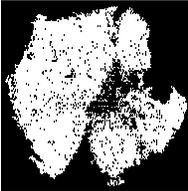


SAFARI Annotation

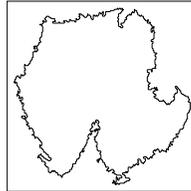
Input:

- **Filtering method:**
 - **Minimum net area** (in pixels) to filter out small ROIs.
 - **Number of regions** (largest ROI to smallest) to keep.
- Shape representations to compute features:

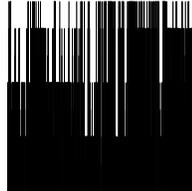
Binary Matrix



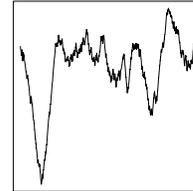
Polygonal Chain



Chain Code



Radial Lengths



Output:

- Each row in the feature table corresponds to a segmented region of interest (ROI)
- Column annotation:

Feature	Explanation
Net Area	ROI area (unit: pixel).
Thickness	The number of pixel layers that make up the ROI.
Elongation	Ratio of net area to squared thickness.
Filled Area	ROI area using contour and with all holes filled.
Perimeter	ROI perimeter using contour.
Circularity	Ratio of filled area to squared perimeter. A value of 1 indicates a circle.
Fibre Length	ROI length based on perimeter and area.
Fibre Width	ROI width.
Convex Area	Area of the convex hull of the ROI.
Convex Perimeter	Perimeter of the convex hull.
Roundness	Ratio of filled area to squared convex perimeter.
Convexity	Ratio of convex perimeter to perimeter.
Solidity	Ratio of filled area to convex area.
Major/Minor Axis Length	The length of major/minor axis of the bounding box.
Major Axis Angle	The orientation of the bounding box.
Bounding Box Area	Area of the bounding box of the ROI.
Eccentricity	Ellipticity of ROI. A value of 1 indicates a square.
Curl	Ratio of major axis length to fibre length.
Bending Energy	Energy necessary to bend the ROI to a rod.
Total Absolute Curvature	ROI curvature using chain codes.
Radial Mean	Average radial length.
Radial S.D.	Standard deviation of radial lengths.
Entropy	Probabilistic measure of how well the radial lengths can be estimated.
Area Ratio	Quantifiers the difference between the ROI and an equivalent circle.
Zero Crossing Count	Number of times the ROI crosses its equivalent circle.
Normalized Moment Classifier	Roughness measure, based on moments of inertia of radial lengths.
Number of Holes	Number of background pixels within the ROI.
Number of Protrusions	Number of pixels with only one 4-connected neighbor.