

Wavemaker in TOPSPIN

Pulse shaping software

“WaveMaker is a software solution for pulse shaping that is based on waveform definitions within the pulse programs. This avoids any need to modify the PROSOL tables when new or non-standard shaped pulses and decoupling or mixing waveforms are required. It also adds flexibility to and improves portability of many standard and user developed experiments and pulse programs.”

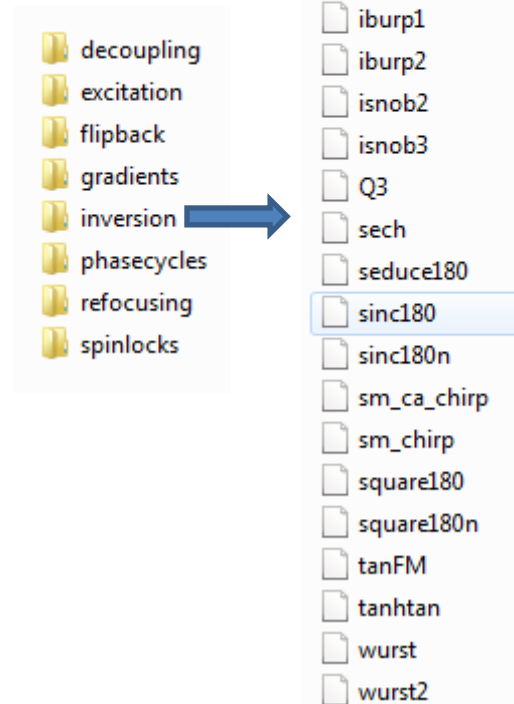
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Wavemaker uses existing hard-pulse calibrations for each channel (eg from **prosol**) to calculate calibrations for any defined pulse shape, duration, bandwidth etc.

Avoids need for *Shapetool* calculations.

wvm -a command-line statement calculates all defined pulse shapes (power levels, durations etc) and writes these into the current parameter set.

Created pulse shapes are stored in central TOPSPIN directories!! Beware...



Example *Wavemaker* statements in pulse programs:

Broadband adiabatic ^{13}C inversion pulse on F2 in HSQC:

(p14:sp3 ph1):f2

;sp3:wvm:wu180C13: cawurst-20(260 ppm, 0.5 ms)

Adiabatic ^{13}C decoupling on F2 in HSQC:

cpd2:f2

;cpd2:wvm:wudec: cawurst_d-20(220 ppm, 1.4 ms)

Selective ^{19}F inversion pulse on F2 in ^{19}F HOESY:

p14:sp3:f2 ph2

;sp3:wvm:fnoeQ3: Q3(cnst8 Hz)

Selective ^1H refocussing pulse on F1 in HOBS pure-shift

(p12:sp2 ph3)

;sp2:wvm:HOBS180: gaus180r(cnst8 Hz)

Or ;sp2:wvm:HOBS180: usera1(cnst8 Hz) [allows easy change of pulse shapes]

wvm output

Experiment Setup:

```
cpdprg2 = wudec.cpd
p14 = 500.0000 us
pcpd2 = 28032.0000 us
plw12 = 3.6215 W
spnam3 = wu180C13.wv
spnam15 = wudec.wv
spw3 = 27.6867 W
spw15 = 3.6215 W
```