Nicolet 380 FTIR Spectrometer (GERB 145)

Please contact Dr. Amanda Henkes for training requests and assistance: 979-862-5959, amandahenkes@tamu.edu

Transmission spectra

- 1. Open EZ OMNIC software
- 2. Choose Collect \rightarrow Experiment Setup from top toolbar

\land ez omni	C - [Window1]										
🗮 File Edit	Collect View Process	Analyze	Report Windo	w Help							- 8 ×
Experimen	Experiment Setup	Ctrl+E				•				🌄 Ben	ch Status
Col Bkg (Collect Sample Collect Background Advanced Diagnostics	Ctrl+S Ctrl+B	Clear	ABS Absorb	X % Trans	Subtract	Aut Bsin	Find Pks	Nrm Scl	<mark>⊌</mark> Search	

- 3. Ensure the "Collect" box in the Background Handling section is selected and set to 64 scans
- 4. Ensure no sample is loaded into the spectrometer. Allow sample compartment to purge with nitrogen for 1 minute before beginning background measurement.
- 5. Press the "Col Bkg" button to collect the background. After the background spectrum is collected, choose yes when prompted to add to window.



- Choose File → Save As to save your background spectrum as a .SPA file in your folder
- Choose Collect → Experiment Setup from the top toolbar again. Adjust data acquisition parameters as desired, and be sure to choose "Use specified background file" in the Background Handling section. Choose the background file you just saved.

Experiment Setup - C:\Wy Documents\OMNIC\paran	n\trans.exp	? 🗙
Experiment Setup - C: Wy Documents WMNIC (parametric Configure) Collect Bench Quality Diagnostic Configure) Estimated time for this collection: 00:01:36 F No. of scans: 64 Image: Configure) Resolution: 4. Image: Configure) Data spacing: 1.929 cm-1 Final format: Absorbance Image: Correction: Correction: None Image: Configure) Automatic atmospheric suppression Image: Configure) Preview data collection Image: Configure) Win: 0.00 Max: Image: Configure) Experiment title: Experiment title: Experiment title:	Tile Handling Save automatically Save interferograms Base name: Image: Save interferograms Sase name: Image: Save interferograms Sakground Handling Image: Save interferograms Collect background after Image: Save interferograms Collect background after Image: Minutes Use specified background file: Image: Save interferograme Collect 64 scans for the background periment description: Image: Save interferograme nsmission accessory Image: Save interferograme	
Help Open Save Save As	OK Cance	

- 8. Load sample into transmission holder
- 9. Close and lock the sample compartment door. Allow sample compartment to purge with nitrogen for 1 minute before beginning sample measurement.



- 10. Press the "Col Smp" button Col Smp to measure the sample spectrum
- 11. Give your spectrum a name in the "Collect Sample" popup window

Collect Sample
Enter the spectrum title:
Plastic_3-28-2016
🗸 OK 💦 🗙 Cancel

12. Press "OK" after data collection when prompted to add spectrum to the spectral window



13. Label peaks if needed using the "Find Pks" button



- 14. Choose File → Save As to save your spectrum as both a .SPA and a .CSV (.CSV will open in Excel)
- 15. You can create a report by choosing Report → Preview/Print Report. Reports can be printed to file and saved as a .TIF.

ATR spectra using the Smart ATR stage

- Remove sample chamber door using the thumb screw located at the top inside of door
- 2. Use a screwdriver to carefully remove the transmission sample holder from the floor of the sample compartment.



- 3. Position Smart ATR stage so that it fits into place. **When it is installed properly, the OMNIC software automatically recognizes its presence and updates the experiment mode from "Default Transmission" to "ATR."**
- Gently clean the ATR crystal and anvil head using either ethyl alcohol or isopropyl alcohol and a Kimwipe. Allow it to dry completely before acquiring the background.
- 5. Acquire the background spectrum as in transmission mode with nothing on the ATR crystal
- 6. Place sample onto the ATR stage (analysis area facing downwards on top of ATR crystal). Clamp anvil down over the top of your sample to ensure close contact with the crystal.
- 7. Collect, save, and analyze your spectrum the same way as in transmission mode