CHEM 318
OBTAINING A ^{1}H NMR SPECTRUM
ON THE BRUKER DRX 400 IN PLANET 18
http://nmr.gmu.edu/318_1h.pdf
Feb 19 2019 Version

GMU NMR Center

Do not photocopy this document. Instead, print out the current version at the above address.

Rules: No 318 students beyond yellow chain. Your instructor or the NMR tech must insert your sample into the magnet. If you have a pacemaker, hearing aid, or any metal implant it is safe for you to enter the room and sit at the computer, but it is not safe for you to go beyond the yellow chain into the high magnetic field zone. Complete safety rules for researchers who insert their own samples are at **http://nmr.gmu.edu** along with other manuals for those 318 students who anticipate doing research projects.

The DRX 400 is expensive. It basically costs as much as one house. This is not a good room for throwing a small item to a friend.

Full non-Chem 318 access to the DRX 400 is strictly prohibited to all persons who are not checked off. The possession of this document alone does not constitute being checked off. Generating a 318 spectrum also does not constitute being checked off.

1. Sign the paper NMR log. Click the **Insert New Sample** button. Your instructor or the NMR tech will take out the old sample and put yours in.
2. Click the **OK** button.
3. Your File (the file name) is org with a number after it. If it flashes **Not Defined** then select the file name from the pull down menu.
4. Click the **OK** button.
5. Click the flashing **Set Solvent/Experiment** button.
6. Pick your Solvent from the menu (DMSO-d_6 (dimethylsulfoxide-d_6)).
7. Pick your Experiment from the menu (PROTON4VIEWS).
8. Click the empty bottom white field. Click the big empty white field to the right. Type your title. Click the **Set Title** button.
9. Click the **OK** button.
10. Click the flashing **START** button. Timing:

Exec	Lock	Shim	Acquisition	Processing
25 sec	30 sec	1-2 min	1 min	2 sec

Write down in your lab notebook the time shimming begins. Shimming is the longest part. This is where the instrument reduces your line width so a doublet looks like 2 peaks and not a mushy lump. Patience!

Shimming must be stopped manually after 2 minutes:
Click red **Stop** button to stop shimming.
Answer **Yes** to the warning.
Click red **Continue** button.
Click **Use Same/Continue** button.
Set Experiment to PROTON4VIEWS.
Put the title in again as above, even if it is already there, or it won't print.
Click the **OK** button.
Click the flashing **START** button.

Shimming is retained from the last time and skipped this time. Your 4 views print in a minute. Click the **Continue** button and turn it over to the next student. If you are the last student in your class, leave your sample in the magnet. Leave the program and the instrument on.