

Good evening. May peace be upon you.

Nature is beautiful. No matter what scale I view it from, it always astonishes me. The following are some pictures of various salt crystals under a 40x or 160x zoom of an optical microscope. The complexity, character, and growth of the crystals are a major source of delight for me. I am looking for a community that might appreciate them in the same way as I do.

Crystal Making Procedure

I used the same standard procedure to make each of the following crystals.

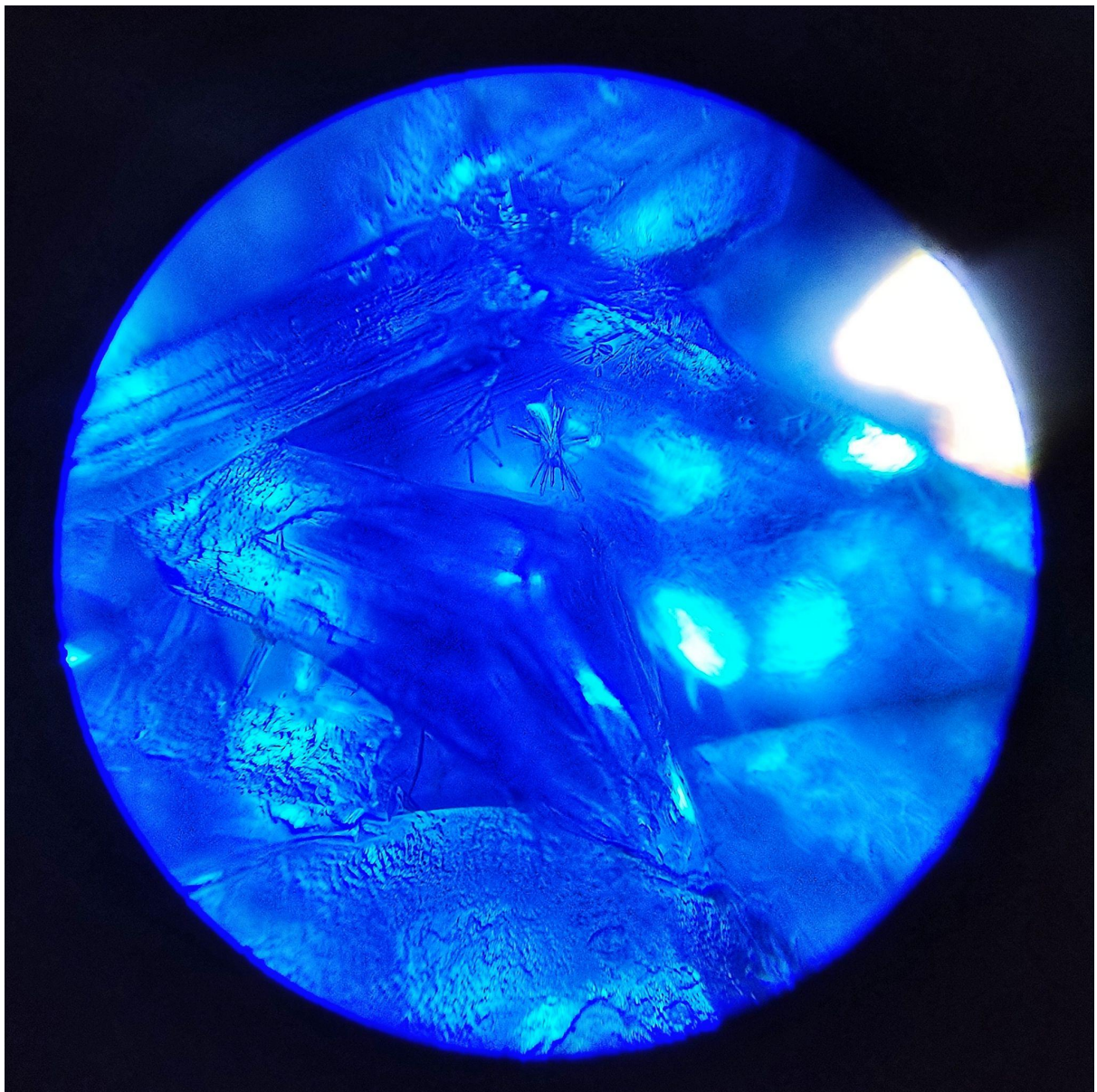
First, I made saturated solutions of each salt I wanted to crystallize by dissolving excess salt in cold, distilled water and filtering the resulting mixture. I did not heat the solutions, before or after. Then, I poured small volumes of the solutions on watch glasses and left them to dry on their own accord. Some solutions, like the copper sulfate, were relatively quick to crystallize, while others, most notably the Sodium hydroxide solutions, had to be left out for an incredibly long time. Note that these are relative timelines. Even the quickest drying batches of copper sulfate took 1-2 days to fully crystallize.

Viewing Procedure:

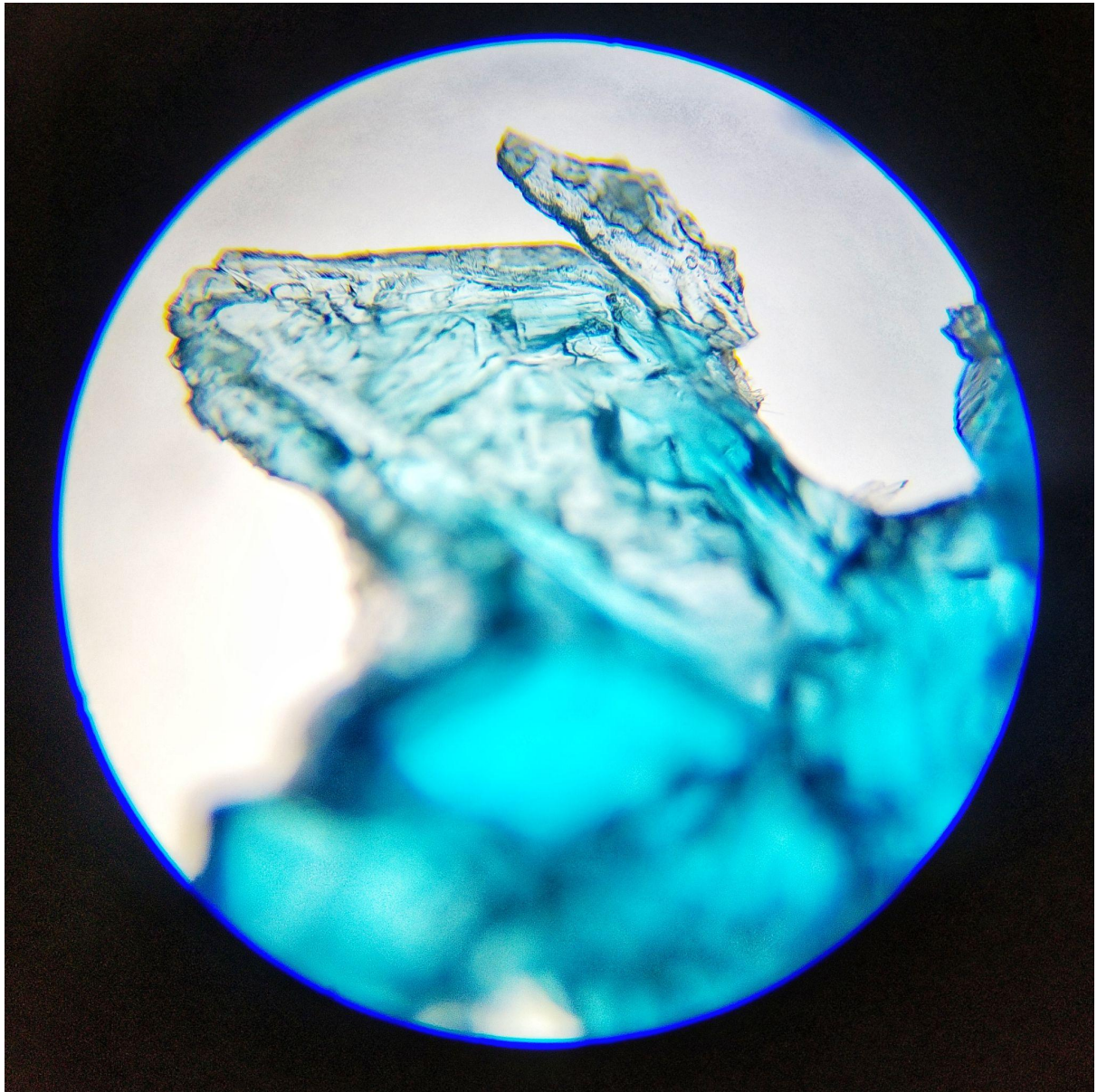
Apparatus: I use a compound light microscope for viewing. Chinese-made, not any well-known brand. A 10x lens for the eyepiece and a further 4x and 16x zoom. I barely ever need the 40x zoom for crystal-making purposes.

Camera: I do not use a specialized camera apparatus, but take the pictures from the eyepiece directly using my mid-tier phone camera.

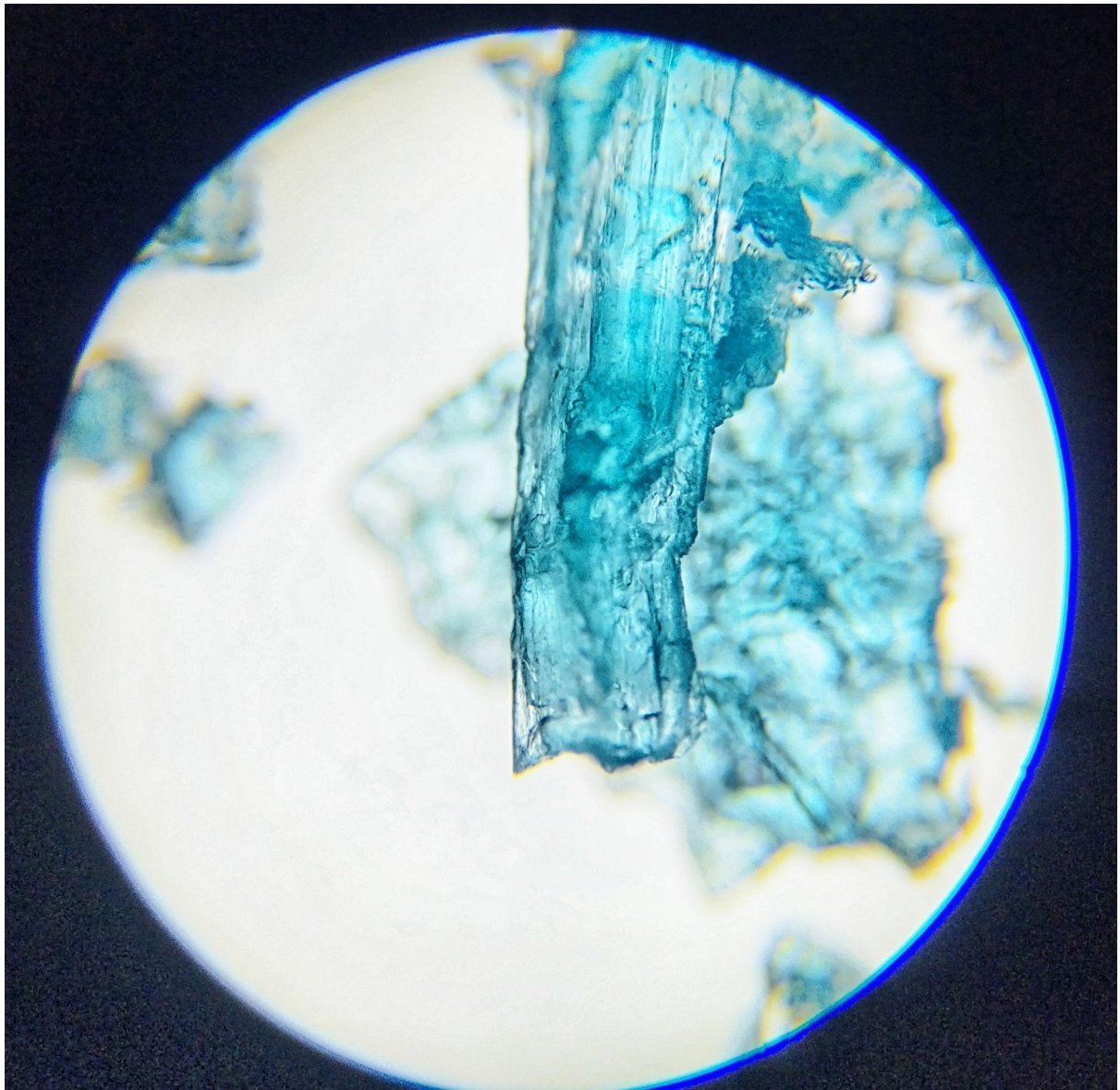
Viewing: I simply mount the crystals onto the microscope on a slide. A coverslip is appreciated, but not strictly mandatory.



