

MICROSCOPICAL EXPLORATION

THIRTY FOUR

MICROSCOPICAL EXPLORATION 32 REPRISED **A LESS COLOURFUL CLOSE-UP OF AMINO ACIDS**

Firstly, and let's be perfectly clear about this, I don't mean colourless here (sorry about the pun!), but I do mean that the strong colours generated by the sticky tape waveplates, as in ME32, will be absent. This I can predict with some certainty as, although polarising and analysing filters will be utilised, the sticky tape waveplates will remain in their box unused. For ME34 the same two non-essential amino acids will be observed. These two are β -Alanine and L-Glutamine

Fortunately, after the completion of ME32, specimen slides C & D were not recycled and sent off for cleaning, but were archived for future reference and will be observed as the subjects of ME34.

Three different microscopes are used to make the observations and capture the images as follows:

Swift SW380T with LED sub-stage illumination set up for polarised light observation with crossed linear polars, parallel linear polars and circular polarisation.

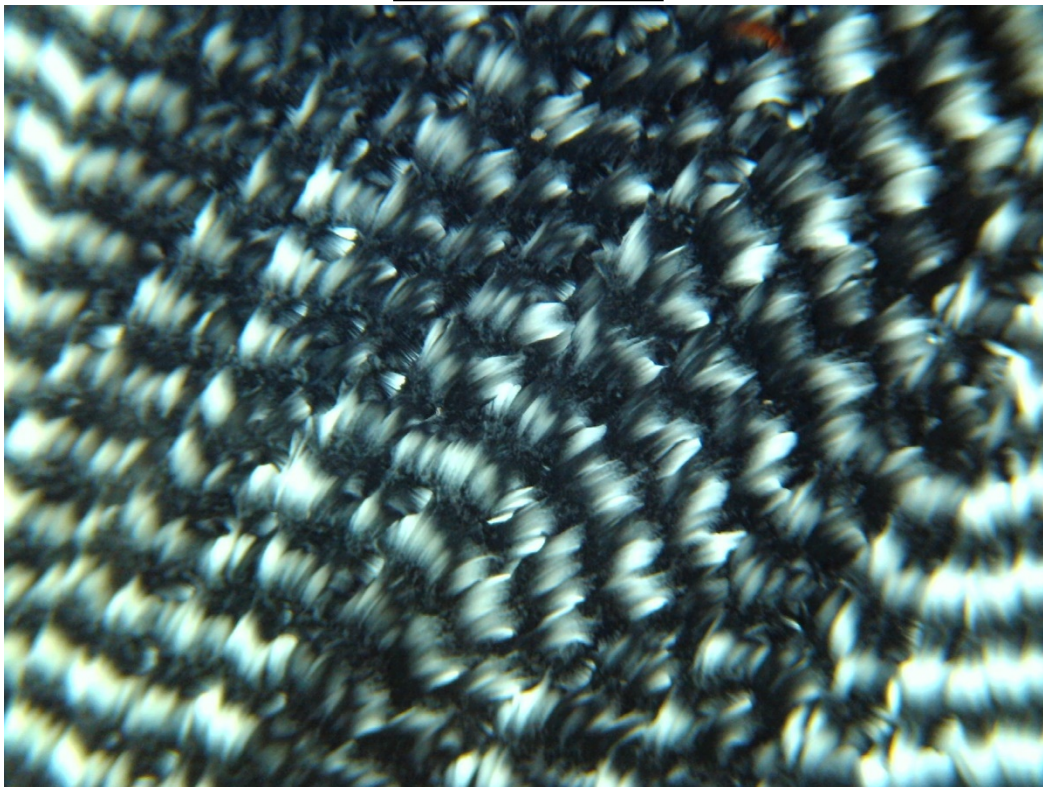
Apex Practitioner with LED sub-stage illumination set up for brightfield and darkfield observations.

Vickers M10A with incandescent sub-stage illumination set up for polarised light observations with crossed linear polars.

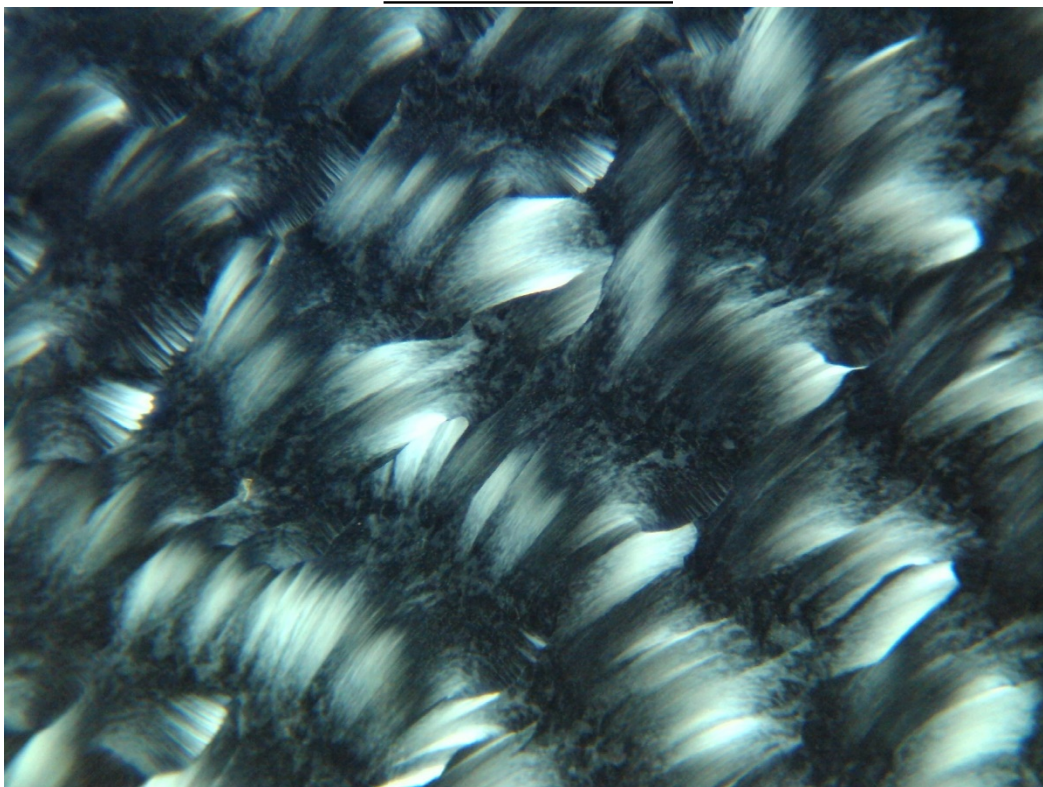
Each microscope is fitted with x4, x10 and x20 objectives and an eyepiece camera capable of capturing images at a resolution of 1600 x1200px or above.

