

How to Run a Homonuclear Decoupled 1D Proton

This experiment allows you to select one peak and “remove” it from the coupling pattern of another peak, which simplifies a more complex multiplet for interpretation.

1. Run a 1D proton spectrum.
2. Write this file to another experiment by typing “wrpa #”, where # = the experiment you wish to run the homonuclear decoupling in. (example: type “wrpa 2” to write the file to experiment 2)
3. Locate the center of the peak you wish to irradiate for decoupling. Write down the chemical shift in Hz for the peak.
4. Enter experiment 2 typing “re 2”.
5. Type “homodec”.
6. Select your solvent at the prompt.
7. Type “o2” and enter the chemical shift in Hz that you found for the 1D proton.
8. Type “ns” and change the number of scans as needed. Typically you don’t need more scans than a normal proton experiment.
9. Type “zg” to begin the acquisition.
10. When the experiment is complete, type “efp” and “apk” to view the spectrum and autophase.
11. To run the decoupling experiment on other peaks in the spectrum, go to experiment one by typing “re 1”. Repeat steps 2-11 as needed.
12. Print the spectra using the *Topspin Plot Guide* for plotting 1D spectra.