OlyVIA for Olympus VS200 Slide Scanner

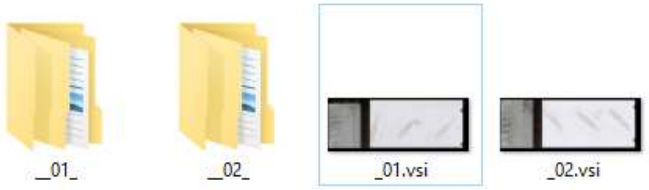
Installation

Download OlyVIA v. 4.1.1 on Windows 11 and install
https://www.olympus-lifescience.com/en/downloads/detail-iframe/?0[downloads][id]=847254102

OlyVIA v. 3.4.1 on Windows 10 and install
https://www.olympus-lifescience.com/en/downloads/detail-iframe/?0[downloads][id]=847253920

File types

The files from the scanner consist of a small file that manages them and a folder by the same name.
If you rename, rename both to the same name.
Each slice is a different layer.



Open file

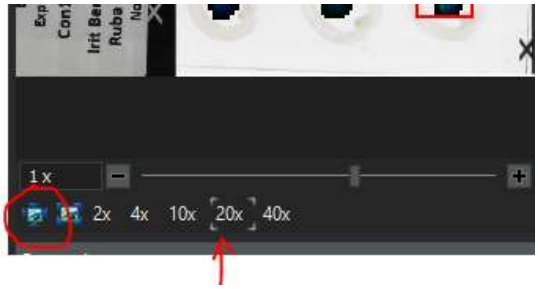
Double click on the vsi file to open in OlyVIA.
The whole slide opens including the label

If you cannot see a tab, go to **view → tool windows** → e.g., **Dimension selector**/**Adjust display**/**Properties**

Note: the resolution on this system is:
Brightfield: X=273.816 nm/pixel; Y=273.824 nm/pixel
Fluorescence: X=325.001 nm/pixel; Y=325.006 nm/pixel
(you will need to adjust if you want to compare to images from the old slide scanner)

Zooming in and out

Right click to zoom in and out
Zoom in and out with the mouse wheel (placement of the mouse centers the field of view)
On the right there is the **image navigator** tab where you can control the magnification.
Magnification beyond the acquisition objective is not real and will be fuzzy (you can use the leftmost icon "actual pixels") or the objective you used (indicated by a square)



Dimension Selector

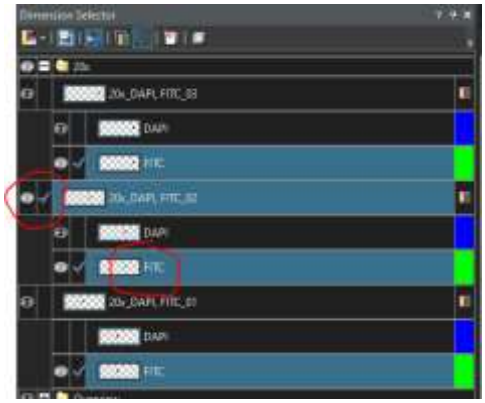
On the left hand side you have the different layers (each slice, overview, label).

You can also separate the channels:

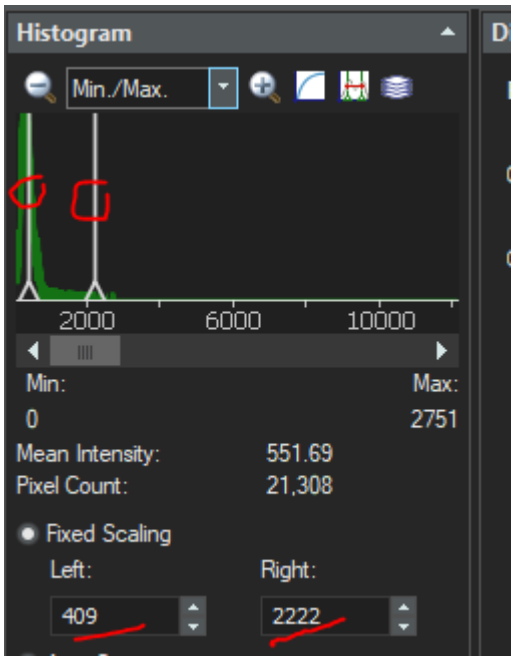
You can change the pseudocolor by clicking on the color to the right of the name of the layer

Histogram

For each channel in each scan area – select each channel, e.g.,



And in Adjust display → **histogram** in fixed scaling, move the white columns or set left and right

