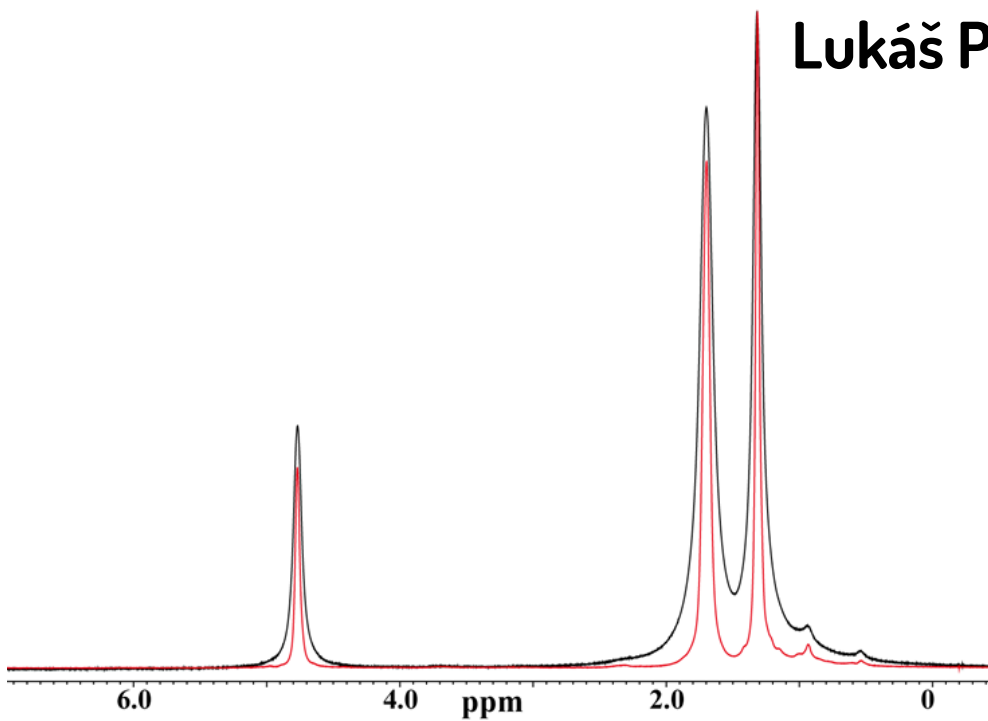


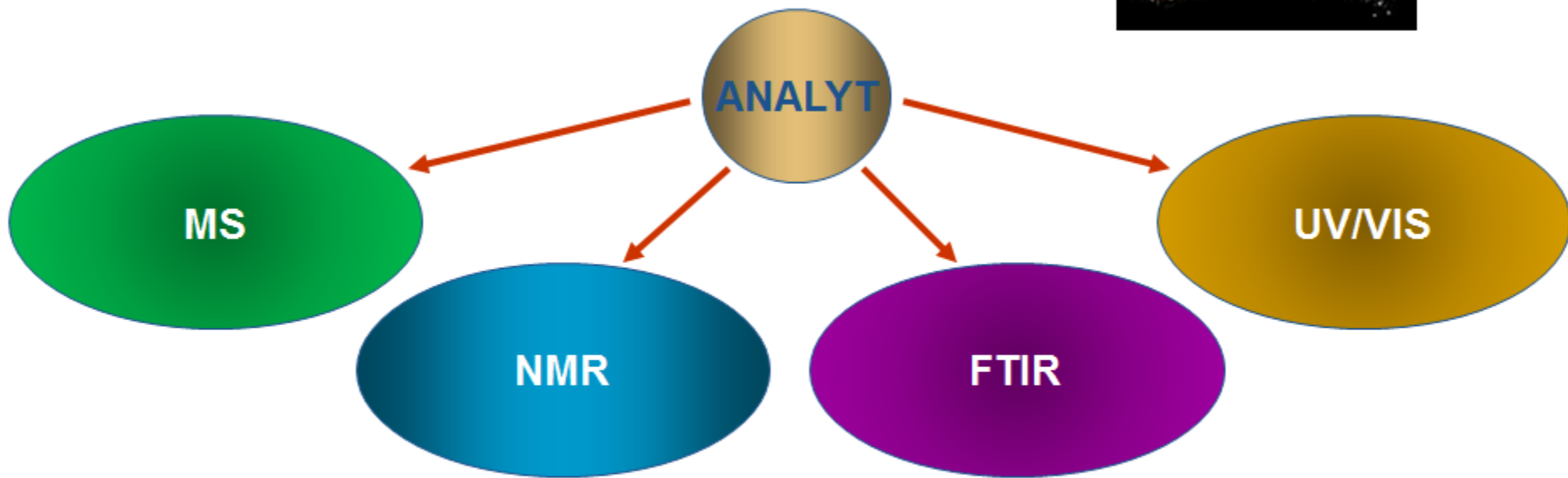
KVANTITATIVNÍ a SS-NMR (v aplikacích)

Lukáš Plaček



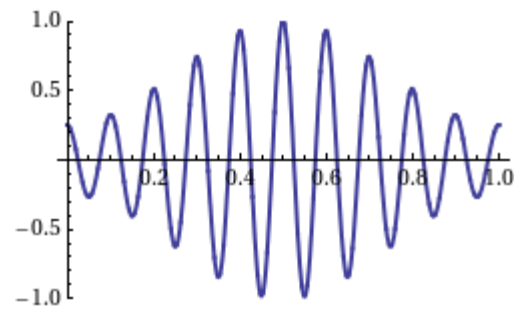
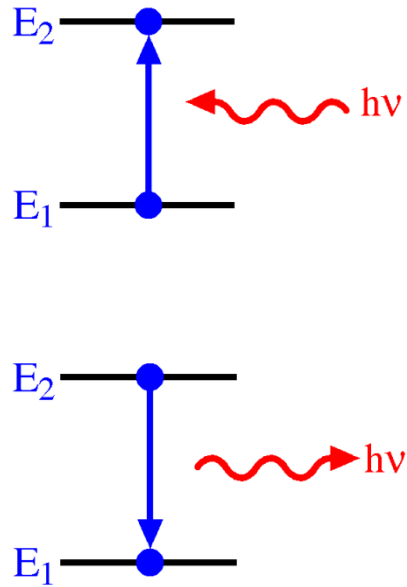
STRUKTURNÍ ANALÝZA

Identifikace neznámé látky:



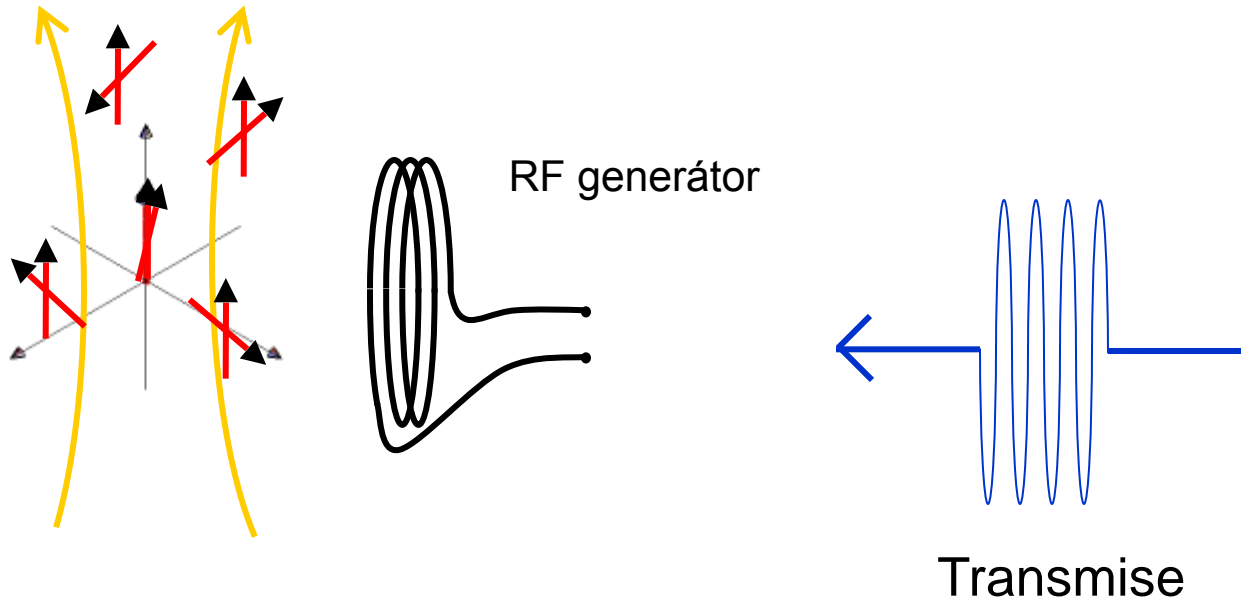
komplexní, křížově ověřená informace

NMR spektroskopie

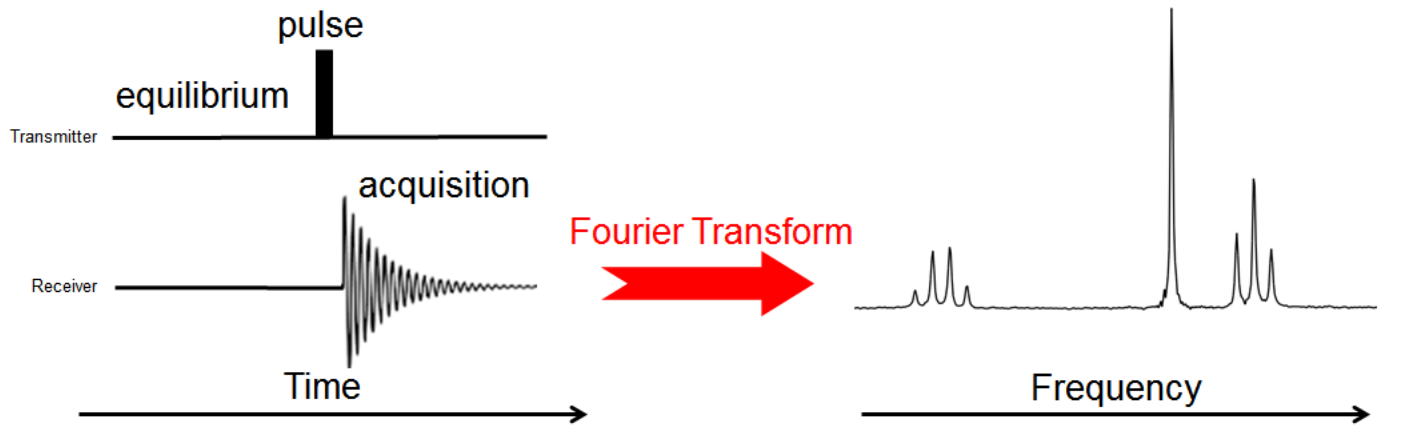
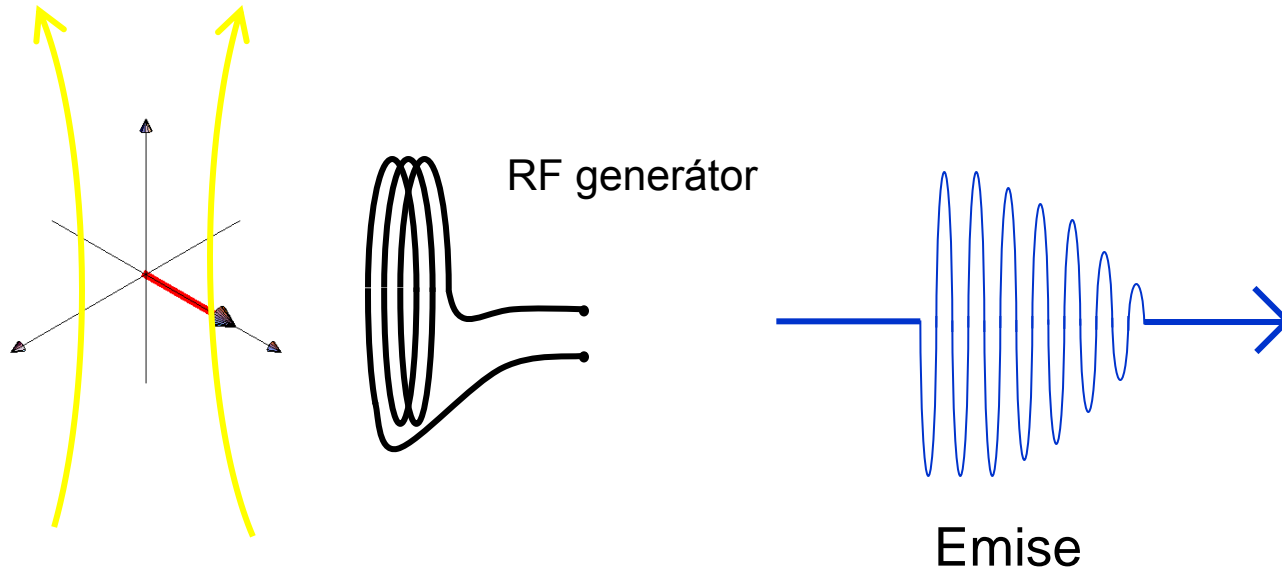


