

HOME MICROSCOPY PART ONE: OPTICALLY STAINED DRIED CRANBERRY CELLS

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INTRODUCTION:

While looking for samples to observe under the microscope, I found one that is a very good option which can be found at home almost everywhere; I mean dried cranberries. We could say that they are naturally stained because they are red, but just for having fun and/or to make the sample look different and beautiful, they may be optically stained with both the camera software and/or the image tool found in office programs such as Power Point, Word, Paint etc. see below.

DEVELOPMENT:

I took a very small sample of a cranberry about one or two millimeters in size and placed it upon a slide, then covered the sample with a cover slip and glued the slip to make a permanent sample using two bits of transparent tape. I then placed it under the microscope and that's all.

I employed both bright field and darkfield modes of illumination and to optically stain, I adjusted using the camera software at the moment of taking the photo:

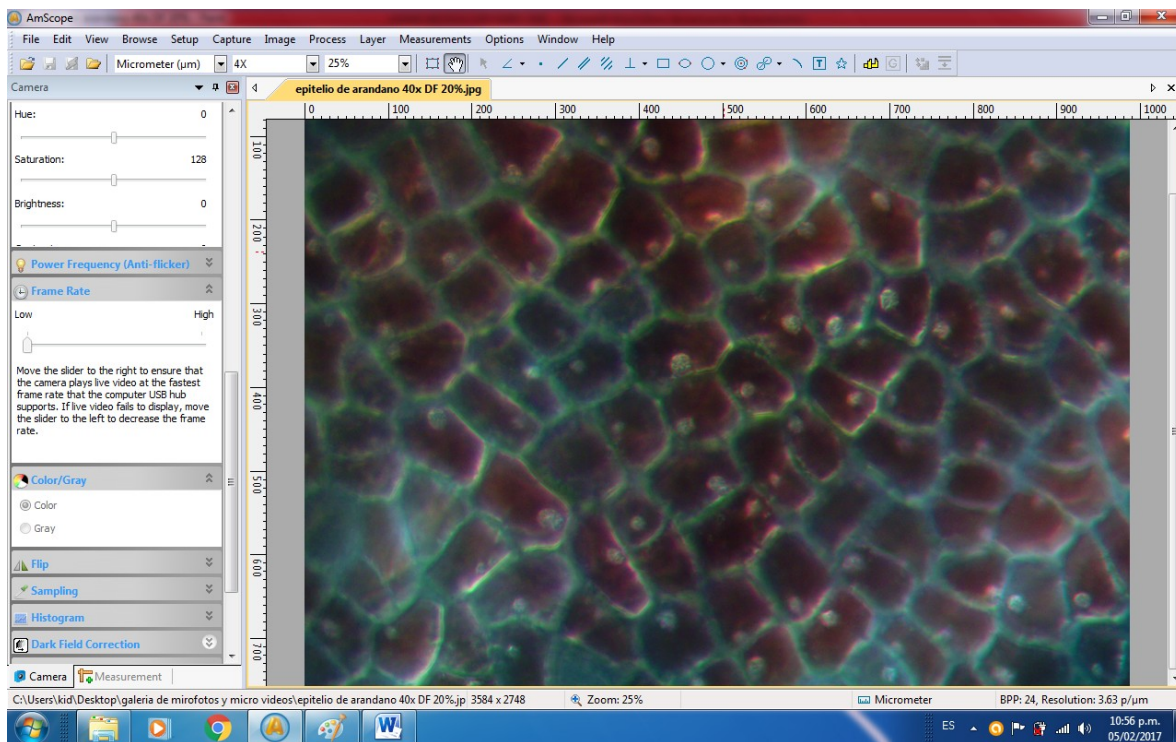
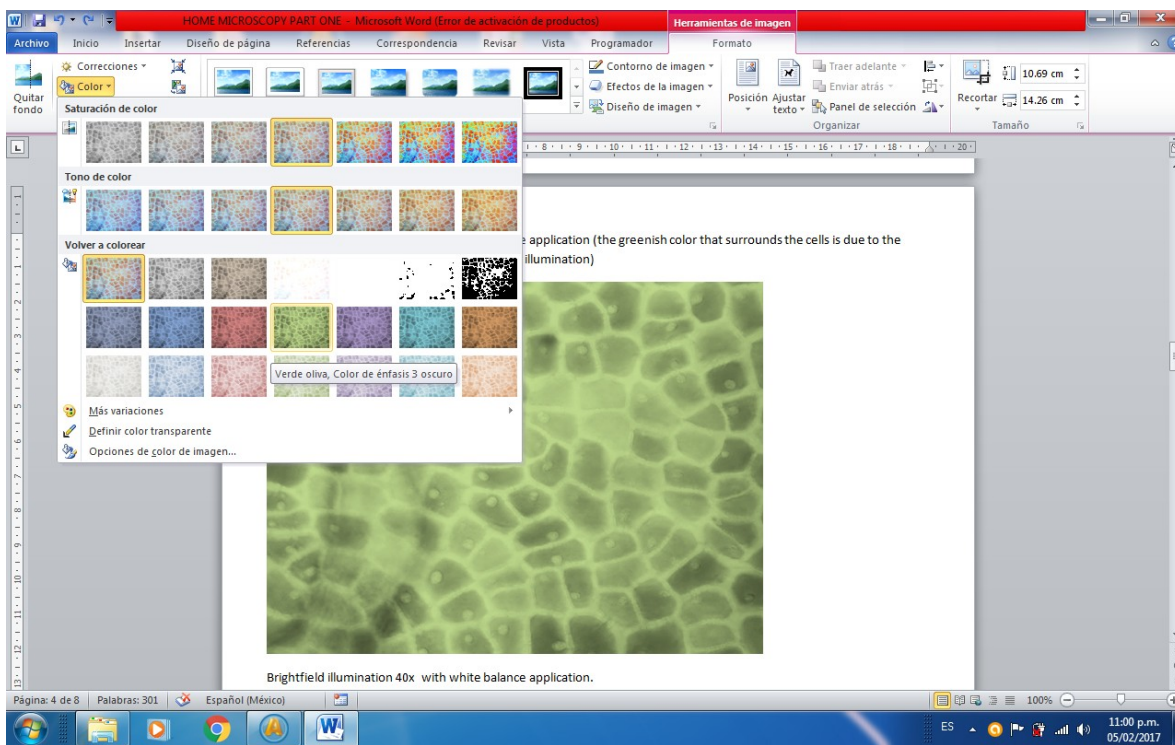
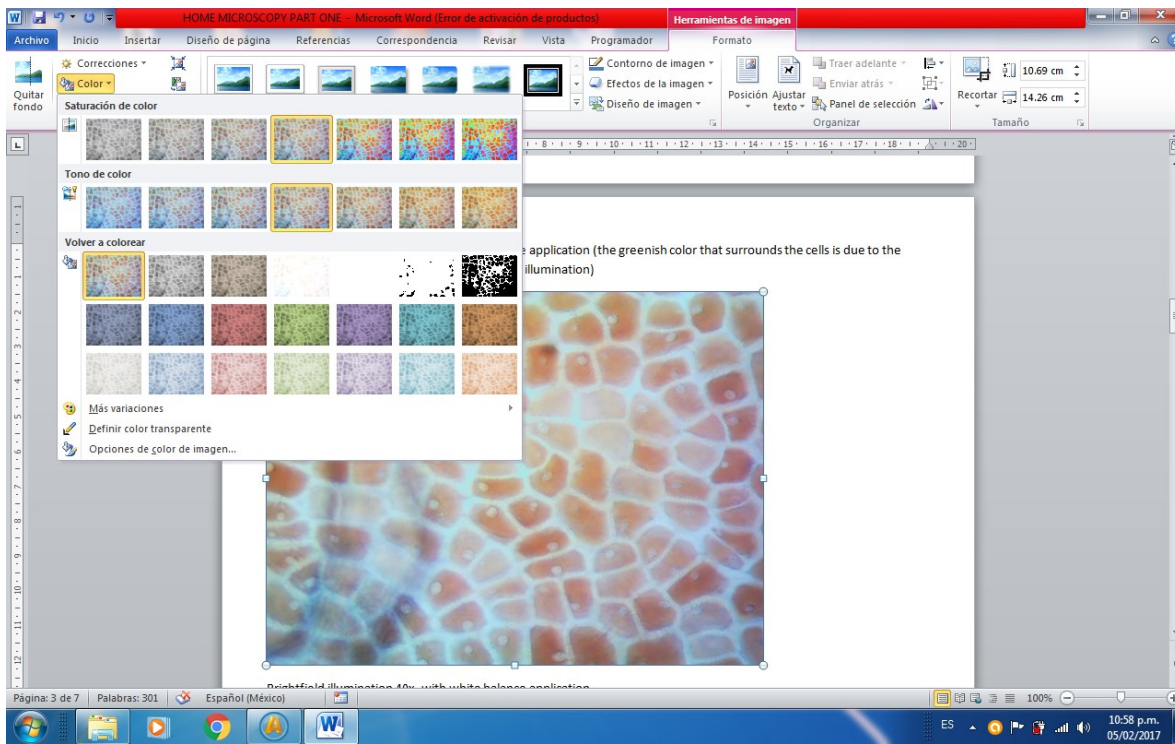
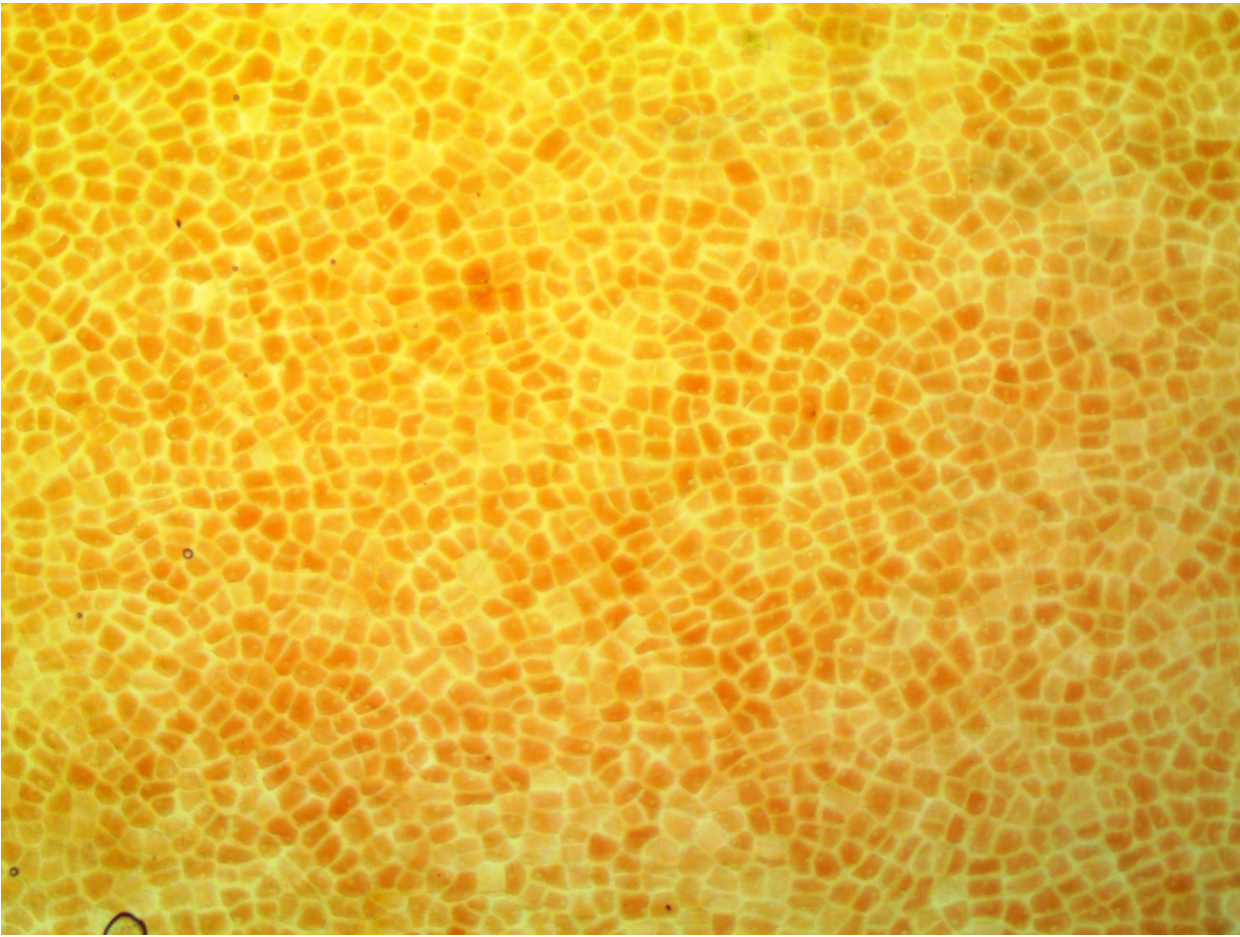