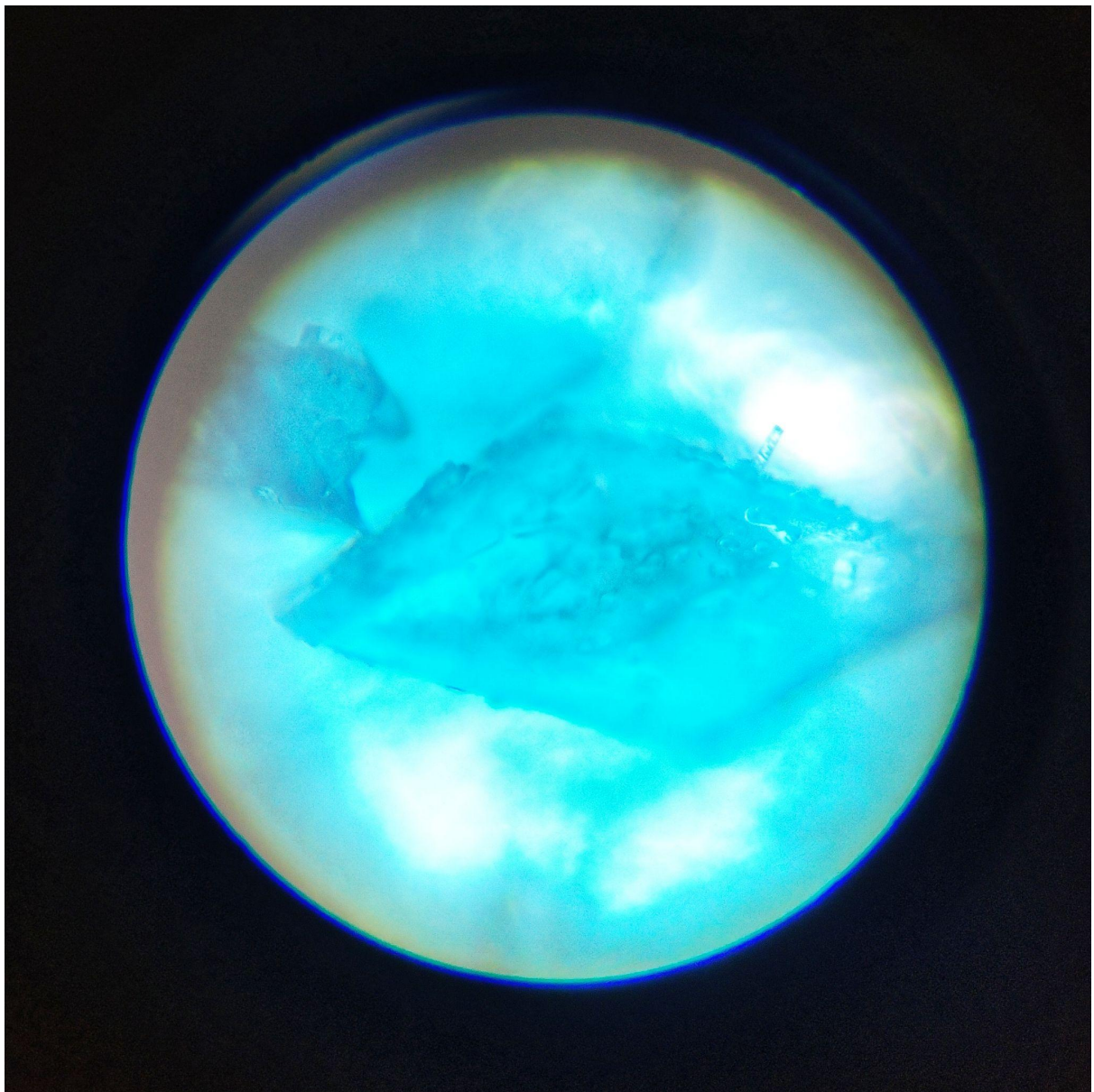
Copper sulfate



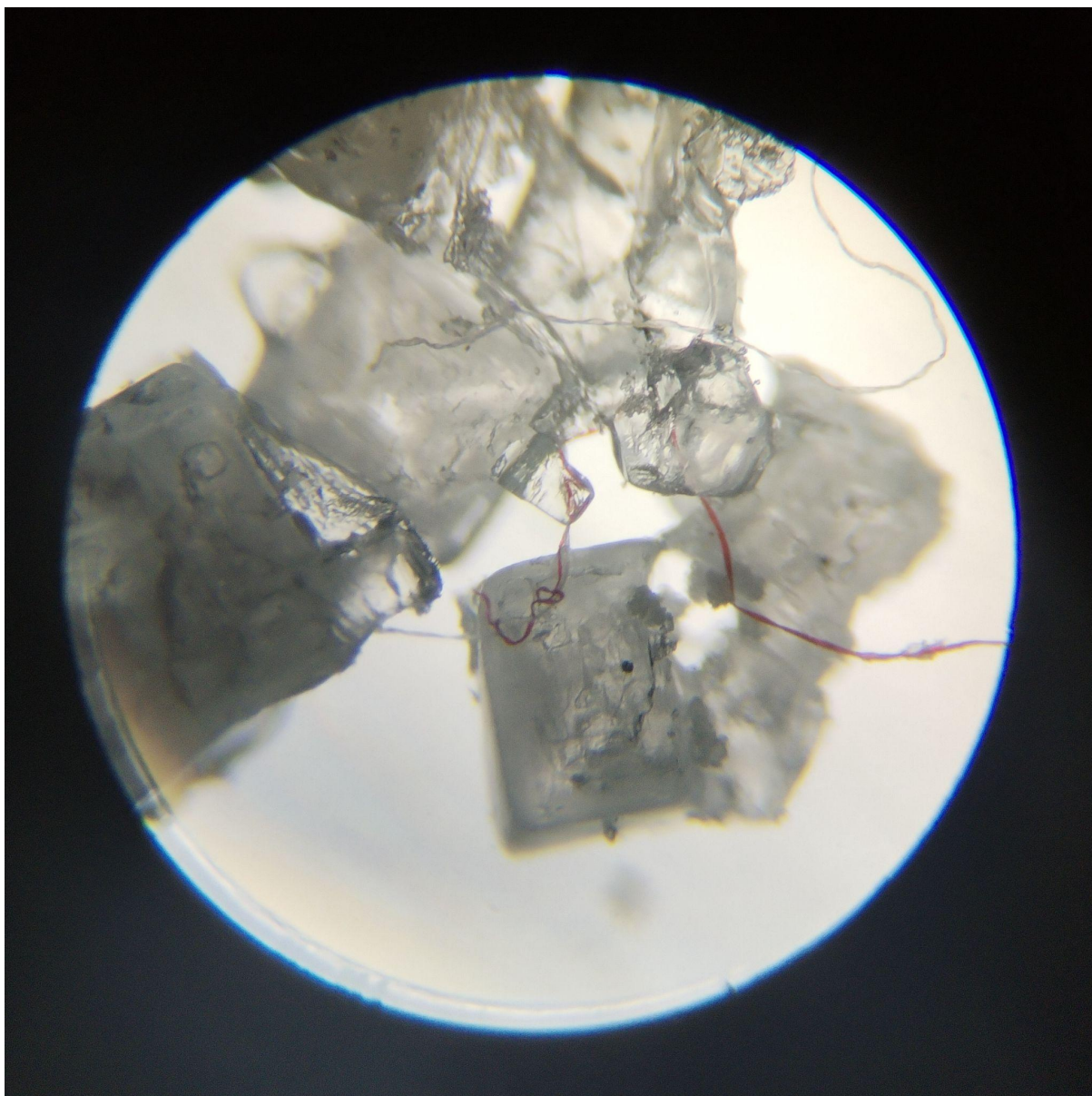
Copper sulfate



