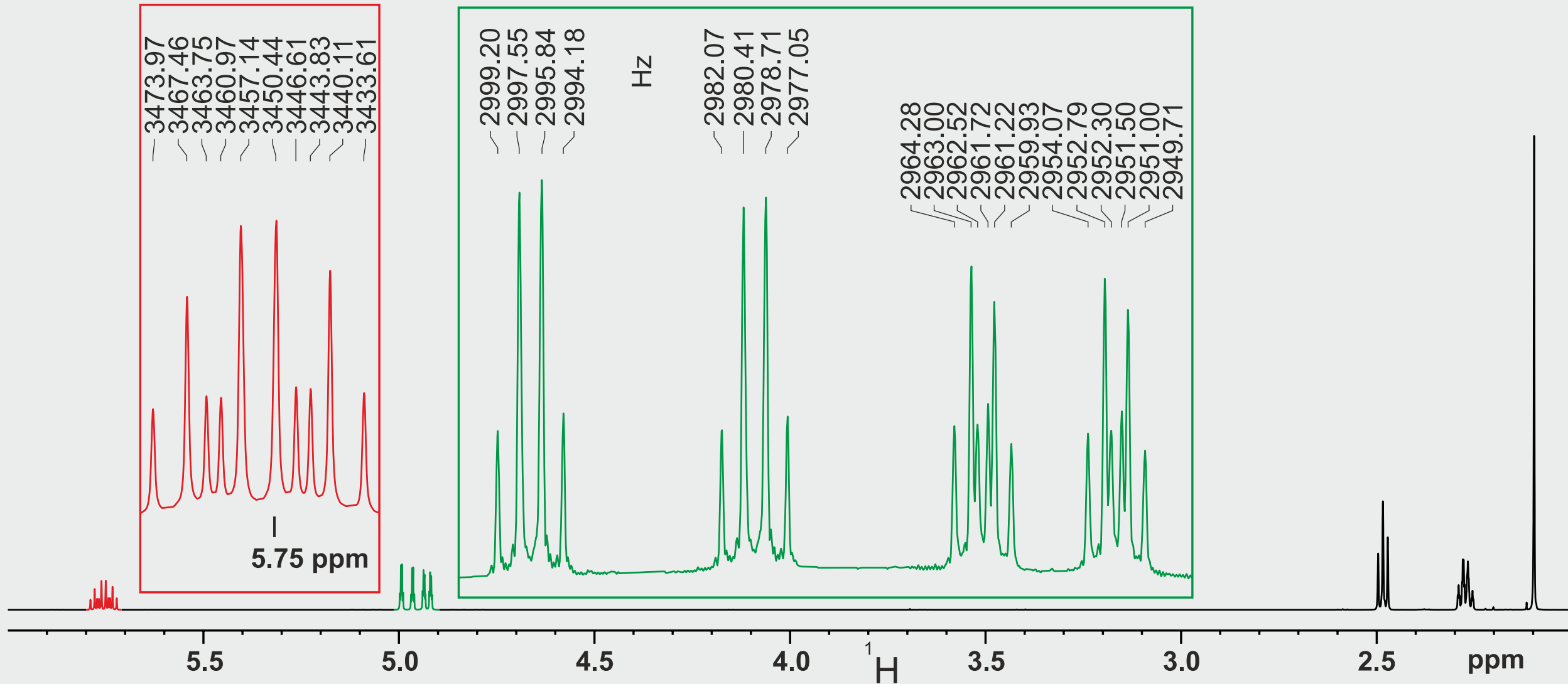


Exercise plus Solution – Quick overview

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.