Image Tools within Office programs can also be used to apply a different 'stain' to the sample.

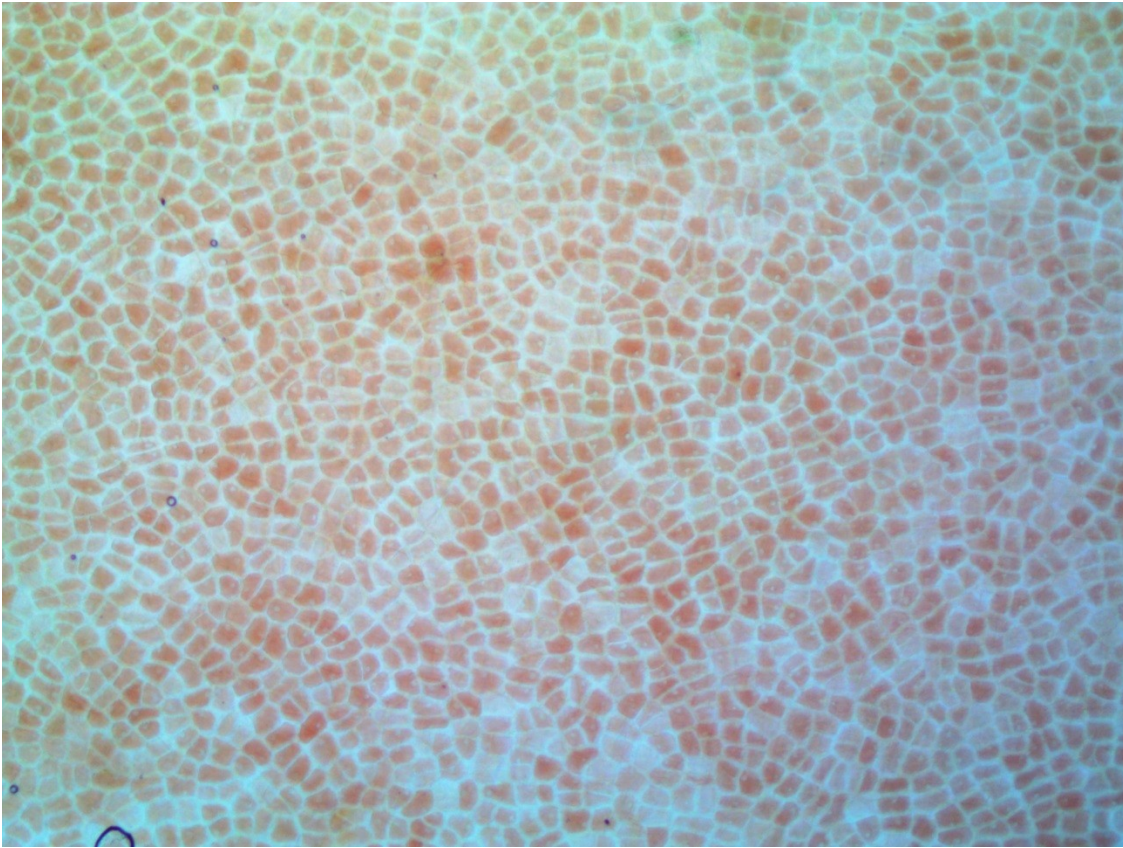


See below.

