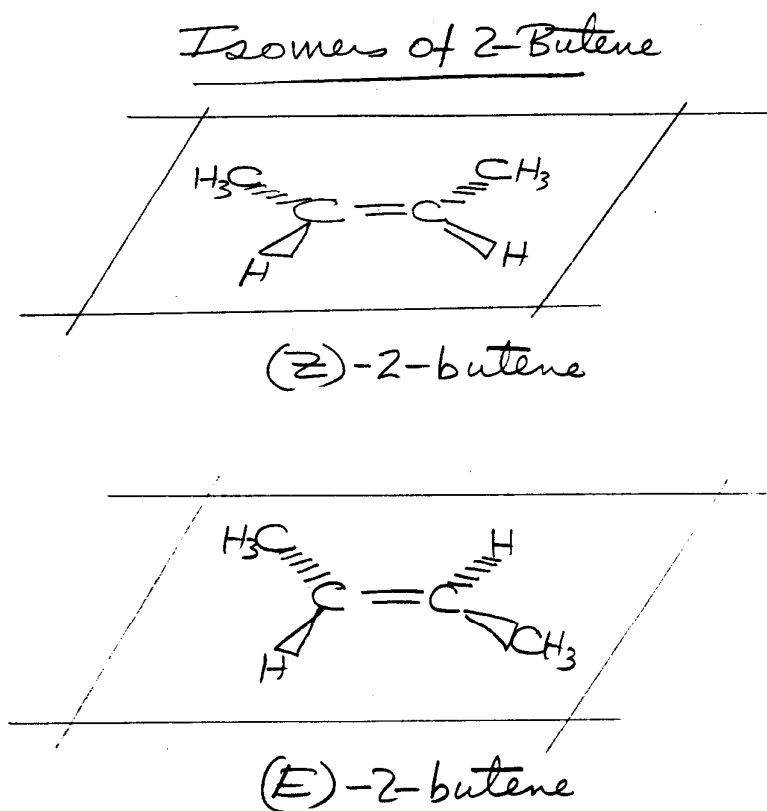


Figure 8.8a

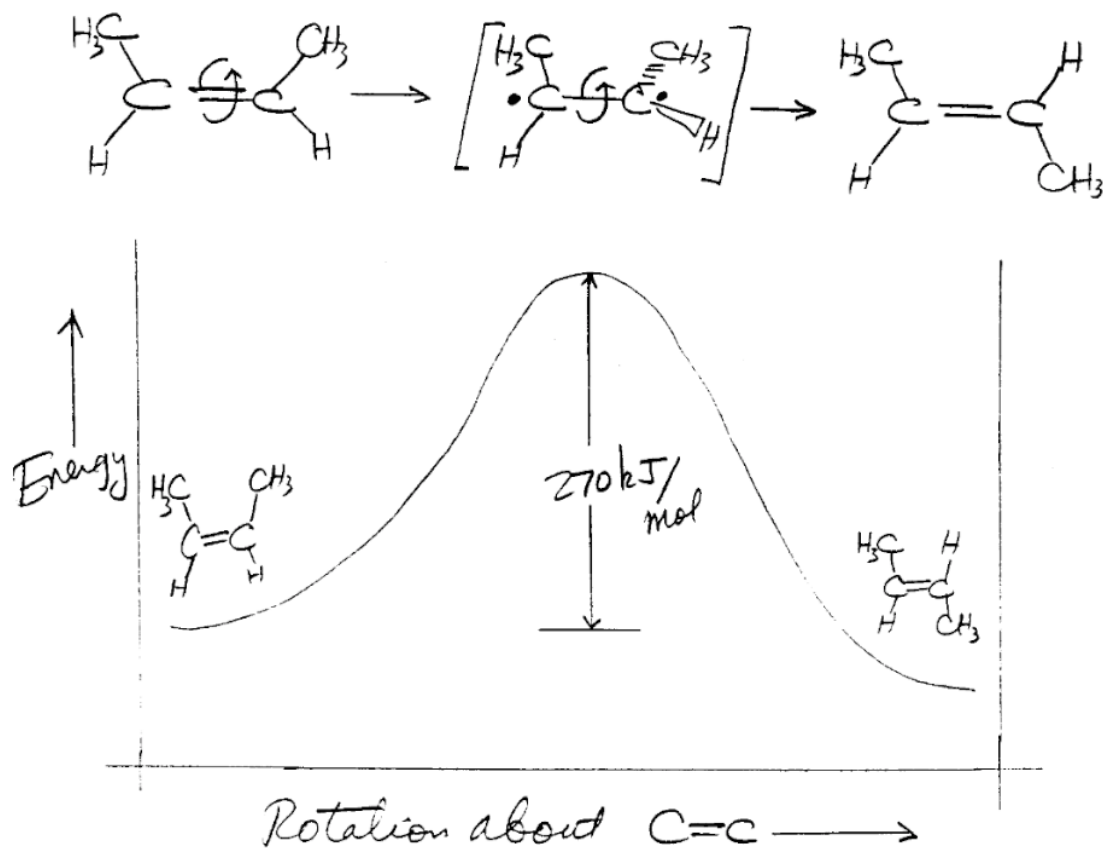
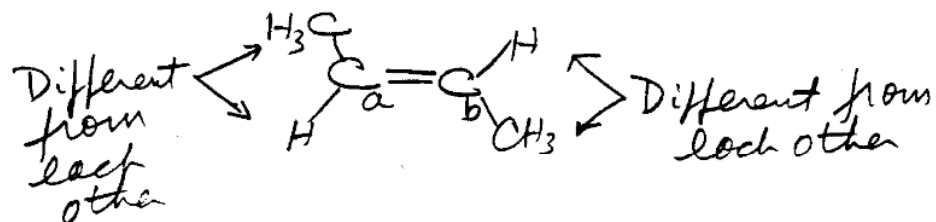


Figure 8.9 (E)-2-butene



(Z)-2-butene

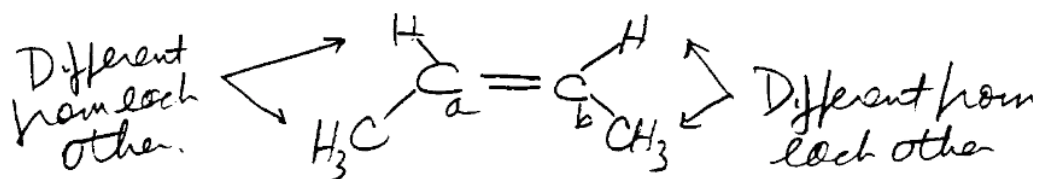


Figure 8.10

E, Z Isomers?

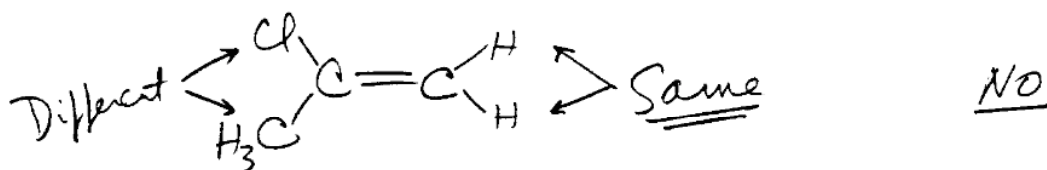
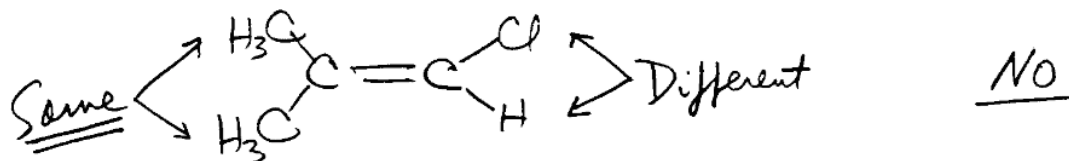
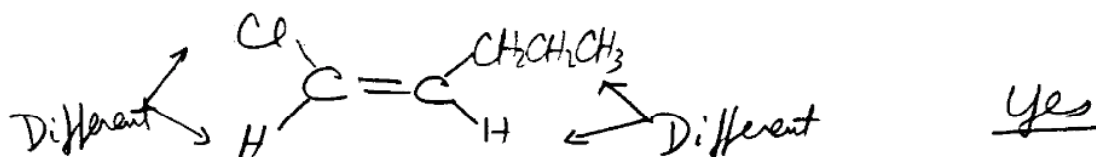
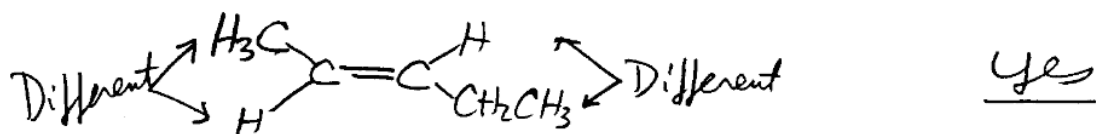
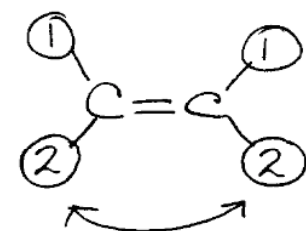
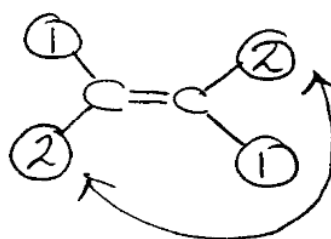


