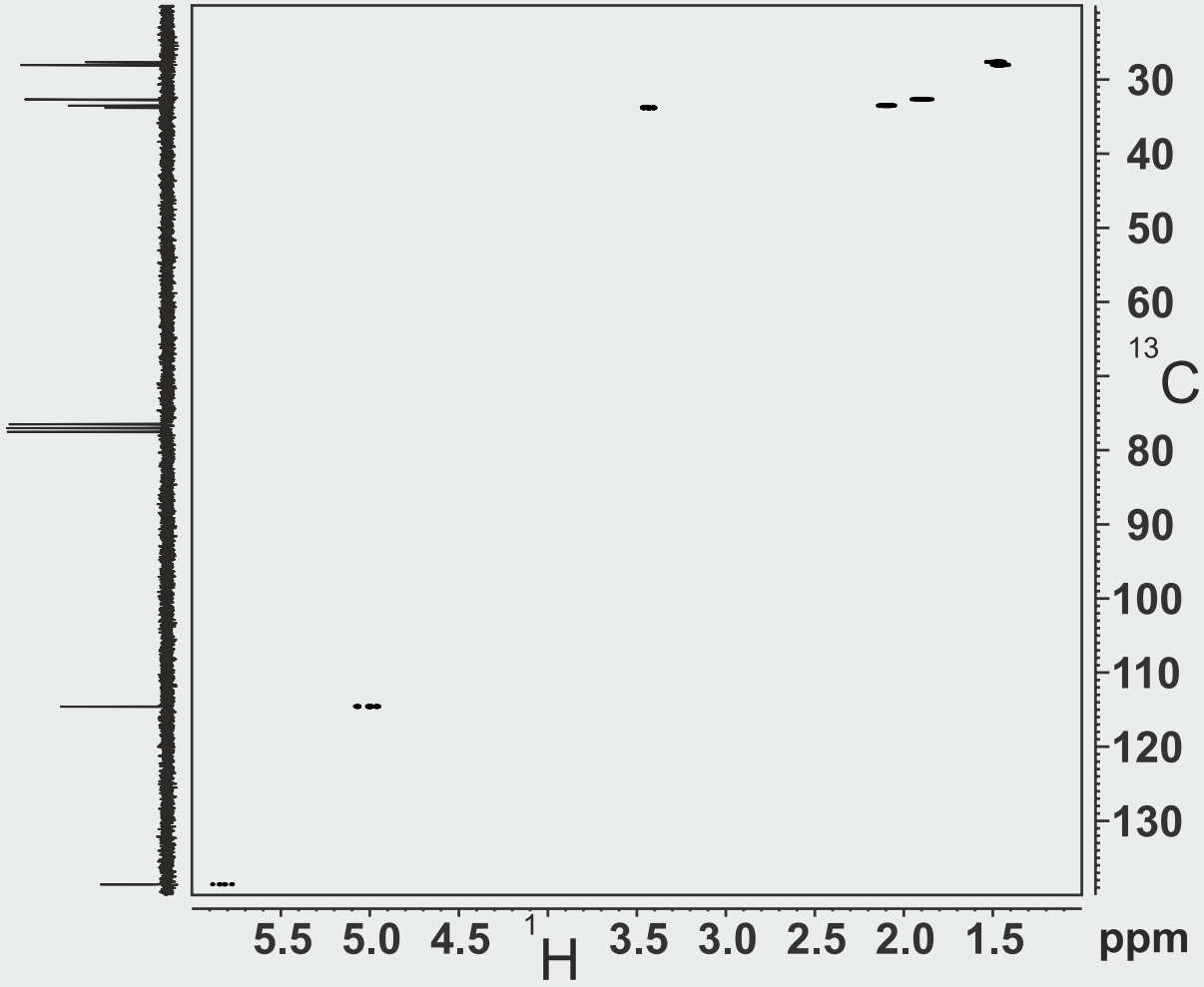
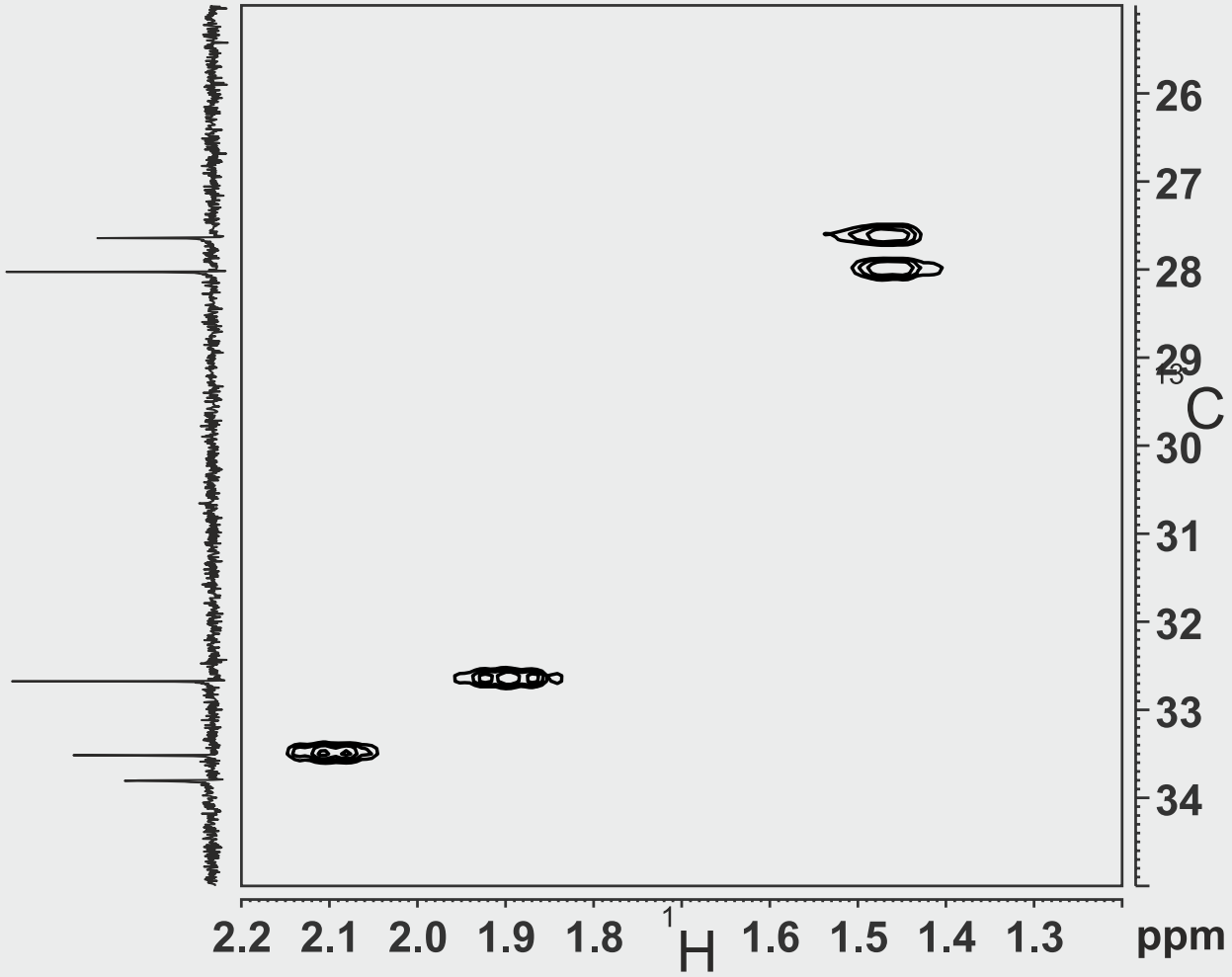
Exercise plus Solution – Quick overview

