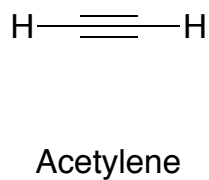
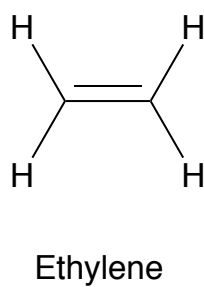
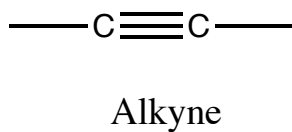
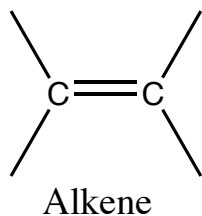


Lecture Outline 4: Alkenes, Alkynes

Alkene and Alkyne Nomenclature

Alkene = double bond = olefin (oleum facere = to make oil)

Alkyne = triple bond = acetylene (as functional group, not compound)

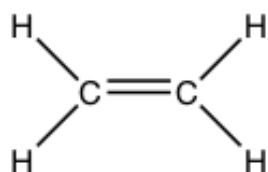


Simplest Alkene and Alkyne Possible

Alkene Nomenclature

Find longest chain, number from end to contain both ends of C=C and give lowest number to 1st C of C=C

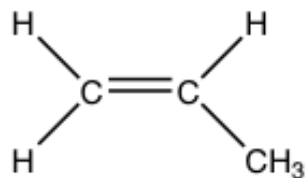
Change “ane” to “ene” precede with number to indicate first double bond position



ethylene

OR

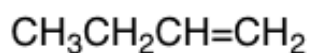
ethene



propylene

OR

1-propene
prop-1-ene



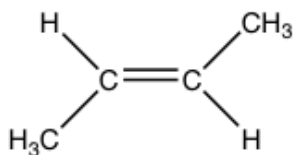
butylene

OR

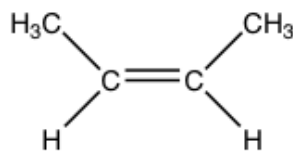
1-butene
but-1-ene



Below are two structural isomers of 1-butene



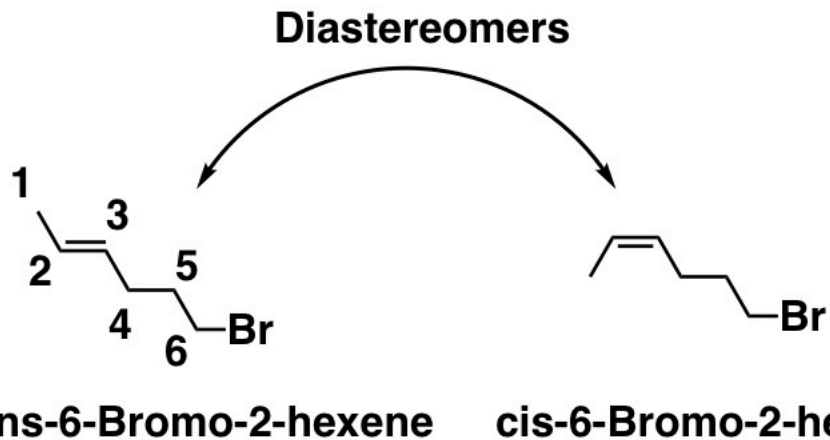
trans-2-butene



cis-2-butene

} diastereomers

Example 1: 6-Bromo-2-hexene



In the cis isomer, the two higher priority groups on either side of the carbon-carbon double bond are pointing in the same direction.