

CHAPTER OVERVIEW

3: An Introduction to Group Theory

Many problems in chemistry can be simplified based on the symmetry of molecules and/or the symmetries of atomic and molecular orbitals. Since this course will deal mostly in the mathematical models used to describe molecular motions (rotations and vibration) and the orbitals needed to describe the electronic structure of atoms and molecules, some introduction to the mathematics of symmetry is useful. The concepts discussed in this chapter will be used through the text to demonstrate how symmetry can be used to simplify the descriptions of atomic and molecular behavior.

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