Figure 8.11



- Same Numbers
 - Same Side

Z-isomer



- Same Numbers
 - Opposite Side

E-isomer

Figure 8.11a

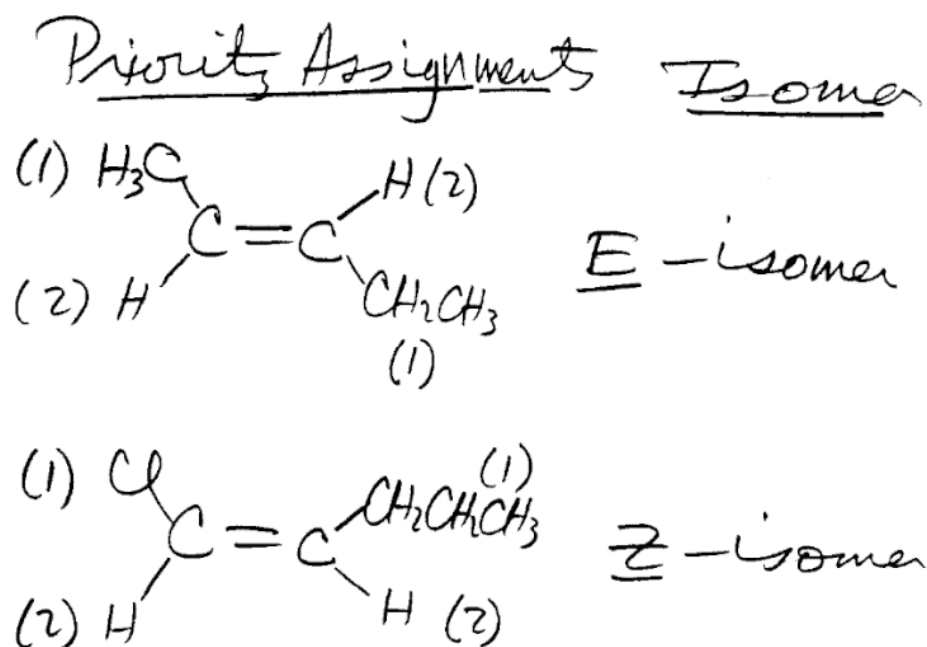


Figure 8.12

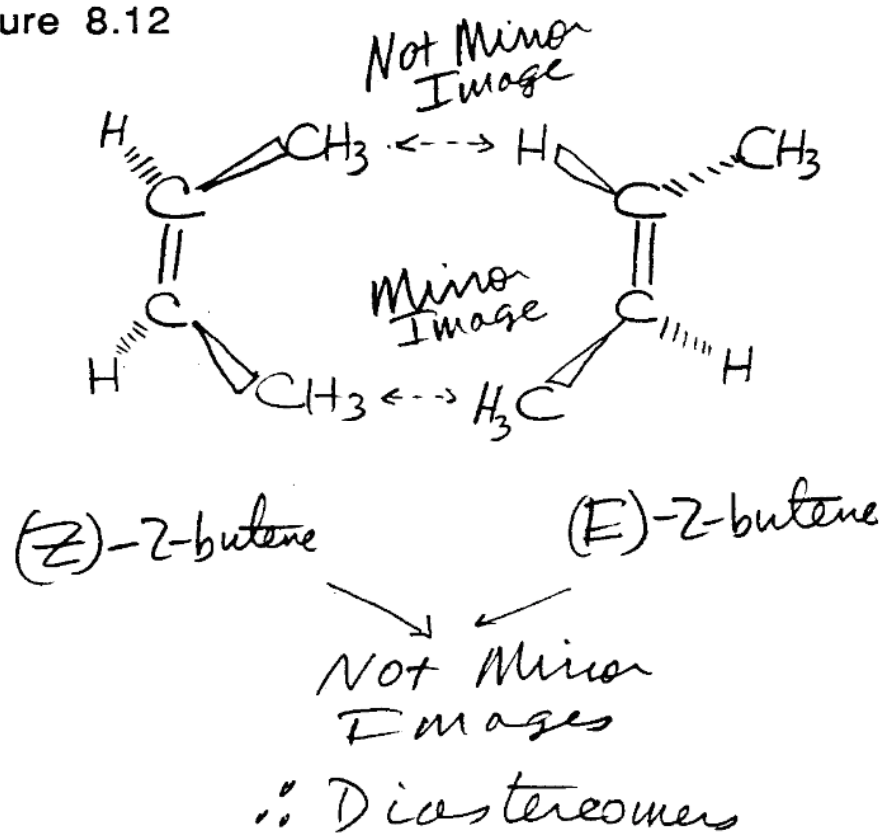


Figure 8.13

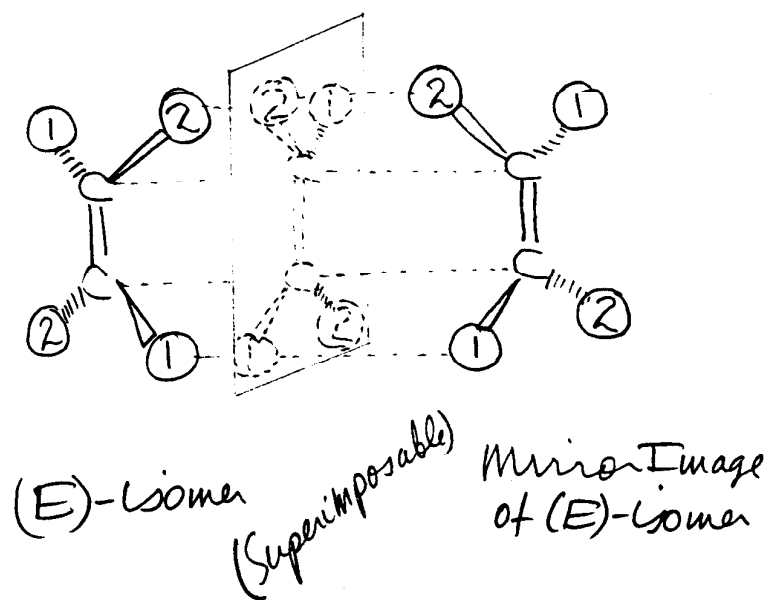
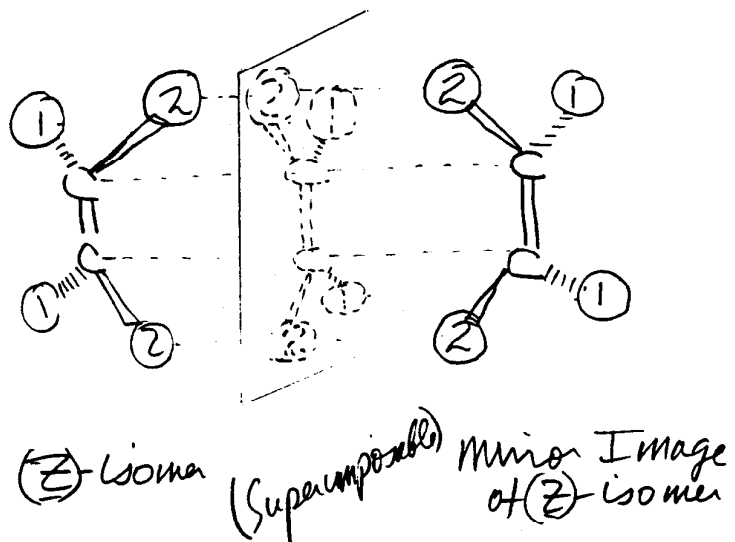
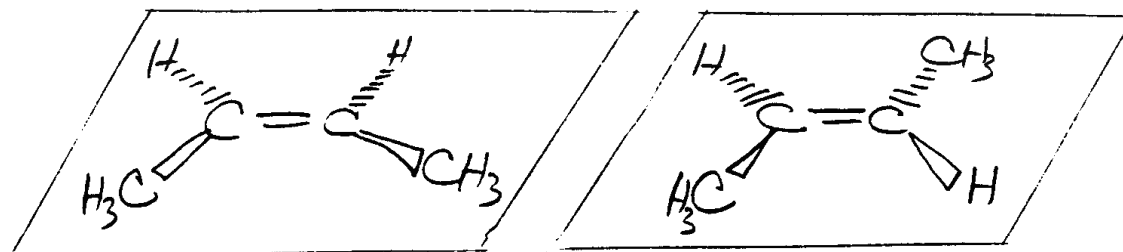


Figure 8.14

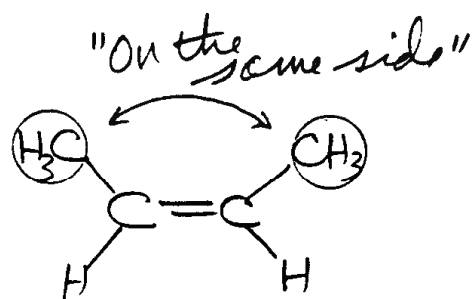
Planes of Symmetry for
E and Z Isomers



(Z)-2-butene

(E)-2-butene

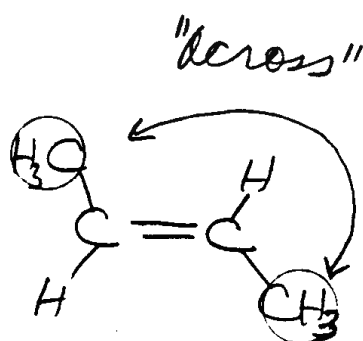
Figure 8.15



(Z)-2-butene

or

Cis-2-butene

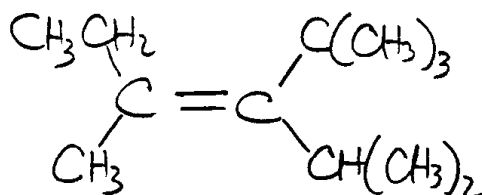


(E)-2-butene

or

trans-2-butene

Figure 8.16



This is a (Z) isomer,
but is it cis or trans??

Figure 8.17

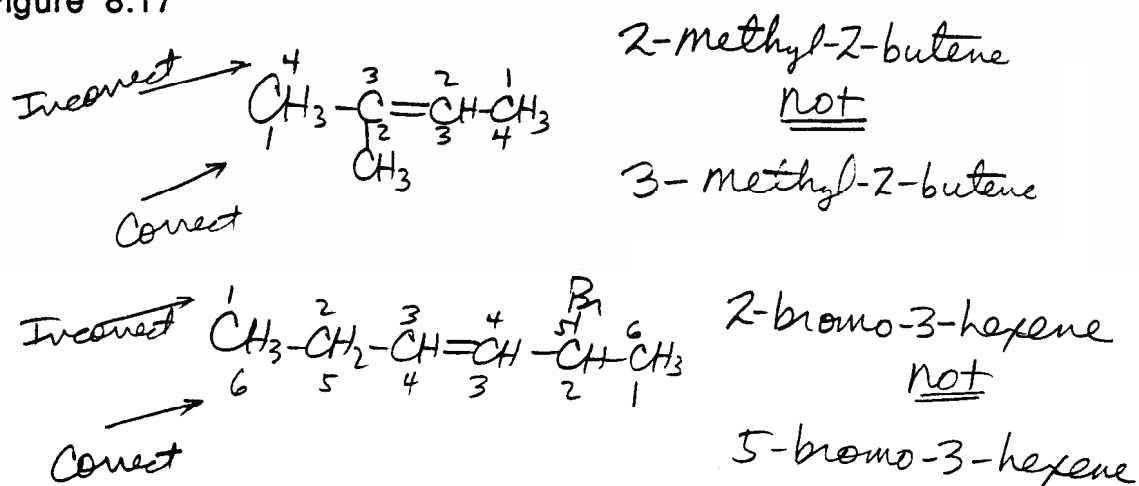


Figure 8.18

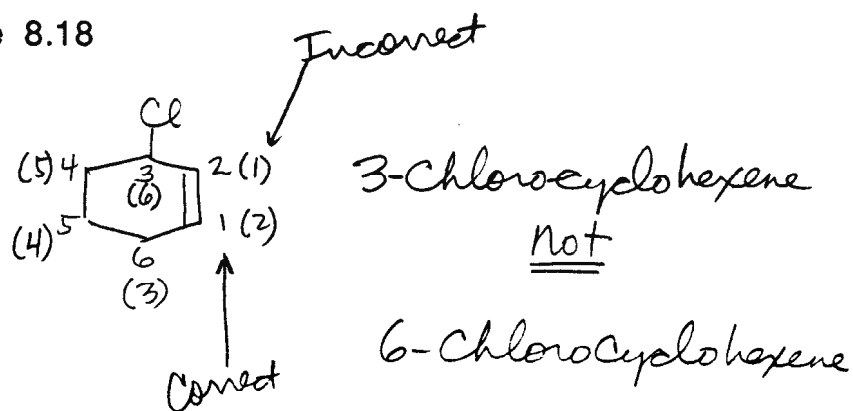
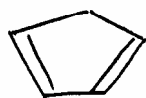
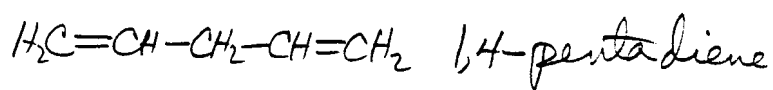