$$\Delta E = h \cdot \nu = h \frac{c}{\lambda}$$

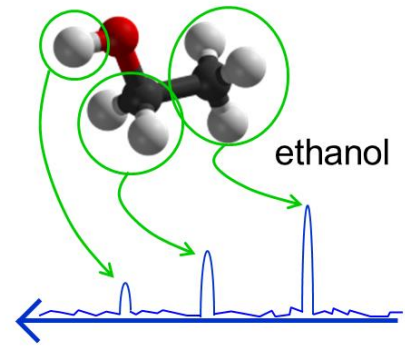
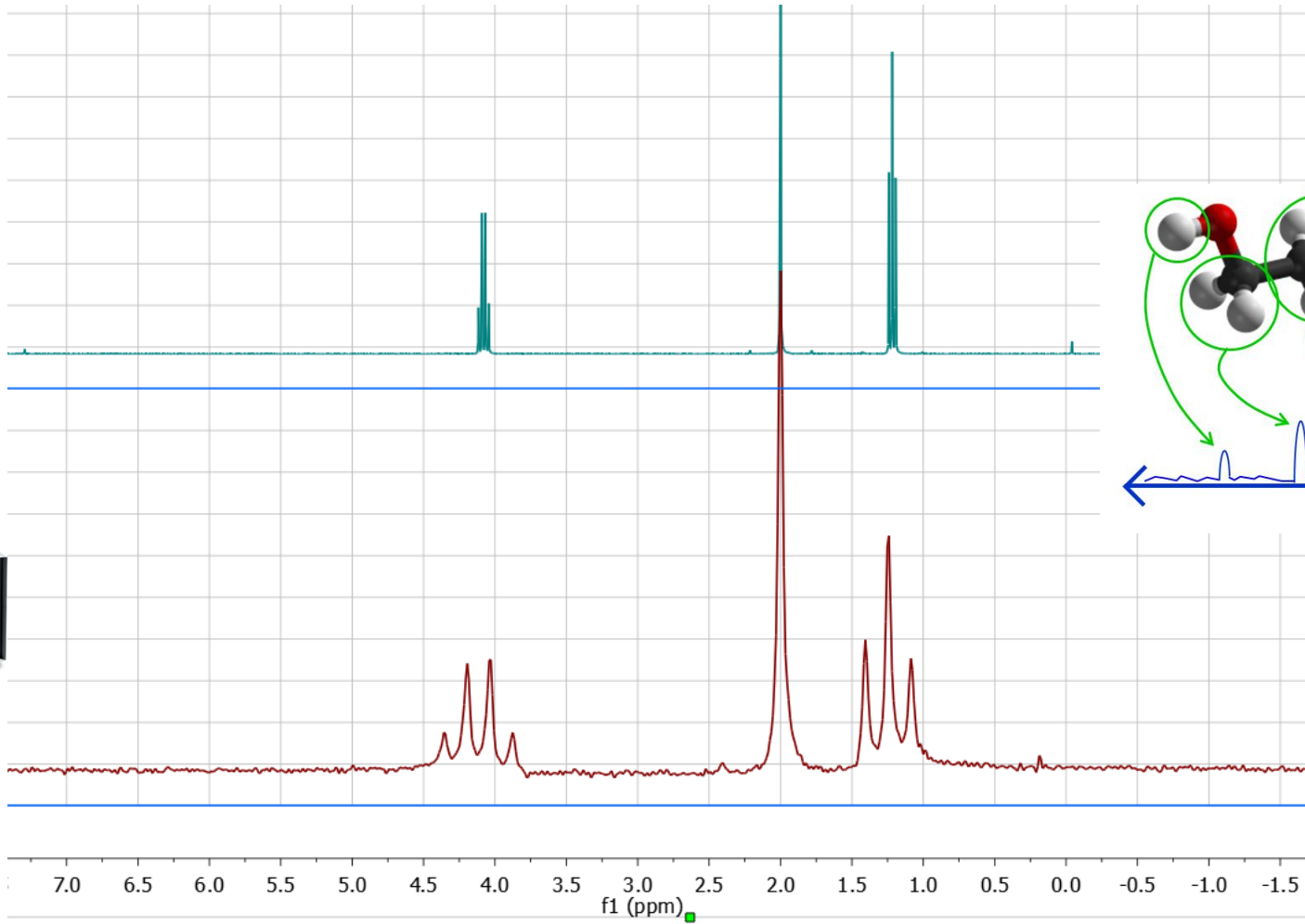
NMR spektroskopie



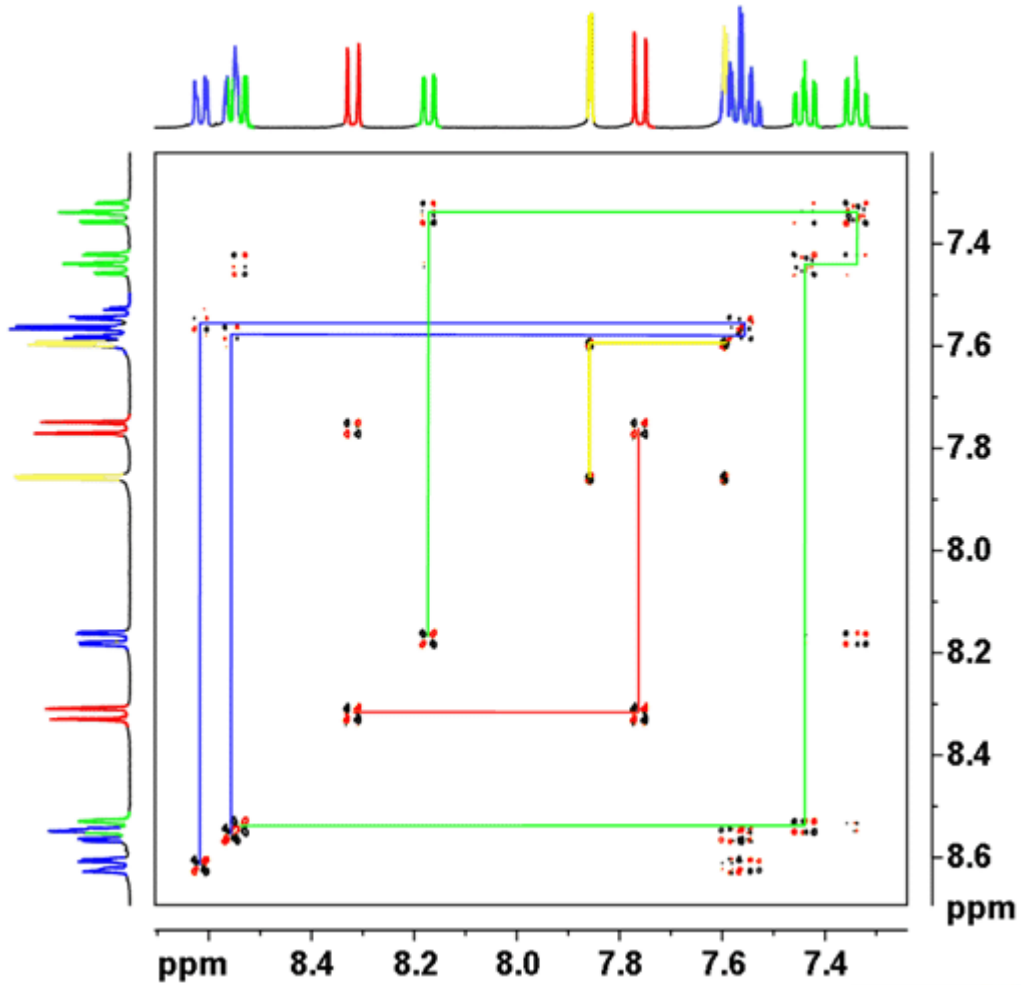
NMR spektroskopie



NMR spektrometry



NMR spektrometry

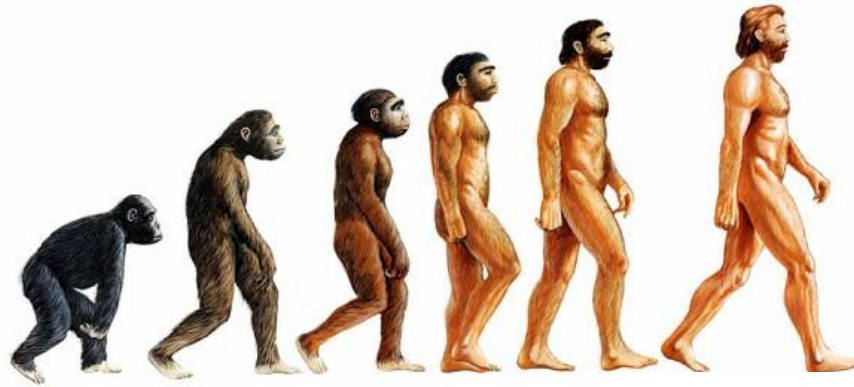


2D – korelační sp.

