Chapter 13 - Nuclear Magnetic Resonance Spectroscopy

^{13}C NMR Spectroscopy

The intensity of peaks in the carbon 13 NMR has a loose correlation with the number of H's attached to that carbon. In particular, carbons with no hydrogens on them are usually small peaks.

A DEPT spectra (Distortionless Enhancement by Polarization Transfer) can tell you how many different H's are attached to each carbon. In a DEPT experiment, three spectra are displayed. One shows all the different carbons in the molecule, one shows only the carbons with ONE hydrogen attached. The third shows all carbons with an odd number of H's attached as a positive peak (CH and CH_3) and carbons with an even number (CH_2) as a negative peak.

Recognize the chemical shifts as it relates to functional group changes (see C13 NMR handout).

Simple symmetry information (number of different carbons) can tell you a lot.