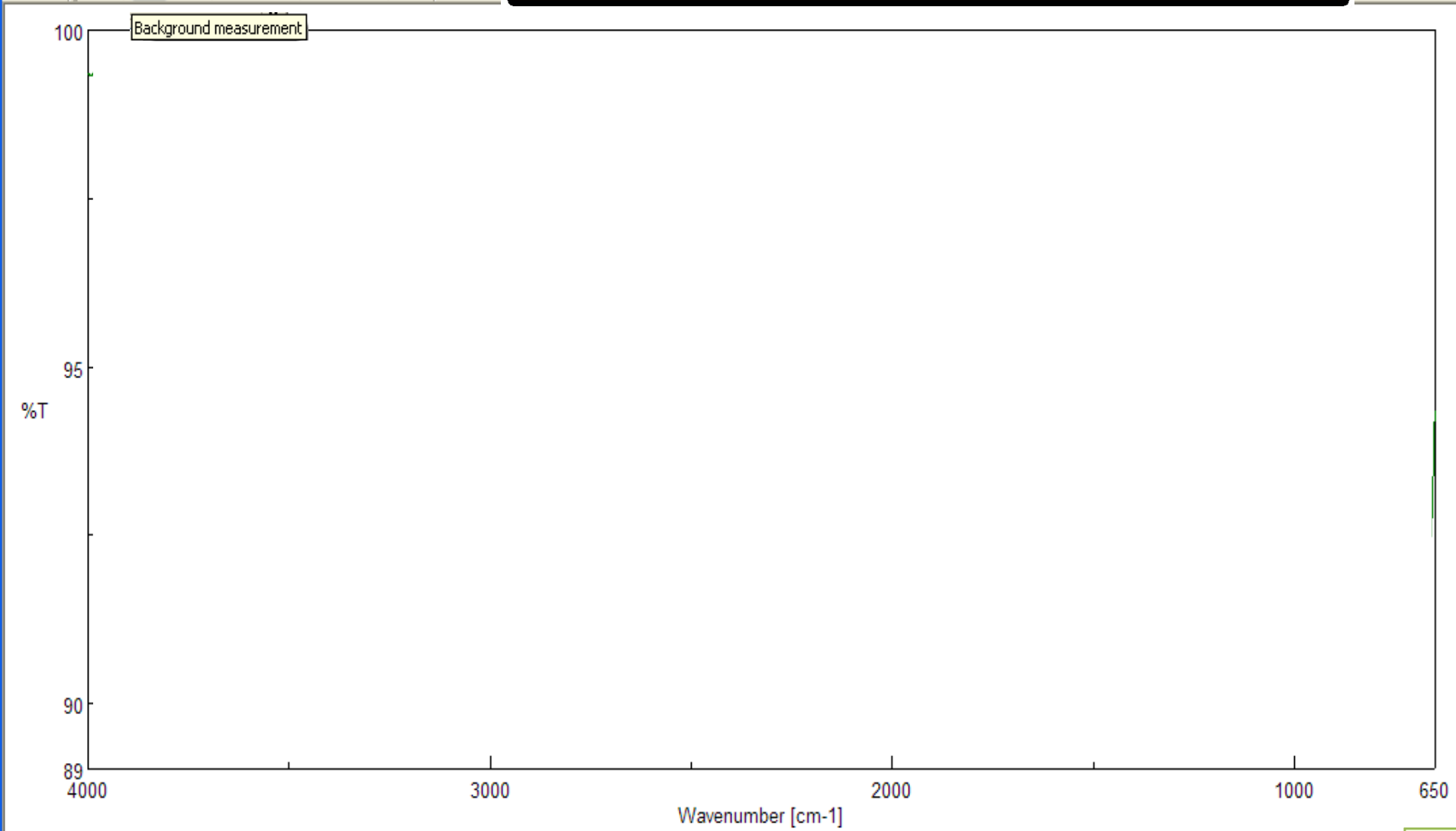


JASCO FT/IR-4100
ATR Tutorial
4/1/2009



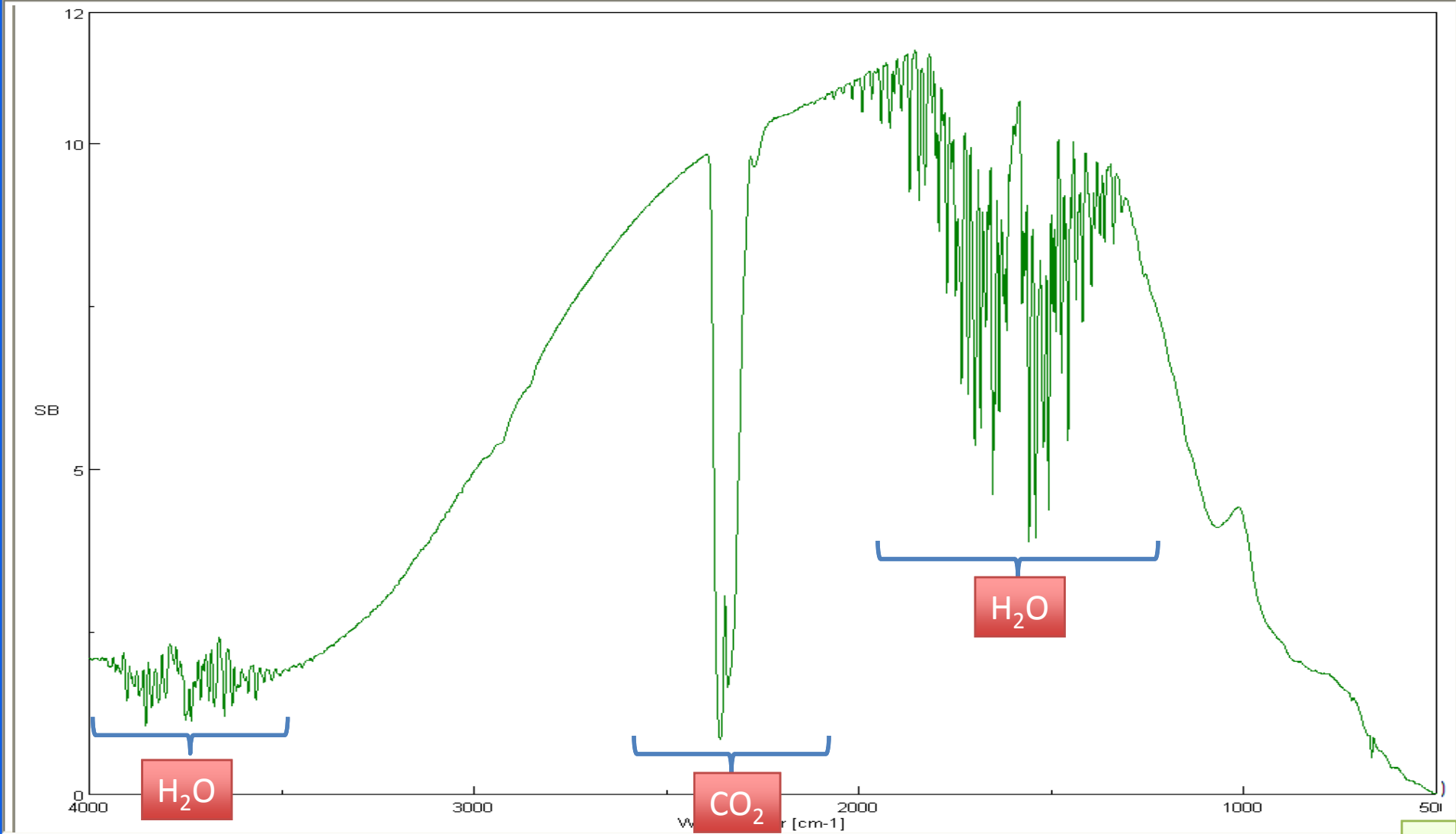


To begin, make sure the ATR crystal is clean and press "Background measurement" on the IR toolbar.



