Functional Groups

A functional group is a group of atoms within a molecule that has a characteristic chemical behaviour.

Unit: Organic Chemistry

Text Reference: pg.199 - 201

Functional groups help to explain:

- Why certain groups dissolve in water and others don't
- Why some have high or low melting points

<u>Carbon-Carbon Double or Triple Bonds (C==C or C==C)</u>

- double or triple bond is strong and hard to break
- known as 'unsaturated' carbons
- alkanes are generally unreactive (because saturated) but alkenes/alkynes undergo addition reactions (because unsaturated).

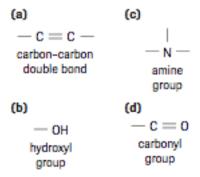
Carbon Bonded to Nitrogen or Oxygen in Single Bond

- Carbon bonding to an electronegative (ability of element to pull a pair of electrons in a covalent bond) element. (∴electrons are pulled to Oxygen, Nitrogen, or Halogen atoms, away from Carbon)
- Because of polar bonds, these compounds have high boiling & melting points.

Carbon Bonded to Oxygen with a Double Bond

 Oxygen is more electronegative and draws electrons (all 4) to Oxygen, away from Carbon, having high boiling and melting points (highest of all three groups)

Names and Structural Examples



HMRK: pg. 201 #2, 4, 5(a) 6 Pg. 196 #2, 3, 5, 6