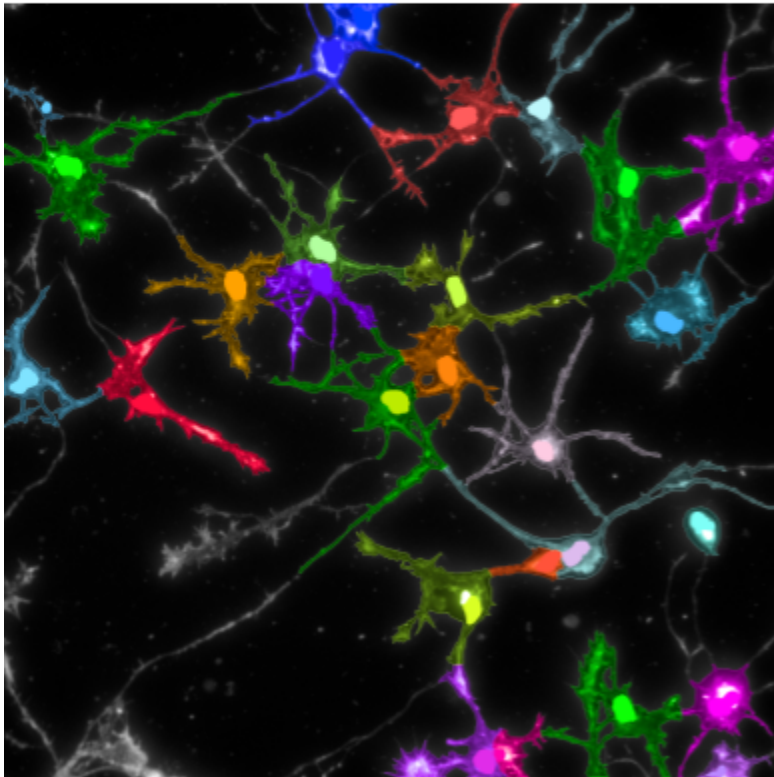


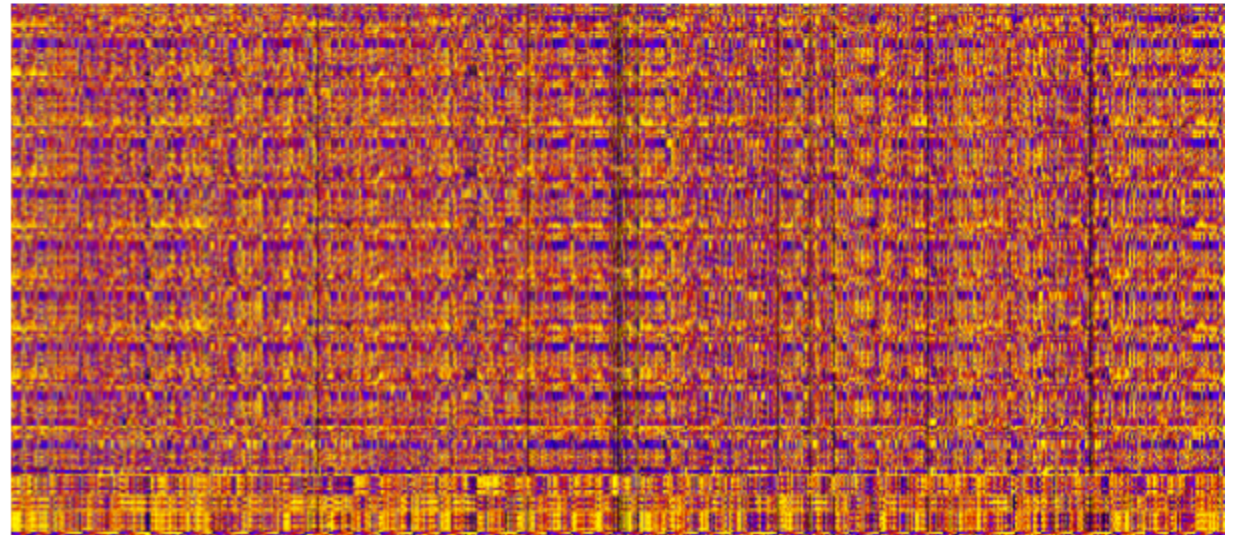
