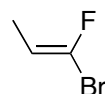
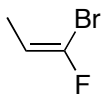
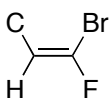


NOMENCLATURE of ALKENES (cont'd) - STEREOISOMERS**Example 1**

Larger - 6

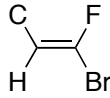


Larger - 35

Smaller - 1

Smaller - 9

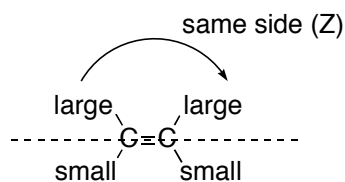
Larger - 6



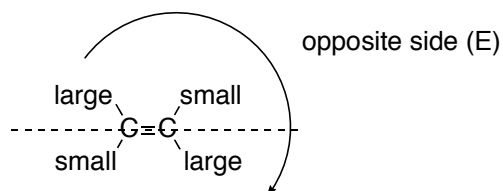
Smaller - 9

Smaller - 1

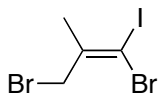
Larger - 35



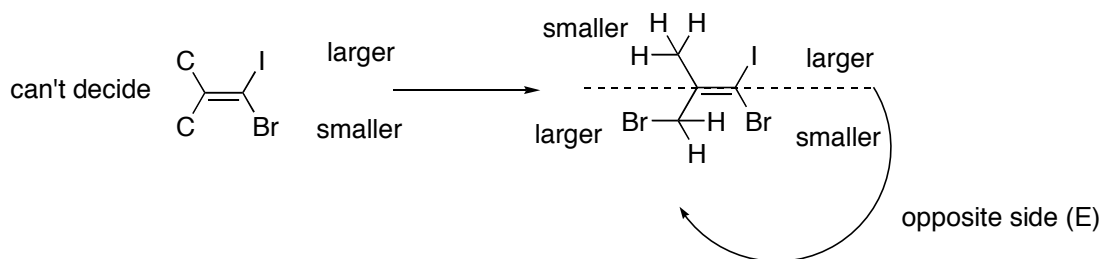
Z-1-bromo-1-fluoro-1-propene



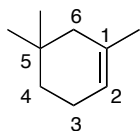
E-1-bromo-1-fluoro-1-propene

Example 2

E-1,3-dibromo-1-iodo-2-methyl-1-propene

**Nomenclature Alkenes and Alkynes -continued**

cyclopropene - ringstrain makes this molecule very reactive

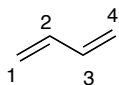


1,5,5-trimethylcyclohexene or
1,5,5-trimethyl-1-cyclohexene

For molecules having multiple double bonds:

- 2 C=C bonds → diene
- 3 C=C bonds → triene
- 4 C=C bonds → tetraene
- 5 C=C bonds → pentaene

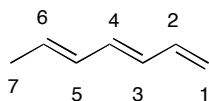
Eg.1



1,3-butadiene

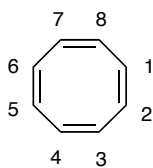
drop "ne" ending of alkane and add "diene"

