13.3.1 Molecular Orbital Theory (Video)

This project was preformed to supply **Libretext Authors** with videos on General Chemistry topics which can be used to enhance their projects. Also, these videos are meant to act as a learning resource for **all General Chemistry students**.

Video Topics

Molecular Orbital Theory: When two atoms approach each other to form a bond their individual atomic orbitals combine to form molecular orbitals (MO's). MO's are still determined by wave functions. Molecular orbitals can hold 2 e- and the electron spin must be opposite. In H2, when the 2 s orbitals approach each other the waves have constructive interference (Addition) to form a bonding molecular orbital-1s. The sigma1s MO is lower in energy than the 1s orbital. The s orbitals can also have destructive interference (Subtraction) to form an antibonding molecular orbital sigma1s*. Sigma1s* is higher in energy than the 1s orbital. The number of MO formed is equal to the number of atomic orbitals combined. MO's are filled following Hund's rule and the Pauli Exclusion Principle just like orbital diagrams.

Link to Video

Molecular Orbital Theory: https://youtu.be/XgtOG0ezw78

Attribution

- Prof. Steven Farmer (Sonoma State University)