Acapella Segmentation



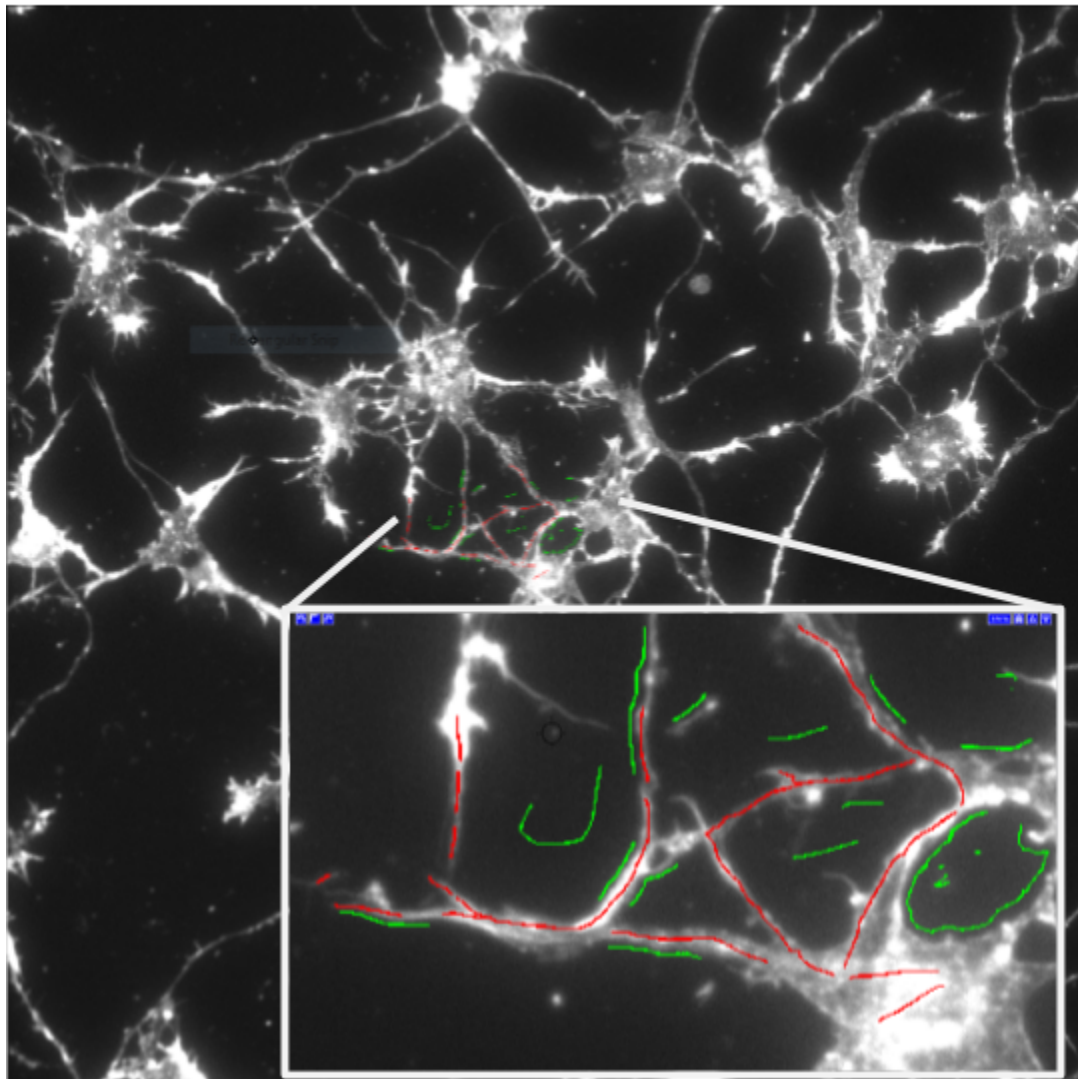
Feature Heatmap

