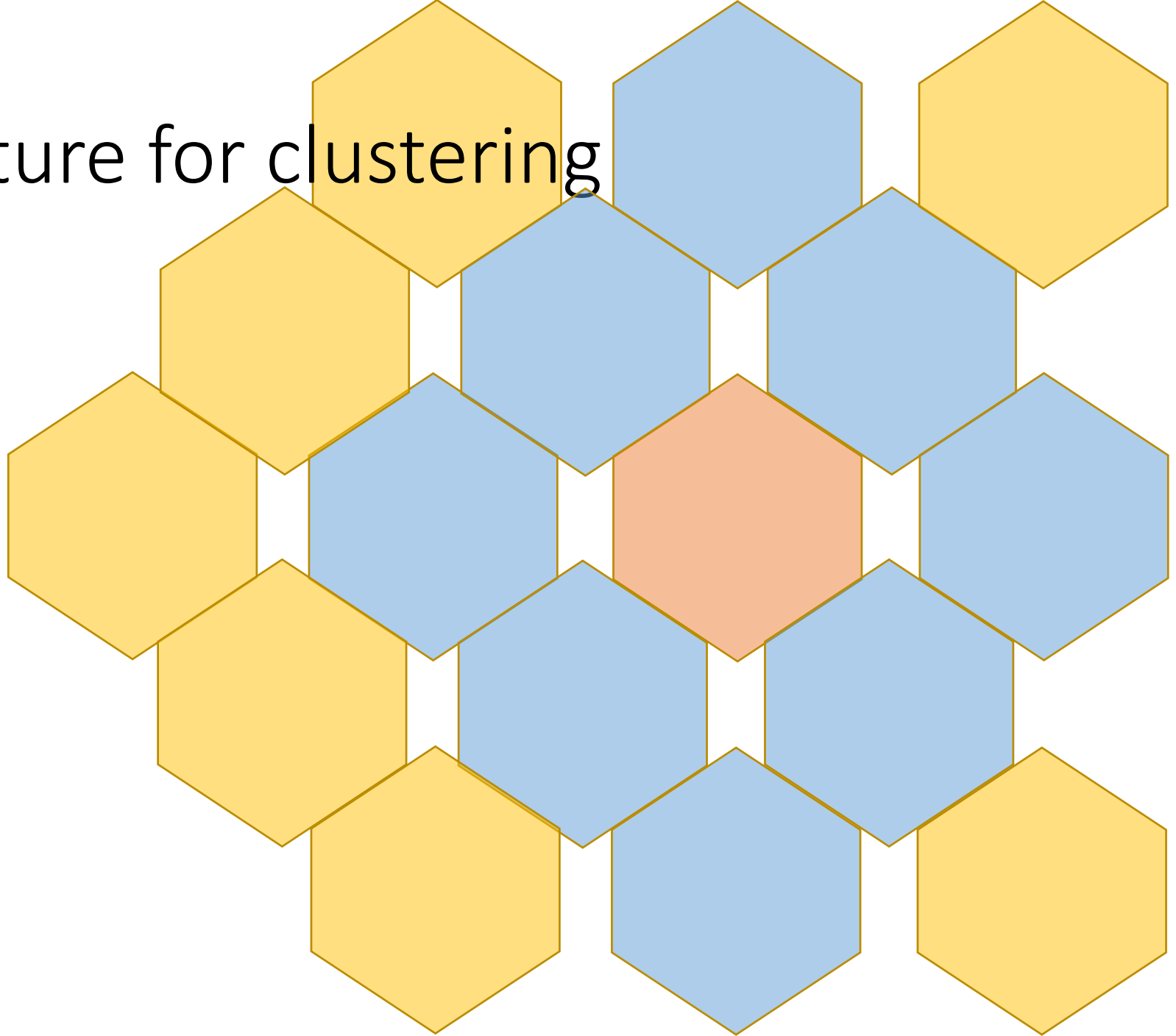


# MCC data spatial clustering and deconvolution

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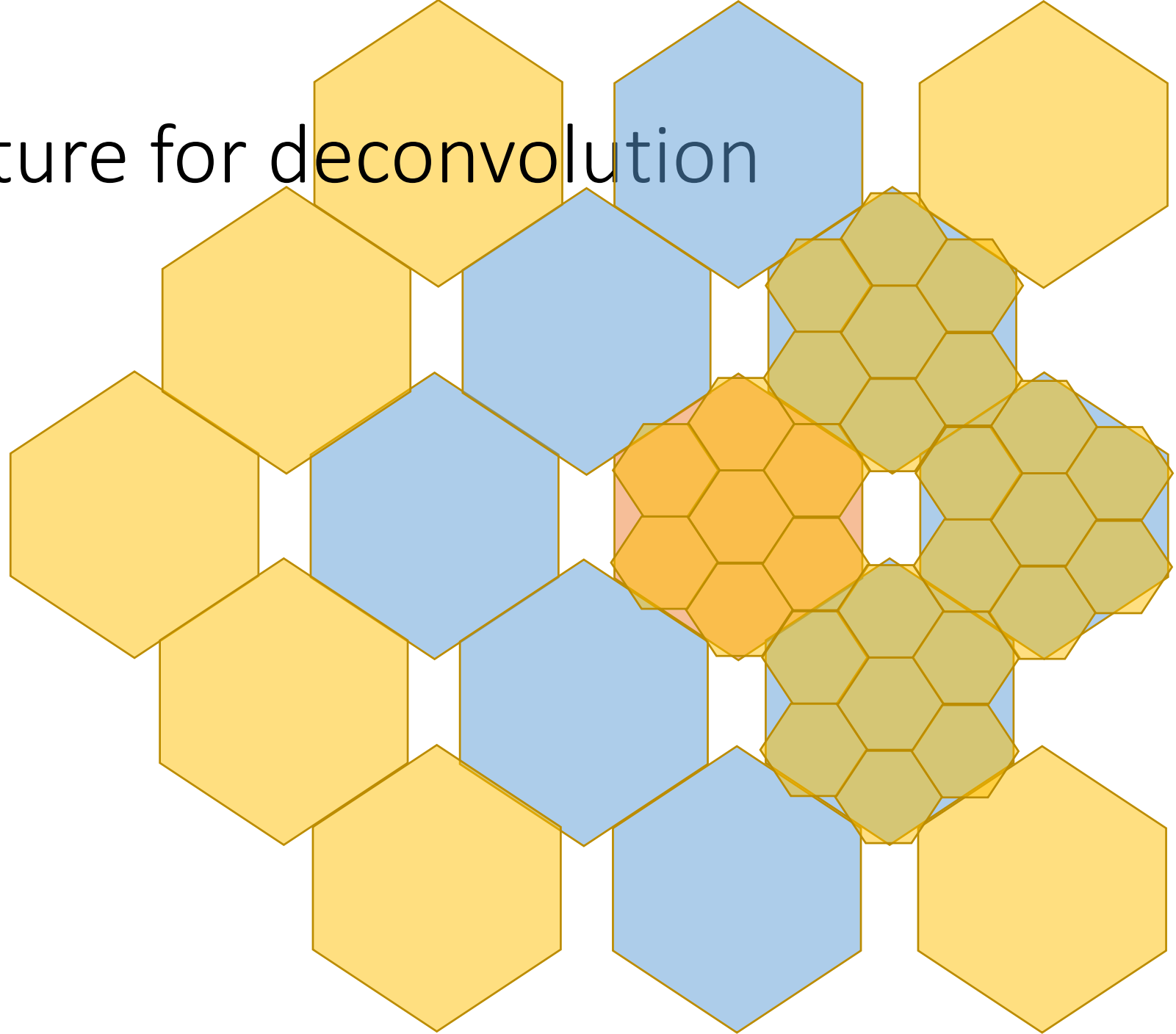
# Neighbor structure for clustering

- For any given capture location (orange), we have up to 8 neighboring capture locations (blue) if we use  $L_1$  distance