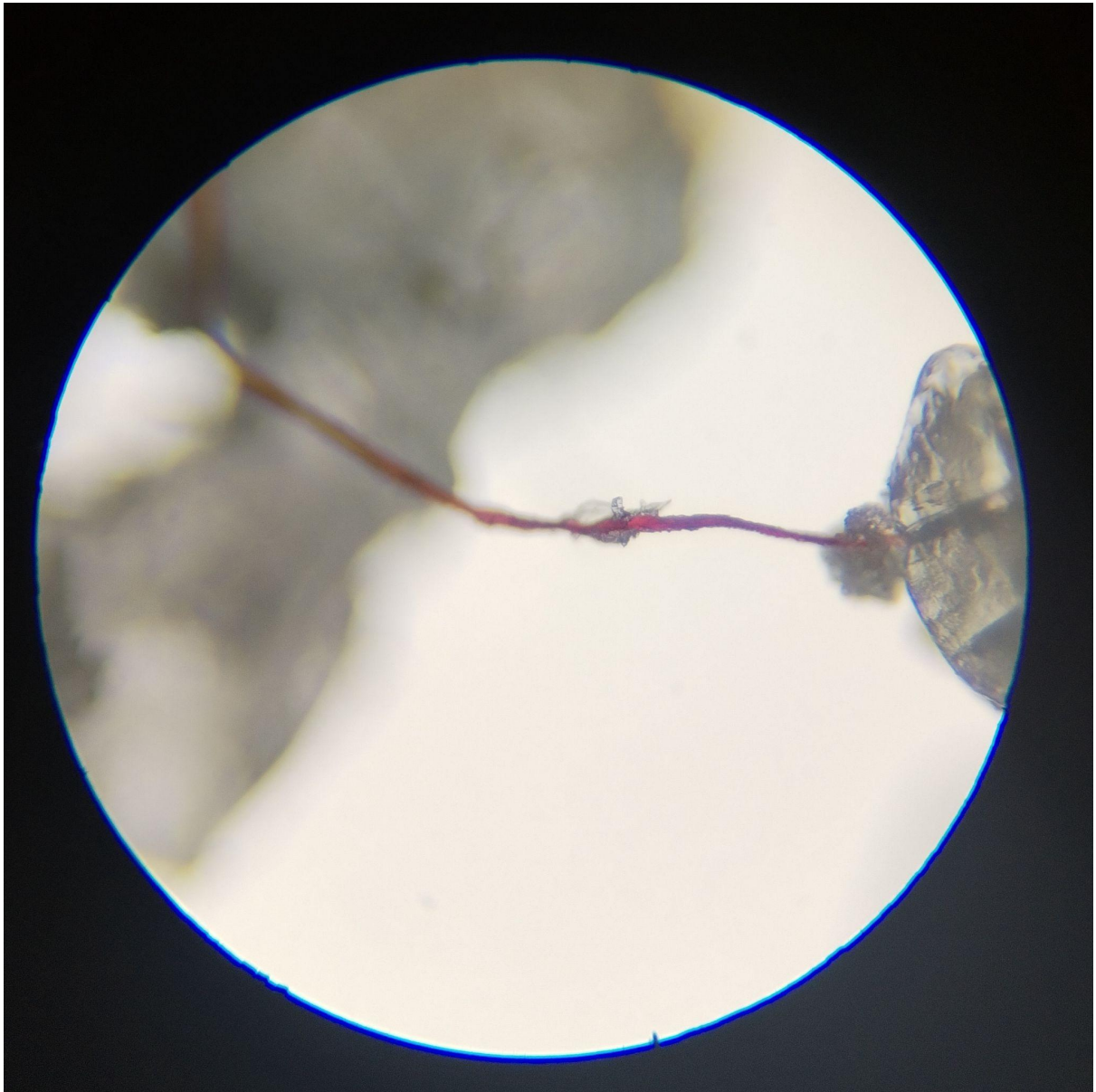
Copper sulfate



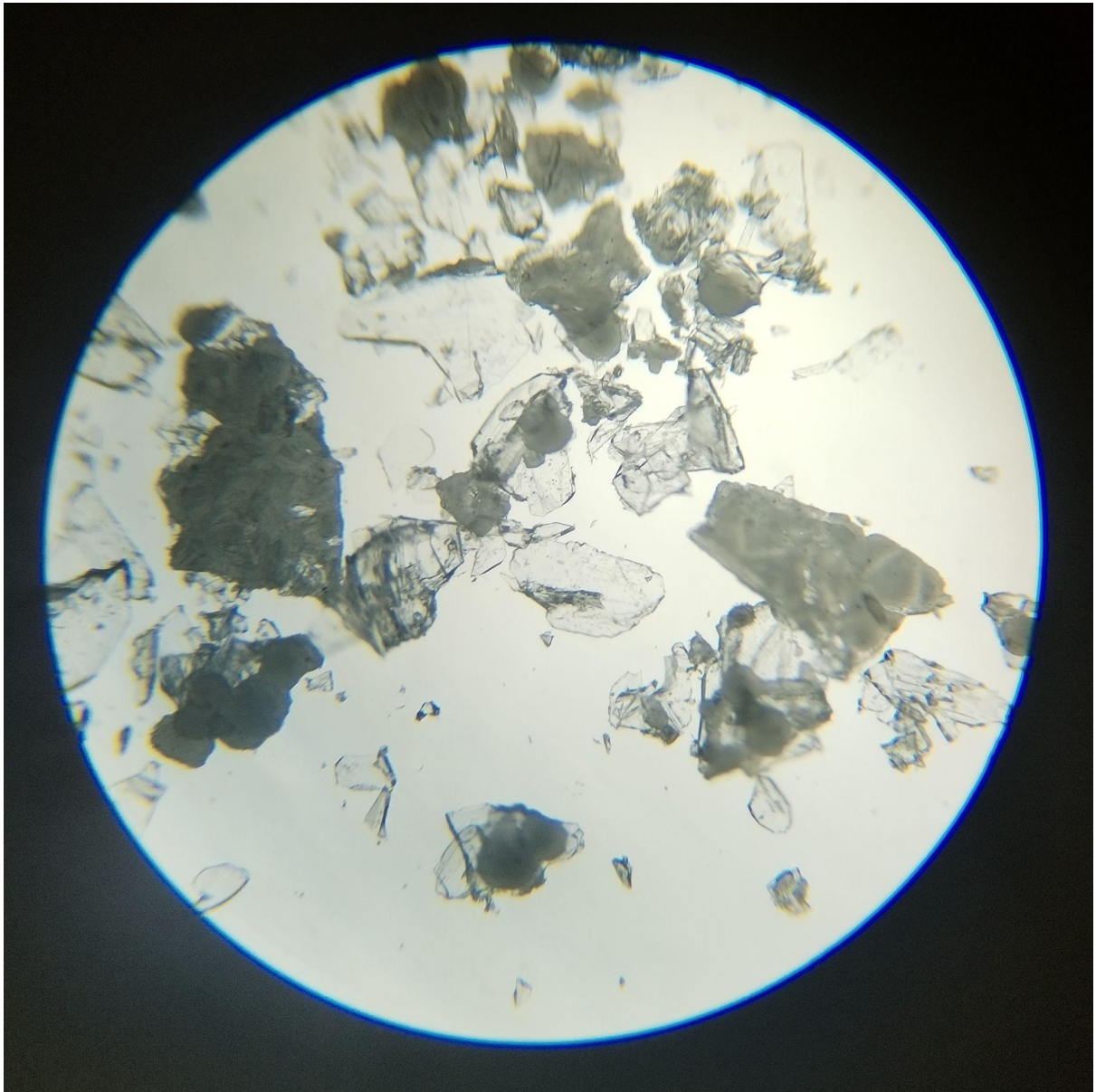
