

Read in the image, annotations and the data frame

(27, 4, 512, 512)

Visualize orientation of cell edge

```
label 3
area 6480
centroid-0 219.750309
centroid-1 130.168056
bbox-0 148
bbox-1 98
bbox-2 279
bbox-3 171
eccentricity 0.860131
orientation 0.197693
intensity_image [[0, 0, 0, 0, 0], [0, 0, 0, 0, 0], [0, 0, 0, ...
image [[False, False, False, False, False, False, Fa...
image_name 092622_ring_PDMSAp_10MCol_647-Act_561-Pax_488-...
vertices [[278.5, 143.0], [274.5, 125.0], [264.0, 106.5...
membrane_orientation [1.3521273809209546, 1.054565656183149, 0.2573...
actin_detected [[5, 98], [4, 76]], [[39, 127], [19, 121]], [...
actin_angles [0.04542327942157698, 1.2793395323170298, 0.26...
actin_orientation 0.263427
actin_spread 0.55323
plak_signal [256.0, 245.0, 218.0, 229.0, 241.0, 235.0, 214...
outside_ring_regions [[0, 31, 18], [1, 30, 18], [1, 31, 18], [2, 29...
signal_edge_00 [2892.4157303370785, 1846.7439024390244, 2205....
signal_edge_01 [835.7415730337078, 639.8658536585366, 727.796...
signal_edge_02 [368.96629213483146, 238.26829268292684, 375.8...
signal_edge_03 [172.65168539325842, 166.6341463414634, 152.05...
signal_radial_00 [93.46658998222316, 113.636934016522, 114.7067...
signal_radial_01 [26.15162605876817, 31.04695179337028, 31.6036...
signal_radial_02 [9.857785213845029, 12.410436055631077, 11.066...
signal_radial_03 [6.096413259437415, 7.270208093694447, 6.89114...
Name: 2, dtype: object
```

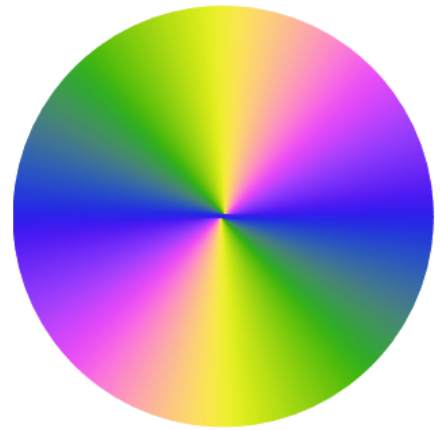
Cell shape



Edge orientation

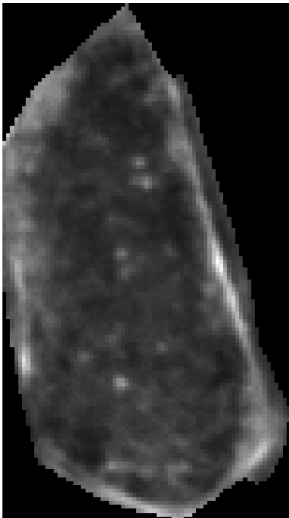


Color explanation



Visualize actin orientation

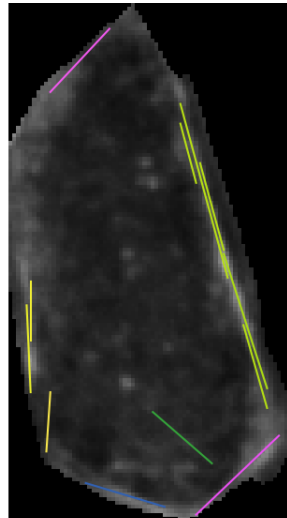
Actin max projection



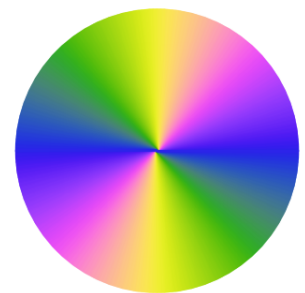
Actin segmented



Fibers orientation

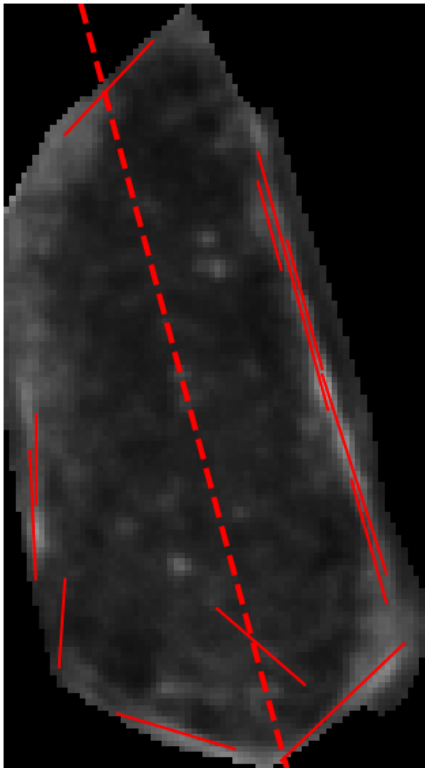


Color explanation

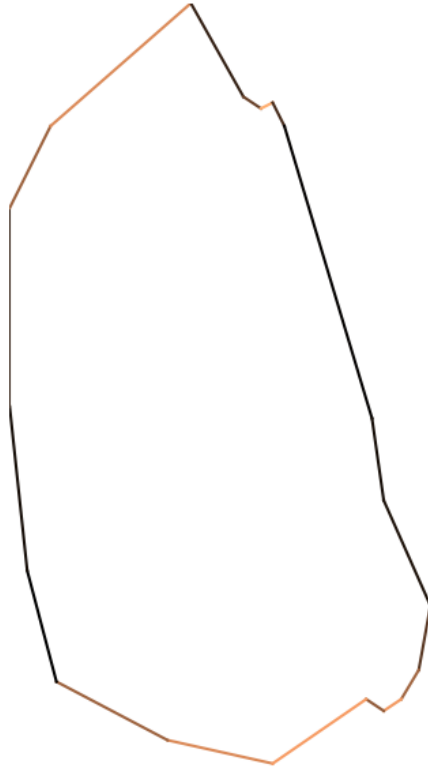


Edge orientation vs main flow of actin

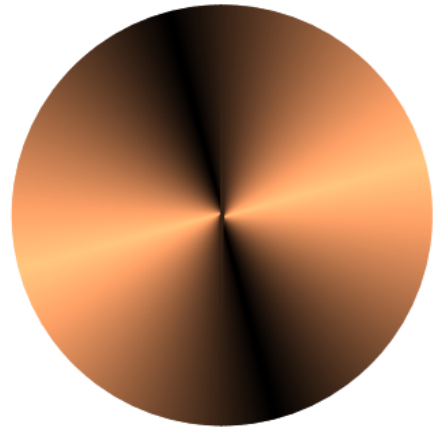
Fibers orientation



Edge vs actin



Color explanation



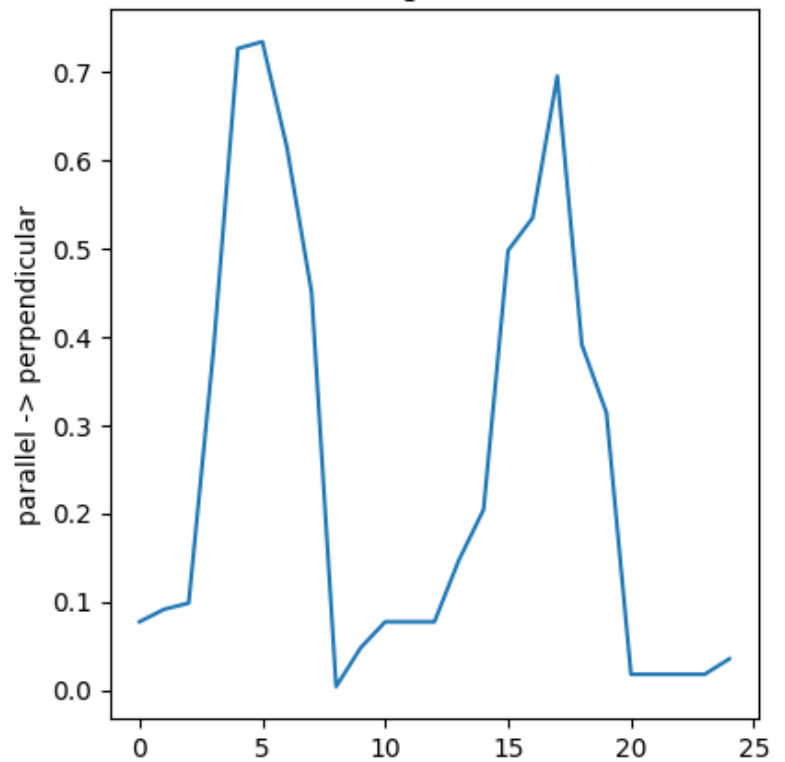
Calculate edge orientation based on edge regions

```
Text(0, 0.5, 'parallel -> perpendicular')
```

