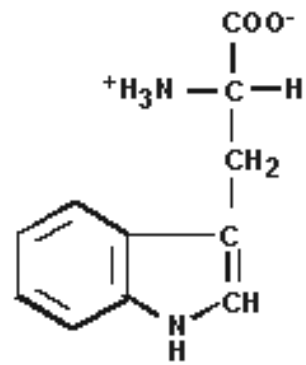


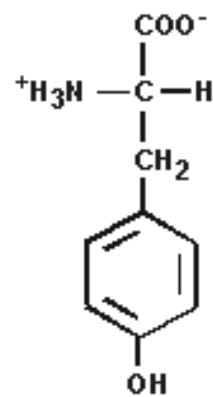
AROMATIC

- Complex carbon compounds that contain cyclical structures similar to and including benzene

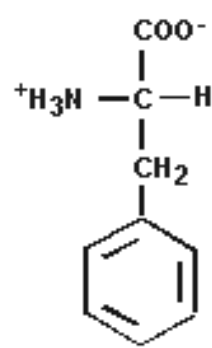
- Aromatics compounds play a key role in biochemistry of living things:
- The 4 amino acids: histidine, phenylalanine, tryptophan and tyrosine build proteins
- All 5 nucleotides: adenine, thymine, cytosine, guanine and uracil make up the genetic code contain aromatics



