Assignment of structures is a central problem which NMR is well suit to address. Explains how both $^{13}$C NMR spectra and low and high resolution proton NMR spectra can be used to help to work out the structures of organic compounds.

- **$^{13}$C NMR Background**
  - Carbon-13 NMR
- **Interpreting C-13 NMR Spectra**
- **Symmetry in NMR**
- **$^{13}$C NMR and Geometry**
- **$^{13}$C NMR and Electronics**
- **More About Electronics**
- **Proton NMR Background**
- **Chemical Shift in $^1$H NMR**
- **Low Resolution Proton NMR Spectra**
- **High Resolution Proton NMR Spectra**
- **Integration in Proton NMR**
- **Multiplicity**
- **More About Multiplicity**
- **Determine Structure with Combined Spectra**
- **More Practice with NMR Spectroscopy**

- **Chapter 5: Structure Determination II: Nuclear Magnetic Resonance**
  - **Section 5.1: The origin of the NMR signal**
  - **Section 5.2: Chemical equivalence**
  - **Section 5.3: The NMR experiment**
  - **Section 5.4: The basis for differences in chemical shift**
  - **Section 5.5: Spin-spin coupling**
  - **Section 5.6: $^{13}$C-NMR spectroscopy**
  - **Section 5.7: Determining unknown structures**
  - **Section 5.8: NMR of phosphorylated molecules**
  - **Section 5.P: Problems for Chapter 5**

**NMR Appendix. Useful Charts for NMR identification**