

# Molecular Orbital Theory

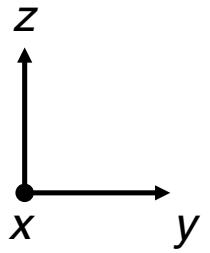
*Flash Review*

CHEM 371  
Dr. Christopher B. Durr



© 2019 by Christopher Durr, Molecular Orbital Theory Flash Review. This work is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](#).

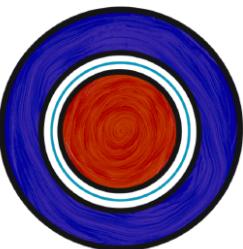
# Atomic Orbitals



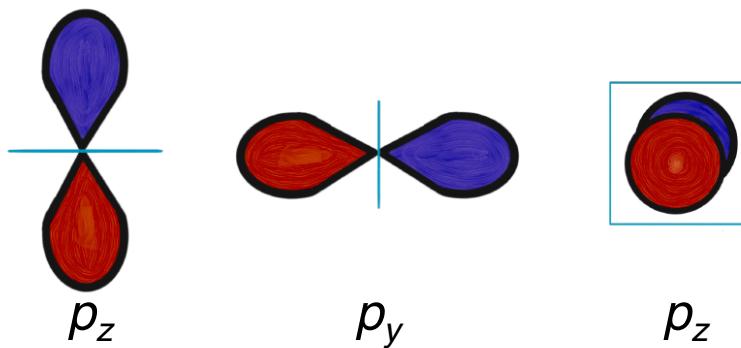
1s



2s

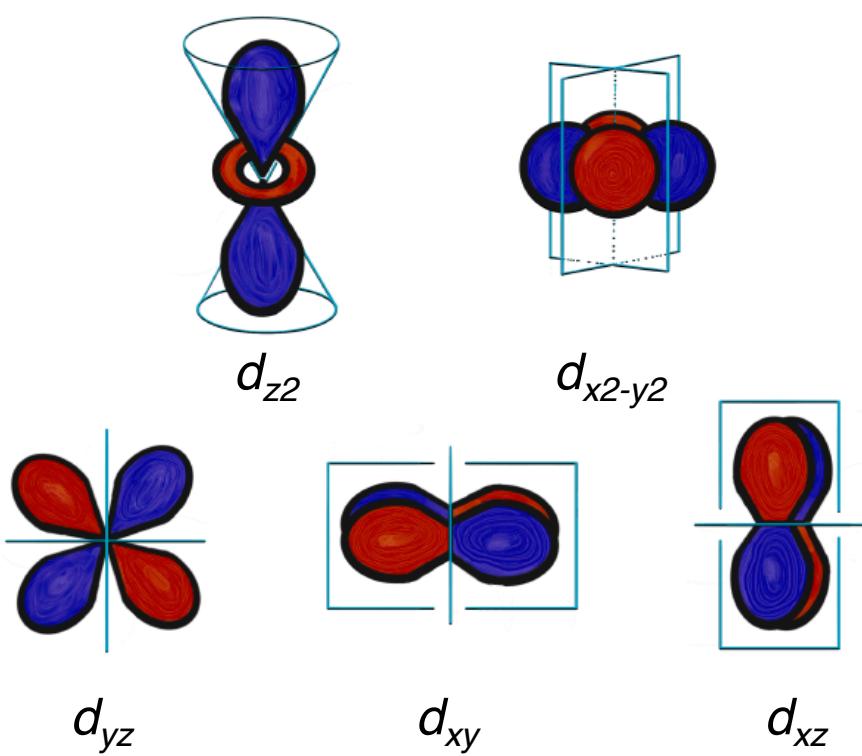


2p



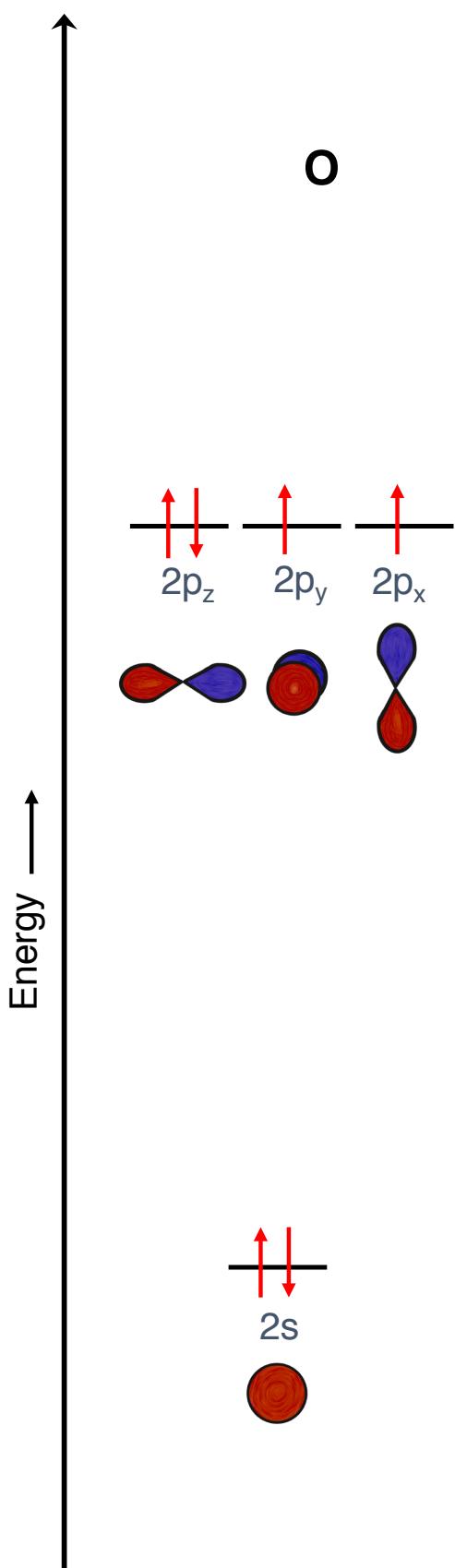
1 Radial Node

3d

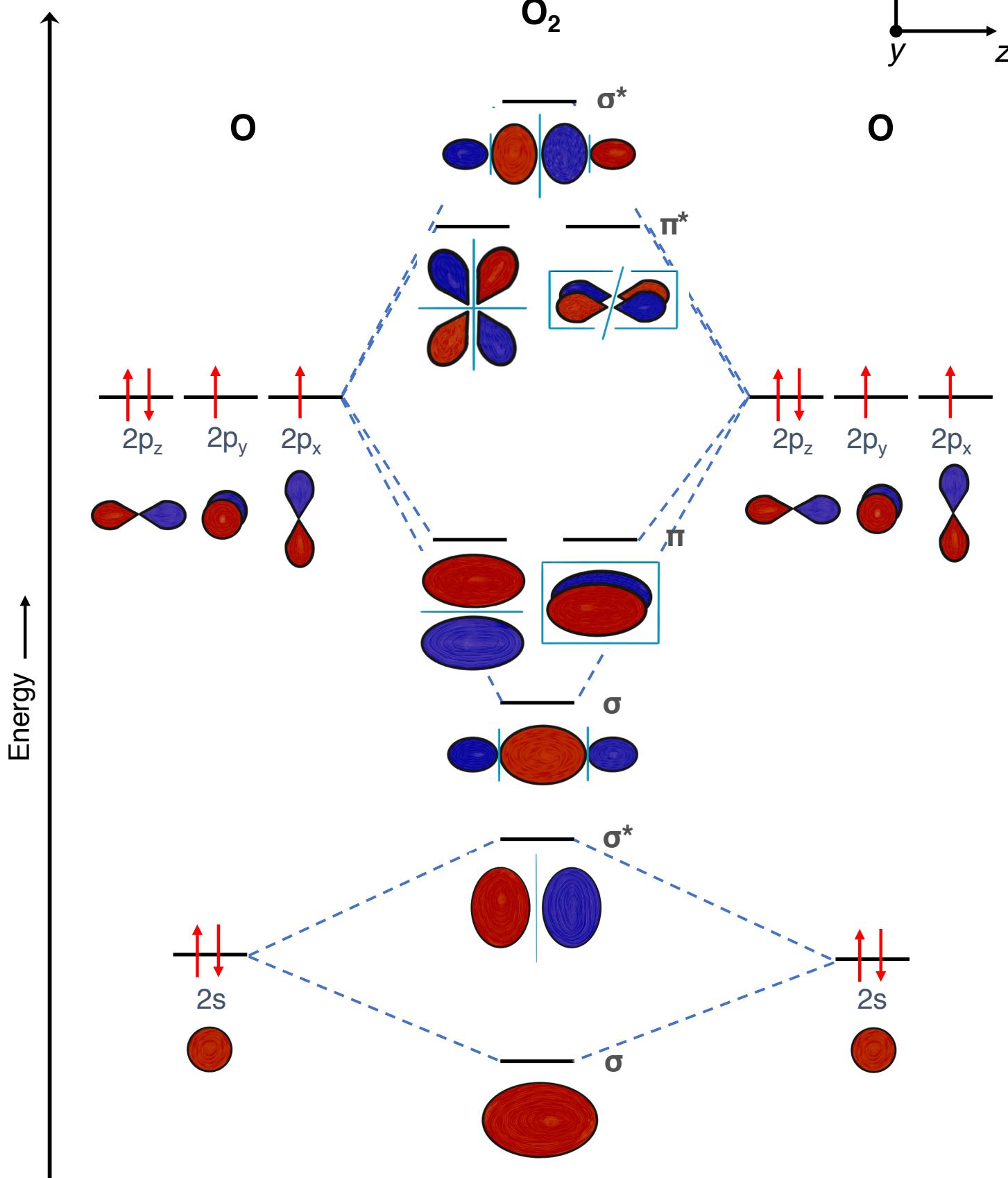
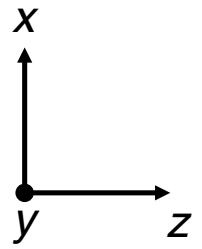


