

# Analysis of AMDX2011 aggregates in GC ex vivo retinal images

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## Preliminary analysis

45x1 struct array w fields:

Area  
Centroid  
BoundingBox  
SubarrayIdx  
MajorAxisLength  
MinorAxisLength  
Eccentricity  
Orientation  
ConvexHull  
ConvexImage  
ConvexArea  
Image  
FilledImage  
FilledArea  
EulerNumber  
Extrema  
EquivDiameter  
Solidity  
Extent  
PixelIdxList  
PixelList  
Perimeter  
PerimeterOld

Raw ex vivo 2011 image by Julie

Area: 7533 (example)

Centroid: [1.4850e+03 601.4648]

BoundingBox: [1.4325e+03 543.5000 112 124]

SubarrayIdx: {[1x124 double] [1x112 double]}

MajorAxisLength: 146.6684

MinorAxisLength: 66.7536

Eccentricity: 0.8904

Orientation: 48.0603

ConvexHull: [49x2 double]

ConvexImage: [124x112 logical]

ConvexArea: 7978

Image: [124x112 logical]

FilledImage: [124x112 logical]

FilledArea: 7533

EulerNumber: 1

Extrema: [8x2 double]

EquivDiameter: 97.9353

Solidity: 0.9442

Extent: 0.5424

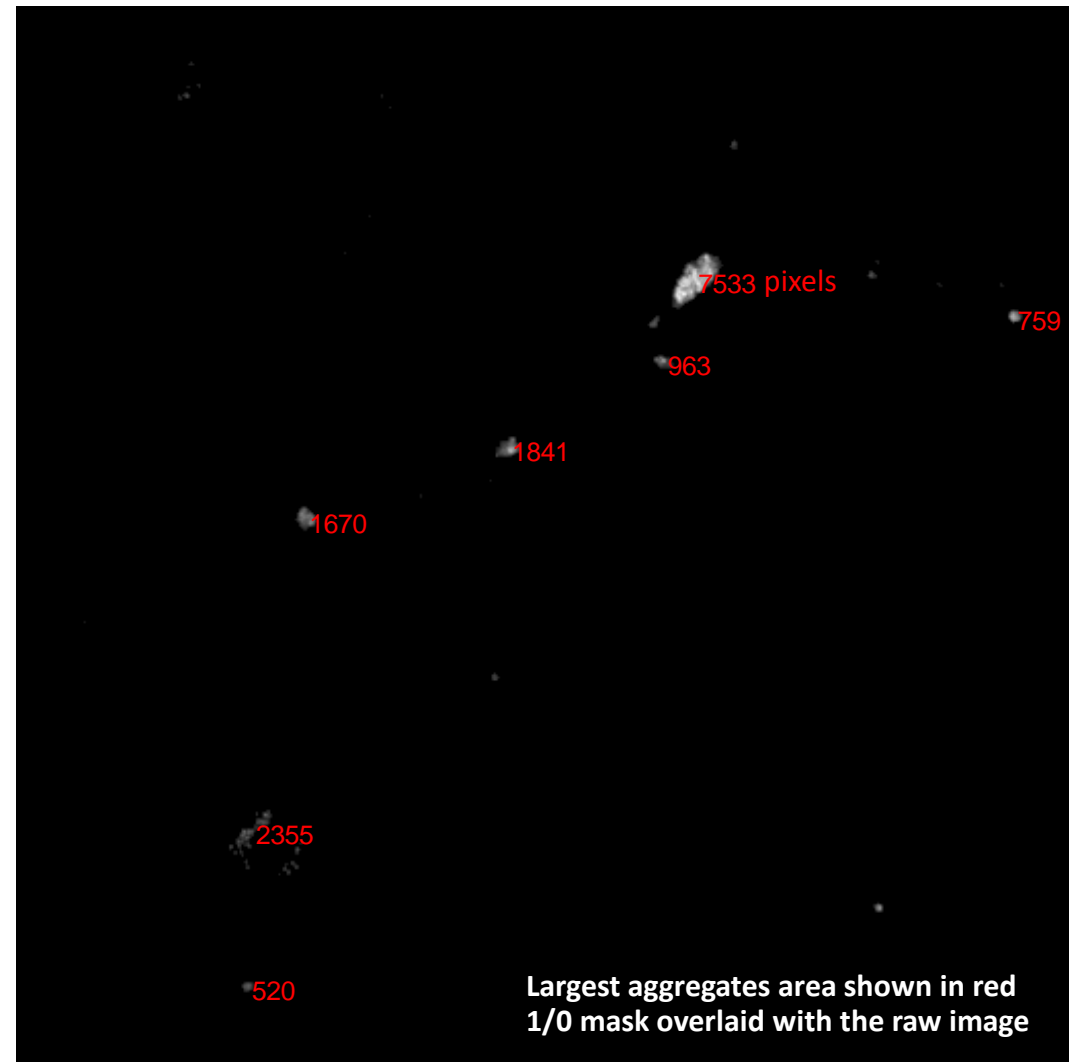
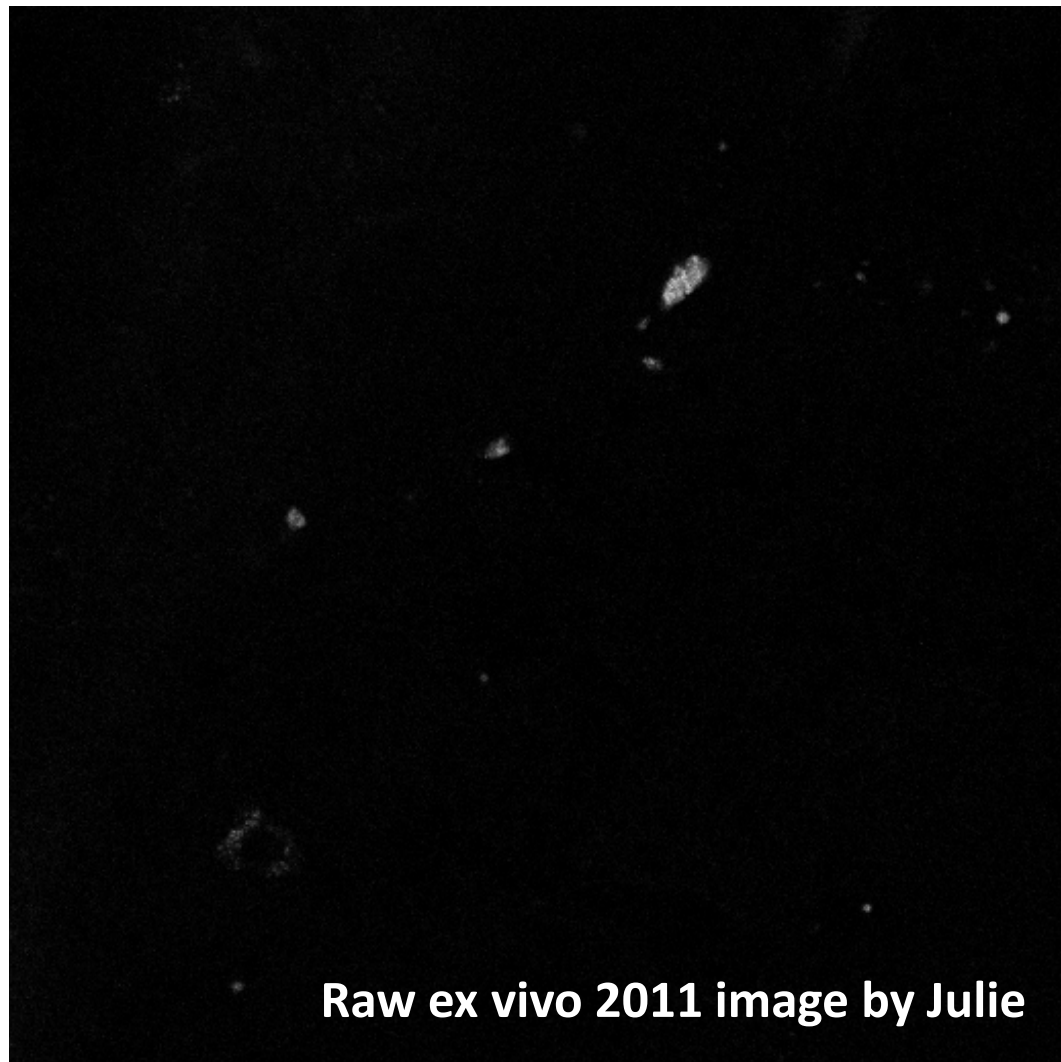
PixelIdxList: [7533x1 double]

