# Acquiring Infrared Spectra with Shimadzu IRPrestige-21 ATR-FTIR Spectrometer



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Effectivity: March/27/2023	Acquiring Infrared Spectra with Shimadzu IRPrestige-21 ATR- FTIR Spectrometer	Revised by:
Revised:		Approved by:

This SOP uses the following:

- Instrument: Shimadzu IRPrestige-21 ATR-FTIR spectrometer
- Program: Shimadzu Lab Solutions



# TURNING ON SPECTROMETER

**1.** Turn on the spectrometer by pressing the ON/OFF button.





2. Turn on the desktop computer.



3. **Open** the ATR-FTIR spectrometer compartment.





4. Move the ATR tip upwards by rotating the knob counterclockwise (CCW).





Or by moving the ATR upwards





5. Clean ATR tip and plate with Kim Wipes and alcohol.





6. Close ATR compartment.





7. Open the Lab Solutions program.



8. Cick "OK" only.

Login
LabSolutions
Viser ID: Admin V Password: Change Password >>
OK Cancel Help

9. Select the "Spectrum" option in the Measurement Program and Postrun tab.



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	LabSolutions IR Give	
	Big annunkaad Ø 2014 Shimadzu Corporation All rights reserved. IRPresige 21 - System Administrator	

This is the main interface of the program.

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**10. Initialize** the instrument by going to Instrument > Initialize.

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11. Click "Yes" on the following window that will pop	o up.
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Instrument will start setting aperture.

Setting aperture		×
Setting aperture	ow. Please w	ait

**12. Click** "OK" on the IR window pop-up.

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**13. Click** Auto Adjust (Coarse) by going to Instrument > Auto Adjust (Coarse).

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Instrument will start performing Auto Adjust

**14.** Browse where the files will be stored by clicking the "..." box at the right the "Filename:" text box. Alternatively, you can write the path for the files.

C:\Users\admin\Documents\Your folder\name-of-spectrum.ispd.



**15.** Write sample name, ID, and comments on the sample in the text boxes below the "Filename:" text box.



**16.** Click on the "BKG Scan" button to acquire background sample.

The background sample counts as the blank.

- If you do not want to see the spectral information of a solvent in your sample, place the solvent in the ATR and acquire the background sample.
- If you only have a pure sample, do not place any sample on the ATR and acquire the background sample.



The interface will change from "Measurement" to "View" when the spectra is acquired.



#### **ACQUIRING SPECTRA**

**1.** Clean ATR plate and tip.



2. Place sample in ATR plate and adjust tip.



**3. Select** "Sample Scan" to acquire spectrum of the sample in the ATR plate.

Set the desired number of scans in the "No. of Scans" box on the data tab.

Set the resolution in the "Resolution" box on the data tab.



The resulting spectrum



**4. Zoom in** on the spectrum by left clicking on one side and dragging a box around the spectrum, then clicking left click again.





5. **Export** spectrum by going to File > Export...



6. Save the spectrum in ".txt" format.



## TURNING OFF SPECTROMETER

**1. Verify** ATR plate and tip are clean.



2. Turn off the spectrometer by pressing the ON/OFF button.



### TROUBLESHOOT

Advisor Signature

Co-Advisor Signature