

# Fuel Chemistry

- Hydrocarbon & Alcohols
- Naming conventions & molecular structures
- Hydrocarbon families
  - Carbon bonds
    - Single      $C - C$      -ane
    - Double     $C = C$      -ene
    - Triple      $C \equiv C$     -yne
  - Chains
    - Open chain
    - Ring

# Number of Carbon atoms

- 1 – meth
- 2 – eth
- 3 – prop
- 4 – but
- 5 – pent
- 6 – hex
- 7 – hep
- 8 – oct
- 9 – non
- 10 – dec
- 11 – undec
- 12 – dodec

# Chains

- Open chain
  - Alkanes
  - Alkenes
  - Alkynes
- Ring structure
  - Cycloalkanes
  - Aromatics
- 'saturated' (max # of H attached to C)
  - Saturated
    - -ane
  - Unsaturated
    - -ene
    - -yne

# Chains

- Straight (normal)
  - n- (n-pentane)
- Branched (isomers)
  - ex. 2-methyl butane

Branch at 2nd C atom



# Ring Structure

- Cyclanes – C – C single bonded
- Aromatics (benzene derivative)

# Alcohols

- Substitute H in an alkane with hydroxyl (OH)
  - Methanol (methyl-alcohol)
  - Ethanol (ethyl-alcohol)
  - Propanol (propyl-alcohol)