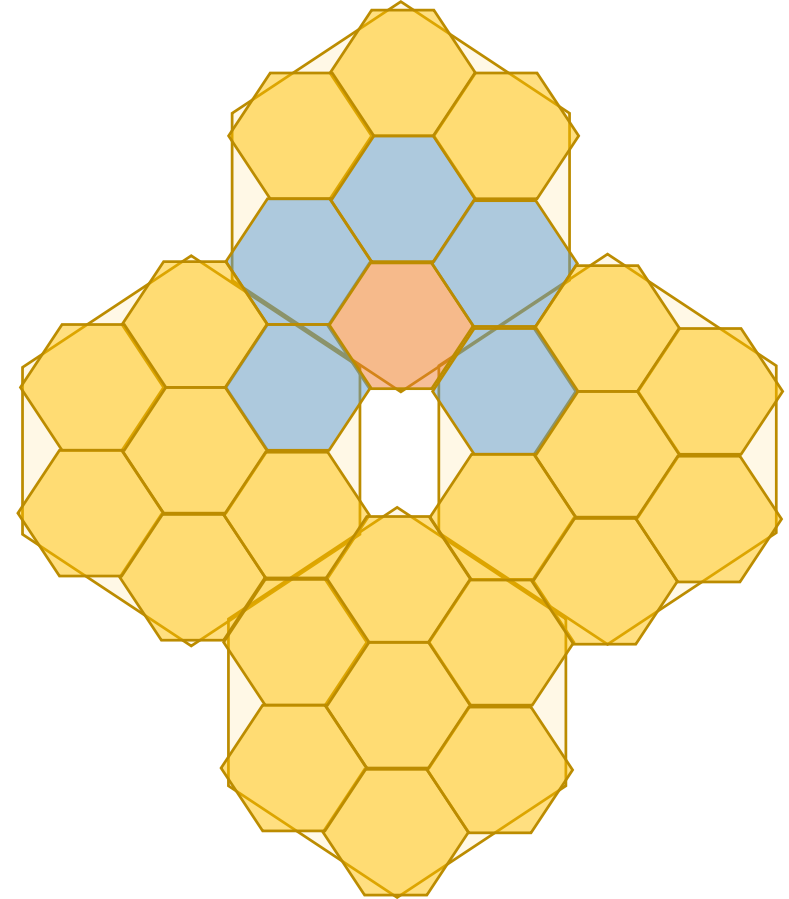
# Neighbor structure for deconvolution

- Each capture location is split into 7 “cells”

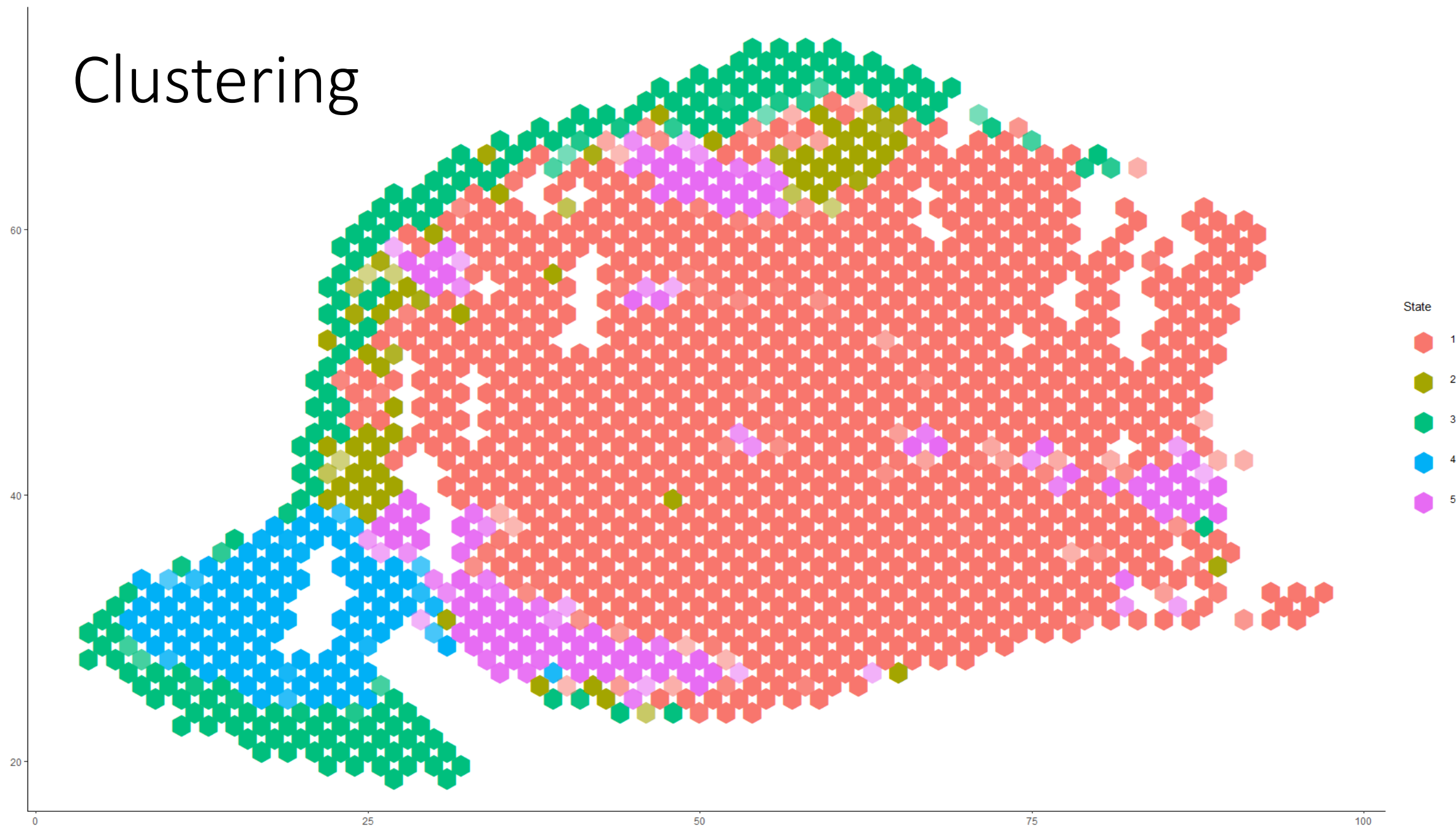


# Neighbor structure for deconvolution

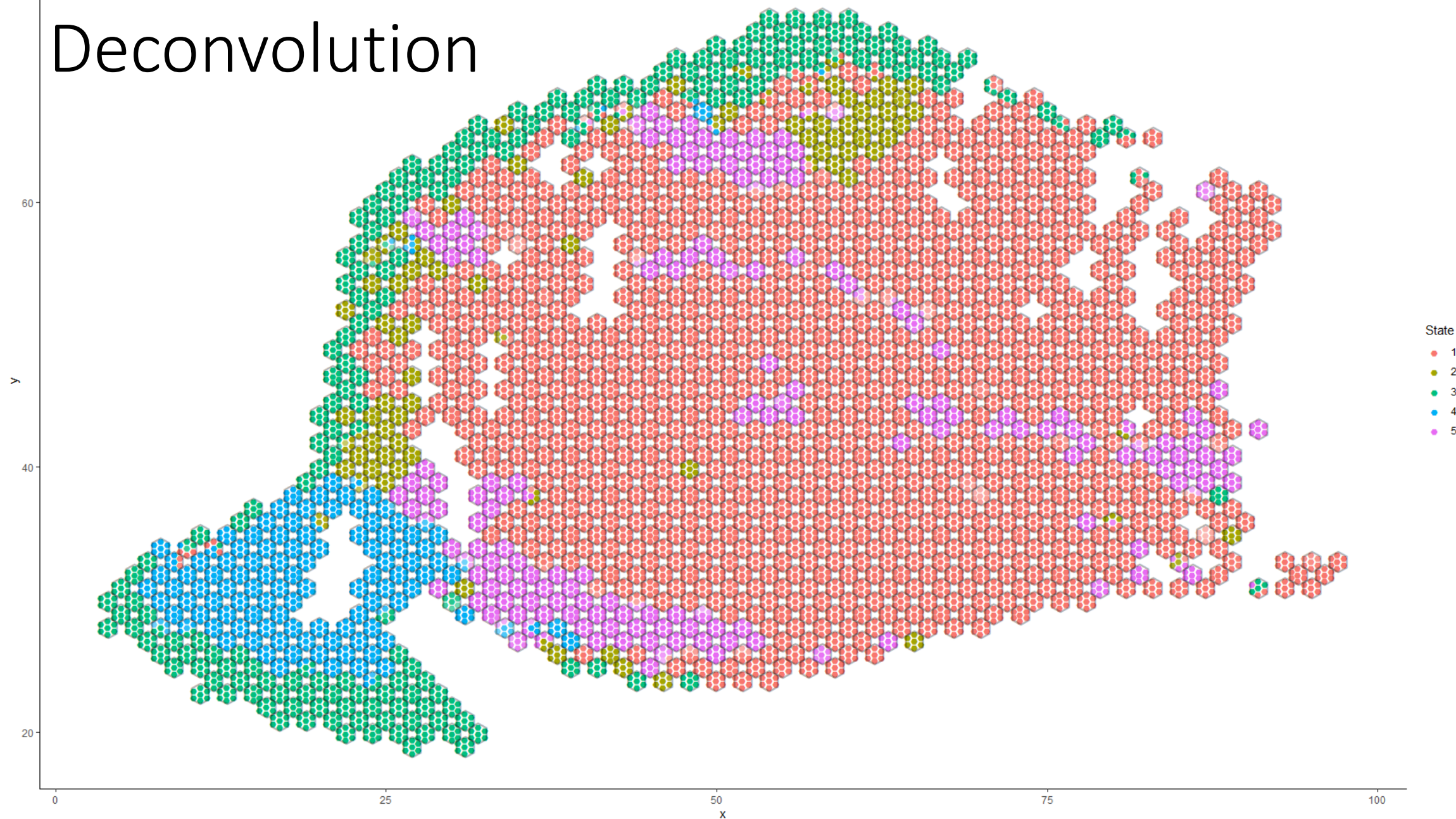
- For any given cell (orange), we have up to 6 neighboring capture locations (blue)



