

## 500 HCN RT z-axis Probe Default Parameters

- **Tuning for Ubiquitin**
  - $^1\text{H} \sim 60$
  - $^{13}\text{C} \sim 60$
  - $^{15}\text{N} \sim 60$
- **Offsets**
  - $\text{tof} \sim 176.8$  ( $\sim 4.77$  ppm at 25 deg C)
  - $\text{dof}$  ( $^{13}\text{C}$ )  $\sim 9607$  (174 ppm)
  - $\text{dof2}$  ( $^{15}\text{N}$ )  $\sim 1051$  ( $\sim 119$  ppm)
- **Pulse widths**
  - $^1\text{H}$ :  $\text{pw} = 8.1$  at  $\text{tpwr} = 58$
  - $^{13}\text{C}$ :  $\text{pwC} = 13.1$  at  $\text{pwClvl} = 61$
  - $^{15}\text{N}$ :  $\text{pwN} = 34$  at  $\text{pwNlvl} = 59$
  - $^2\text{D}$ :  $\text{H2pw90}(\text{ch4}) = 146.25$  at 47 dB
- **Deuterium decoupling using channel 4 (assumes garp1 or waltz with pwD90 of 250 usec)**
  - $\text{H2dpwr3D} = 43$  dB
  - $\text{H2dmf3D} = 4000$
  - $\text{H2dseq3D} = \text{'garp1'}$
  - $\text{H2dres3D} = 1$
- **Amplifier compressions**
  - $\text{compH} = 0.96$
  - $\text{compC} = 0.96$
  - $\text{compN} = 0.085$
- **Maximum Power Limits (set in ghn\_co)**
  - Channel 1: 59 dB
  - Channel 2: 61 dB
  - Channel 3: 60 dB
  - Channel 4: 50 dB
- **BioPack Power Limits (set in ghn\_co)**
  - $\text{BPpwrlimits} = 0$
- **Gradients**
  - $\text{gzlvl1} = 18000$ ,  $\text{gzlvl2} = 18270$  (ratio 0.985)
- Lock level values for lineshape sample
  - Lock power = 20
  - Lock gain = 20
  - Lock level when shimmed well > 90
- **Gain**

- Gain values should always be  $> 18$ . Values between 20 and 25 are typically good values.