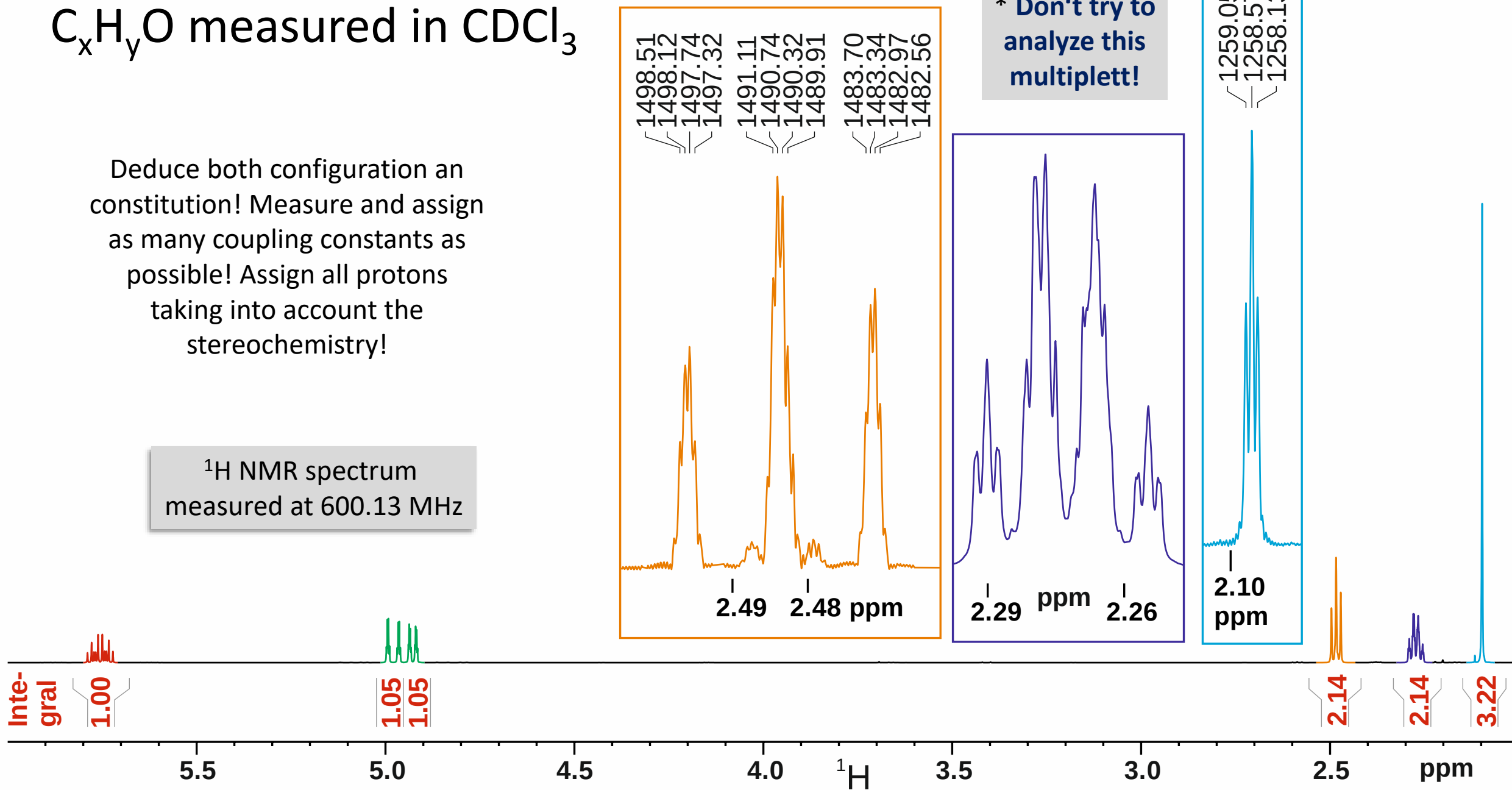
The higher quality PowerPoint files are freely available for download at any time.