Tryptophan

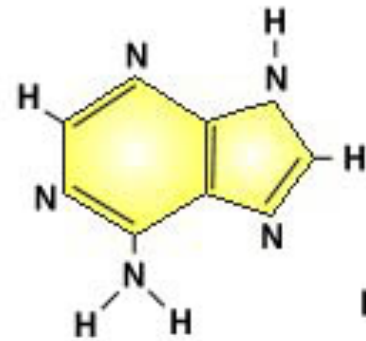


Tyrosine

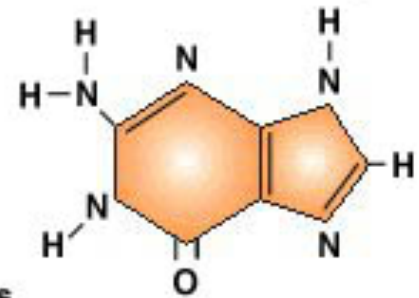


Phenylalanine

adenine



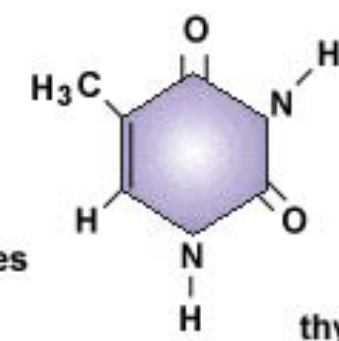
guanine



purines



cytosine

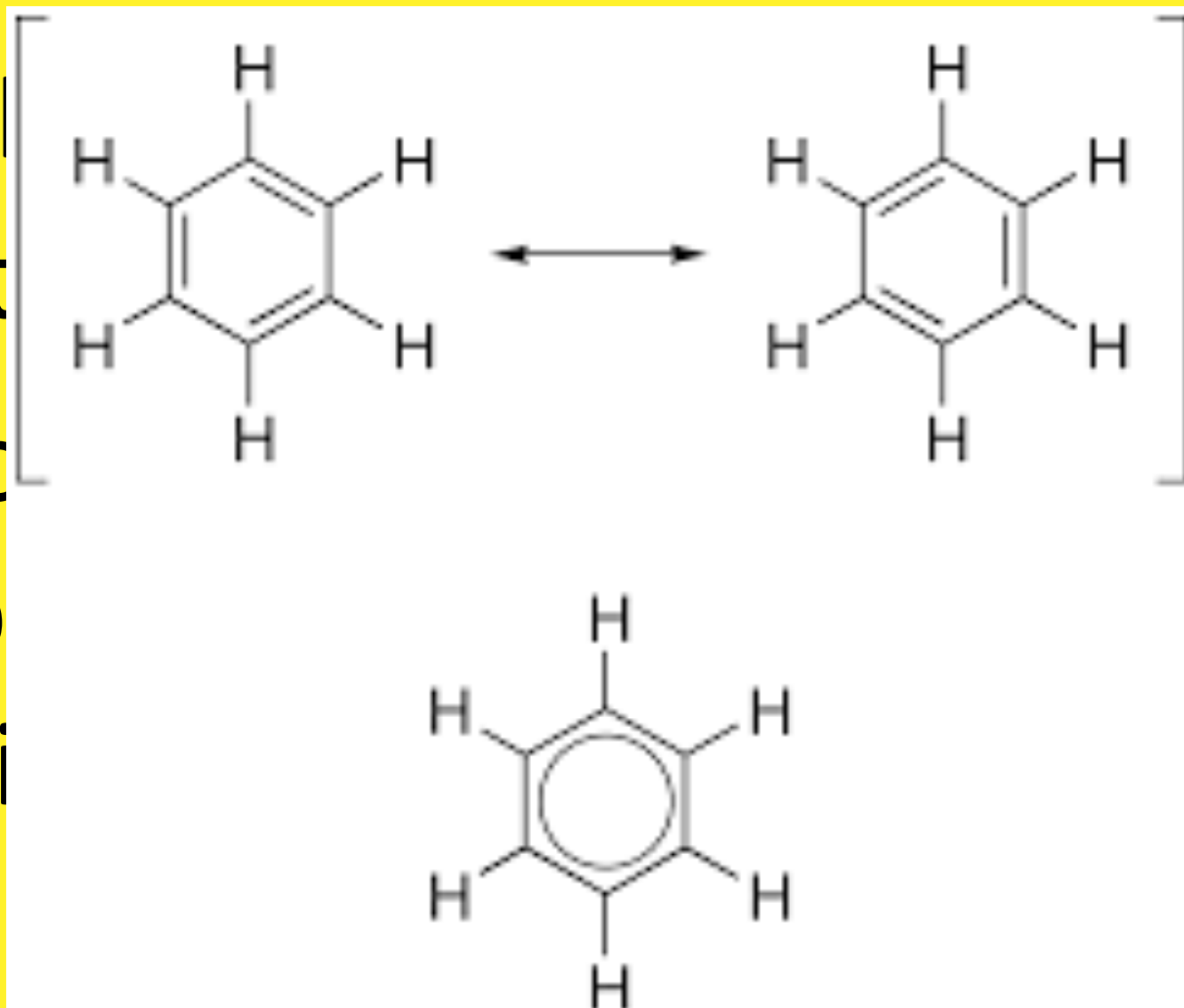


pyrimidines

thymine

Benzene (C₆H₆)