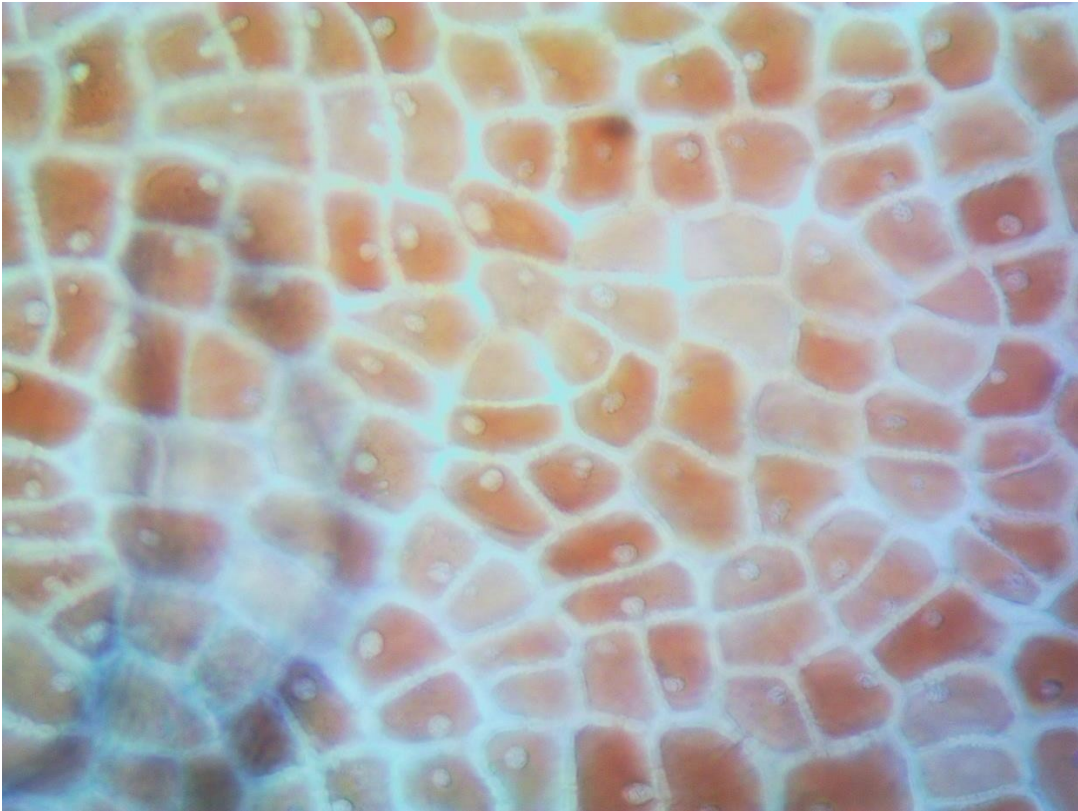
RESULTS:



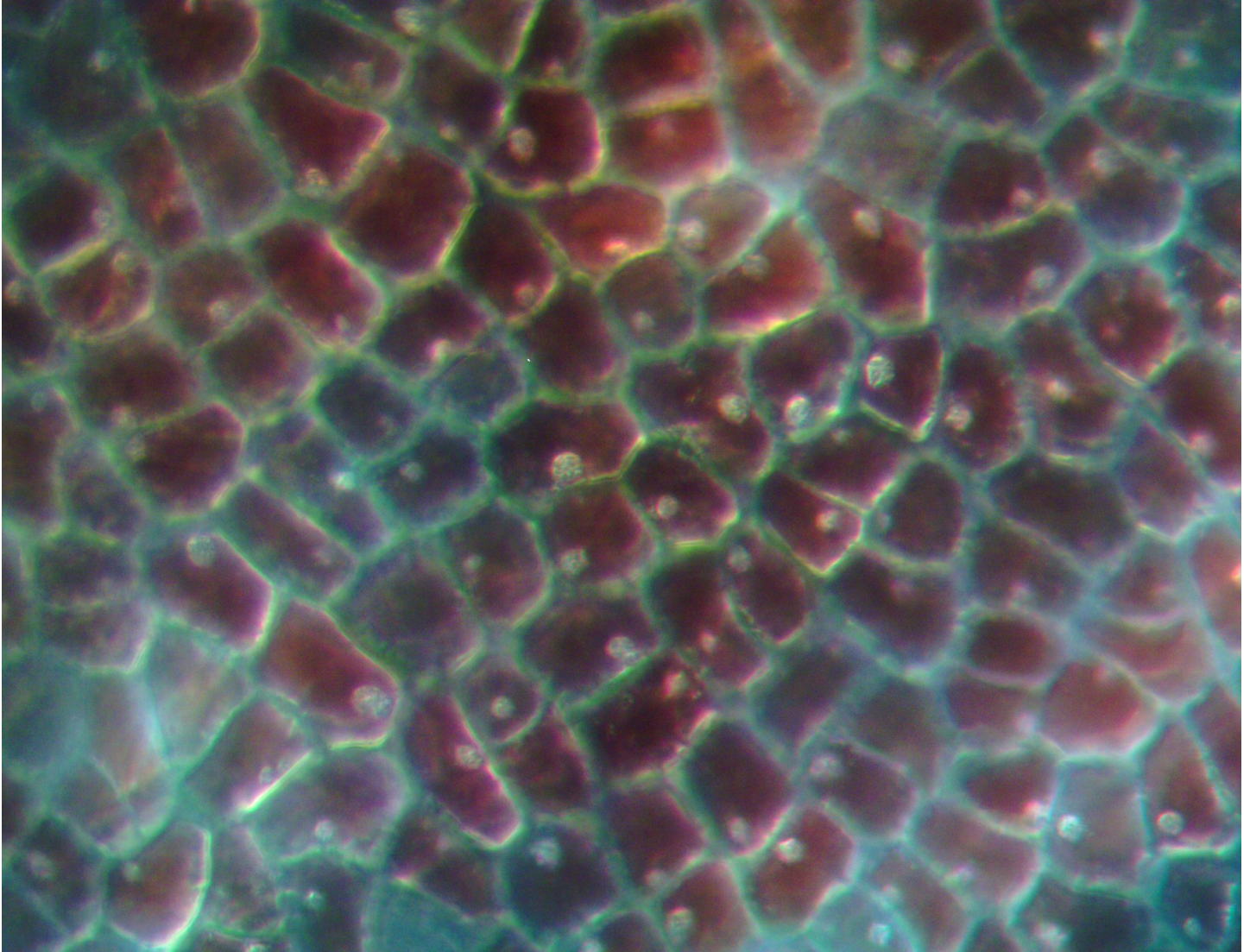
Brightfield illumination 10x without white balance application.



Brightfield illumination 10x with white balance application (the greenish color that surrounds the cells is due to the interpretation the camera does of the halogen illumination).

