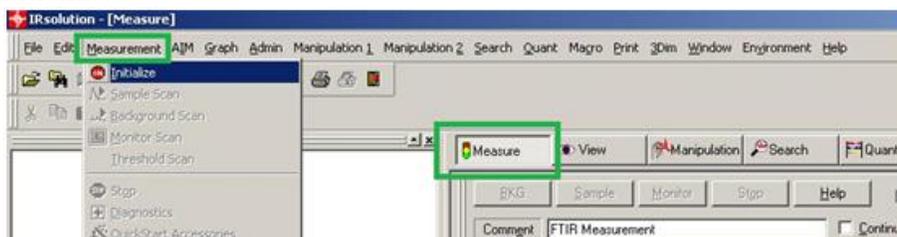


VII. Equipment

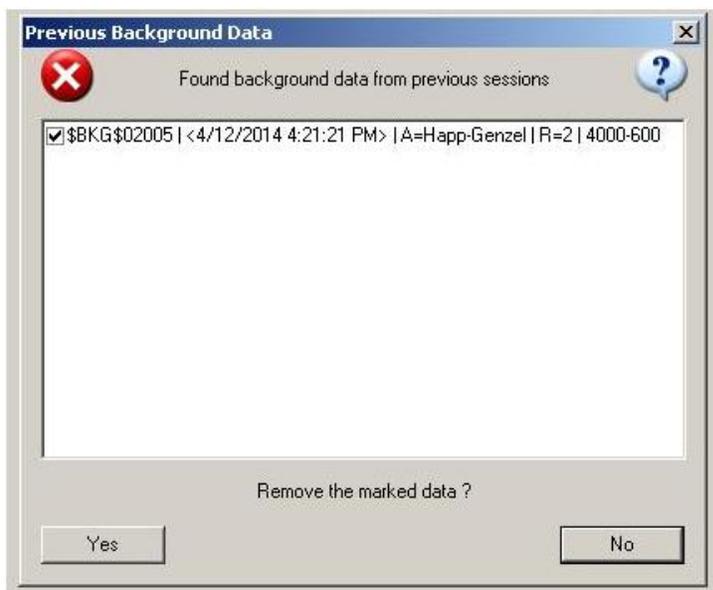
G. FT-IR

You can use ATR-IR to take IR spectra of a surface. It could be the surface of a solid or liquid. For solid material, scaffold and film are welcomed. For powder and viscous material, make sure it dissolves in common solvent (except DMF and DMSO) so that it can be washed away after use.

1. Switch on machine. Sign into the logbook beside the equipment.
2. Log into computer using your UV net ID.
3. Open IRsolution software.
4. Click Measure label (green box on the right), and from drop menu Measurement (green box on the left), click Initialize.



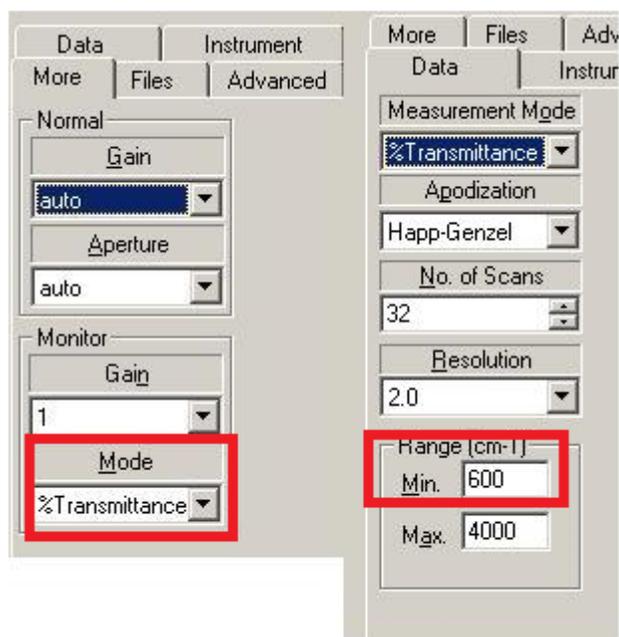
5. Choose Yes to remove previous background (first time users do not see this)



