***Notes about a Methods file for acidoCEST MRI data.***

***Marty Pagel, 12/25/2022***

**My comments are in bold and black. -- Marty**

**General information about the datafile**

##OWNER=PagelLab

$$ 2022-02-18 12:01:32.486 -0600 PagelLab@CZC4170WSK

$$ /opt/PV6.0.1/data/PagelLab/zalles\_1\_173\_20220218\_103118/8/method

##$Method=<User:cestFISP\_Pagel5>

**Saturation Power, Time**

##$PVM\_MagTransPulse1=(4000, 0.32, 214582.224587547, No, 3, 1280, 1, 1, 0, 50,

0.0230911474820275, <bp32.exc>)

**(Saturation time = 4000 milliseconds, or 4 sec)**

**(Saturation pulse flip angle = 214582.224587547 degrees)**

**(214582.224587547 degrees)/(360 degrees) = 596.061733 cycles**

**(596.062 cycles)/4 sec = 149.015 cycles/sec = 149.015 Hz**

**(149.015 Hz)( 1 microTesla / 42.56 Hz) = 3.500 microTesla 🡨 THE FINAL ANSWER!**

**Note: 42.58 MHz/Tesla is the gyromagnetic ratio for 1H. For a 300.319 MHz magnet (see below for the exact spectrometer frequency for our magnet) this is a 7.053 Tesla magnet.**

**Saturation Frequencies**

##$PVM\_NRepetitions=264 **(and 44\*6 = 264)**

##$Number\_CESTrepetitions=6 **(6 CEST spectra are acquired)**

##$Number\_Offsets=44 **(44 saturation frequencies per spectrum)**

##$MTListFile=( 256 )

<sanhita\_cest\_ppm\_values\_20200902> **(The file where the ppm values are stored)**

##$PVM\_FrqRef=( 8 )

300.319335566331 0 0 0 0 0 0 0 **(The exact spectrometer frequency in MHz for our magnet)**

##$MT\_Offsets\_NoM0=( 44 )

-30032 -30032 -30032 -3003 -2703 -2403 -2102 -1802 -1502 -1201 -901 -601 -450

-300 -150 0 150 300 450 601 751 901 976 1051 1126 1201 1276 1351 1427 1502

1577 1652 1727 1802 1877 1952 2027 2102 2252 2403 2553 2703 2853 3003

**(Divide each frequency by 300.3193345566331 MHz to get the ppm value)**

**Geometry**

##$PVM\_Matrix=( 2 ) **(two lines, and the parameters below are also listed on two lines)**

64 64

##$PVM\_EncOrder=( 2 ) **(“2” is centric encoding)**

LINEAR\_ENC CENTRIC\_ENC

##$PVM\_Fov=( 2 )

19.2 19.2

##$PVM\_SpatResol=( 2 )

0.3 0.3

##$PVM\_SliceThick=2