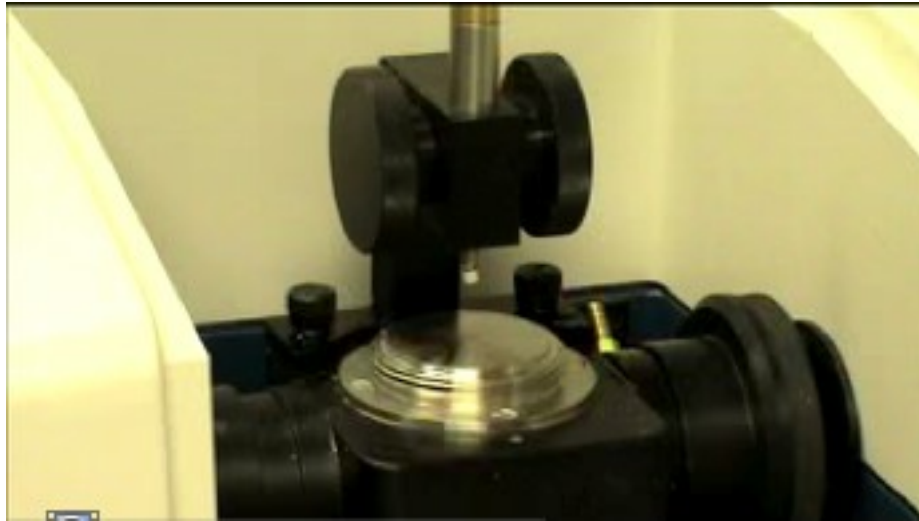


The background should look something like this



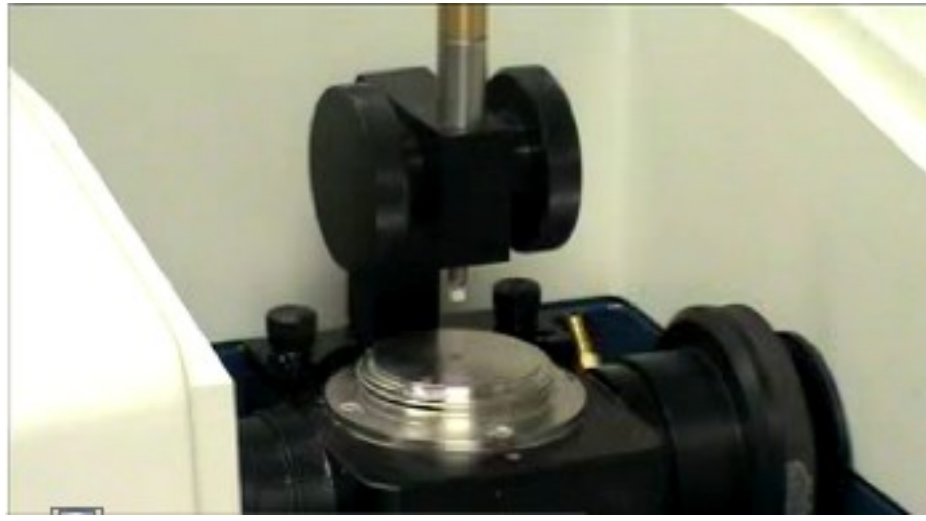
Sample Preparation

Liquids



- Place 1 – 2 drops on the crystal using a Pasteur pipette or dropper making sure that there are no bubbles on the crystal
- The clamp has not to be lowered here
- Open Hyperlink to see the movie

