3.1 Carbon Atoms can form diverse molecules by bonding to 4 other Atoms

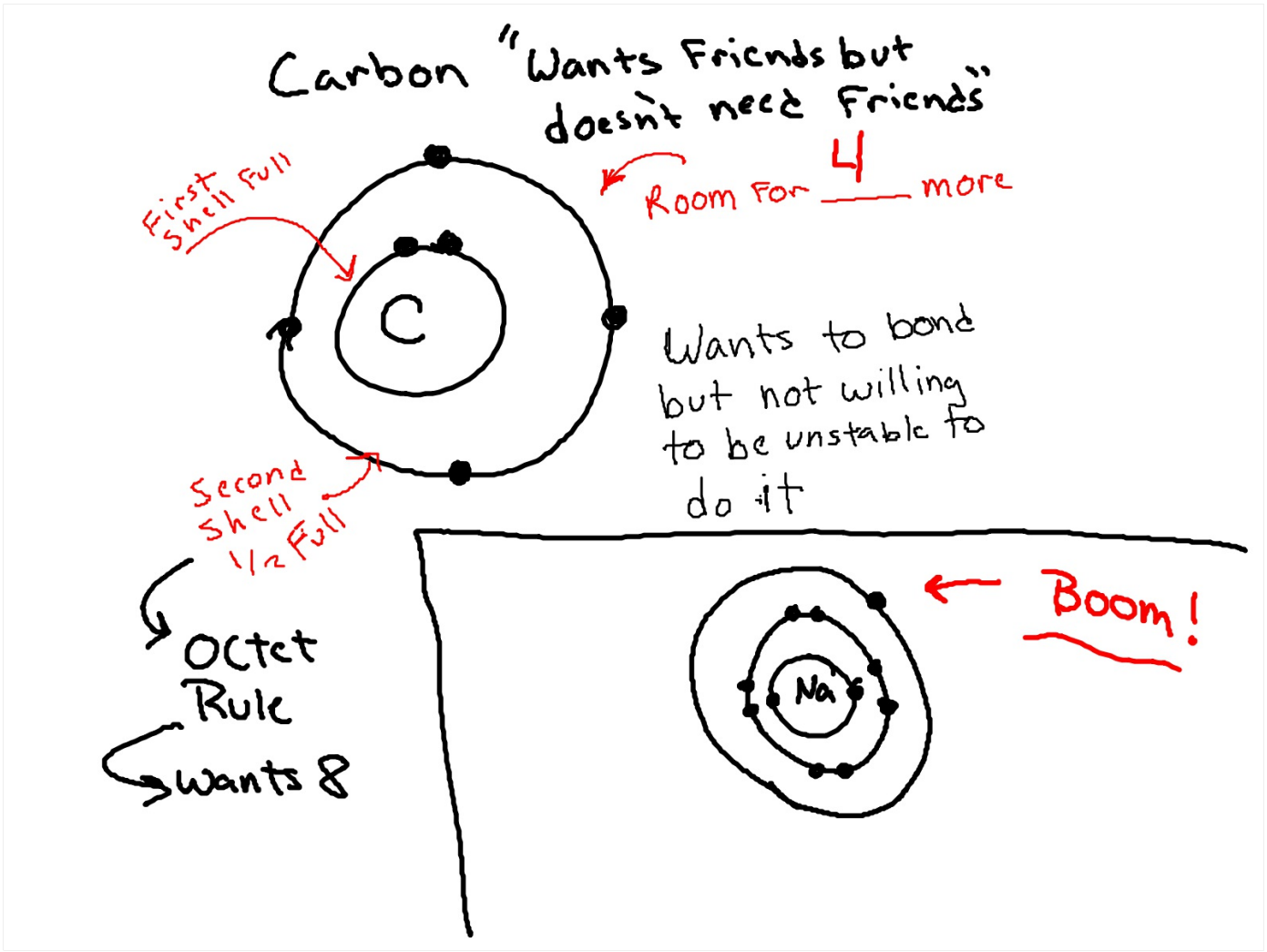
C

P = 6

N = 6

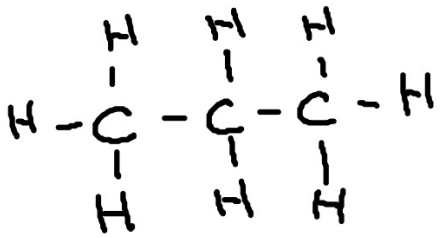
E = 6

Relatively small, allows molecules to take many Forms

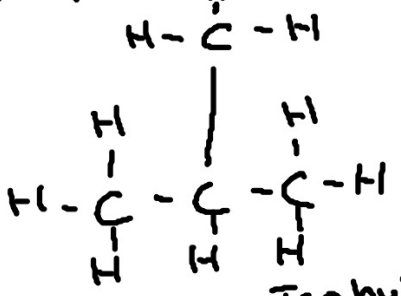

Carbon "Wants Friends but doesn't need Friends"
Room for 4 more
First Shell Full
C
Wants to bond but not willing to be unstable to do it
Second Shell 1/2 Full
Octet Rule
wants 8
Boom!
Na