The captured images are shown below.

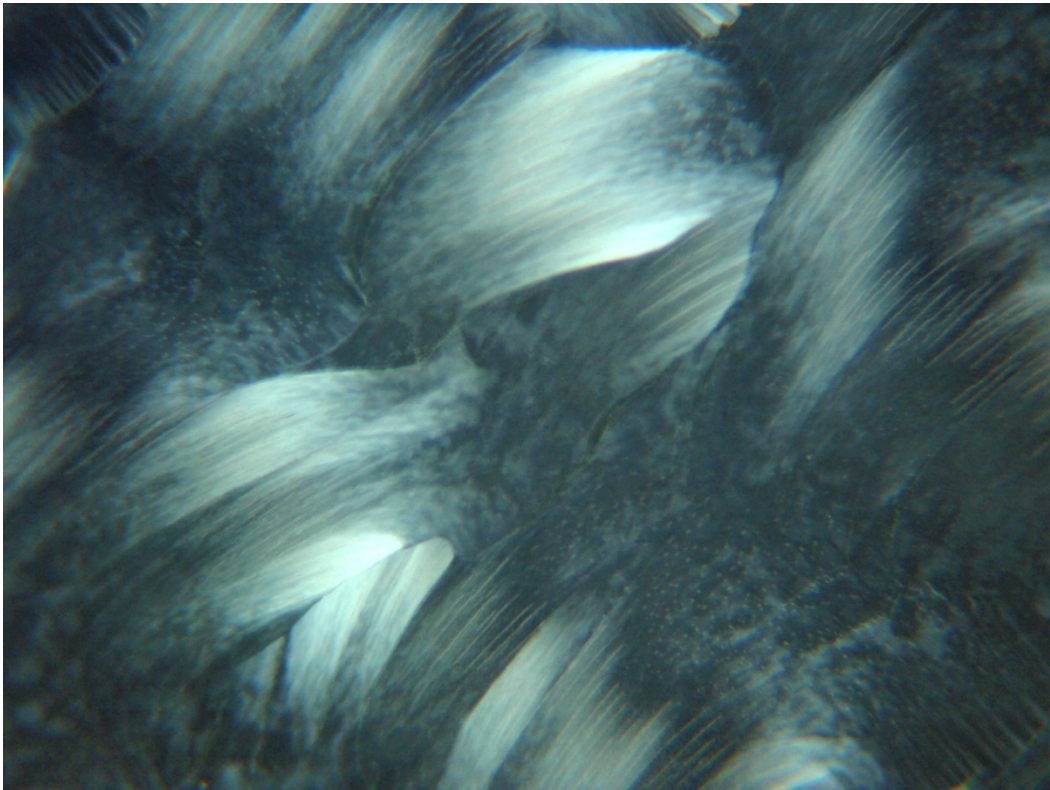
Crossed Polars x4



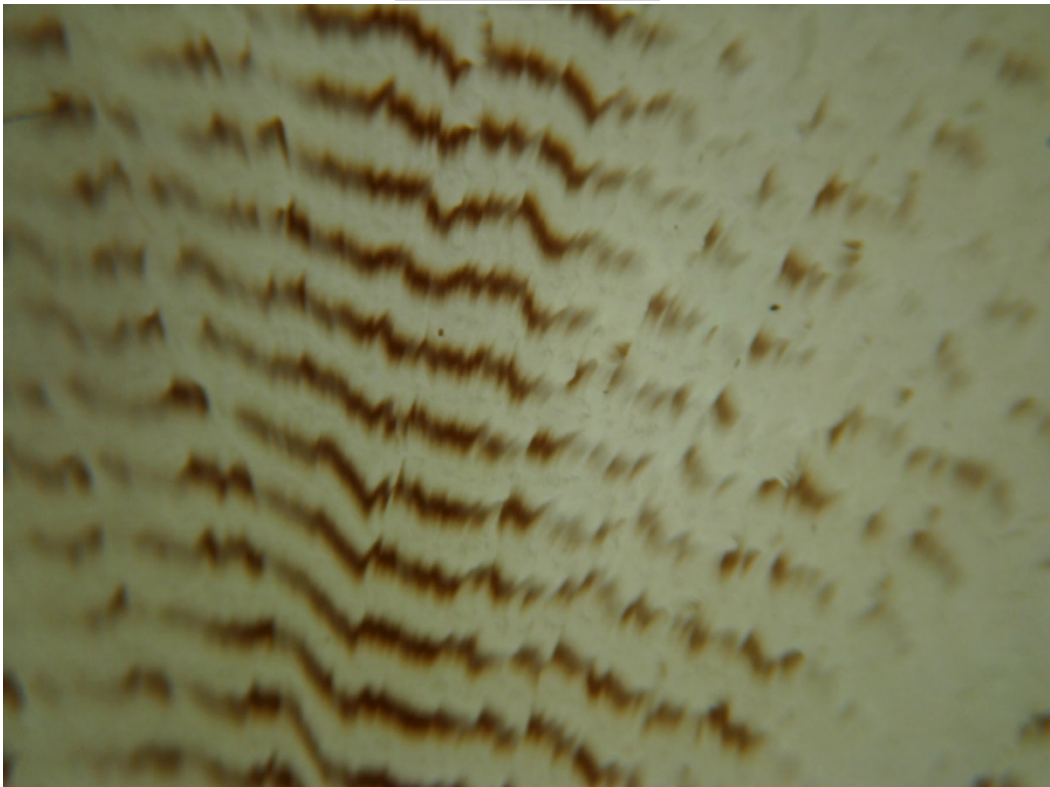
Crossed Polars x10



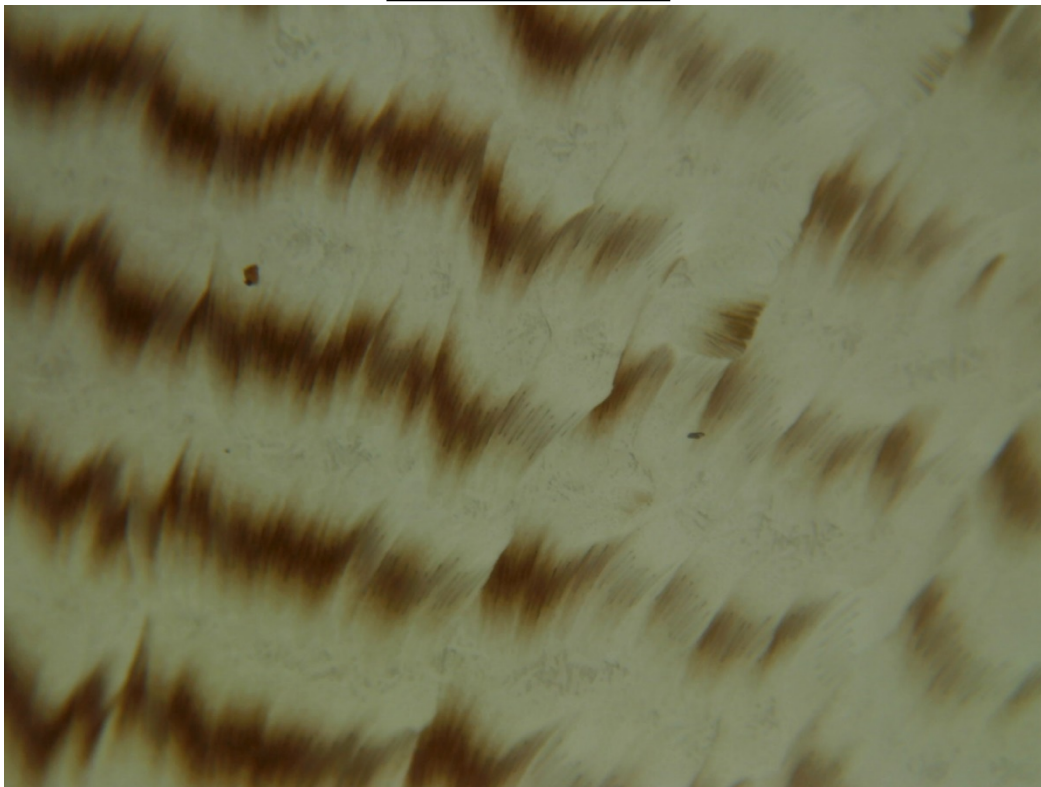
Crossed Polars x20



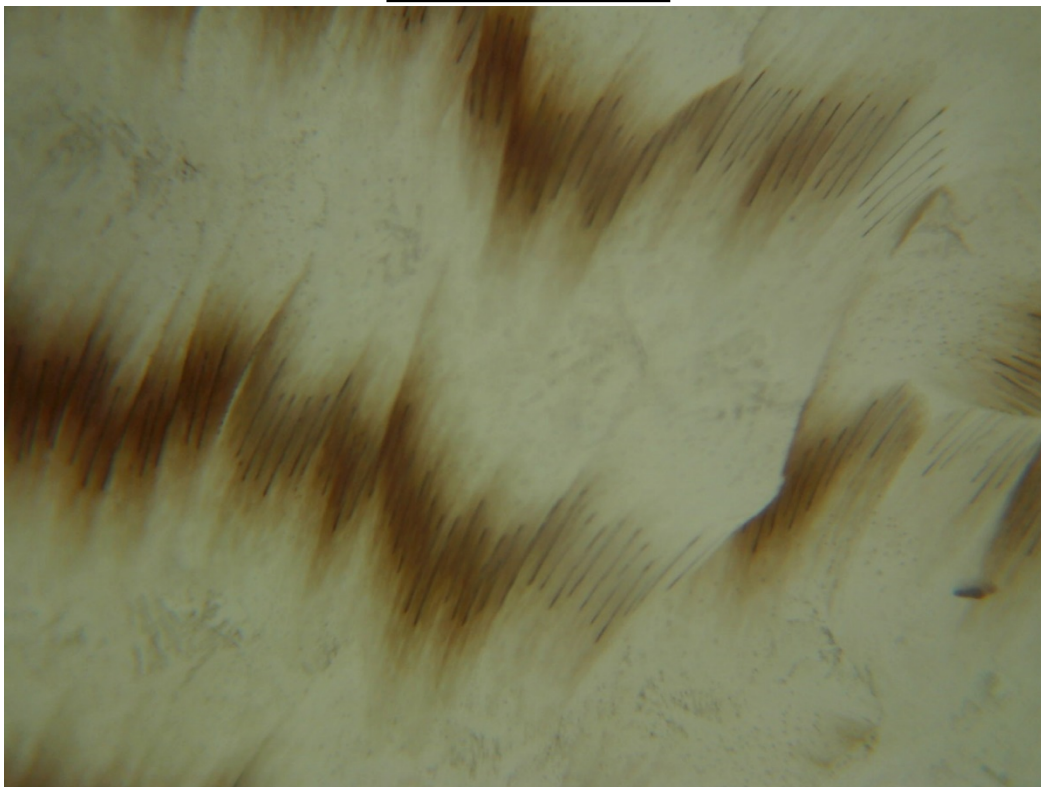