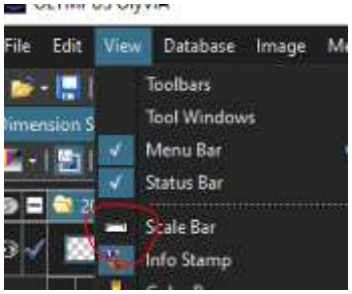


Make sure all scan areas in all slides have the same settings for each channel for comparison

Annotations

view → toolbars → drawing

To add scale bar**: view → add scale bar** (there is no way to change the format and place)



To save the image in the current window (snapshot) with the scale bar: **file → save display as: Image → Burn in info to export with the scale bar**

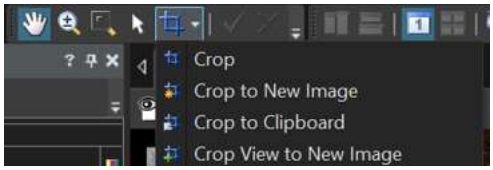
To extract a whole marked scan area (green selection rectangle in the original file or cropped section of one)
In **Dimension Selector** tab:
Click on a slice to select.
It will be selected in the list (alternatively click on the item the list and it will be selected in the central window)

Right click on the slice in the list to extract to a new file: “extract layer”

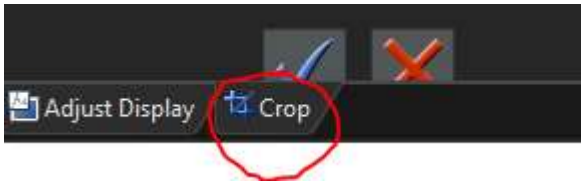
(it can take some time)

This will result in a new file which you can save as tiff (only save as TIFF an extracted layer) if small enough (2GB?) or vsi to open in imagej (do not open the original vsi as it is composed of many layers and only the first layer is calibrated).

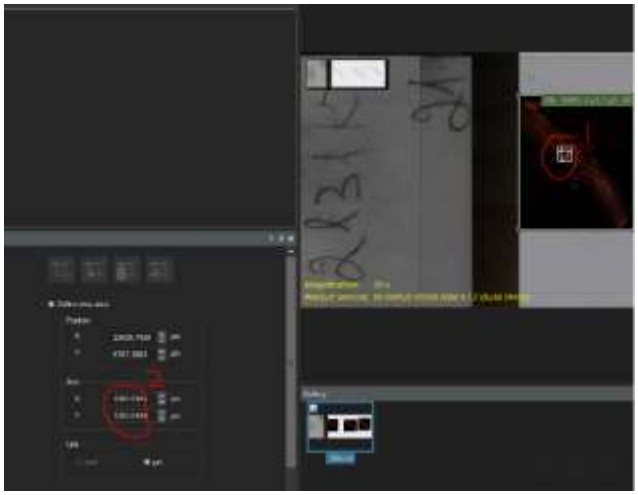
Or, you can crop (if you can’t see it, find it in **Image** menu)



In the crop tab on the left bottom, you can adjust the size if you wish:



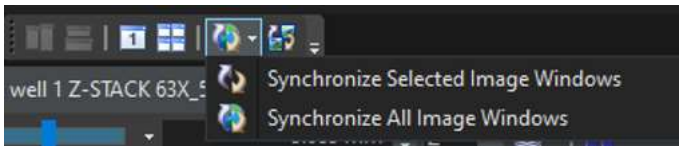
To define the size of the crop area: after you make a selection you go to the "define crop area" and enter a size and then the square/rectangle resizes and you can move it around if you wish before confirming.



Accept and save.
You can save as vsi file. If you want to save as TIFF you will have to extract the layer (in the **Dimension Selector** tab)

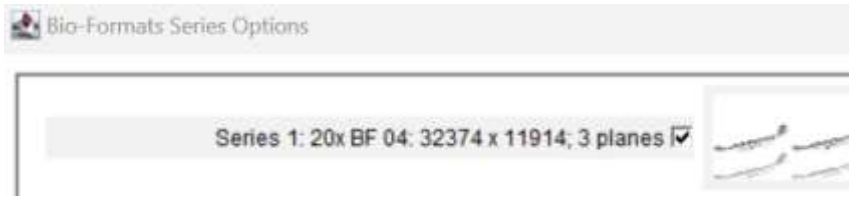
View

You can synchronize side-by-side windows
(you can see in gallery open files)



Open in ImageJ

To open vsi in ImageJ go **to plugins → bio-formats**
Open only the first series (it is also the only calibrated one).
If the image is not calibrated, go to **Image → Properties** and add the pixel width and height



It will open as three different channels
To combine them go to:
Image → Color → Merge Channels
Image → color → stack to RGB

ImageJ is limited by the RAM of your computer, if you cannot open in ImageJ (where you can export to TIFF) you can open in QuPath.