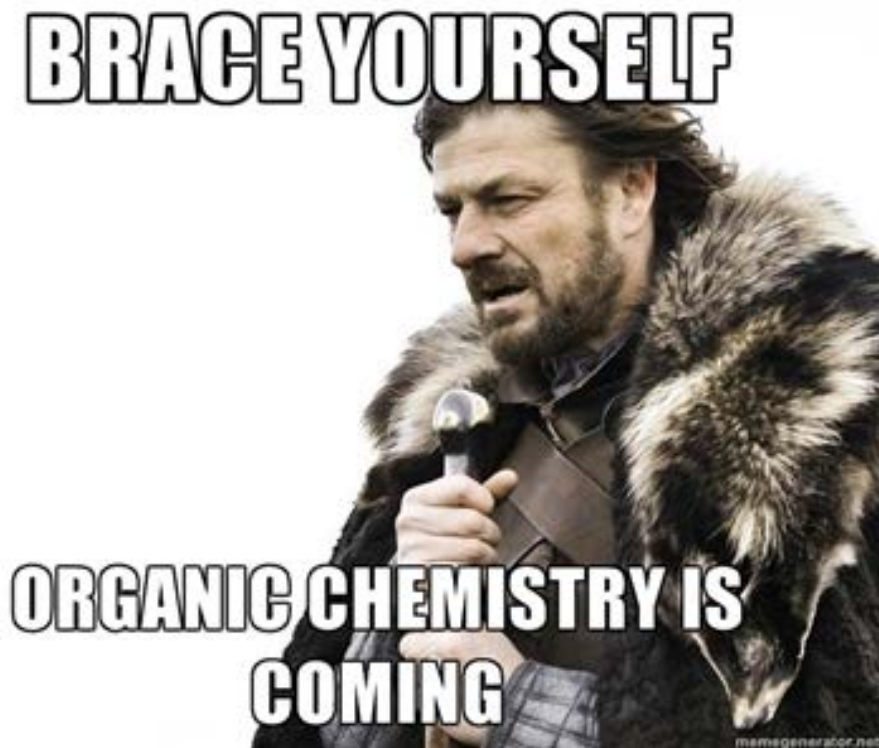


Alkenes



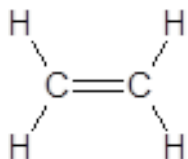
Outcome:

- Outline the transformation of alkanes to alkenes and vice versa.
- Name, Draw and construct molecular models of alkenes and branched alkenes.

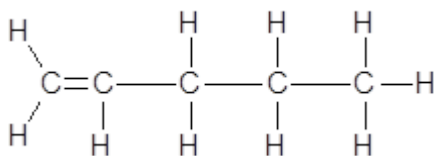
Naming Alkenes:

- All alkenes end in “**ENE**”
- Same rules as for Alkanes, but the **NUMBERING** starts at the end **CLOSEST** to the **DOUBLE BOND** (double bond gets the **LOWEST** possible number).

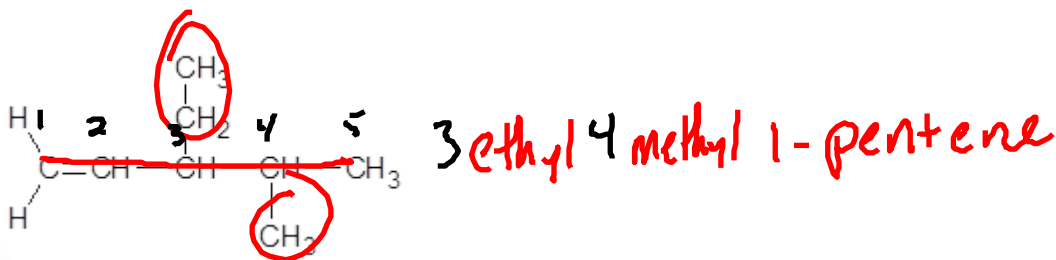
Examples:



ethene



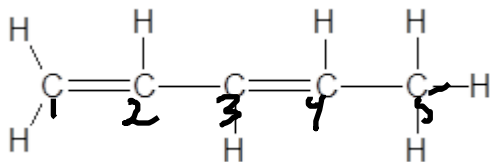
1-pentene } pent-1-ene



Naming Alkenes:

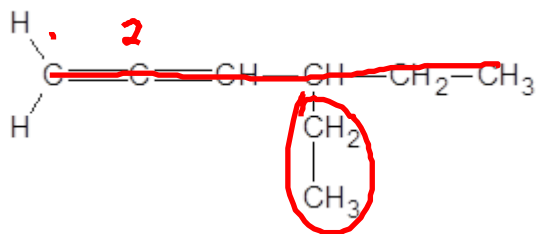
When **MULTIPLE DOUBLE BONDS** are present, we use the **PREFIXES DI, TRI, TETRA**, etc., followed by "**ENE**" (ex. **DIENE**)

Examples:



1,3-pentadiene

penta-1,3-diene



4 ethyl

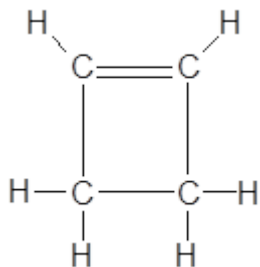
1,2-hexadiene

Naming Alkenes:

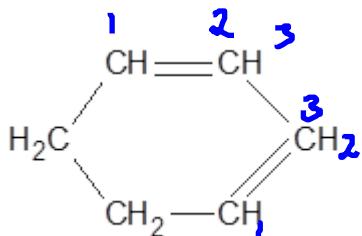
1x

When an the chain is in a **RING SHAPED STRUCTURE**, we use the prefix "**CYCLO**"

Examples:



cyclo butene

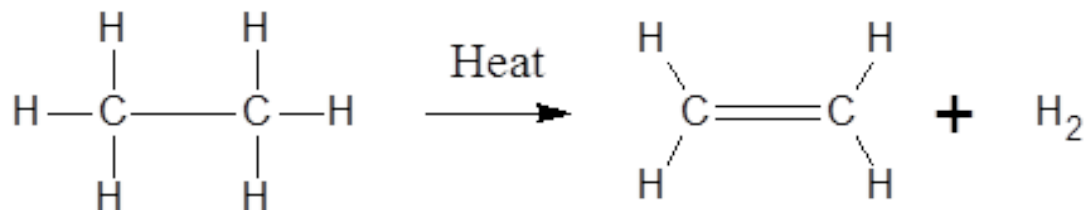


1,3 cyclo hexa diene

Reactions of Alkenes

Dehydrogenation

- **REMOVAL** of **HYDROGENS** through a complex reaction.
- We can dehydrogenate **ALKANES** to make **ALKENES**:



Reactions of Alkenes

Hydrogenation

- **ADDITION** of **HYDROGENS** in the presence of a **CATALYST** such as **PALLADIUM, PLATINUM OR NICKEL**
- Also called an **ADDITION REACTION** or **CATALYTIC HYDROGENATION.**
- We can hydrogenate **ALKENES** to make **ALKANES**:

