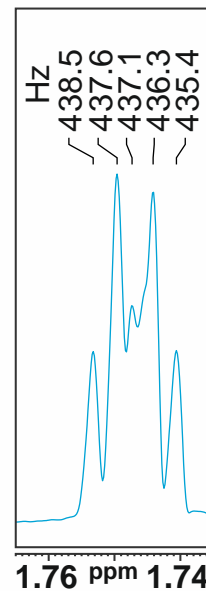
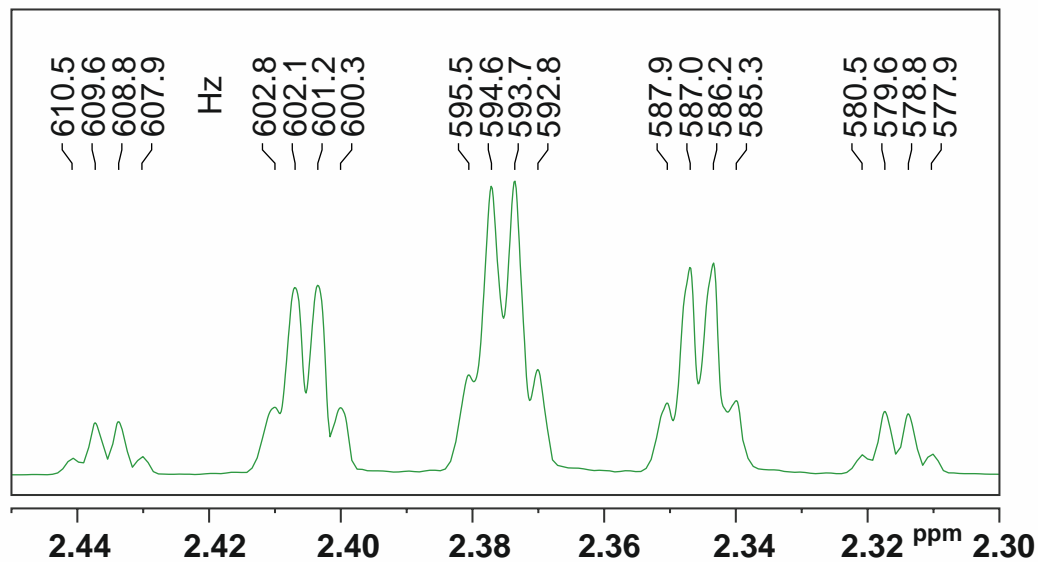
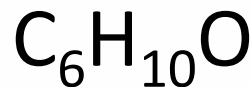
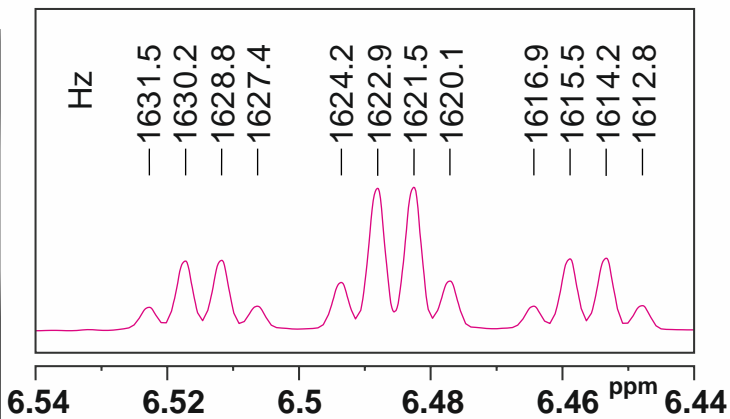




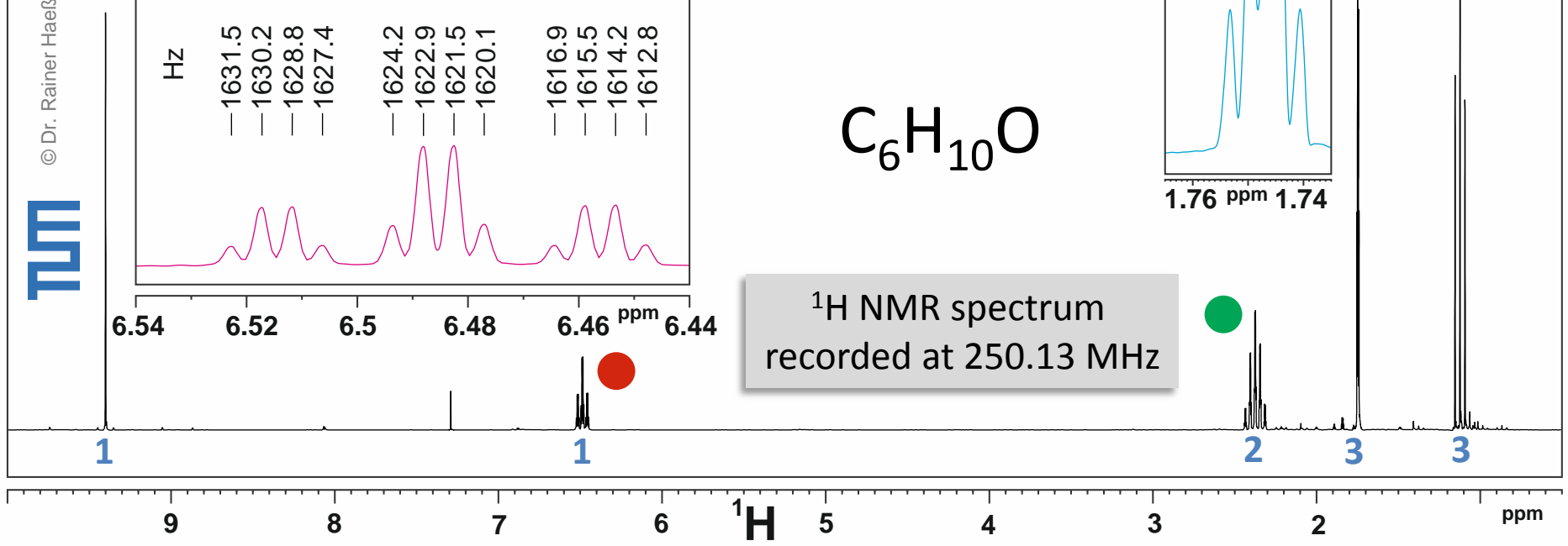
ppm
— 9.40



Hz
288.6
281.0
273.5



1H NMR spectrum recorded at 250.13 MHz



1H ppm

Problem of the Month:

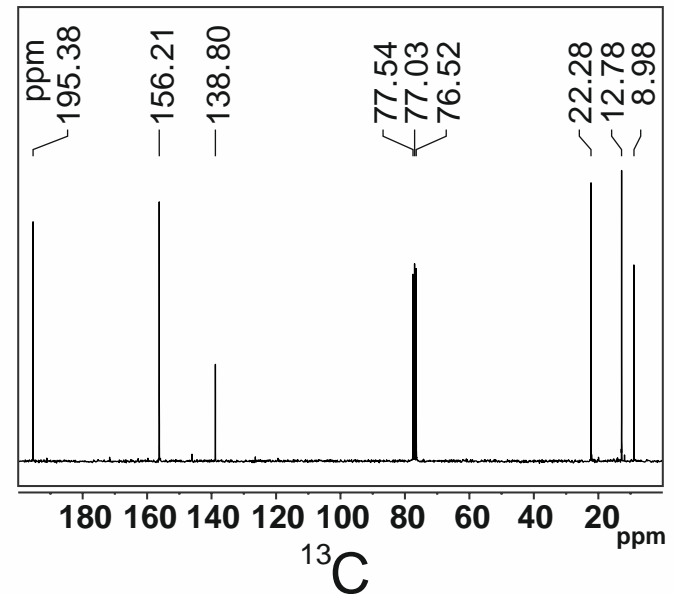
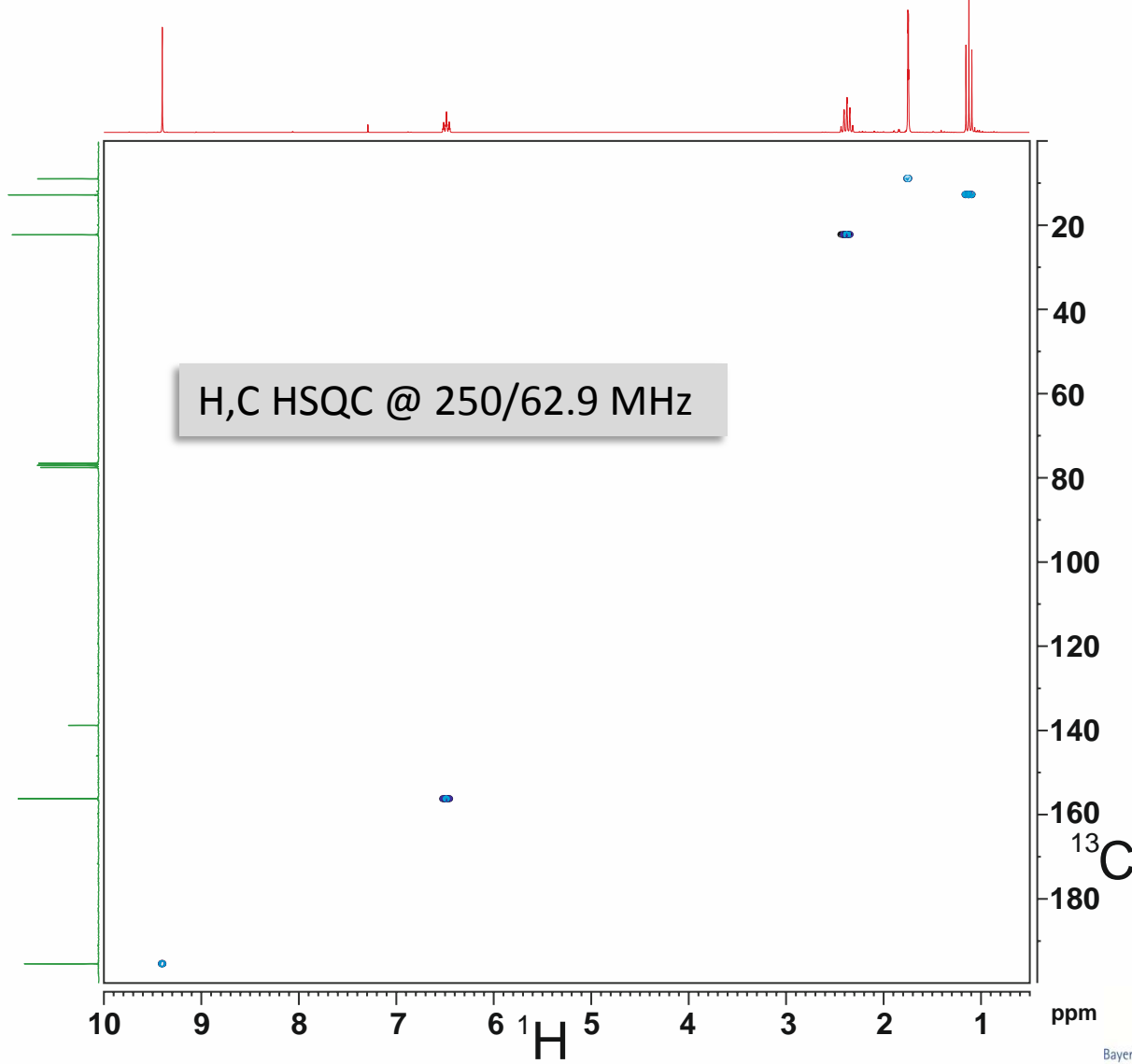
February 2020

Goals and hints

- (1) Get the constitution.
 - (2) Assign all proton and carbon signals.
 - (3) Extract all three- and four-bond homonuclear coupling constants.
 - (4) Analyze the splitting pattern of the proton signal at 2.375 ppm. You may simulate individual multiplets by trying a multiplet simulator (check out the one at www.nmr.cheminfo.org)
- (Hint 1) It's always helpful to calculate the degree of unsaturation (DBE) from the molecular formula.
- (Hint 2) The HSQC is usually the best method to find all or at least most of the building blocks

Problem of the Month: February 2020

H,C HSQC @ 250/62.9 MHz



$^{13}\text{C}\{^1\text{H}\}$ decoupled
NMR spectrum (62.9 MHz)

This HMBC is not really required, use it to check your result

Please note some one-bond correlations and the totally missing cross peaks for one of the protons