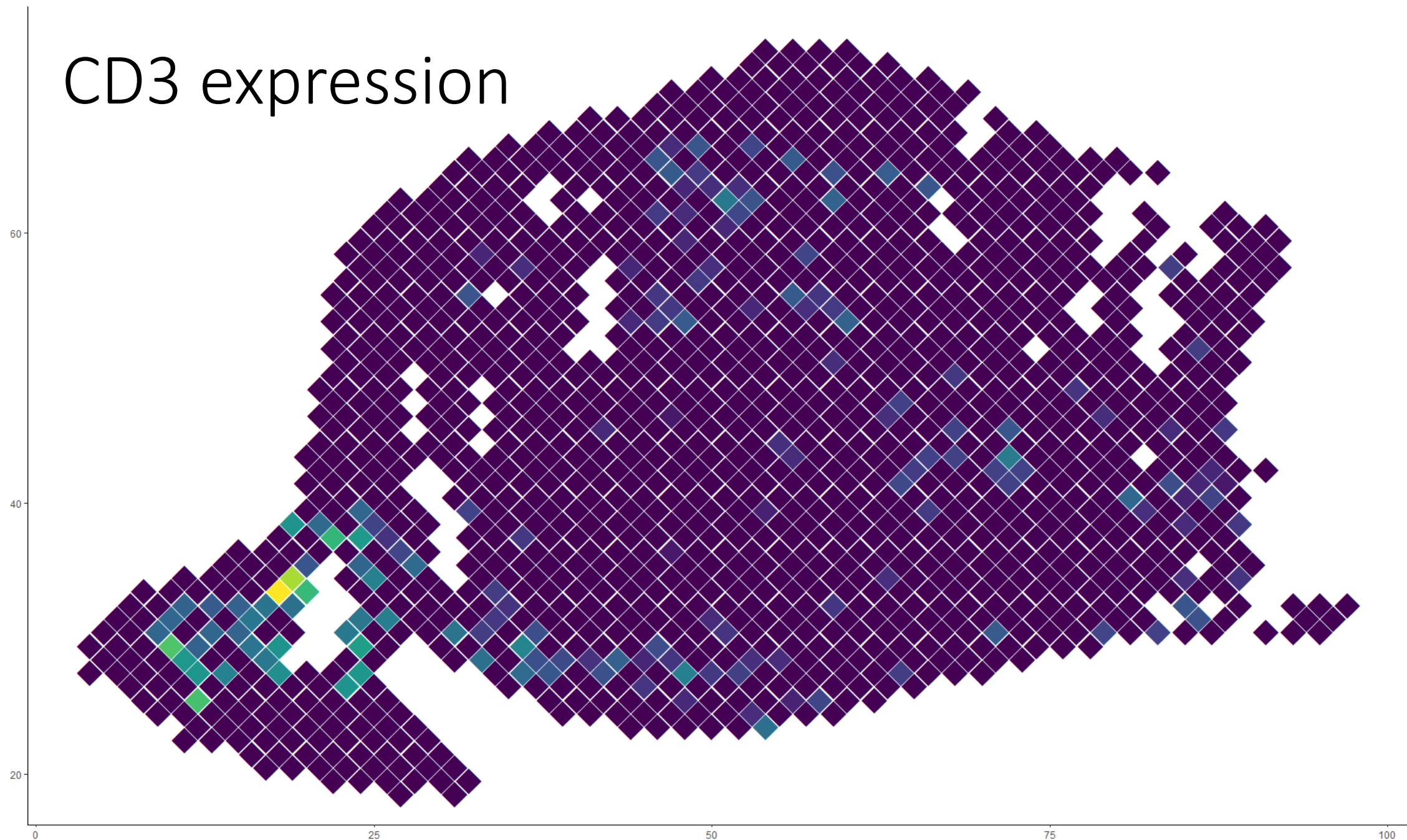
# Clustering



# Deconvolution

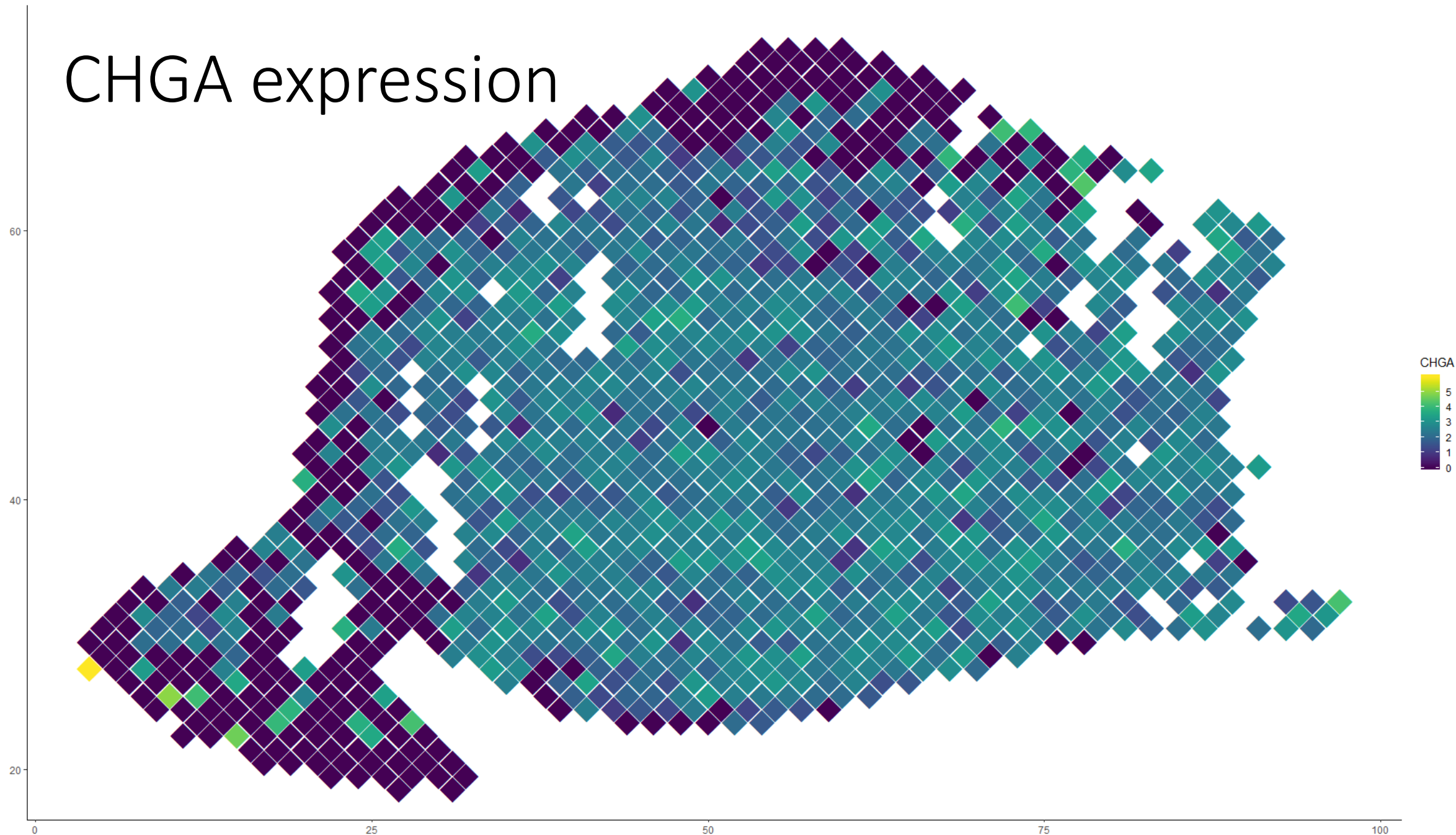


# CD3 expression



