

5.5: Pi Bonding and Hypervalency

Learning objectives for this unit are to:

- Use group theory and the central atom generator function method to determine the symmetries and draw pictures of ligand group orbitals (LGOs) that include pi bonding interactions
 - Derive molecular orbital energy diagrams for polyatomic molecules with pi bonding based on the interactions between the central atom AOs and the LGOs
 - Explain the concept of hypervalency and identify molecules that are hypervalent
 - Determine in what cases d-orbitals may or may not participate in the formation of hybrid atomic orbitals
 - Use ionic resonance hybrids to explain bonding in hypervalent compounds
 - Use 3c-4e bonds and MO theory to explain bonding in hypervalent compounds
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