2 Planar Nodes

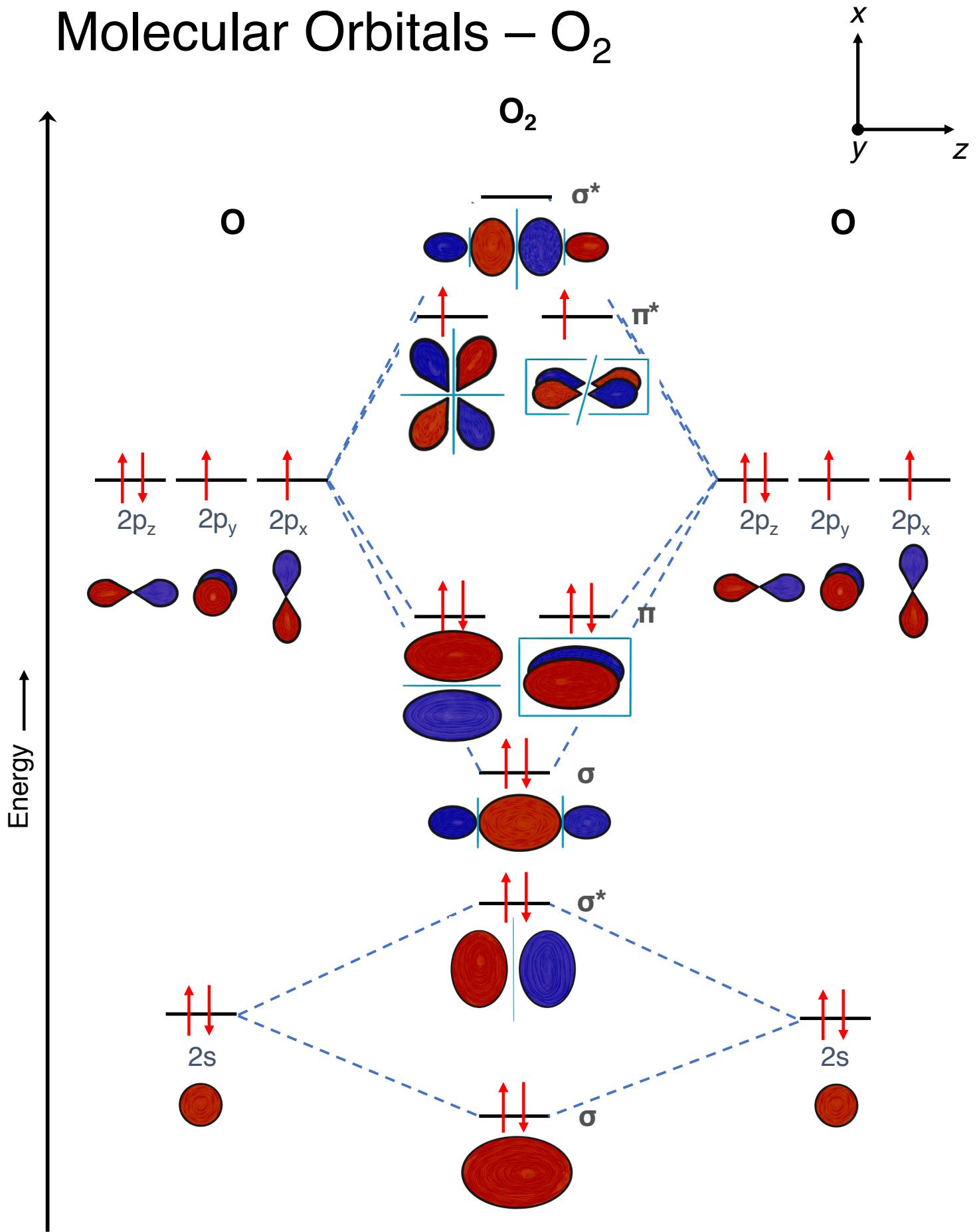
# Molecular Orbitals – O<sub>2</sub>



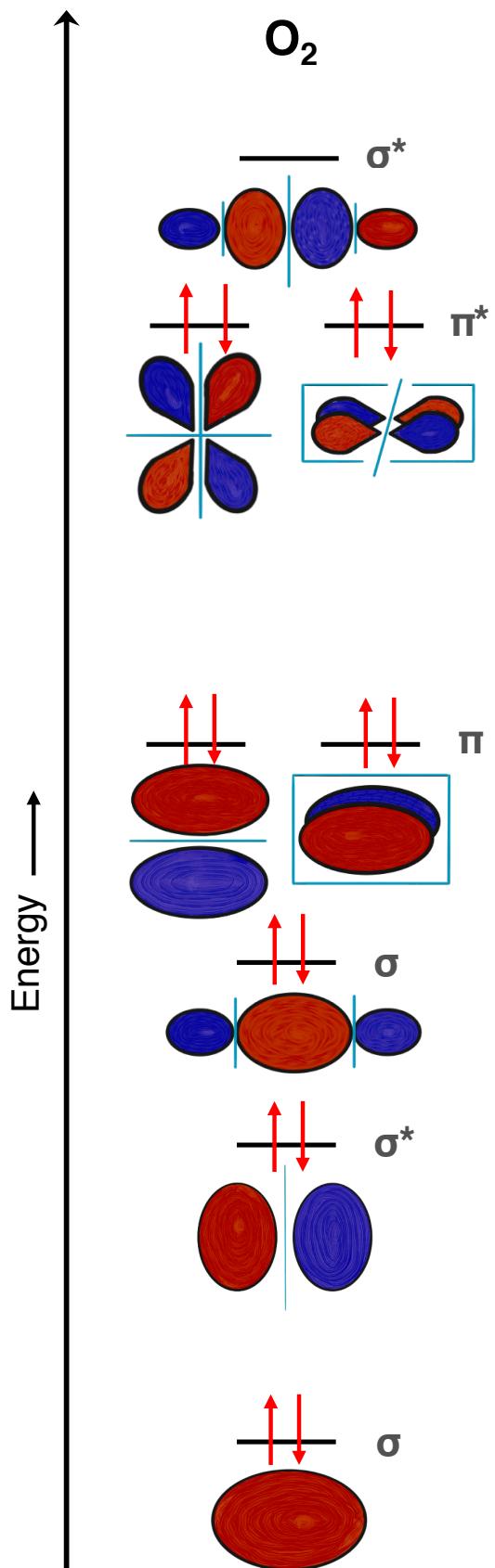
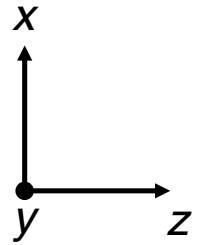
# Molecular Orbitals – O<sub>2</sub>



# Molecular Orbitals – O<sub>2</sub>

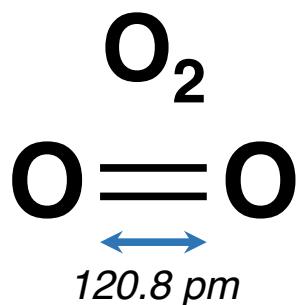


# Effect of Oxidation/Reduction

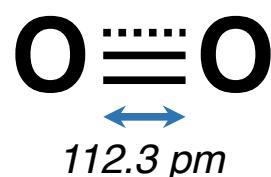


*Bond Order*

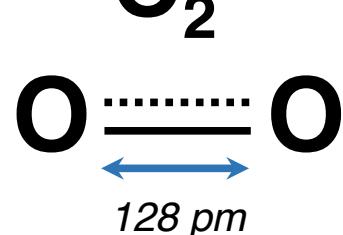
$$\frac{8 - 4}{2} = 2$$



$$\frac{8 - 3}{2} = 2.5$$



$$\frac{8 - 5}{2} = 1.5$$



$$\frac{8 - 6}{2} = 1$$