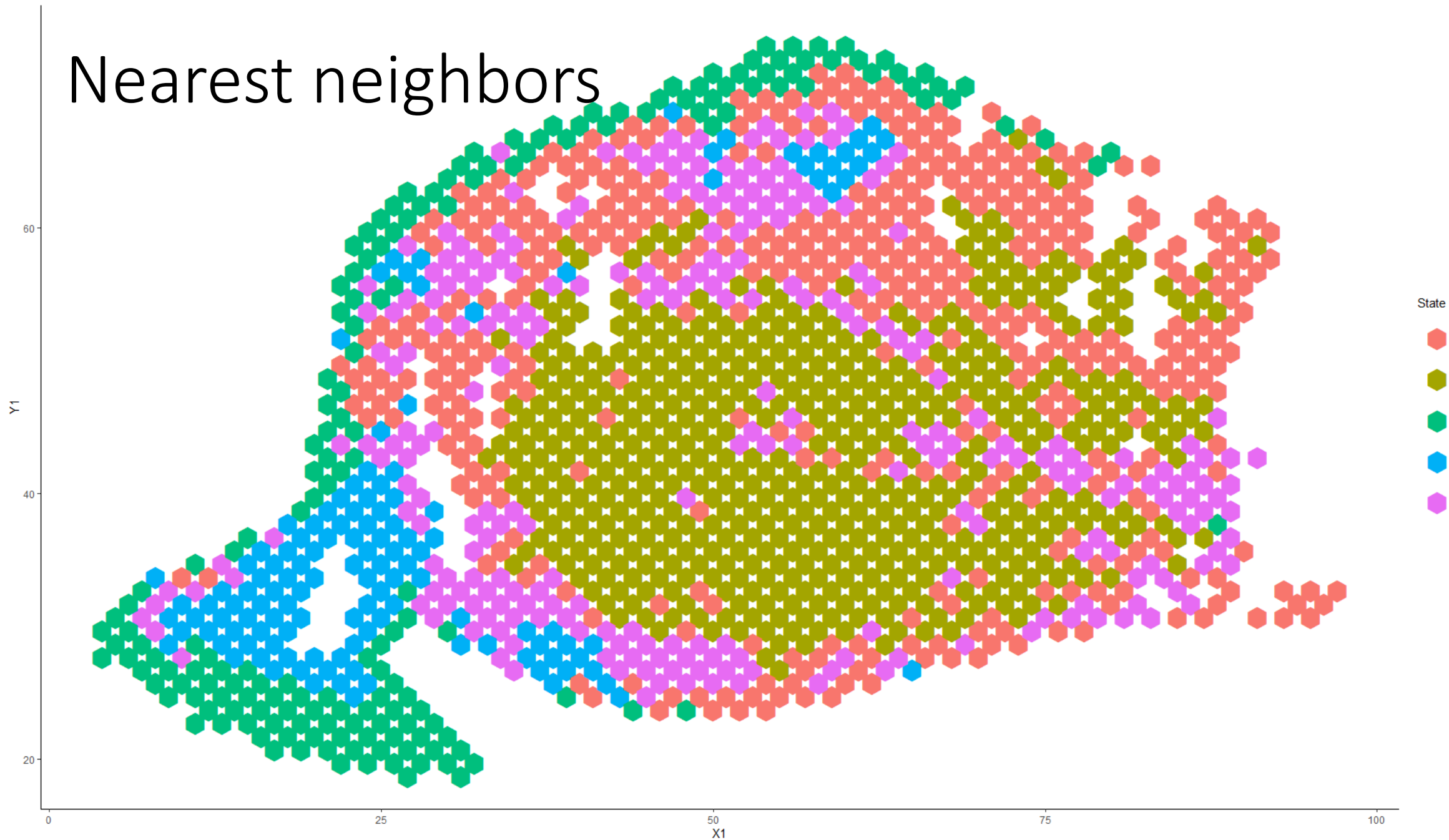


# CHGA expression

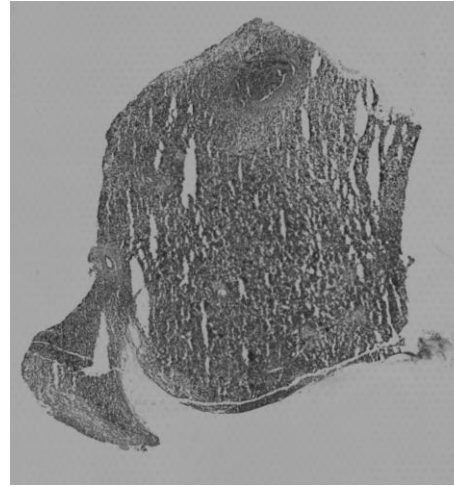




# Nearest neighbors

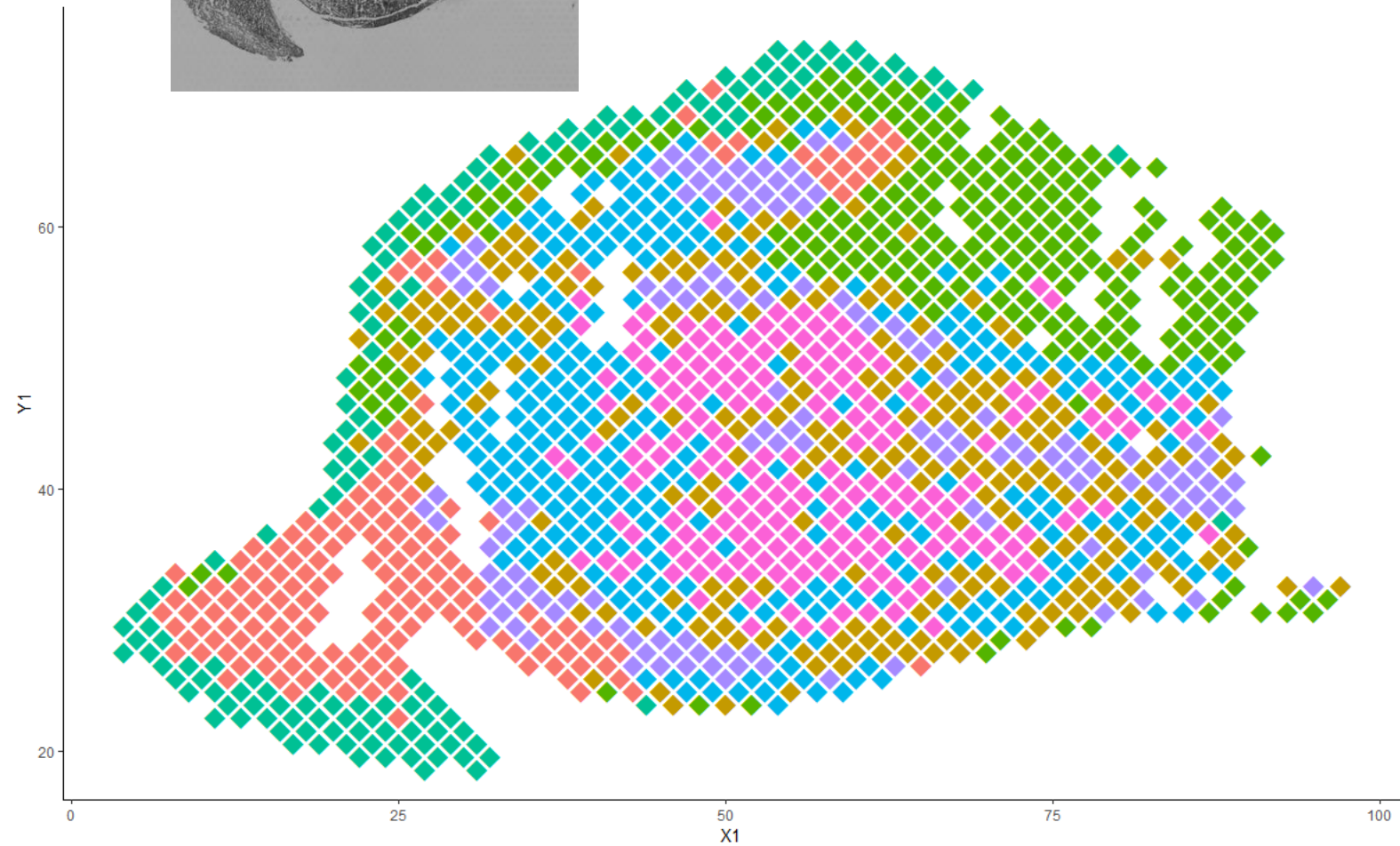