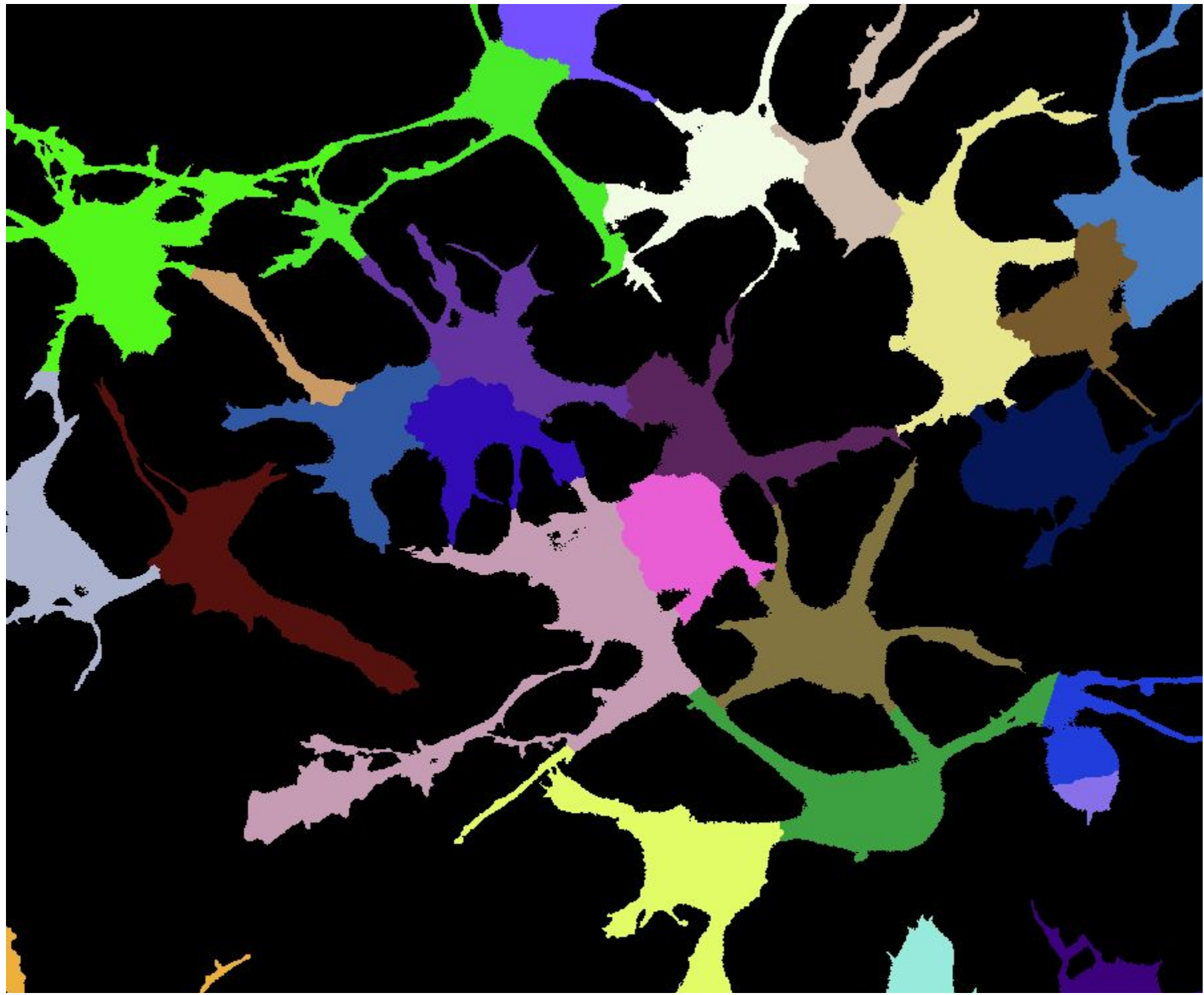
Horizontal: individual cells.

Vertical: 230 features.



