CHAPTER OVERVIEW

5: STEREOCHEMISTRY AT TETRAHEDRAL CENTERS

LEARNING OBJECTIVES

After you have completed Chapter 5, you should be able to

- fulfill all of the detailed objectives listed under each individual section.
- use molecular models in solving problems on stereochemistry.
- solve road-map problems that include stereochemical information.
- define, and use in context, the new key terms.

This chapter introduces the concept of chirality, and discusses the structure of compounds containing one or two chiral centers. A convenient method of representing the three-dimensional arrangement of the atoms in chiral compounds is explained; furthermore, throughout the chapter , considerable emphasis is placed on the use of molecular models to assist in the understanding of the phenomenon of chirality. The chapter continues with an examination of stereochemistry—the three-dimensional nature of molecules. The subject is introduced using the experimental observation that certain substances have the ability to rotate plane-polarized light. Finally, certain reactions of alkenes are re-examined in the light of the new material encountered in this chapter.