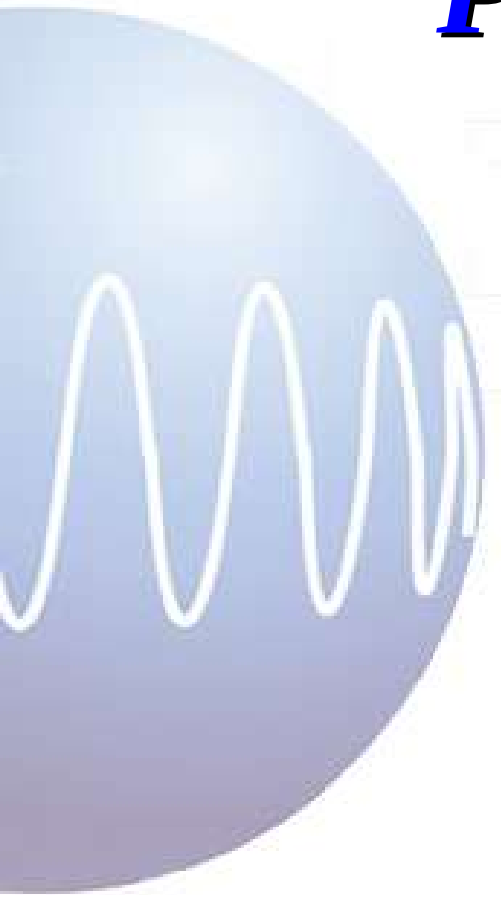
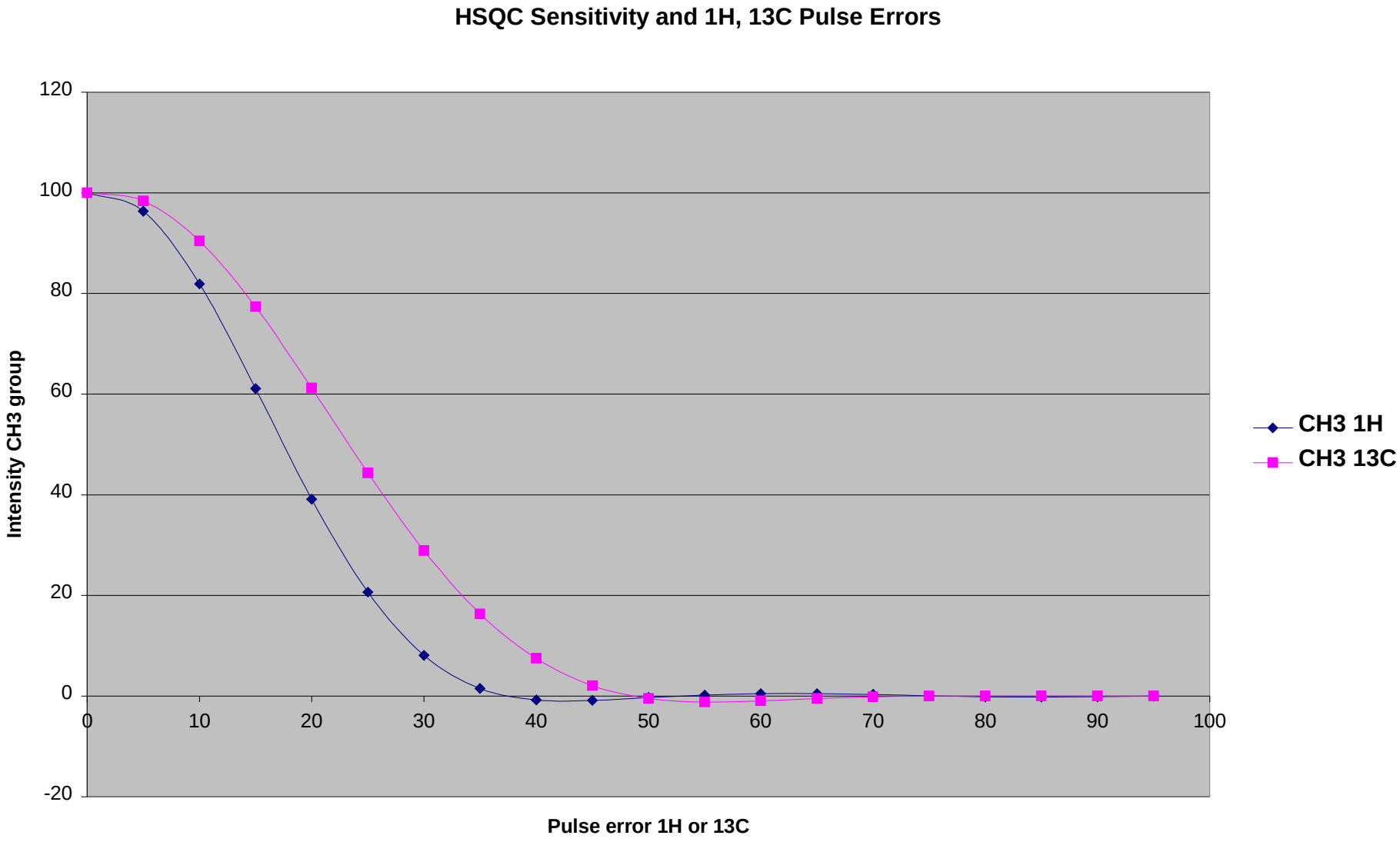
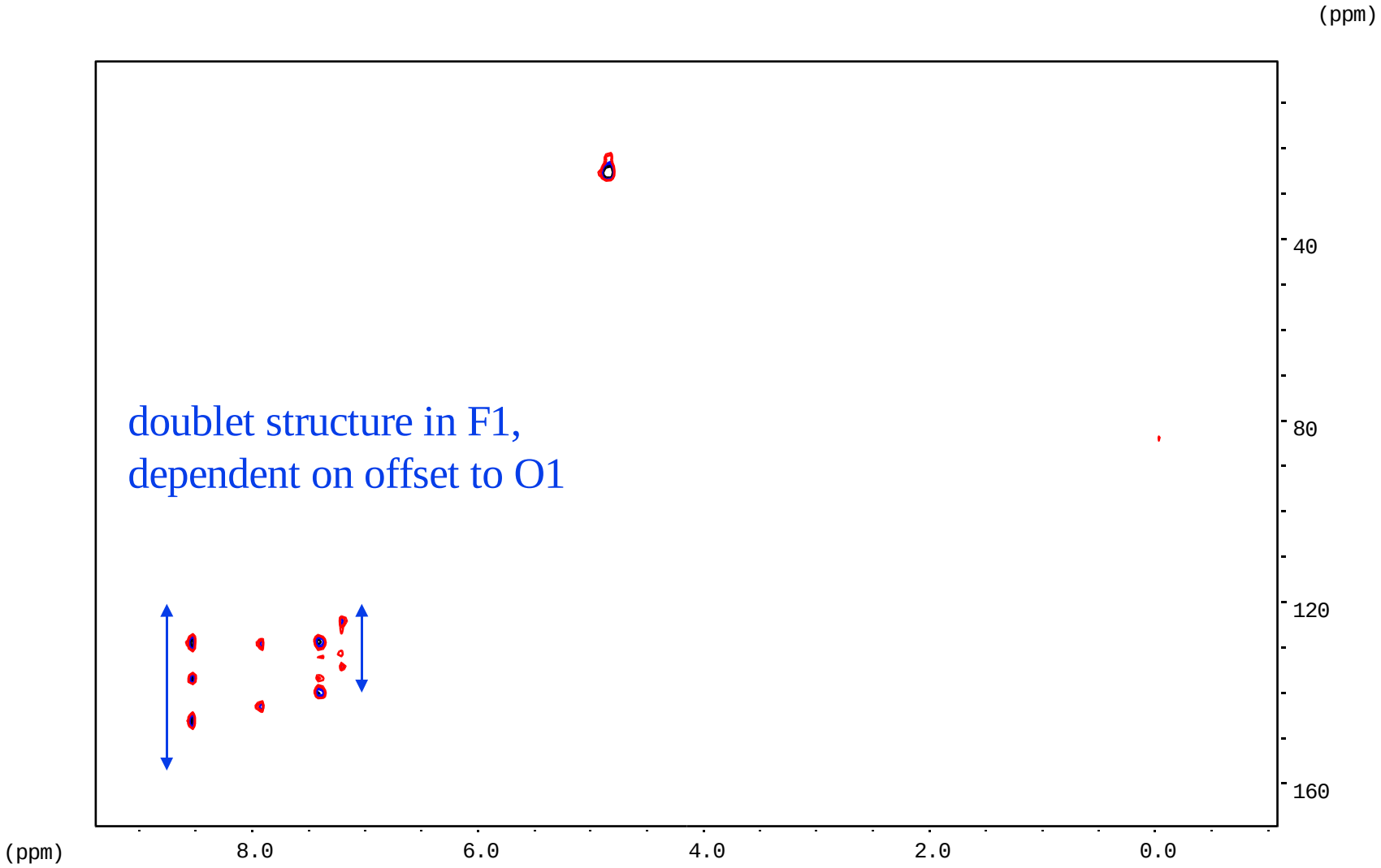
Pulse Calibration…..