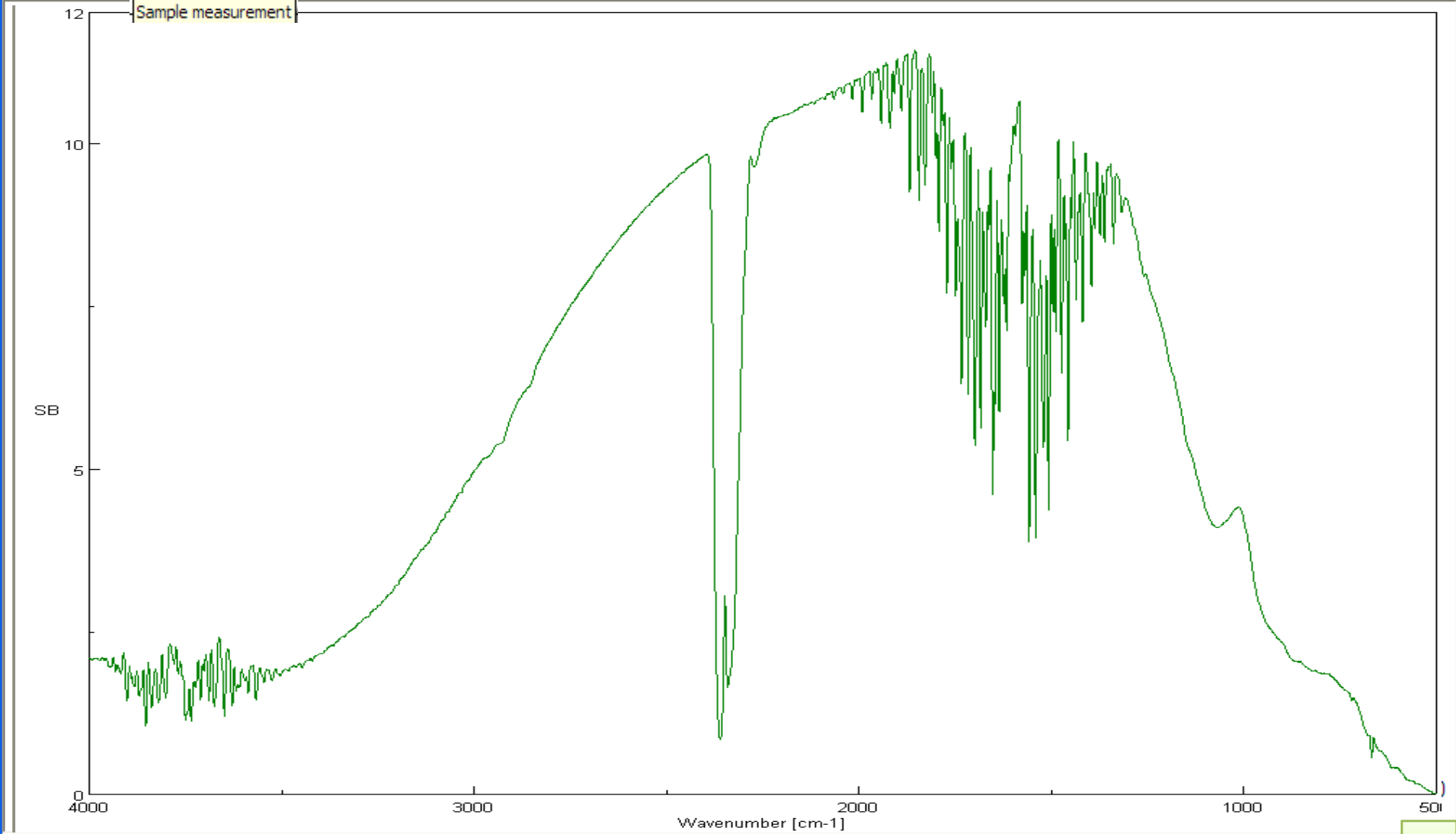
Solids



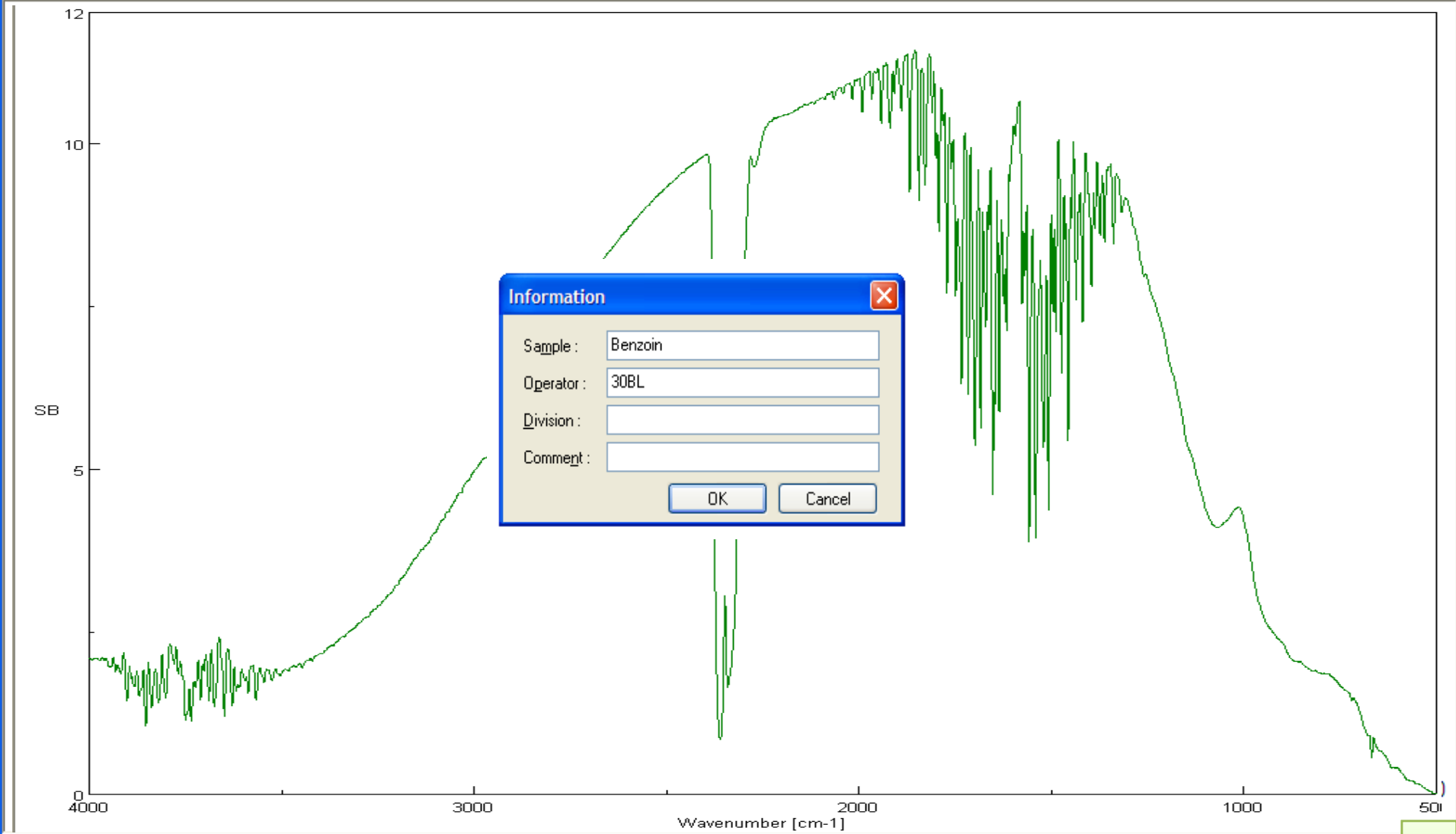
- Place solid next to the ATR crystal
- Move the solid onto crystal with wooden stick
- Apply pressure by lowering the clamp
- Open Hyperlink to see the movie

File Measure Settings View

After sample preparation, press "Sample measurement" on the toolbar



Enter the sample name and your name



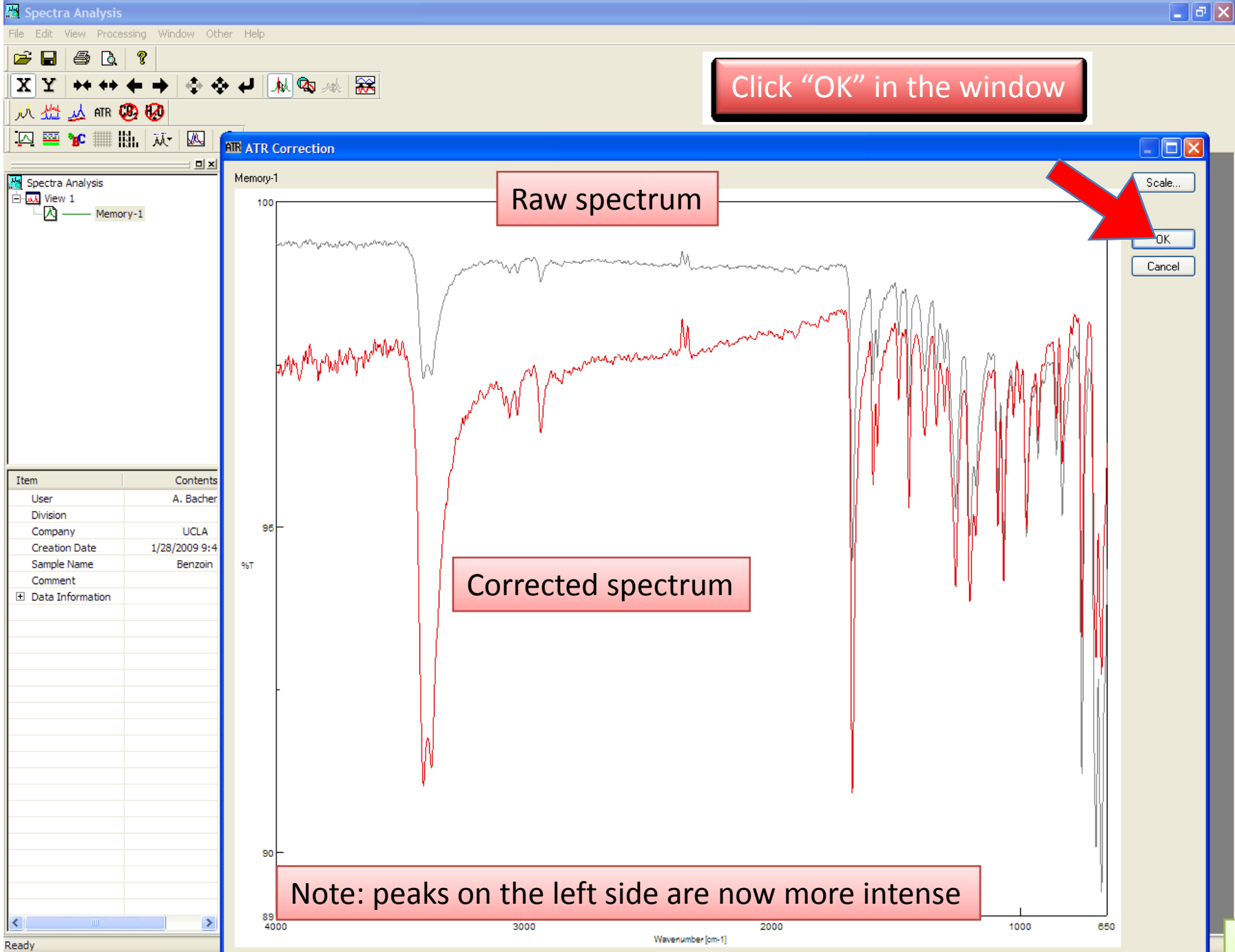
Information [X]

Sample :

Operator :

Division :

Comment :



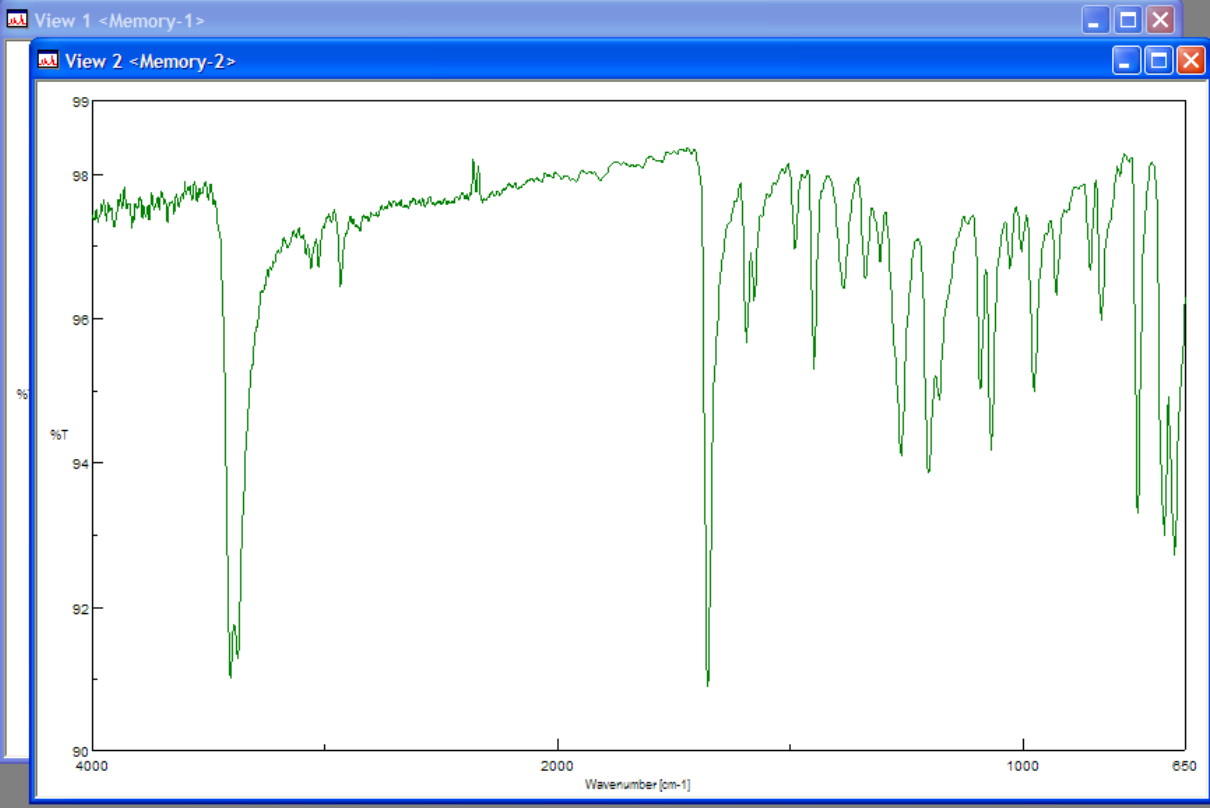
Toolbar icons: File operations (Save, Print, Copy, Paste), Navigation (Home, Back, Forward), Analysis (Zoom, Pan, Rotate), and Specific Tools (ATR, CO2 Reduction, CO2 Increase).