Parallel Polars x4



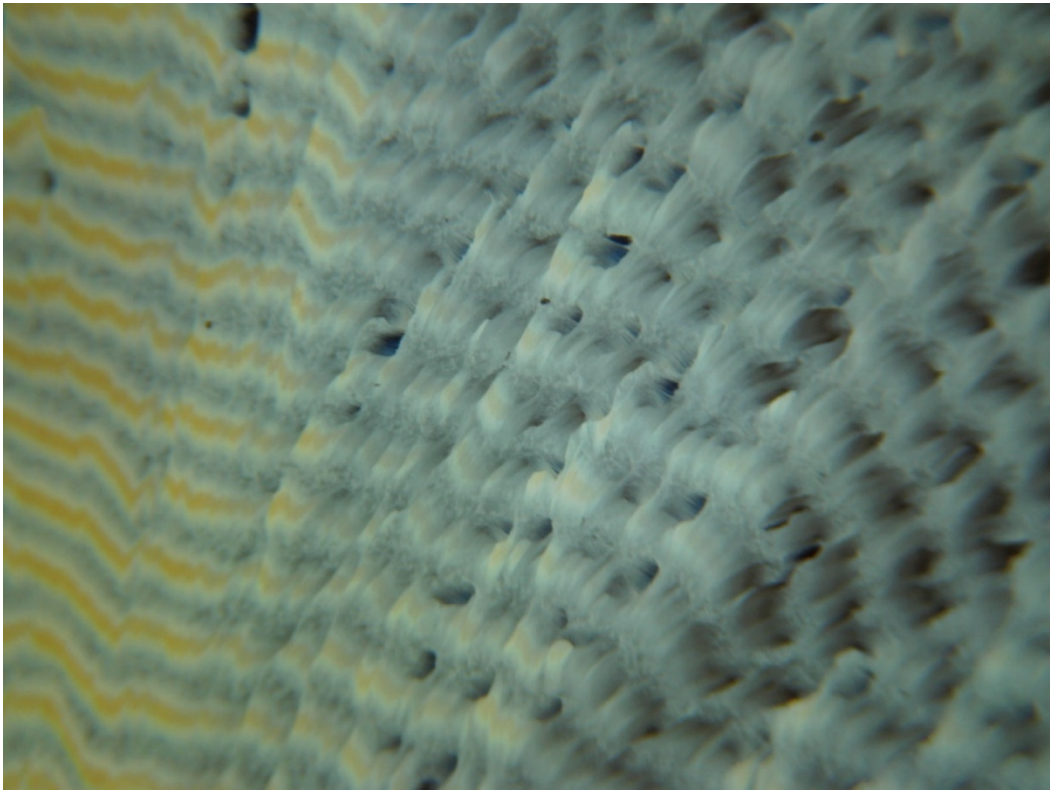
Parallel Polars x10



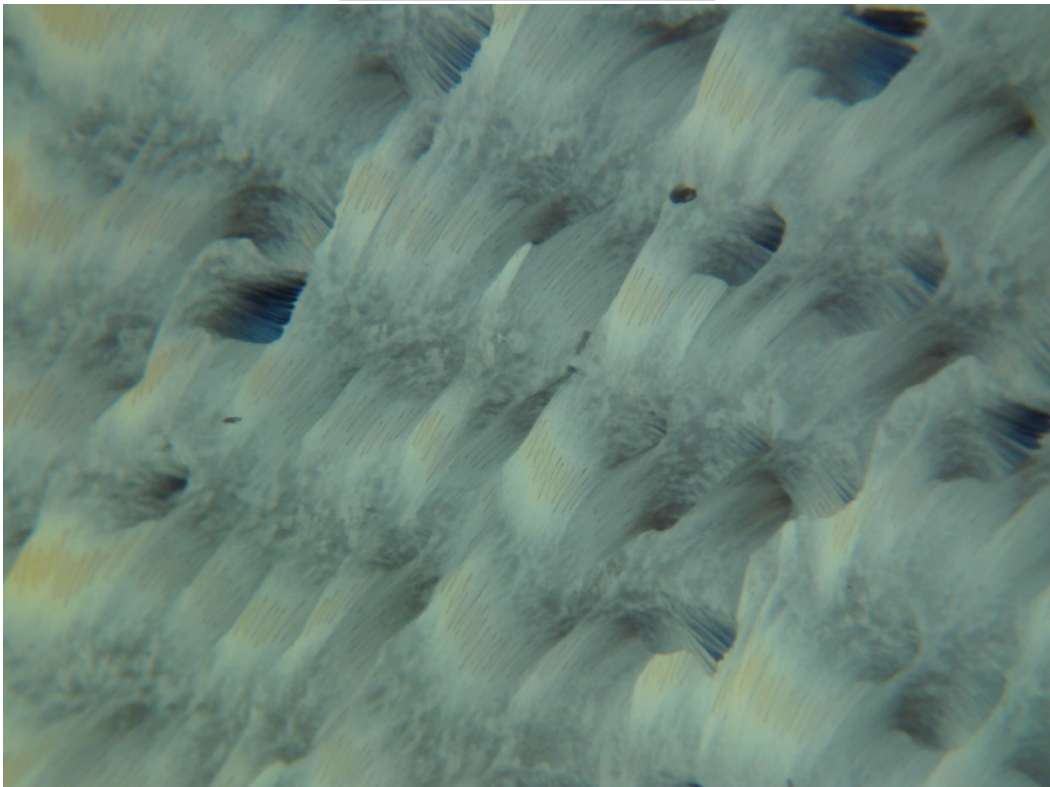
Parallel Polars x20



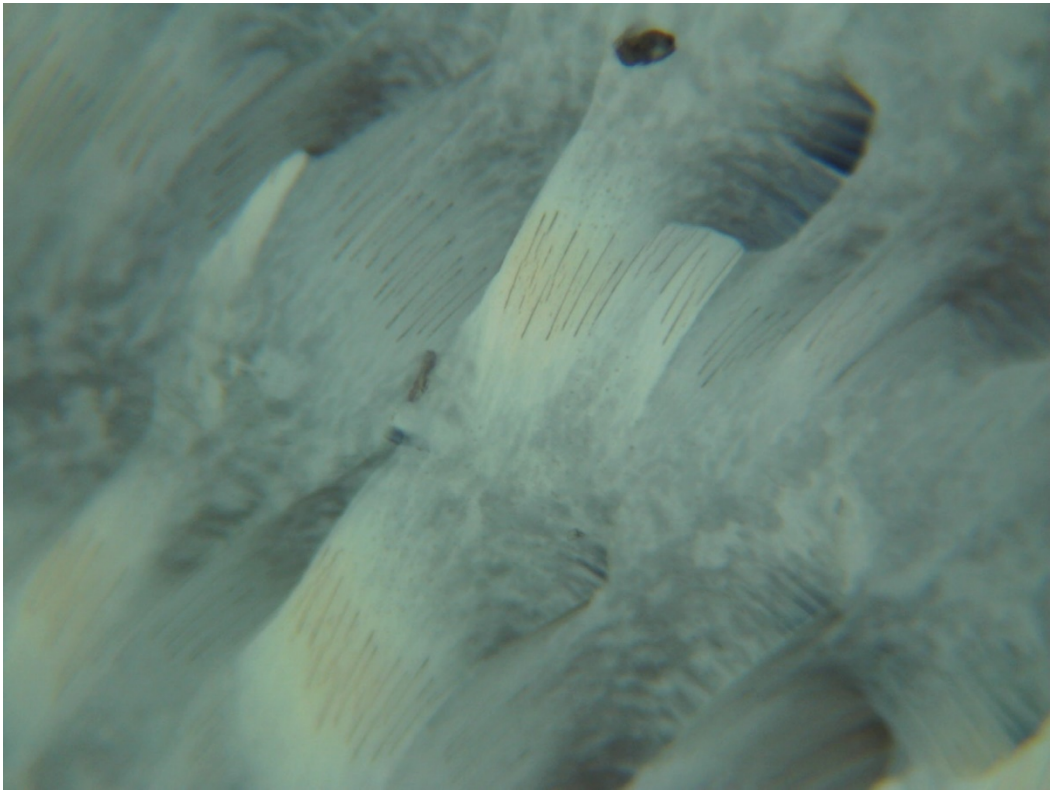
Circular Polarisation x4



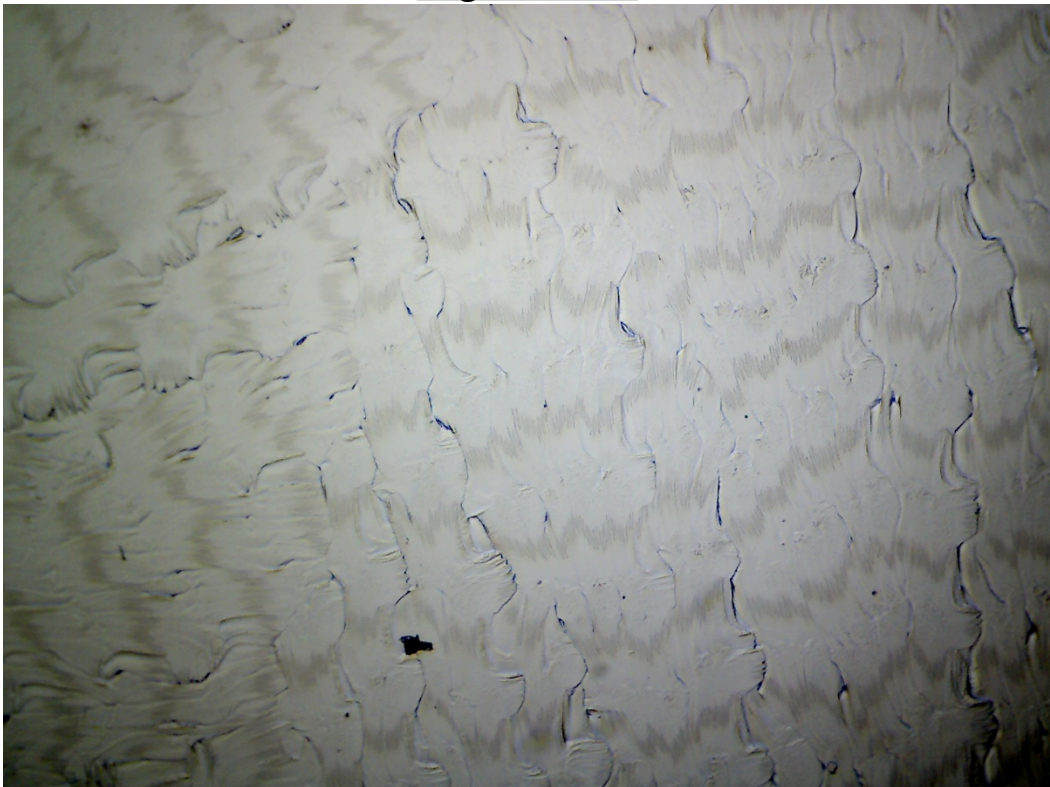
Circular Polarisation x10



