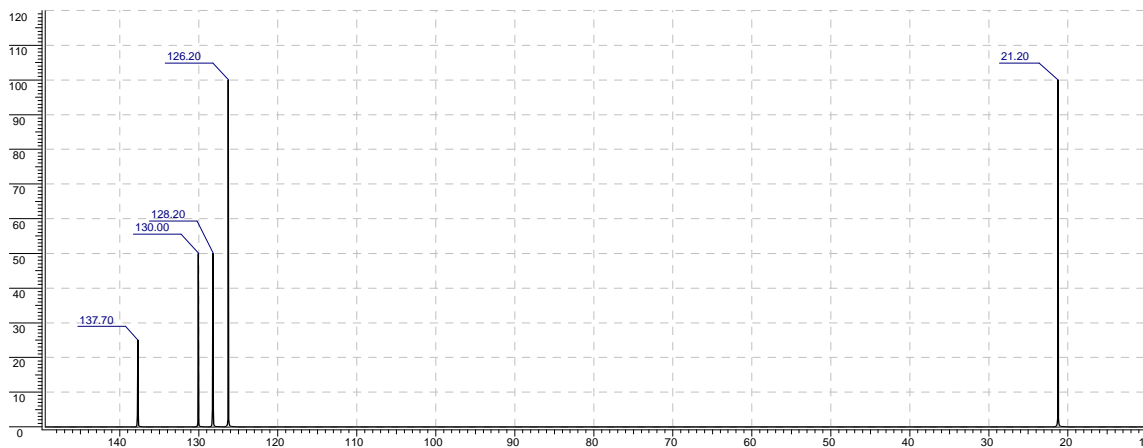
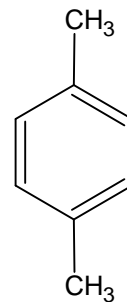
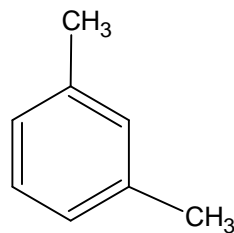
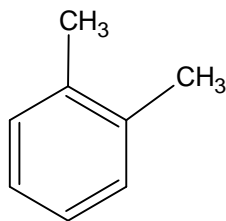


NMR Short Course 2010

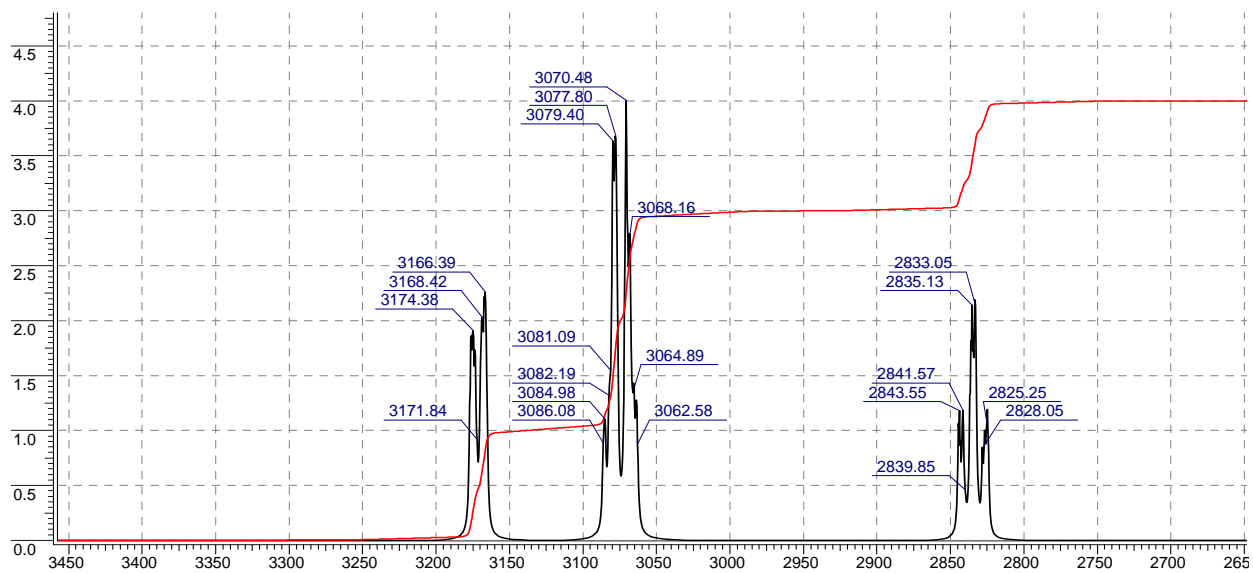
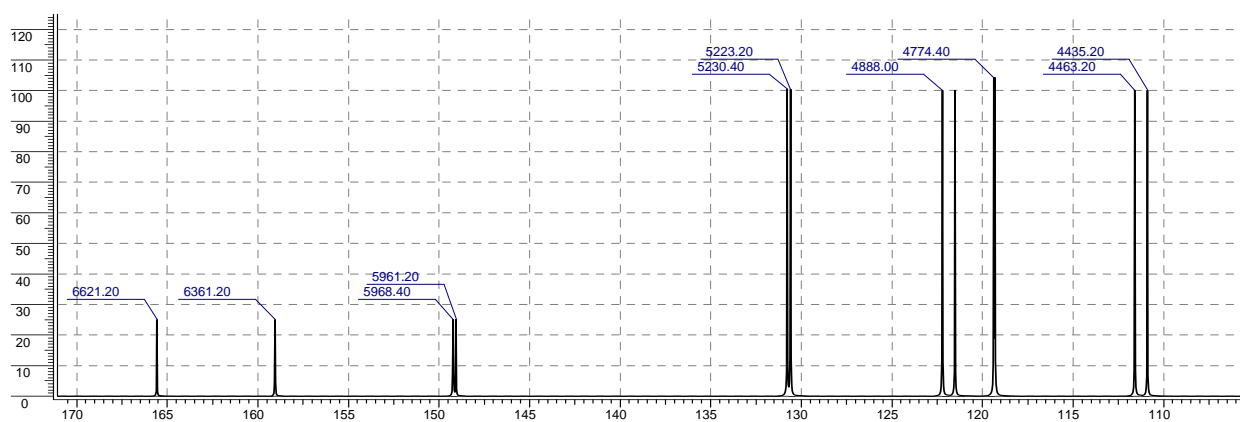
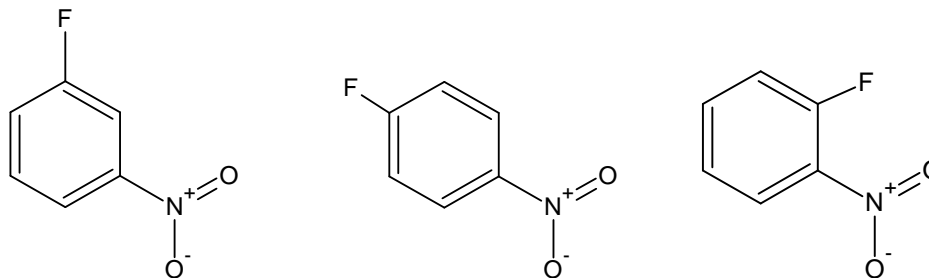
Problem Set II

