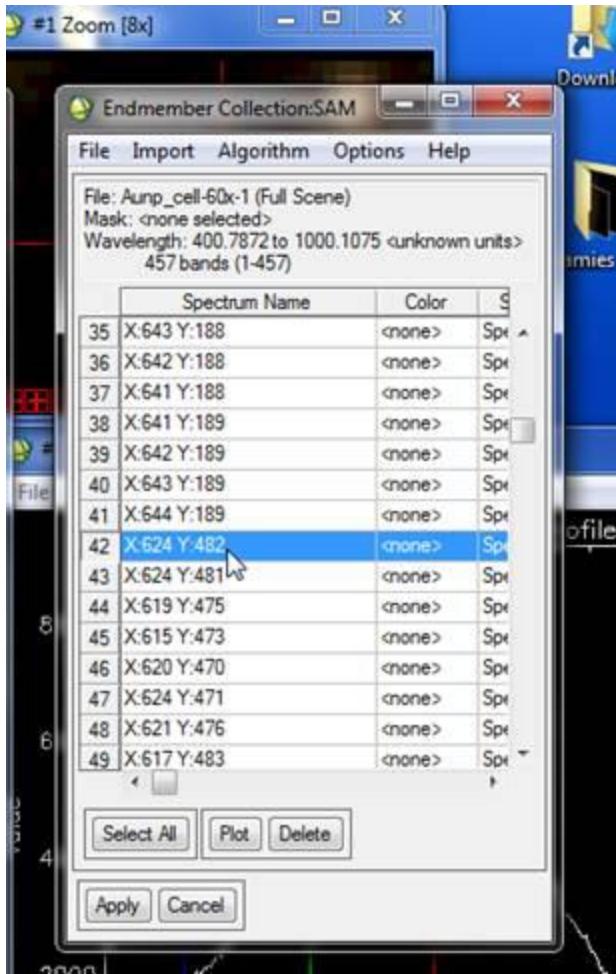


Mapping 2 libraries has a few extra steps, here are the steps:

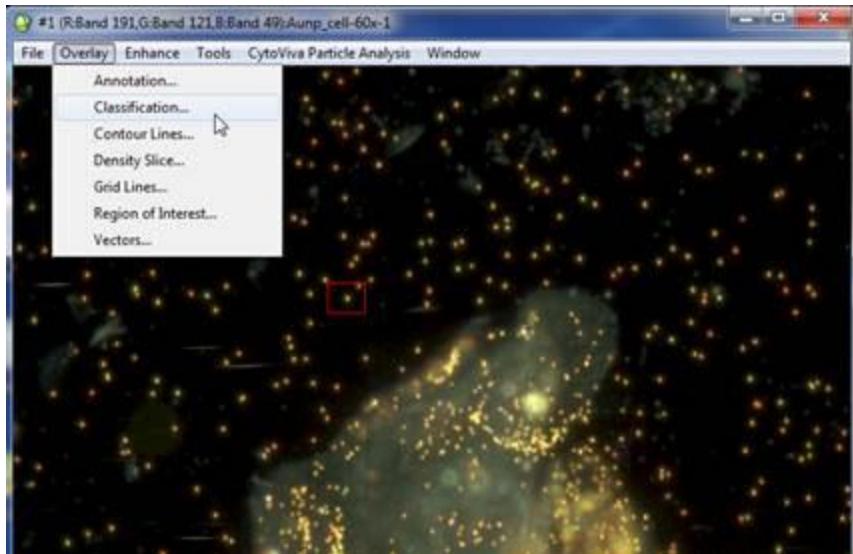
1. When you open the Spectral Angle Mapper you will import the 1<sup>st</sup> library you want to map. Scroll down to the last spectra and note what the number is of the last spectra. In this example I have imported 41 spectra and the last one in the list is X:644 Y: 189. Write these numbers down!