Ilastik Segmentation





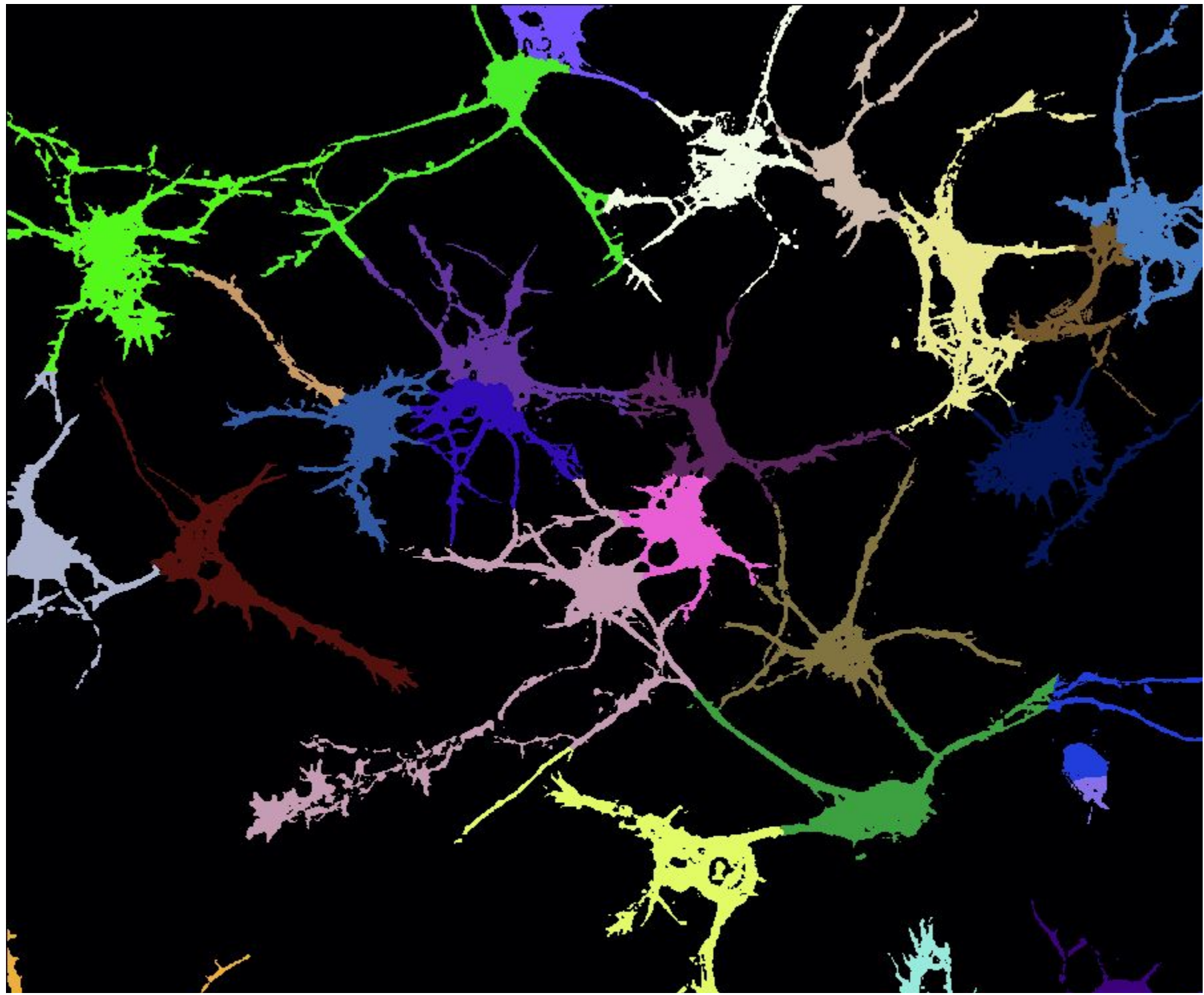
