

PARTICLE SIZE ANALYSIS IN IBUPROFEN POWDER



Figure 1: The original image viewed at 100X.

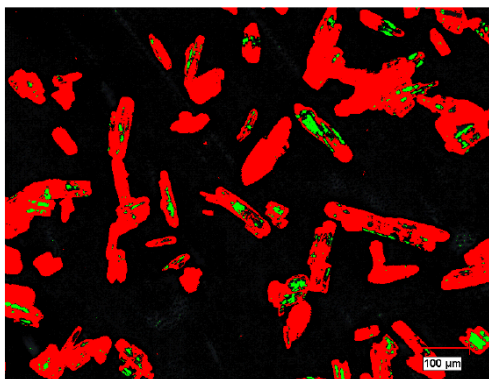


Figure 2: Binary operations were used during the image analysis.

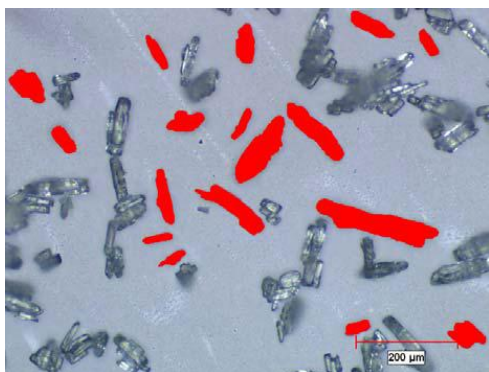


Figure 3: Particles were measured by bitplane 2 (red).

Sample Description

Ibuprofen powder (dry).

Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analysis system with particle size analysis module to evaluate size and shape of elongated particles.

Procedure

Red color (bitplane 2) was assigned to each particle using gray threshold. A *Top Hat* binary operation was then applied to highlight different features. The red and green were later combined to define crystals to be measured. Clusters, roughest particles and small artifacts were removed during the analysis. The area, length, width and aspect ratio were measured on the remaining elongated particles.

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

Equipment

Image Analysis System:	Clemex Vision CORE
Microscope:	Nikon Optiphot 100
Camera:	Sony 950P
Magnification:	100X
Stage:	Marzhauser 100 x 75 mm

Results

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