

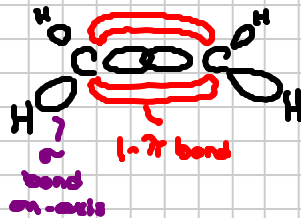
# Lecture 24.4 Geometric Isomers

Note Title

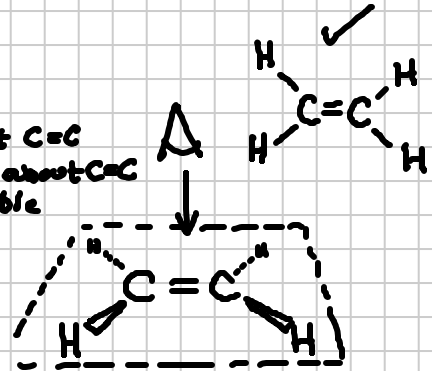
4/11/2012

Geometric Isomers: Molecular structures that differ only in their arrangements about a non-rotating <sup>double</sup> bond.

Double Bonds:  
 $\text{CH}_2=\text{CH}_2$

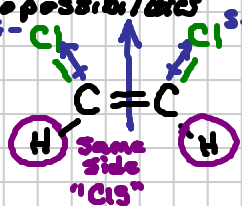


twist about C=C  
No rotation about C=C  
is possible



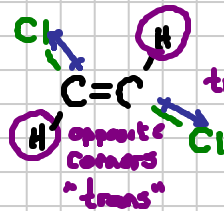
Example: 1,2-dichloroethene

... two possibilities



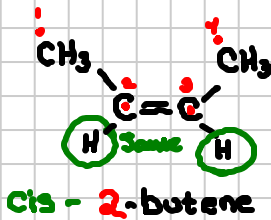
cis-1,2-dichloroethene  
polar molecule

cancel out

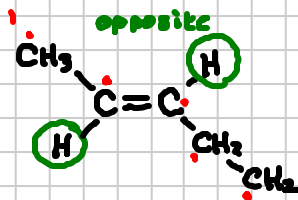


trans-1,2-dichloroethene  
non-polar molecule

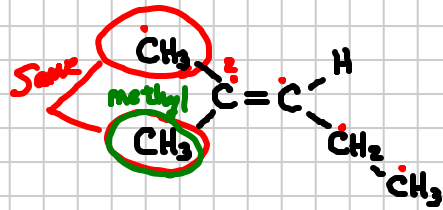
Example. Name the following molecules:



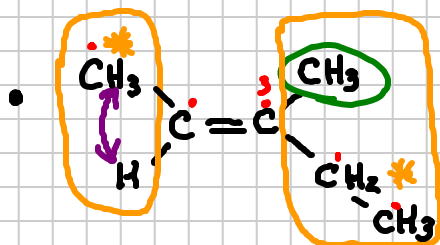
cis-2-butene



trans-2-pentene



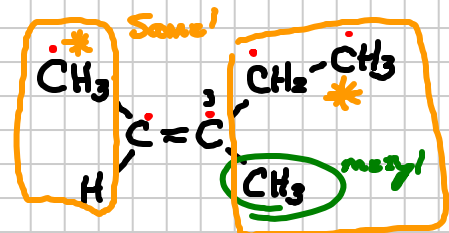
2-methyl-2-pentene  
no need to use cis/trans.



E-3-methyl-2-pentene

E opposite

... or ...



Z-3-methyl-2-pentene