Copper sulfate, 400x Zoom



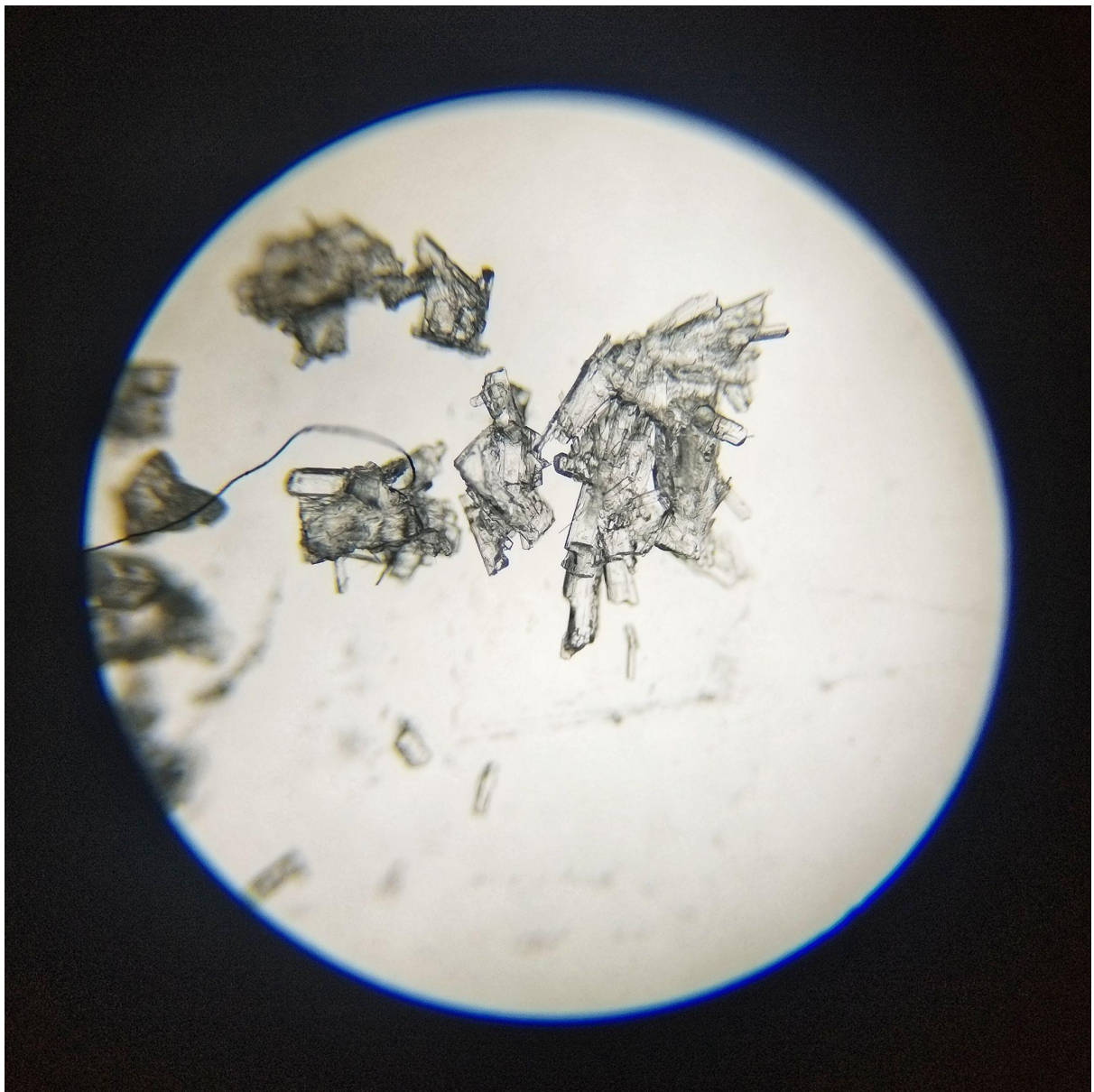
Sodium chloride and a beautiful red-thread impurity