PixelList: [7533x2 double]

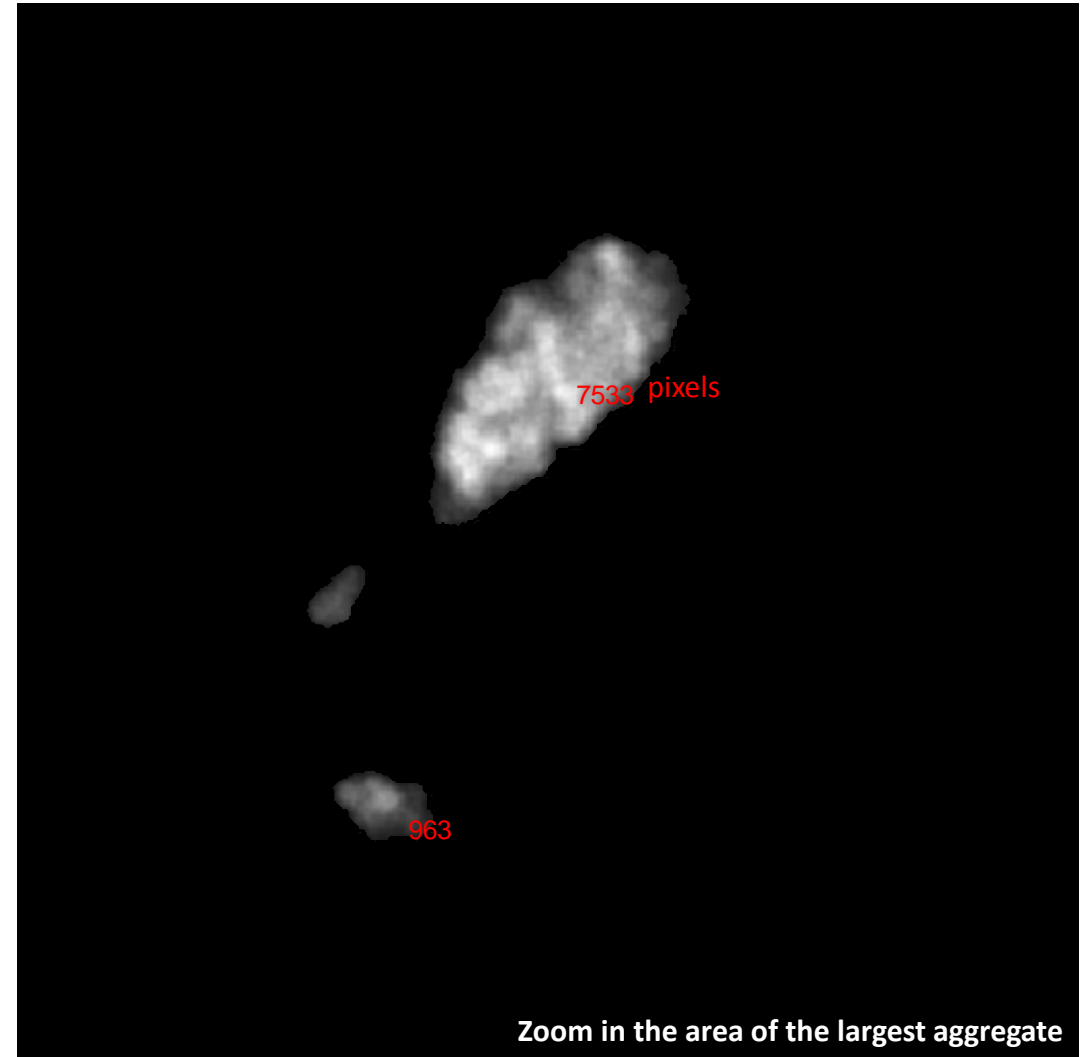
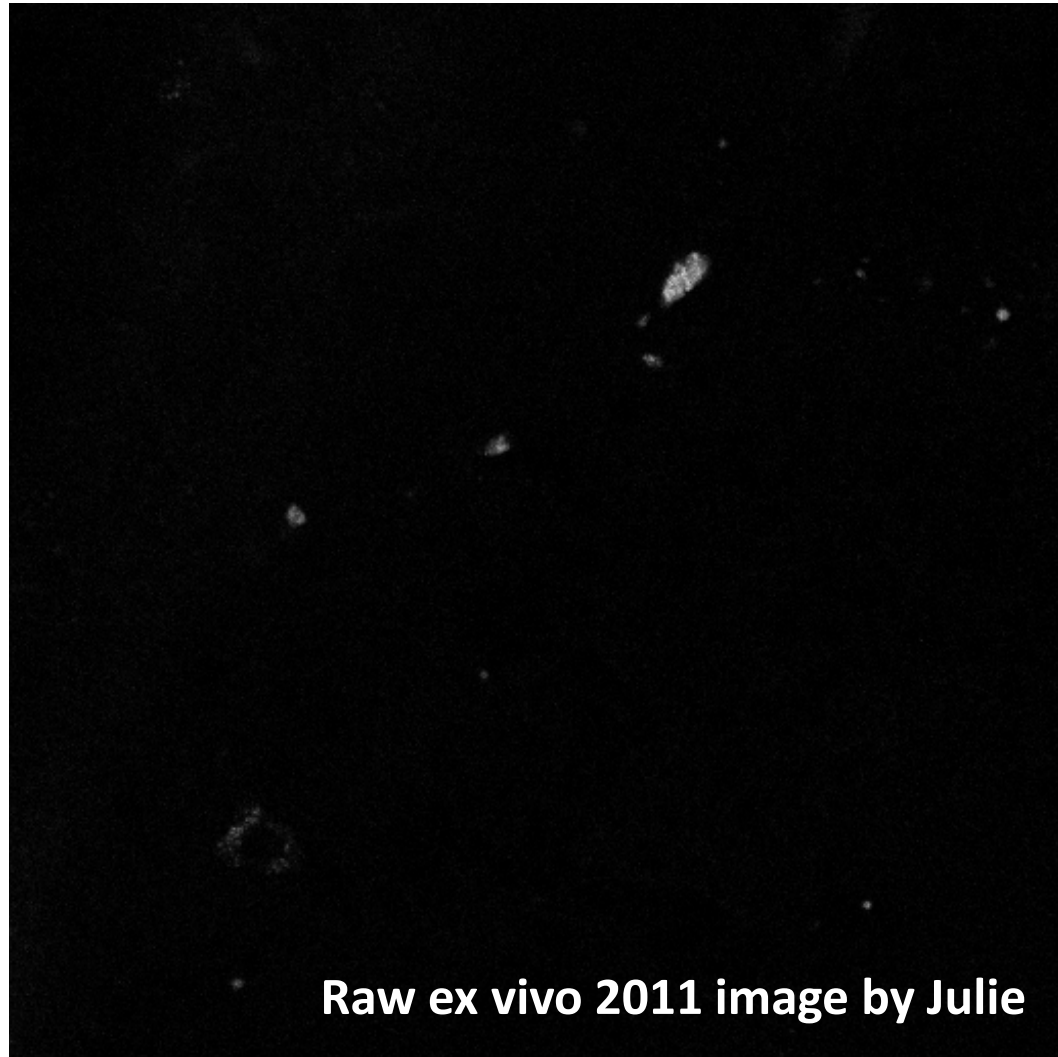
Perimeter: 377.2390

