

Agilent 8453 Spectrophotometer

- 1. log onto the computer connected to the Agilent 8453 Spectrophotometer.
- 2. Turn the power on from the button shown below. The system will run auto alignment and shutter open and close during initialization.



3. Run the software "Instrument 1(online)" on the desktop. Wait for the connection between the spectrophotometer and the computer. Click on the lamp and select "Lamp ON". This will turn on the lamp for an excitation light source.



4. Load an empty cuvette and click "Blank". A blank spectrum will be measured and displayed.





5. Next, load the sample solution in the same type of cuvette and click "Sample". The absorbance spectrum is measured and displayed.

🖀 Instrument 1 (Online) [Me]	-	. 🗆 🗙
File Edit Method Measure Instrument	Math View Mode Config Help	
	Method: <untitled> Mod Mode: Standard <</untitled>	2
Task	🔊 Overlaid Sample Spectra	
Sampling Manual Setup	4 3.6 3.7 3.6 2.6 2 1.5 1.5 0.5 200 300 400 500 600 700 800 900 Waveleng	ţth (nm)
	Sample/Result Table	
	Show Sample Info Last Spectrum Delete Selected Sample	
Blank Sample	# Name Abs<480nm> []]] 9.5479E-2	
Data Analysis: Spectral Processing	. finished	

6. The transmittance spectrum can be calculated by going to "Math" – "Transmittance". Save the data from "file" – "export the selected spectrum".

Intrament 1 (Onlino) [Me] Image: Construction of the product of t	UNI										
Instrument 1 (Online) [Me] Fie Edit Method Measure Instrument Math View Mode Config Help Cear Task Fixed Wavelengths Setup Overlaid Sample Spectra Overlaid Sample Spectra 3.5 3.5 3.5 2.5 2.5 2.5 2.5 2.5 2.6 2.5 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.0 3.0 4.0 5.0 2.0 3.0 4.0 5.0 2.0 3.0 4.0 5.0 2.0 3.0 4.0 5.0 2.0 3.0 4.0 5.0 </td <td></td> <td colspan="9">COLLEGE OF SCIENCE DEPARTMENT OF PHYSICS</td>		COLLEGE OF SCIENCE DEPARTMENT OF PHYSICS									
File Edit Method Measure Instrument Math View Mode Config Help Task Fixed Wavelengths Sempling Menual Setup Manual Setup Math Result (Transmittance) Math Result (Transmittance) Math Result (Transmittance) 0 </td <td>🔚 Instrument 1 (Online) [Me]</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>_ 🗆 ×</td>	🔚 Instrument 1 (Online) [Me]						_ 🗆 ×				
Clear Image: Standard Task Fixed Wavelengths Sampling Manual Setup Automation Math Result (Transmittance) Image: Standard	File Edit Method Measure Instrument	Math View M	1ode Config Help								
Task Image: Overlaid Sample Spectra Fixed Wavelengths Setup Attomation Image: Overlaid Sample Spectra Sampling Setup Manual Setup Image: Overlaid Sample Spectra Image: Overlaid Sample Spectra Image: Overlaid Sample Spectra Image: Overlaid Sample Spectra Sampling Setup Image: Overlaid Sample Spectra Image: Overlaid Sample Spectra Image: Overlaid Sample Spectra Image: Overlaid Spectra Image: Overlaid Sample Spectra Image: Overlaid Spectra Image: Overlaid Sample Spectra Image: Overlaid Spectra Image: Overlaid Sample Spect		Method:	<untitled></untitled>	<mark>lod</mark> Mo	de: Standard	-	2				
Image: Setup: 4 35 3 Sampling Setup: Manual Setup: 0 300 20 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 200 300 300 400 300 400 300 400 300 400 300 400 300 400 300 400 300 400 300 400 300 400 300 400 300 400 300 400 300 400	Task	📓 Overlaid S	Sample Spectra				_ 🗆 ×				
Math Result (Transmittance) Image: Constraint of the second se	Sampling Manual Setup	4 m 3.5 (NY) action of the second sec	300 400) 500	600 700	800 900	Wavelength (nm)				
Automation 80 Automation 200		Math Result (Transmittance)									
Automation	Blank Sample	80 70 50 30 10 10 0 0 0 0			S00 700	500 000	Wasslandth (cm)				
	Automation	200	300 400	000	000 700	000 900	vvavelengtn (hm)				

AA 1 13 1/11

- 7. Once done with the spectrophotometer, turn the lamps off, close the software, turn off the power of the system, and log out of the computer.
- 8. Fill in your name, date, time in, and time out on the logbook.

Reference

[1] System manual and introductions:

https://drive.google.com/drive/folders/13OLDmE6gyMHA2wyLXu4HUYBvZ1dSrdAQ?usp=sharing