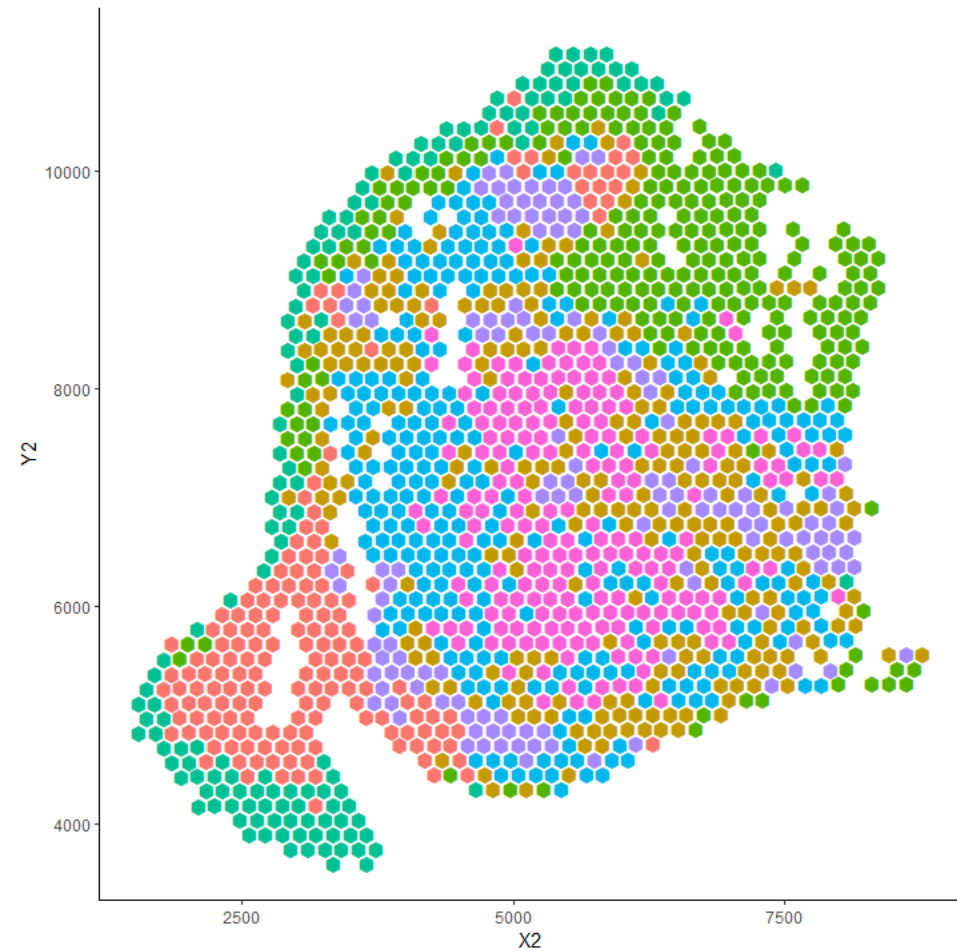


# Coordinate scaling

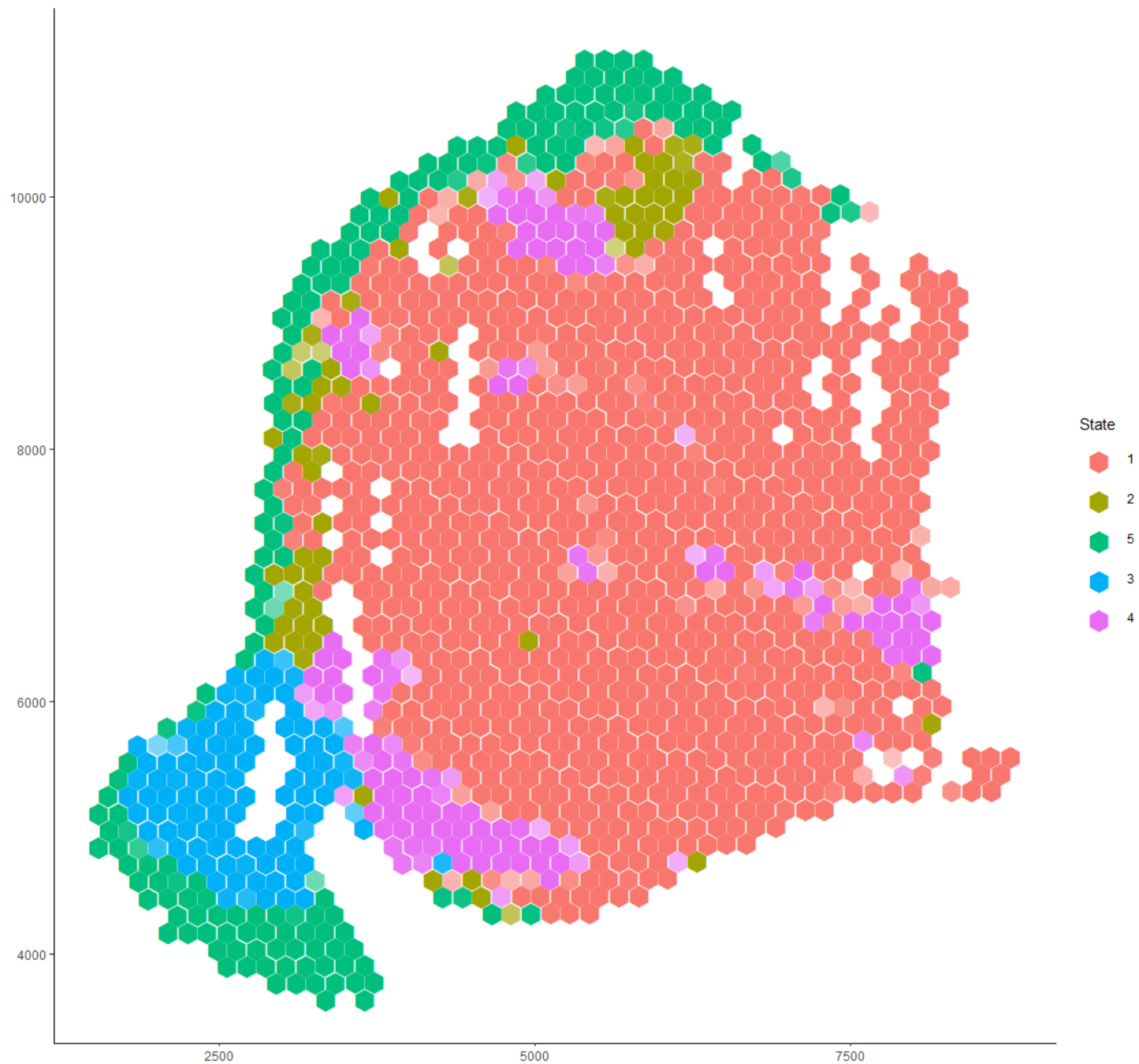
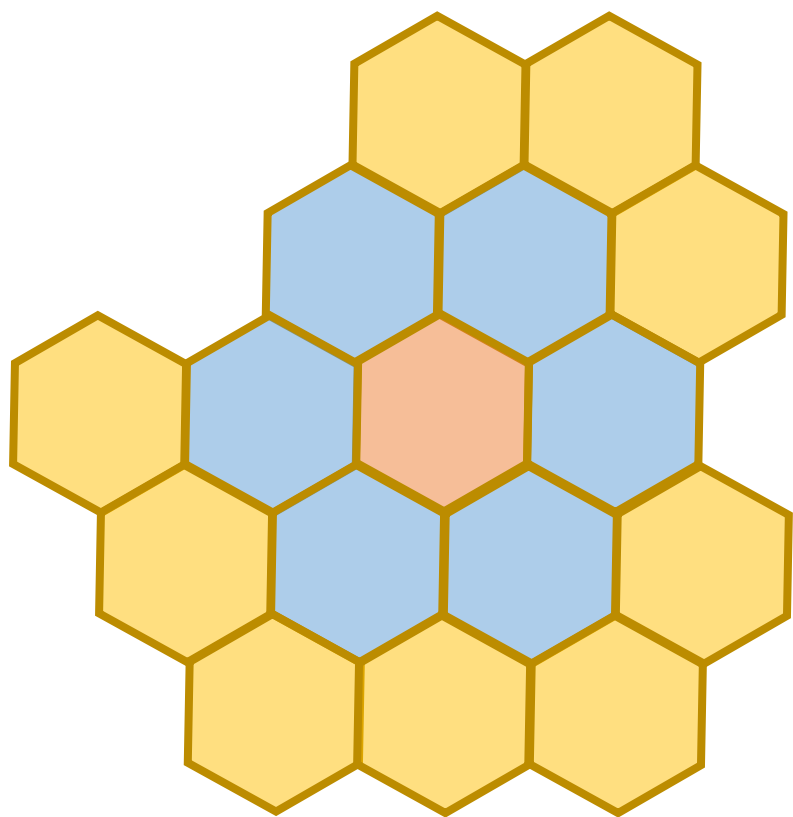