Eg.2

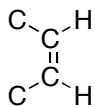


1,3,5-heptatriene

Eg.3

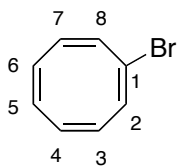


1,3,5,7-cyclooctatetraene

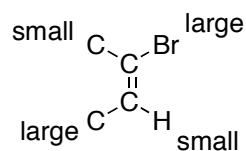


All C=C in this structure are cis or Z

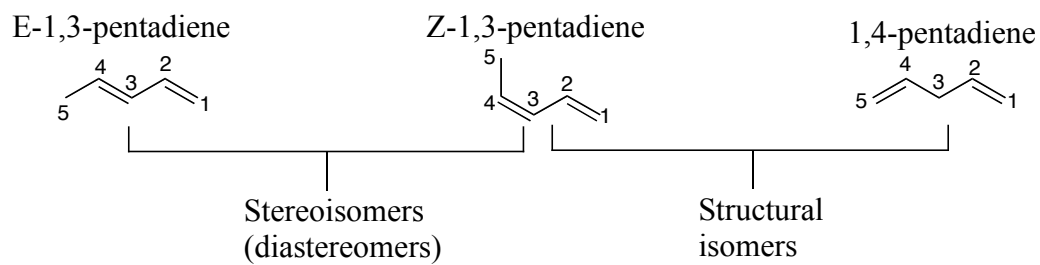
Eg.4



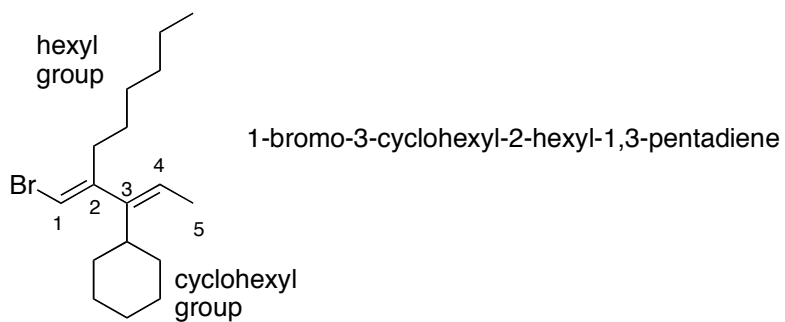
1-E-1-bromo-1,3,5,7-cyclooctatetraene



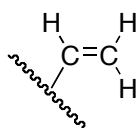
Eg.5



Eg.6



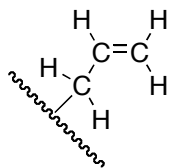
Different groups



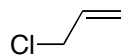
Vinyl group



Vinyl chloride
1-chloroethene

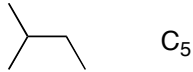
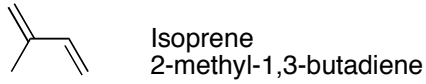


Allyl group

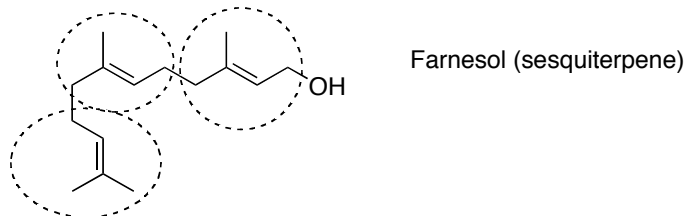
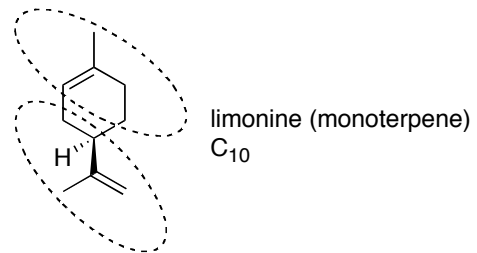
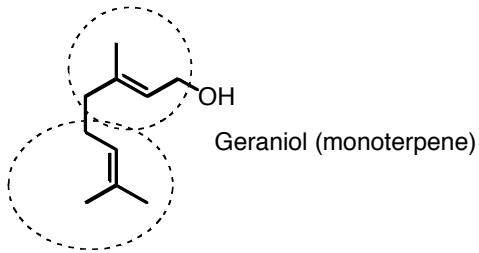


Allyl chloride
3-chloropropene

Natural Alkenes eg. Terpenes/Terpenoids or Isoprenes/Isoprenoids



- 2 C₅ (isoprene units) – monoterpene
- 3 C₅ (isoprene units) – sesquiterpene
- 4 C₅ (isoprene units) – diterpene
- 6 C₅ (isoprene units) – triterpene



Note - Each dotted circle identifies a C₅ unit

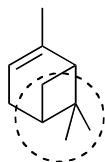
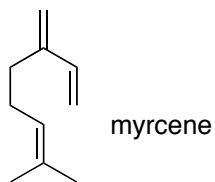
Pheromones (chemical messengers)

From the Greek	Pherein	Horman
	to carry	excitement

1959 – Adolf Butenandt (Nobel prize for discovery of pheromones)

Sex Pheromones – Insects can detect 10⁻¹⁷ moles/L (i.e. 10⁻¹⁷ M or 10⁻¹⁷ molar)

Alarm Pheromones
Trail Pheromones
Swarm Pheromones



α -pinene
major component of terpentine

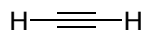
Both of these are monoterpenes

Nomenclature of alkynes

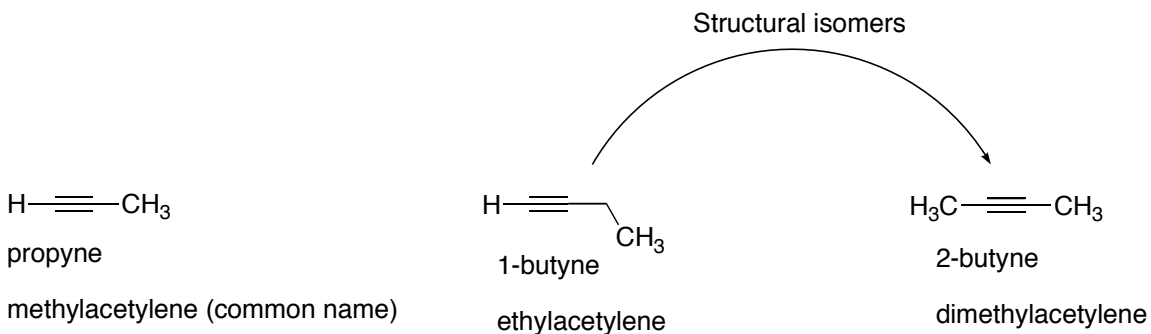
Rule:

- drop “ane” and add “yne”
- for multiple triple bonds, drop “ne” and add “diyne”, “triyne”, etc.

eg.



- ethyne / acetylene (common name)



Multiple alkynes end with -

2 $\text{C} \equiv \text{C}$ diyne

3 $\text{C} \equiv \text{C}$ triyne

Mixed double and triple bond containing compounds are eneynes

The below example is from Canola – defense substance – anti-nematode