PerimeterOld: 398.8600

## Preliminary analysis

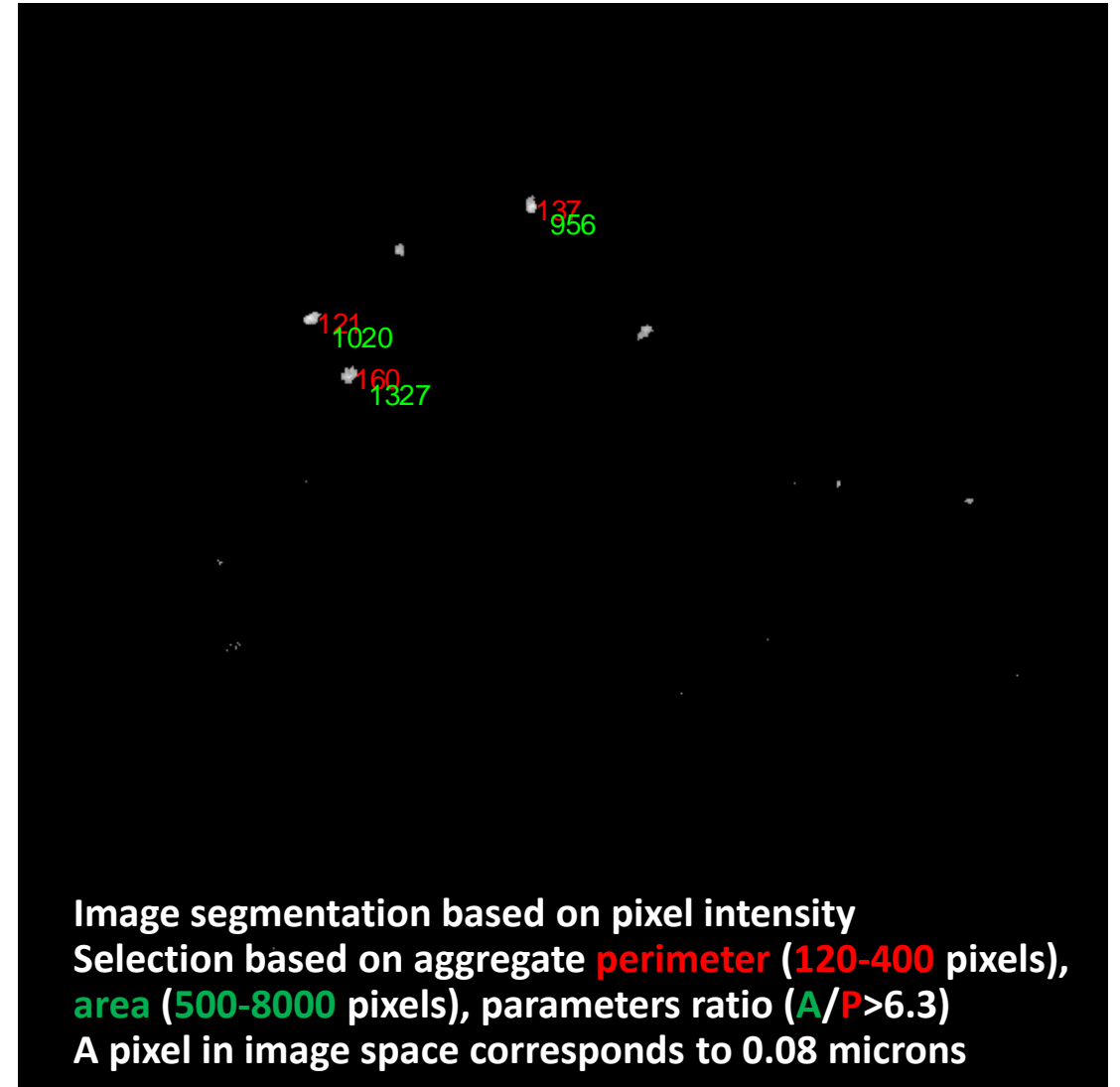
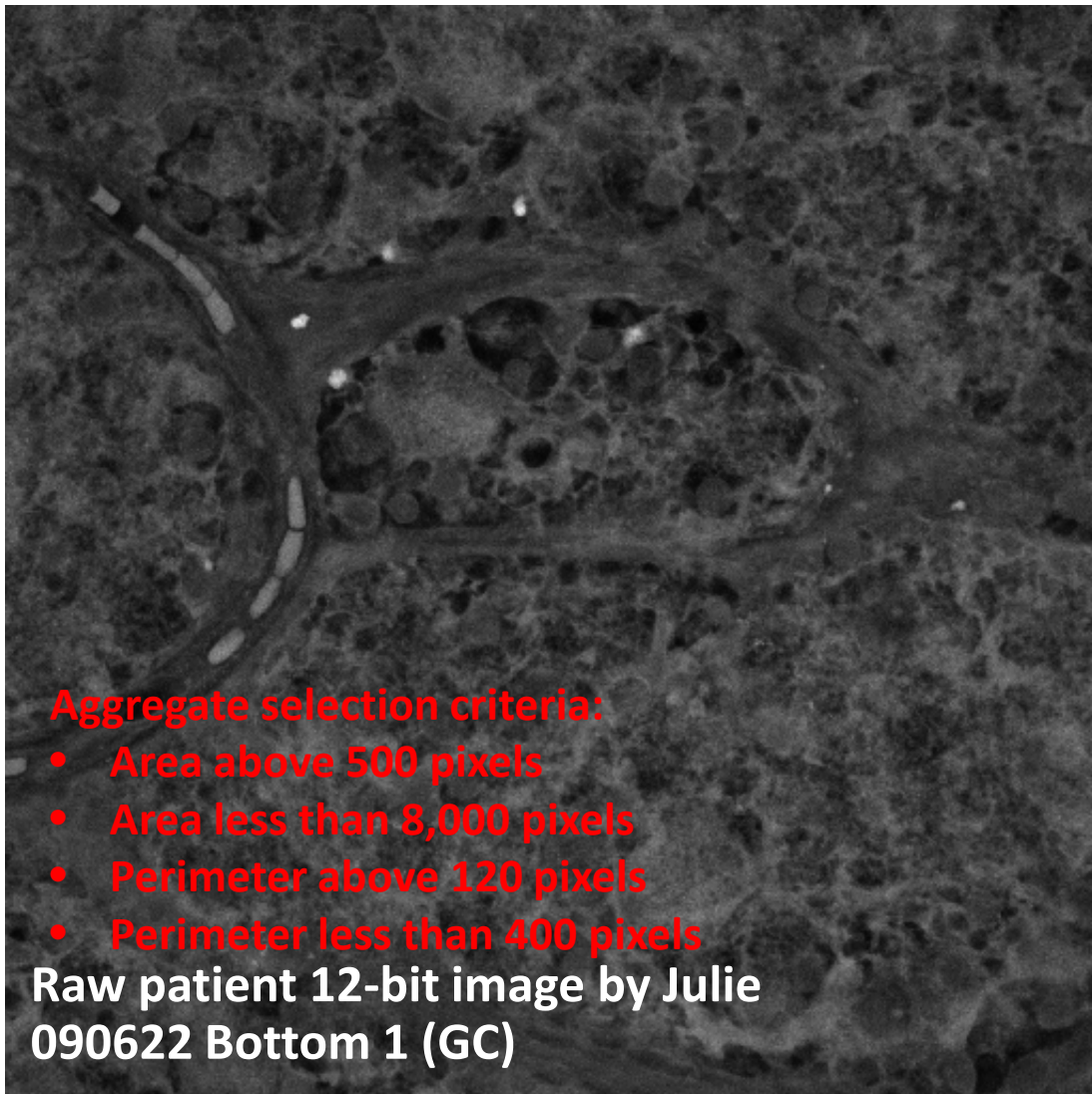