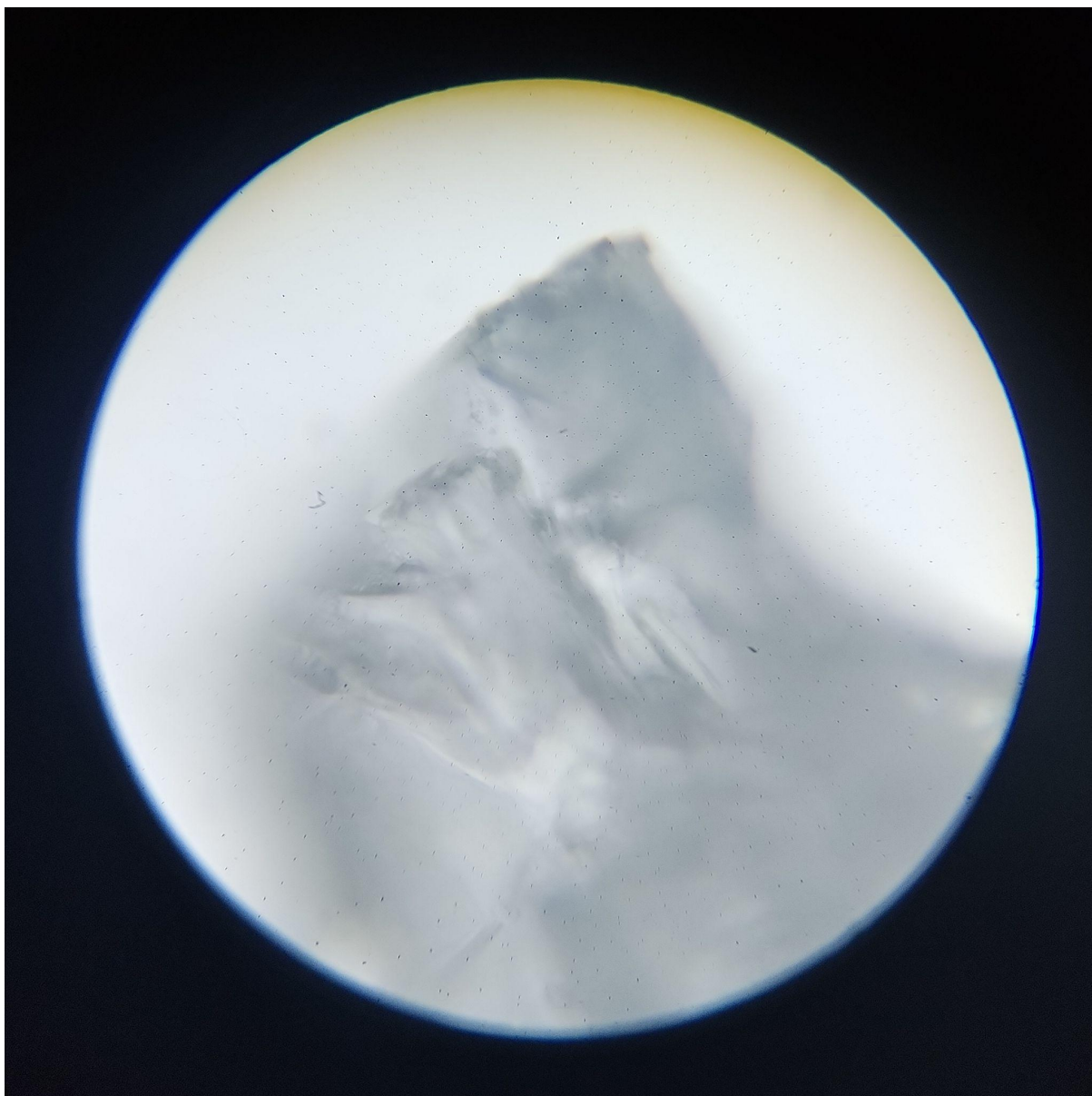
Red thread impurity, seen up close.



