1. The compound with formula $\text{C}_{11}\text{H}_{13}\text{OCl}$ gave the $^1\text{H}$- and $^{13}\text{C}$-NMR spectra below.
   
   a. Calculate the degree of unsaturation for this compound.
   b. Propose a structure that is consistent with the provided spectroscopic data.
   c. In your final structure label the non-equivalent hydrogens with a, b, c… and write the same letter next to the corresponding peak in the spectrum.

There are 6 carbons between 120 – 140 ppm
2. The compound with formula $\text{C}_{15}\text{H}_{20}\text{O}$ gave the $^1\text{H}$- and $^{13}\text{C}$-NMR spectra below.

a. Calculate the degree of unsaturation for this compound
b. Propose a structure that is consistent with the provided spectroscopic data.
c. In your final structure label the non-equivalent hydrogens with $a$, $b$, $c$… and write the same letter next to the corresponding peak in the spectrum.
3. The compound with formula $\text{C}_{11}\text{H}_{14}\text{O}_2$ gave the $^1\text{H}$- and $^{13}\text{C}$-NMR spectra below
   
   a. Calculate the degree of unsaturation for this compound
   b. Propose a structure that is consistent with the provided spectroscopic data.
   c. In your final structure label the non-equivalent hydrogens with $a$, $b$, $c$… and write the same letter next to the corresponding peak in the spectrum.
4. The compound with formula $\text{C}_9\text{H}_{12}\text{O}$ gave $^1\text{H}$-NMR and $^{13}\text{C}$-NMR spectra below.

a. Calculate the degree of unsaturation for this compound.

b. Propose a structure that is consistent with the provided spectroscopic data.

c. In your final structure label the non-equivalent hydrogens with $a, b, c...$ and write the same letter next to the corresponding peak in the spectrum.