Second, click "CO₂ Reduction" on the toolbar

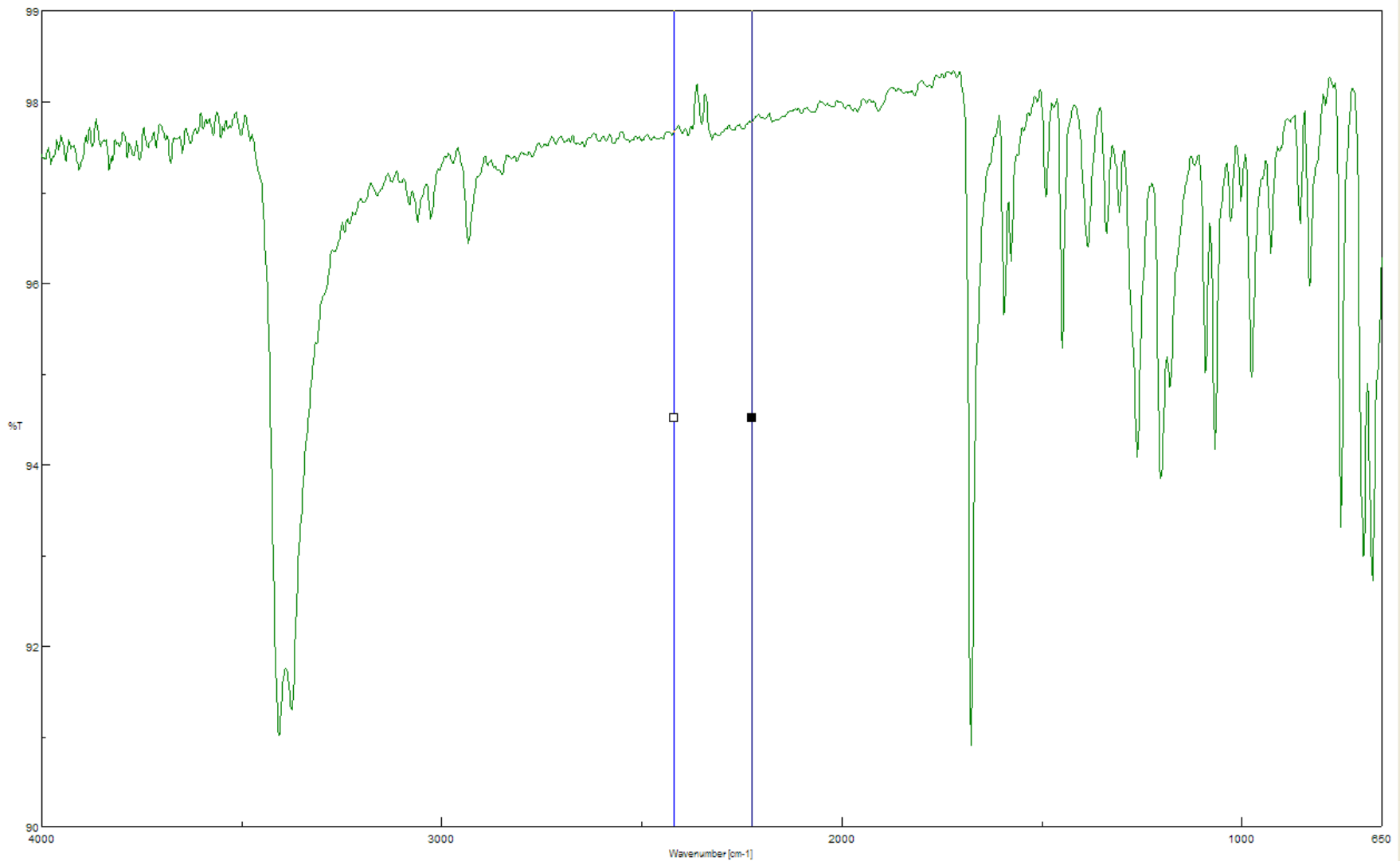
Spectra Analysis

- View 1
 - Memory-1
- View 2
 - Memory-2

Item	Contents
User	A. Bacher
Division	
Company	UCLA
Creation Date	1/28/2009 9:4
Sample Name	Benzoin
Comment	
Data Information	



Memory-2



Range:

