Wright State Chemistry NMR Lab

Training Application

Name (Print) ___________________________

I understand that training is necessary for correct, safe and efficient operation of the Avance 300 NMR. I agree to abide by the rules governing the training procedures as well as rules governing general operation of the NMR after training. Student accounts remain active only as long as they are enrolled in classes. Account owners are responsible for any improper or illegal activity that occurs on their account. These activities include, but are not limited to, harassment of others through electronic communication and use of university resources for business purposes. Therefore, account owners should not share their password with anyone for any reason. Misuse of resources can result in the loss of account (University and NMR) privileges and charges filed by the appropriate university offices.

RETURN THE FRONT PAGE ONLY

Signature ___________________________

User Name (w###abc) ___________________________

WSU email address ________________@wright.edu

Research Director (Print) ___________________________

The above named student requires the use of the NMR as part of his/her degree program.

Research Director Signature ___________________________

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NMR Lab Director ___________________________
1. Obtain, fill-out and submit a NMR Training request form.

2. Schedule training with Dr. Feld.

3. All data transfers occur automatically to your WSU email account or can be done by the use of SEND TO in Topspin. No back-up of data should be assumed.

3. Your research director is responsible for providing solvents and the purchase of appropriate NMR tubes and solvents. The use of clean tubes is of the utmost importance for the longevity of the instrument.

4. You will be provided with a sample for the first training session. Subsequent training sessions will require a student provided sample.

4. You must complete 2 hr of basic instrumental training with the supervisor, Dr. Feld.

5. You must pass a hands-on exam to be authorized to operate the NMR without the supervisor. You must be able to obtain a $^1$H NMR, a BB $^{13}$C NMR and one (of three) DEPT NMR in 45 min or less. You must understand the file transfer system.

6. The NMR workstations are available for advanced data manipulation (integration, peak-picking, phasing, etc). Separate training will be available for these techniques.
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Operating Rules

The Avance 300 NMR is an essential, expensive and a high-maintenance teaching and research instrument. As such, it should be treated with due respect. Each individual has a responsibility to follow the rules listed and to report any problems immediately.

1. Absolutely no NMR operation without required training and authorization. Unauthorized use of the NMR computer will result in NMR privileges being revoked. Off-campus users MUST be trained and authorized by the Supervisor and have a method of payment.

2. Access to 031 Oelman is by the operators ID card-sweep. A current WSU ID is required for access. Please see Dr. Grossie to have your WSU ID card read and entered into the database. Off-campus users MUST have an ID card with a magnetic stripe on file.

3. The NMR room is not to be used for anything other than the operation of the NMR. There is no authorization to use any related equipment in Room 031 Oelman.

4. The NMR room will be kept clean. No eating or drinking is allowed.

5. Any observations or suggestions concerning Room 031 Oelman should be reported promptly Dr. Feld, Dr. Fossum or Dr. Grossie.

6. All operators MUST log in appropriately. An operator may use only those programs on which he/she is checked out.

7. All samples are assumed to be those generated as part of on-campus Wright State teaching or research. Any off-campus samples must be cleared with the Supervisor.

8. Sample Handling Suggestions

   a. The operative phrase in the sample world is “GINGO – garbage in, garbage out”. You must have a pure sample to get a good NMR.
b. Aldrich tubes (Z569364) or equivalent MUST be used. The tubes used MUST be clean!!!

c. WEIGH the sample, 5-50 mg is appropriate. The use of larger samples shortens acquisition times. In most cases, the sample can be recovered.

d. The use of an APPROPRIATE grade of deuterated solvent is encouraged.

e. Sample solutions should not have any floating particles – filter as necessary.

f. 3-4 cm of solution should be put in the tube – NO MORE – to assure proper spinning and ejection

9. Hours of operation

9 am – 6 pm daily by ID card-swipe/supervised.
Off-hours – by ID card-swipe.

During the daily operating hours, you may reserve the NMR for 1 hour periods no more than one day in advance. No consecutive times can be reserved. No more than 4 reserved periods per day per group unless approved personally by the Supervisor.

Samples requiring long acquisition times MUST be arranged with the Supervisor at least 24 hr in advance. They cannot be run during the daily supervised period.

The Supervisor can terminate any experiment at any time.

10. If at any time any unusual operating characteristics are observed, contact the Supervisor immediately – DO NOT attempt to fix or repair any part of the NMR or computer.

11. Additional acquisition programs (automated sequences) will be brought on-line after check out by the Supervisor.

12. An operating manual is available in 031 Oelman. The manual is NOT a substitute for training.