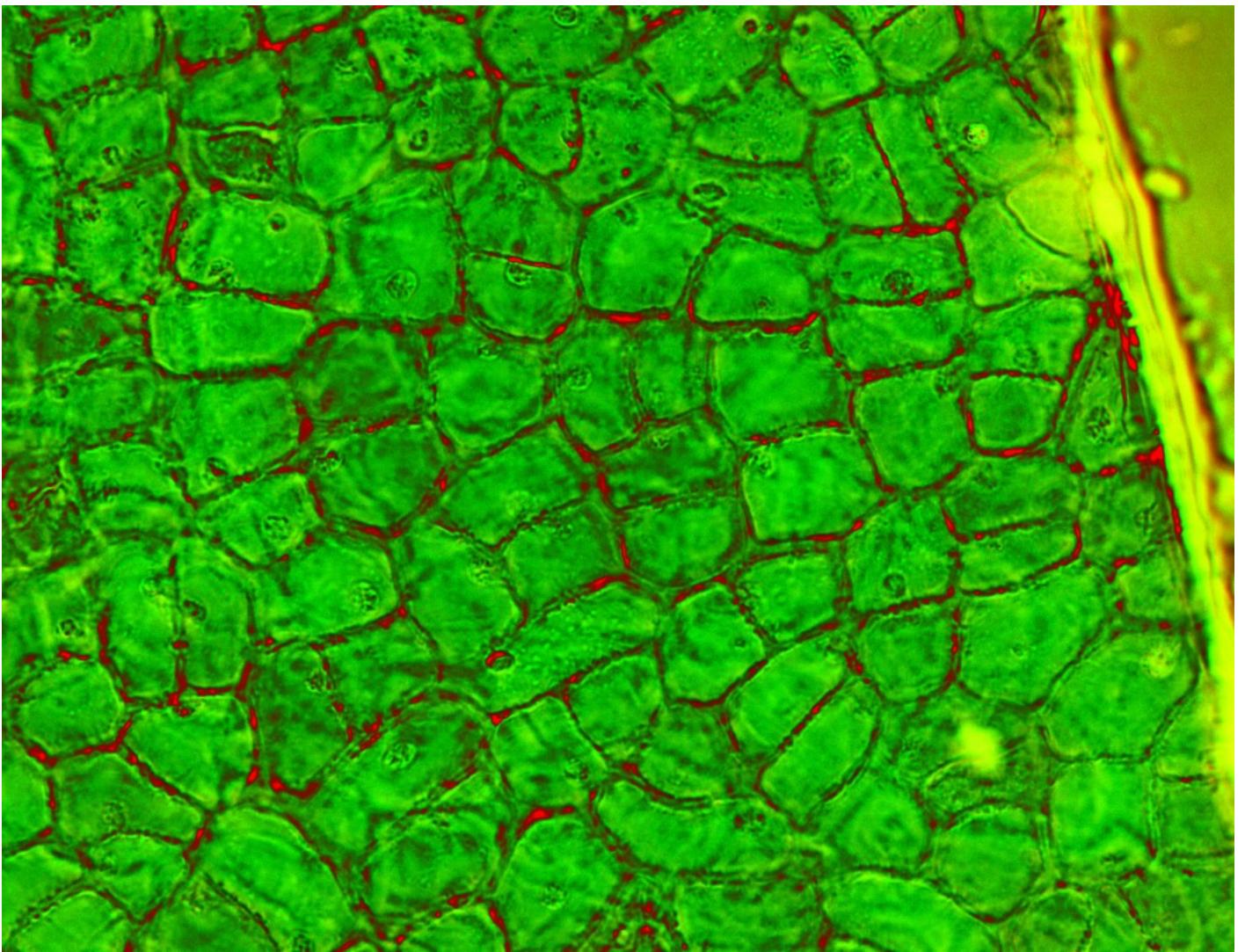


Brightfield illumination 40x with white balance application.