	Start	End	Function
1	2225	2420	Constant

Click "OK" in the window

Append
Delete
OK
Cancel

File Edit View Processing Window Other

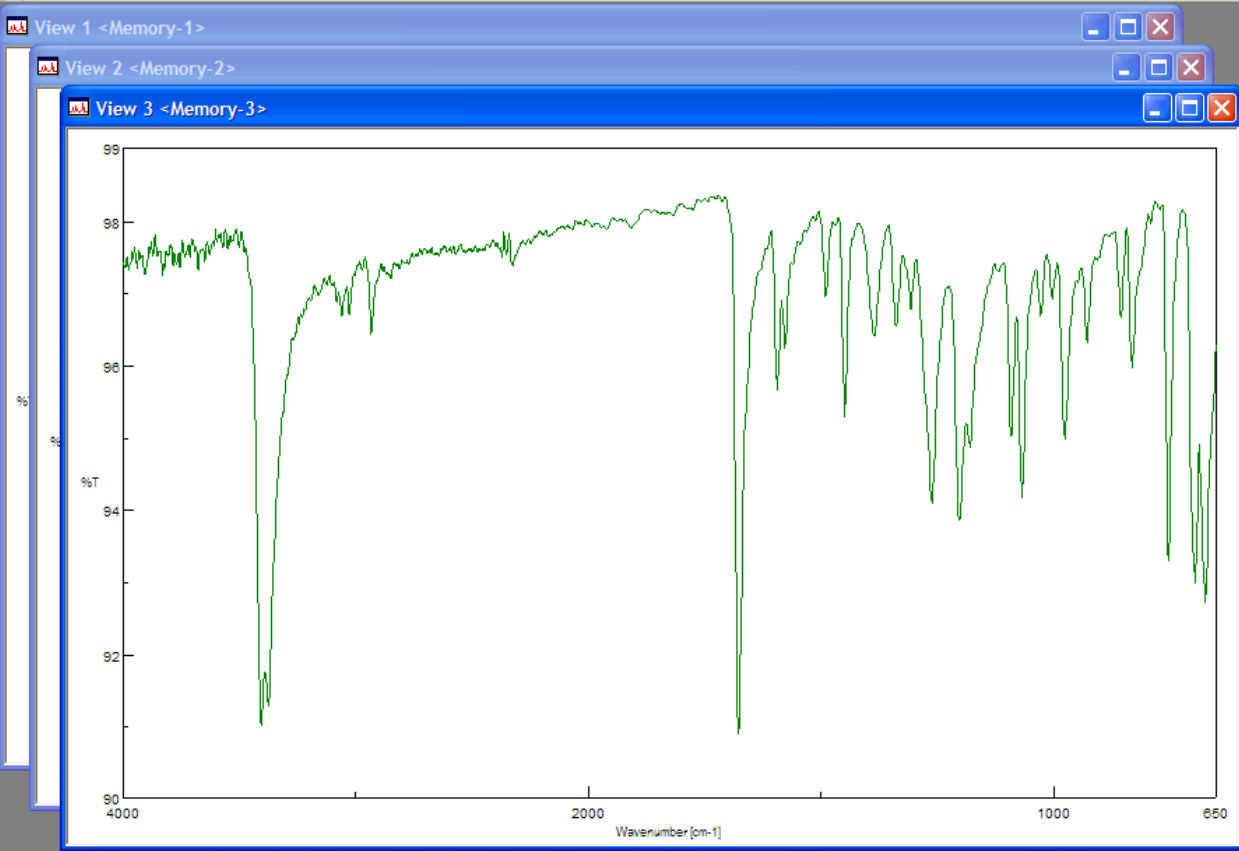
ATR H_2O H_2O Reduction

Third, click "H₂O Reduction" on the toolbar

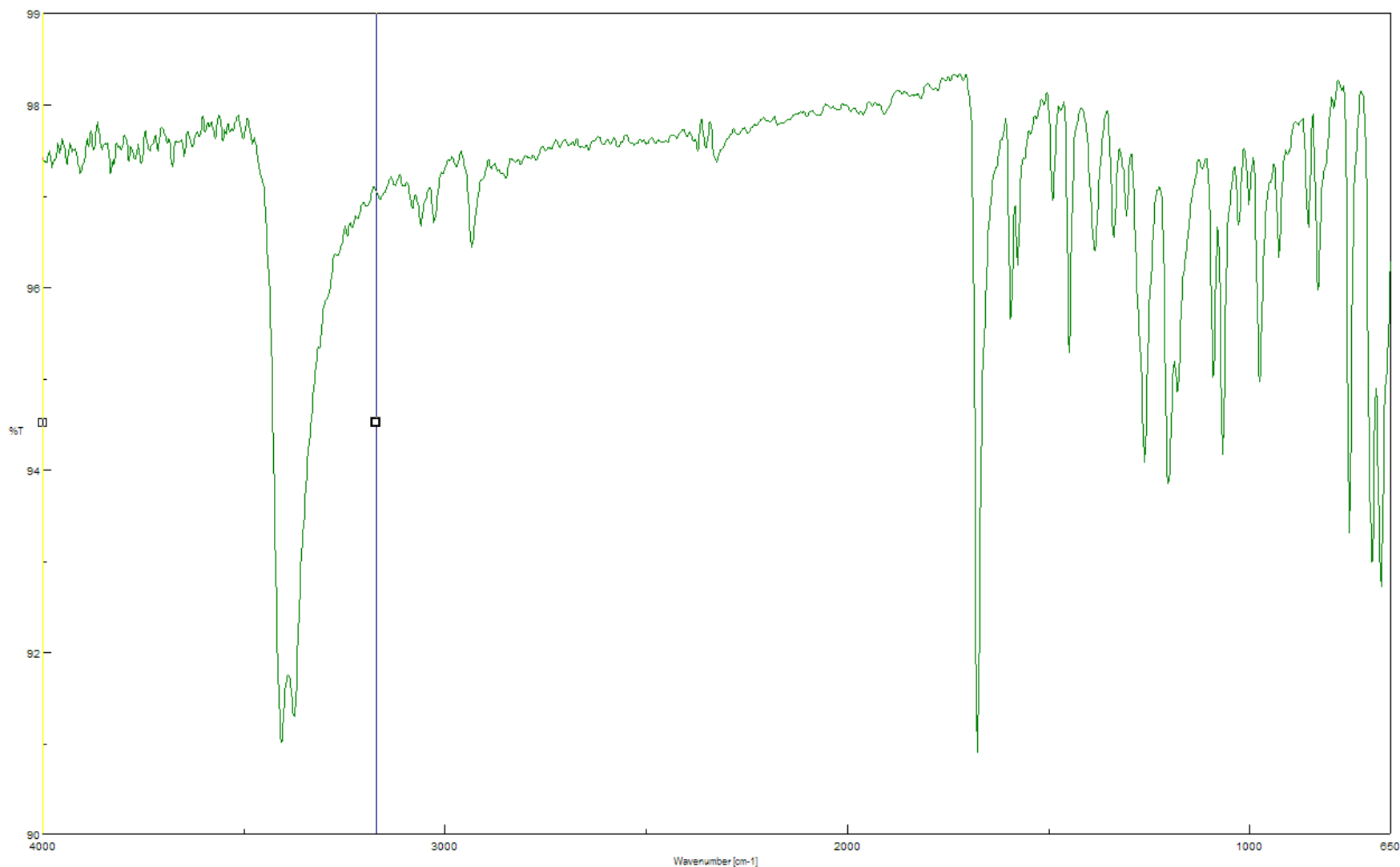
Spectra Analysis

- View 1 — Memory-1
- View 2 — Memory-2
- View 3 — Memory-3

Item	Contents
User	A. Bacher
Division	
Company	UCLA
Creation Date	1/28/2009 9:5
Sample Name	Benzoin
Comment	
Data Information	



Memory:3



Range:

	Start	End	Function
1	1200	2100	Linear
2	3170	4000	Linear

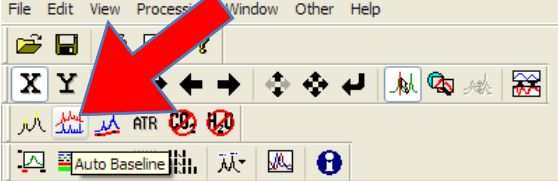
Click the second row and "OK" in the window