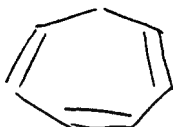
Figure 8.19



1,3-Cyclopentadiene

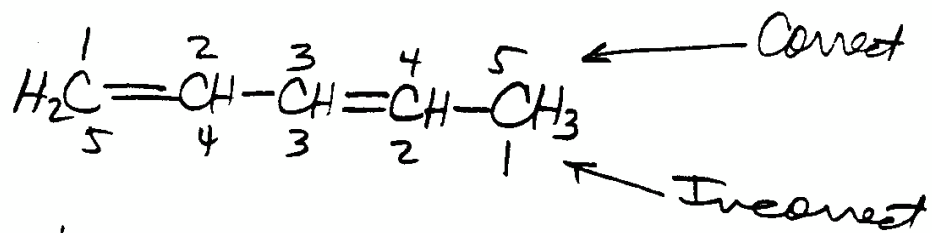


1,3,5,7-Cyclooctatetraene



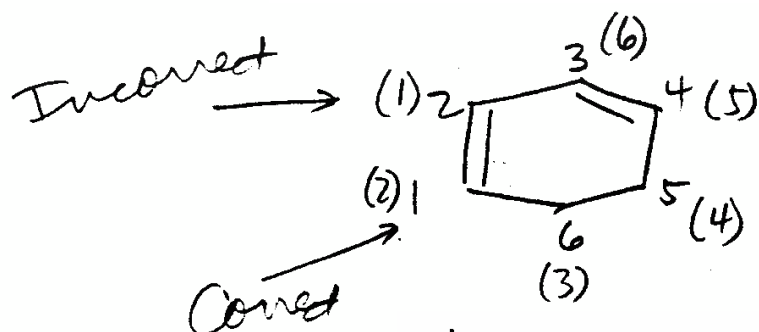
1,3,5-Cycloheptatriene

Figure 8.20



1,3-pentadiene
not

2,4-pentadiene

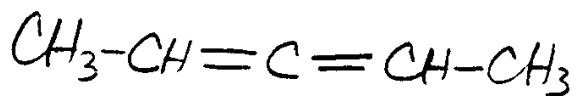


1,3-Cyclohexadiene
not

1,5-Cyclohexadiene

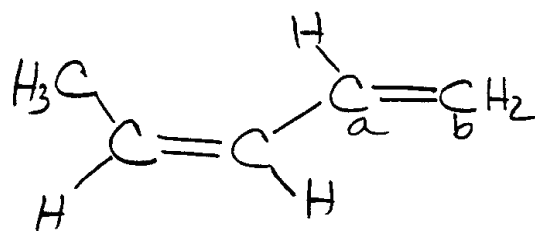
Figure 8.20a $\text{H}_2\text{C}=\text{C}=\text{CH}_2$

Propadiene

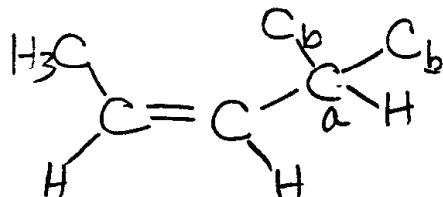


2,3-pentadiene

Figure 8.21

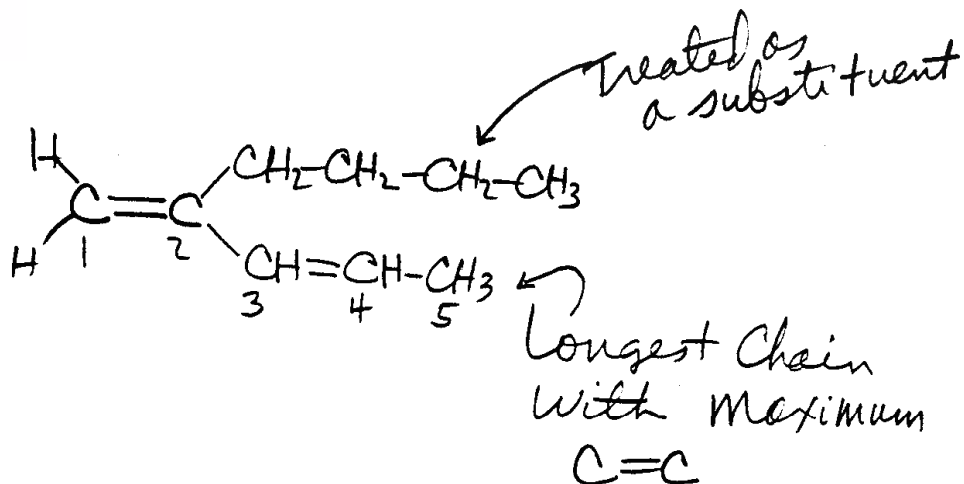


rewritten as



for E, Z Priority
assignment

Figure 8.22



2-butyl-1,3-pentadiene

There are no Figures 8.23 through 8.32]

Figure 8.33

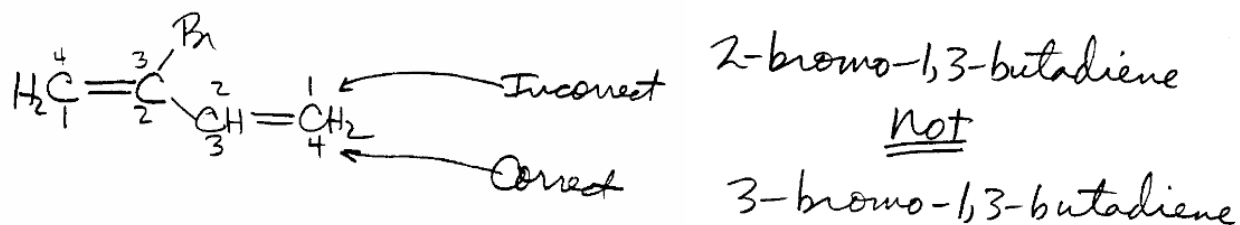


Figure 8.34

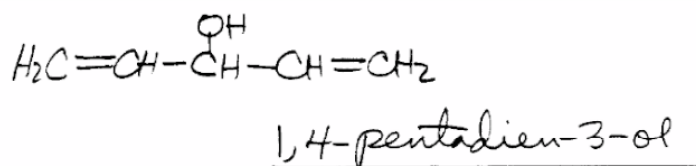
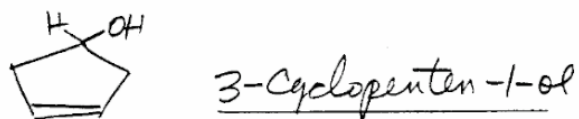
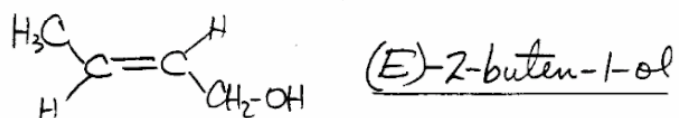


Figure 8.35

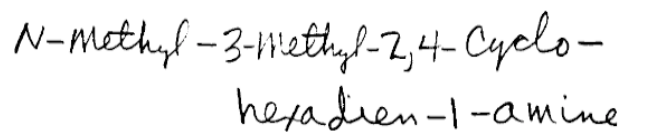
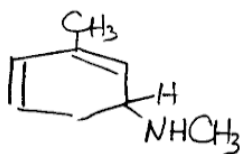
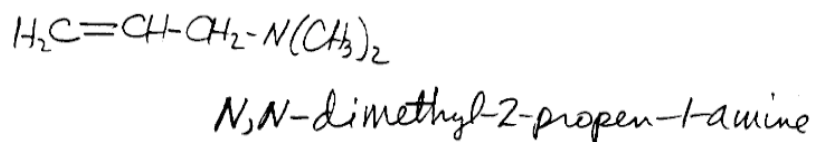
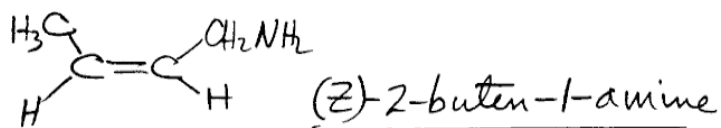