- simple
 - no t
 - Elec
- carb
- to fl



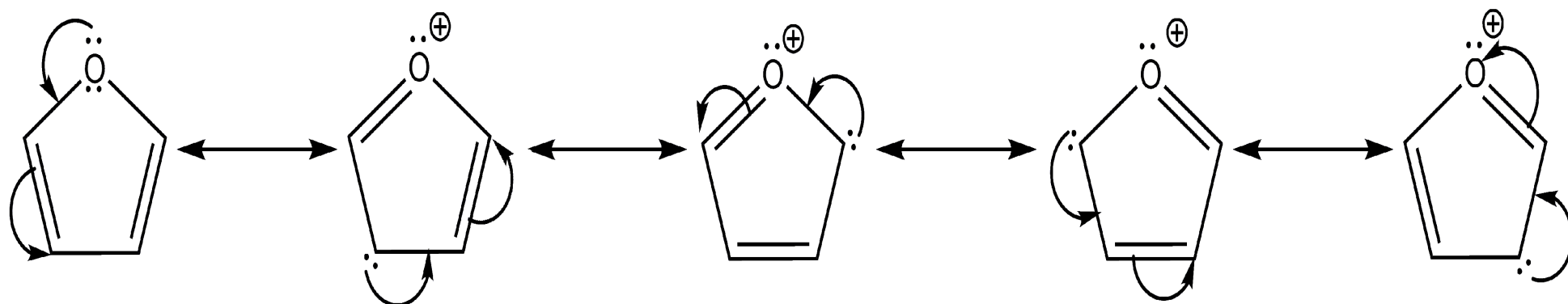
onds

onds

Phenyl Group

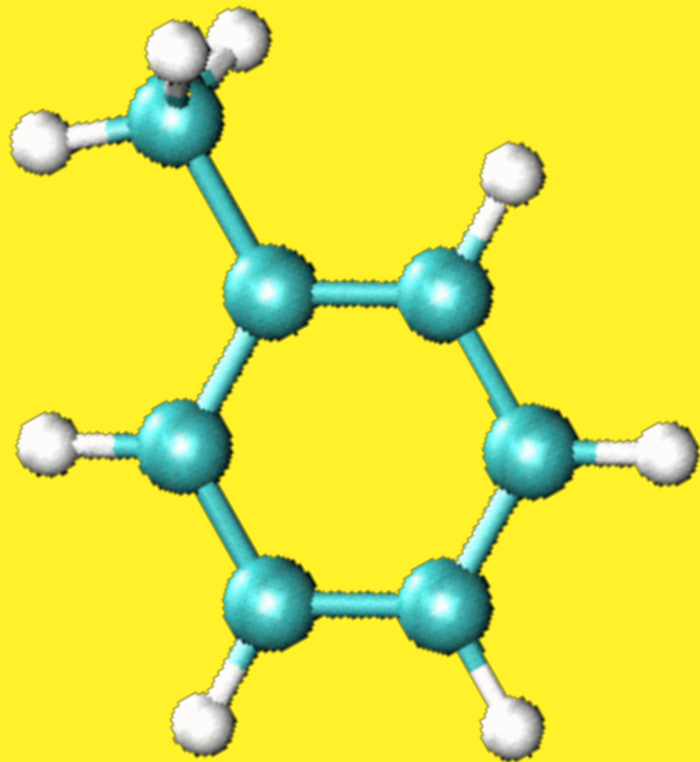
- Benzene loses a hydrogen atom and uses that bond to join other molecular structures

Furan (C₄H₄O)



Toluene (C_7H_8)