1 X unit = 77.75 pixels

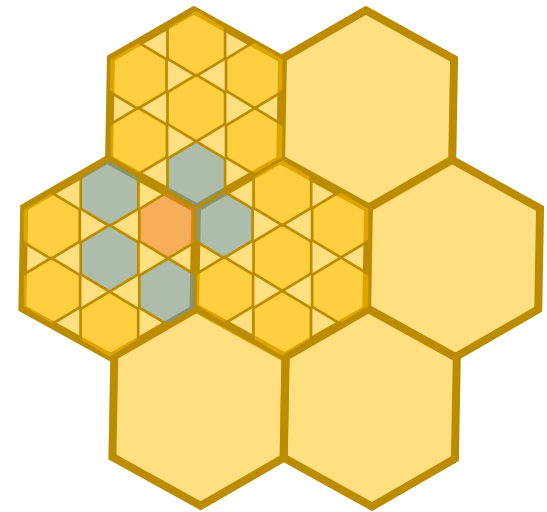
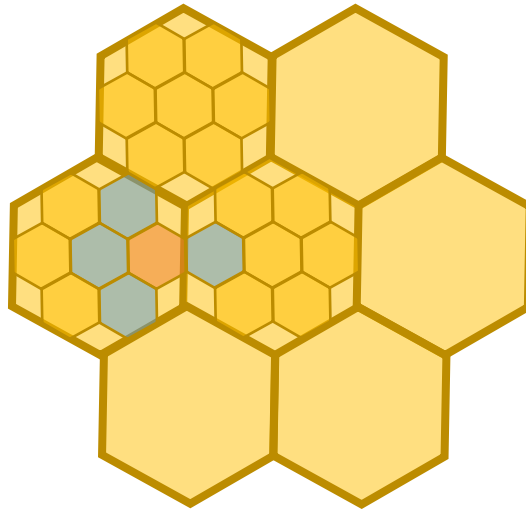
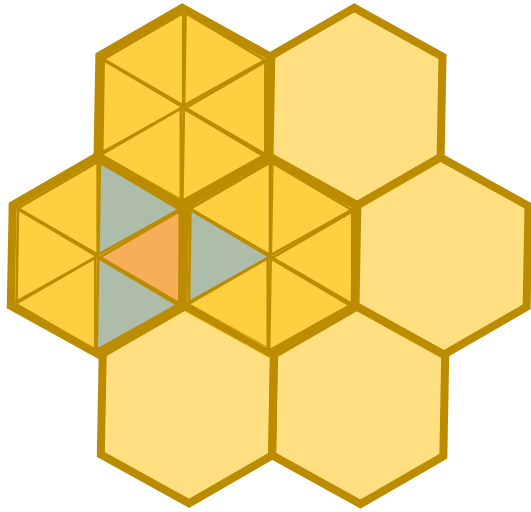
1 Y unit = 134.5 pixels