HSQC and Proton Pulse Error

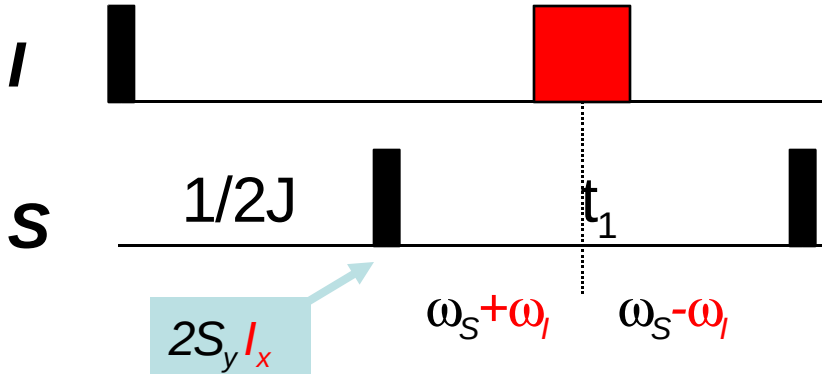


HMQC and Proton Pulse Error



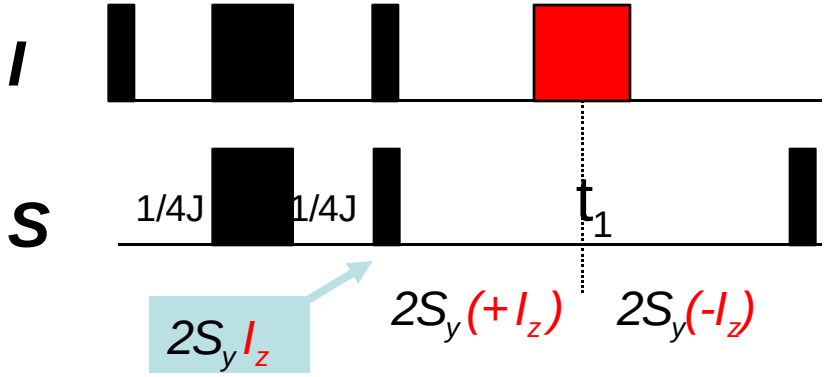
Proton Pulse Errors during t_1/t_2 Evolution

HMBC-type



Large impact:
chemical shift!

