



Professional 1-1 Chemistry Tuition

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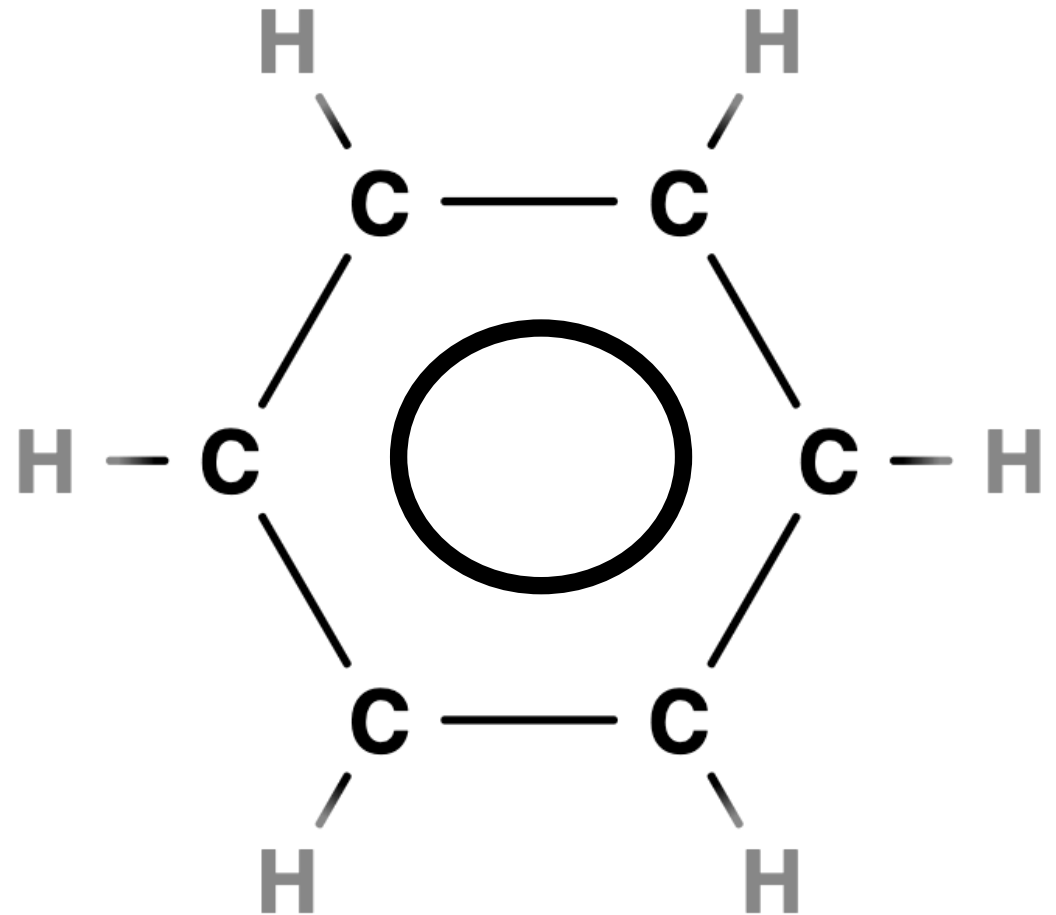
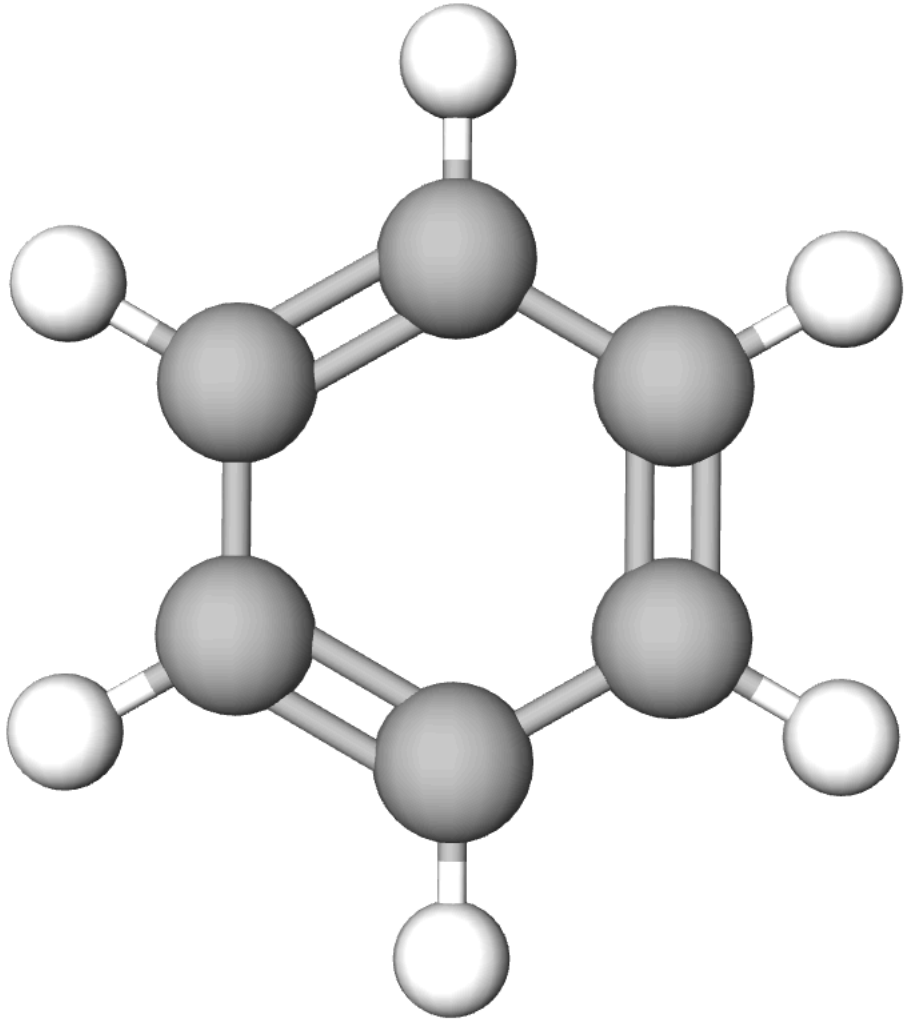
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Dr Simon Orchard