Append

Delete

OK

Cancel

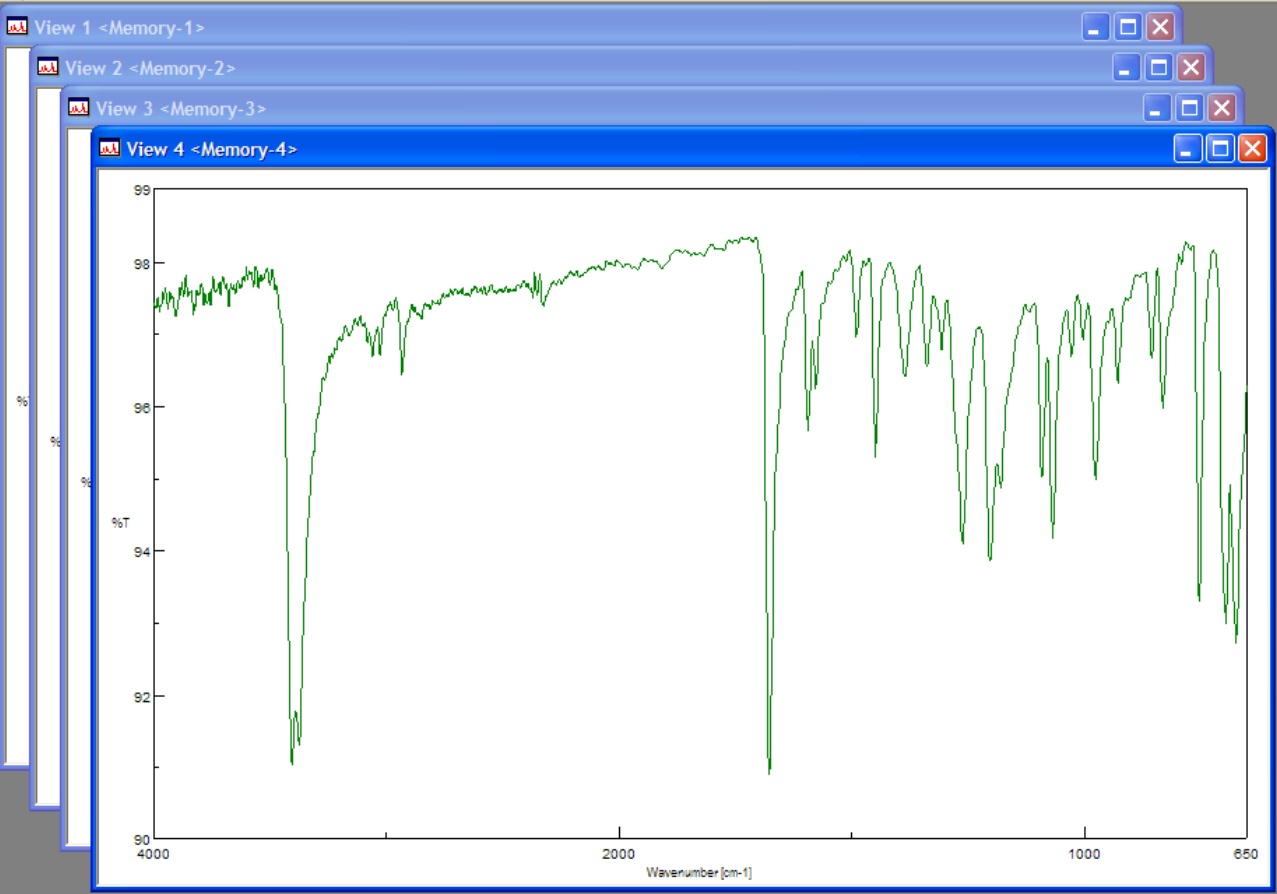


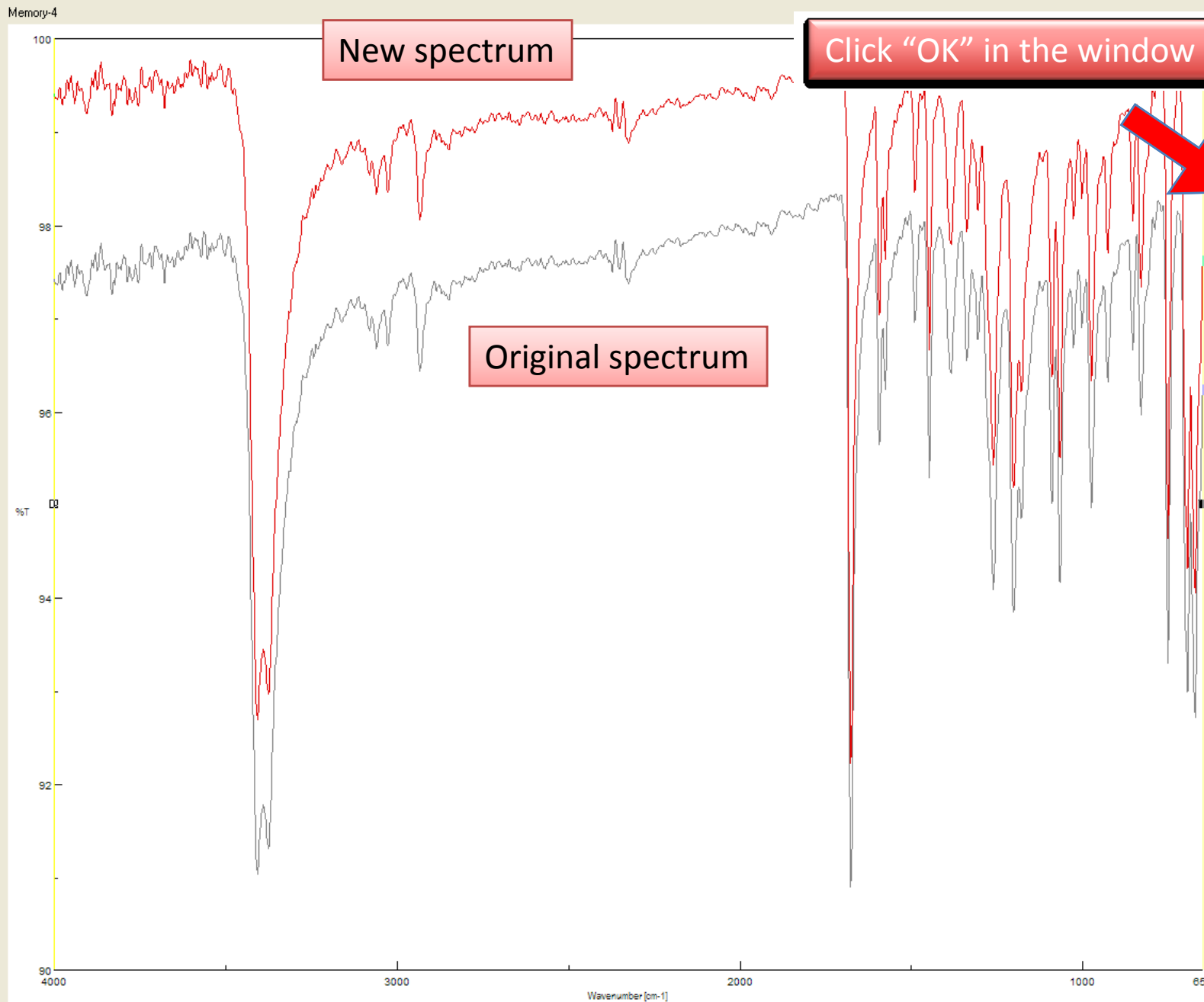
Fourth, click "Auto Baseline" on the toolbar

Spectra Analysis

- View 1
- Memory-1
- View 2
- Memory-2
- View 3
- Memory-3
- View 4
- Memory-4

Item	Contents
User	A. Bacher
Division	
Company	UCLA
Creation Date	1/28/2009 9:5
Sample Name	Benzoin
Comment	
Data Information	





Click "OK" in the window

Order: 2

Fitting Range: 4000 - 650

Apply

Scale...

