

## 1.1: Chapter Objectives and Preview of Spectroscopy

### Objective

After completing this chapter, you should be able to

- fulfill all of the detailed objectives listed under each individual section.
- define, and use in context, the key terms introduced in this chapter.
- have an understanding of how spectroscopy works in a general sense.

Throughout organic chemistry, one needs to think about the structure of a molecule because structure informs reactivity. This connection between structure and reactivity is central to organic chemistry. By looking at a structure, experienced organic chemists can already begin to gather information about the properties of a molecule. However, structure determination has not always been as quick and easy to potentially determine as it can be today, but modern spectroscopic techniques have reduced the time it once took. Spectroscopic techniques are based on the absorption of radiation from the electromagnetic spectrum. The different spectroscopic techniques can give different snapshots of the molecule's structure and lend insight to properties the molecule may have. When combining different techniques, one can get a more complete picture of the molecule, which allows one to deduce the structure of a molecule. This chapter will discuss spectroscopy in general before moving into different spectroscopic techniques and the information you can gather from the technique.

### Contributors and Attributions

- [Dr. Dietmar Kennepohl](#) FCIC (Professor of Chemistry, [Athabasca University](#))

1.1: Chapter Objectives and Preview of Spectroscopy is shared under a [not declared](#) license and was authored, remixed, and/or curated by Lauren Reutenauer.