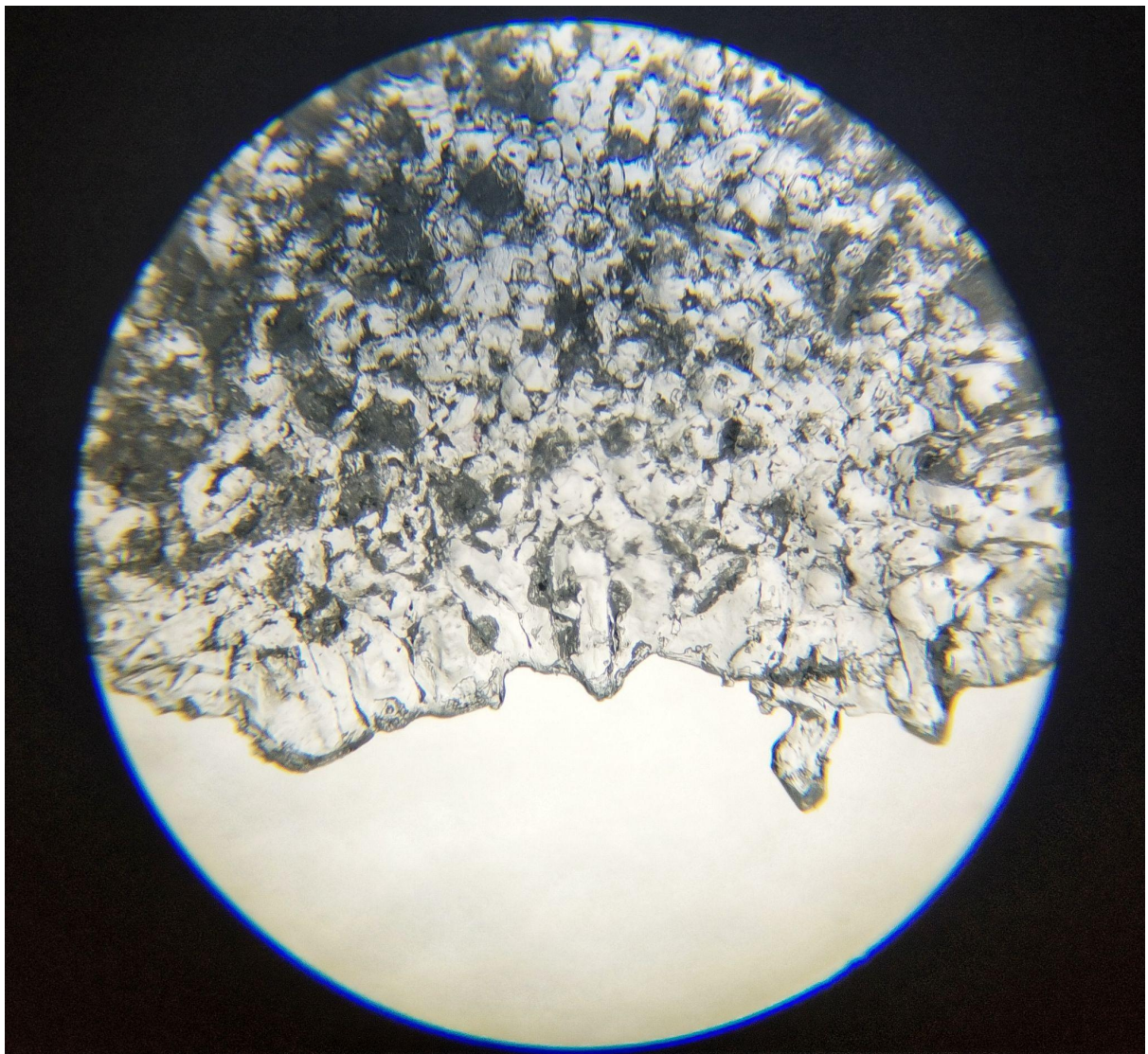
Household Detergent



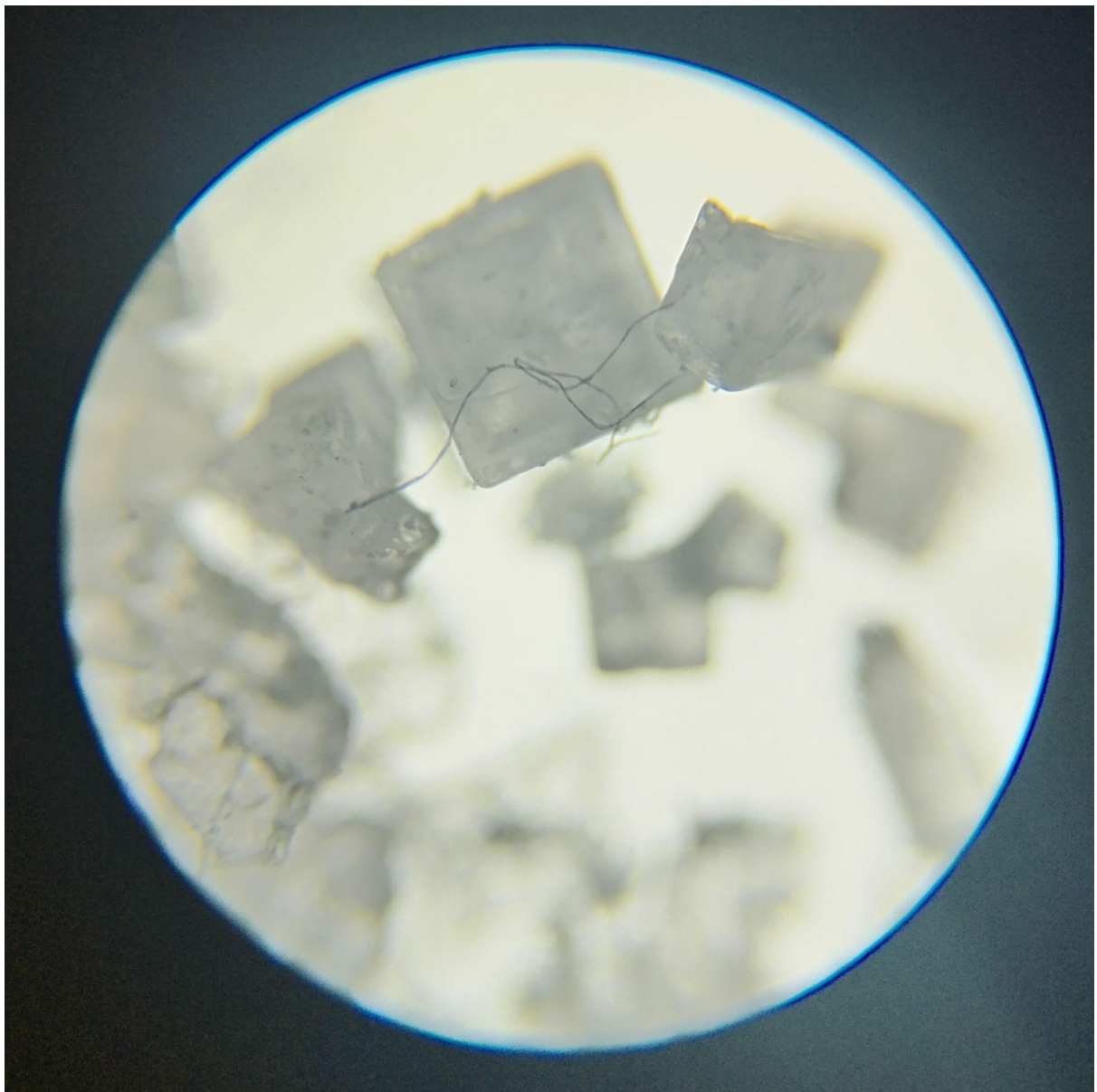
Sodium chloride



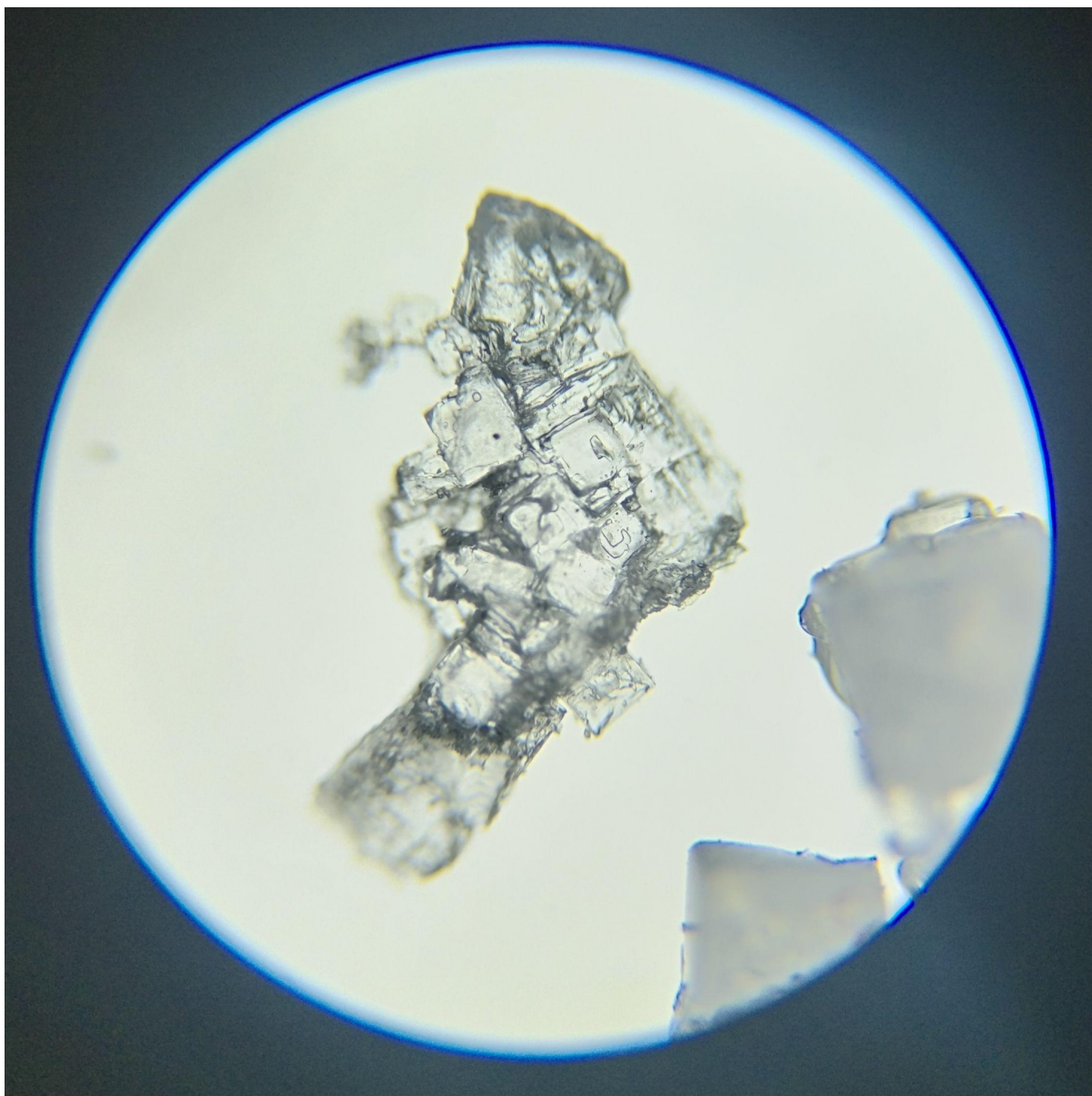
Sodium chloride, 400x Zoom



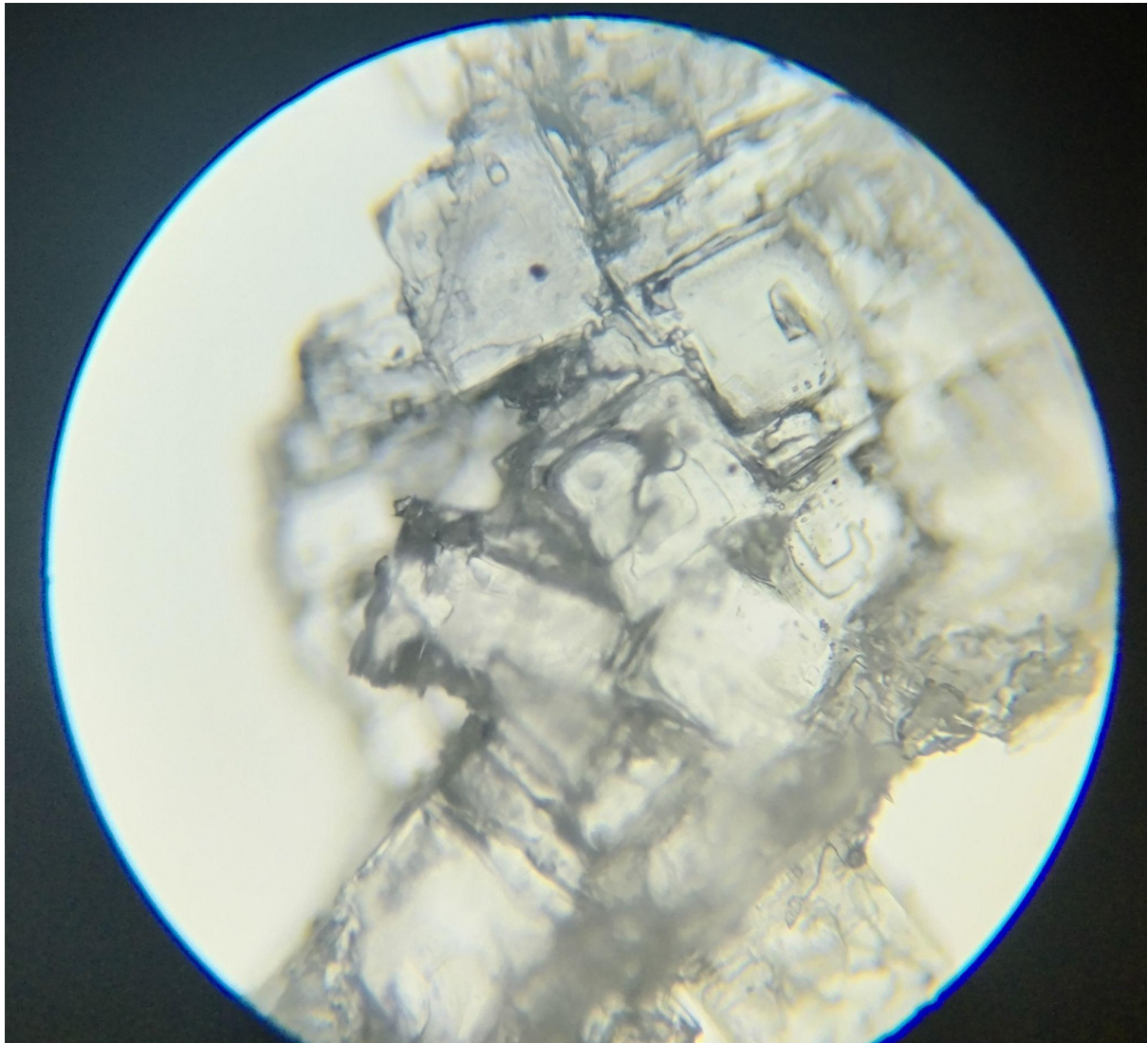
Sodium chloride



Sodium chloride and a thread impurity.



Sodium chloride



Sodium chloride

Crystals are a natural phenomenon. I initiated and encouraged their growth, yes, but they are Nature's property. Thread, on the other hand, is a human creation. Add that to the crystals, and the beauty is now a more human beauty.

I cannot vouch for whether the crystals are better or prettier, with the intrusive thread. But I do think they are far more interesting this way, and I wouldn't have them be otherwise.

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email – shreanrafiq100 AT gmail DOT com.

Editor's note: The author shares a more extensive gallery of the sodium chloride and detergent studies with additional captioning on his Web blog [Microscopy: Cubism and red threads](#).

Published in the December 2024 issue of *Micscape* magazine.