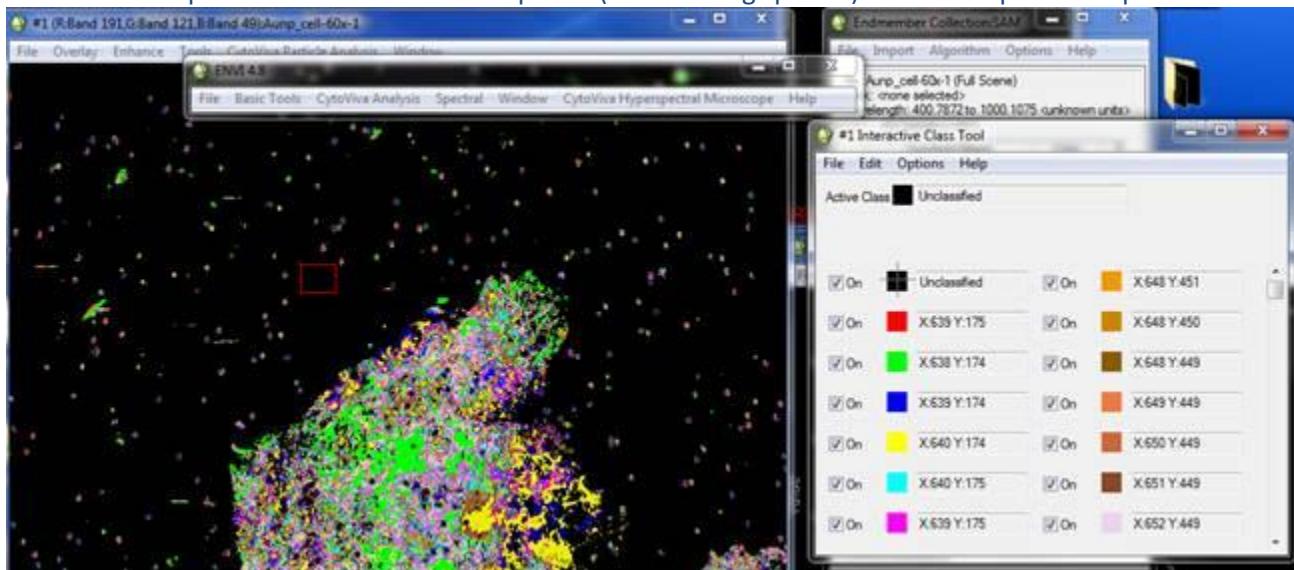
2. Import the 2<sup>nd</sup> library you want to map. The spectra for this library will load after the 1<sup>st</sup> library you loaded. Note in the screen shot below this the new library starts after the last spectra in the 1<sup>st</sup> library you loaded. Now it is number 42 in the list and this library starts with spectra X:624 Y:482. Write these numbers down and make note of them!