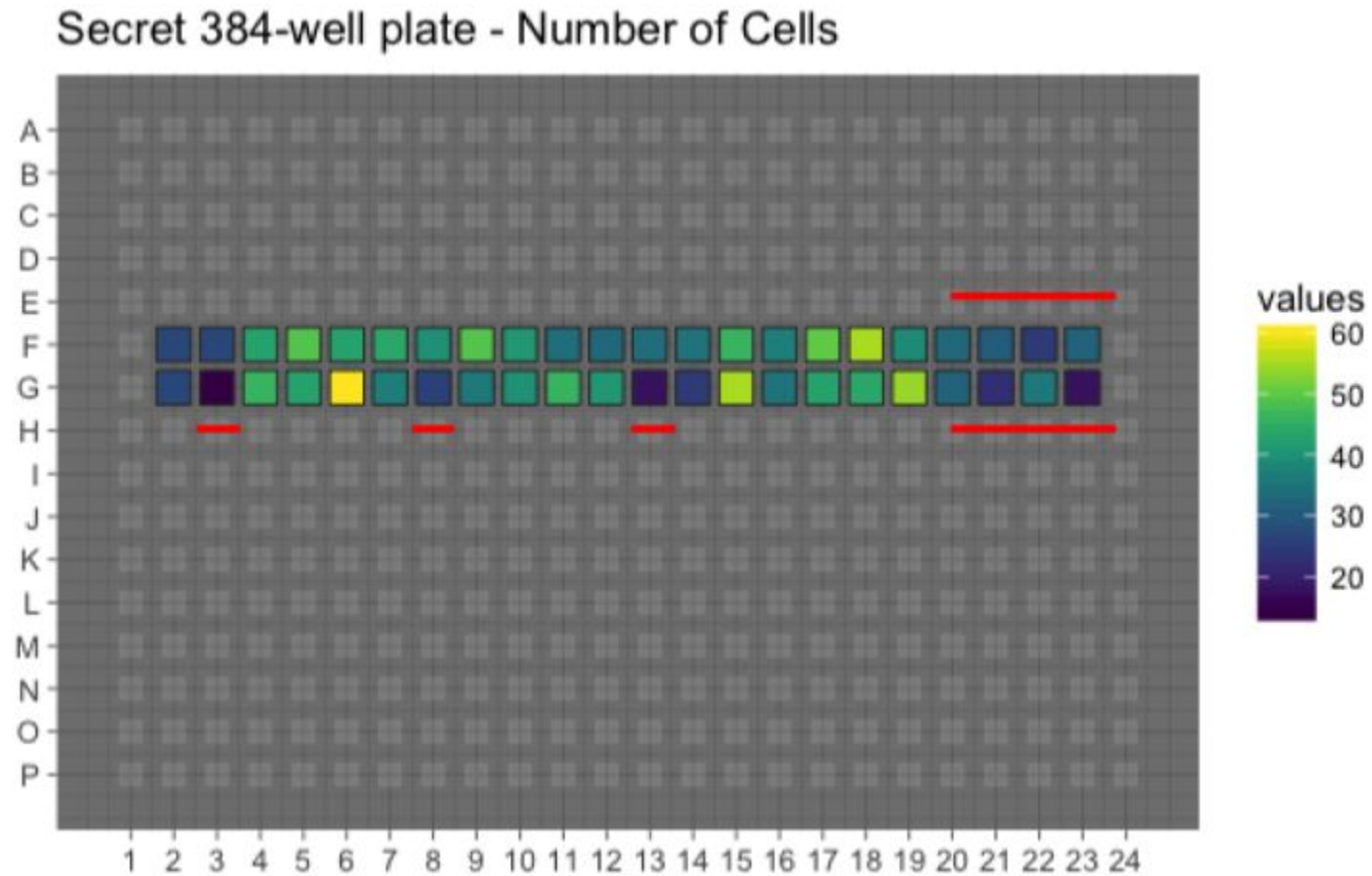