Figure 8.35a

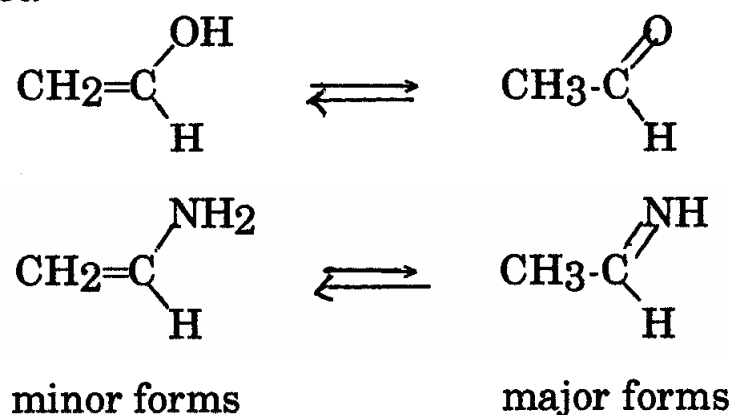


Figure 8.36

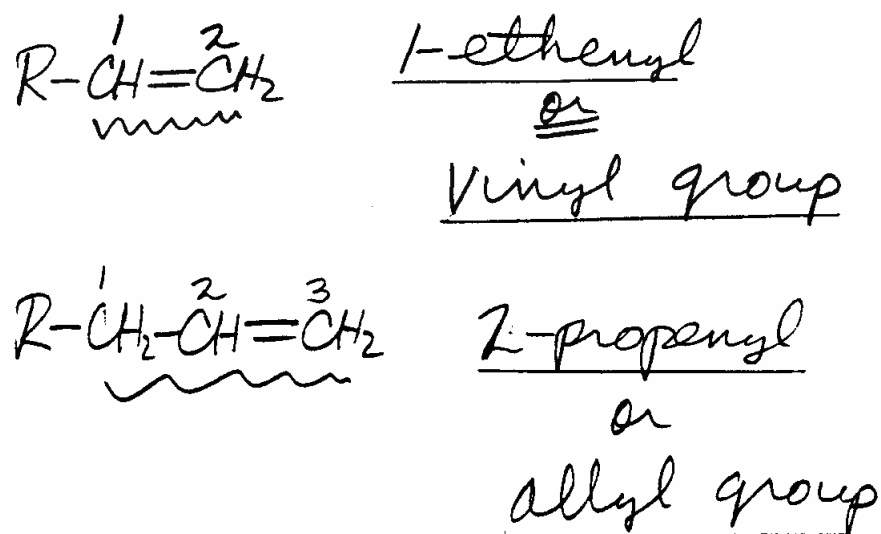


Figure 8.37

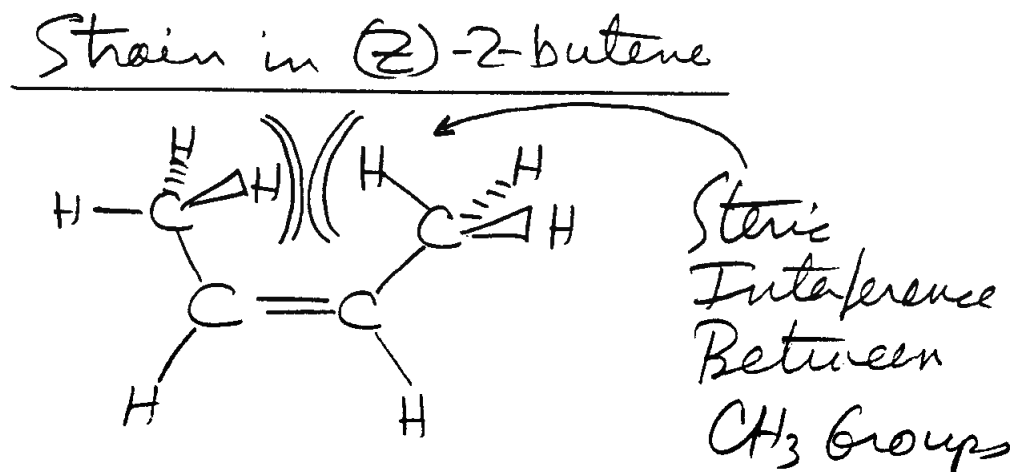


Figure 8.39

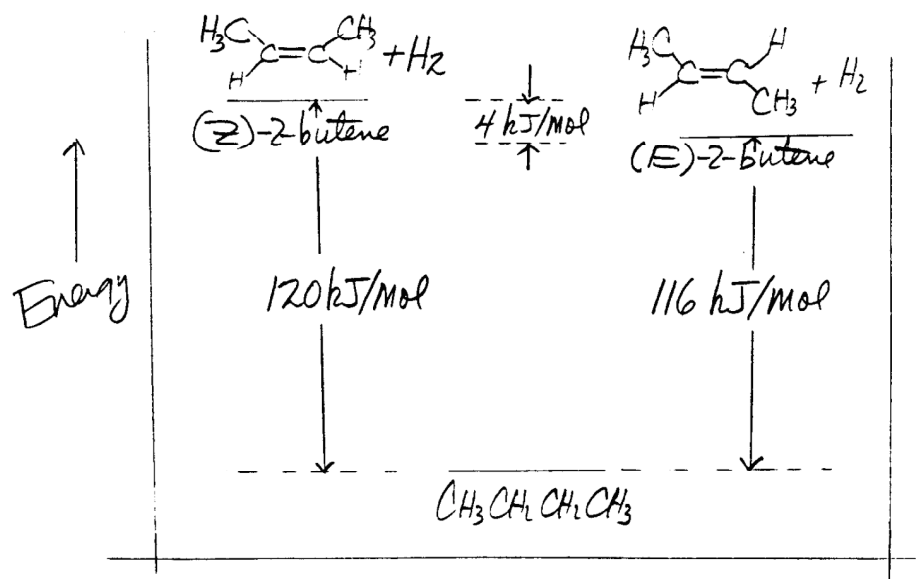


Figure 8.43

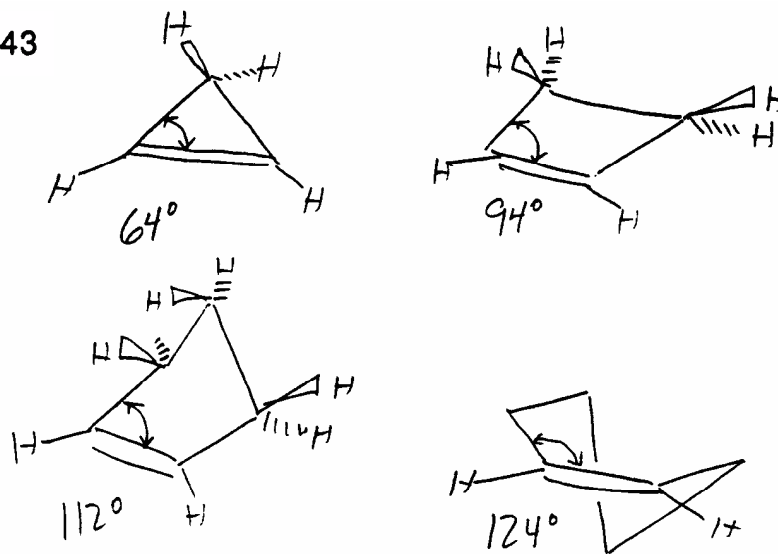


Figure 8.43a

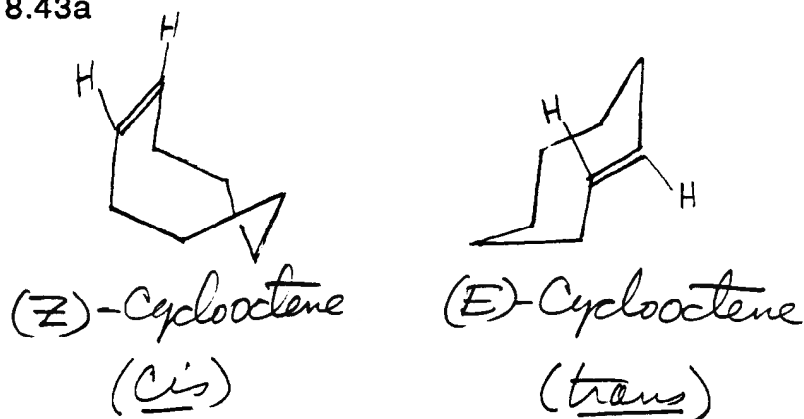


Figure 8.44

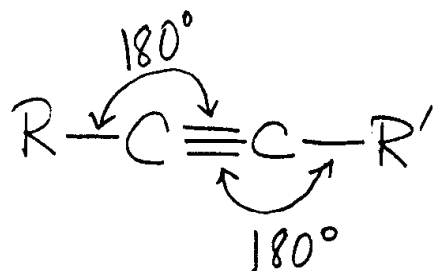


Figure 8.44a

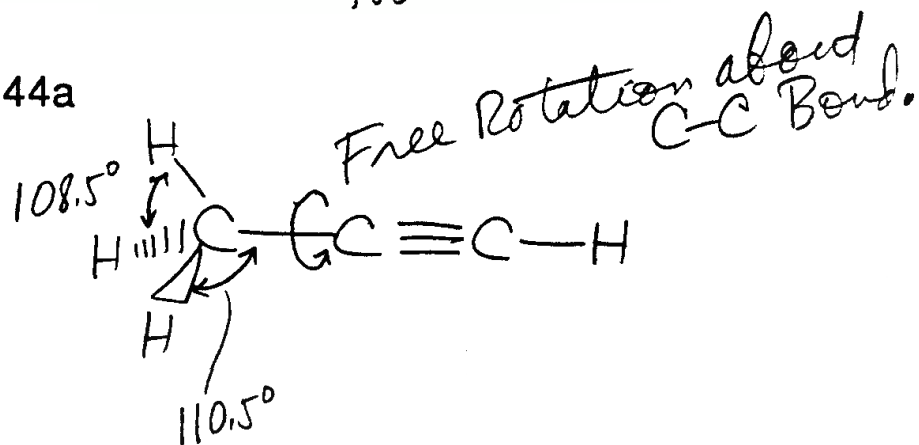


Figure 8.45

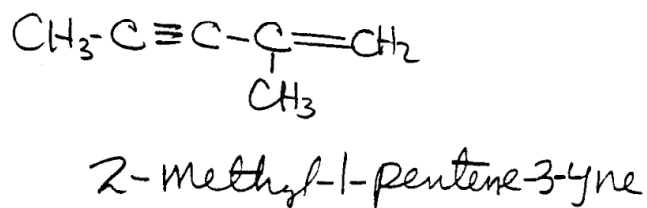
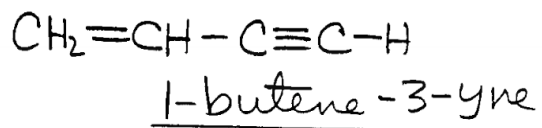
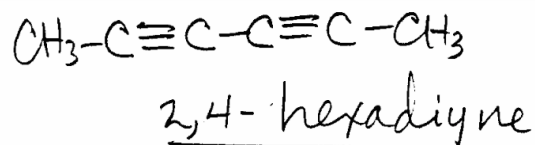
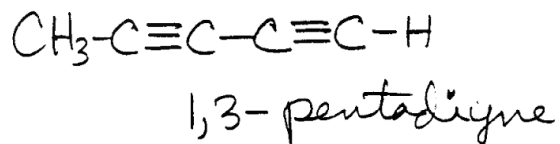
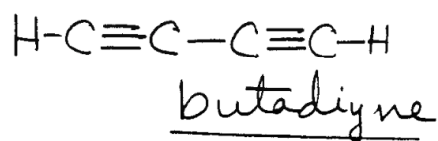


Figure 8.46

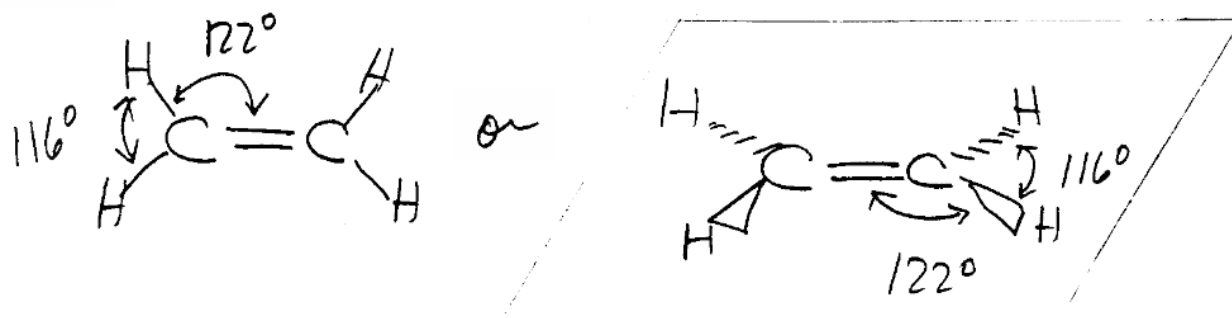
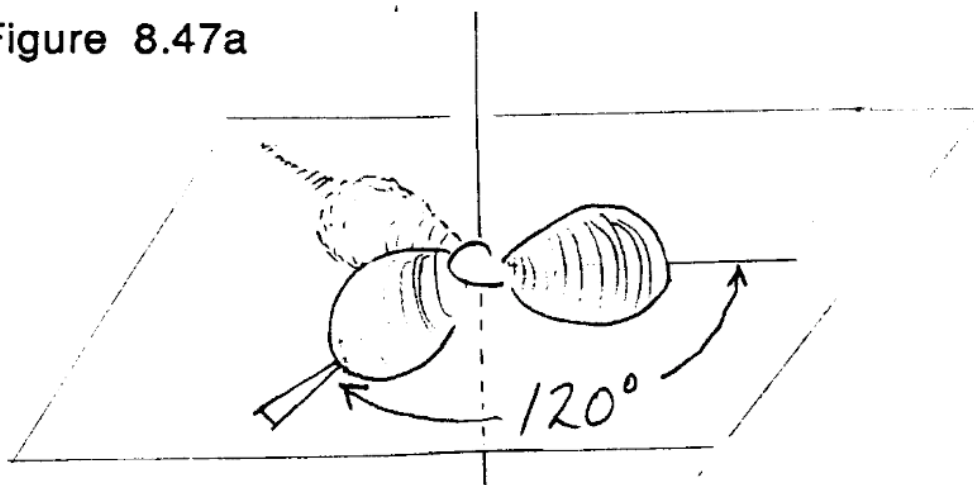


