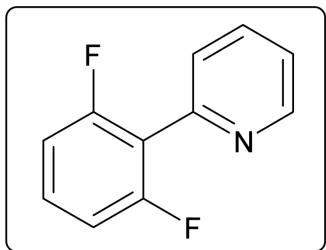


C8953
NMR strukturní analýza
seminář
Heteronuclear correlations

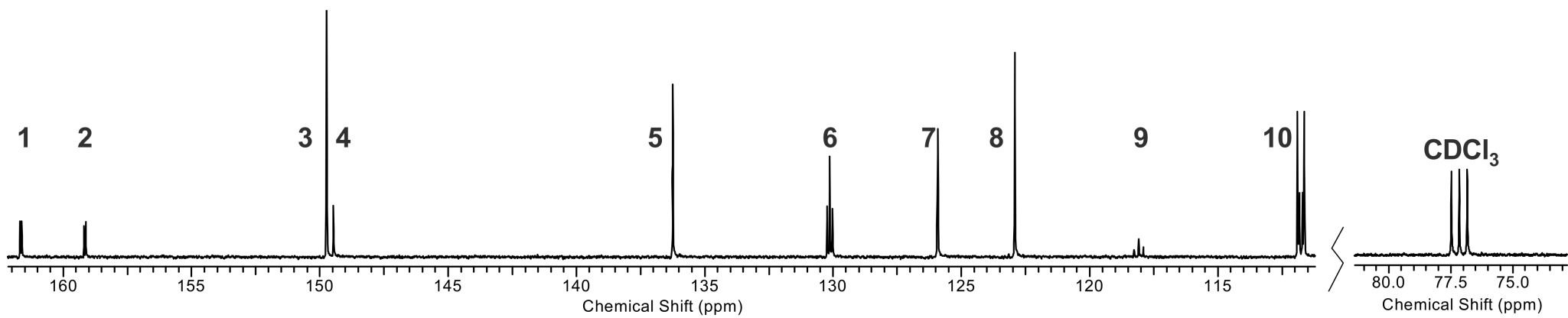
Jan Novotný
176003@is.muni.cz

March 29, 2023

1D ^{13}C NMR



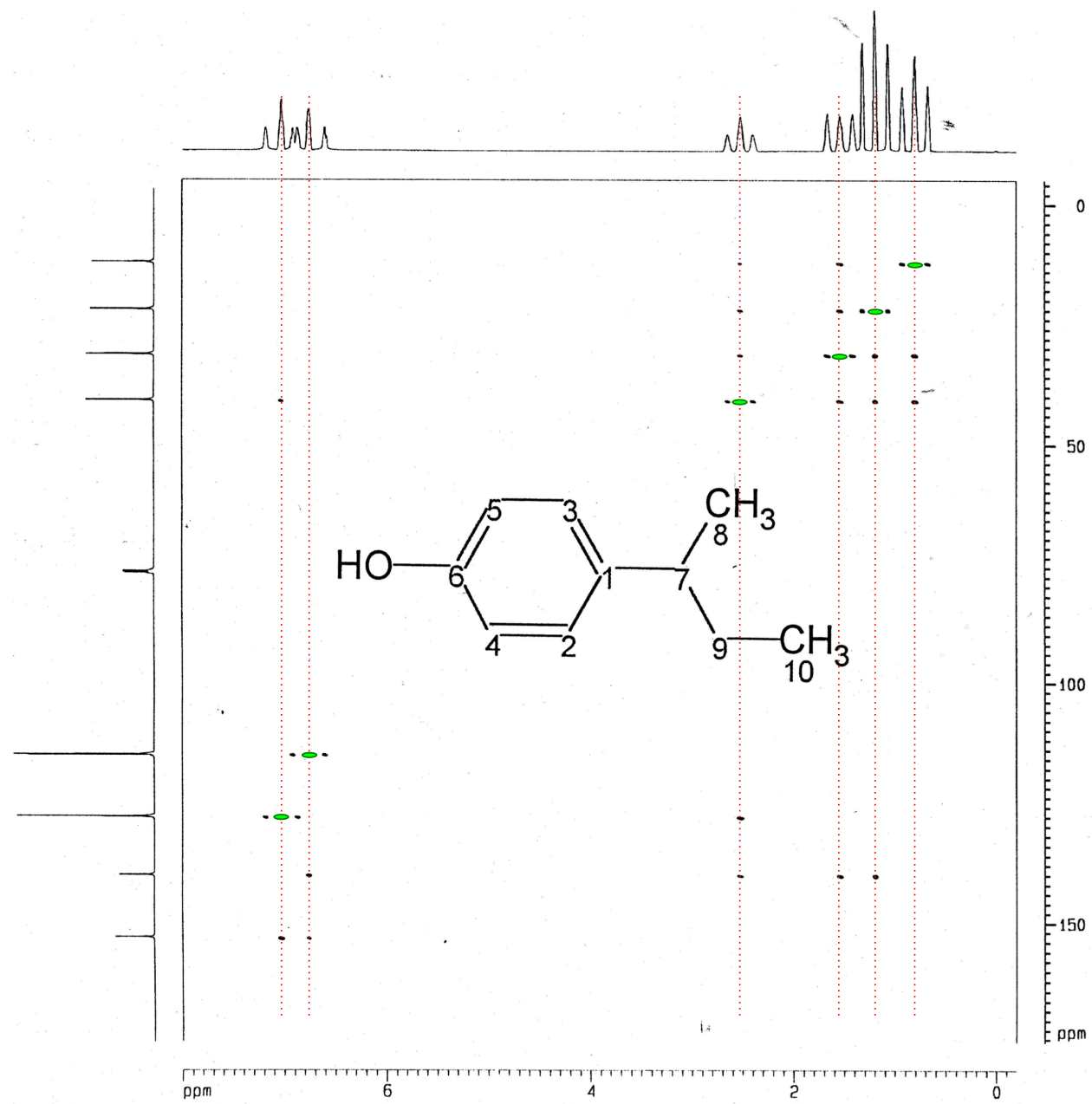