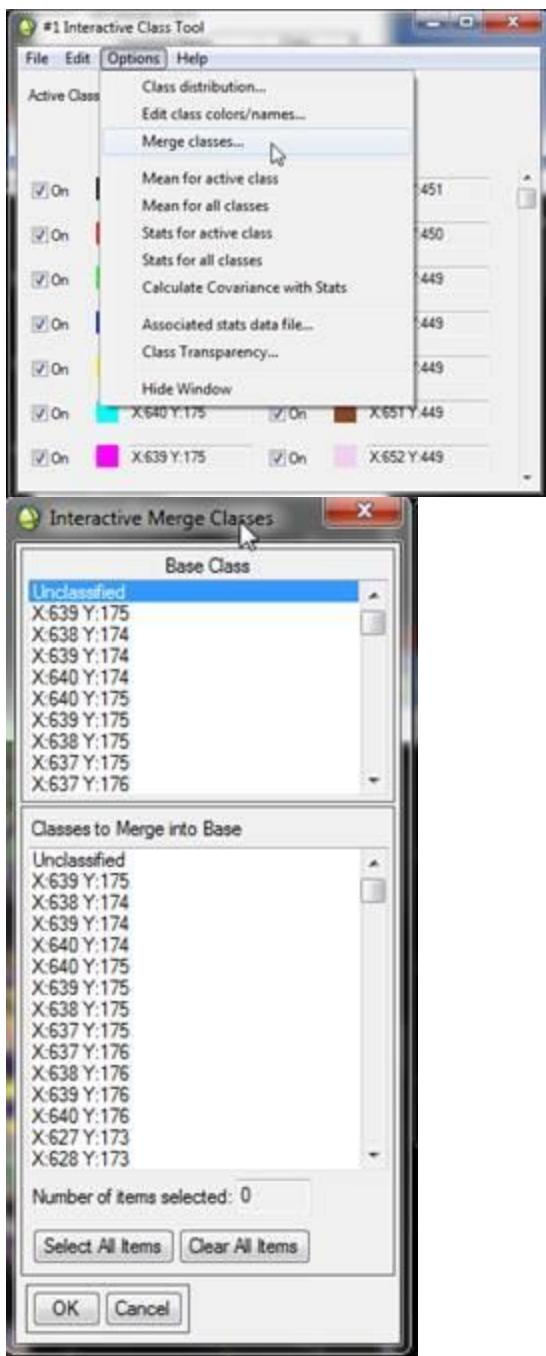
3. Now press the “Select All” button to highlight all the spectra from the 2 libraries. Hit “Apply” and run the rest of the SAM dialogue.
4. Once the Classification file is open in the Available bands list you can overlay it by going to the image and selecting “Overlay” and then “Classification”.



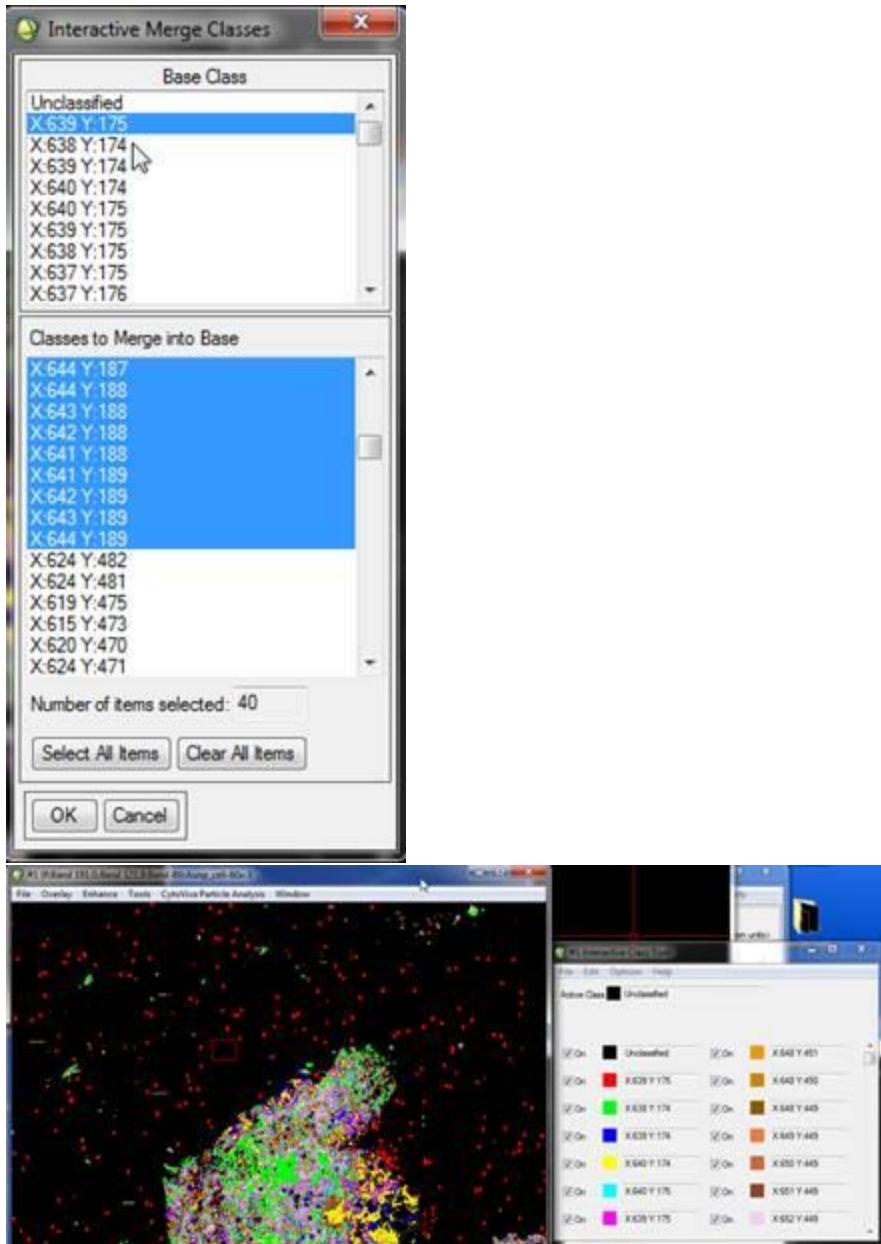
- When “Interactive Class Tool” window opens you can overlay all the spectra from both libraries by right clicking any of the colored boxes. All classified pixels (positively matched spectra) will show up as colors and unclassified pixels (no matching spectra) will show up as black pixels.