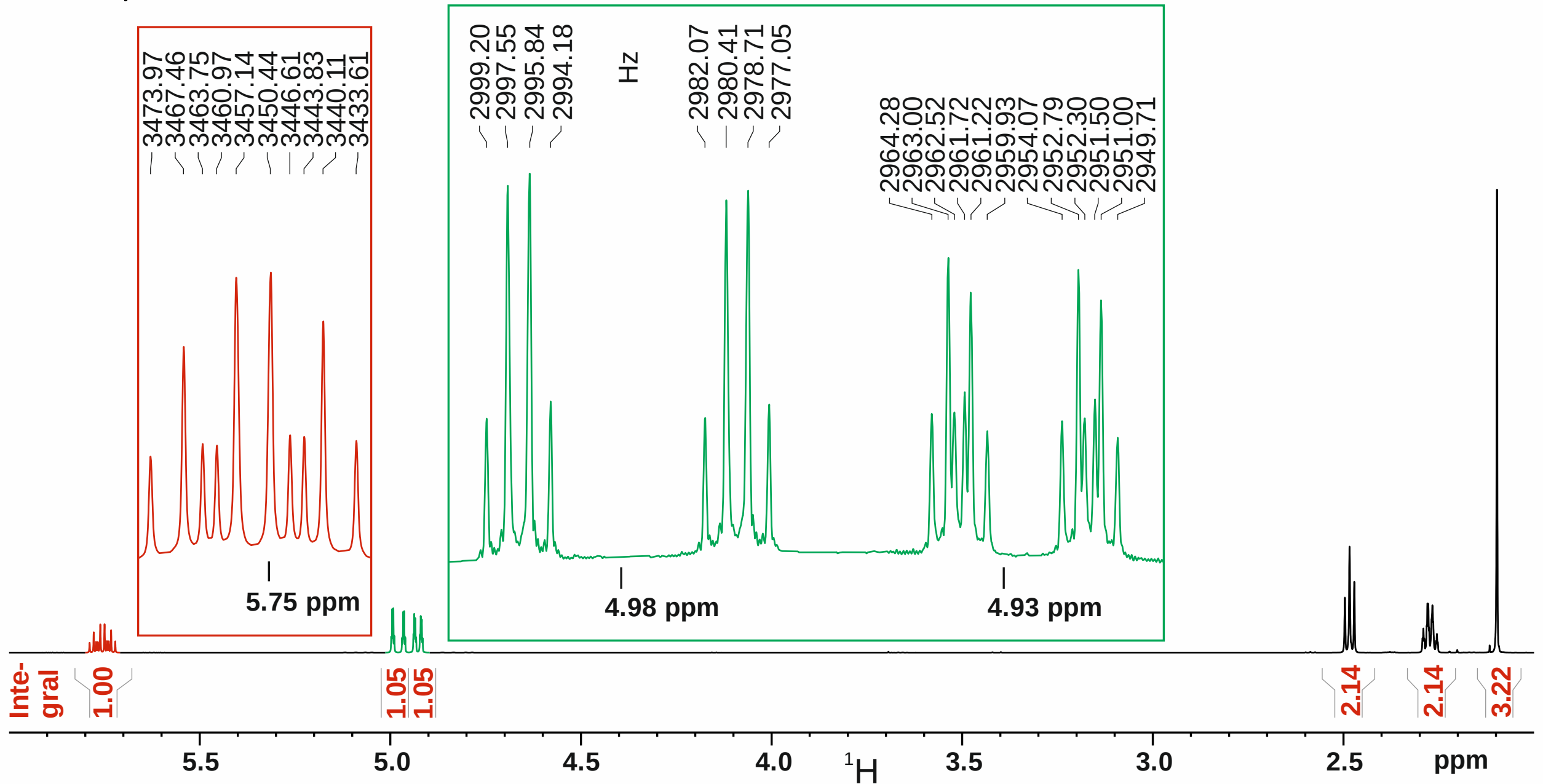
C_xH_yO measured in $CDCl_3$

Deduce both configuration and constitution! Measure and assign as many coupling constants as possible! Assign all protons taking into account the stereochemistry!