It is recommended to use this version only for a quick overview of the NMR challenge. All animations of the PowerPoint version are missing, under certain circumstances quality deficiencies may also occur.
The higher quality PowerPoint files are freely available for download at any time.

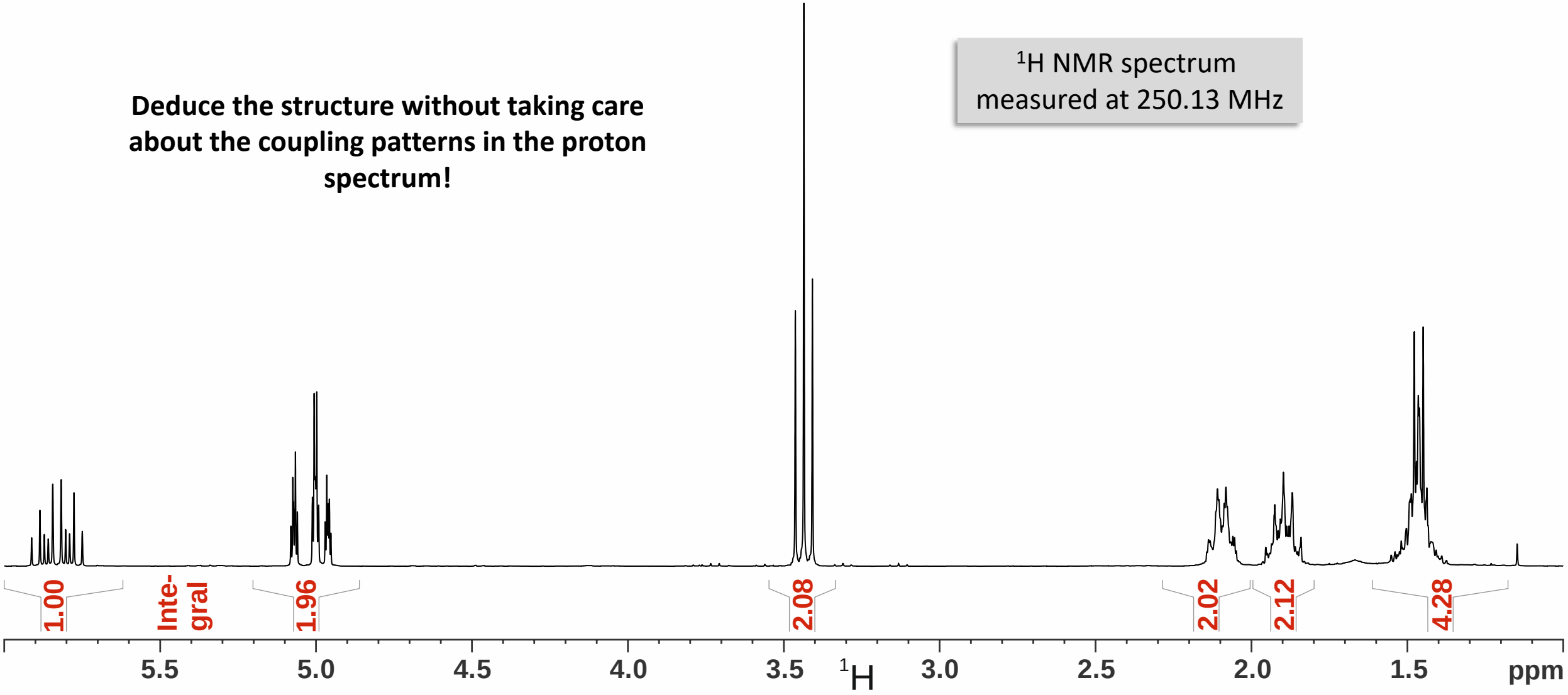


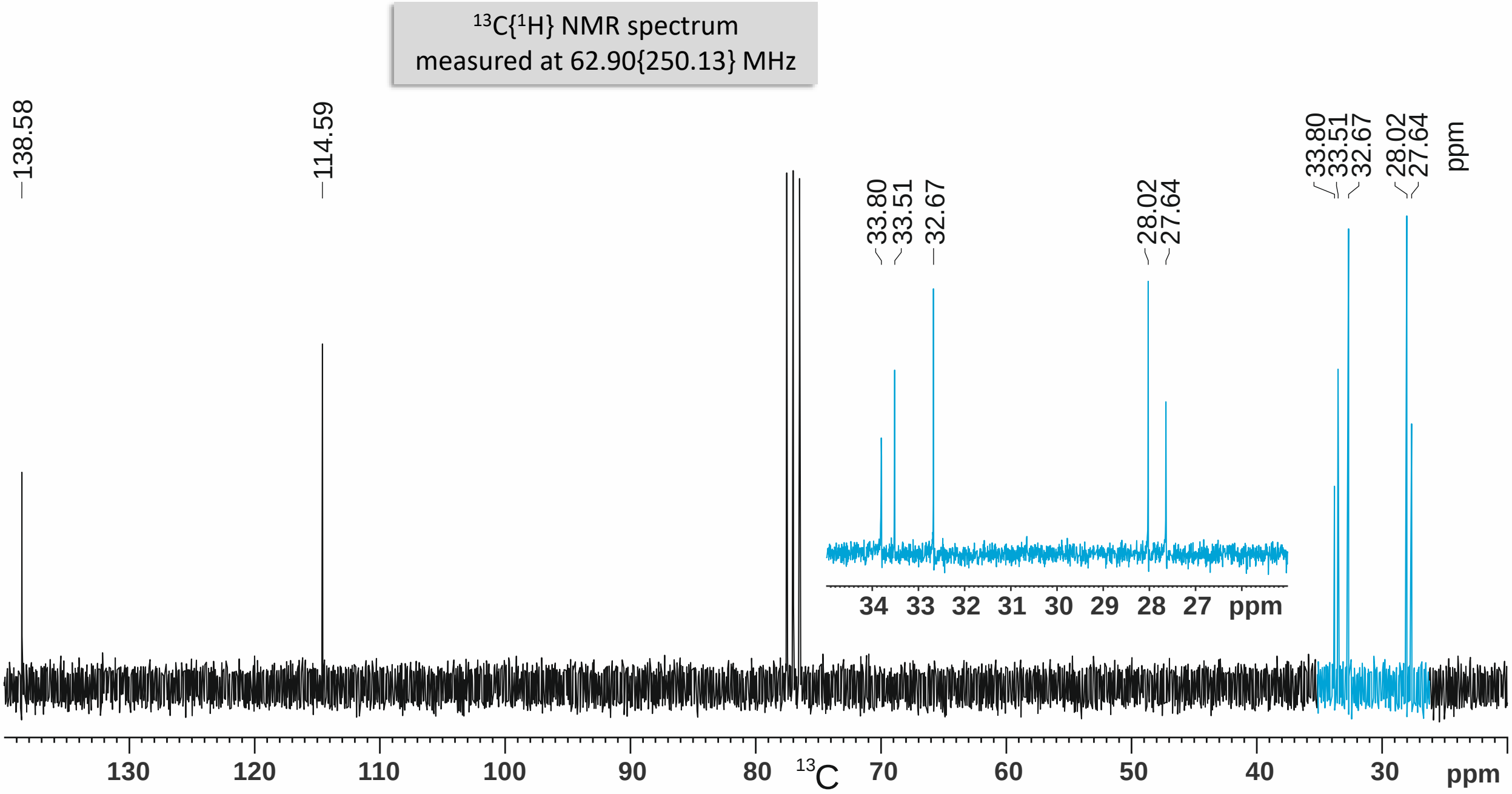


$C_7H_{13}Br$ measured in $CDCl_3$

Deduce the structure without taking care about the coupling patterns in the proton spectrum!