Figure 8.47a



Three SP^2 Orbitals
on C

Figure 8.48

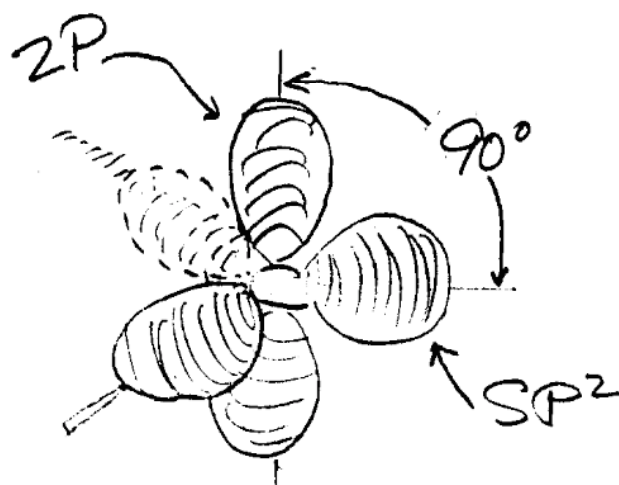


Figure 8.49

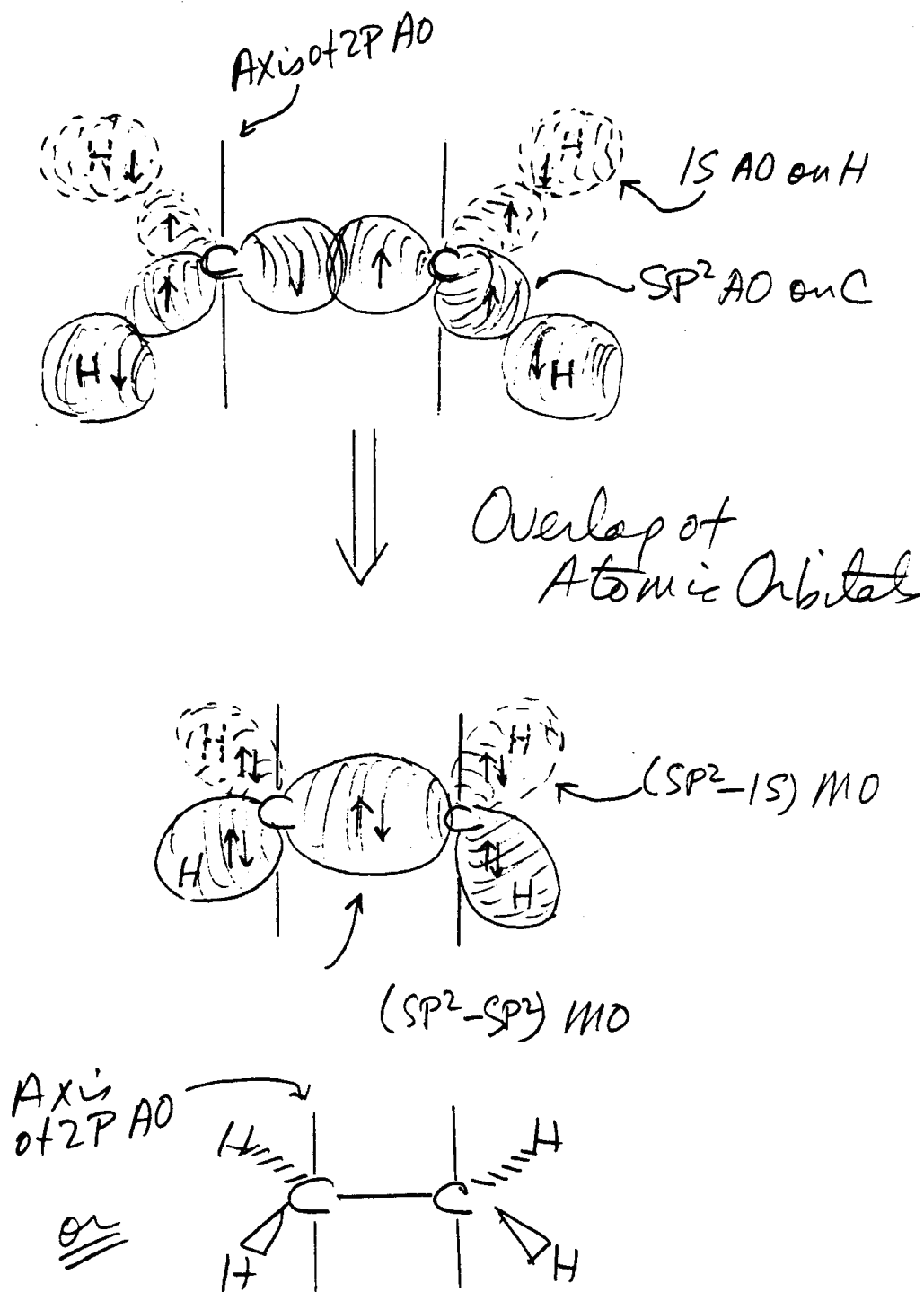


Figure 8.50

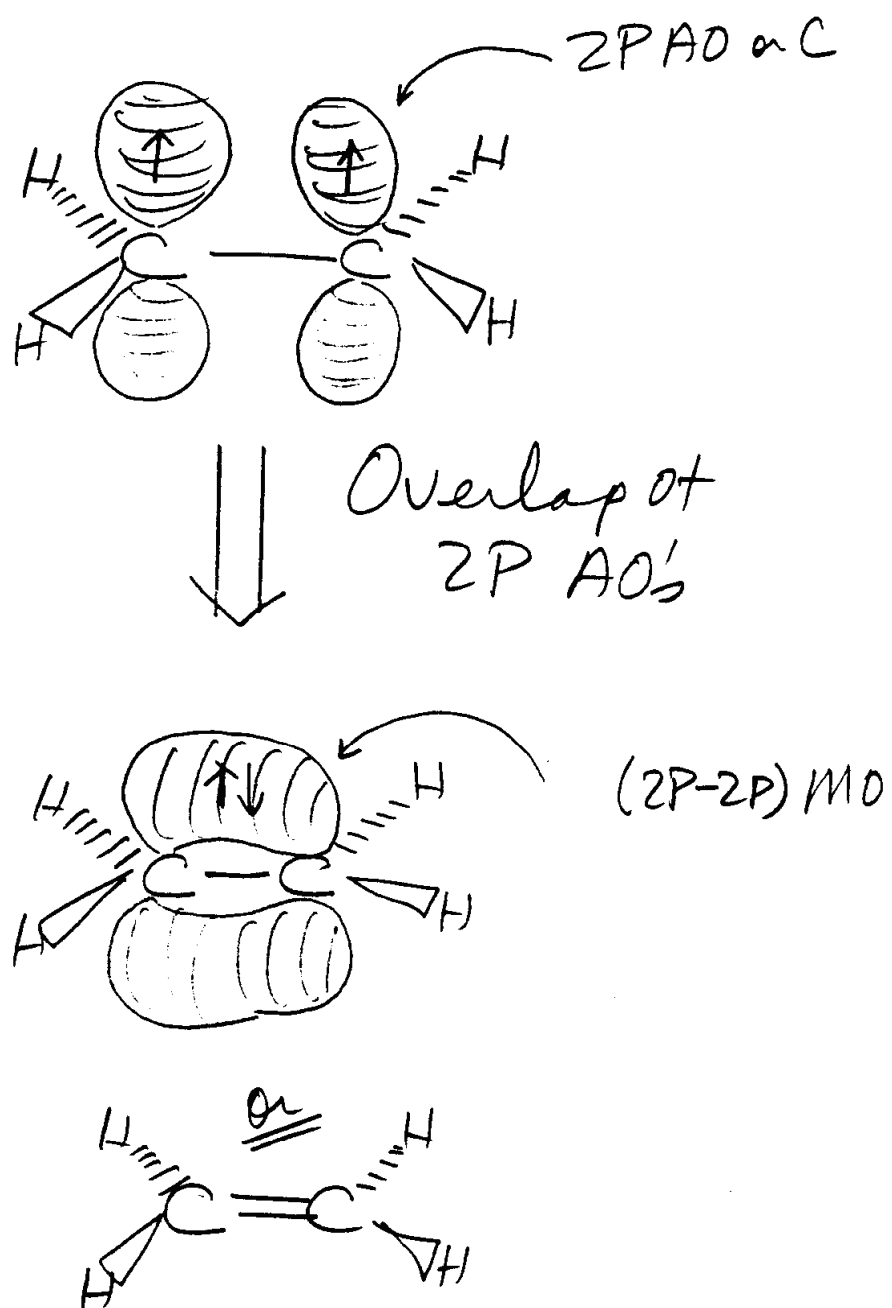


Figure 8.57

Allene

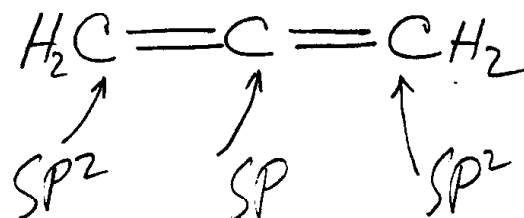


Figure 8.58

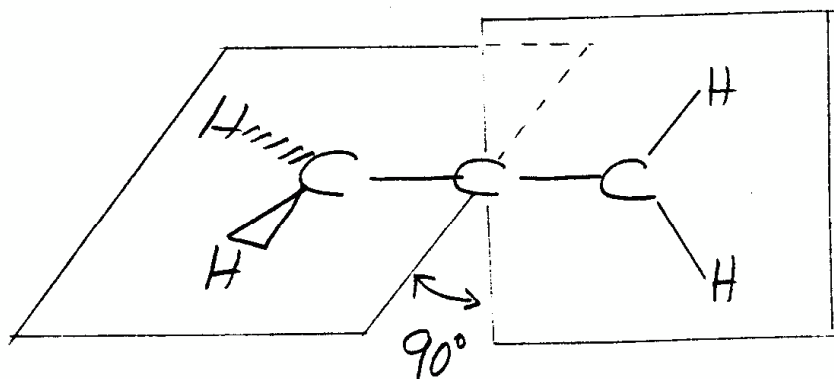
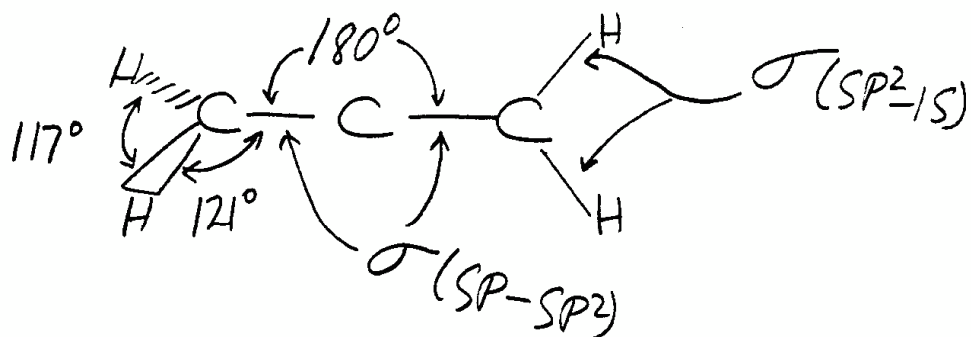