NMR spektrometry

ThermoFisher
SCIENTIFIC

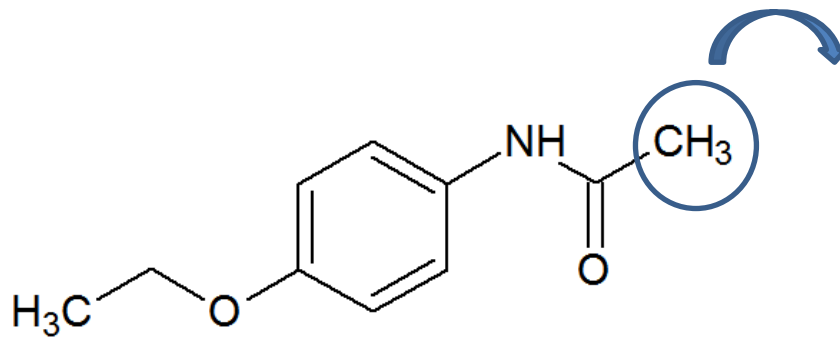
JEOL
RESONANCE



KVANTITATIVNÍ NMR (qNMR)

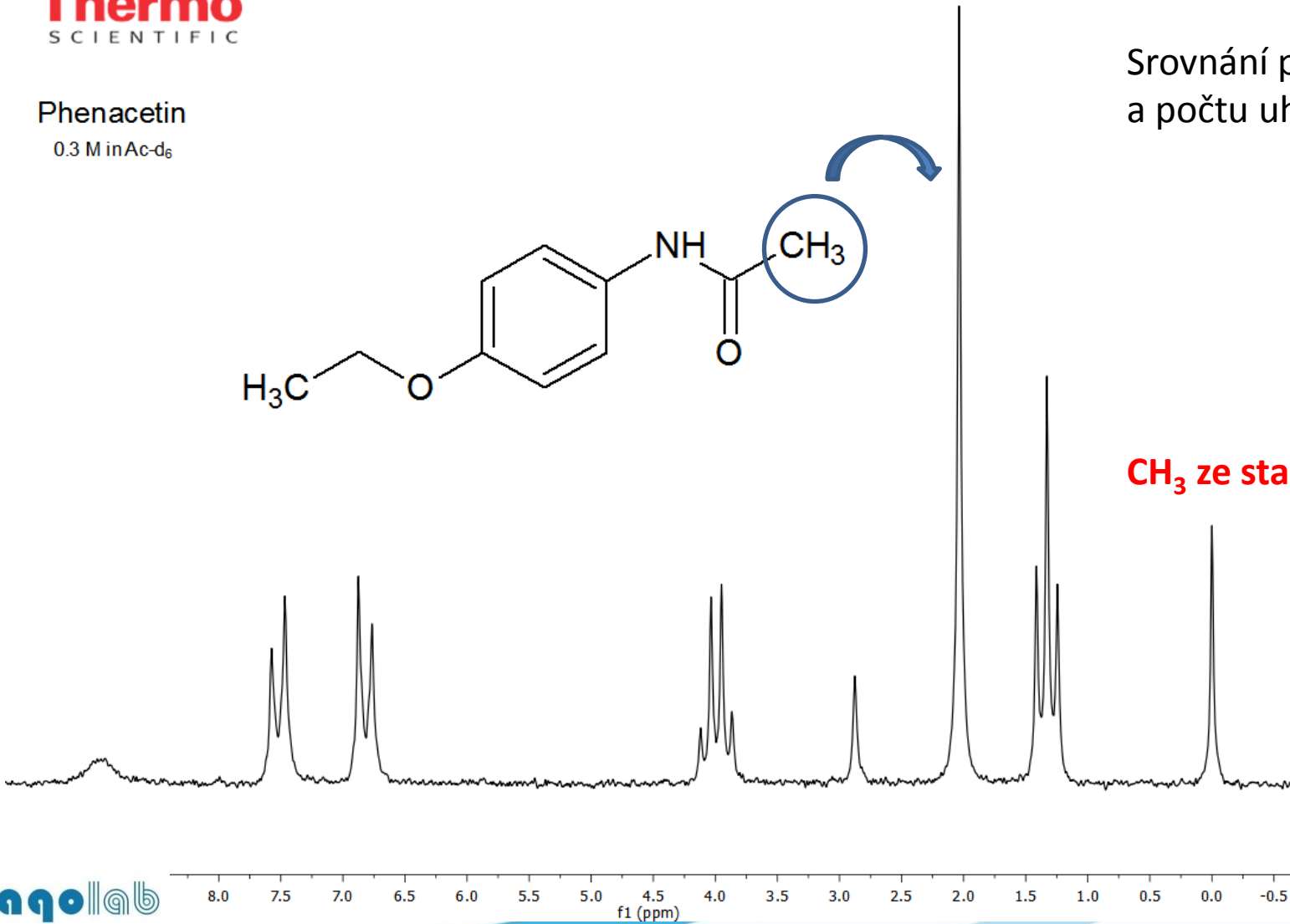
Thermo
SCIENTIFIC

Phenacetin
0.3 M in Ac-d₆

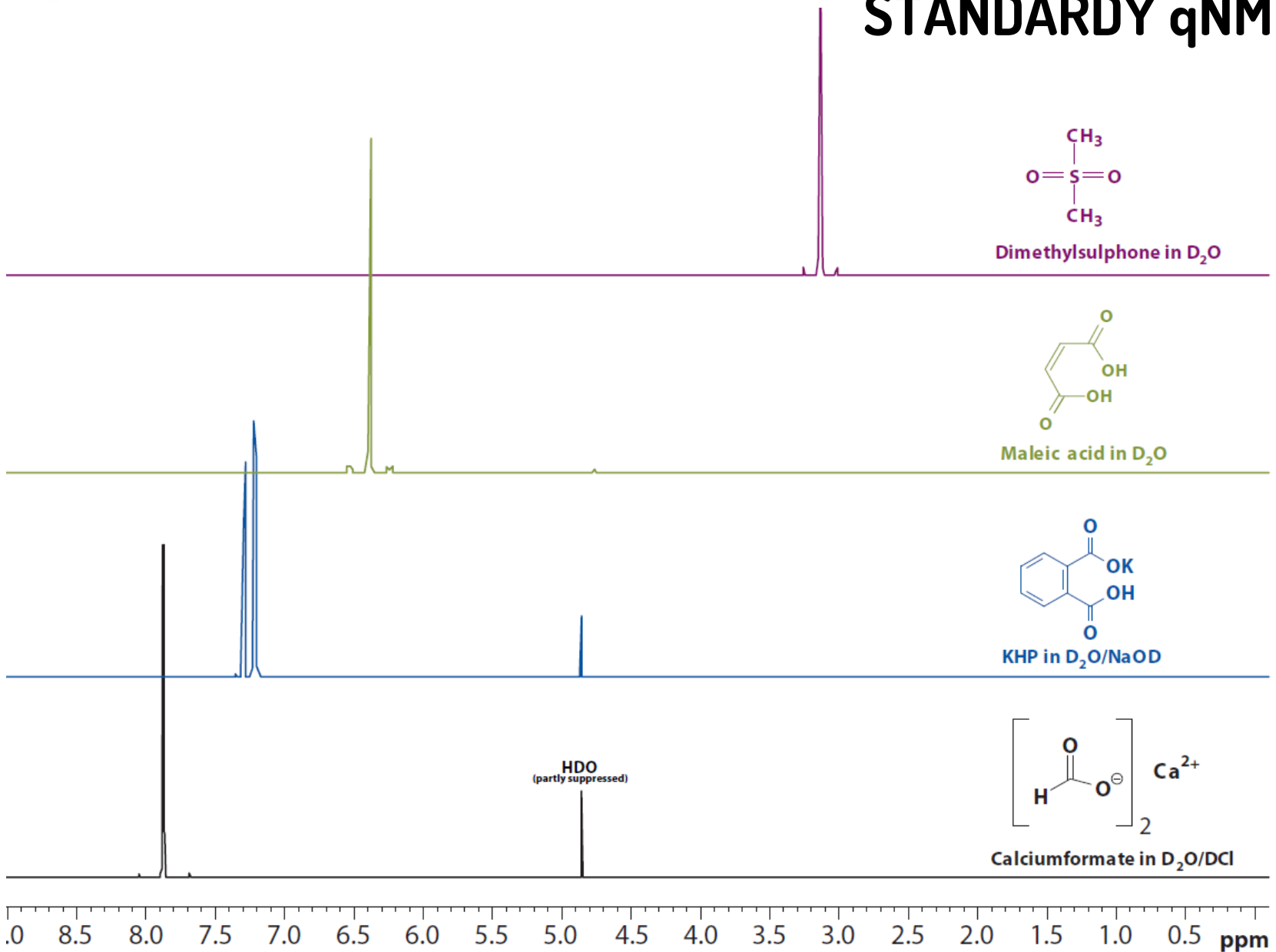


Srovnání ploch
a počtu uhlíků

CH₃ ze standardu



STANDARDY qNMR



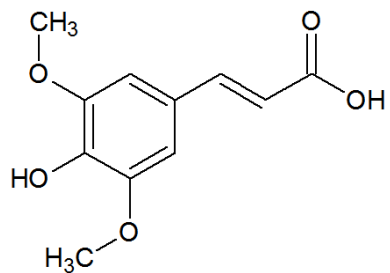
STANDARDY qNMR



