

## Particle Sizing and Distribution Analysis

Image Analysis Report 470

### Sample Description

Ibuprofen powder (dry).

### Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analyzer to evaluate size and shape of elongated particles.



Figure 1: Original image at 100x.

### Procedure

Red color (bitplane 2) was assigned to each particle using gray threshold. A *Top Hat* binary operation was then applied to highlight white areas in the crystals, to which green color was assigned. The red and green were later combined to define crystals to be measured.

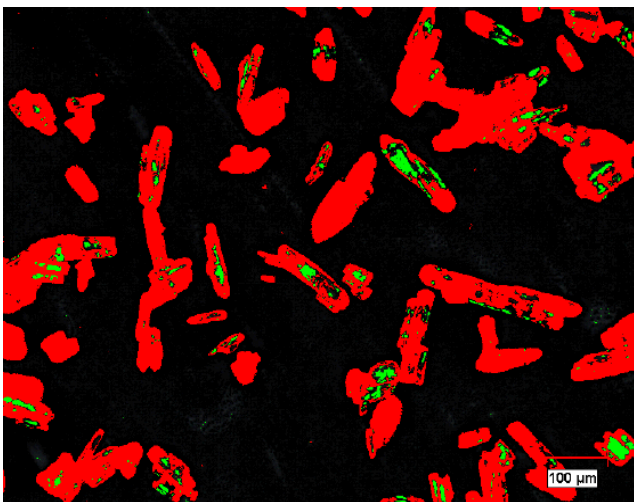


Figure 2: Image analysis in progress.

### Procedure (continued)

Clusters and roughest particles were removed, as well as smaller artifacts. Remaining elongated particles were finally measured for area, length, width, and aspect ratio.

In order to increase statistical accuracy of our results, a total of 440 fields were automatically analyzed using a motorized stage, for a count of 3,431 particles.

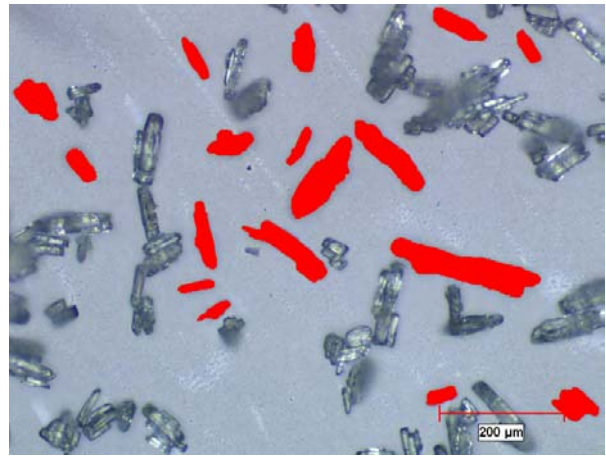


Figure 3: Particles measured in bitplane 2 (red).

### Results Summary

Particle Count	3,431 (440 fields)
	Length (um)
Minimum	21.82
Maximum	249.47
Mean	87.10
Std Deviation	33.31

### Equipment

#### Image Analysis

System:	Clemex Vision PE
Camera:	Sony 950P
Microscope:	Nikon Optiphot 100
Objective:	Nikon 10x (Mag.: 100x)
Motorized Stage:	Marzhauser 100 mm x 75 mm