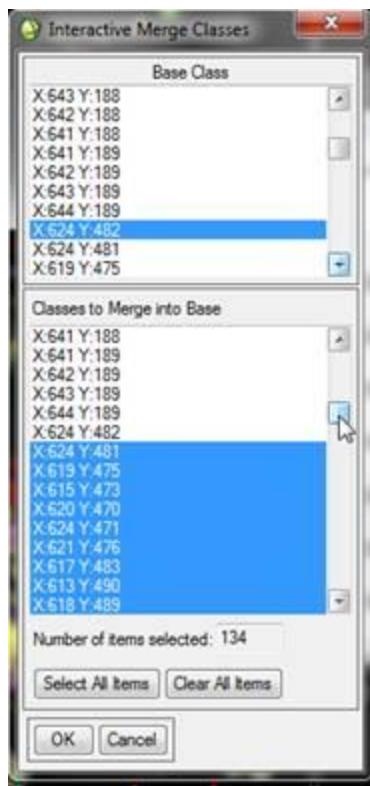
- Now you will have to merge the spectra into each library into one color. In the “Interactive Class Tool” window select “Options” and then “Merge Classes”. The “Interactive Merge Classes” window will open.



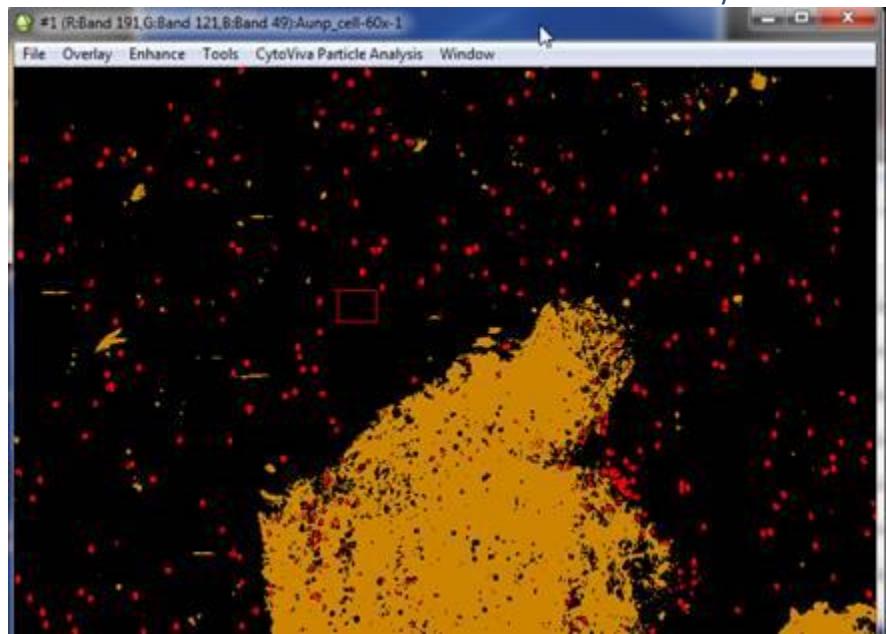
7. To make all spectra in the first library the same color select the first spectra in the list after the “Unclassified” spectra at the top. This is the base spectra all the others will be merged with to be represented as one color. Then in the “Classes to Merge into Base” dialogue highlight the second spectra (the one under the first spectra which is the Base now) and hold down the Shift Key. Then while holding Shift Key scroll down to the last spectra in that library which is spectra number [X:644 Y:189](#). This is the spectra we noted from Step 1 of these instructions. Hit “OK” and all these spectra will then turn the same color as the Base Spectra, which will default as RED.