HSQC-type



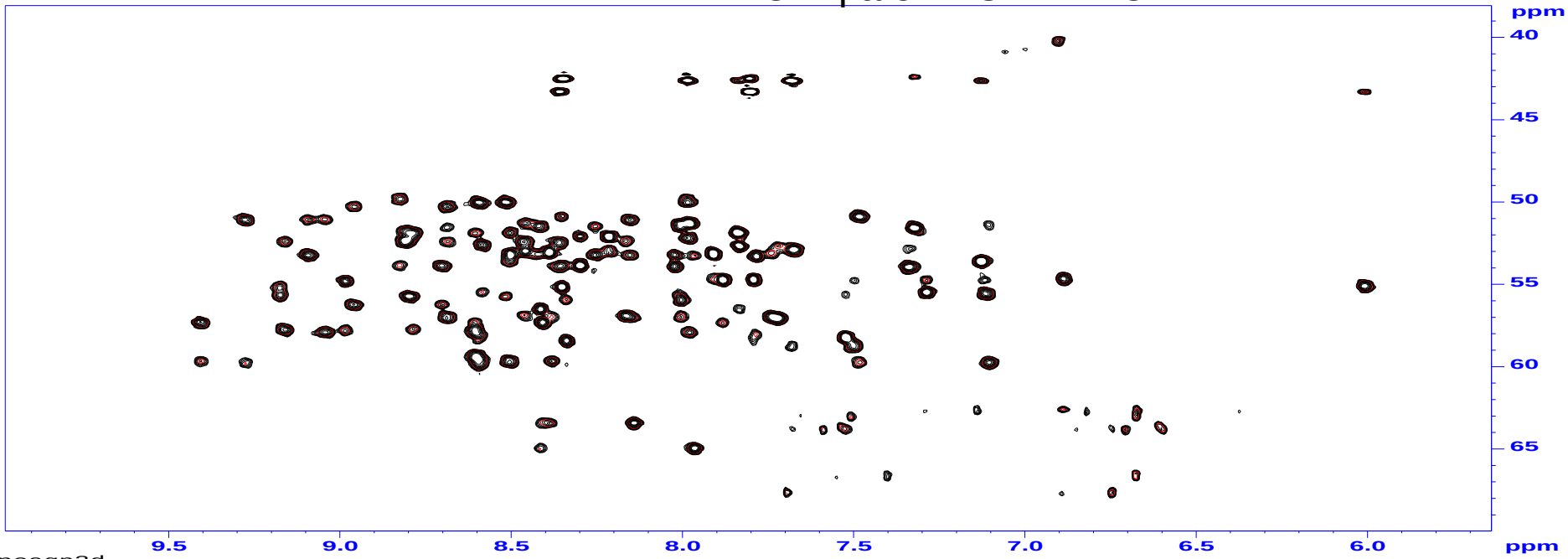
Small impact:
scalar coupling!

Pulse Calibration…..

