

Routine 1D NMR: Bruker

Routine ¹H NMR Spectrum – Data Acquisition

- 1) Type **new** to set up a new experiment and read in the proton parameters (**1h.av500** or **1h.av600**).
- 2) **Lock** on to your deuterated solvent.
- 3) Tune the probe by typing **atma**.
- 4) Read in the default shim file: **rsh LAST**. Then run **topshim**.
- 5) Type **ased** to check your acquisition conditions. You could use **ns = 8** scans.
- 6) Set the receiver gain by typing **rga**.
- 7) Type **zg** to acquire your data.
- 8) Process your data: **ef** apodizes and Fourier transforms the time domain data, **apk** automatically phases the data and **abs n** corrects the baseline for more accurate integrations.

Routine ¹³C NMR Spectrum – Data Acquisition

If you are running a ¹³C NMR experiment immediately after acquiring a ¹H dataset on a particular sample, you can skip locking and shimming.

- 1) Type **new** to set up a new experiment and read in the carbon parameters (**13c.av500** or **13c.av600**).
- 2) **Lock** on to your deuterated solvent.
- 3) Tune the probe by typing **atma**.
- 4) Read in the default shim file: **rsh LAST**. Then run **topshim**.
- 5) Type **ased** to check your acquisition conditions. You can use **ns = 32** for 32 scans.
Note: For signal averaging, we suggest incrementing **td0**, which will routinely save your data every **ns** scans. E.g., for a total of 128 scans, set **ns = 32** and **td0 = 4**.
- 6) Due to its naturally low sensitivity (compared to ¹H), the receiver gain is already set to the maximum value. Do NOT type **rga**!
- 7) Type **zg** to acquire your data.
- 8) Process your data: **ef** apodizes and Fourier transforms the time domain data, **apk** automatically corrects the baseline, and **abs n** corrects the baseline for more accurate integrations.

Don't forget to LOG OUT when you are done! **CTRL + ALT + BACKSPACE** will log off your account.

There are more guides to data acquisition and processing. To see the latest versions of these, please go to: <http://nmr.uoregon.edu/facility/handouts>