How to Run a 1D NOE NMR spectrum

The 1D NOE NMR spectrum allows us look at the Nuclear Overhauser Effect quickly. The NOE is a small enhancement in the signal that can be partially quenched by paramagnetic species in solution, specifically O2. A Freeze-Pump-Thaw and flush with nitrogen or bubbling a sample with nitrogen gas or argon and parafilming may be necessary.

1. As with all other NMR experiments, get your sample in the magnet, lock, shim and chose parameters. Do NOT spin the sample! To run the experiment, choose SELNOGP in the ~/par menu. You will need to identify the peak of interest and its distance in Hz from the center of the spectrum. This distance is the value for SPOFFS2. The shape of the suppression pulse can be altered with the ShapeTool. You will need a 1H spectrum to do the above calculations and Shape optimization. Do an **rga**. Acquire data with **zg**. To stop an experiment use **halt** (saves data) or **stop** (doesn’t save data). You will need many more scans than a typical 1D spectrum.
2. To transform the data, use **ef** and **apk**.
3. You may need to phase this data. To phase manually use .
4. Calibrate the spectrum with . Type in the correct chemical shift. Usually the chemical shifts are very close to correct.
5. Process the data as you would any other proton.
6. Use Plot tab to set up plots, physically or electronically (JPEG,PNG, PDF, TIFF) through ->Export . 
7. Remember that the sample is constantly moving in space. The SELROGP may be a better experiment or the 2D NOESY.