

Jigsaw 1D

Keeler Section 2.4. The basic NMR experiment

1. In a ^1H NMR spectrum of CHCl_3 at natural abundance, can we observe the heteronuclear ^1H - ^{13}C J-coupling? Why or why not?
2. When we acquire an NMR spectrum for a given amount of sample, what can we do to improve the signal-to-noise ratio?
3. Why does broadband decoupling eliminate multiplets in ^{13}C spectra?
4. Why are ^{13}C spectra usually recorded with decoupling?