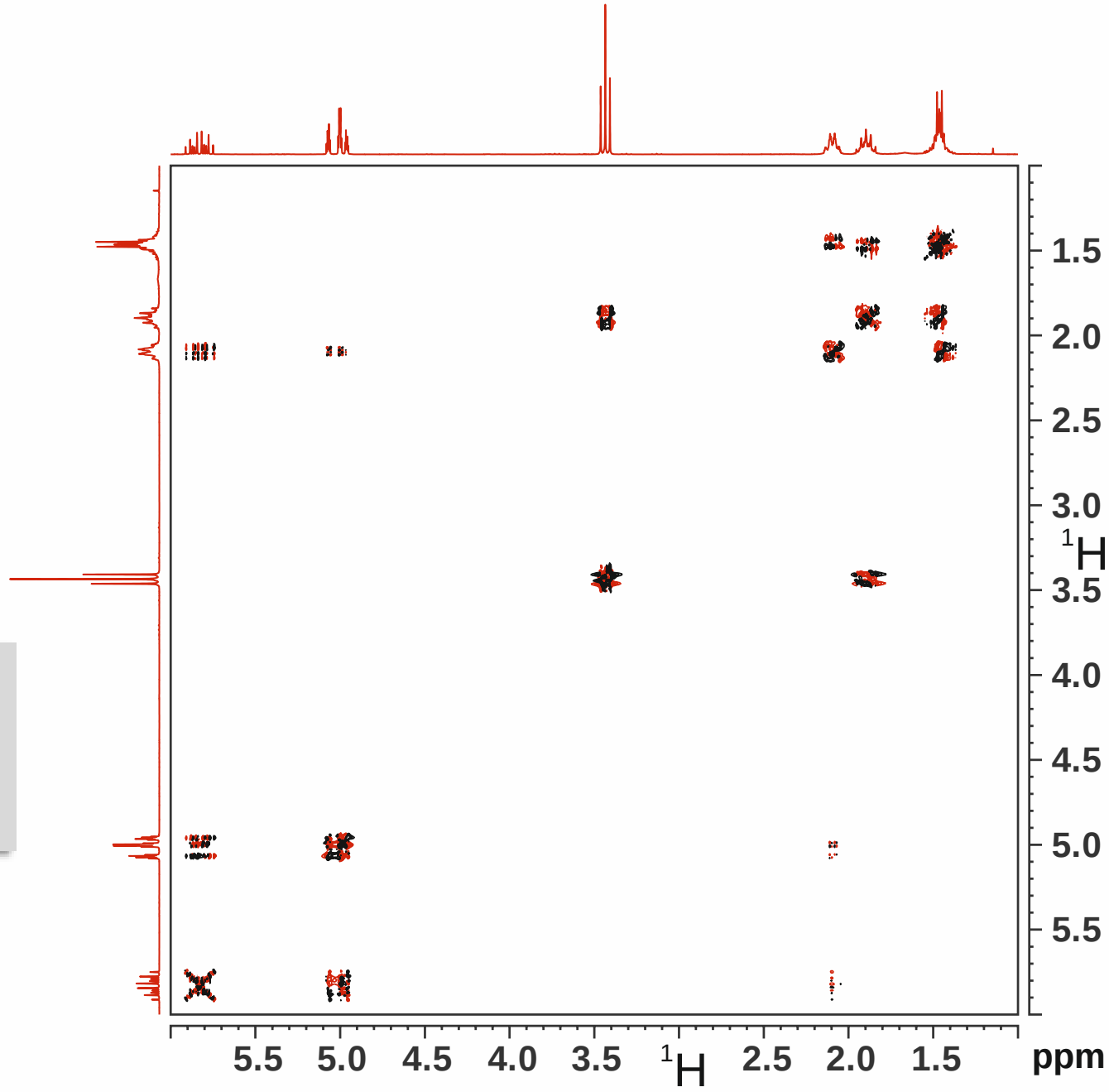
^1H NMR spectrum measured at 250.13 MHz



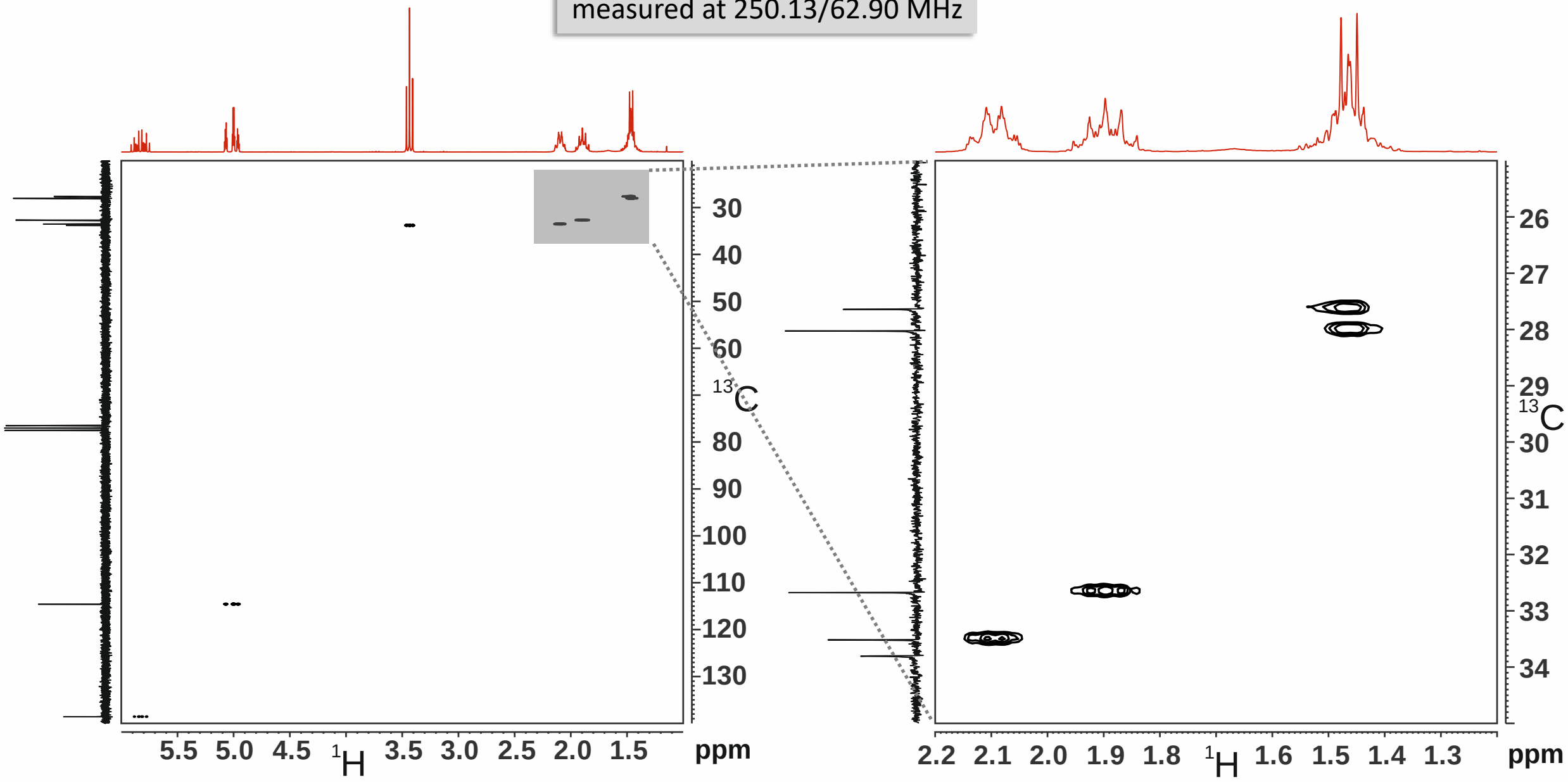

^{13}C{^{1}H} NMR spectrum
measured at 62.90{250.13} MHz
138.58
114.59
33.80
33.51
32.67
28.02
27.64
ppm
34 33 32 31 30 29 28 27 ppm
130 120 110 100 90 80 ^{13}C 70 60 50 40 30 ppm