Molecular Orbital Theory - Benzene

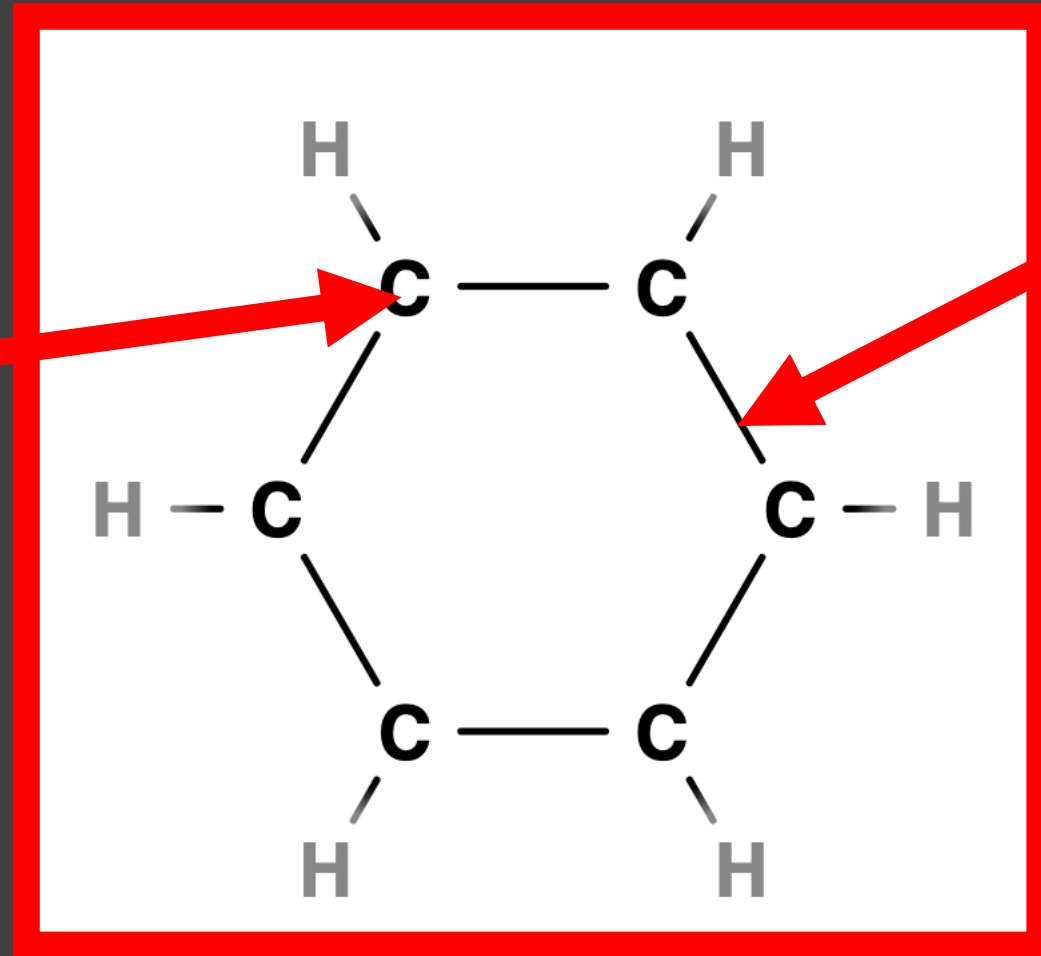
These slides may be downloaded at <https://www.chemistrytuition.net/>