1H NMR spectrum measured at 600.13 MHz

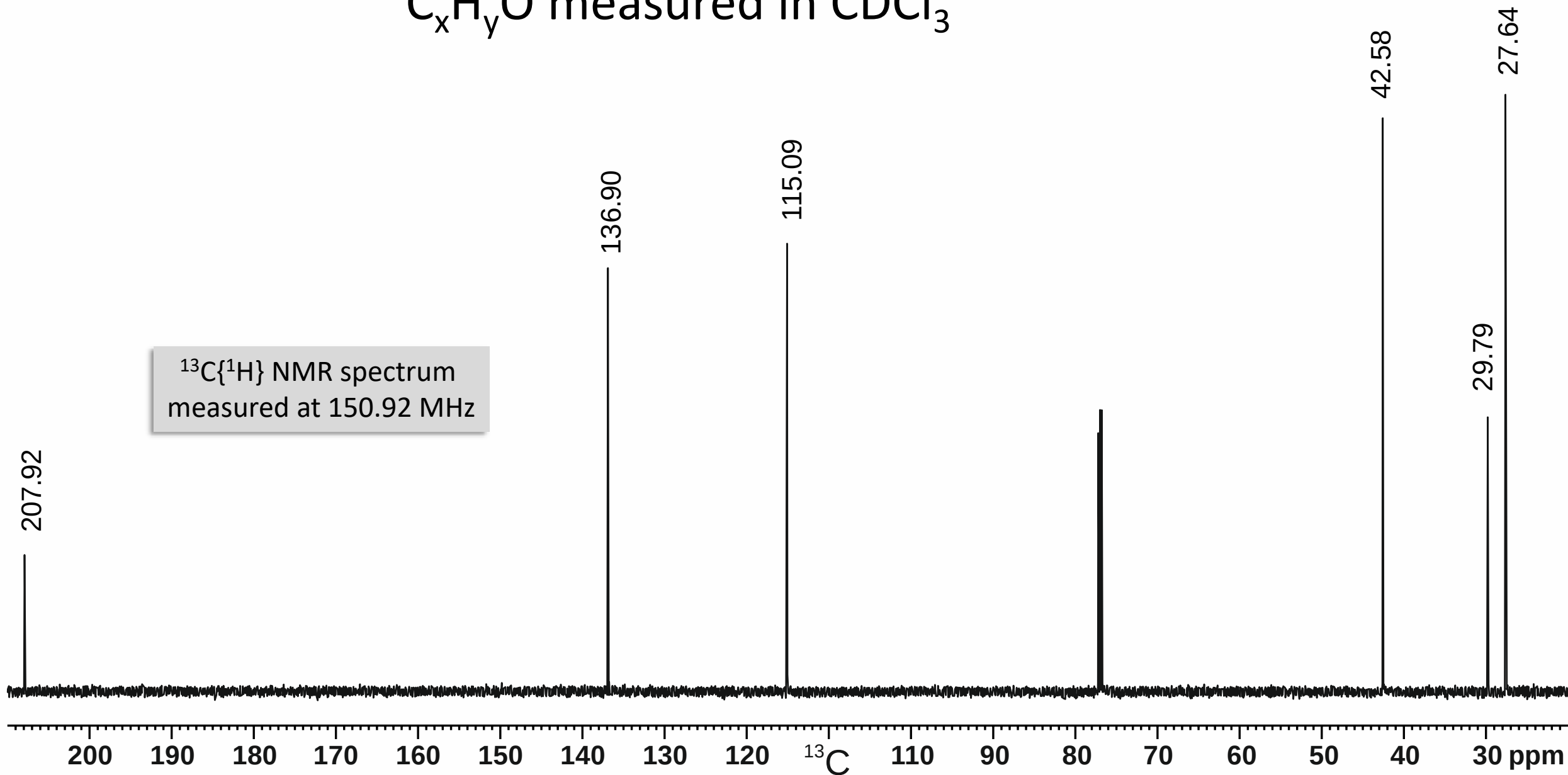


C_xH_yO measured in CDCl₃



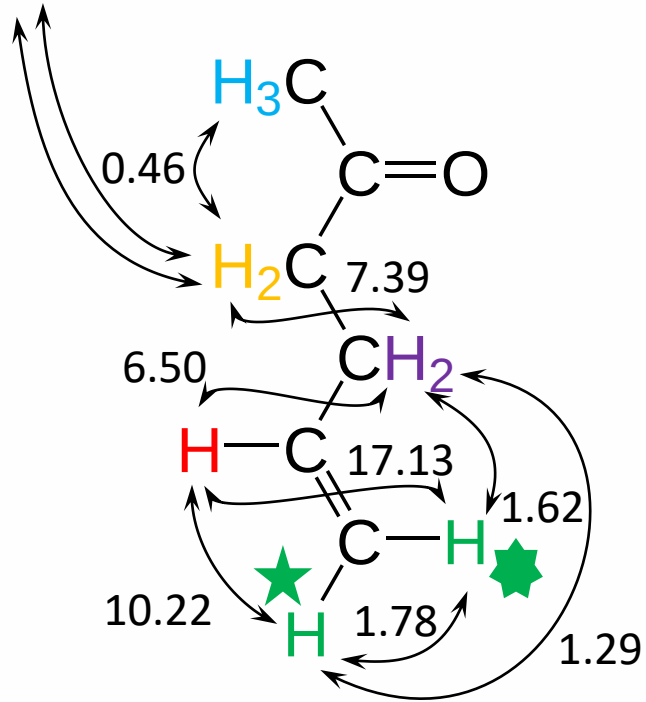