- Aka Methyl Benzene

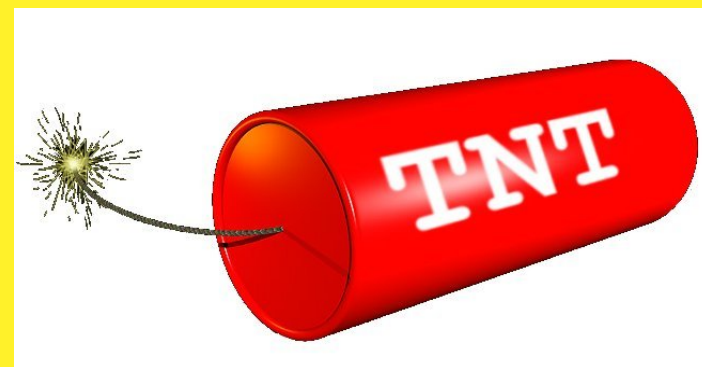


Properties of Aromatics

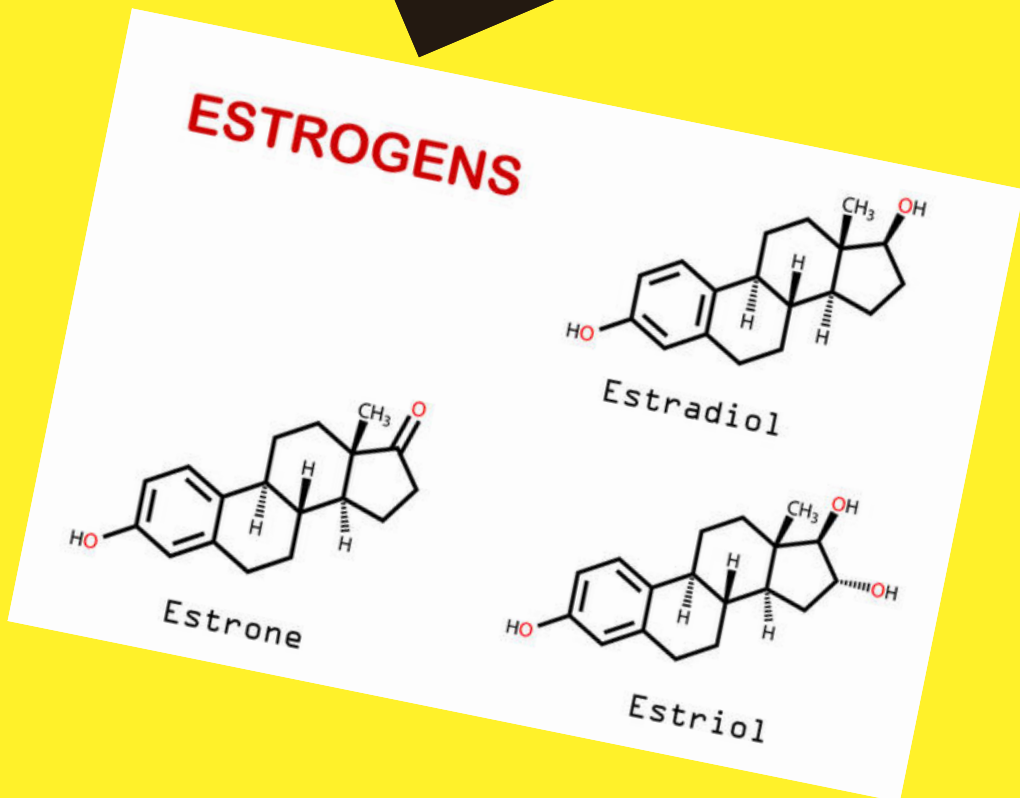
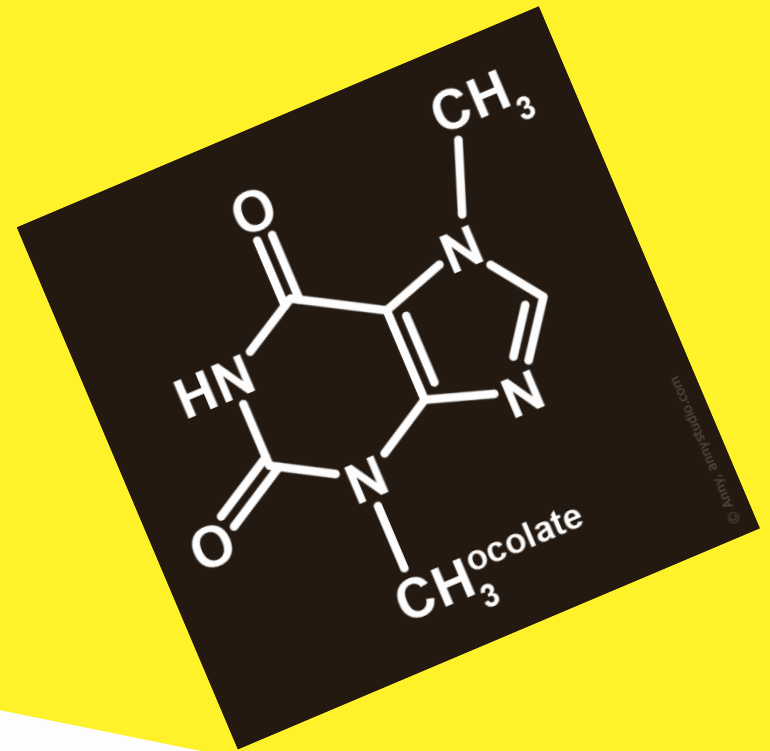
- Extremely stable compounds that remain in the environment as Persistent Organic Pollutants
- Fragrant properties
- Non polar therefore non soluble in water

Use of Aromatics

- phenyl groups are used in pharmaceuticals such as morphine, birth control pills, aspirin
- toluene is associated with TNT (2,4,6-trinitrotoluene)



- flavorful foods like chocolate, vanilla and cinnamon
- hormones
- Fibre polymers



IUPAC Naming

- when benzene is the parent chain it is very similar to alkane naming
- number branches starting at the longest chain

- Benzene becomes a phenyl group when benzene is not attached to an end carbon or...
- when there is a double or triple bonds in another chain

Example

- 3-methyl 1-propyl benzene
- 1-methyl furan

Example 2



Example 3