Benzene



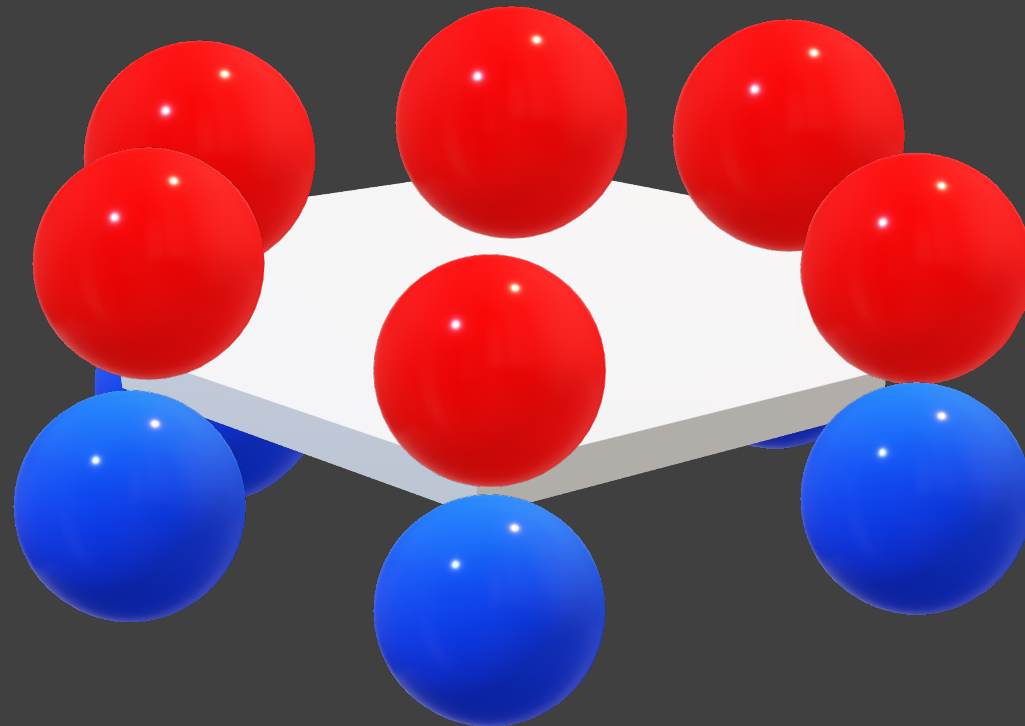
Benzene - sigma framework

Each carbon atom forms sp^2 hybrid orbitals.