100 MHz, CDCl_3



Polarization transfer

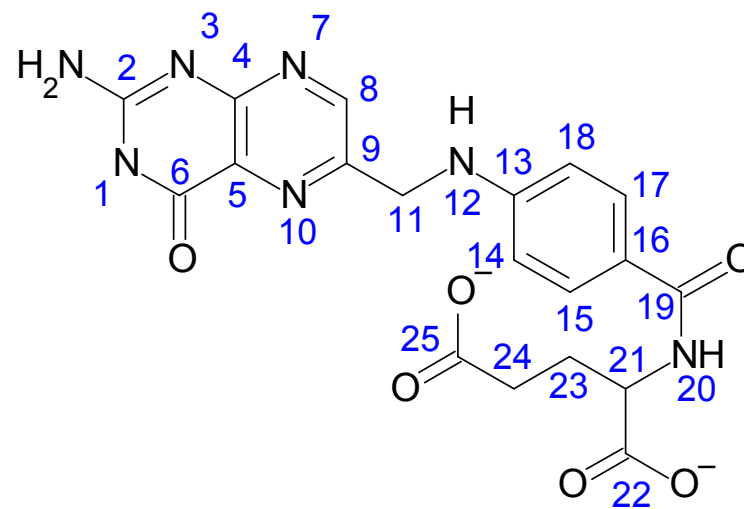
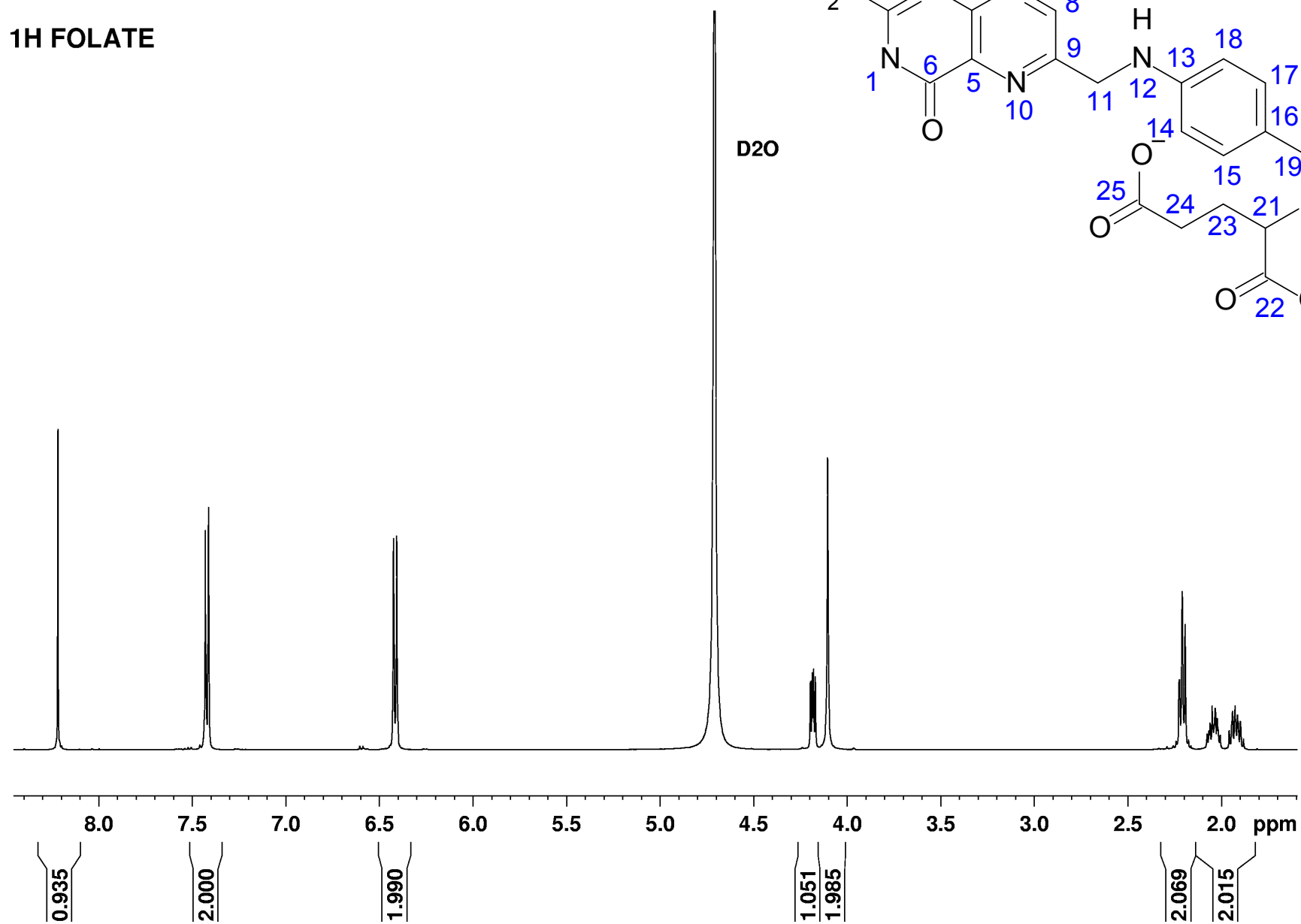
- ▶ bigger population difference of ^1H nucleus is transferred via J-coupling to less sensitive nucleus X (^{13}C , ^{15}N)
- ▶ fundamental building block of heteronuclear correlation experiments: in 2D-HX experiment each crosspeak manifests interaction of H and X nucleus coupled through bonds
- ▶ **Task: Draw the evolution of magnetization during basic INEPT pulse sequence. Consider C-H interacting pair.**

