

Week 2

Spectrometry

2.1 Office Hours (Snyder)

- 1/17:
- Does cyclohexane only have one ^{13}C NMR signal, and only one ^1H NMR signal?
 - 1 singlet for ^{13}C .
 - 1 singlet for ^1H .
 - We don't integrate carbon.
 - We only integrate to compare things.
 - We won't have to deal with cyclohexane conformations wrt. NMR on any test.
 - What do we need to know about the Karplus correlation?
 - We won't need it for problems.
 - It's useful, but we've got other things to worry about.
 - Do chemists/when do chemists run ^{13}C NMR experiments with all carbons isotopically carbon-13?
 - Is the reason we don't integrate carbon because the placing of the carbon-13s is random? Would the proportions not still be representative?
 - For ^1H NMR, feel free to draw in the hydrogen atoms on the line-angle structure.
 - Multiplying $n + 1$ of different types of neighbors (e.g., if a hydrogen has 3 neighboring hydrogens to one side and 2 neighboring hydrogens to the other side, it has a maximum of $(3 + 1)(2 + 1) = 12$ peaks in its signal).
 - The multiplication analysis applies only to chains that are completely different.