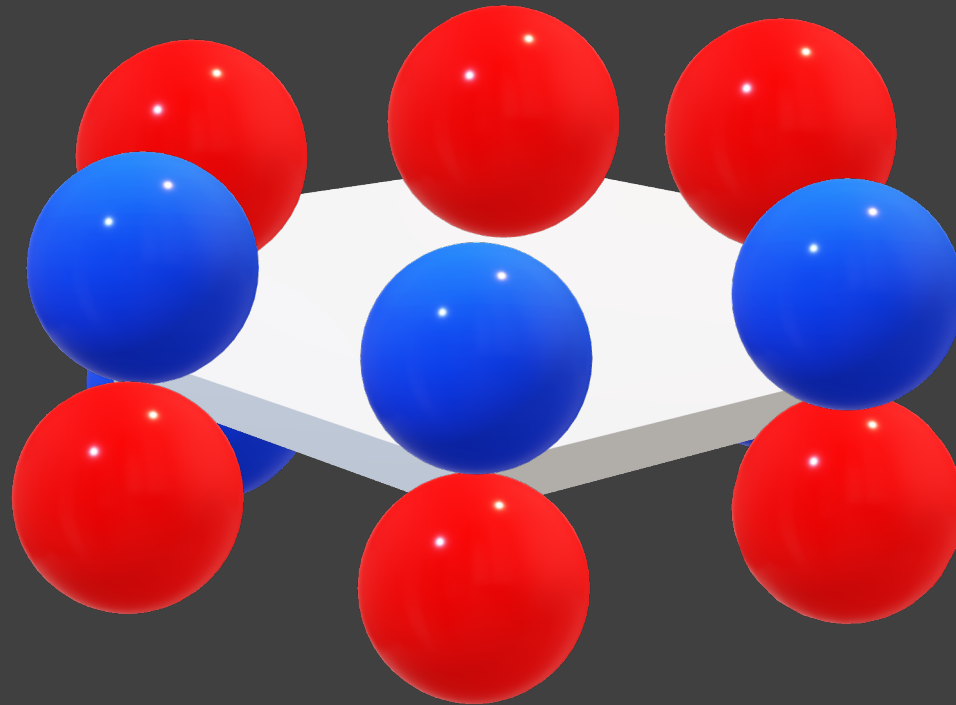


These then bond to produce three sigma molecular orbitals.

