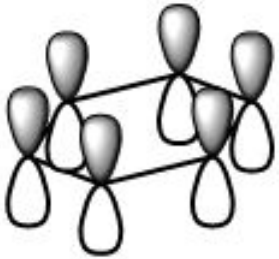
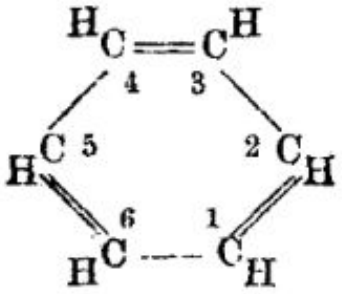
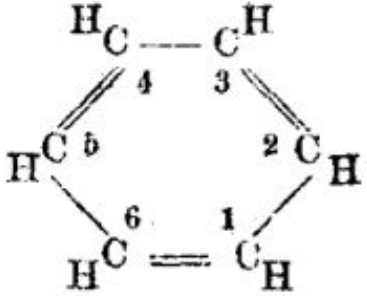
Benzene

Molecular formula: C_6H_6

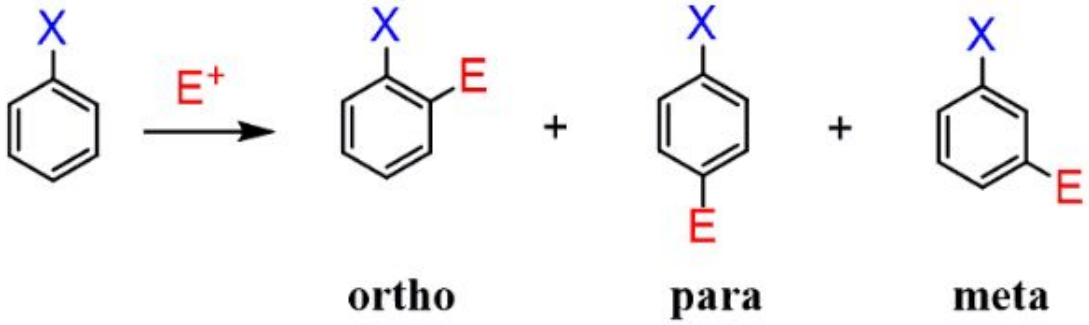
Aromatic, aryl, phenyl





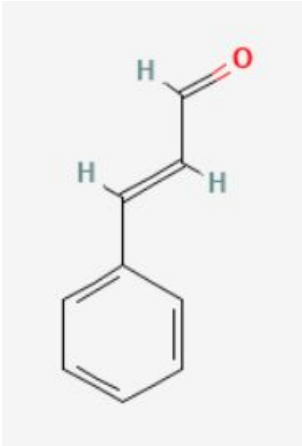


Faraday, Couper, Loschmidt, Kekulé

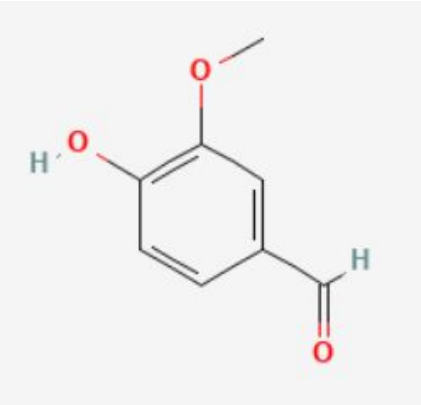


Why are the called aromatics?

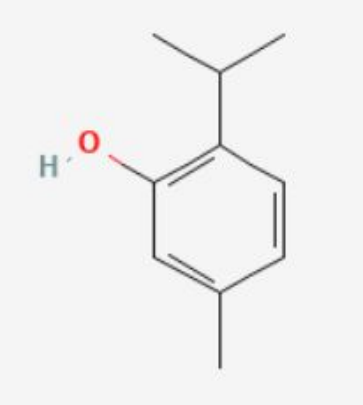
- Various aromas associated with them during early discovery