Hydrocarbons

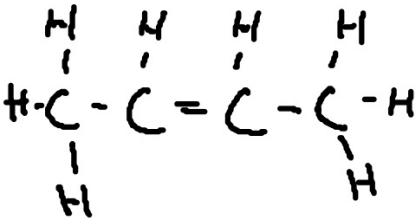
- Skeleton of most O-molecules



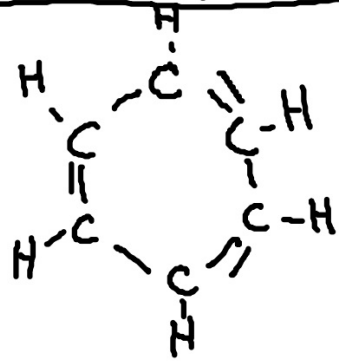
Propane



Isobutane

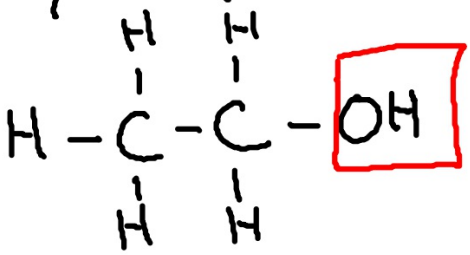


Butene



Benzine

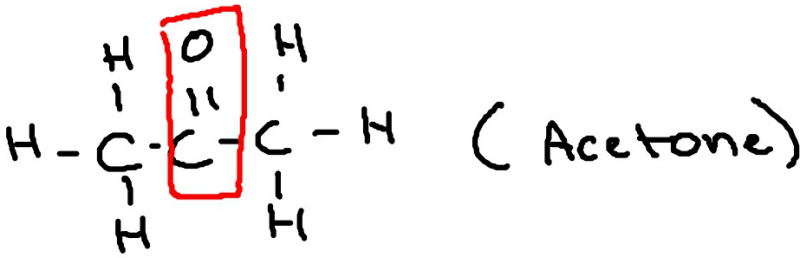
Hydroxyl Group



(ethanol)

- Alchols & Sugars
- Water Soluble

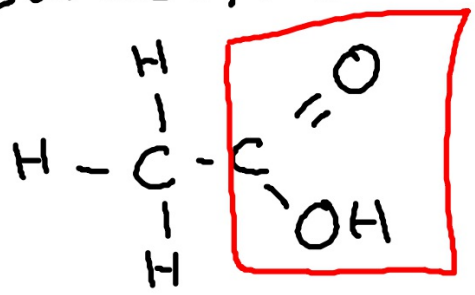
Carbonyl Group



(Acetone)

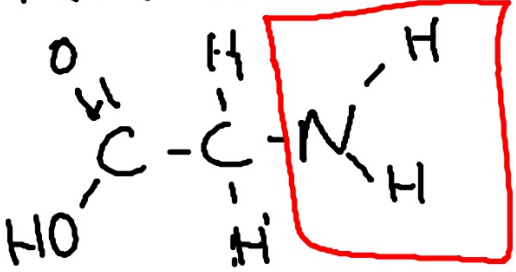
- Usually part of a larger Functional group