Figure 8.59

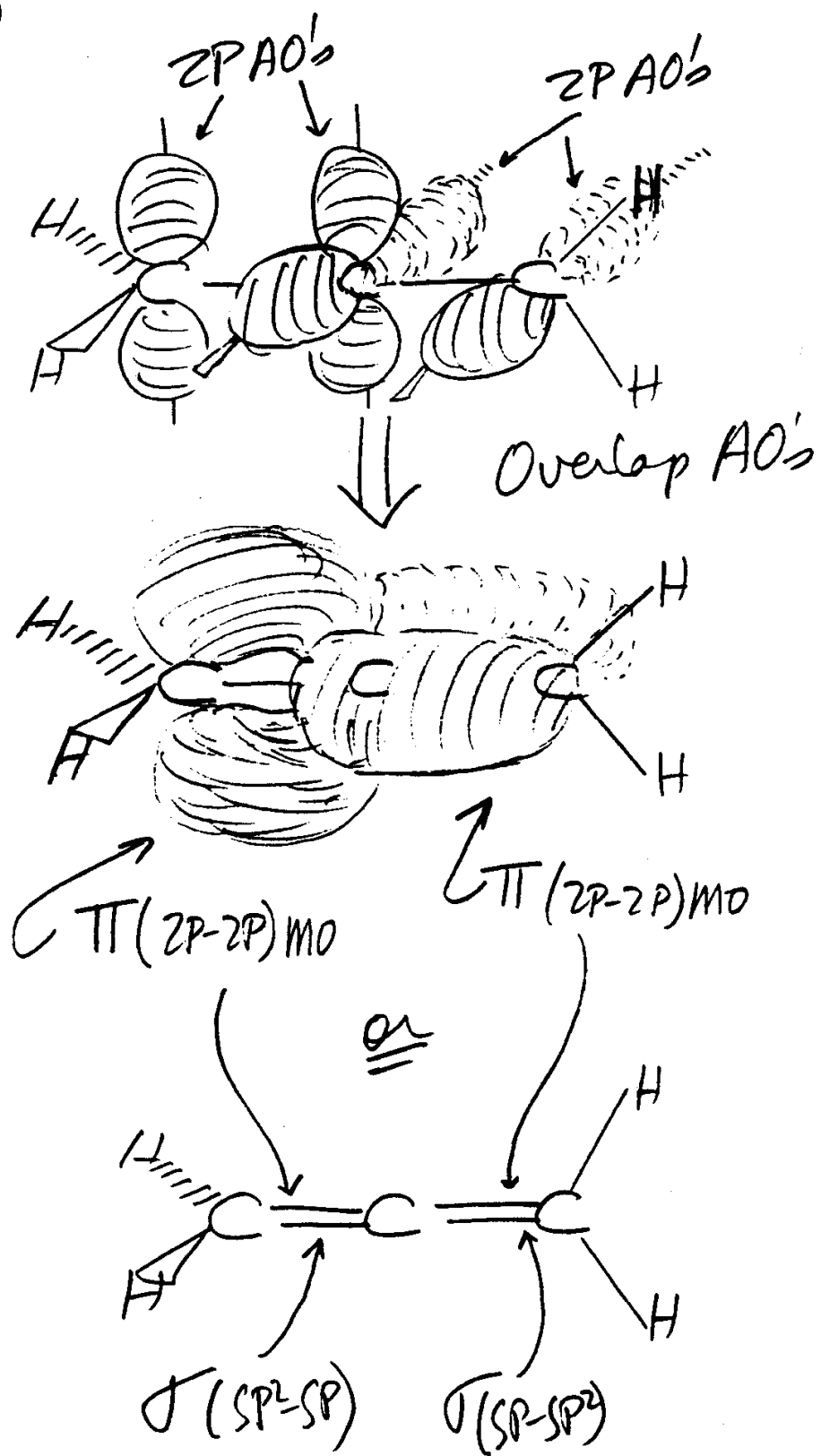


Figure 8.59a

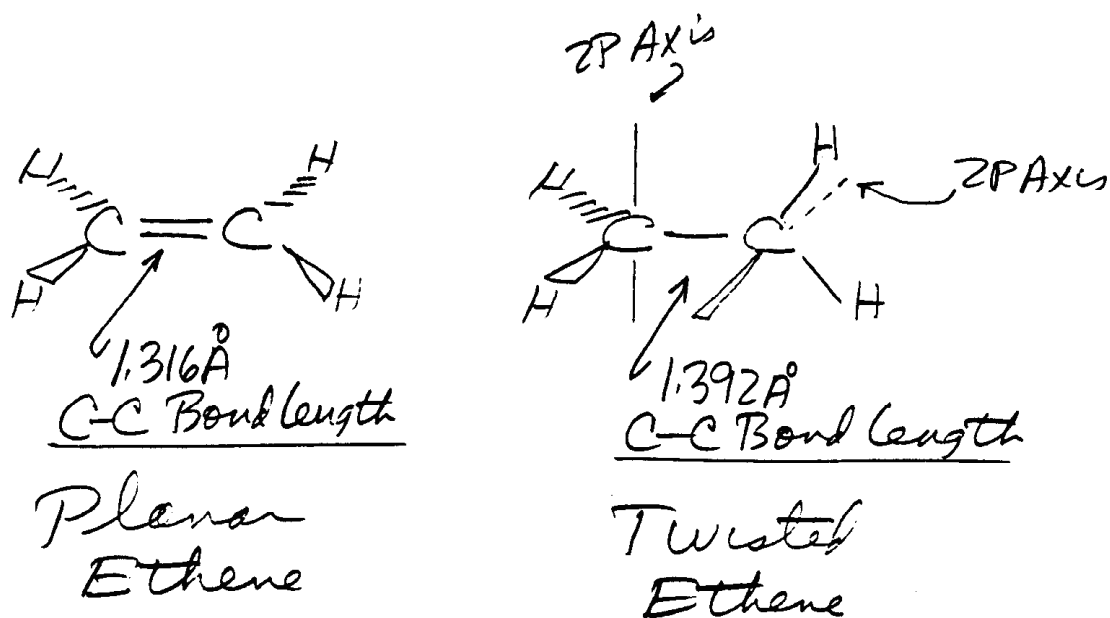


Figure 8.59b

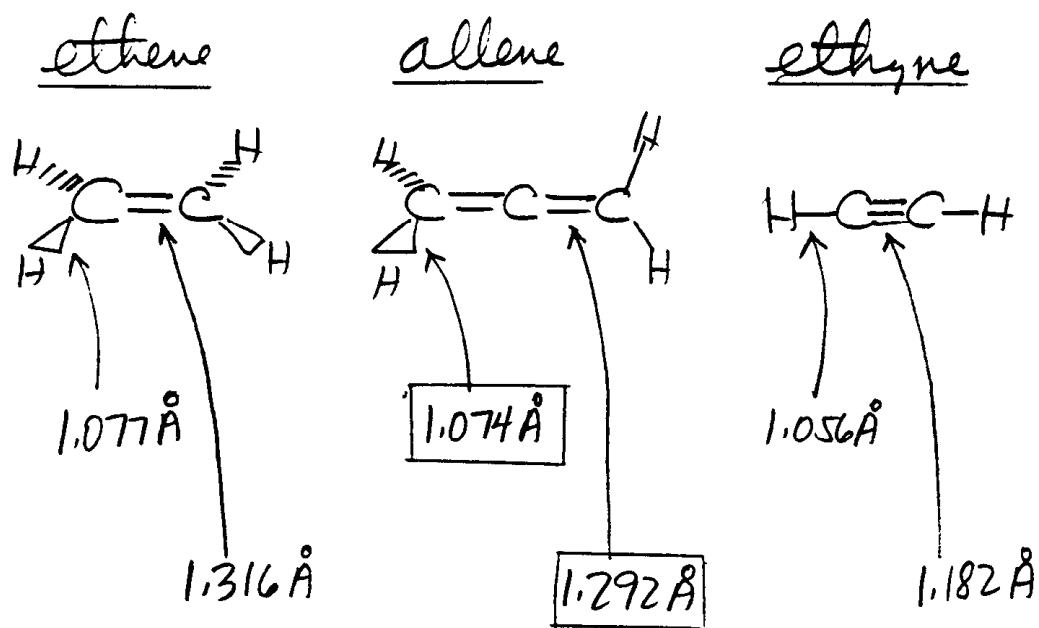
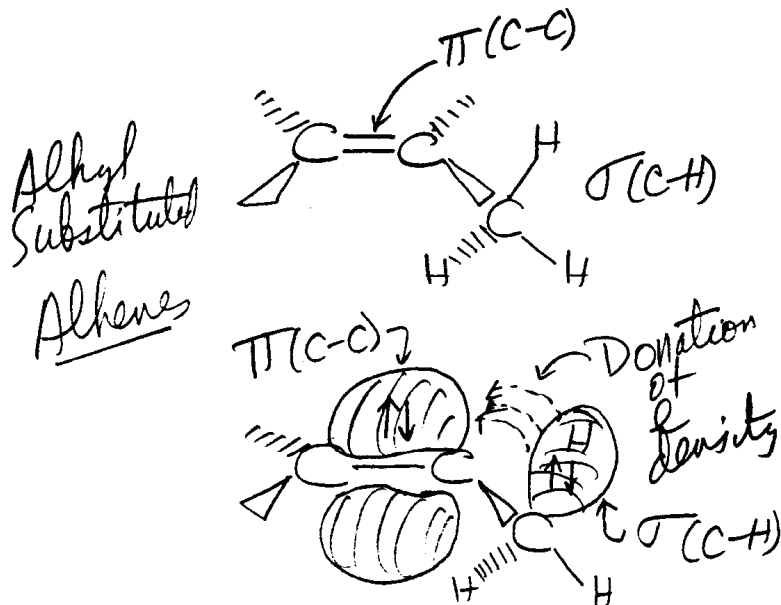