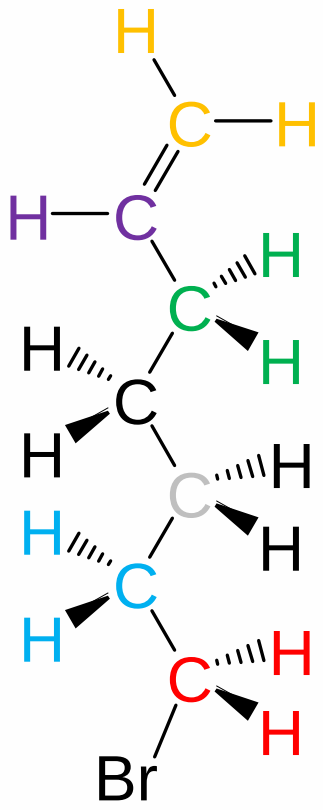
^{1}H DQF-COSY
measured at 250.13 MHz

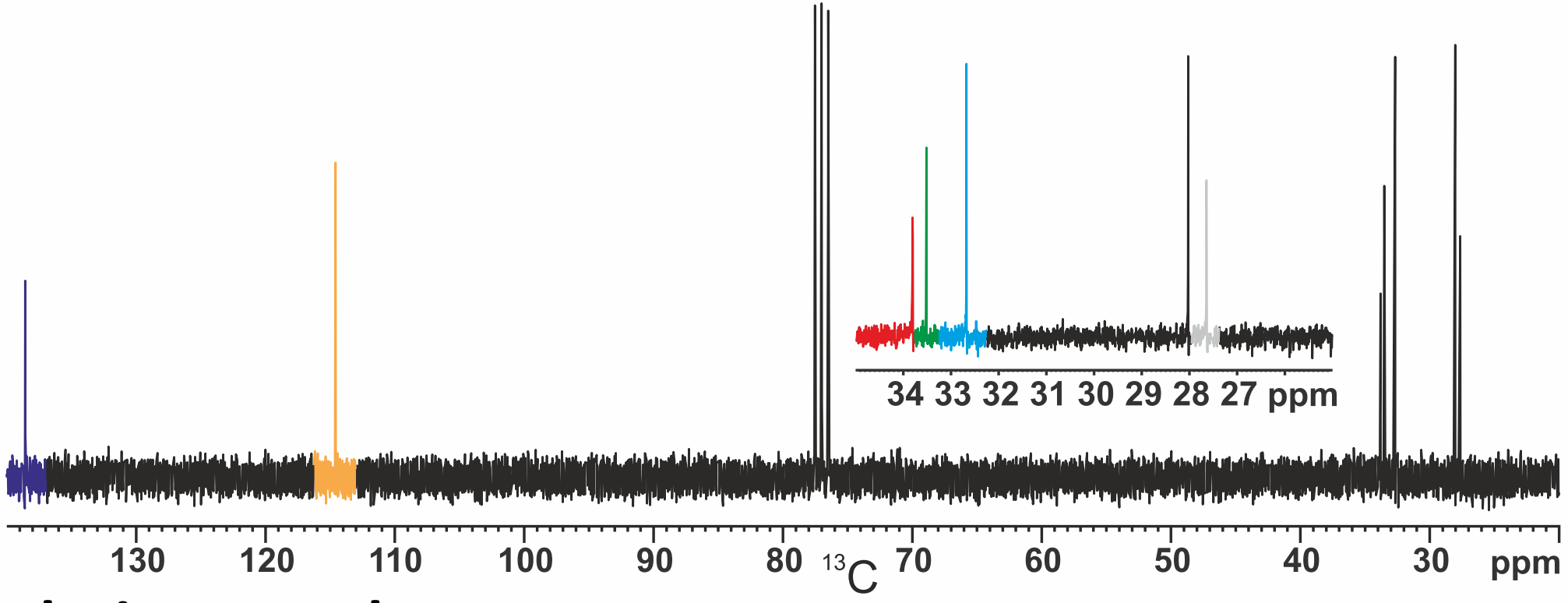
Due to strong overlap of two multiplets overlap, it is maybe a recommendable idea to start the analysis of the DQF-COSY coming from two endpoints of the coupling pathway.



$^{1}H/^{13}C$ HSQC
measured at 250.13/62.90 MHz

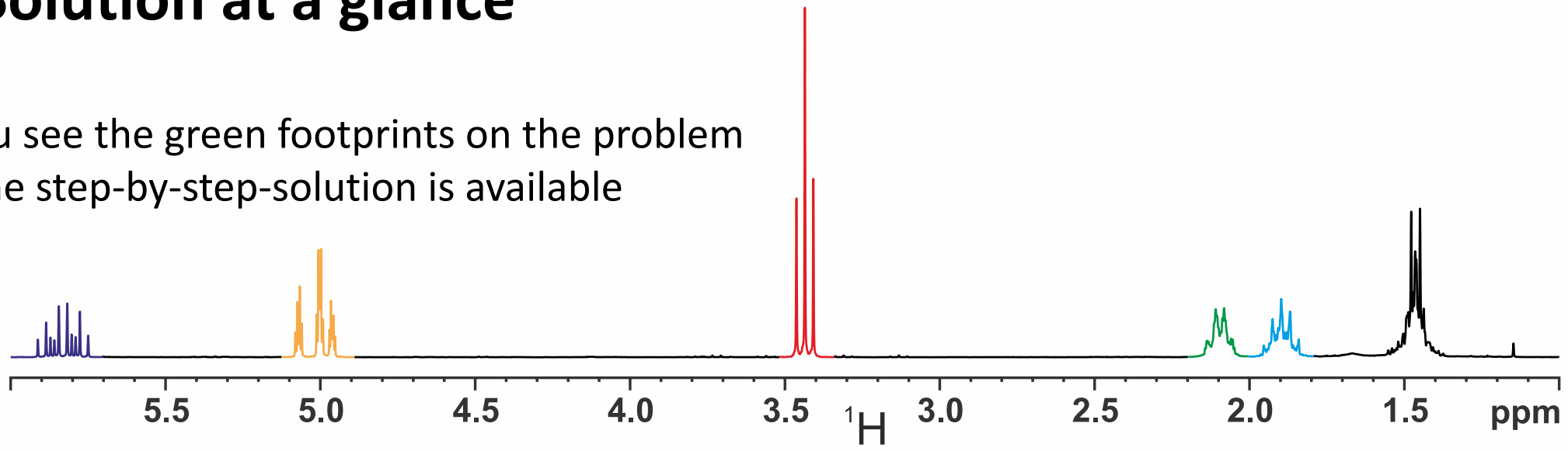






Solution at a glance

As soon as you see the green footprints on the problem icon, the step-by-step-solution is available