Carboxyl Group



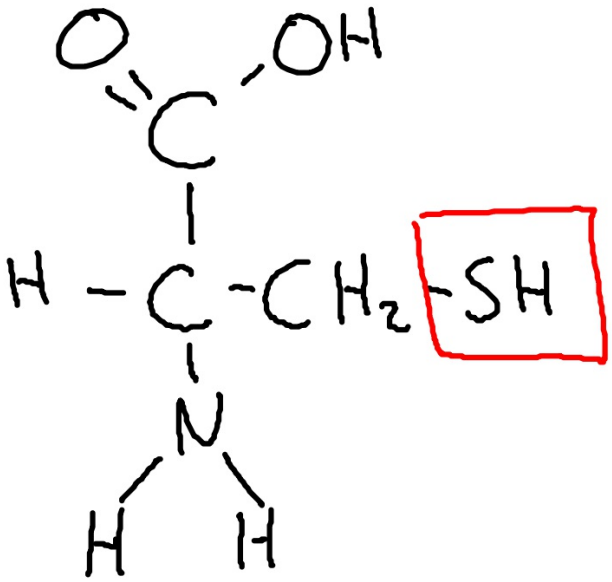
- Amino + Fatty Acids

Amino Group



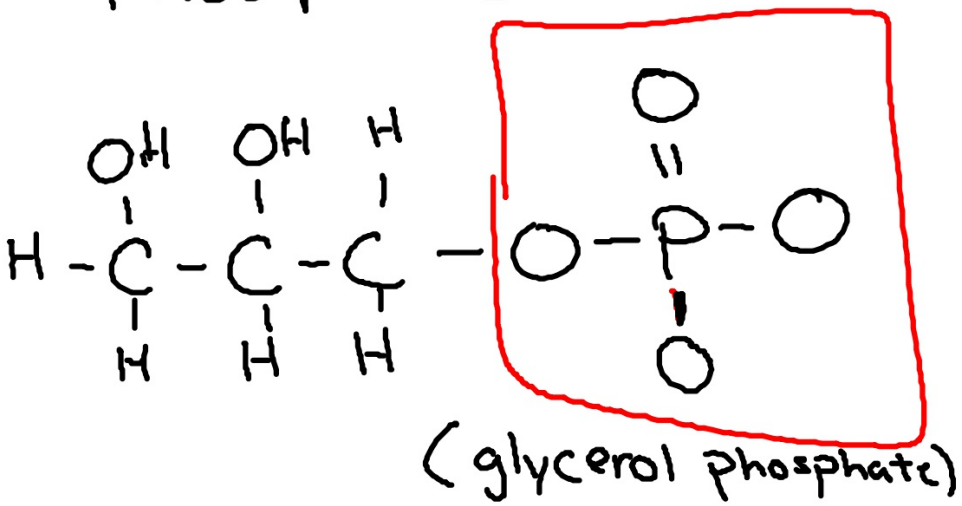
- Amino Acids

Sulfhydryl Group



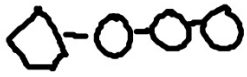
- Found in Proteins

Phosphate Group

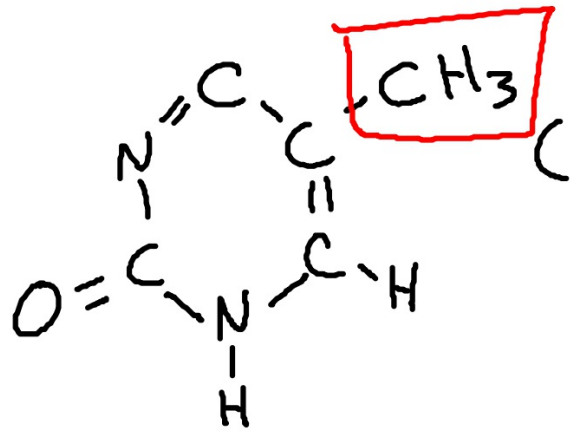


(glycerol phosphate)

- Part of DNA, RNA, + ATP



Methyl Group



(5 methyl cytosine)

- Part of DNA