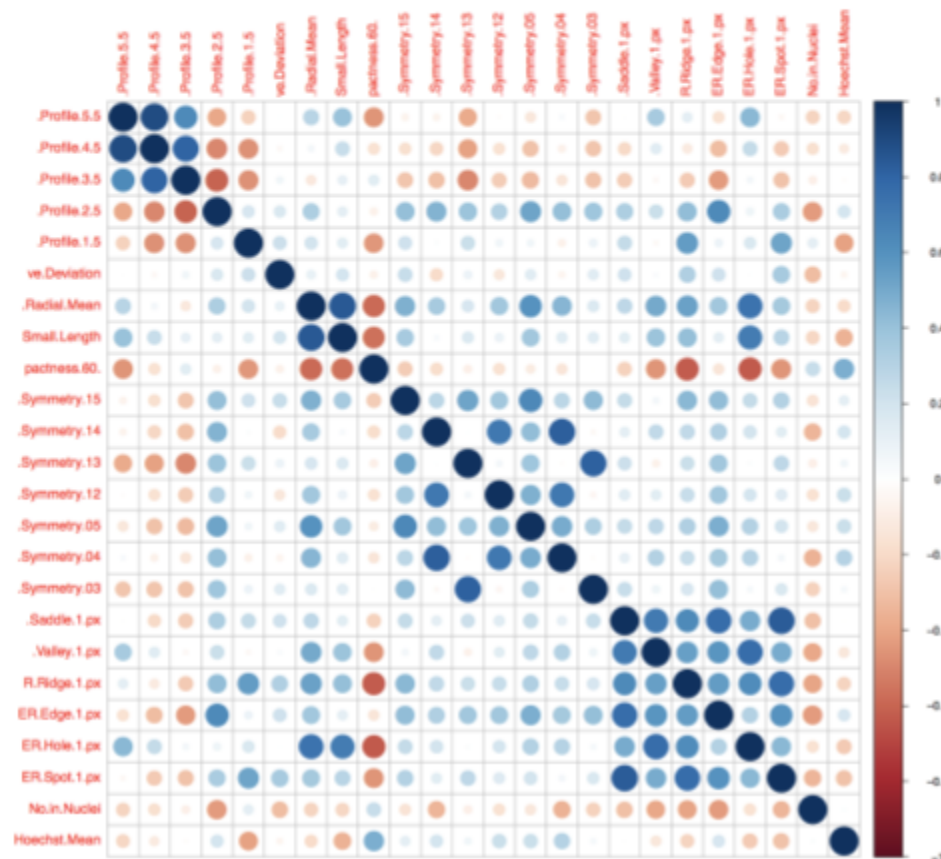
Plate Design and cell count



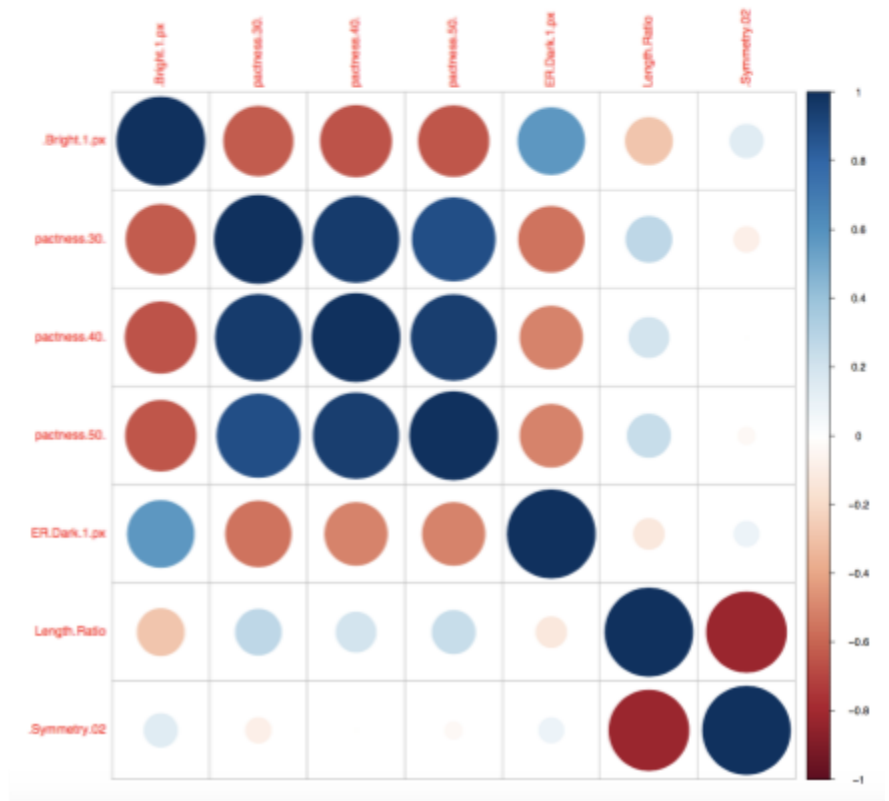
Controls are underlined with red:

- a. F20, F21, F22, F23
- b. G03, G08, G13, G20, G21, G22, G23

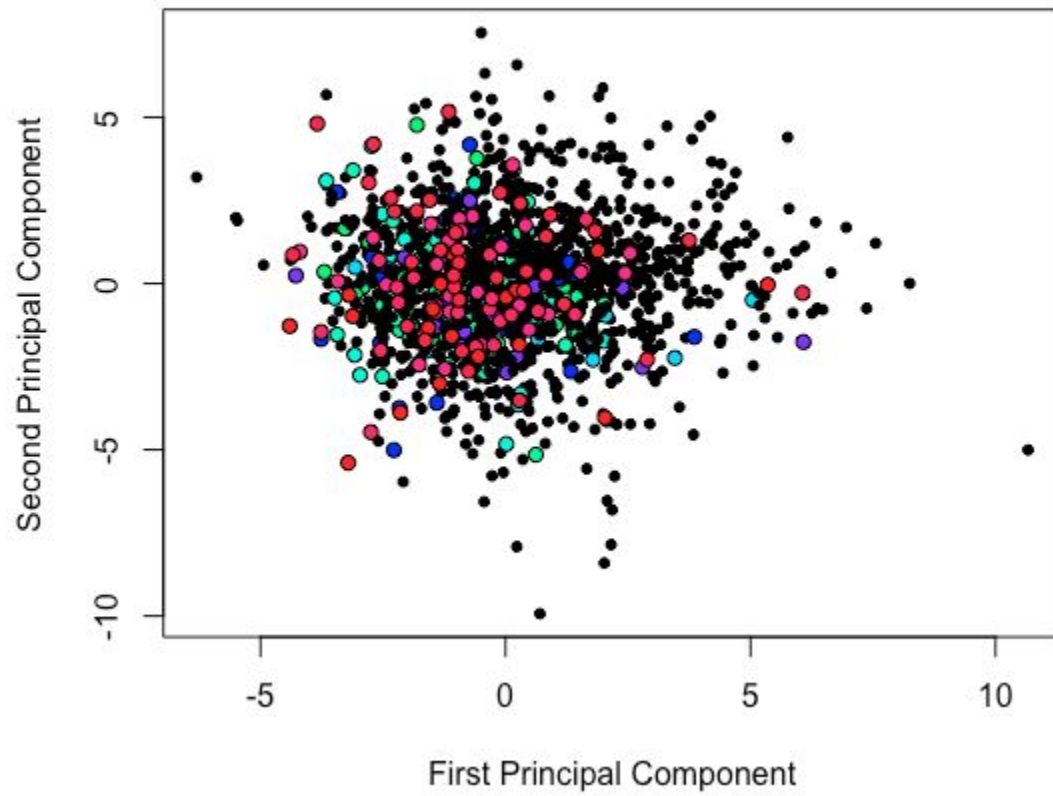
Feature selection from segmented neurons