Contributions

Spectrometer time

TU Munich

Measurements

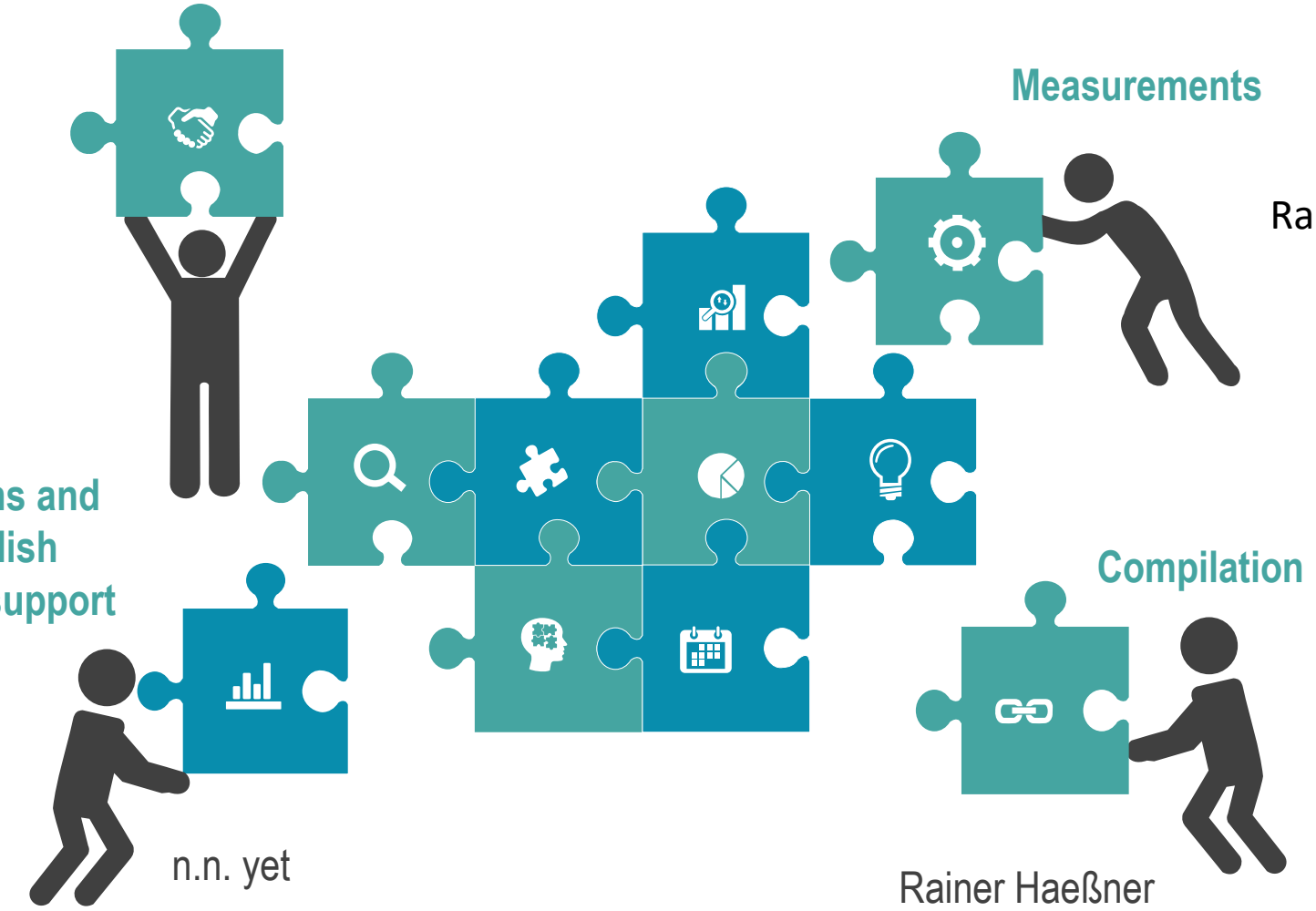
Rainer Haeßner

Discussions and native English language support

n.n. yet

Compilation

Rainer Haeßner



More exercises …