## Preliminary analysis

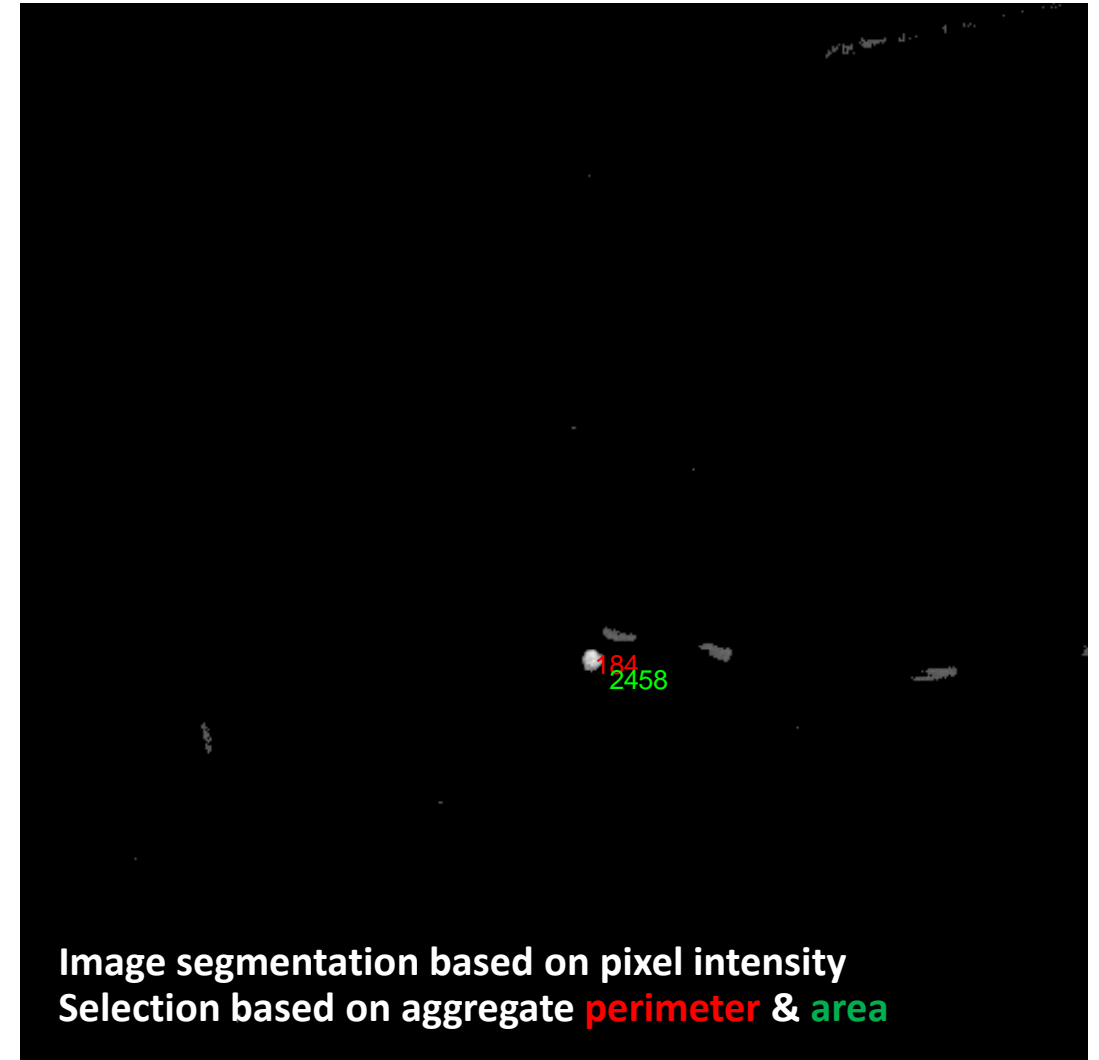
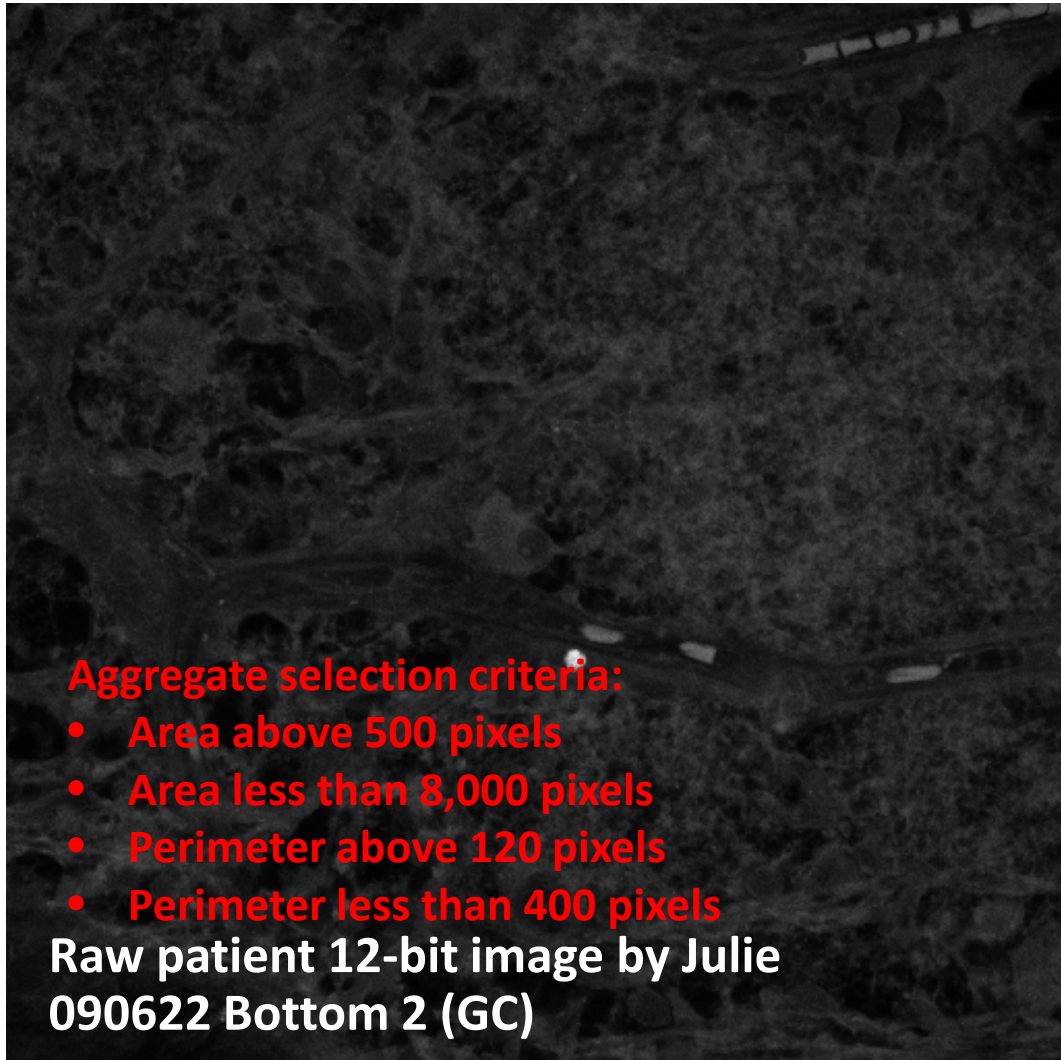


## Glaucoma SDEB Eye #2

3 aggregates detected, Aggregate perimeter in pixels (red), Aggregate area in pixels (green)



