

## 5.2: Linear Combination of Atomic Orbitals

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Learning objectives for this unit are to:

- Compare and contrast valence bond theory and molecular orbital theory
  - Classify MOs according to the type of atomic orbital interaction (s, p, d, and nb)
  - Predict the strength of different MOs (s, p, and d) based on orbital overlap
  - Sketch MOs that form from combinations of particular atomic orbital interactions
  - Explain the stabilization of bonding molecular orbitals and destabilization of antibonding molecular orbitals relative to the component atomic orbitals.
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