Figure 8.59c



Hyperconjugation

Donation of e density from $\sigma(C-H)$ to $\pi(C-C)$

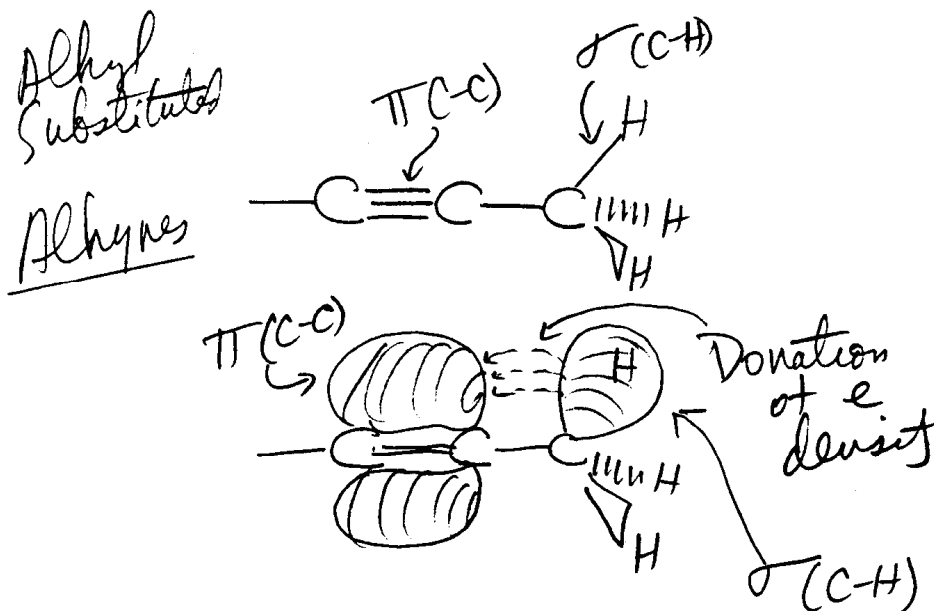


Figure 8.61 ^{13}C Chemical Shift Values (δ) for Alkenes and Cycloalkenes

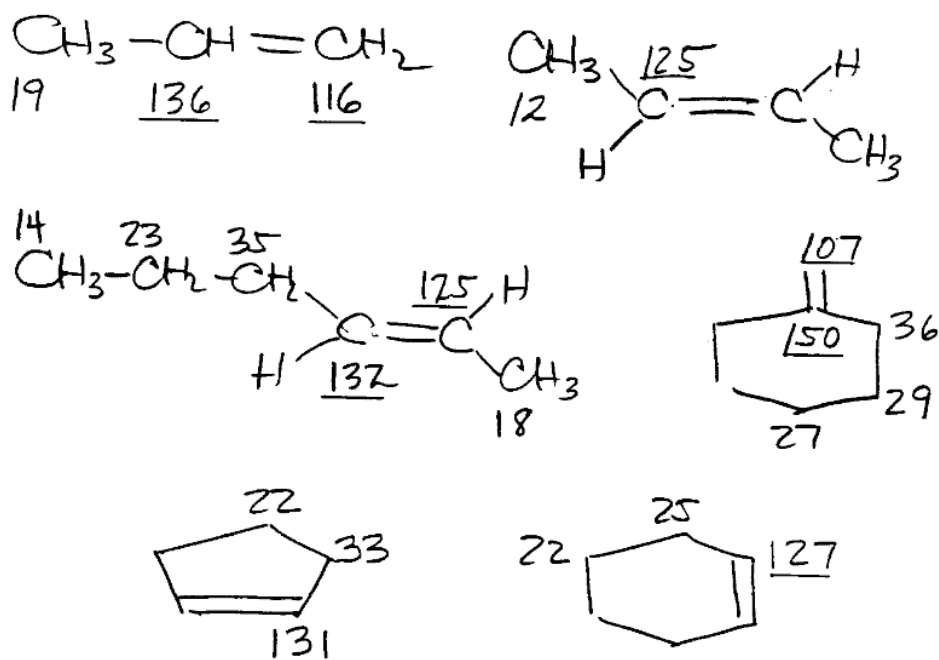
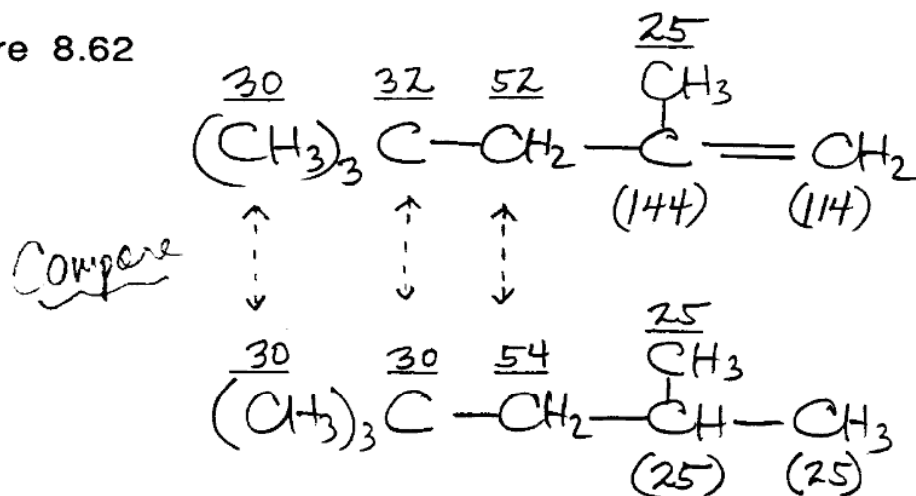
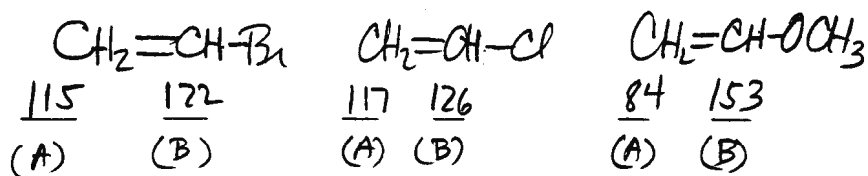


Figure 8.62



(Taken directly from Silverstein, Bassler and Morrill, 5th Ed, 1991, John Wiley)

Figure 8.63



Compare to :

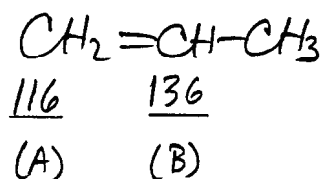
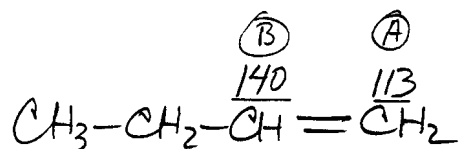


Figure 8.64



and

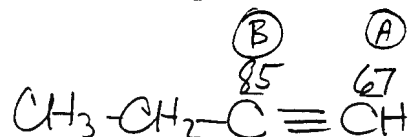
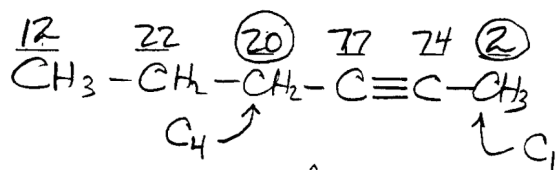
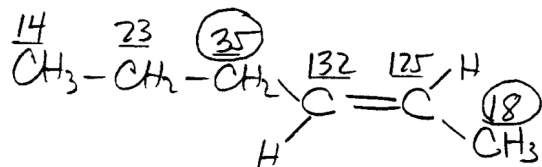