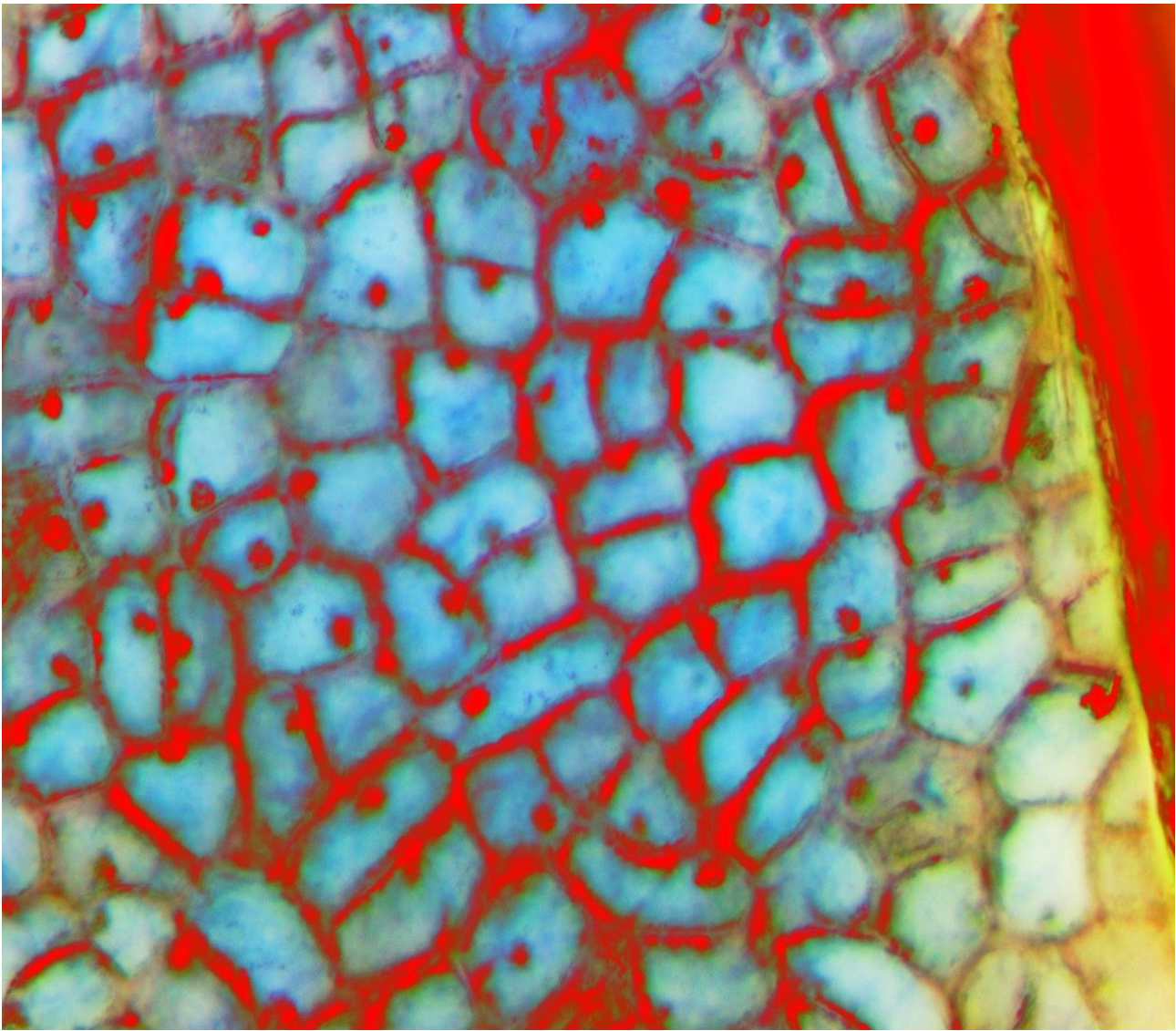


Darkfield illumination 40x.

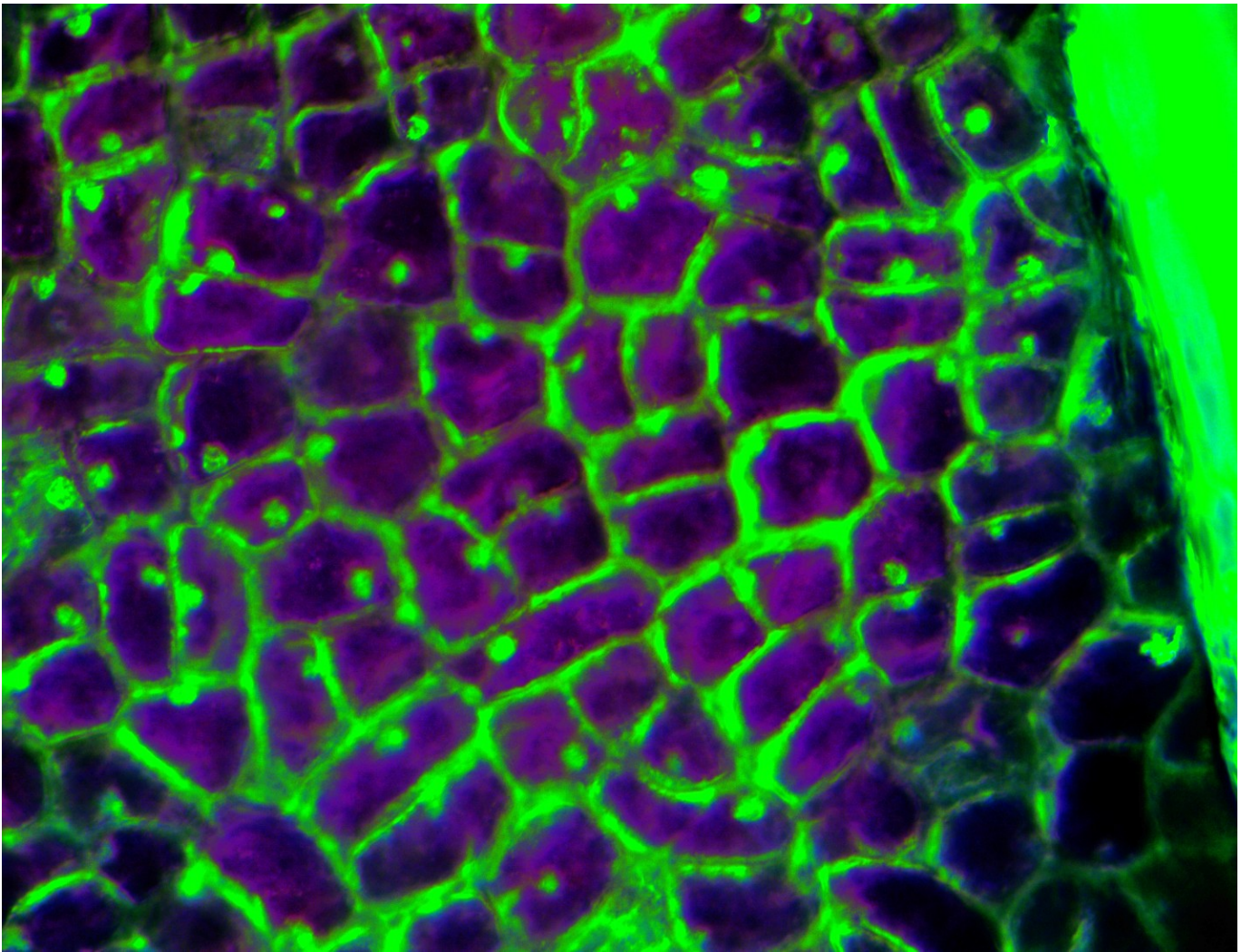
✓ Optically stained variations in color with the software of the camera