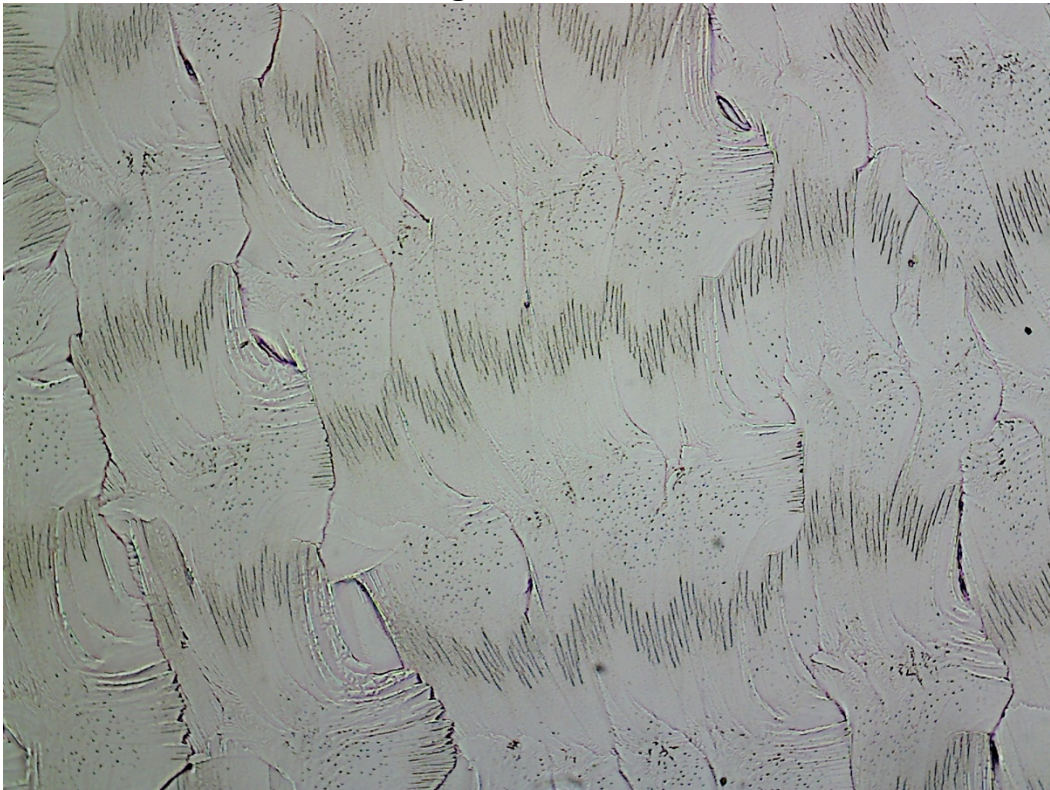
Circular Polarisation x20



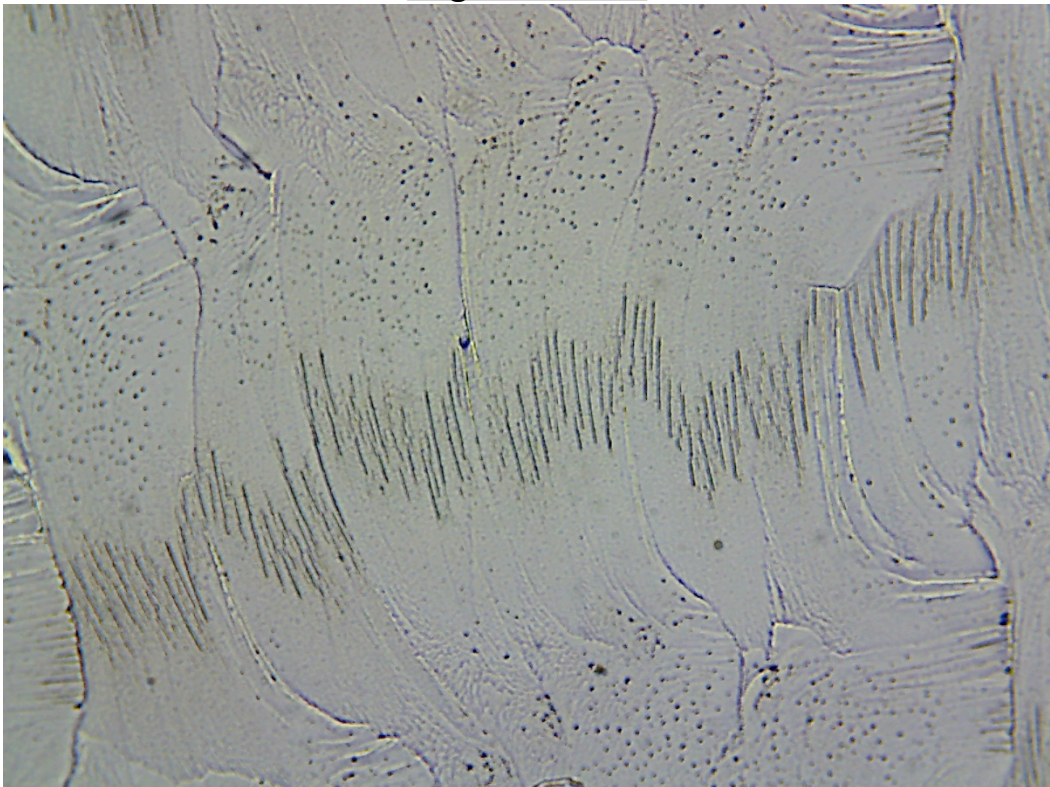
Bright Field x4



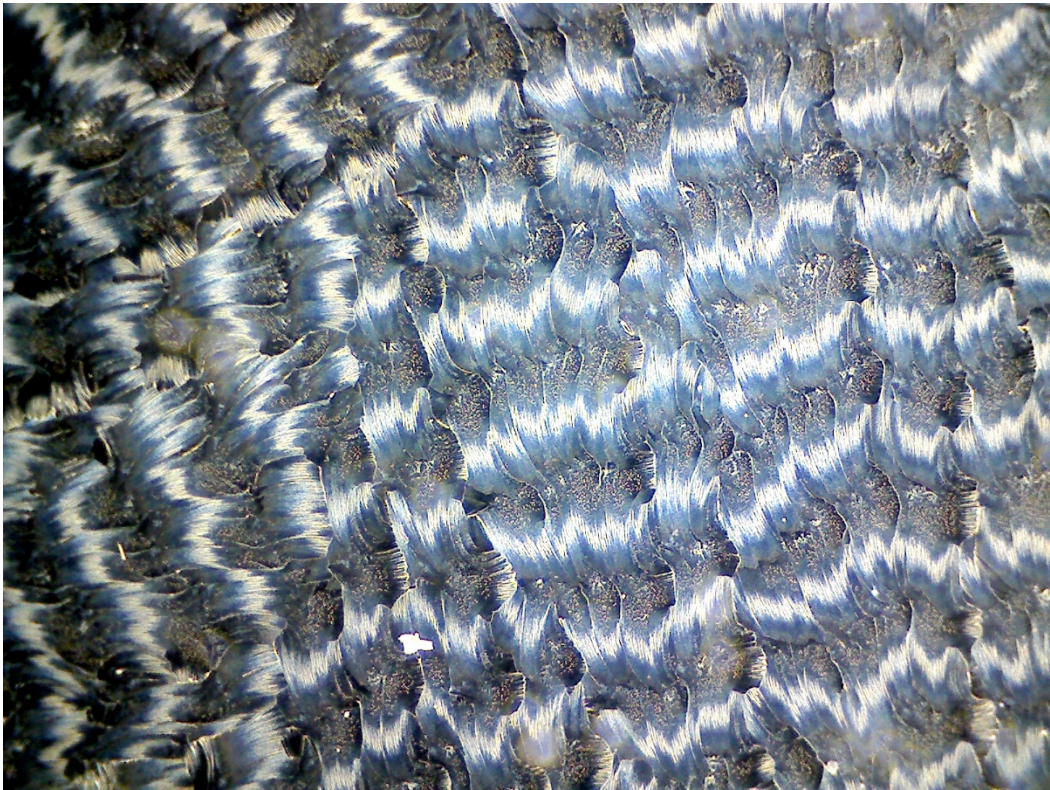
Bright Field x10



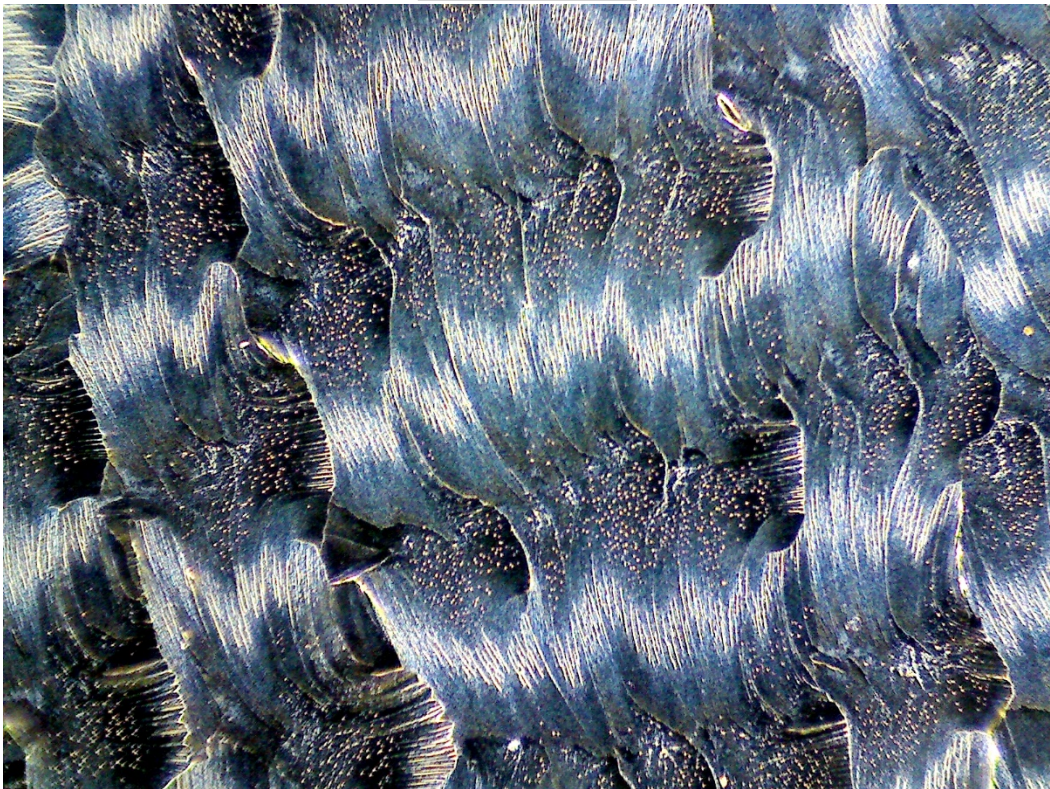
Bright Field x20



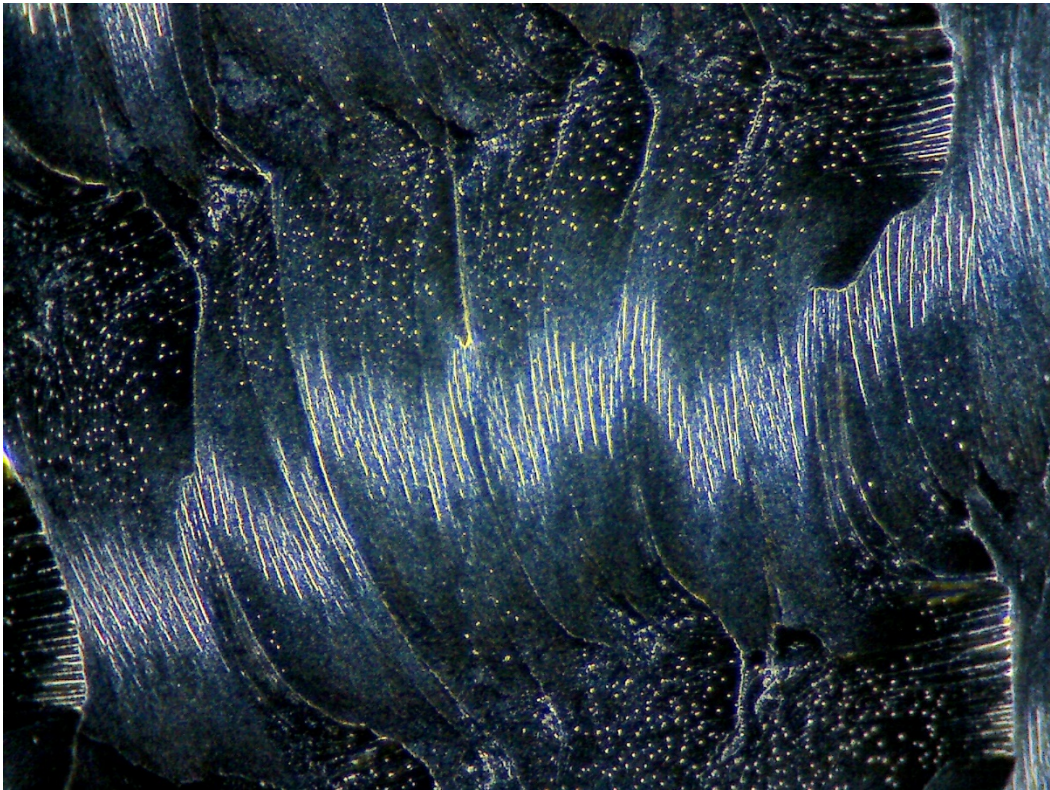