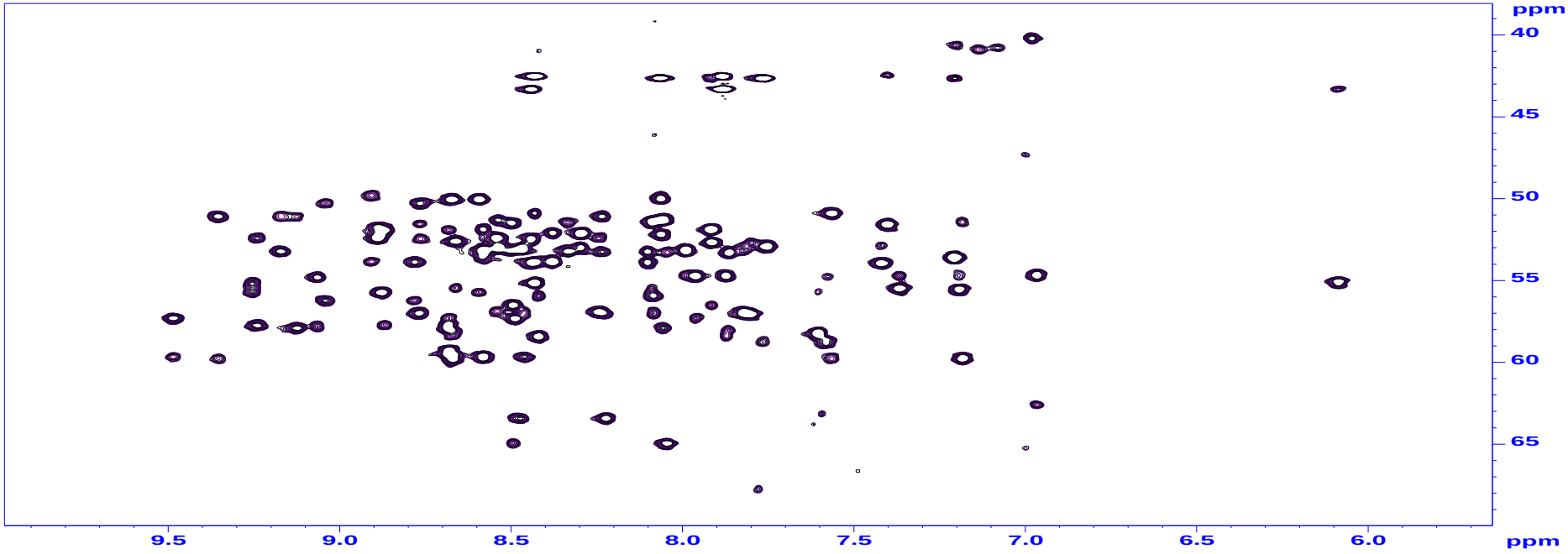
Triple Resonance Experiments

Compare TROSY-HNCA / HNCA

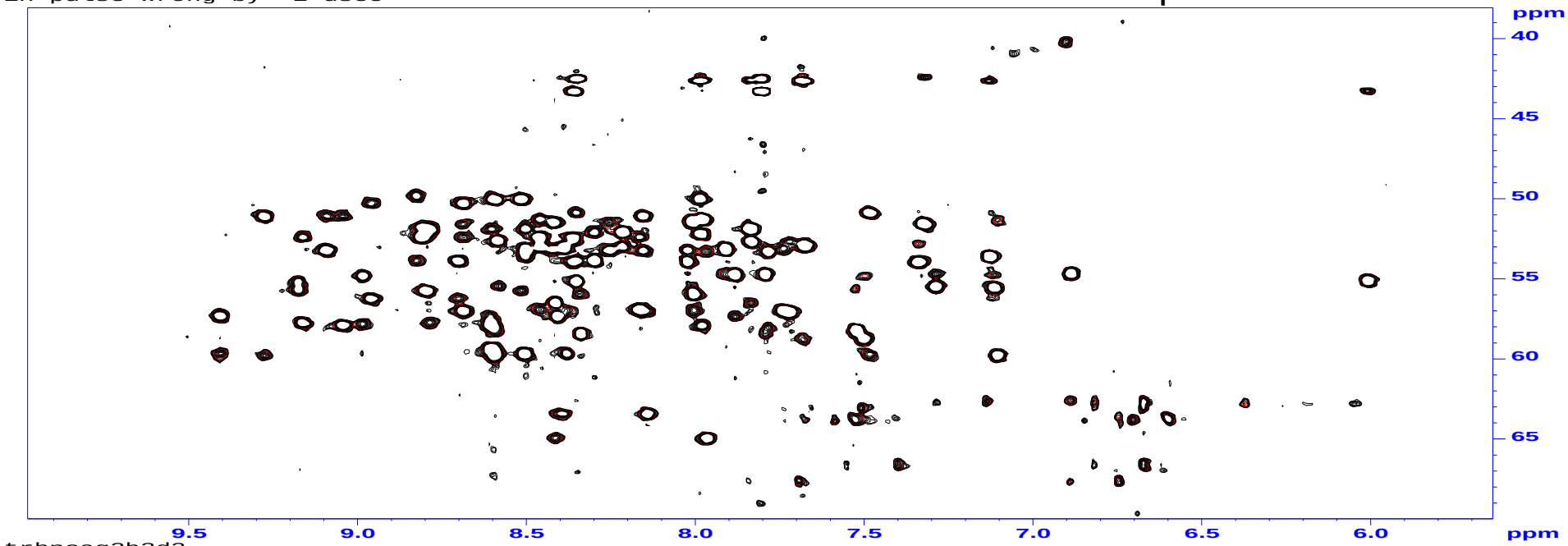
trhncag2h3d2 reference

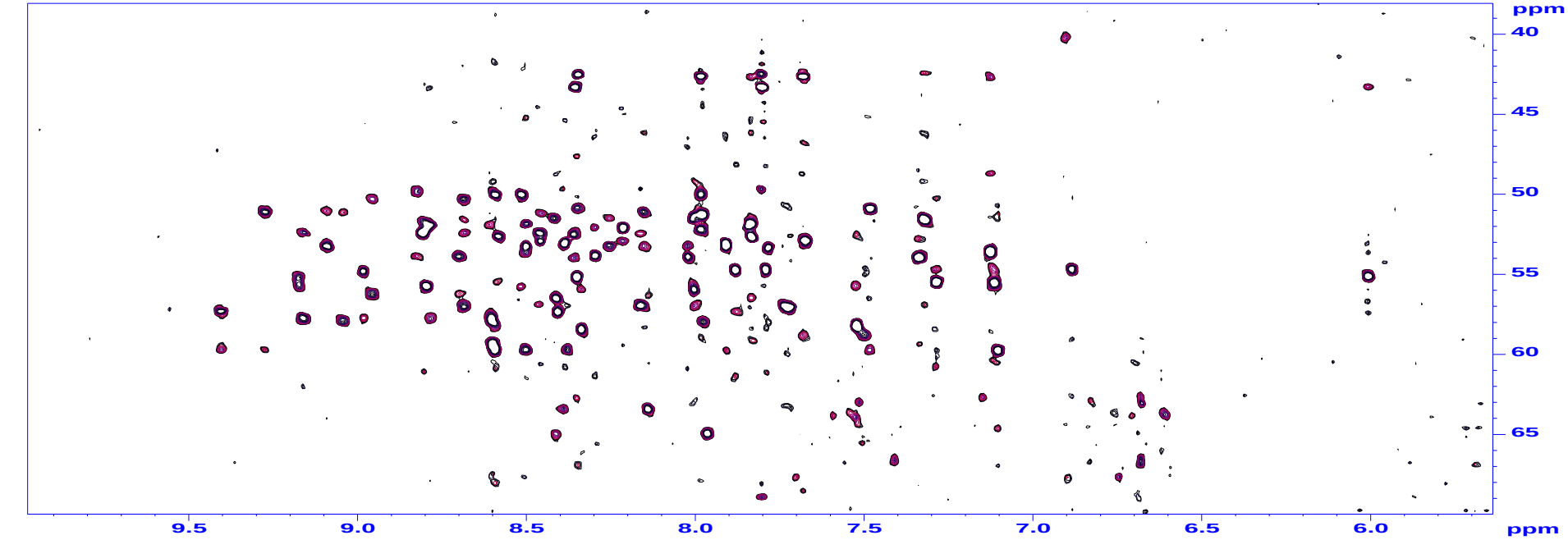


hncagp3d
reference

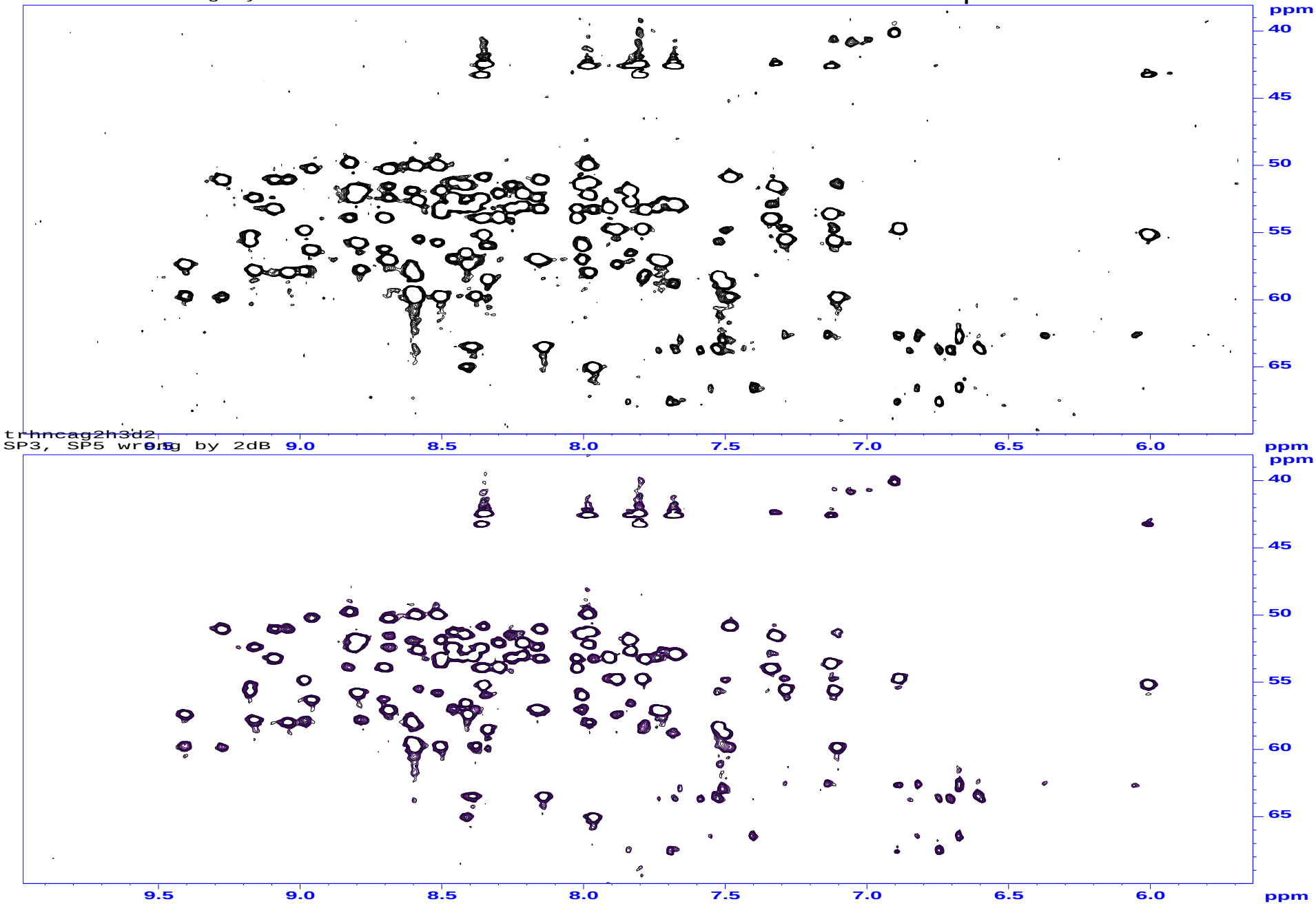