Cinnamaldehyde



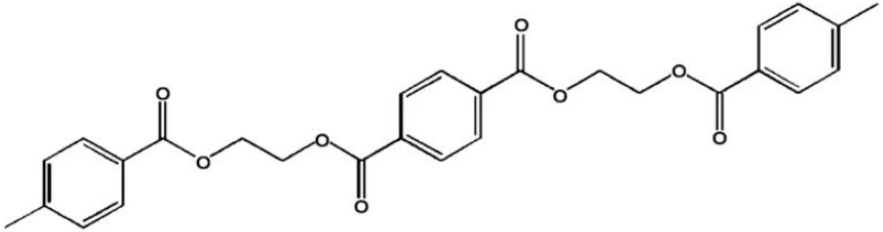
Vanillin



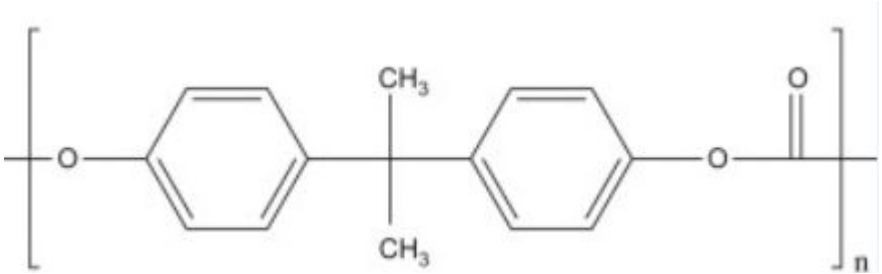
Thymol

Conjugation

- Delocalization of electrons, freely move throughout a system
- Principle of electronics
- Organics can provide conducting and semiconducting materials
- Used in plastics, solar cells, thin films



Polyethylene terephthalate (PET)

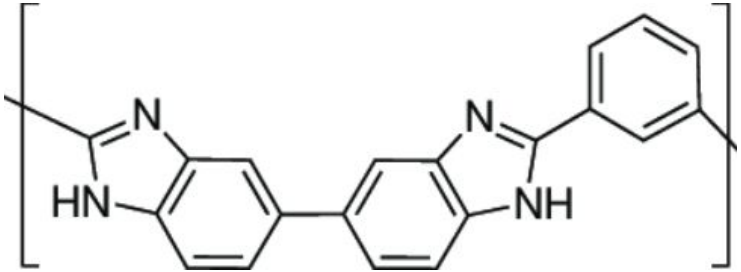


Polycarbonate (PC)

Plastics

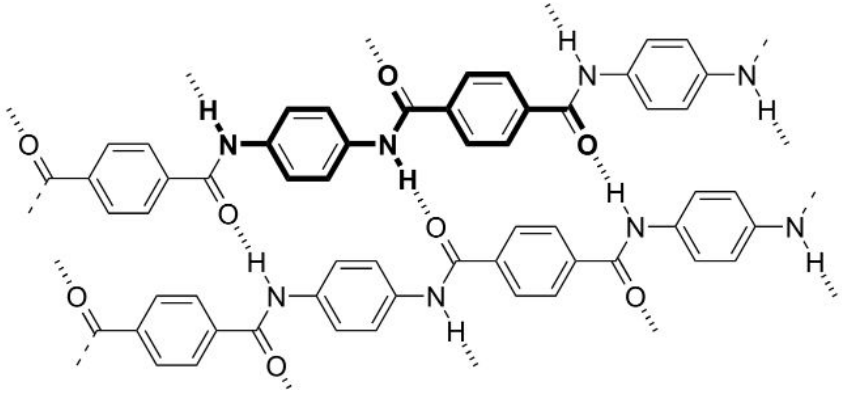
- Many commodity plastics are aromatic polymers

Materials



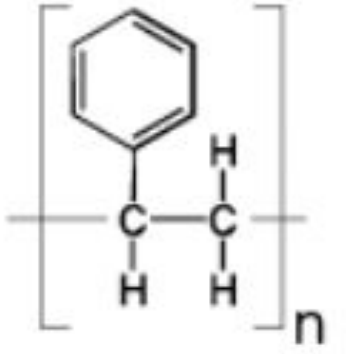
polybenzimidazole

Materials

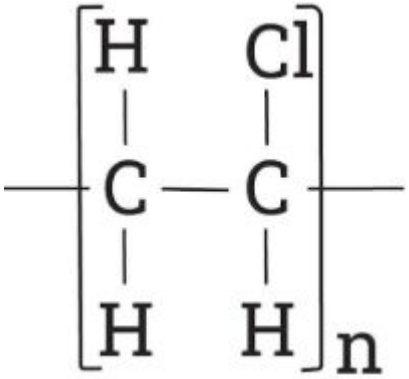


Kevlar (para-aramid)

