Solvent Supression:

Using presaturation

A different and more efficient method of doing solvent presaturation is with the presat pulse sequence which does not rely on the decoupler. This is available on all instruments and for the v300 and v400, you will need to have run the ^{1}H NNMR for you sample previously. Also for the v300 and v400, you will be clicking on the submit DayQ or NightQ buttons to queue up your experiments.

1. Collect a 1D spectrum with **nt=1**.
2. Place the cursor on the peak to be presaturated and type **nl**.
3. Type **sd**. This sets the **dof** value.
4. Type **presat** to call up the parameters for water presaturation. You will have 5 saturation parameters:
sspul='n'
satpwr=2
satfrq should be set to the **dof** frequency
satdly=1.5
satmode='ynn'
5. Adjust **satdly** (saturation delay) for optimum saturation. Try **satdly=1.5** and **d1=0**. The satdly is part of the relaxation time.
6. Adjust **satpwr** (saturation power) for optimum saturation. Do not go above 25. Try values of 1 or 2 first.
7. Collect another 1D spectrum with nt=1. If the solvent peak is sufficiently saturated, increase the nt and collect your spectrum. If not, repeat steps 5 and 6 or adjust satfrq.

Suppressing one or more peaks using gradients

The wet1d sequence uses shaped pulses and gradients to suppress the peaks. The shaped pulse allows you to suppress more than one peak at a time (although you can use this for single peak suppression as well).

1. Collect a 1D spectrum (**nt=1**) with your sample not spinning.
2. Find the 90 degree pulse and set **pw** to that value.
3. Click on **[Pbox]-[90]**
4. Put the cursors around the first peak to be saturated
5. Click on **[e-snob]**
6. Put the cursors around the second peak to be saturated
7. Click on **[e-snob]**
{repeat steps 6 and 7 if you have more peaks to suppress}
8. Click on **[close]**
9. Click on **[name]**--give a name to this shape (used in step 15)
10. Click on **[close]**
11. Answer the questions about **ref_pw90** and **ref_pwr** (the 90 degree pulse you determined in step 2 and **58** for the reference power level on the VI-500). If you make multiple shapes, this question is only asked the first time.

12. Click on **[Text]** in the right-hand scroll bar and scroll down near the bottom. Make note of the values in the text window for **pwwet** (in ms) and **wetpwr** (in dB). You will see something like this: *"Set pulse width to 6.3900 ms" "Set pulse power to 23 dB"*
13. (optional) move to another experiment, e.g.: **jexp2 mp(1,2) mf(1,2) wft**
14. Type **wet1d**
15. Change the parameters for the wet sequence to use the pulse shape you just made:
wetshape='*name_of_shapefile*' (from step 9)
pwwet=6390 (now in μs: multiply the value in step 12 by 1000)
wetpwr=23 (dB) (from step 12)
axis='d'
16. Collect your spectrum (**ga**).