Preparation for 2D

1. Run and process a normal ^{1}H experiment running any 2D experiment.

2. Expand the region of interest in the ^{1}H NMR spectrum. Then click

3. The window pictured below will open. Write down the values for "SW" and "O1".


```
Set SW, SFO1 from current region

[          ]  Search  ☐ Match Case

SW   = 5.8947 ppm
SWH  = 2948.113 Hz
O1   = 1658.40 Hz
SFO1 = 500.1316744 MHz

                          Close
```

4. After referencing the 1H spectrum, type "**sr**" and note down the value.
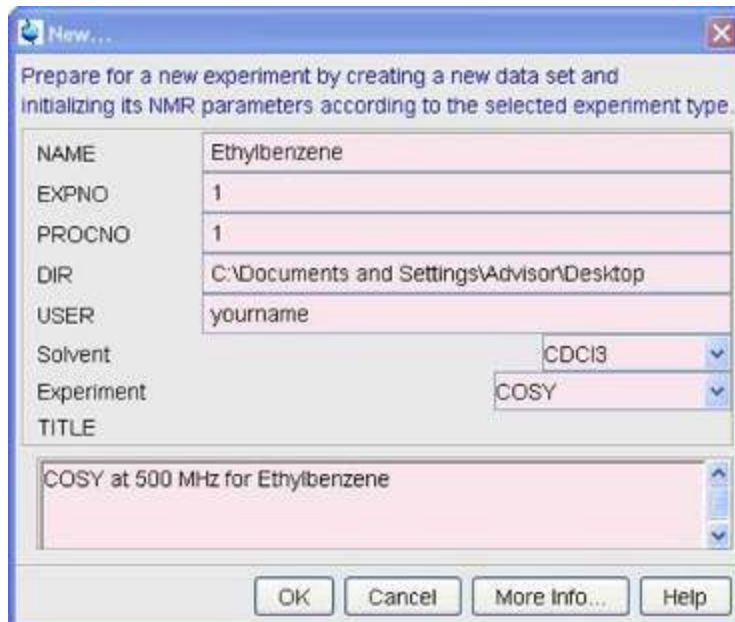
5. Type "**ro off**" to stop sample spinning.

6. Type "**topshim gui**" to open the TOPSHIM menu. From the "Before" drop-down list, choose "Z-X-Y-XZ-YZ-Z". Click "Start" to start TOPSHIM.
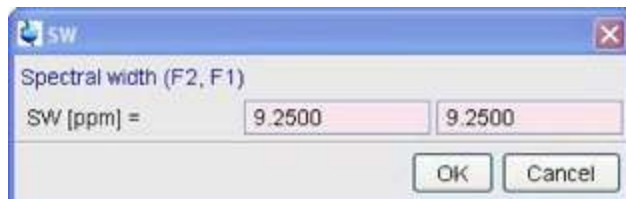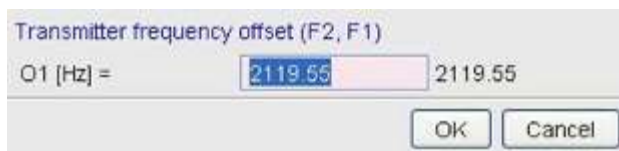
1H-1H COSY

Set-Up:

1. Type "**new**" on the TOPSPIN command line to create a new data set.

2. Type "**sw**" and enter the value that you had noted down from the ^{1}H NMR spectrum into both F1 and F2 dimension
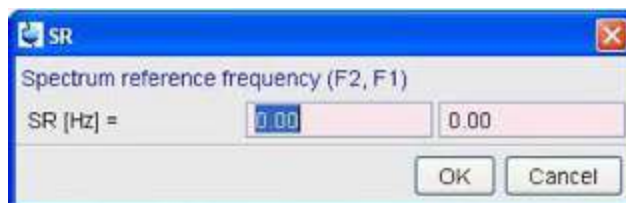