Mezinárodní úřad pro míry a váhy – Francie

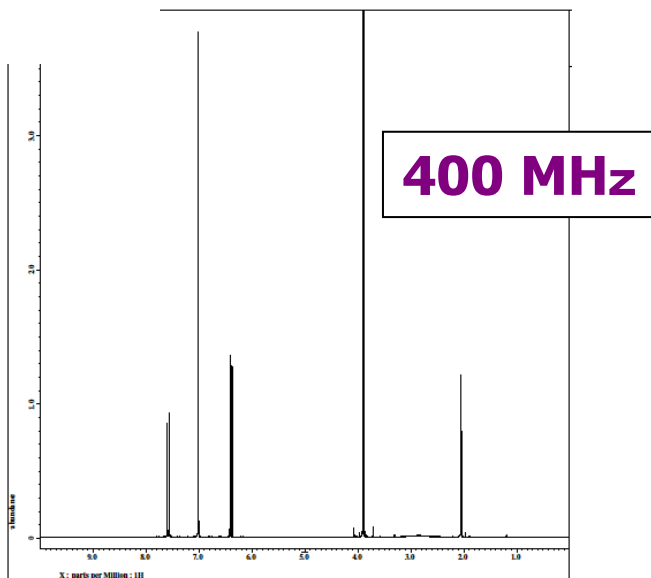
2014 NMR JEOL



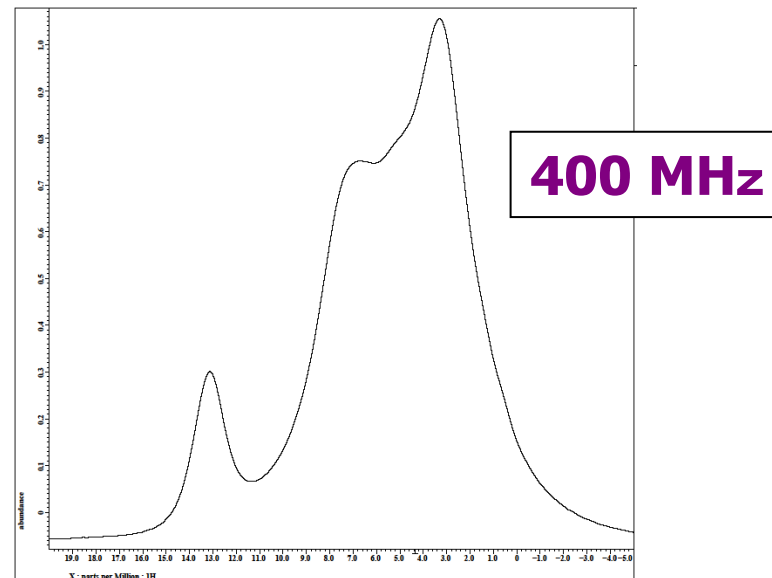


SOLID STATE NMR (ss-NMR)

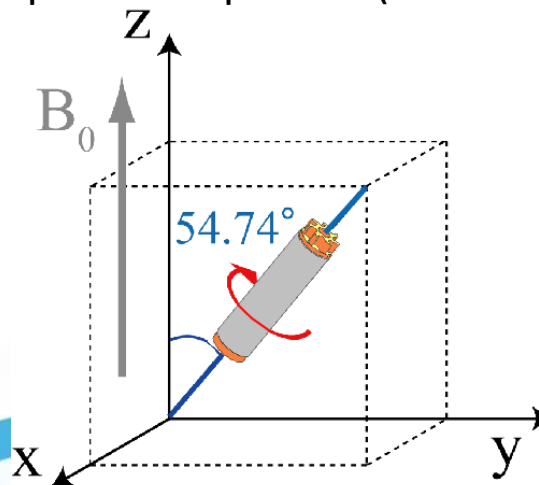
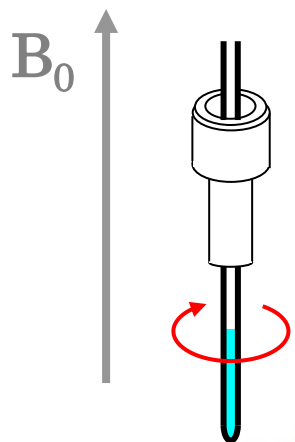
$^1\text{H-NMR}$
400 MHz



kapalný stav (SOLUTION)



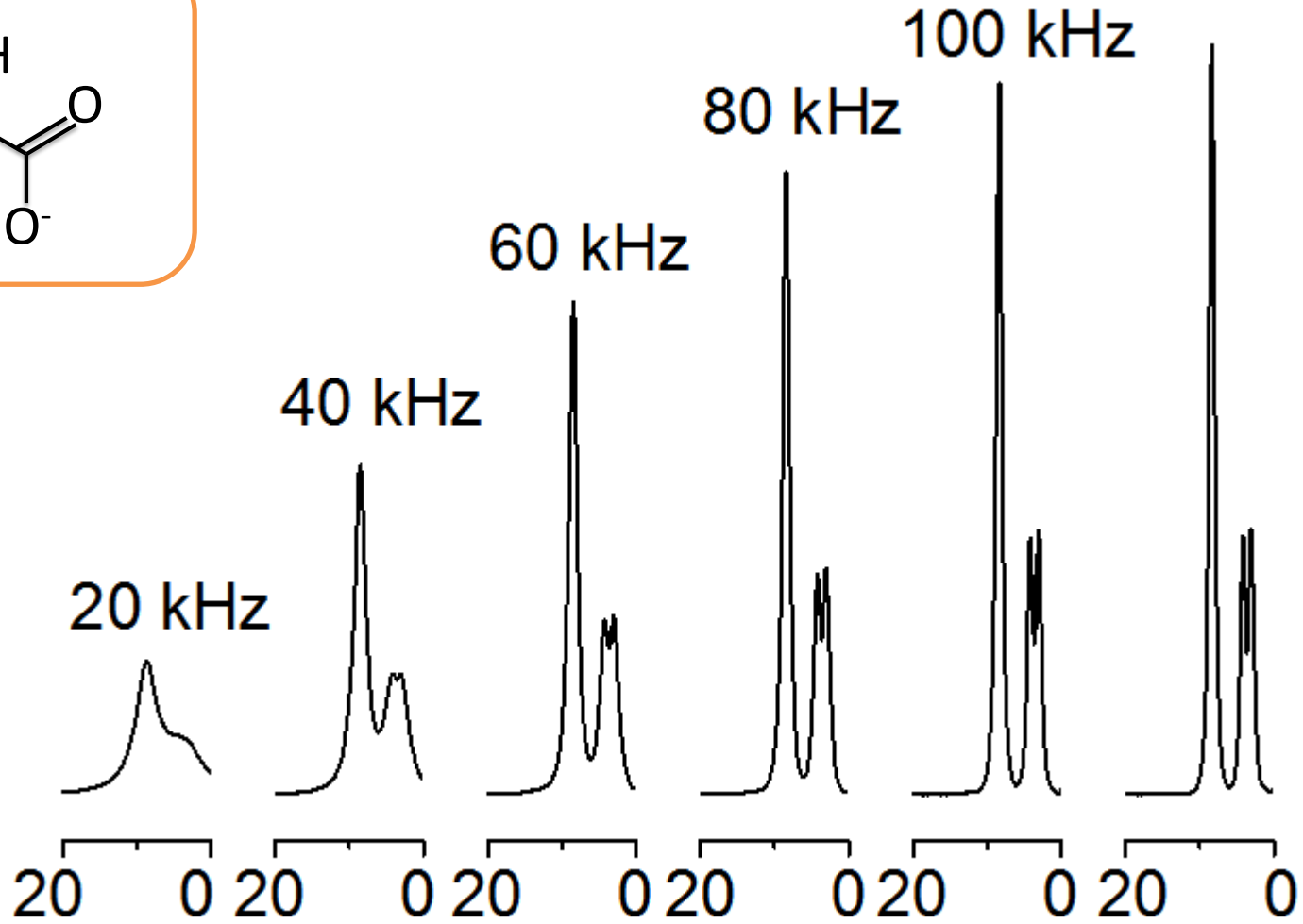
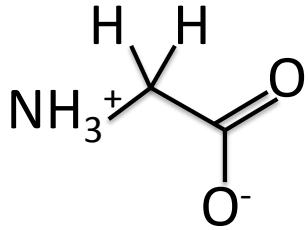
pevné skupenství (SOLUTION)



