



Chem 342 • Organic Chemistry II

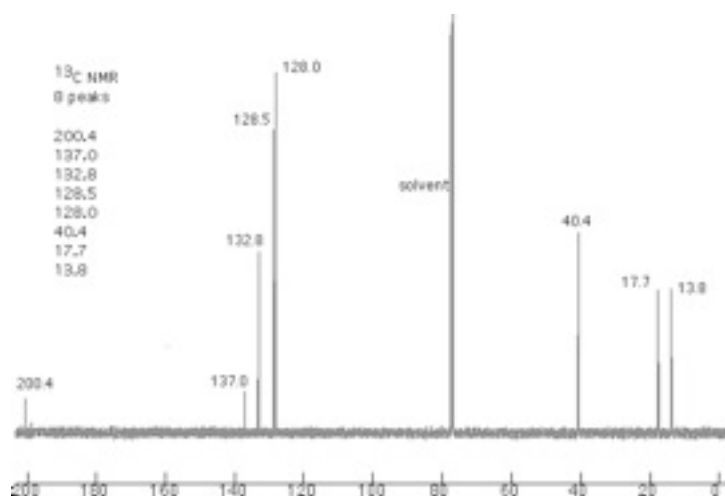
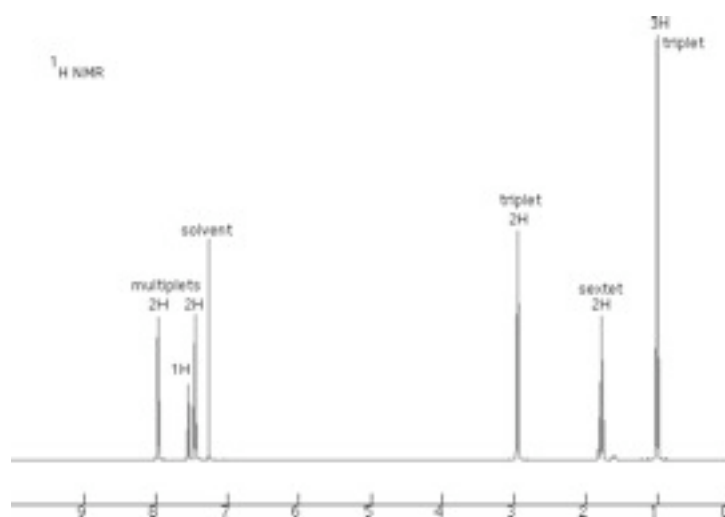
Suggested Problems for Chapter 13

Suggested problems from your text:

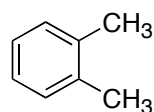
13.3, 13.6, 13.7, 13.8, 13.10, 13.14, 13.17, 13.19, 13.20, 13.21, 13.23, 13.25, 13.26, 13.32, 13.33, 13.35, 13.38, 13.40, 13.41, 13.43, 13.44, 13.47, 13.49, 13.50, 13.52, 13.54, 13.56, 13.58, 13.59

Additional Practice Problems:

1. How many degrees of unsaturation does a molecule with the formula $C_{11}H_{13}N_2Cl$ have?
2. Which of the following sets of data would match the proton NMR of ethanol (CH_3CH_2OH)?
 - a) 1.2 ppm (triplet, 3H); 2.6 ppm (singlet, 1H); 3.8 ppm (quartet, 2H)
 - b) 1.2 ppm (quartet, 3H); 2.6 ppm (singlet, 1H); 3.8 ppm (triplet, 2H)
 - c) 1.2 ppm (singlet, 3H); 2.6 ppm (singlet, 1H); 3.8 ppm (singlet, 2H)
3. Use the following 1H and ^{13}C NMR data to determine the structure of a molecule with the molecular formula $C_{10}H_{12}O$.

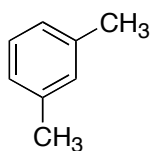


4. The three compounds shown below, ortho-, meta-, and para-xylene have very different ^{13}C NMR spectra. Match the structures with the correct spectra.



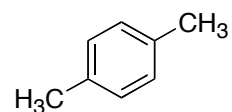
ortho-xylene

A



meta-xylene

B



para-xylene

C