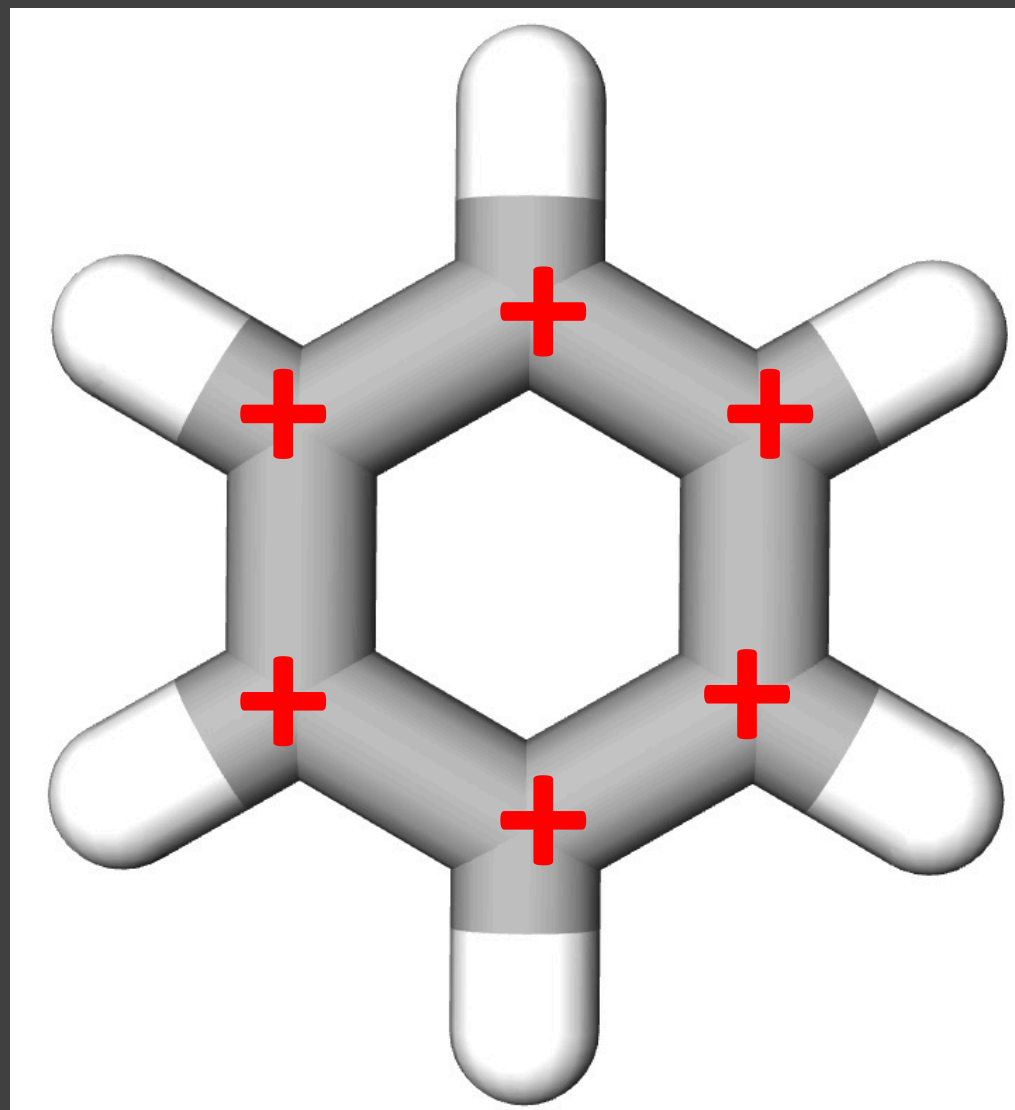
Benzene – pi bonding

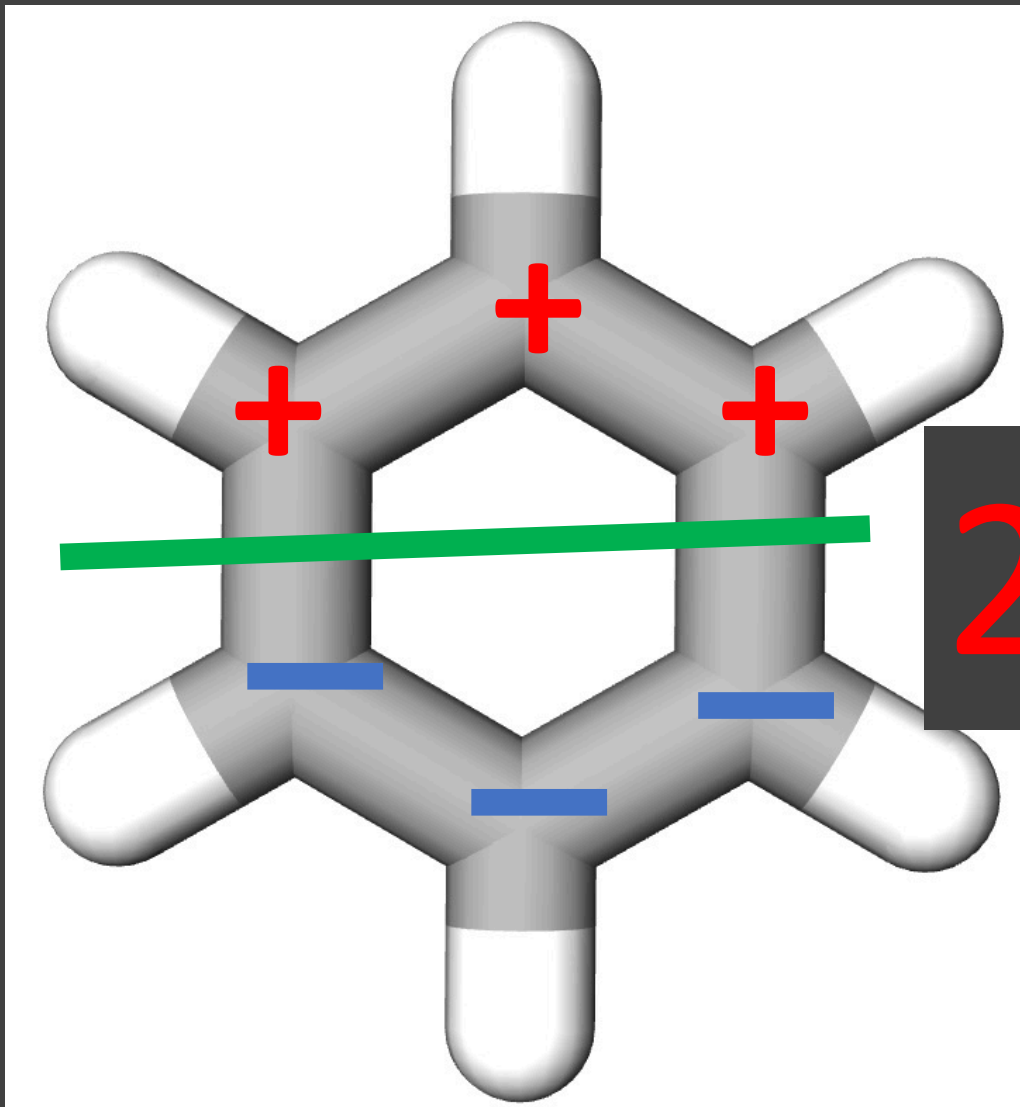