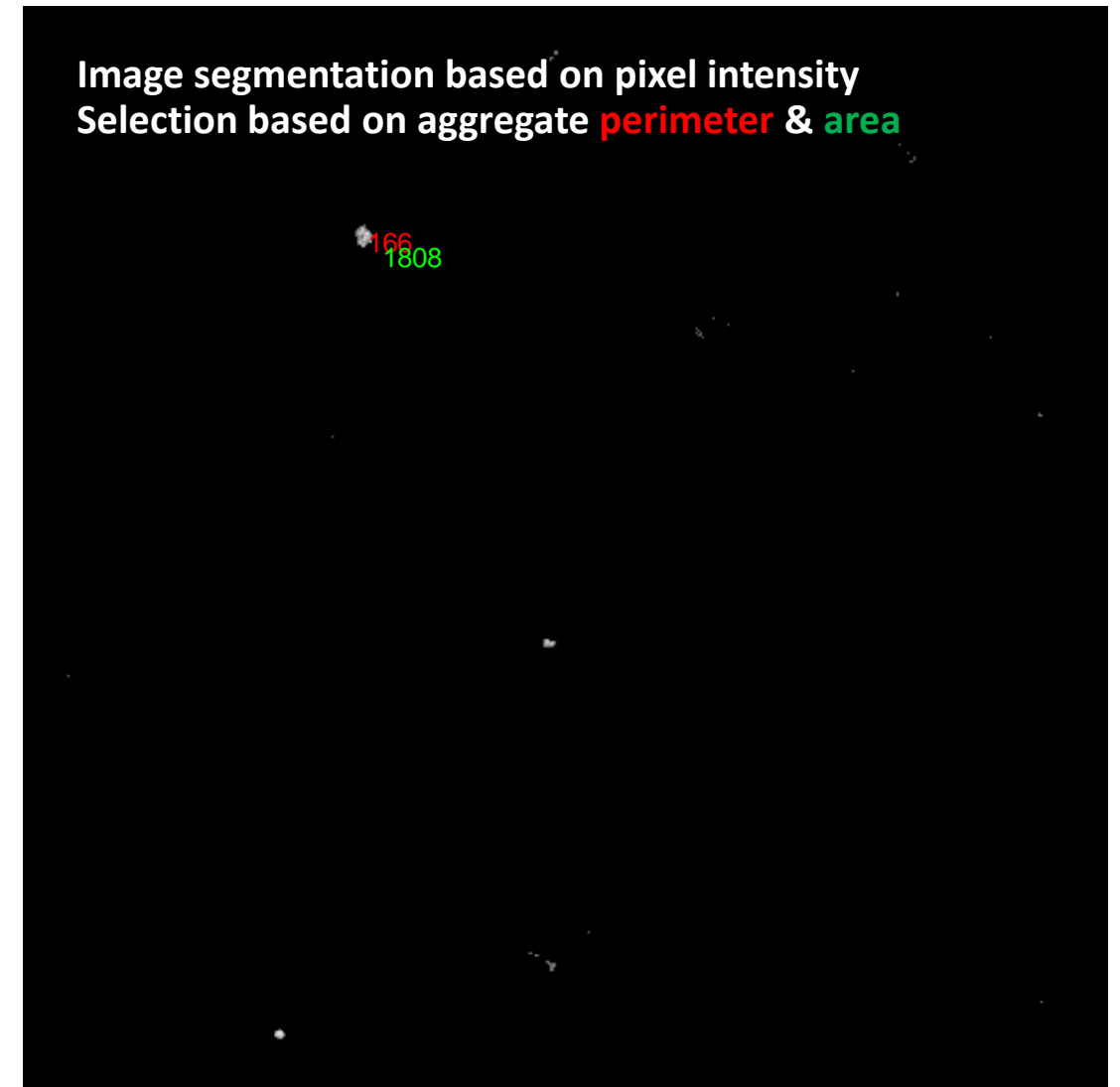
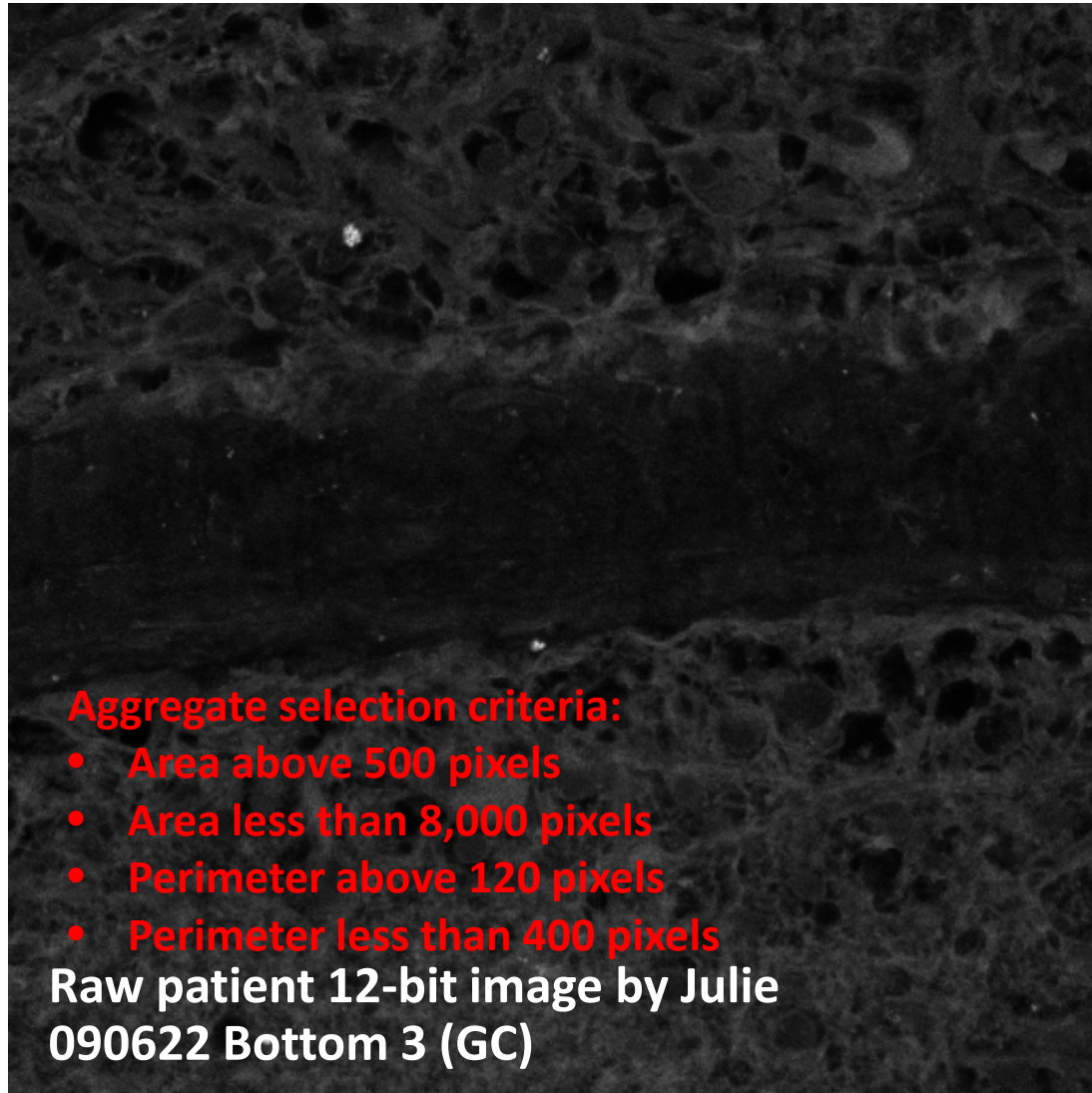
## Glaucoma SDEB Eye #2