OK

Cancel



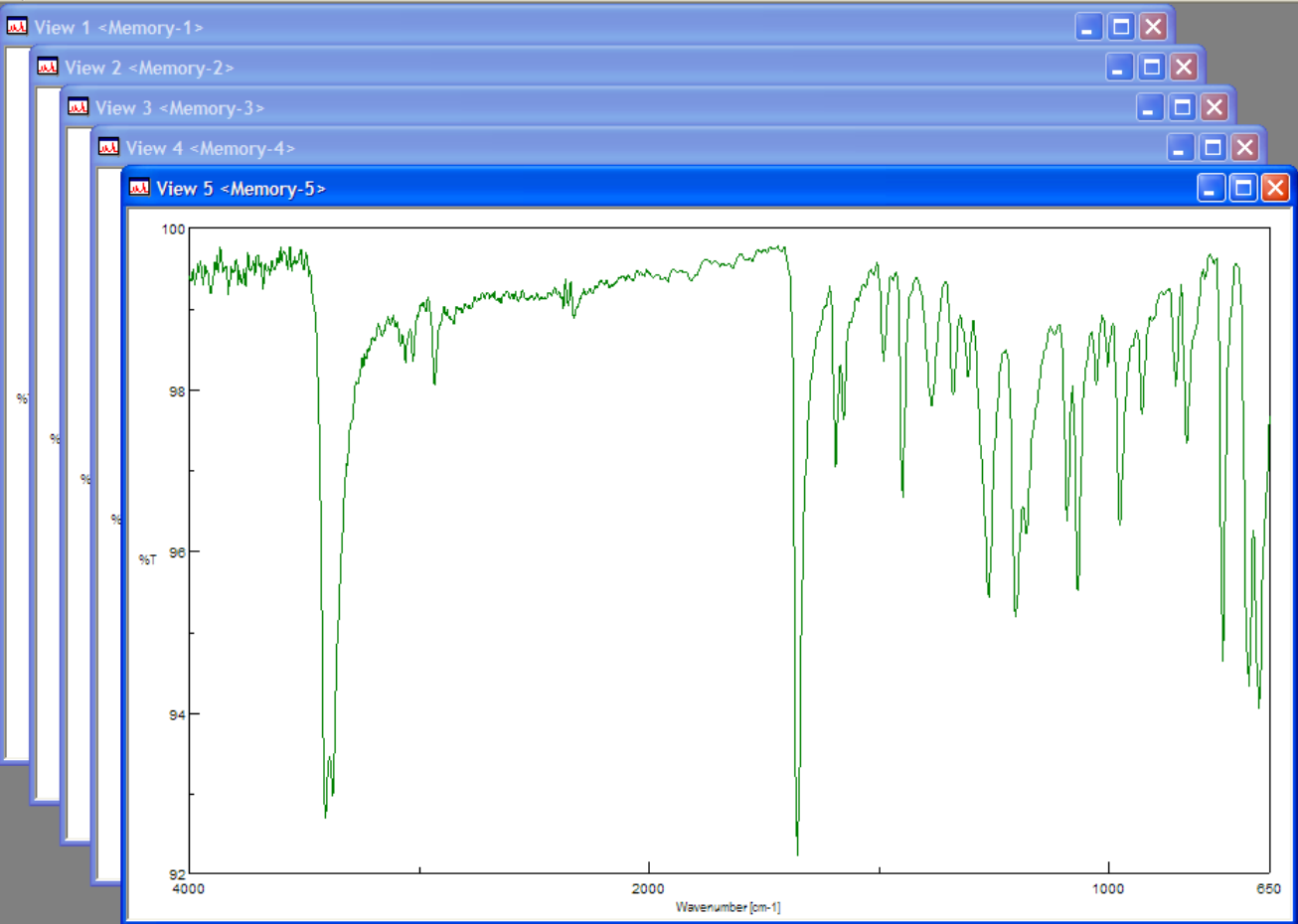


Fifth, click "Peak Find" on the toolbar

Spectra Analysis

- View 1
- Memory-1
- View 2
- Memory-2
- View 3
- Memory-3
- View 4
- Memory-4
- View 5
- Memory-5

Item	Contents
User	A. Bacher
Division	
Company	UCLA
Creation Date	1/28/2009 9:5
Sample Name	Benzoin
Comment	
Data Information	



Memory-5

Wavenum...	%T
2325.73 cm-1	98.8768

Parameters

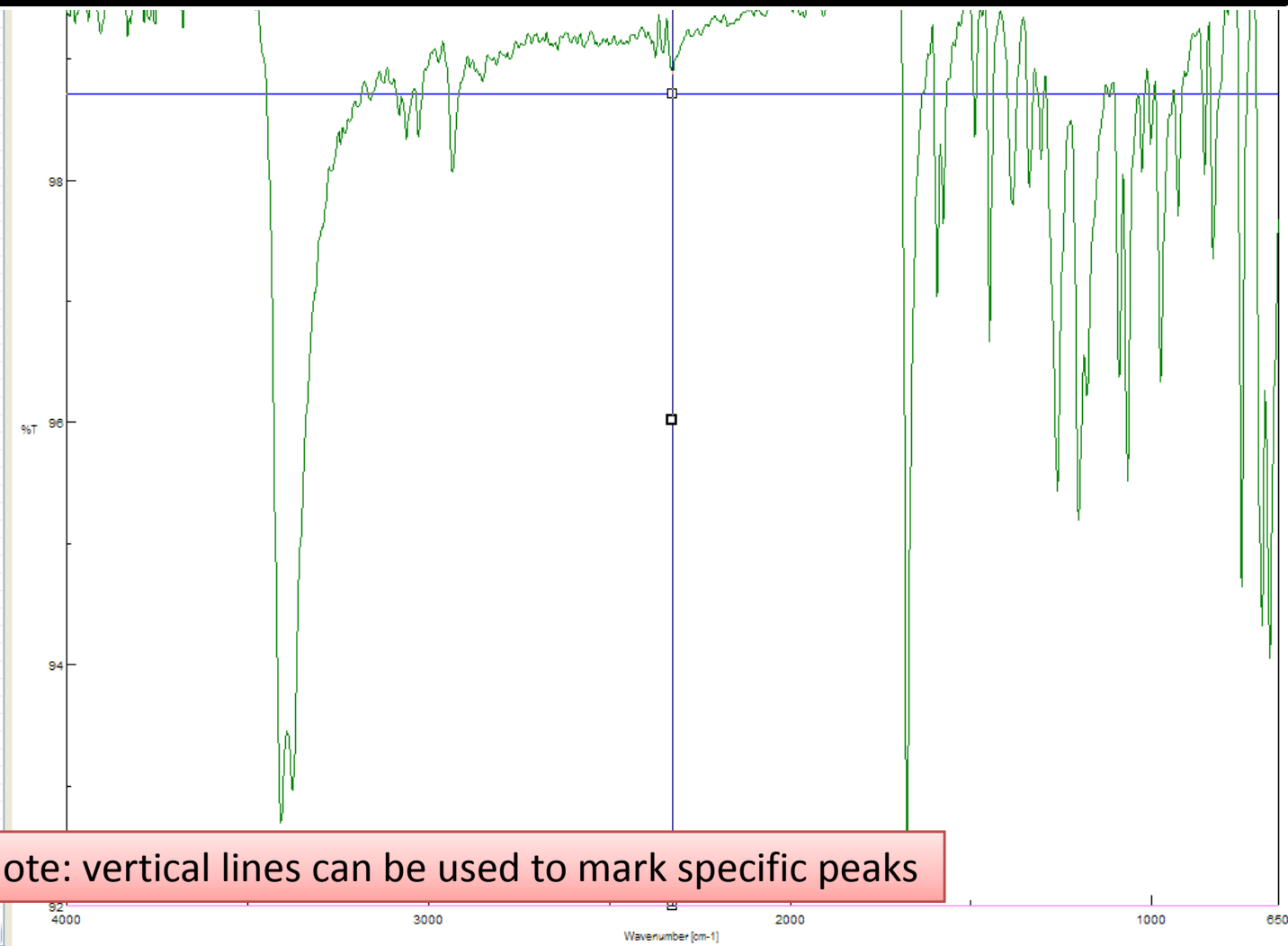
Peak: Bottom Noise Level: 1

Upper Limit 98.703 Lower Limit 92 **Apply**



- OK
- Cancel
- Print
- Scale...
- Add
- Delete

Drag the horizontal lines so your peaks are inside them and press "Apply"



Note: vertical lines can be used to mark specific peaks

Memory-5

Wavenum...	%T
3407.6	92.6854
2933.2	98.0577
1677.77	92.2161
1594.84	97.0329
1490.7	98.3549
1448.28	96.6591
1384.64	97.7936
1261.22	95.4283
1203.36	95.1877
1091.51	96.368
1066.44	95.5039
975.804	96.3219
927.593	97.6945
854.311	98.0427
831.169	
752.102	
696.177	
673.035	

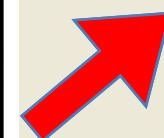
Parameters

Peak: Noise Level:

Upper Limit Lower Limit

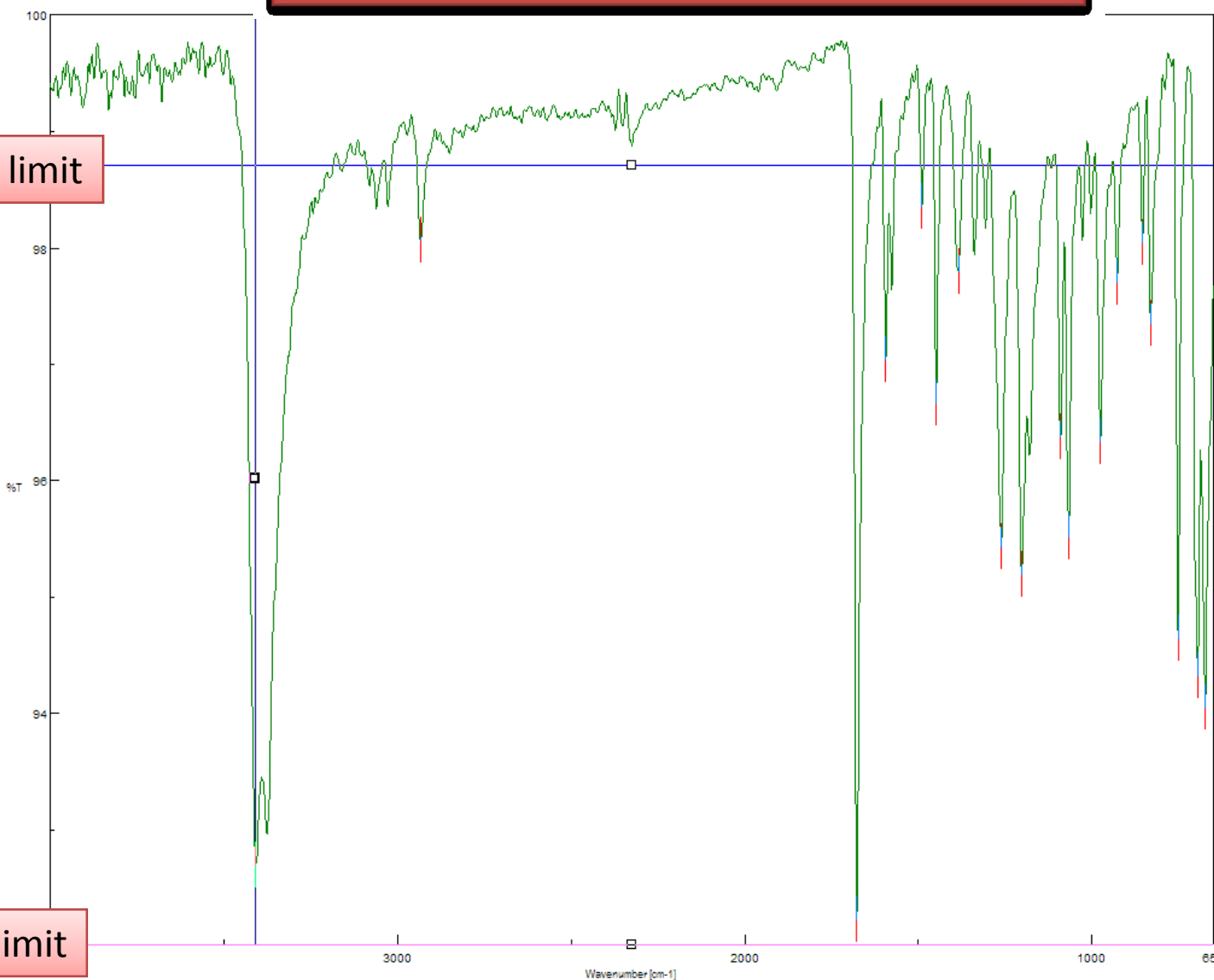
3407.6 cm-1 92.6854

The peak labels will appear in the left column.
The noise level can also be adjusted.
When satisfied, click "OK."



Upper limit

Lower limit



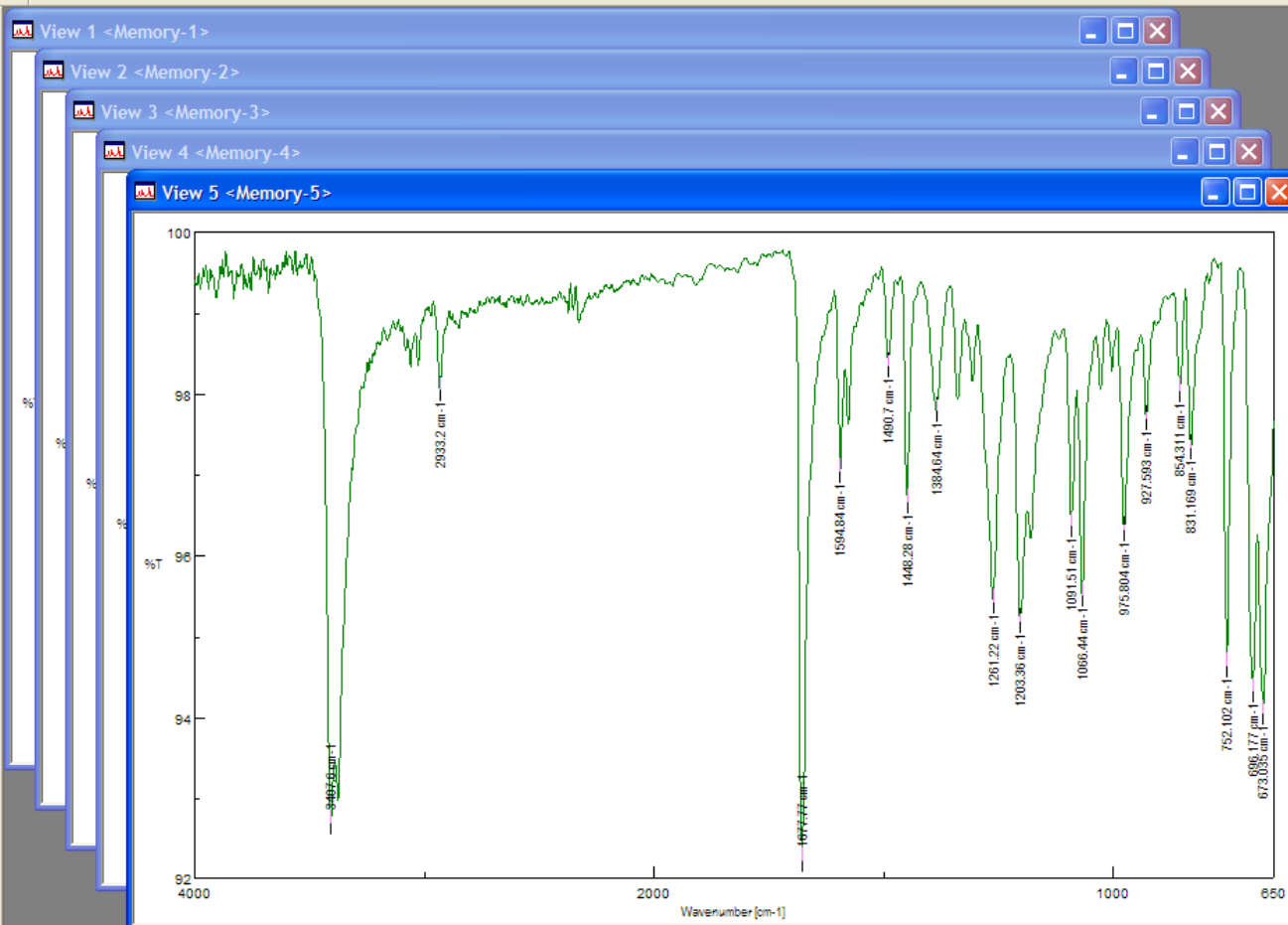


Finally, click "Print" to print your spectrum

Spectra Analysis

- View 1 Memory-1
- View 2 Memory-2
- View 3 Memory-3
- View 4 Memory-4
- View 5 Memory-5

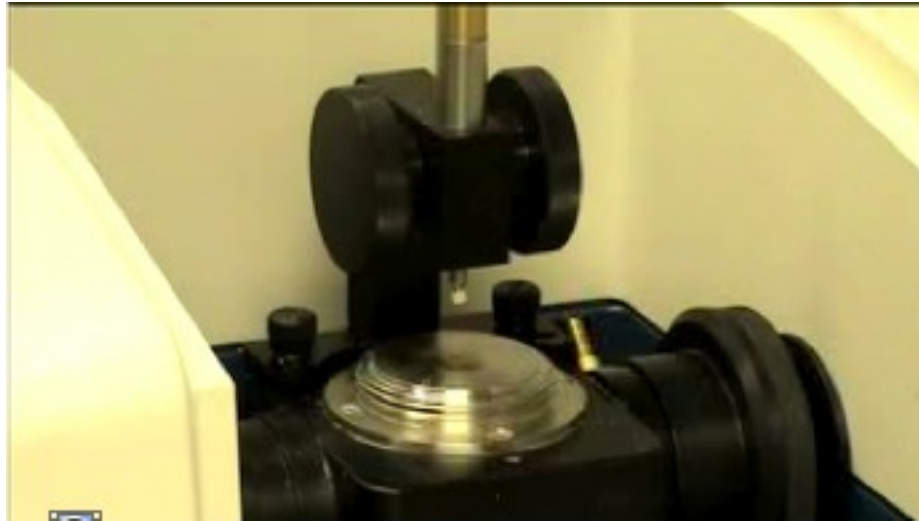
Item	Contents
User	A. Bacher
Division	
Company	UCLA
Creation Date	1/28/2009 9:5
Sample Name	Benzoin
Comment	
+ Data Information	



Print the active view

Sample Clean-up

Liquids



- Clean with alcohol wipe. **Do not use Kim Wipes or paper towels!**
- Open [Hyperlink](#) to see the movie

Solids



- Release clamp by raising the pin
- Brush sample onto collecting paper
- Clean with alcohol wipe. **Do not use Kim Wipes or paper towels!**
- Open [Hyperlink](#) to see the movie