Benzene – pi bonding

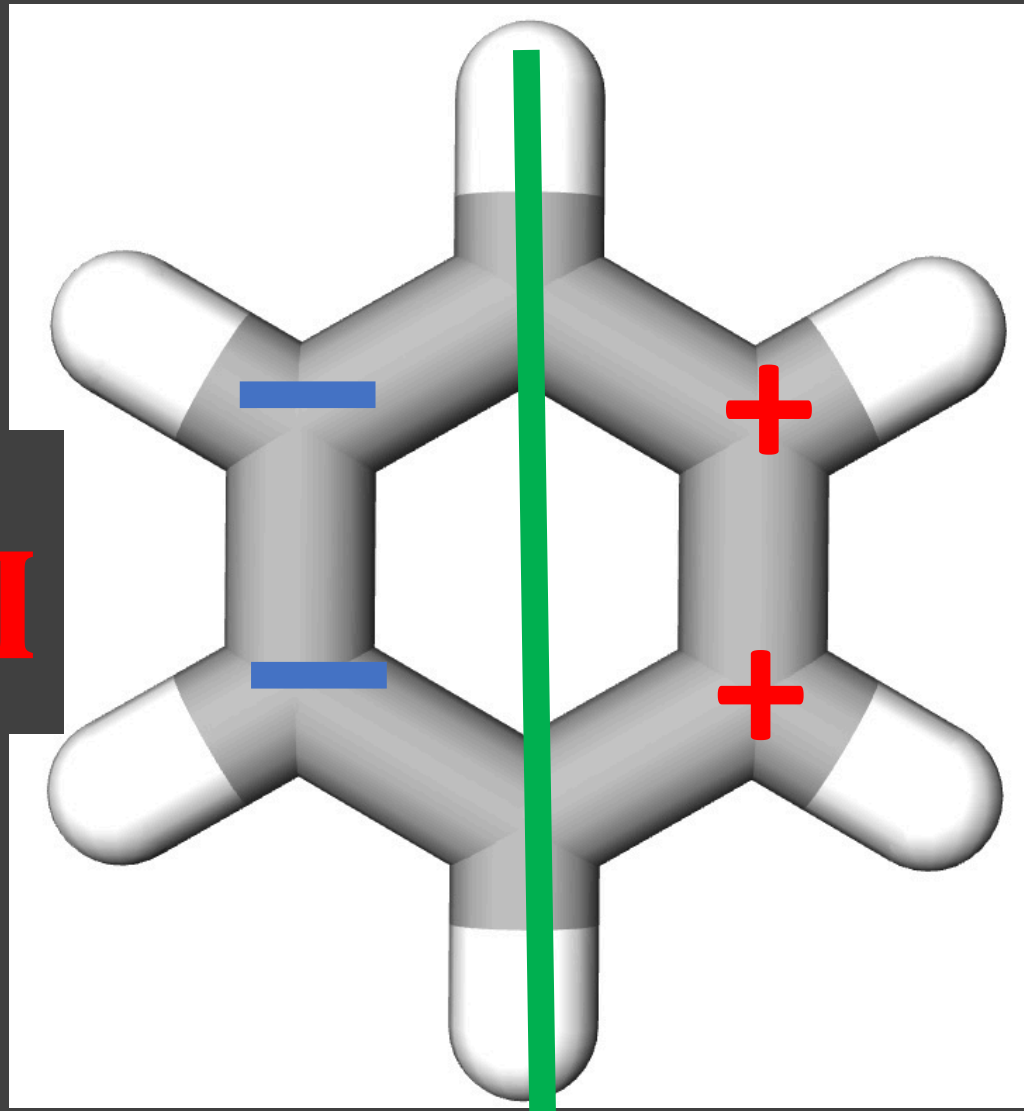


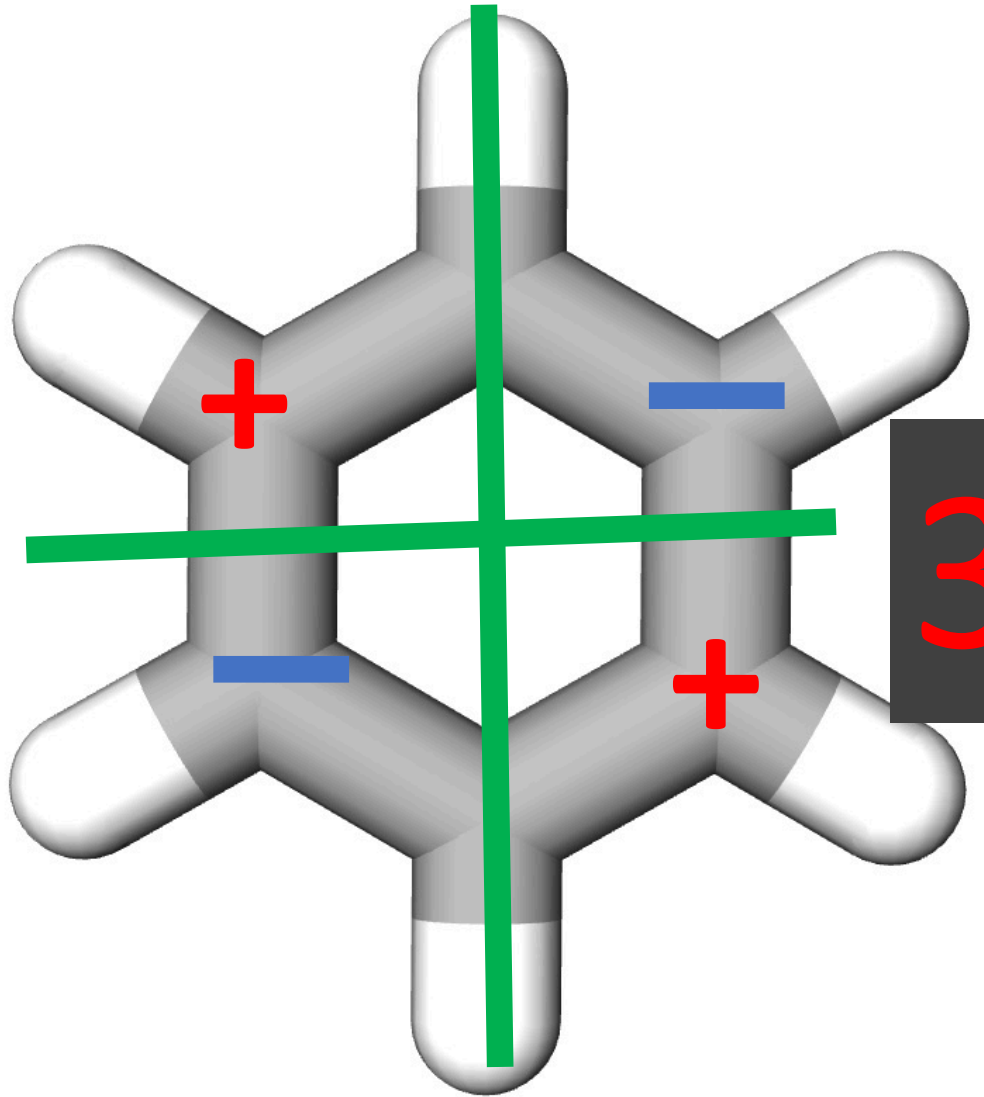