Highly Correlated features



Feature Control and remaining samples

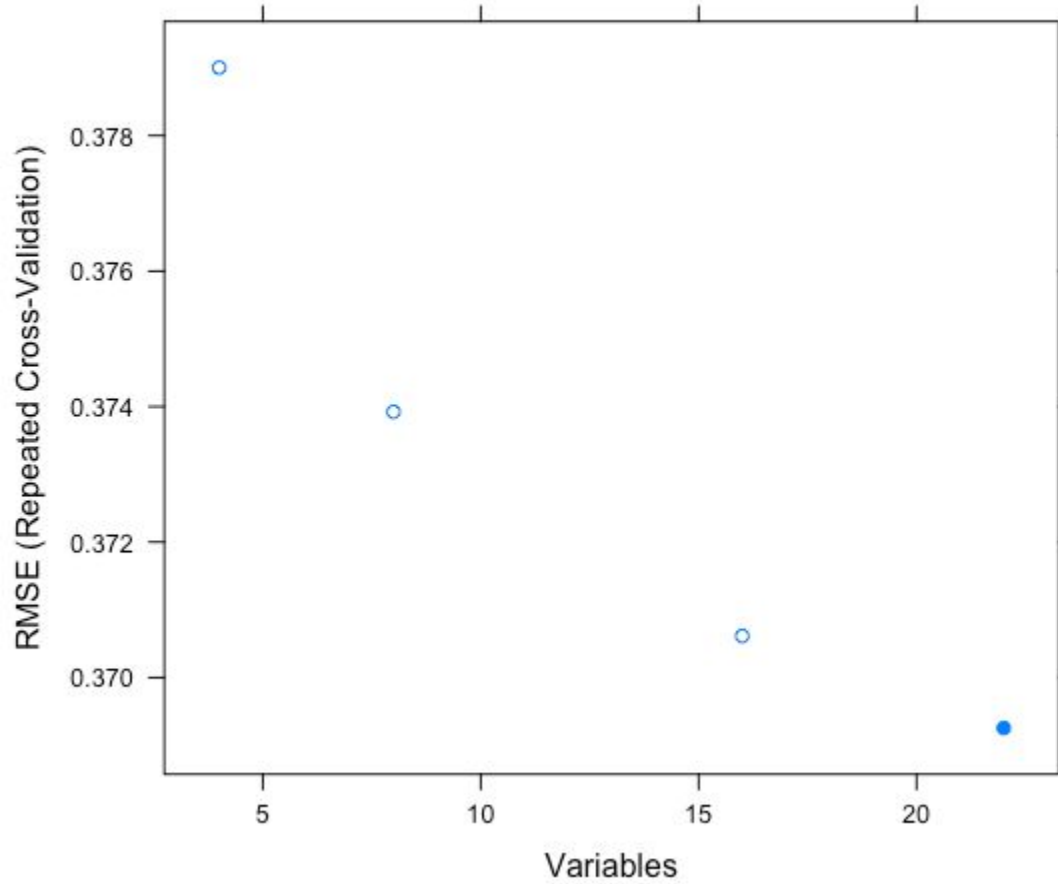


Recursive feature selection

Outer resampling method: Cross-Validated (10 fold, repeated 3 times)

Resampling performance over subset size:

Variables	RMSE	Rsquared	RMSESD	RsquaredSD	Selected
4	0.3790	0.05504	0.02216	0.04401	
8	0.3739	0.07037	0.01893	0.03937	
16	0.3706	0.08415	0.01783	0.05767	
22	0.3693	0.08679	0.01825	0.05319	



varImp(Loan_Pred_Profile)

Overall

Nuclei.Selected...Neurites.Threshold.Compactness.40.	23.7664144
Nuclei.Selected...Neurites.Threshold.Compactness.60.	20.4207051
Nuclei.Selected...Neurites.Radial.Mean	14.4176776
Nuclei.Selected...Neurites.Phalloidin.SER.Hole.1.px	12.5416100
Nuclei.Selected...Neurites.Phalloidin.SER.Valley.1.px	11.1087761
Nuclei.Selected...Neurites.Phalloidin.SER.Ridge.1.px	10.5000841
Nuclei.Selected...Neurites.Axial.Small.Length	9.8140546
Nuclei.Selected...Neurites.Phalloidin.SER.Dark.1.px	9.7152250
Nuclei.Selected...Neurites.Profile.4.5	9.5544754