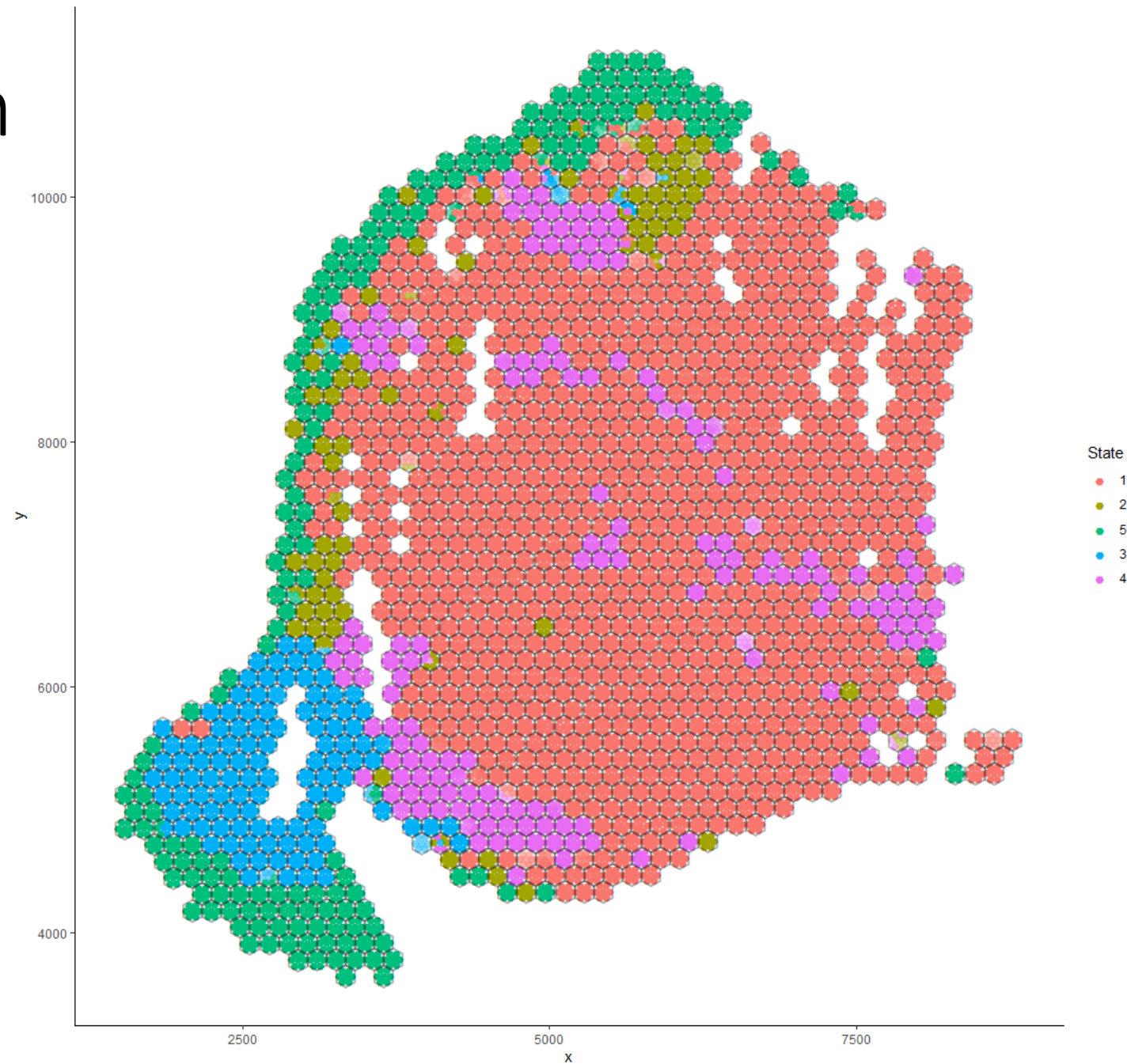
# Clustering



# Deconvolution neighbor structures

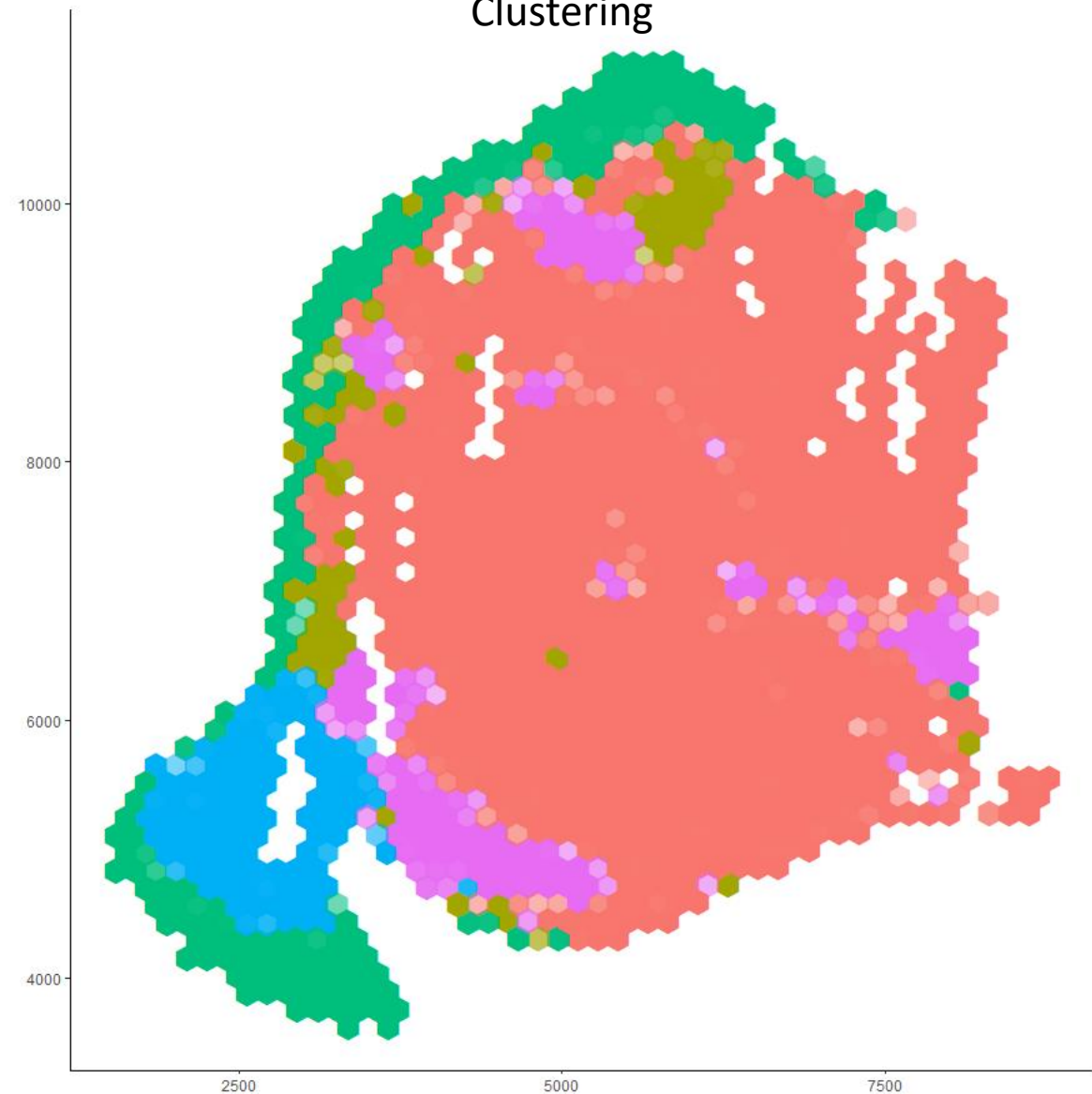


# Deconvolution

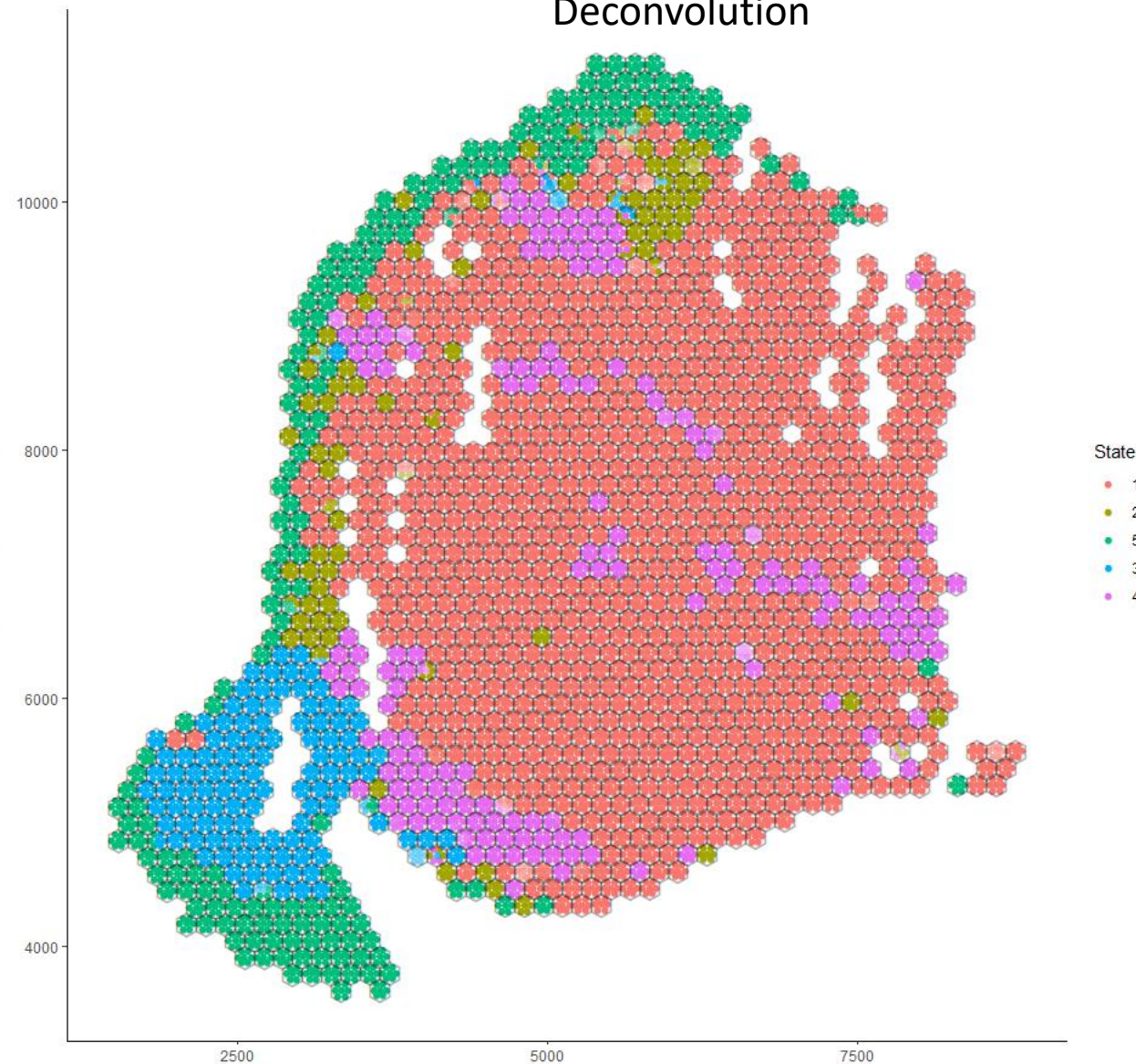