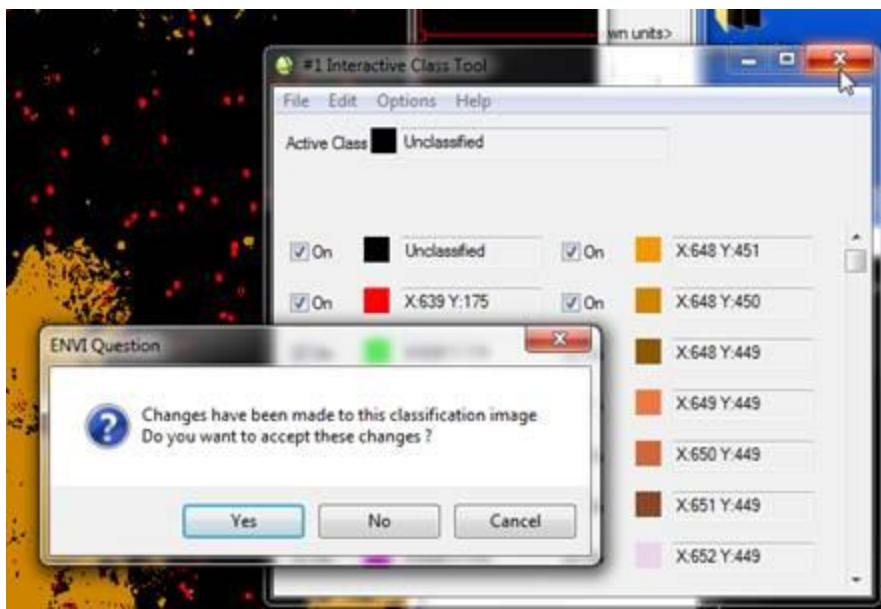
8. Now you will have to merge the spectra of the second library into one color. This will now be done for the second library you imported. In the “Interactive Class Tool” window select “Options” and then “Merge Classes”. The “Interactive Merge Classes” window will open. In The “Base Class” dialogue window scroll down to the first spectra in the second library which we noted in Step 2 of these instructions as spectra X:624 Y:482. Select this spectra in the “Base Class” dialogue. Then while holding down the Shift Key select the second spectra in this library in the “Classes to Merge into Base” dialogue and scroll all the way down to the last spectra in the dialogue and click on it to highlight all of these. You can determine the second spectra in the list of the second library by choosing the one under the first spectra in the library. So in this example we see me select spectra X:624 Y:481 first in the “Classes to Merge into Base” dialogue.



Hit "OK" button and now all colors of second library will turn the same color.



\*\* When you click to close the "Interactive Class Tool" window it will ask you if you want to accept the changes: Click "Yes" to save these color merges.



Now when you overlay that class again the libraries will be separated by color!