Dark Field x4



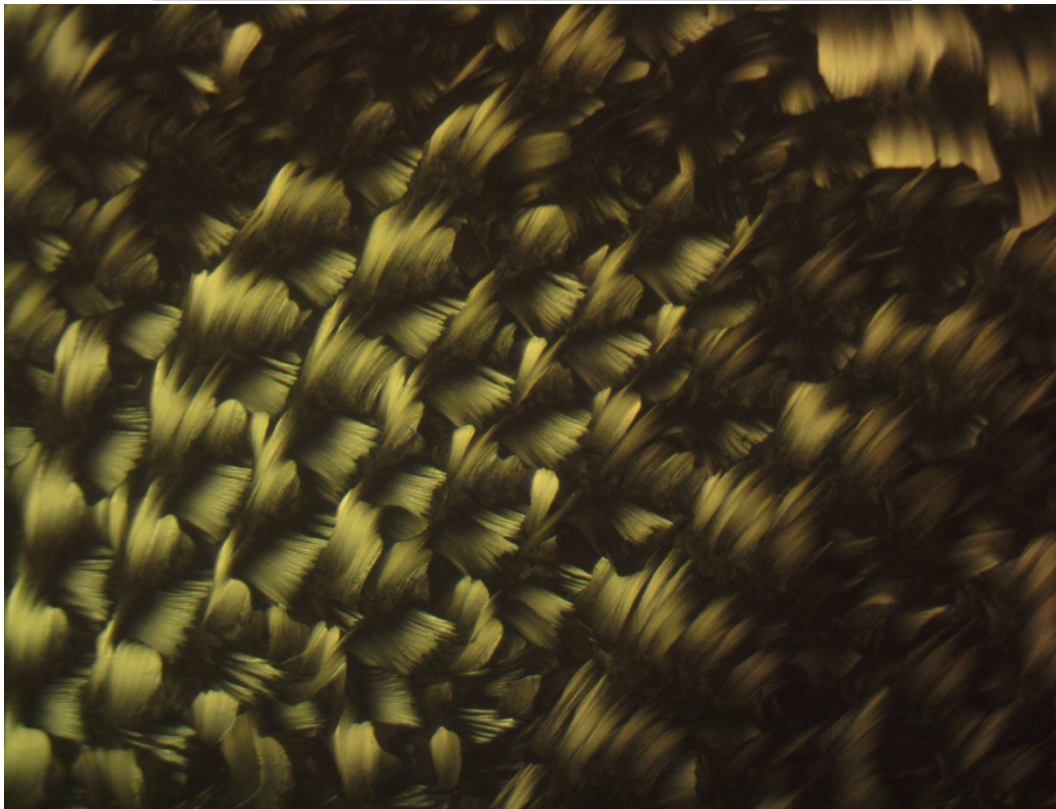
Dark Field x10



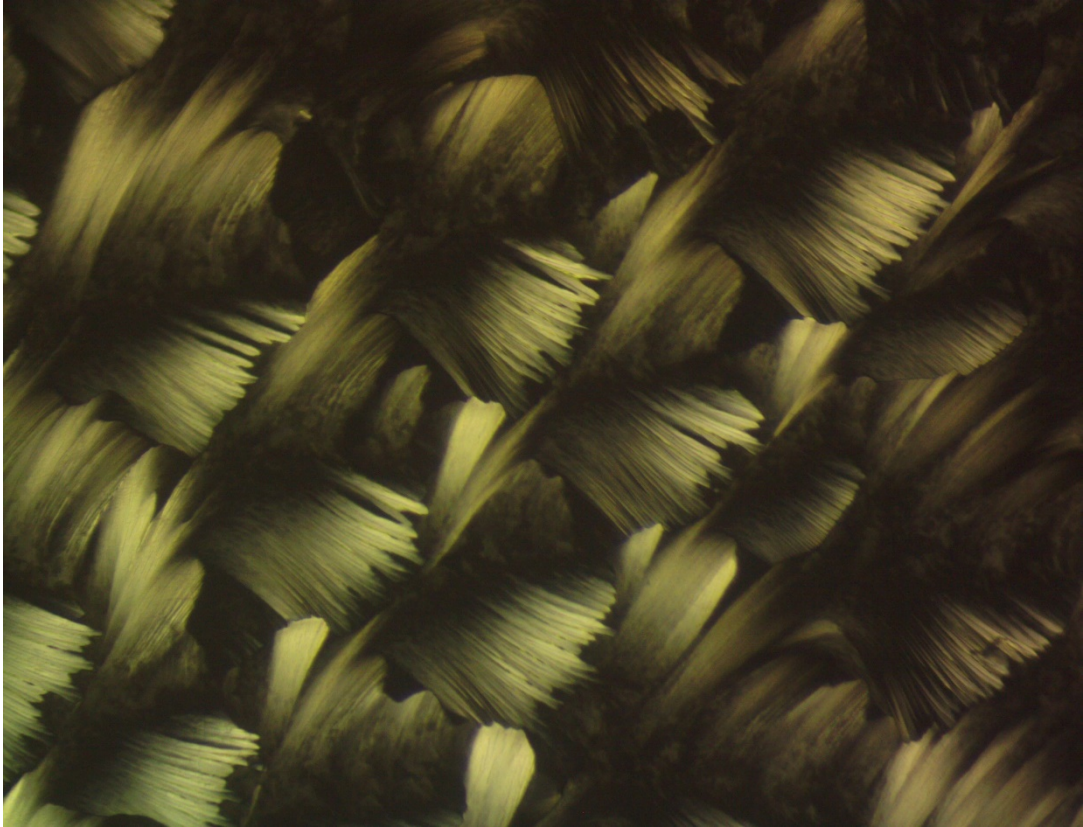
Dark Field x20



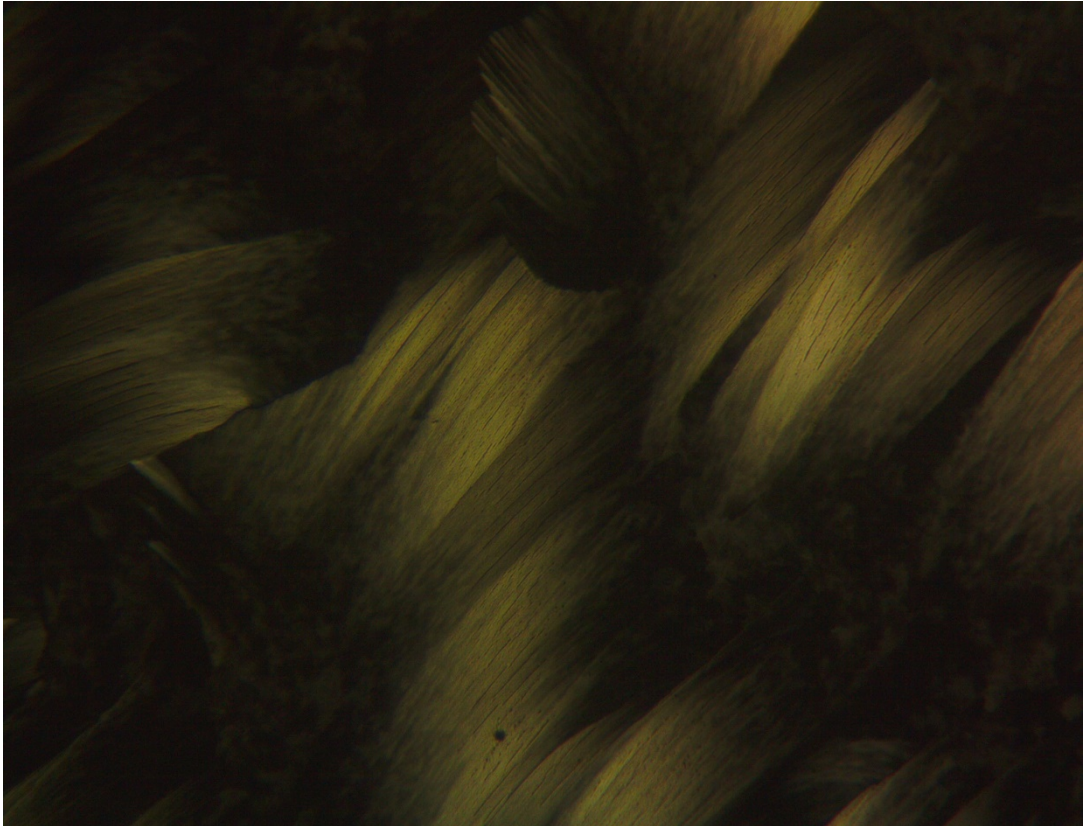
Incandescent illumination with Crossed Polars x4



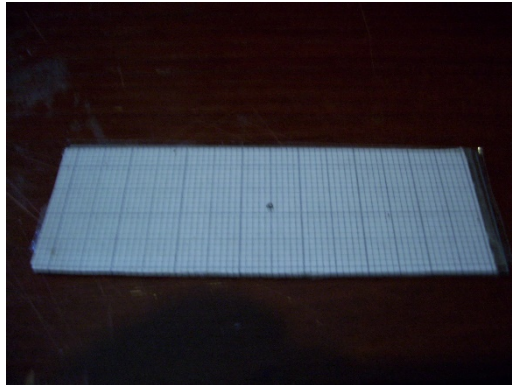
Incandescent illumination with Crossed Polars x10



Incandescent illumination with Crossed Polars x20



Although I attempted to image the same portion of the specimen slide for each of the different illuminations and magnifications, the calibration of the mechanical stages of the Swift and Apex microscopes was done using graph paper with a pencil mark stuck to a glass slide (see pic.), and the Vickers scope does not have a mechanical stage, so I guessed the correct position of the specimen slide.



The images might well have turned out less colourful without the waveplates, but to my eyes are no less interesting.

James Stewart
Cumbria
UK

As we say here in Cumbria:

‘Ave a go yersel’!

Comments, gratefully received, to:

stewartr178ATyahooDOTcoDOTuk

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