C_xH_yO measured in $CDCl_3$

$^{13}C\{^1H\}$ NMR spectrum
measured at 150.92 MHz

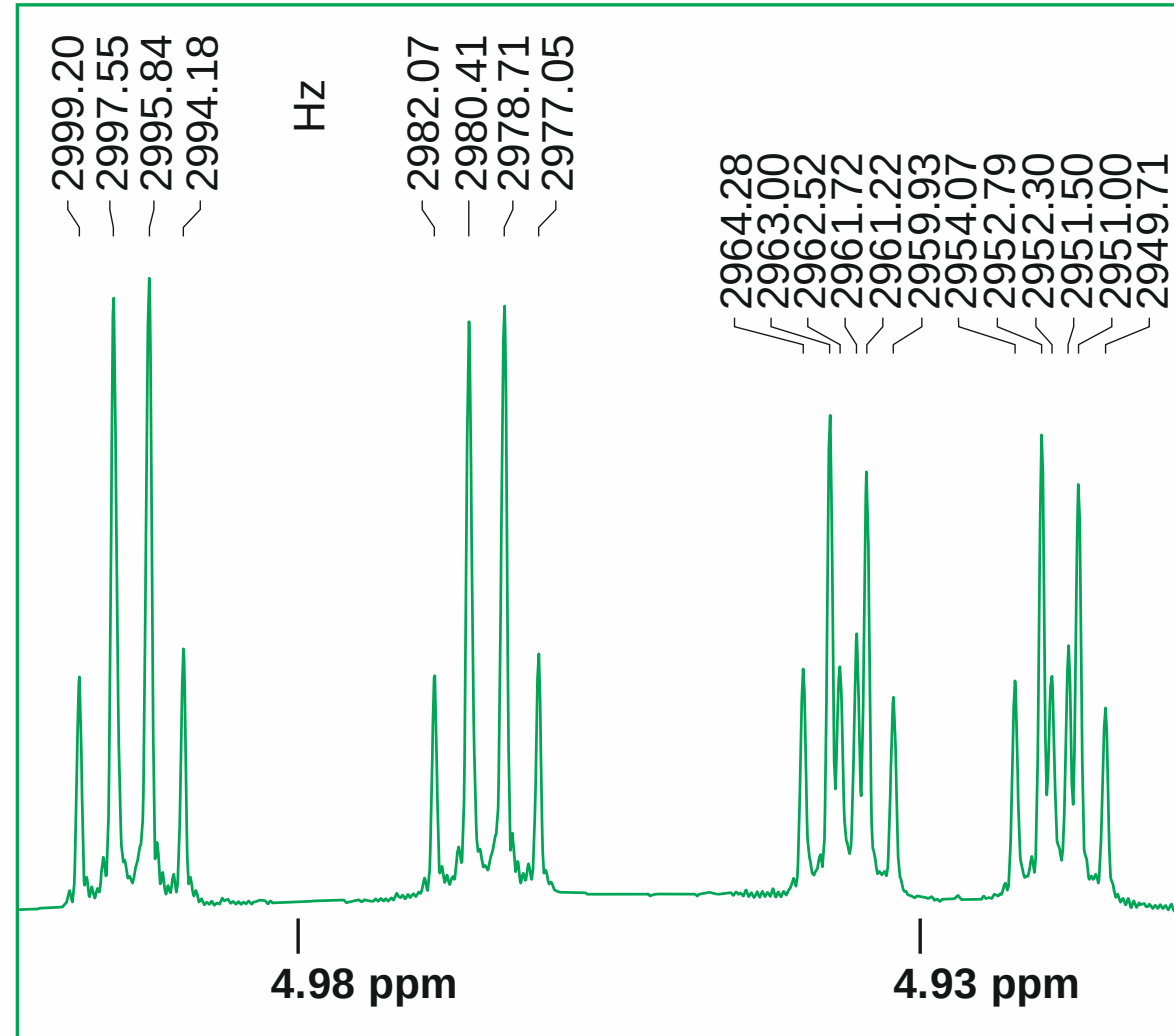
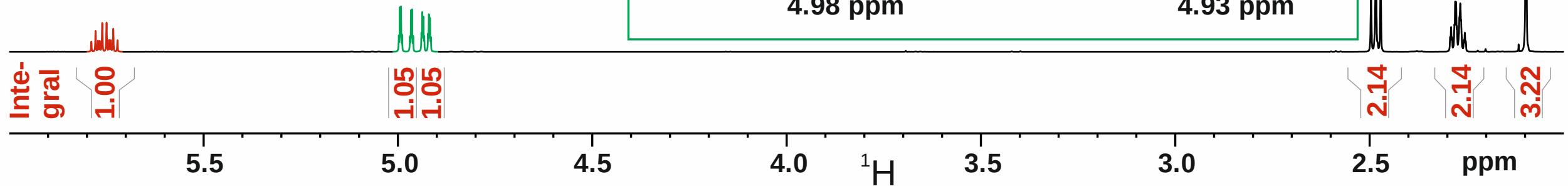