^1H - ^{13}C HMBC + ^1H - ^{13}C HSQC



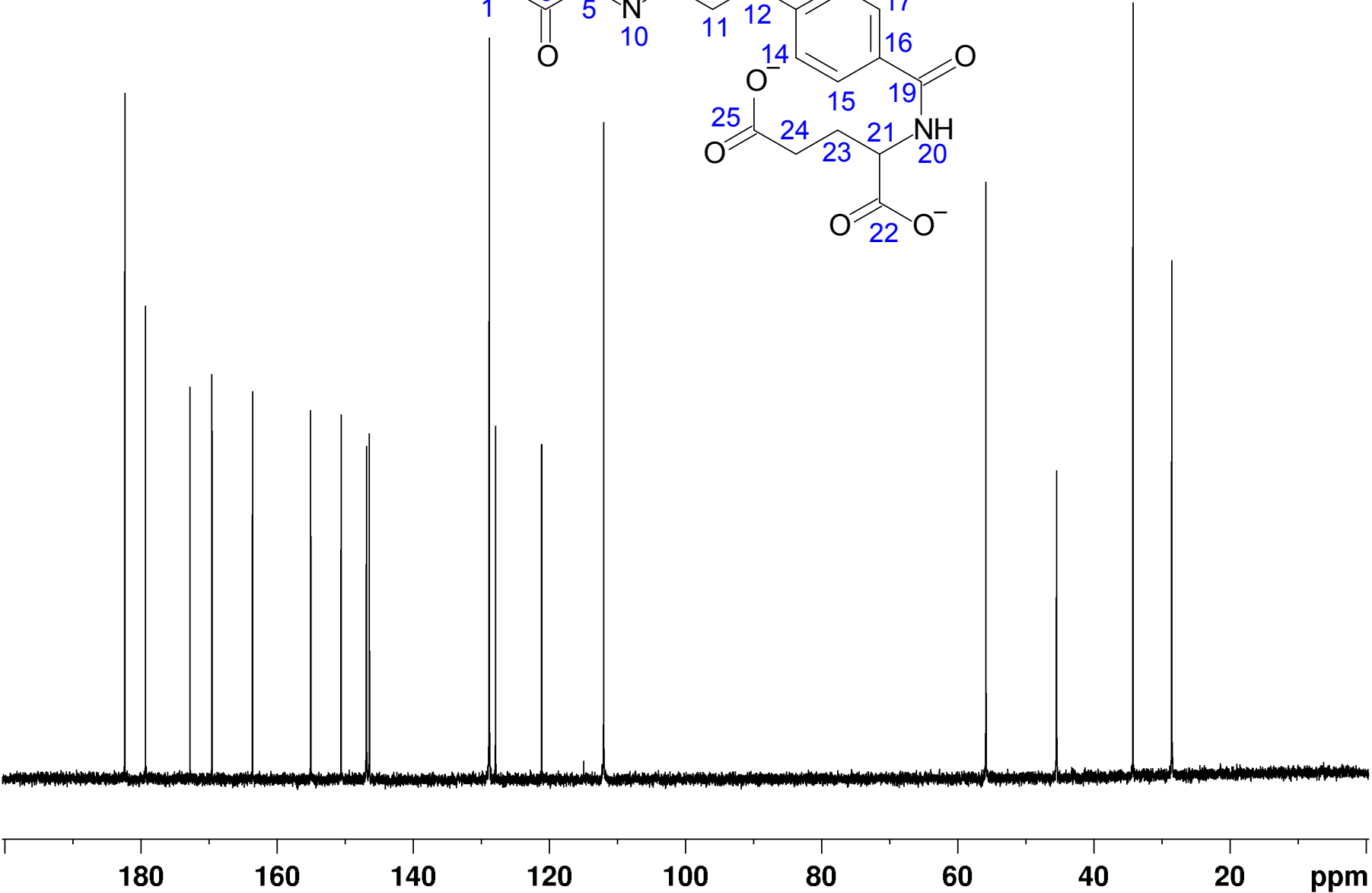
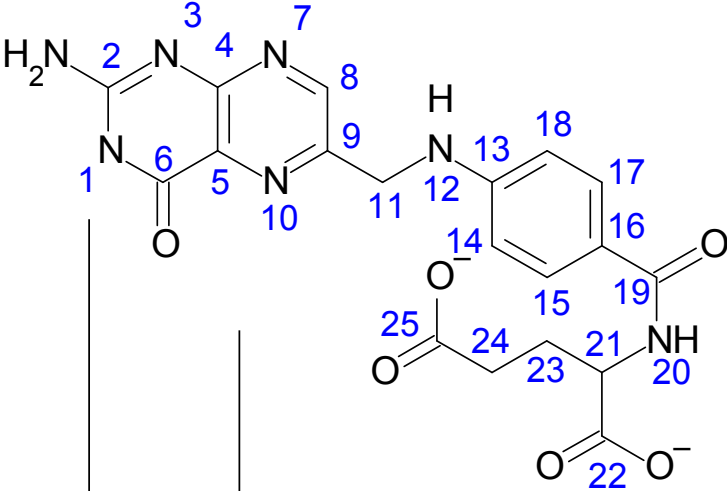
Folic Acid: ^1H 1D