TROSY-HNCA: 1H pulse error



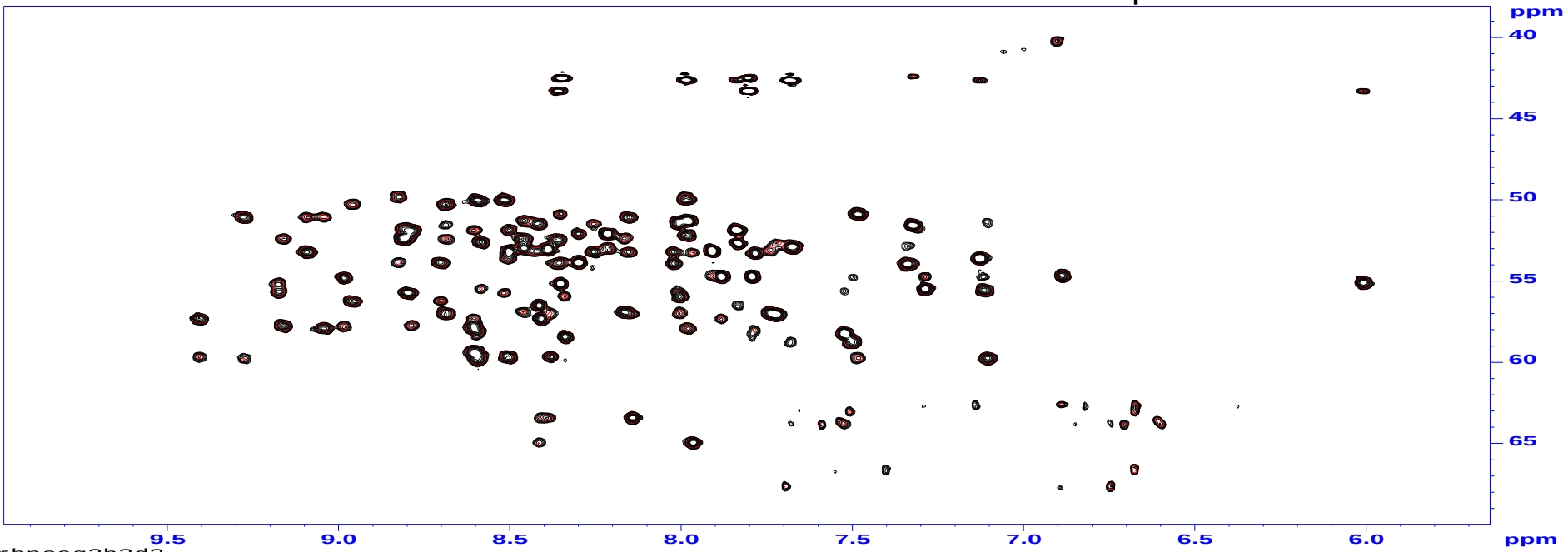


TROSY-HNCA: 13C pulse error

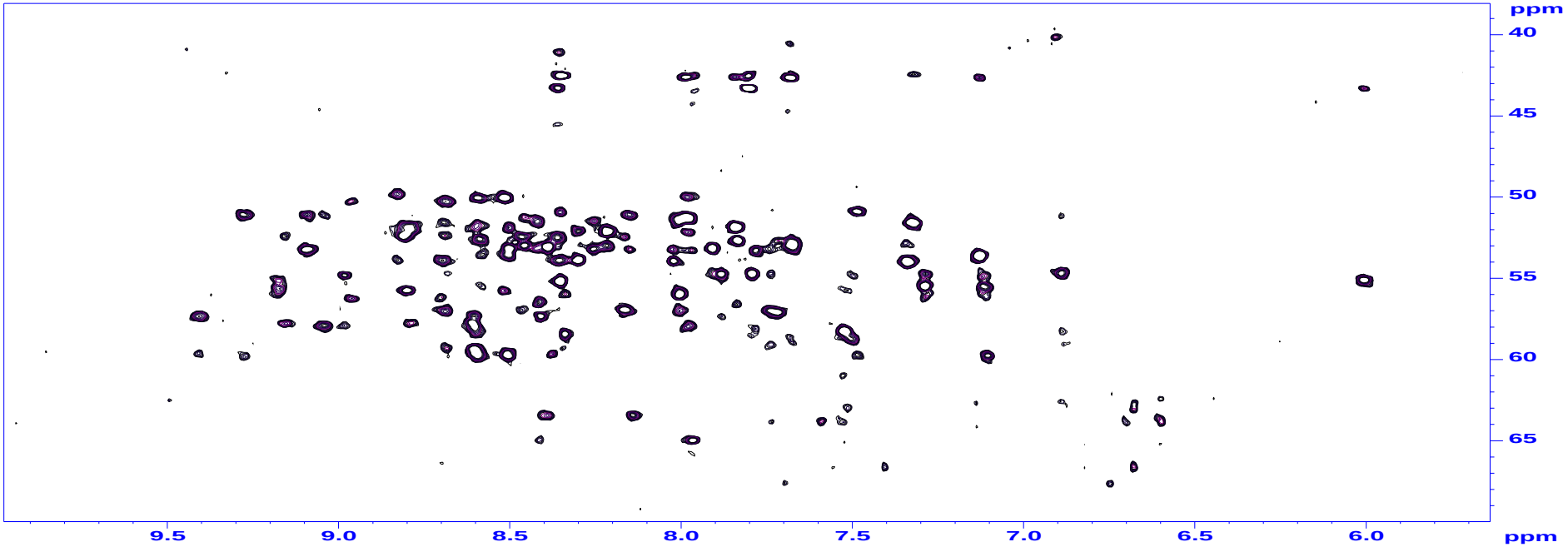


TROSY-HNCA: 15N pulse error

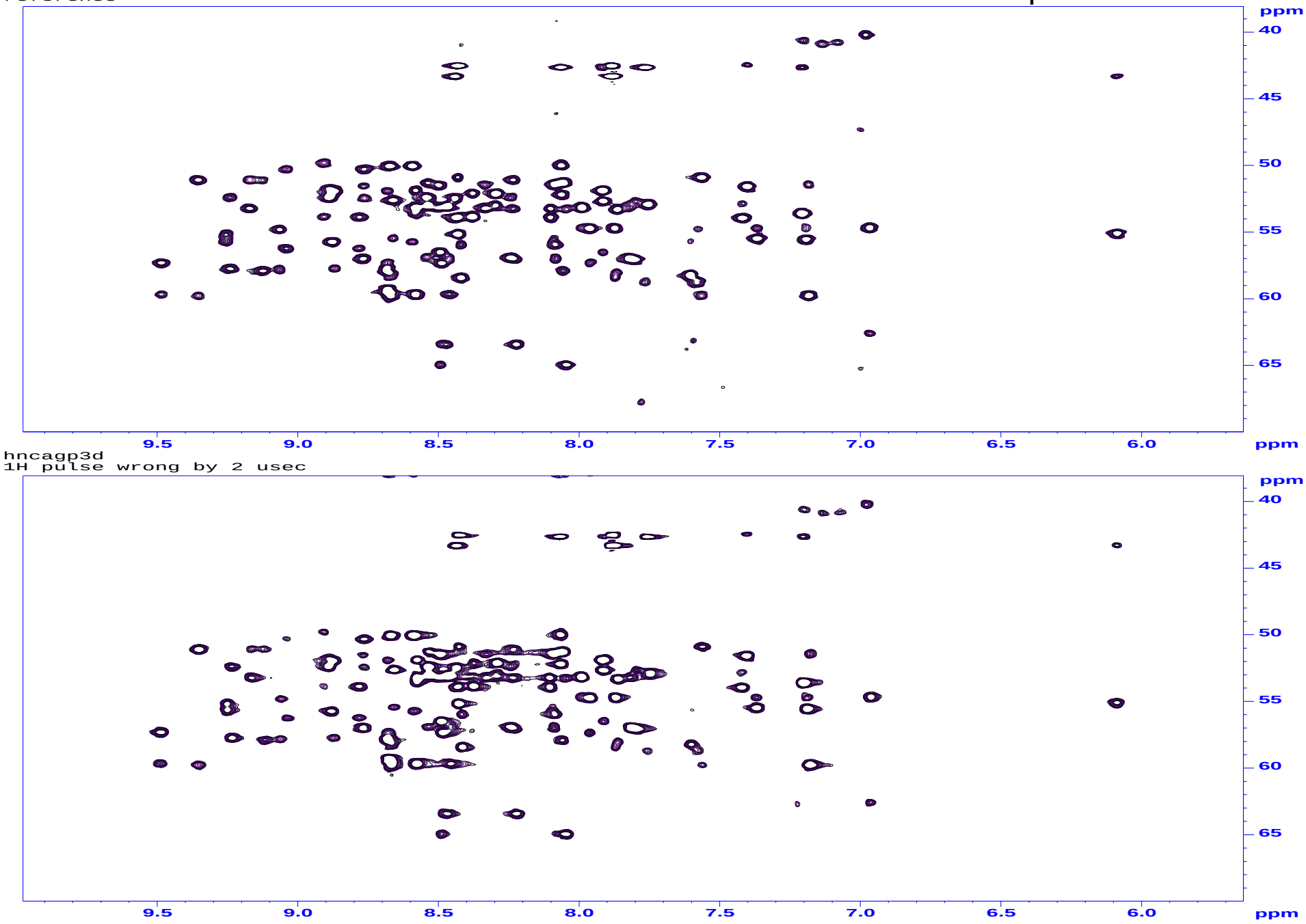
trhncag2h3d2 reference