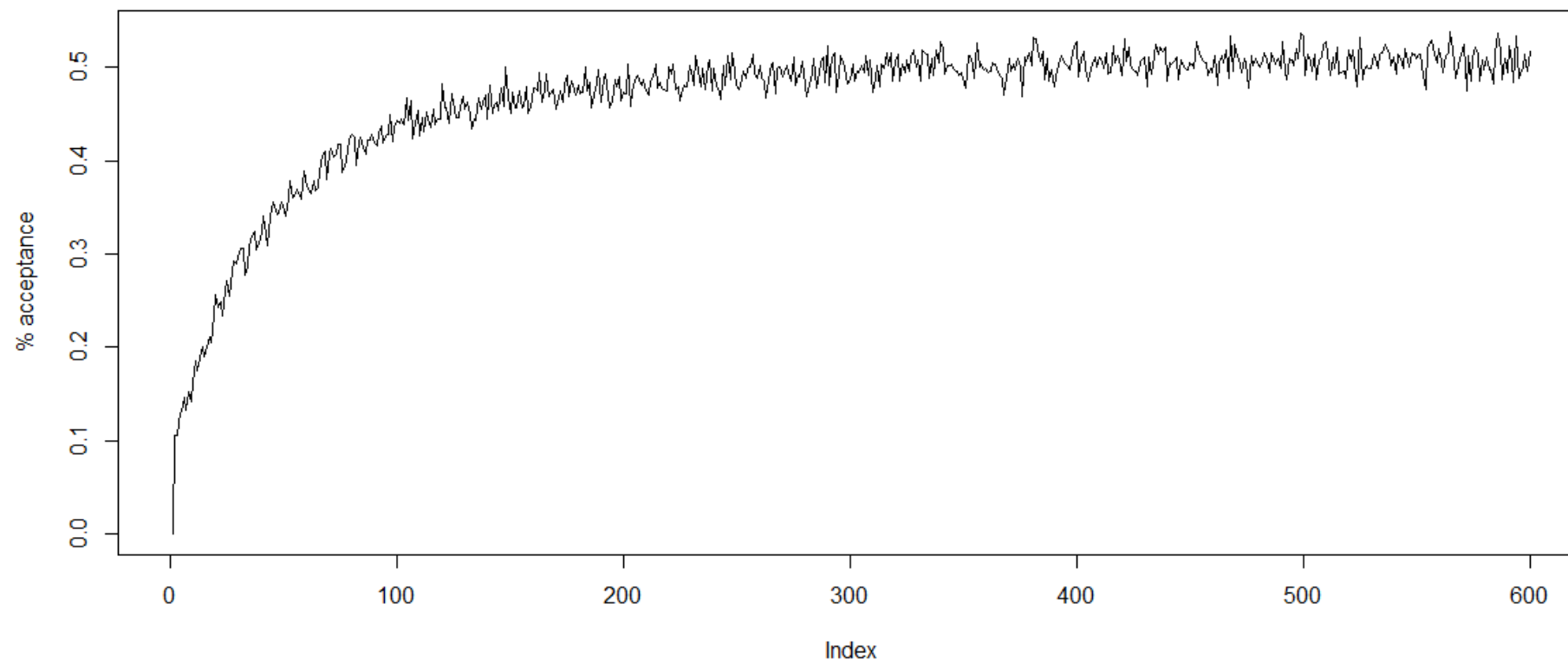
# Clustering



# Deconvolution

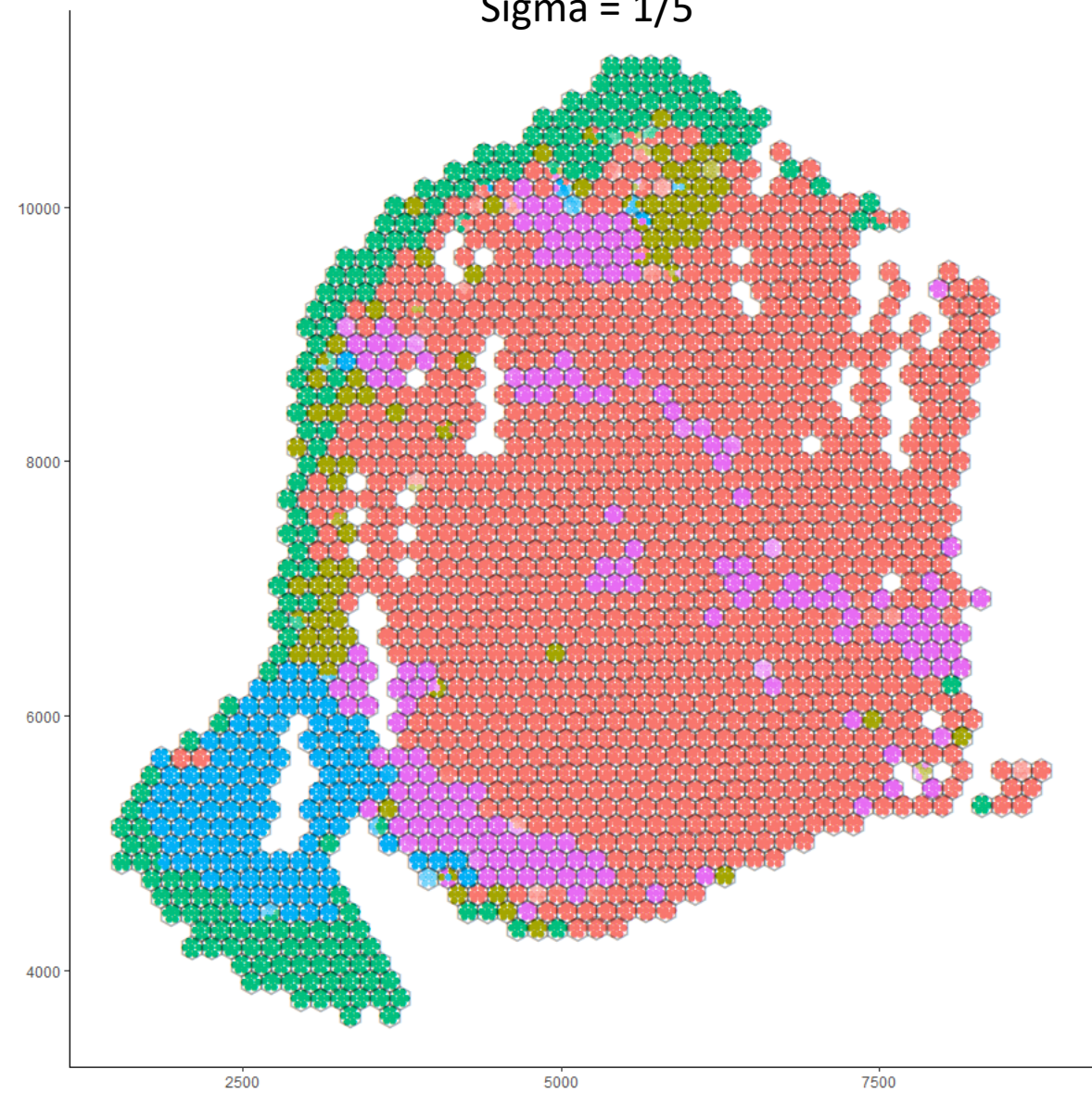


# Acceptance probability with $\sigma = 1/50$





Sigma = 1/5



Sigma = 1/50 (preliminary)

