Shaped Pulses for Selective Excitation

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This is a brief guide to creating shaped pulses using the interactive shape tool. These shaped pulses can be used to selectively excite peaks. (NB: some things below seem to hide in TS3.5; please let me know of corrections/updates.)

1. Acquire a 1D spectrum of the compound of interest as a reference spectrum.
2. Using integration mode, define and integrate all regions around the peaks to be excited, then save and return.
3. Create a new dataset (`edc` or `iexpno`)
4. Read in the pulse program *selgpse*. (`pulprog selgpse`)
5. Switch back to the reference spectrum.
6. Open up the Shape Tool (**Acquire → More → Shape Tool** or `stdisp`).
7. Create a new Guassian curve (**... button → → Classical Shapes → Guass**).
8. Set '*Size of Shape'* to 1000 and *'Truncation Level'* to 1%.
9. Parameters: (check-list icon / *define ASED parameters*)
    a. Set '*Length of shaped pulse'* to P 12
    b. Set *'Power level of shaped pulse'* to SPW 2
    c. Set '*Name of shaped pulse'* to SPNAM2
    d. click *OK*.
10. Define the excitation:
    a. In the Shape Tool window, use the ⌴ tool to define a new excitation region by dragging the edges of the box to fit the peaks to be excited
    b. Open the Manipulate Command Region window (E –button or `manipul region`)
    c. Enter the left and right limits of the peaks to be excited (in Hz). Set the '*Shape'* to Guass, and the type of rotation (eg, I_z to I_y).
    d. Set "*Alignment with respect to"* to Center of Shape and "*Type of 180 Degree Pulse"* to Refocusing.
11. Click the Disk icon and name your shape.
12. It will ask you to select an associated data set. Choose the one you created in Step 3.
13. Return to the other data set (created in Step 3) and acquire a spectrum.