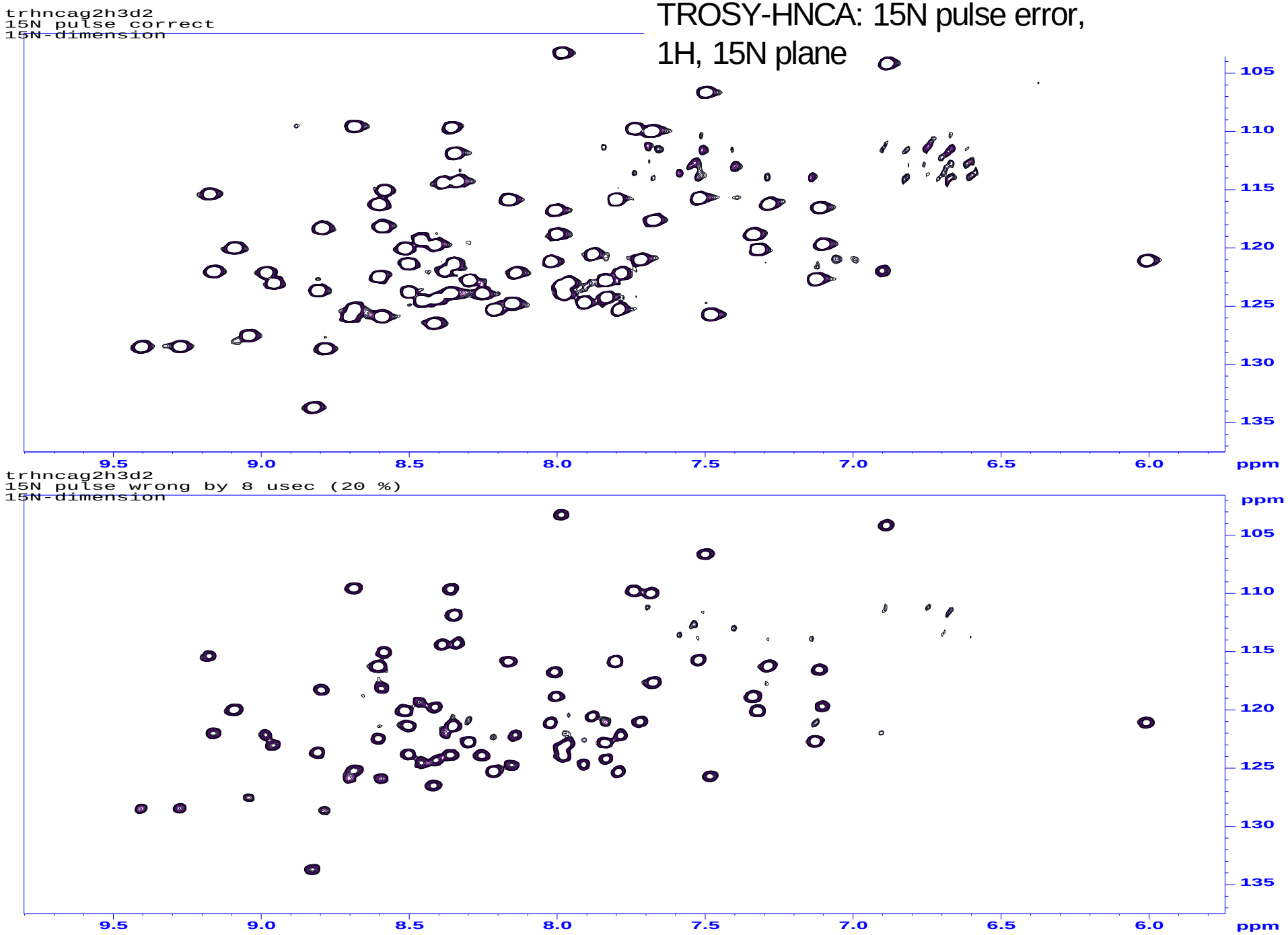


trhncag2h3d2
15N pulse wrong by 8 usec (20 %)

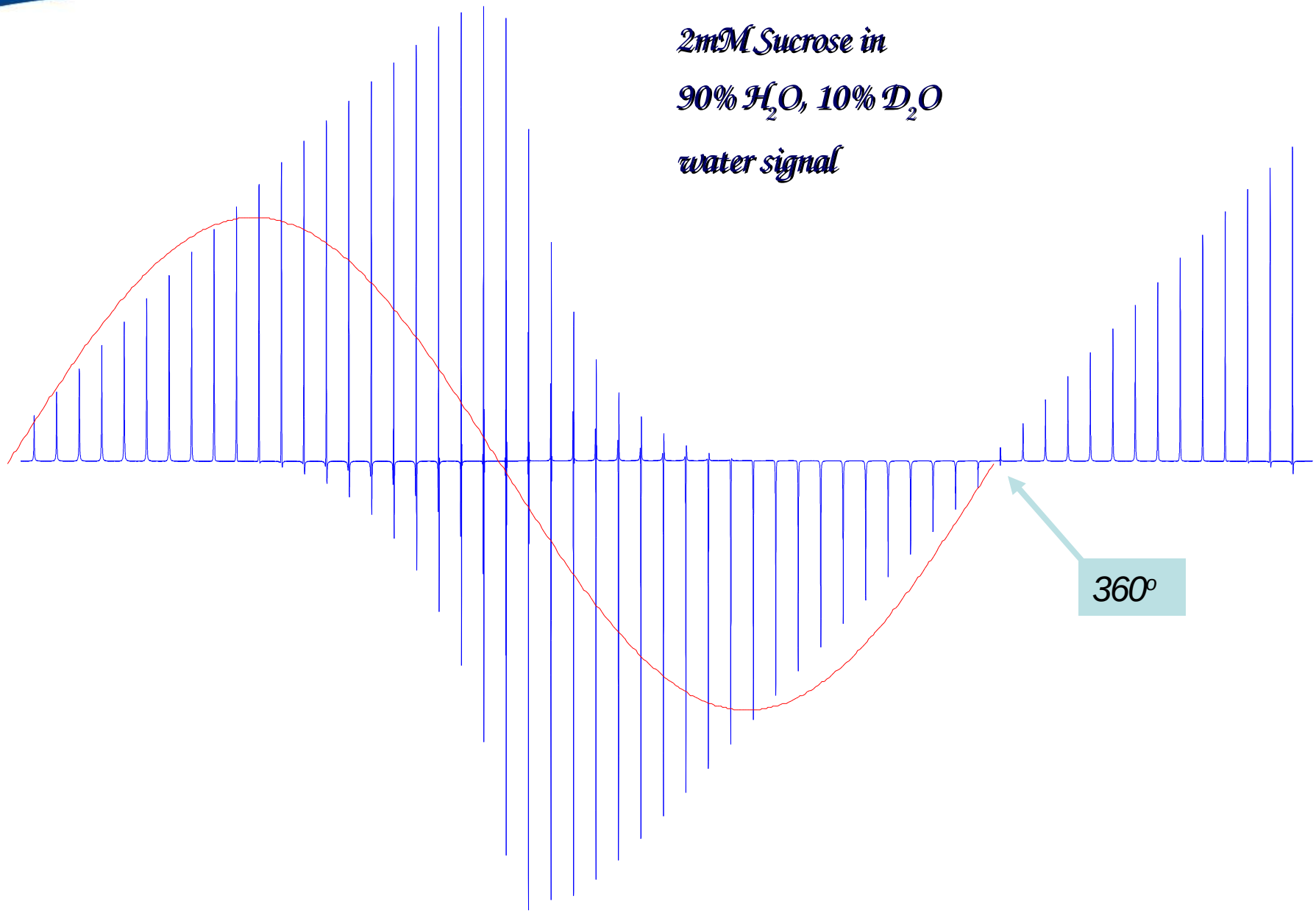


HNCA: 1H pulse error




trhncag2h3d2
15N pulse correct
15N-dimension
TROSY-HNCA: 15N pulse error,
1H, 15N plane
105
110
115
120
125
130
135
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
ppm
trhncag2h3d2
15N pulse wrong by 8 usec (20 %)
15N-dimension
ppm
105
110
115
120
125
130
135
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
ppm

So how to Calibrate the 1H Pulse Correctly???



Linear Prediction in 2D and F1-Quadrature Images

t_1-Quadratur Images and Linear Prediction

^{1}H, ^{1}H projection of a 3D ^{15}N-NOESY-TROSY spectrum. Sample had a very low sensitivity, the residual water was large with respect to compound signals