

## **Chemistry of Carbon**

- Organic Chemistry is the study of all compounds that contain CARBON.
- Why is carbon so special?



### **Chemistry of Carbon**

- 1. Carbon has 4 valence electrons
  - Each e can bond with another atom to form a strong covalent bond.





## **Chemistry of Carbon**

- Carbon can bond to Carbon
  - Has the ability to form chains that are almost unlimited in length!
  - Carbon-Carbon bonds can be single, double, or even triple.
  - Carbon chains can close & form rings.

#### **Macromolecules**

- "Giant Molecules"
- Made from thousands, or even hundreds of thousands of smaller molecules

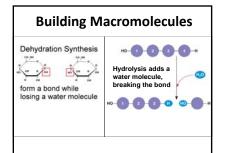


#### **Macromolecules**

 Formed by a process known as polymerization.



Polymer



## **Organic Molecules**

- Contain carbon, hydrogen, and oxygen
- Water soluble
- 4 major classes
- Carbohydrates
  - Lipids
- ProteinsNucleic acids



# Questions? Comments?