3. Type "**o1**" and enter the value that you had noted down from the ^{1}H NMR spectrum.

4. Set the required number of scans by typing "**ns**"

5. You can check the time required for finishing the experiment by typing "**expt**".

6. Type "**rga**" to set receiver gain.

7. Type "**zg**" to start the acquisition.

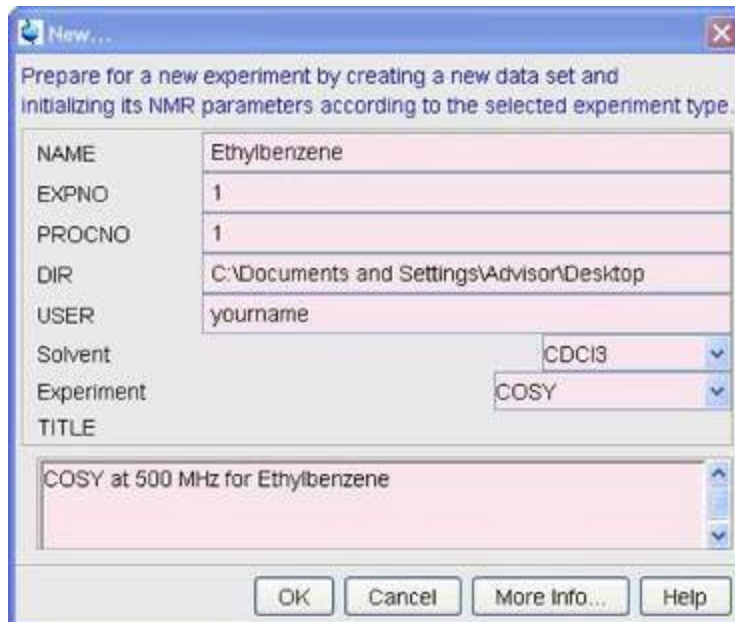1. Type "**sr**" and enter the value noted down from the 1H spectrum.

2. Type "**xfb**" - Fourier Transform in both the dimensions.

3. Type "**abs2**" - automatic baseline correction in the f2 dimension.

4. Type "**abs1**" - for automatic baseline correction in the f1 dimension.

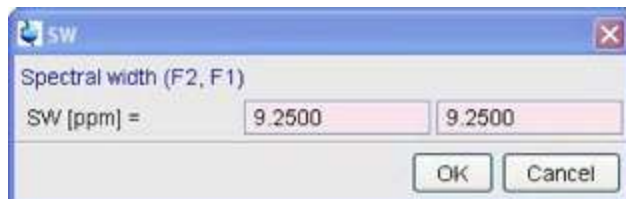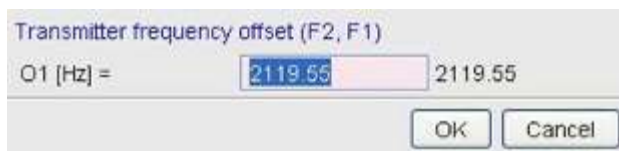5. Type "**sym**" – makes the 2D spectrum symmetric.

1H-13C HMBC
Set-Up:

8. Type "**new**" on the TOPSPIN command line to create a new data set.

9. Type "**sw**" and enter the value that you had noted down from the ^{1}H NMR spectrum into the F2 dimension only.
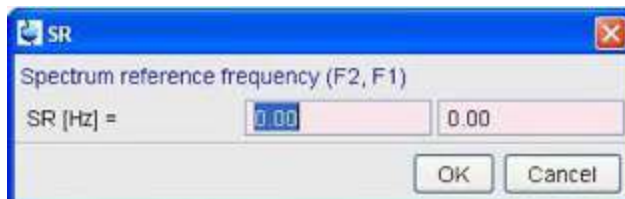

10. Type "**o1**" and enter the value that you had noted down from the ^{1}H NMR spectrum.

11. Set the required number of scans by typing "**ns**"

12. You can check the time required for finishing the experiment by typing "**expt**".

13. Type "**rga**" to set receiver gain.

14. Type "**zg**" to start the acquisition.

2. Type "**sr**" and enter the value noted down from the 1H spectrum for the F2 dimension only.

2. Type "**xfb**" - Fourier Transform in both the dimensions.

3. Type "**abs2**" - automatic baseline correction in the f2 dimension.

4. Type "**abs1**" - for automatic baseline correction in the f1 dimension.