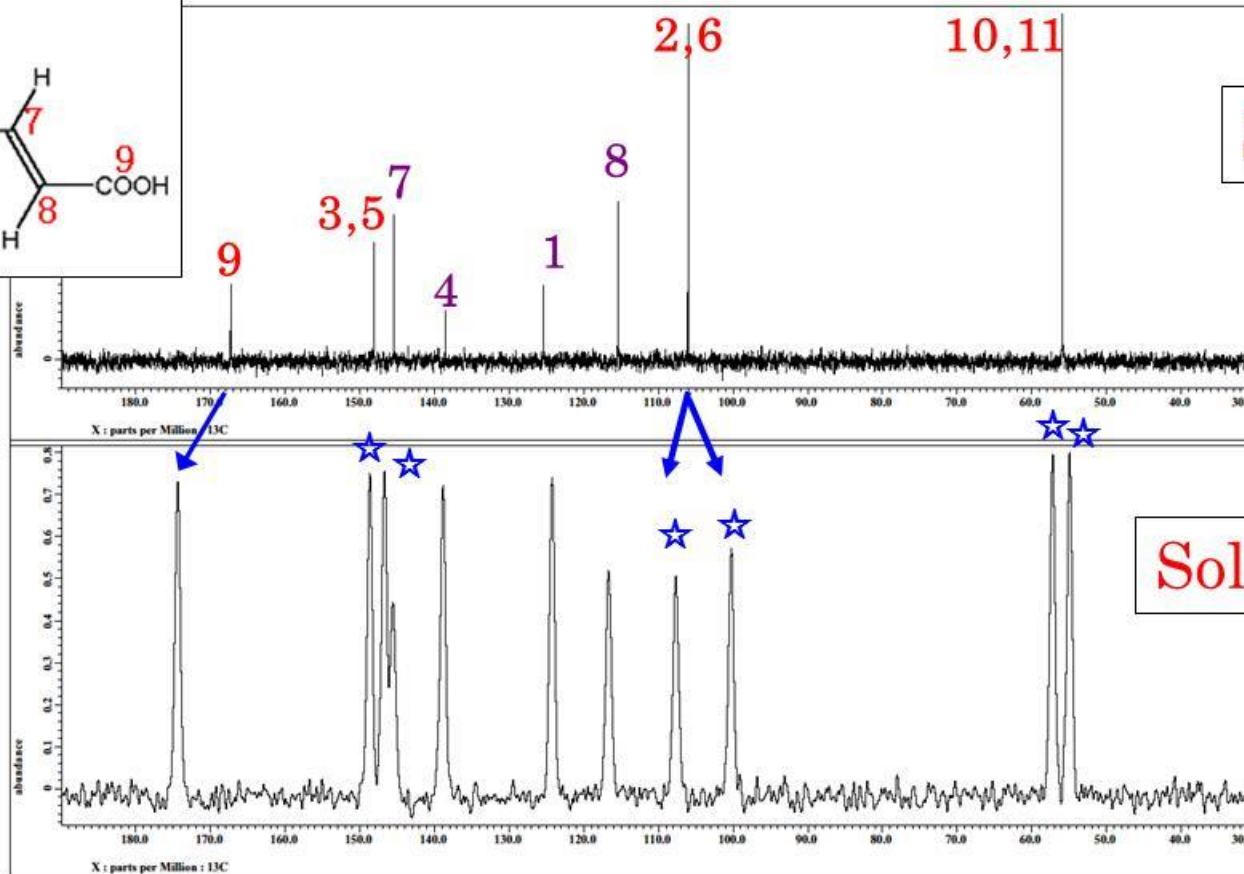
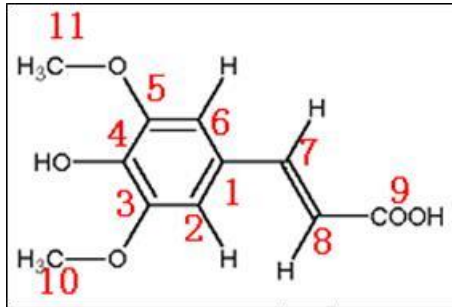
SOLID STATE NMR (ss-NMR)

110 kHz

glycine



SOLID STATE NMR (ss-NMR)