1π



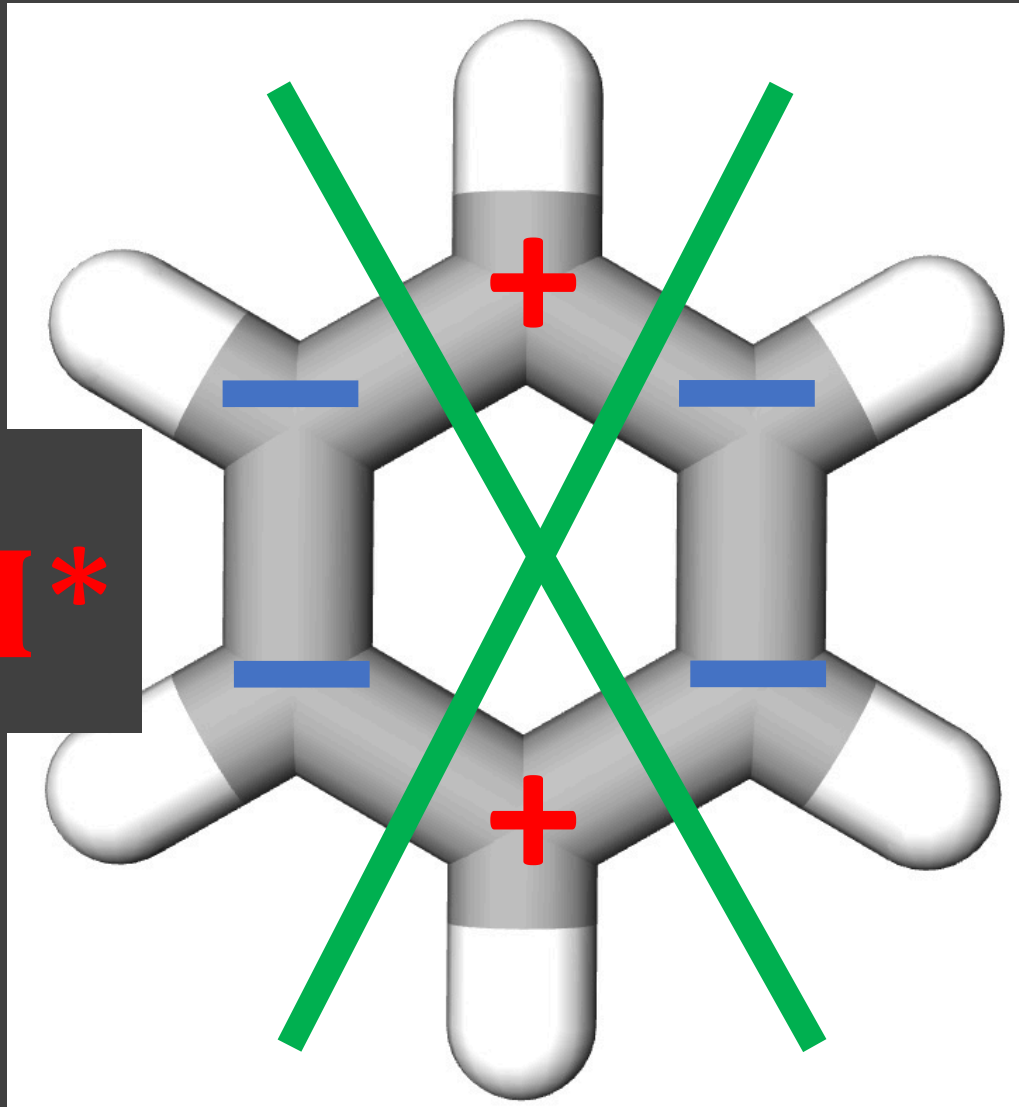


2π

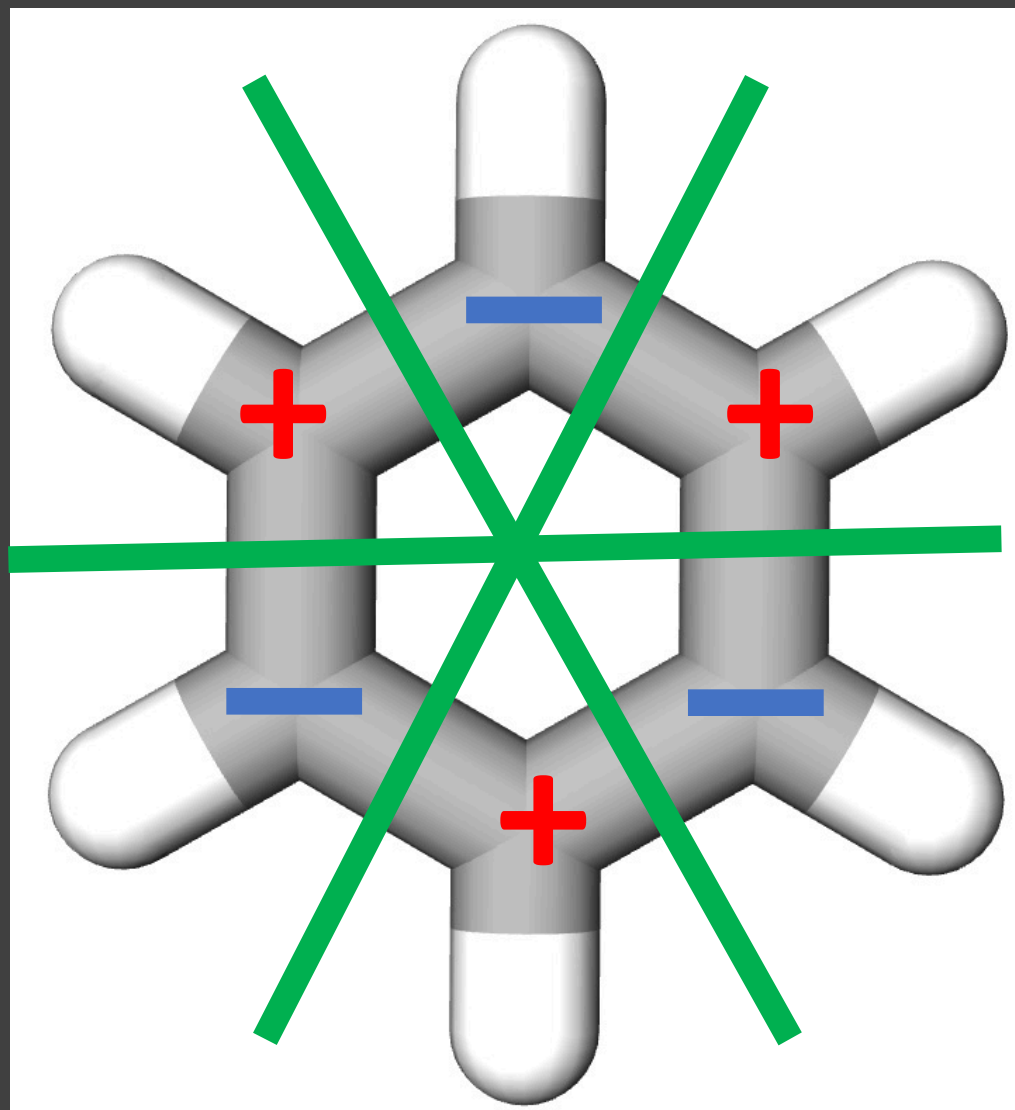




$3\pi^*$



$4\pi^*$



2p — x 6

6 atomic orbitals
combine to give 6
molecular orbitals

