T1 measurement

T1 measurement is very important if you are going to run 2D NMR. T1 is called spin-lattice relaxation time. Here lattice means the environment of the magnet, the proton.

`dot1` ↓; this command sets up the t1 experiment, which prompts for the following:

- enter minimum t1 expected (sec): 0.1 ↓ (0.1 to 1 second is a good starting point)
- enter maximum t1 expected (sec): 4 ↓ (5 to 10 sec are typical)
- enter number of transients (nt): 1 ↓ (use minimum nt). Sometimes it does not popup, so you need to type in.

By typing `dps`, you will see the sequence.

![Sequence Diagram]

The d2 array detail is listed below this window.
Dot1 also sets up the pw and pl as are shown in the pulse sequence. You can type dg to double check all the parameters.

\[ p_1 = 2 \times p_{90} \]

Now you see that nt is 8. Please change it to 1 to save your time.

\[ ga \]

When the experiment is done, type dssa \[ \downarrow \]
dscale, vp=10

ds(12) (please use the last spectrum),
aph
click $ph$ and adjust the level using the mouse. Peaks above the $ph$ line will be selected.
dll or dpf
t1s (you will get the T1 for each peak).
(If you type $t1$ rather than $t1s$, you get all the information at all 12 steps of the array of d2).

expl $J$ will give you the following exponential curves. T1 is the constant of the curve.

Note:

Please do not type wft, which will show you the first spectrum and all the peaks were down. But you can type wft(12) to show the last spectrum.