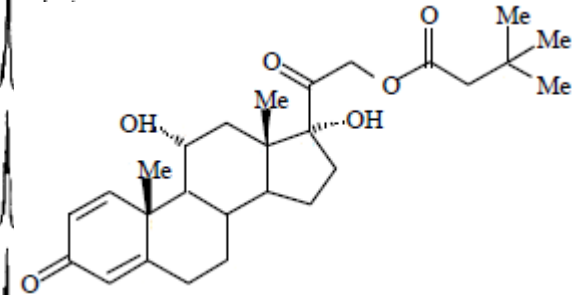
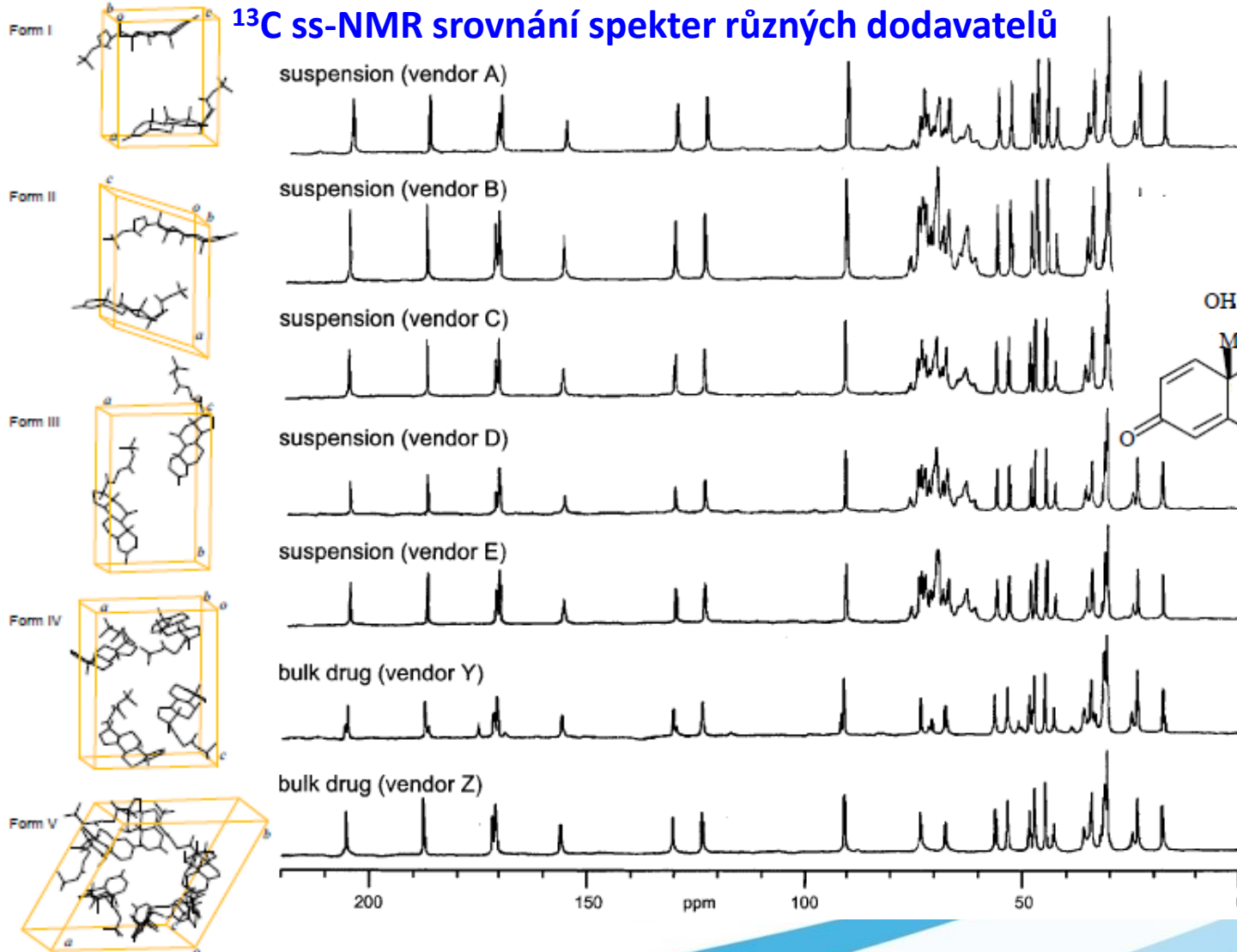


Solution

Solid state

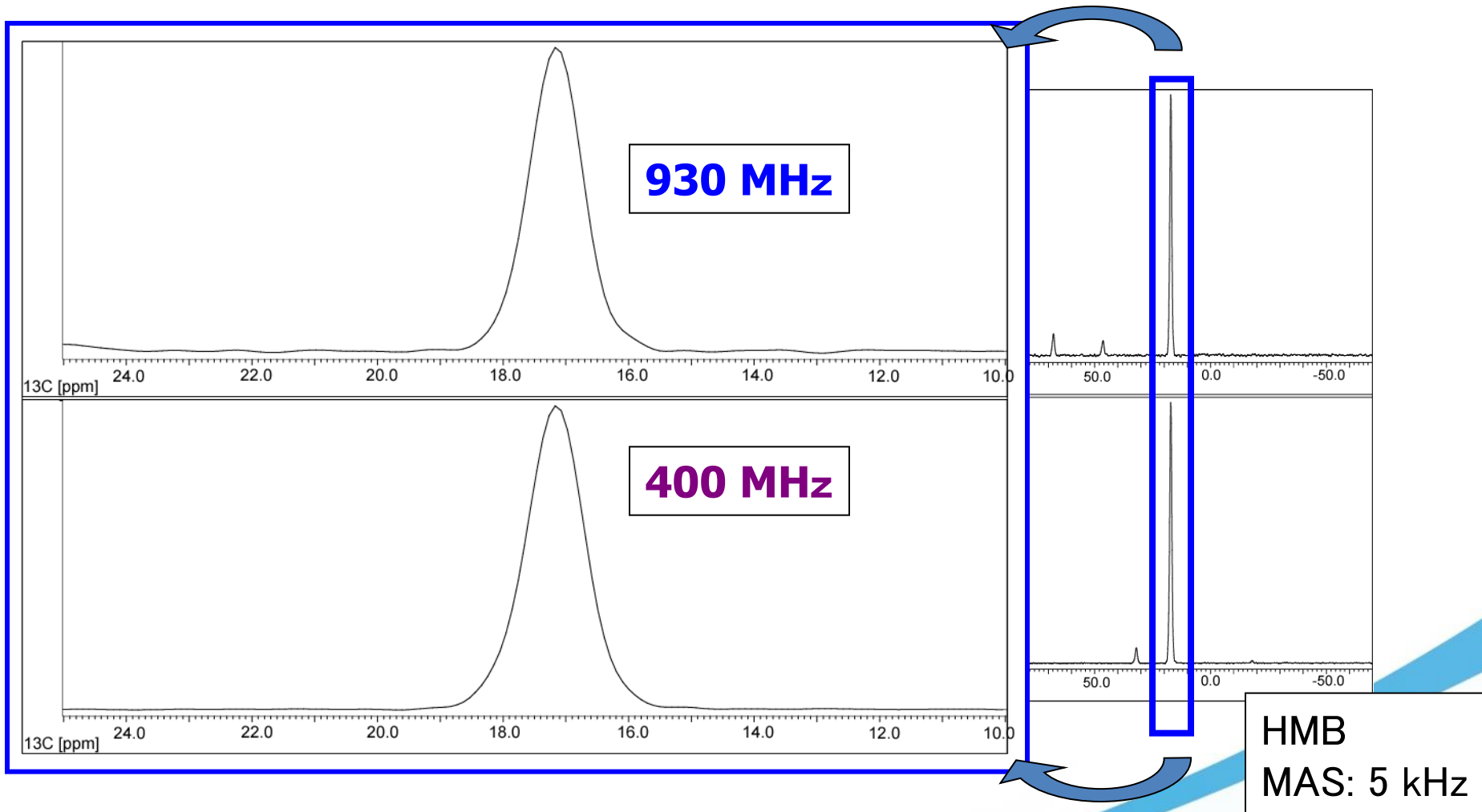
SOLID STATE NMR (ss-NMR)