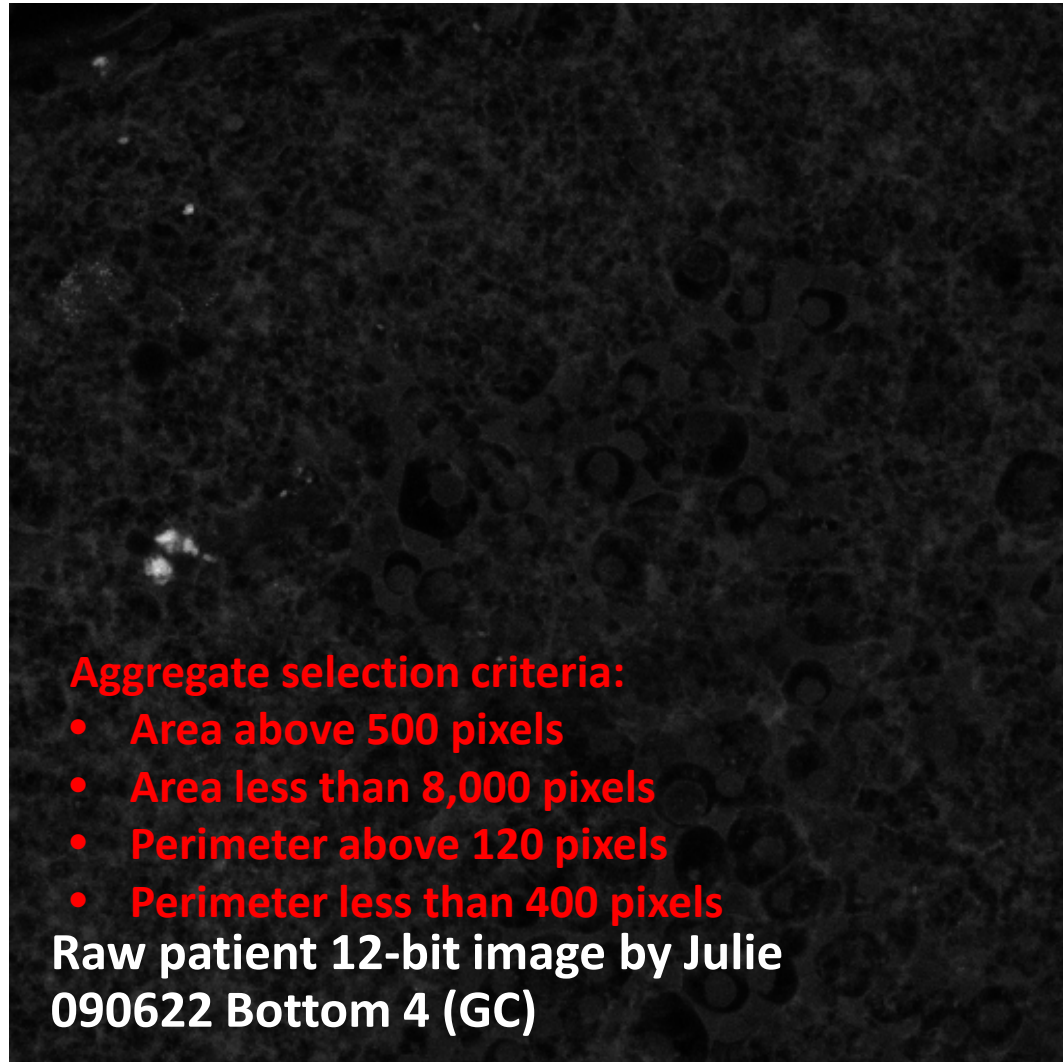


## Glaucoma SDEB Eye #2

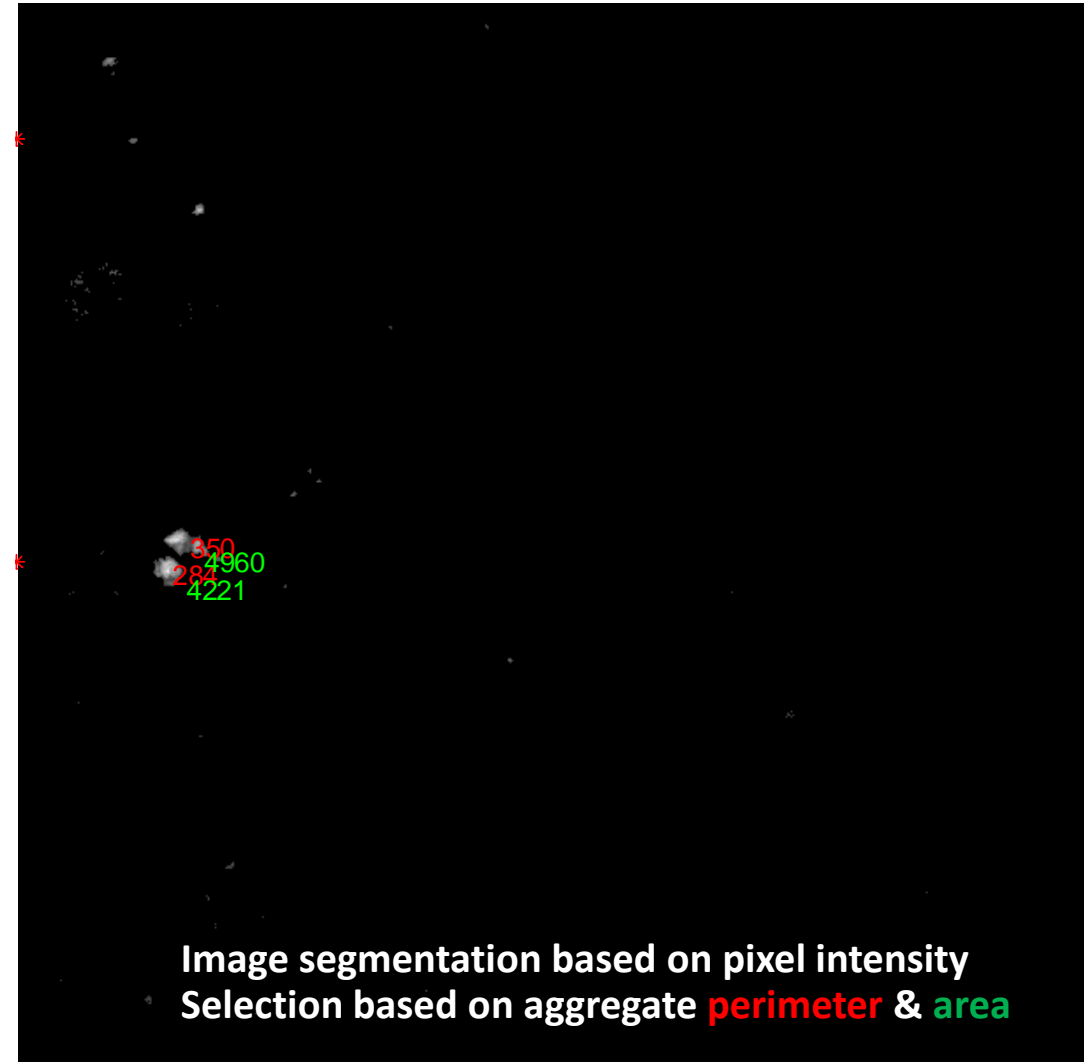
Aggregate perimeter in pixels (red), Aggregate area in pixels (green)