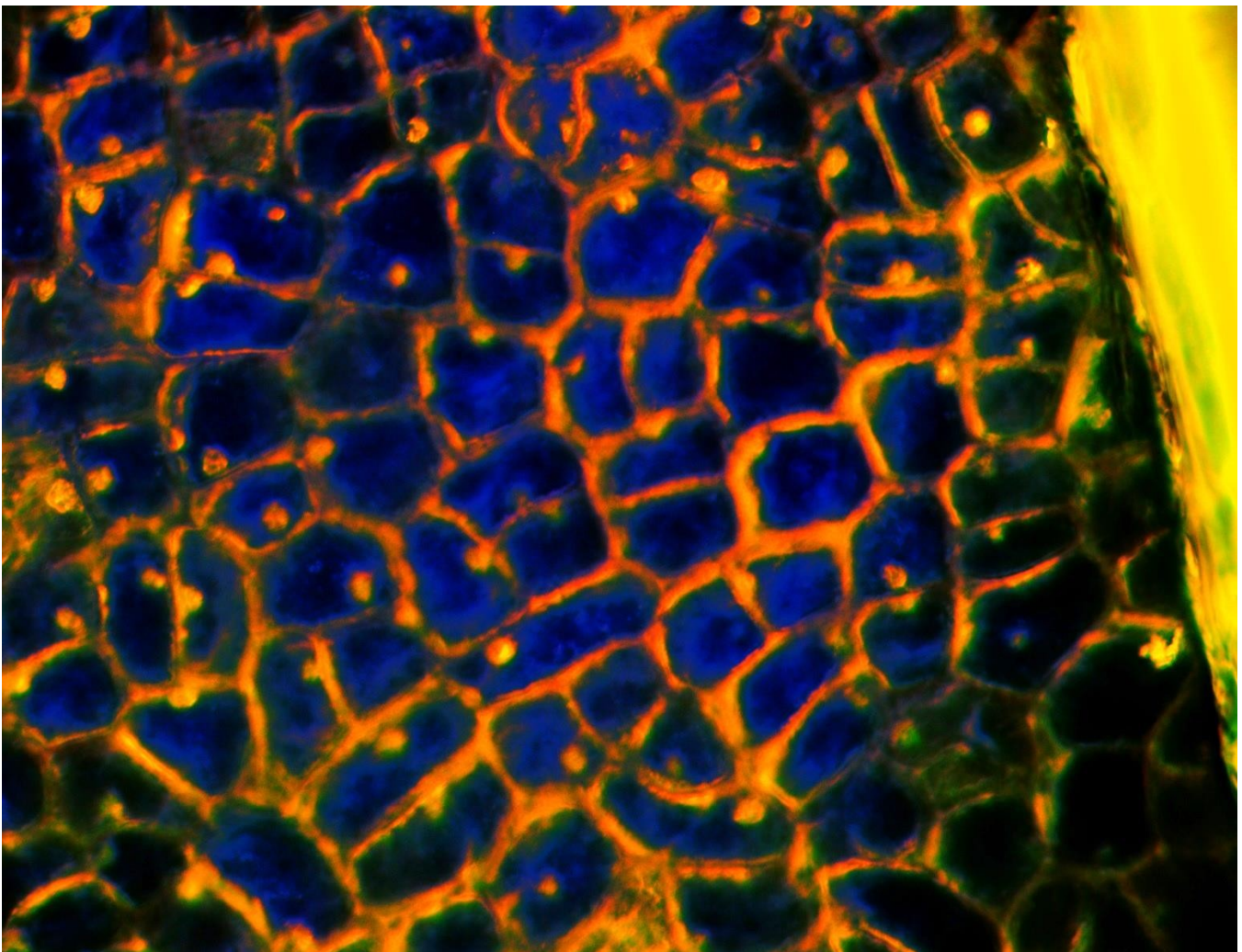
Brightfield 40x negative variation of color temperature 2719K, tint 1000.



Darkfield 40 x negative variation of color tint 1341, temperature 3310K.

