1. (10) Note the following reaction sequence:

A → NaH → B + H₂ → C + CH₃Br

Identify compounds A, B, and C using the above info together with the following ¹H NMR, IR, and mass spectra for C.
2. (10) Draw the only structure with formula $\text{C}_5\text{H}_8\text{Cl}_4$ that is compatible in terms of the number of signals with the following $^1\text{H}$ and $^{13}\text{C}$ NMR spectra.
3. (4) Indicate the number of different hydrogen and carbon environments in each of the following molecules.

![Molecule 1](image1)

![Molecule 2](image2)