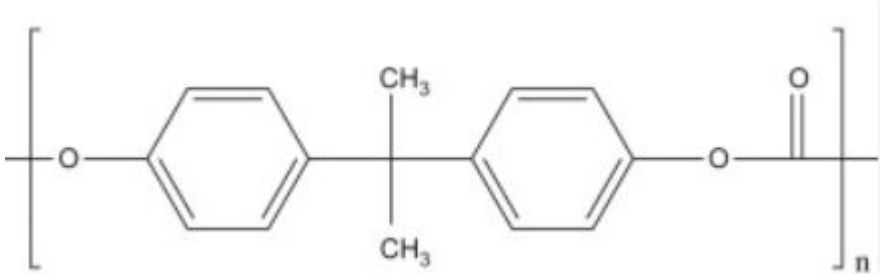
Recyclability of Polymers



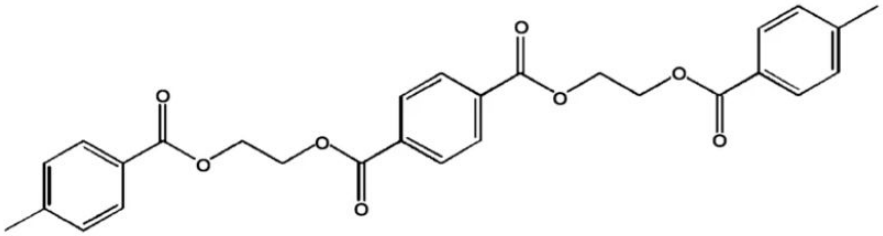
Polystyrene (PS)



Polyvinyl chloride (PVC)



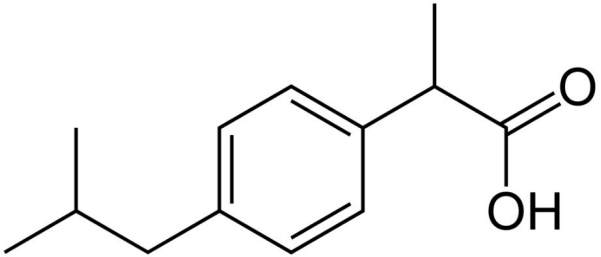
Polycarbonate (PC)



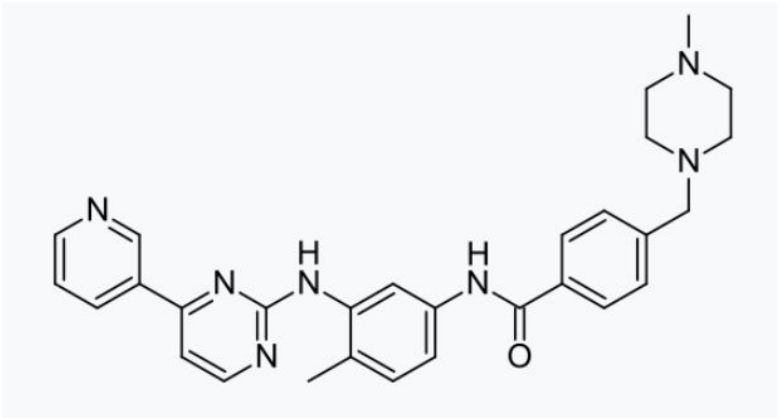
Polyethylene terephthalate (PET)

Pharmaceuticals

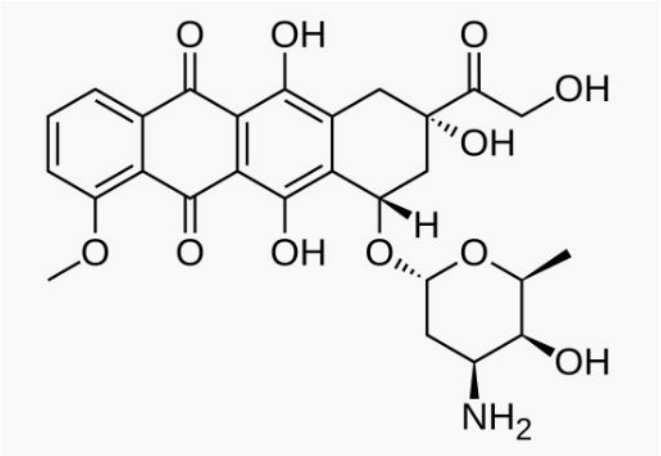
- Over 75% are aromatic!



ibuprofen



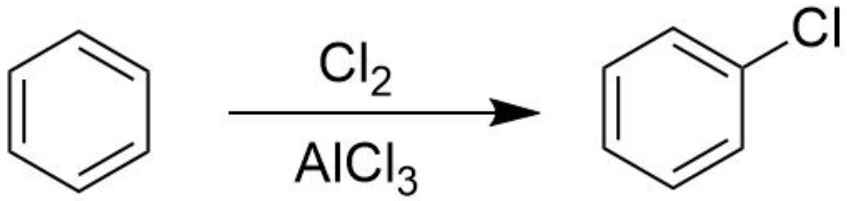
imatinib



doxorubicin

Substitution Reactions

halogenation



nitration