¹³C ss-NMR srovnání spekter různých dodavatelů

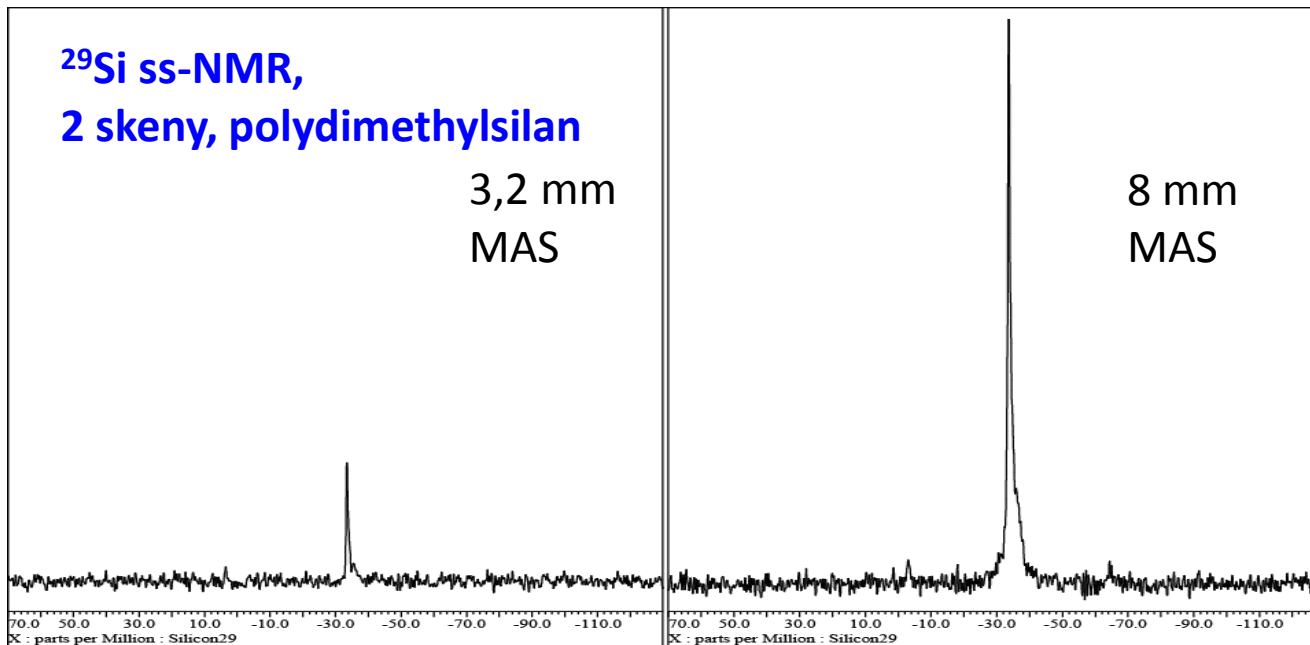
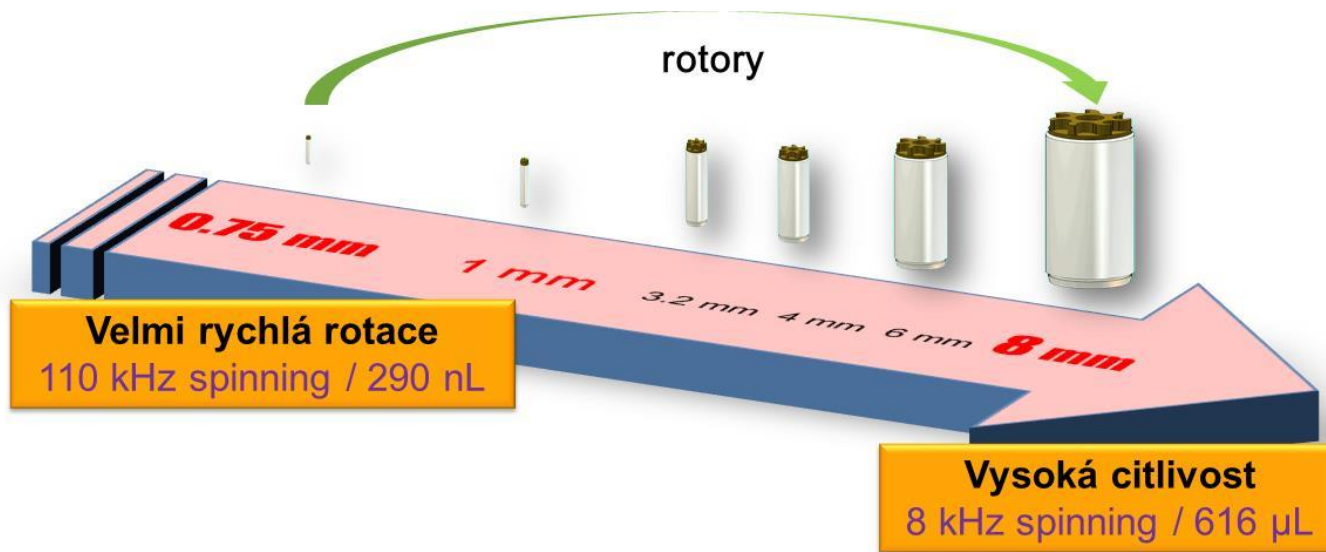


**prednisolone
tert-butyl
acetate**

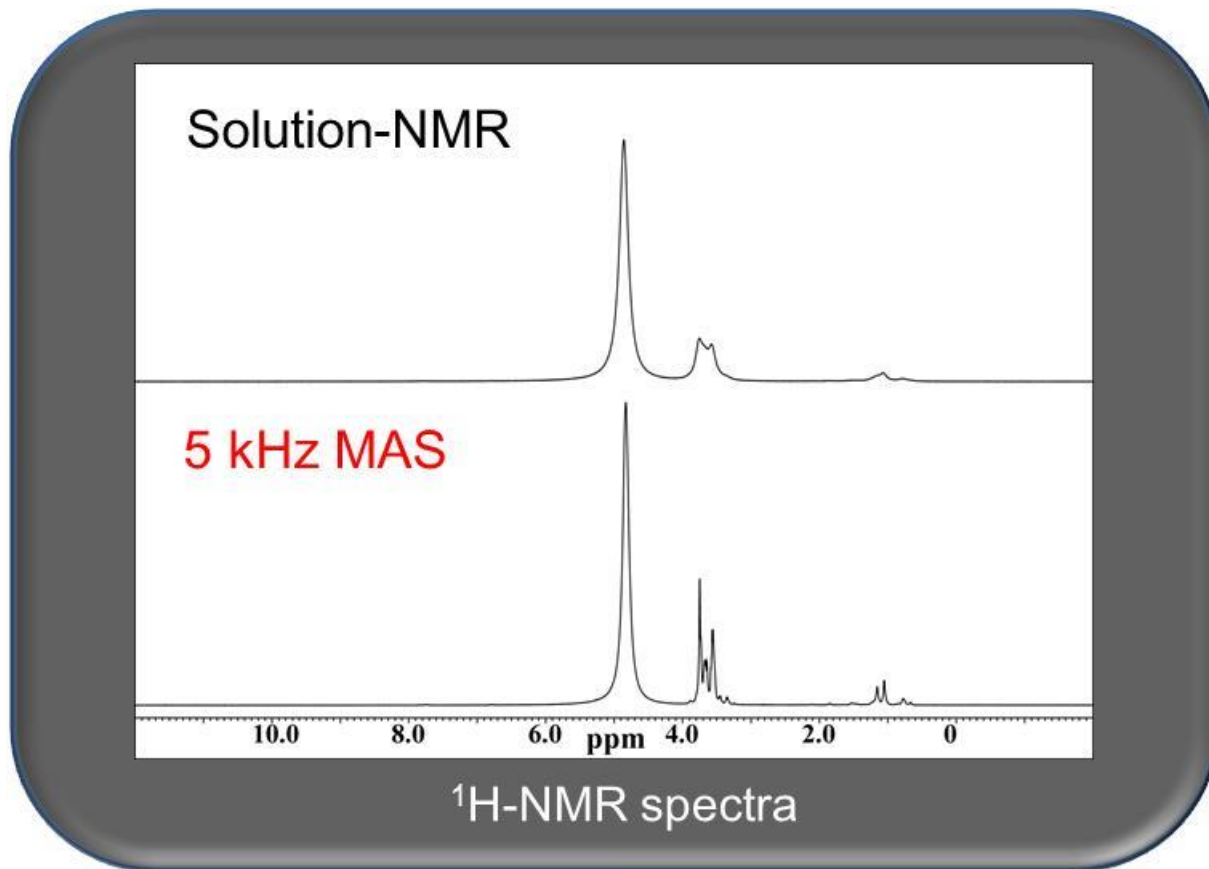
SOLID STATE NMR (ss -NMR)



SOLID STATE NMR (ss-NMR)



SOLID STATE NMR (ss-NMR)



zubní pasta

DĚKUJI ZA POZORNOST !



placek@pragolab.cz