

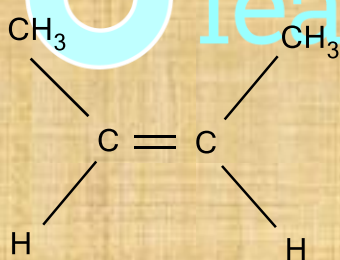
## CHAPTER 13

# HYDROCARBONS

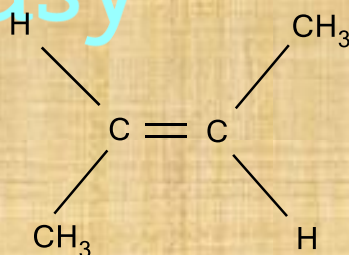
### Alkenes:

- Alkenes are unsaturated hydrocarbons having at least one double bond. Their general formula is  $C_nH_{2n}$ .
- Double bond in alkenes possess one sigma ( $\sigma$ ) bond and one pie ( $\pi$ ) bond. Carbon atom containing double bond is  $SP_2$  hybridised with planar shape.
- Carbon – carbon double bond length is shorter than single bond length.
- Alkenes can show chain isomerism and position isomerism.
- Due to restricted rotation about carbon-carbon double bond alkenes geometrical isomerism.
- It is also known as cis – trans isomerism.
- The isomer in which identical groups are present on same side is called cis-isomer.
- The isomer in which identical groups are present on opposite side is called Trans isomer.

Ex.



Cis - But - 2 - ene



Trans - But - 2 - ene

Cis – form of a given compound is always more polar, hence possess high dipole moment, high boiling point.

Dipole moment of trans form is almost zero.