## Glaucoma SDEB Eye #2

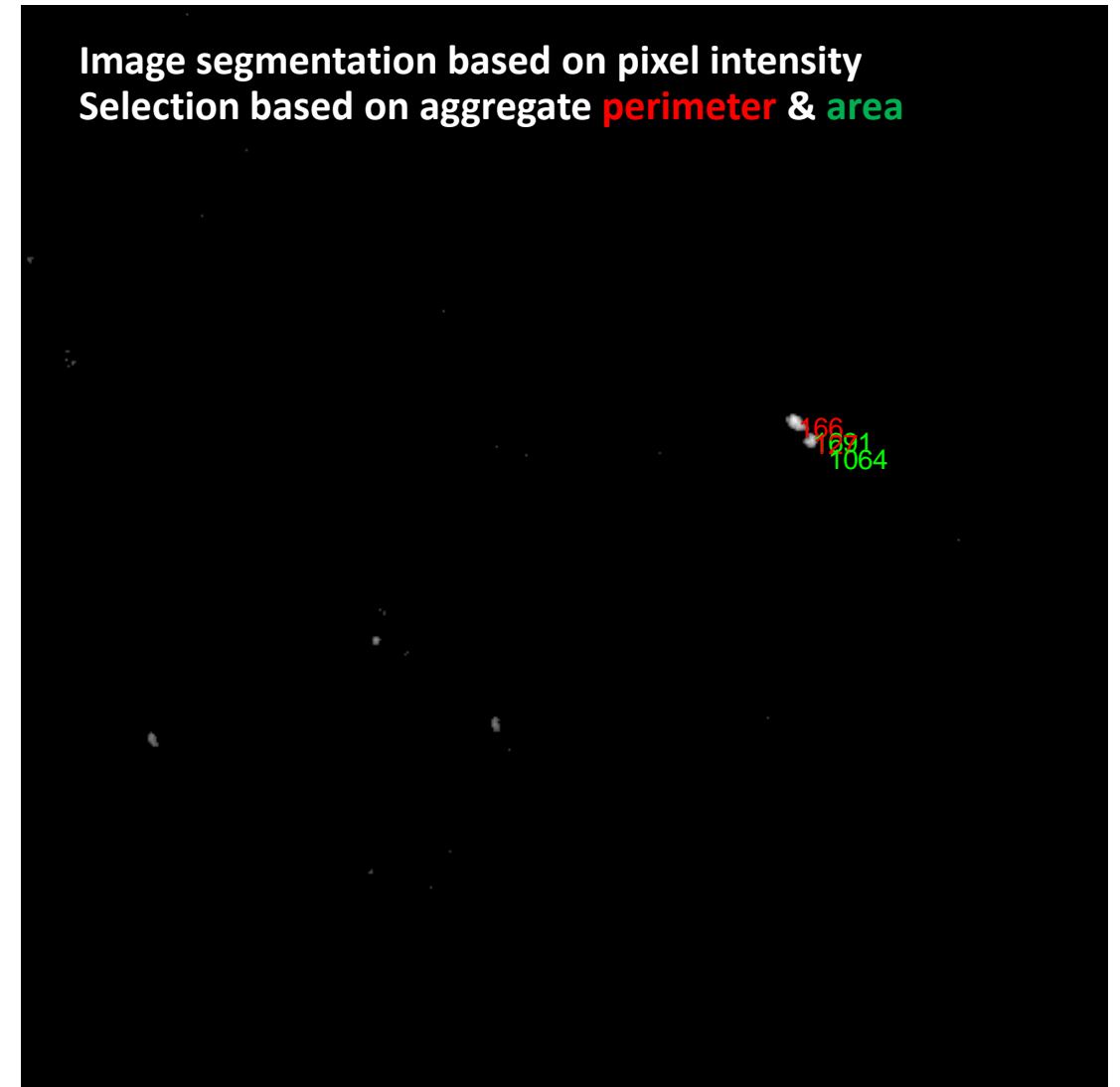
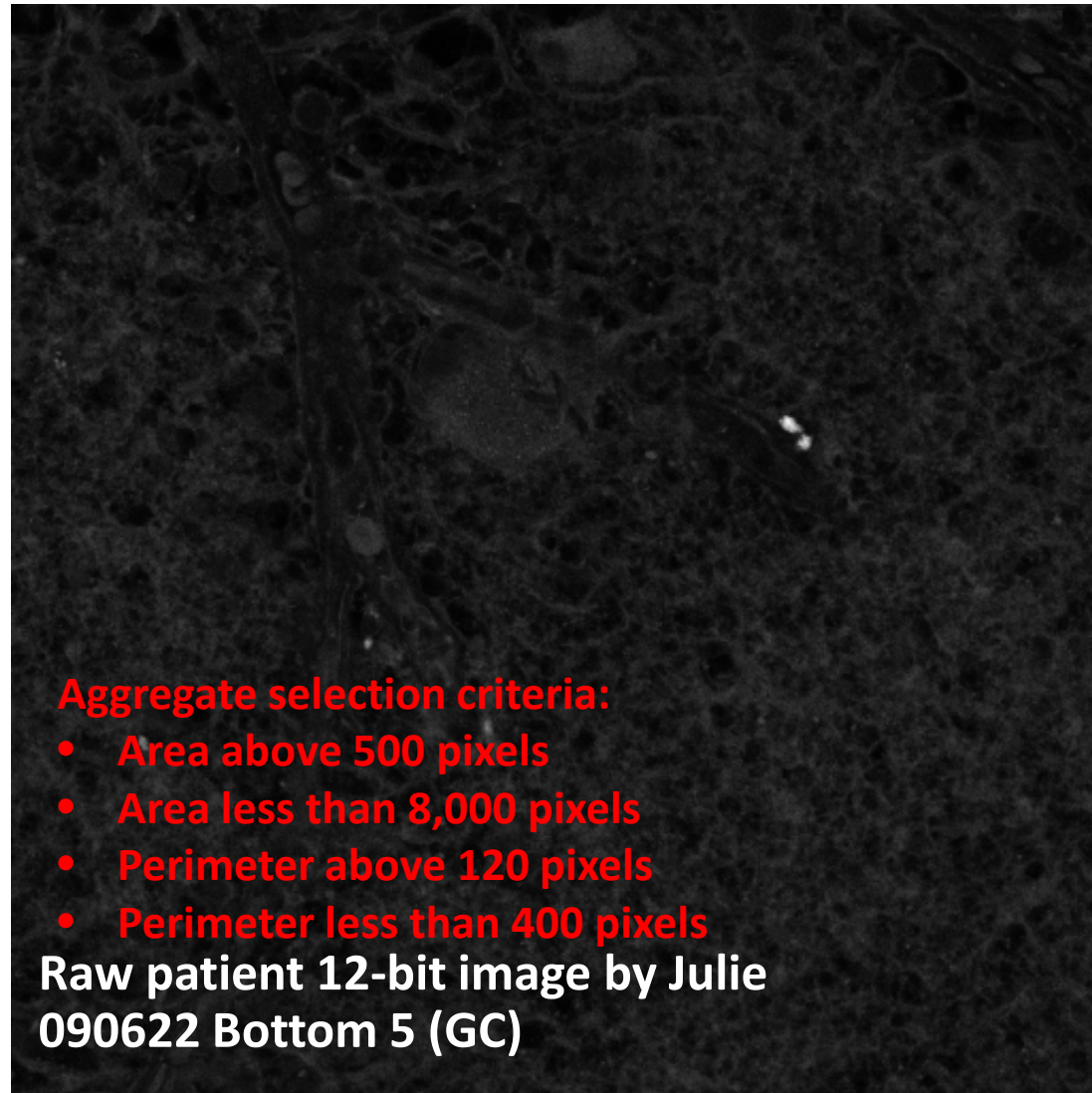


Aggregate perimeter in pixels (red), Aggregate area in pixels (green)





## Glaucoma SDEB Eye #2



## Glaucoma SDEB Eye #2

10 aggregates detected, Aggregate perimeter in pixels (red), Aggregate area in pixels (green)

Raw patient 12-bit image by Julie  
090622 Bottom 6 (GC)

**Aggregate selection criteria:**

- Area above 500 pixels
- Area less than 8,000 pixels
- Perimeter above 120 pixels
- Perimeter less than 400 pixels

\* Image segmentation based on pixel intensity  
Selection based on aggregate **perimeter** & **area**



Zoom in to better see the five aggregates