Solution at a glance

Two further long-range coupling constants of about 0.4 Hz; difficult to assign



(All coupling constants given as absolute values in Hz)



2999.20
2997.55
2995.84
2994.18

Hz

2982.07
2980.41
2978.71
2977.05

2964.28
2963.00
2962.52
2961.72
2961.22
2959.93
2954.07
2952.79
2952.30
2951.50
2951.00
2949.71

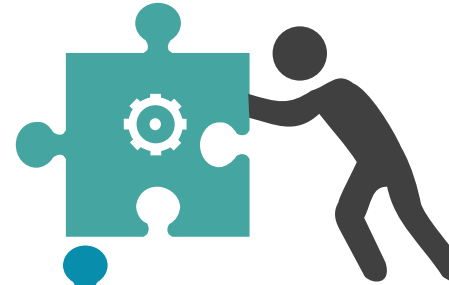
Contributions

Spectrometer time

TU Munich

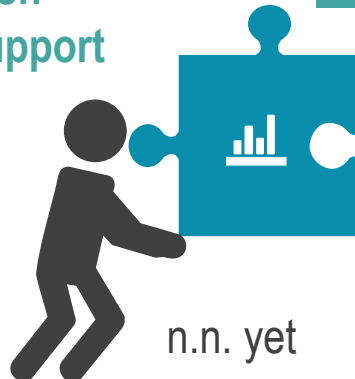


Measurements



Rainer Haeßner

Discussions and
native English
language support



n.n. yet

Compilation



Rainer Haeßner

[More exercises ...](#)