

UCSF 500 Cheat Sheet

Macro Methods

1) Insert Sample

- Toggle lift on/off using console. Make sure you can feel air from the sample port before inserting sample.

2) Tune Sample

- Select TUNE_ALL in jdgross directory.
- Type **atmm manwbsw** and a separate window will open.
- Check nitrogen channel (should not have to adjust).
- Tune/Match hydrogen channel (will have to adjust). Be sure to click File -> Save Position in the tuning window before exiting.

3) Lock Sample

- Open H-Setup, select subdirectory 1 (90deg pulse experiment).
- Type **lock** and select 90% H₂O/10% D₂O.
- Manually optimize lock power (peak height ~half the height of the display window), lock field (center it), and lock phase (even baseline) by using the console.

4) Shim Sample

- Manually adjust Z1 and Z2 to optimize the lock level using the console.
- Once satisfied with manual shim, type **topshim** in the command line and automatic shimming will start. The lock level will hopefully increase more. If it is at the top of the display after shimming, reduce the receiver gain.

5) Determine 90° pulse (**p1**)

- Exit the topshim acquisition window and return to the 1D experiment.
- Use **paropt** to determine 360° (null signal) and divide this value by 4 to get the 90.

6) Run one-one echo experiment

- Open subdirectory 2 under H-Setup (one-one echo)
- Enter the value you determined in (5) for **p1**. Type **zg** to run the experiment.
- Once the experiment has run, type **efp** to transform the FID. Phase the spectrum.
- Check for well-dispersed signal in amide region (6-10 ppm).

7) Run the HSQC

- Copy parameters from a previous experiment (use **edc** command) and enter the new value for **p1**.
- Type **expt** to see how long the experiment will take.
- Type **zg** and off we go!

8) Check first 1D of the HSQC

- After the first experiment is complete, type **rser 1**, type **efp** and phase the spectrum.

9) Check the 2D experiment

- Type **xfb** to transform the 2D experiment in progress. Phase and correct the baseline (**abs 1** and **abs 2**).