Figure 8.65



and



and

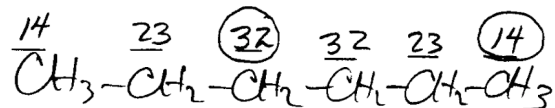


Figure 8.66

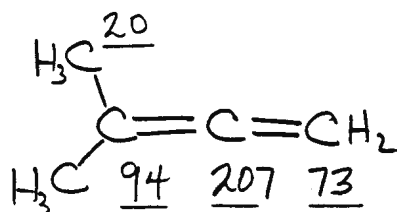


Figure 8.67

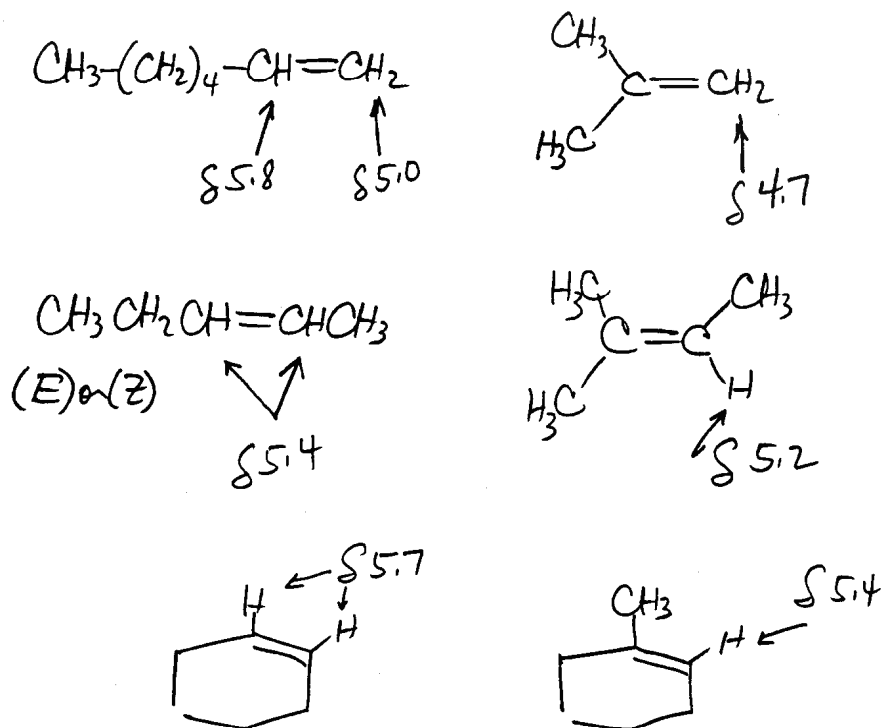


Figure 8.68

Pentene

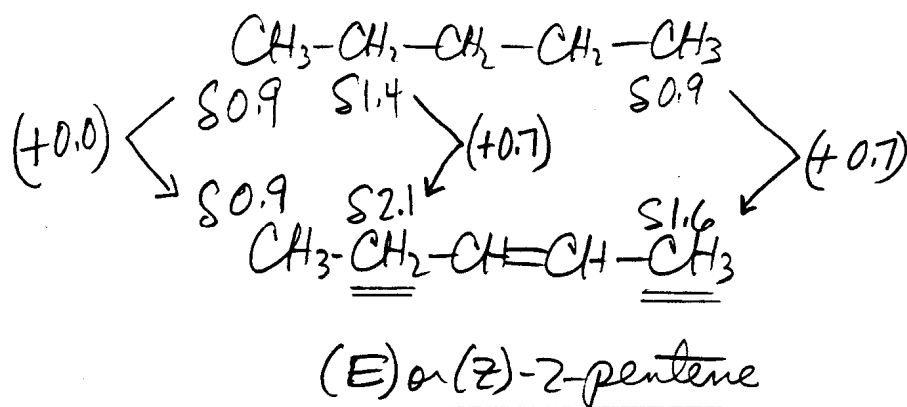


Figure 8.68a

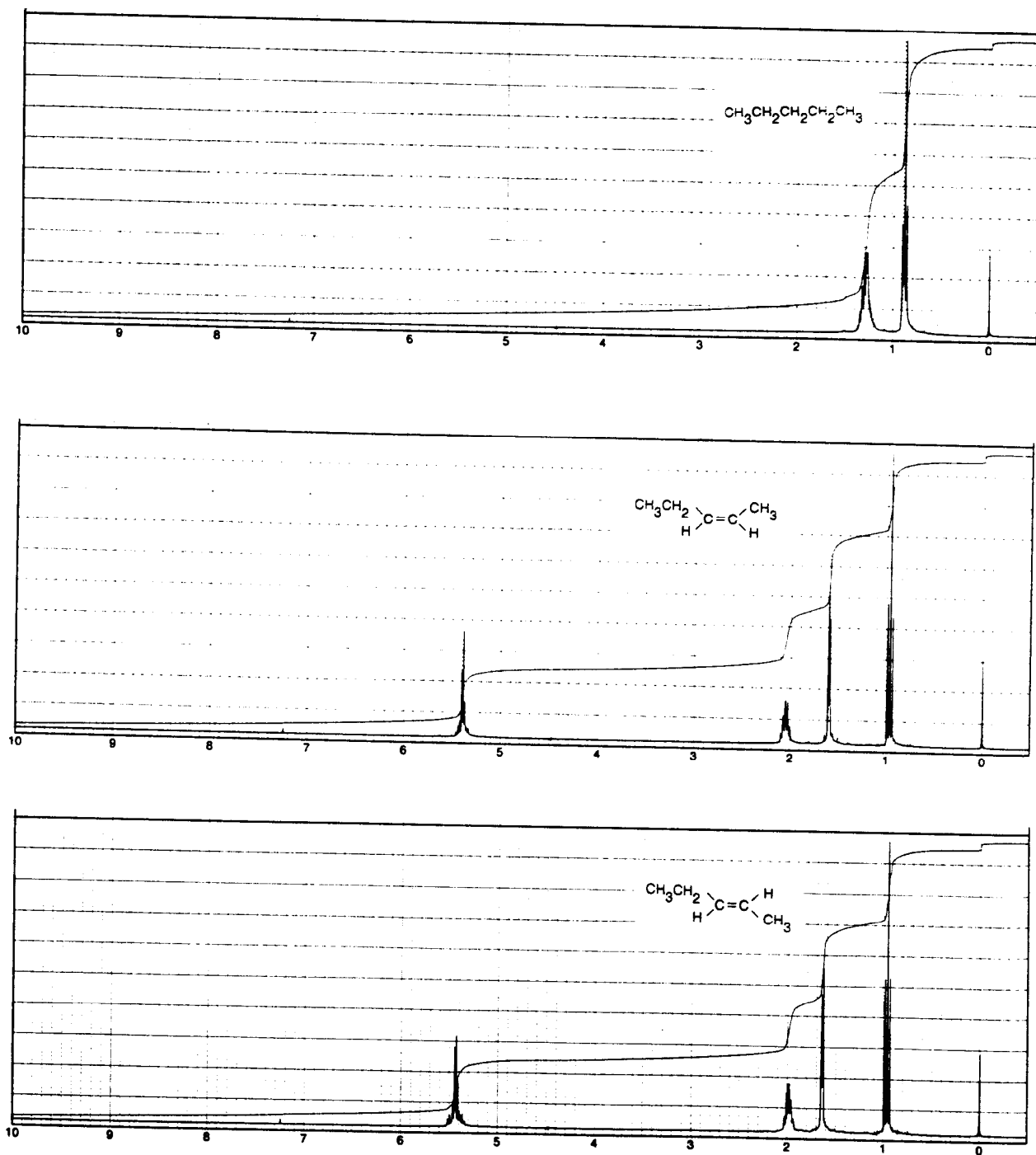


Figure 8.69

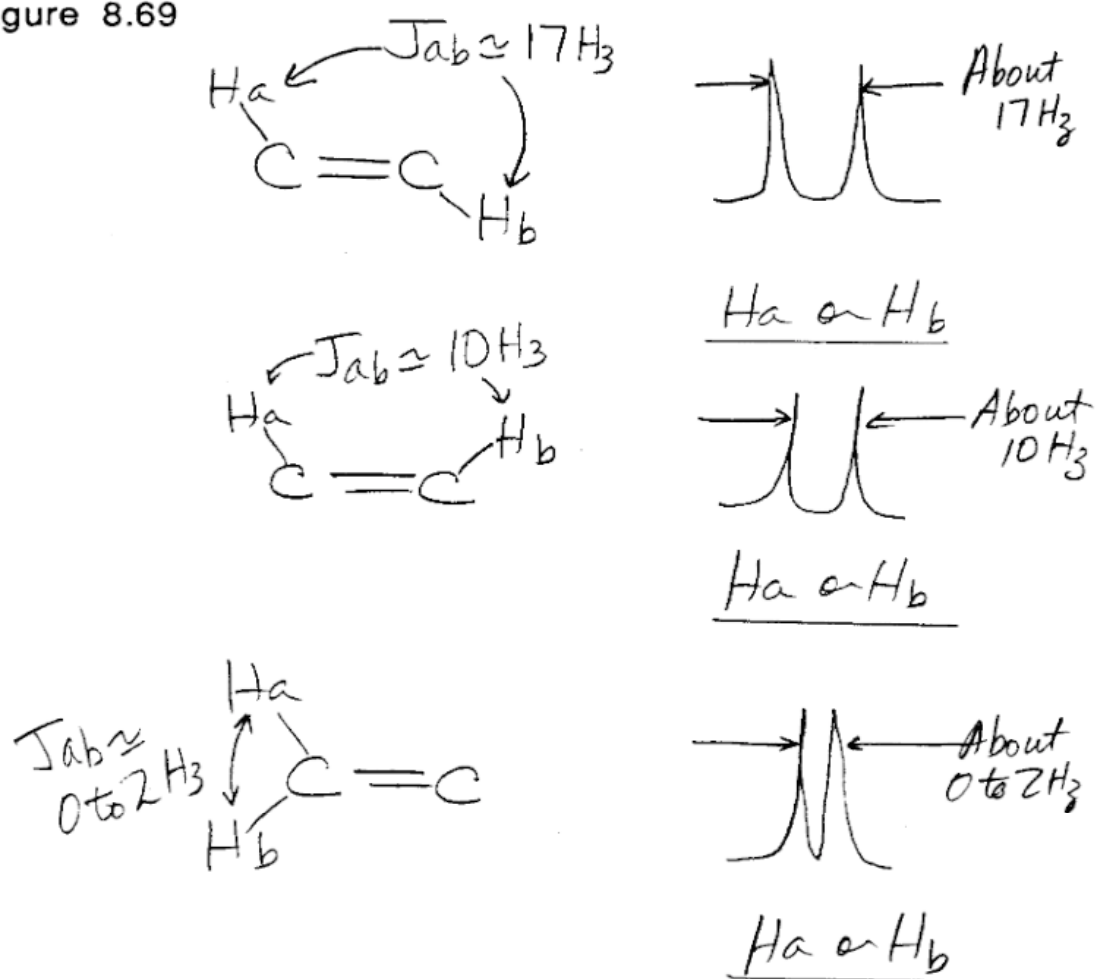


Figure 8.70

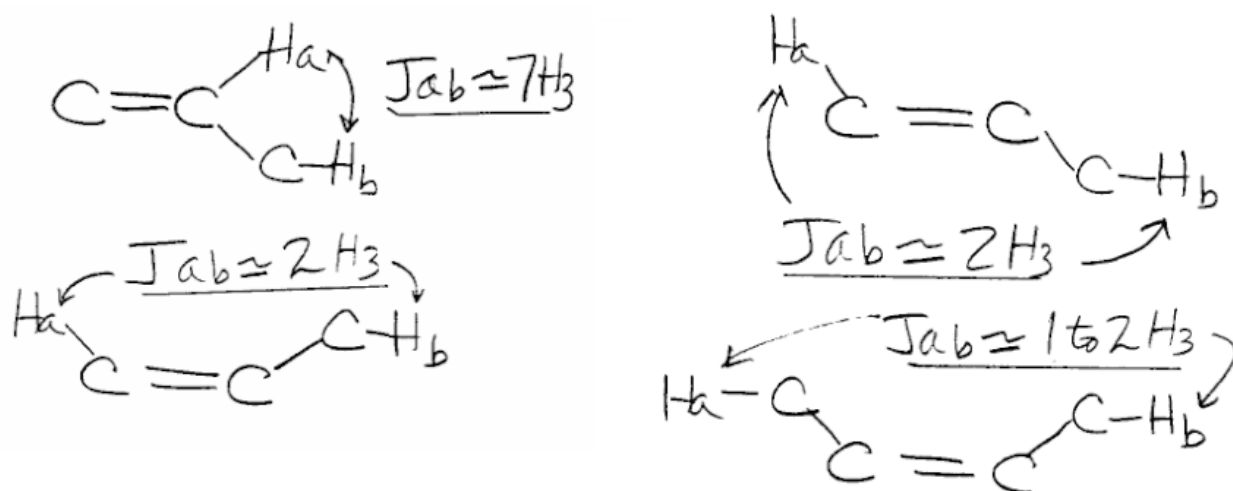


Figure 8.71

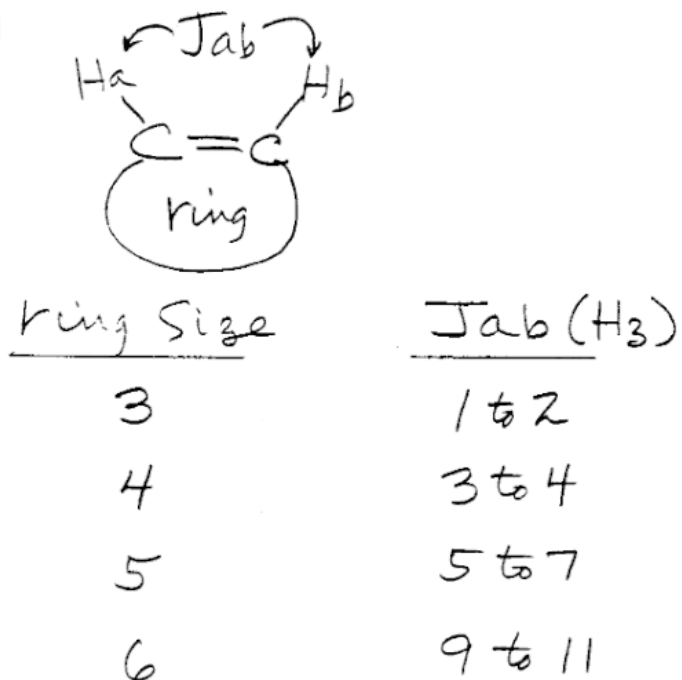


Figure 8.72

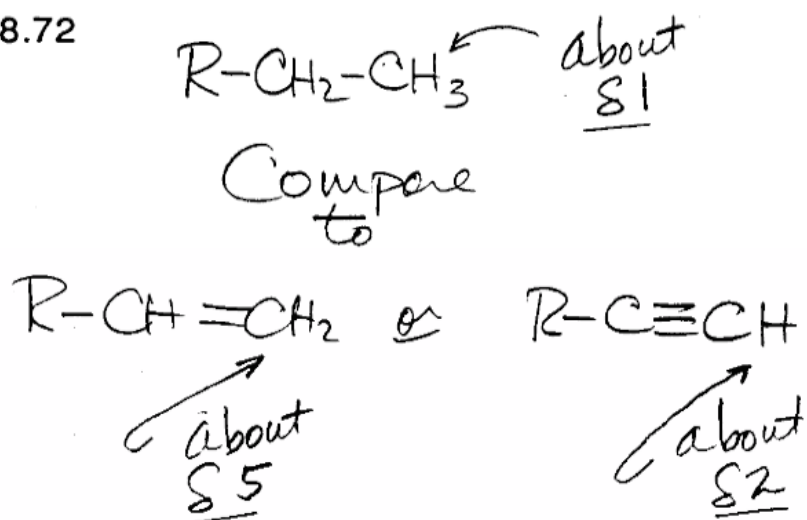


Figure 8.73

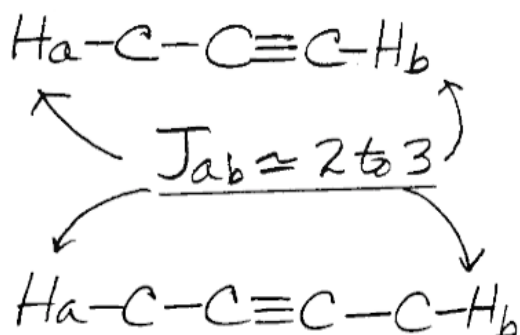


Figure 8.74