6. Always click **Cancel** for Autoadjust. Click OK for the other warning.

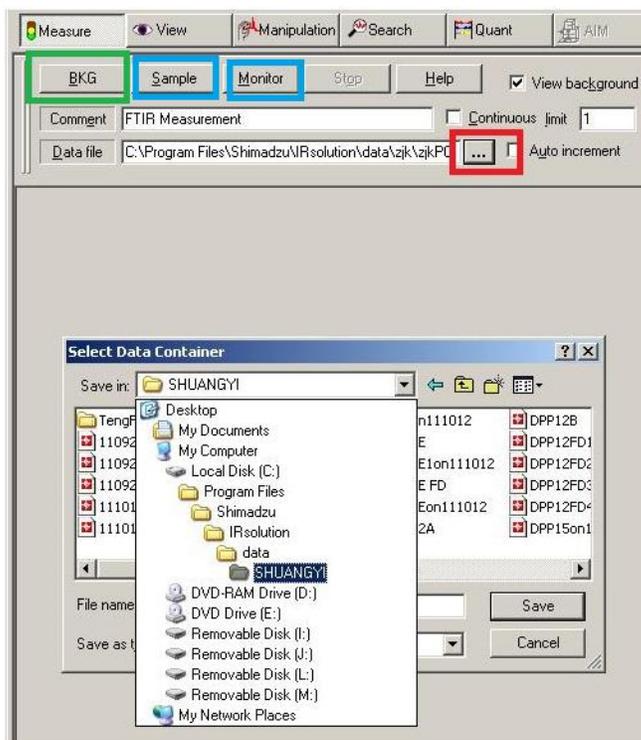


7. You can change the parameters on the bottom right part of the software. For first time users, make sure Min Range is larger than 600 (red box on the right).

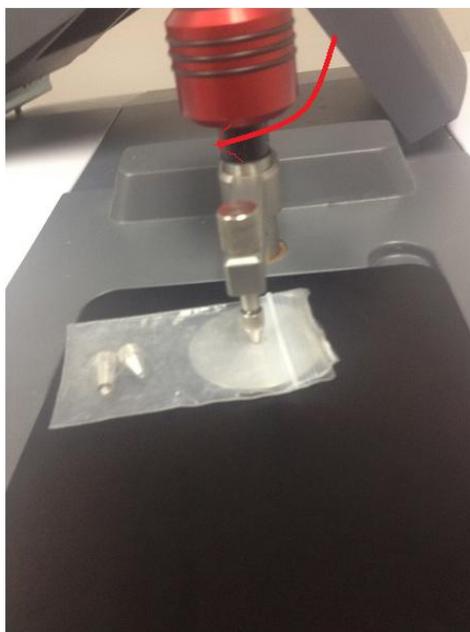


8. Pick up a folder and input your file name for your sample, before scanning anything. (Red box)

9. Press BKG for background. Do not load your sample at this moment. (Green box) Background takes some time to collect.



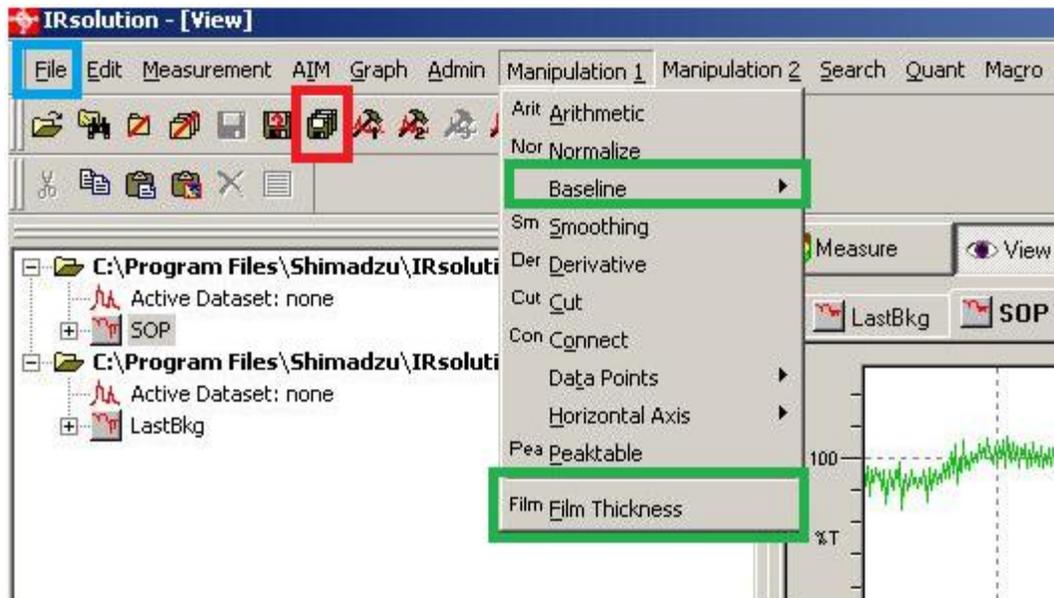
10. Load your sample onto crystal, and turn the handle until finger-tight. Please do not apply to much force on the sample, so as not to break the crystal.



11. (Though it is not necessary, you can click monitor and see if you get good signal. If not, you can increase some force in step 10. However, some samples never get good signal. Do be careful when you are applying more force.) Click Sample (blue box in Step 9) It takes time to collect signals.

12. Remove your sample from the crystal. If the sample is a scaffold or film and you believe there is no residue on the crystal, you do not need to clean it. If the sample is powder or liquid, you need to wash the crystal with a good solvent for several times. DO NOT touch the crystal (you cannot use kimwipes to wipe out your sample or solvent). Only use cotton sticks with solvent to clean the crystal.

13. Make sure you save your results. Save All (red box) is preferred. You can manipulate your results. Two most frequently used functions are baseline and peaktable (green box). You can export your data (File-> export, blue box) into txt format and analyze the data in other software as well.



14. Switch off IR machine, sign out the log book, and sign out the computer.