Edge vs actin flow



Orientation of edge vs main actin flow

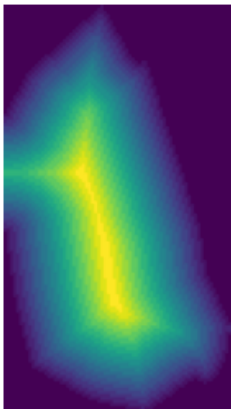


Characterize distribution of plakoglobin

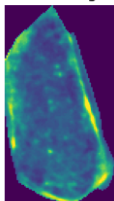
Order of edge measurements



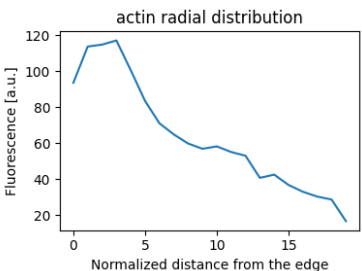
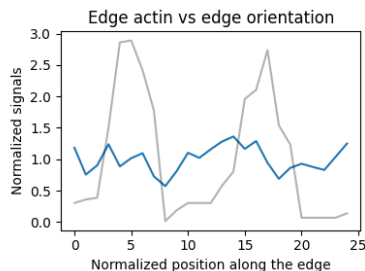
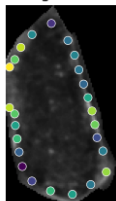
Visualization of concentric layers



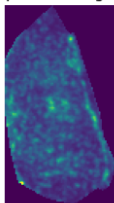
actin image



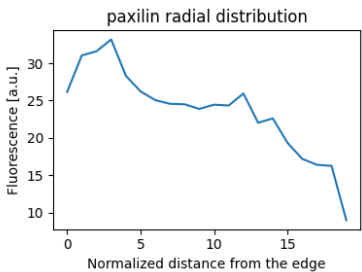
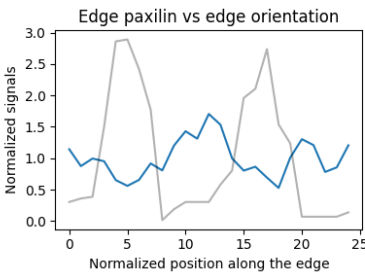
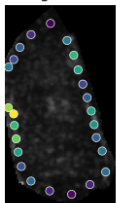
Detected signal at the edge



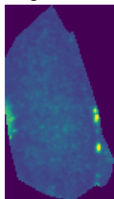
paxilin image



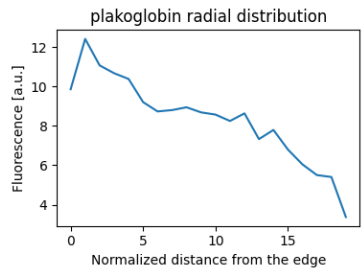
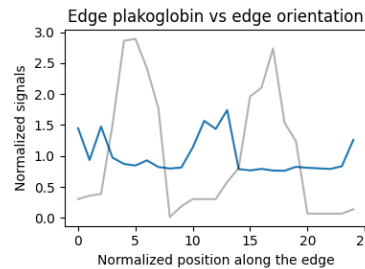
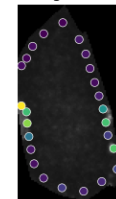
Detected signal at the edge



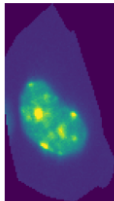
plakoglobin image



Detected signal at the edge



DAPI image



Detected signal at the edge