1H FOLATE

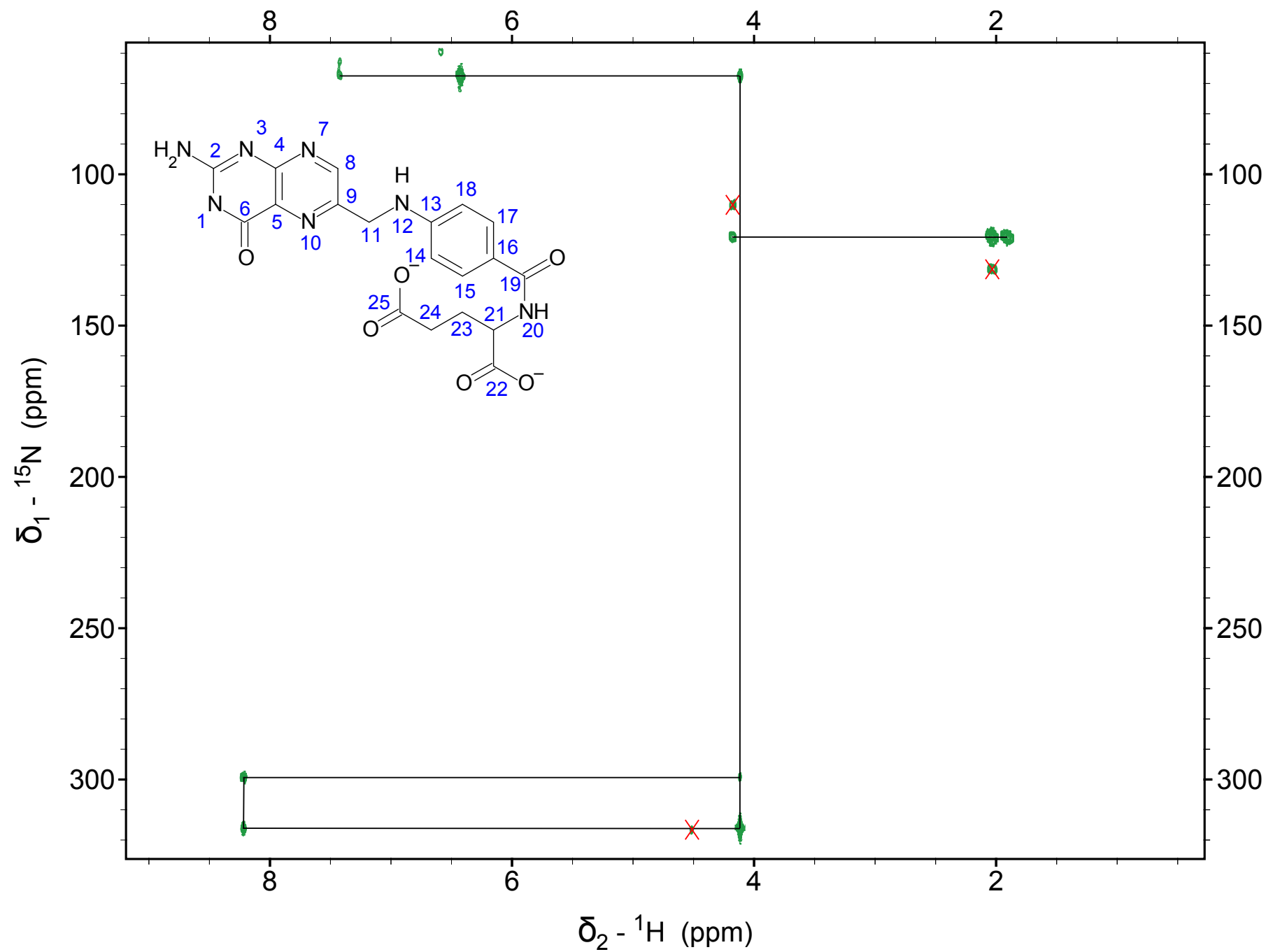


Folic Acid: ^{13}C 1D

^{13}C FOLATE



Folic Acid: ^1H - ^{15}N HMBC



Folic Acid: ^1H - ^{13}C HMBC