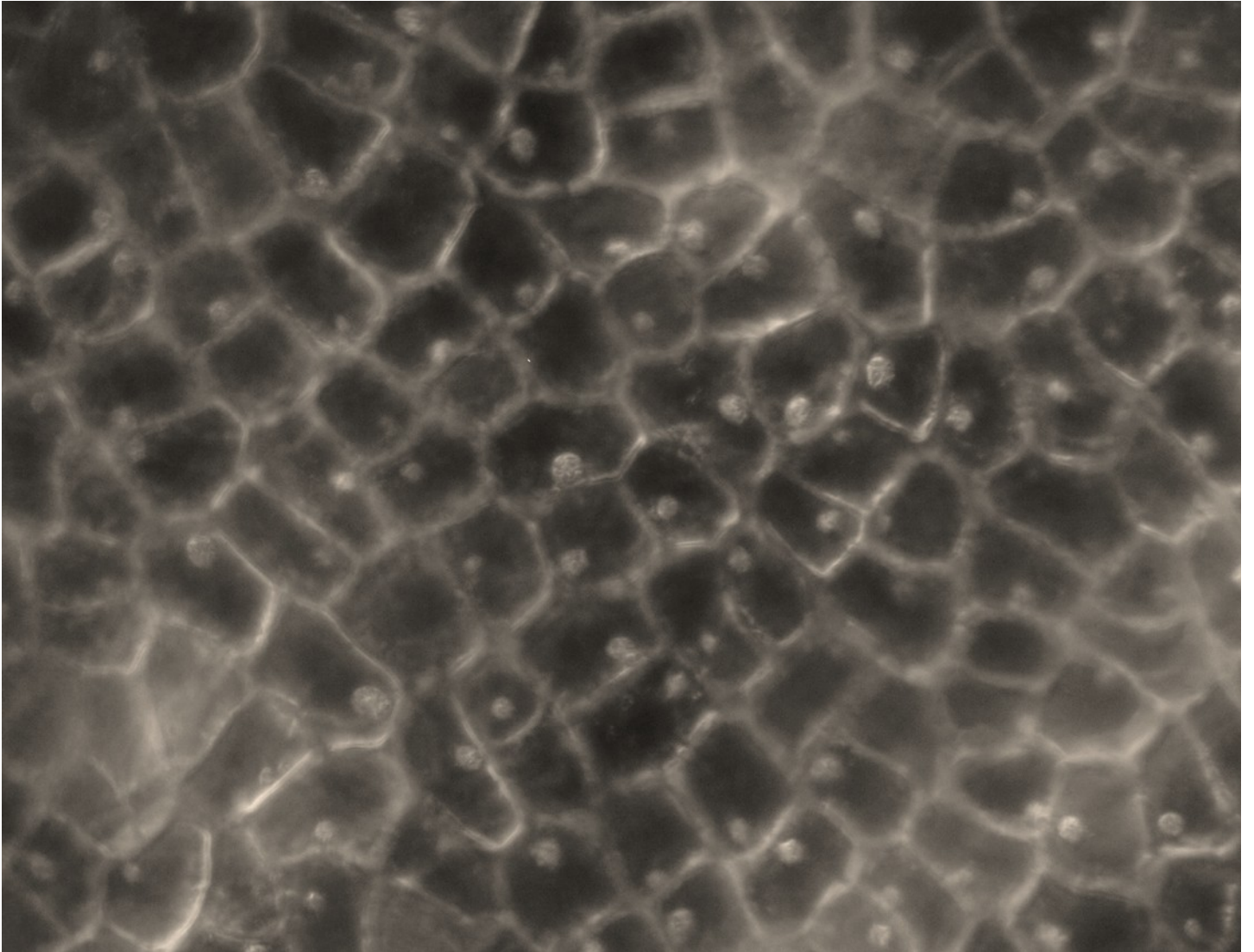


Darkfield 40x white balance application, hue 47.

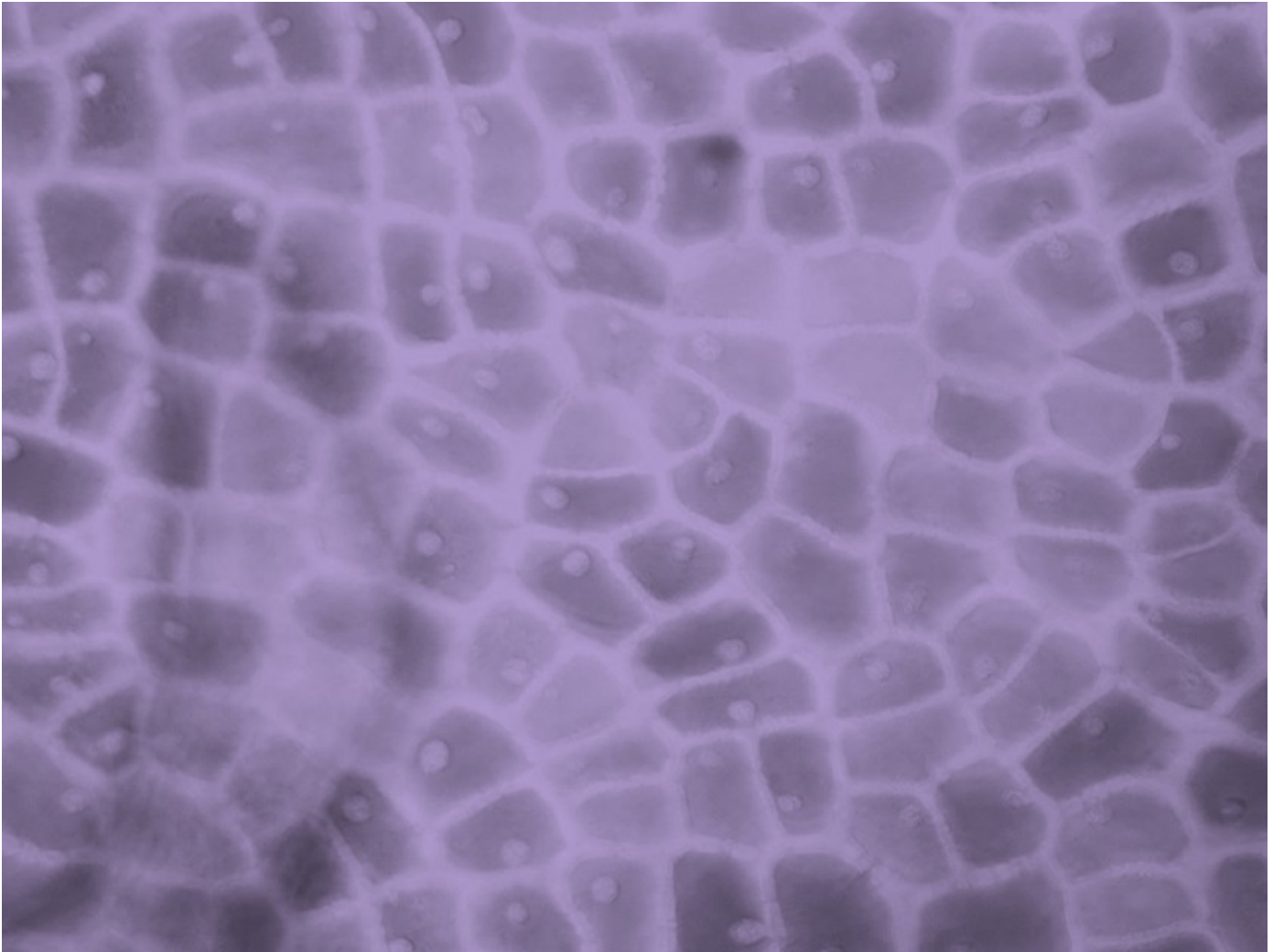


Darkfield 40x white balance application, hue 142.

- ✓ **Optically stained variations in color with Image Tools of Office**



Darkfield illumination 40x.



Brightfield illumination 40x.

CONCLUSION:

Dried cranberry cells are easy to find at home, they are beautiful and look like a cobbled floor. The optical staining is just to enhance that beauty of the sample.

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(Above in anti-spam format. Copy string to email software, remove spaces and manually insert the capitalised characters.)

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