1. Which of the three isomers of xylene gives a ^{13}C spectrum as following.

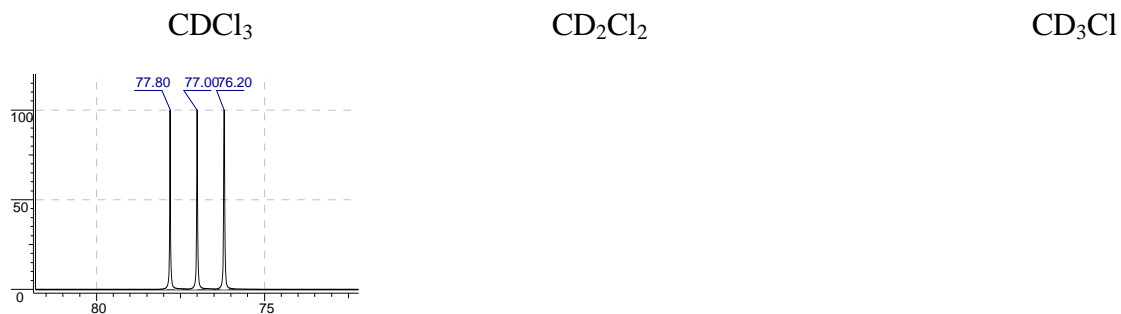


Draw a proton spectrum that is corresponding to above carbon spectrum, including their couplings.

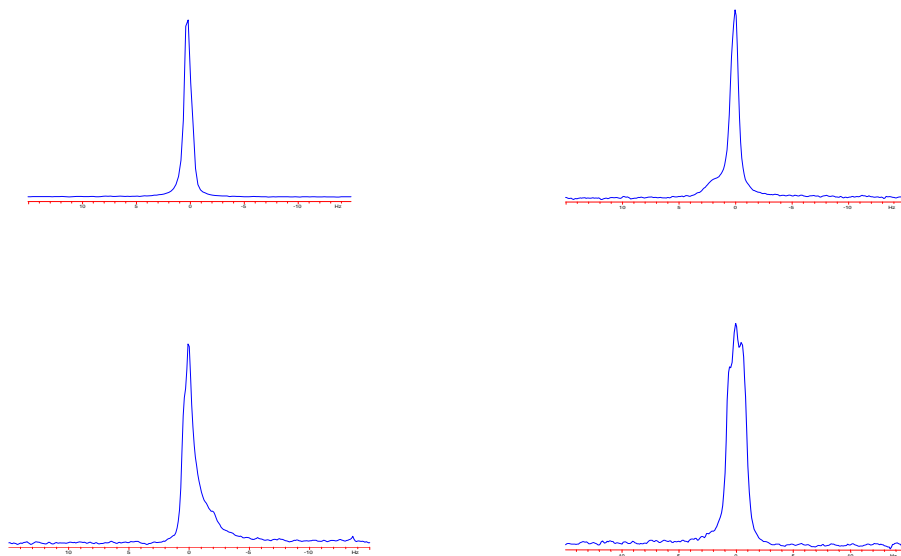
If it is too easy, then try this one? Sign all the peaks if possible. (Tip: One-bond F-C coupling is more than 200 Hz; two-bond F-C-C coupling is about 30 Hz).



2. Draw the coupled ^{13}C spectra of each compound. ^2H I=1



3. Which shim should be adjusted by exam the CHCl_3 peak? The first one is well shimmed. How do you know the peaks nearby the main peak are spin-side-band, noise or real signals from the sample?



4. Assign the carbon spectrum of the compound as many as you could, according to the APT experiment.

