

# PERSIST Analysis Report

Tissue Type: breast\_cancer  
Run Date: 2026-01-22 21:54

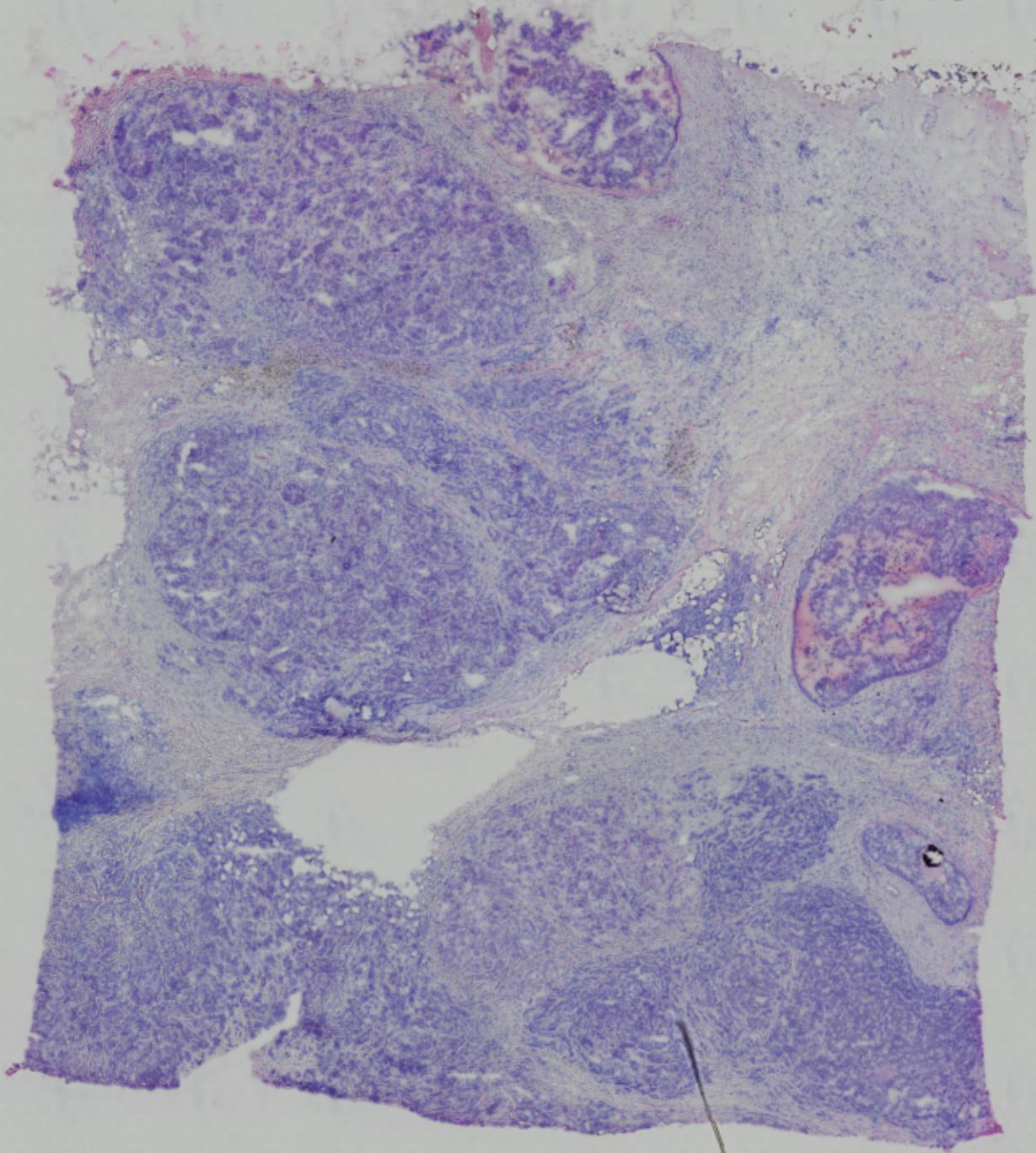
## Metrics Summary:

- Scale Local Coherence (SLC): 0.9996 (>0.9 = Robust)
- Orthogonality (TOI): 0.8651
- Baseline ARI: 0.4255

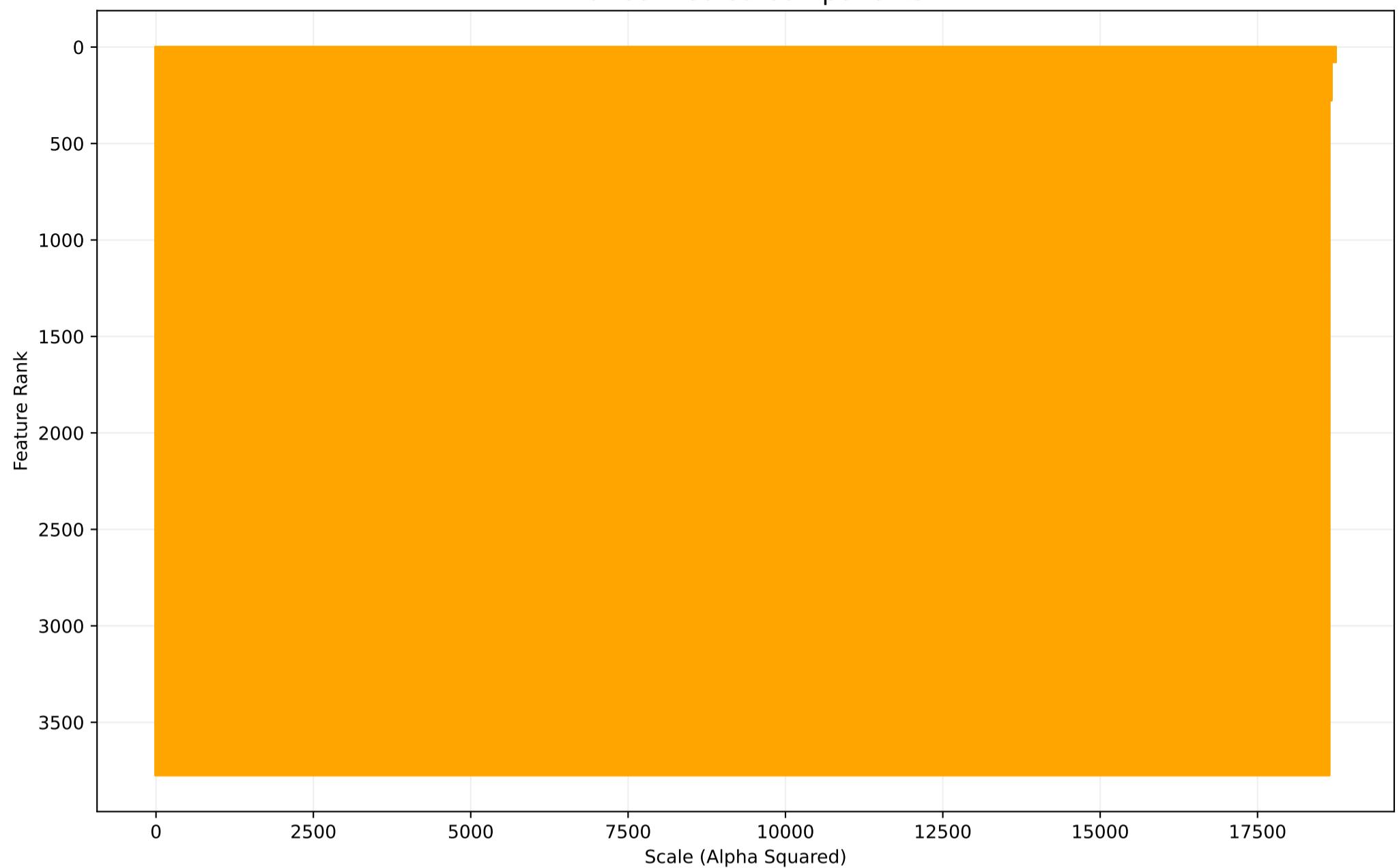
## Topology Statistics:

- H1 Features (Loops): 7199
- Significant Cores: 1313
- Mean Stability: 0.616

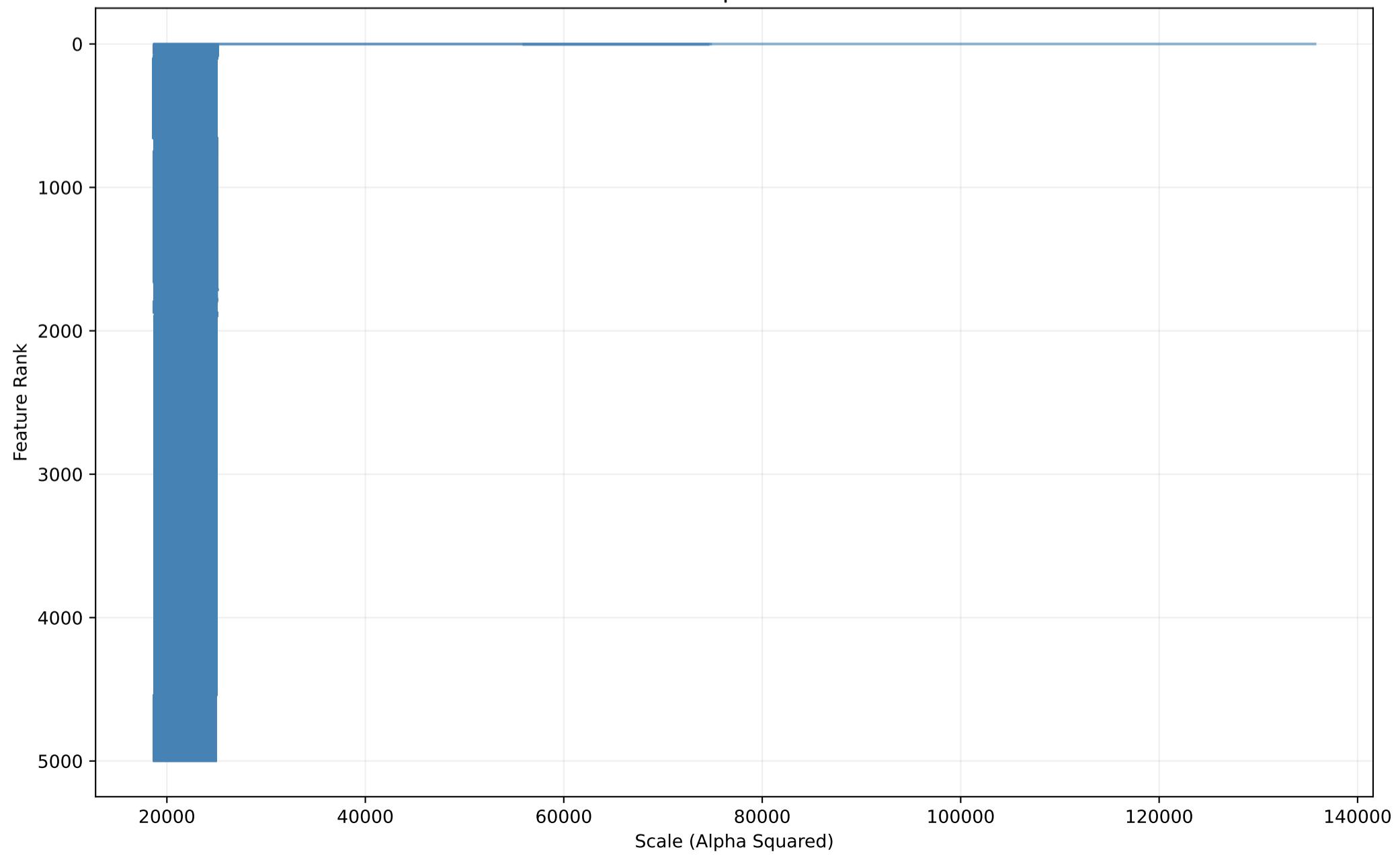
# H&E Histology



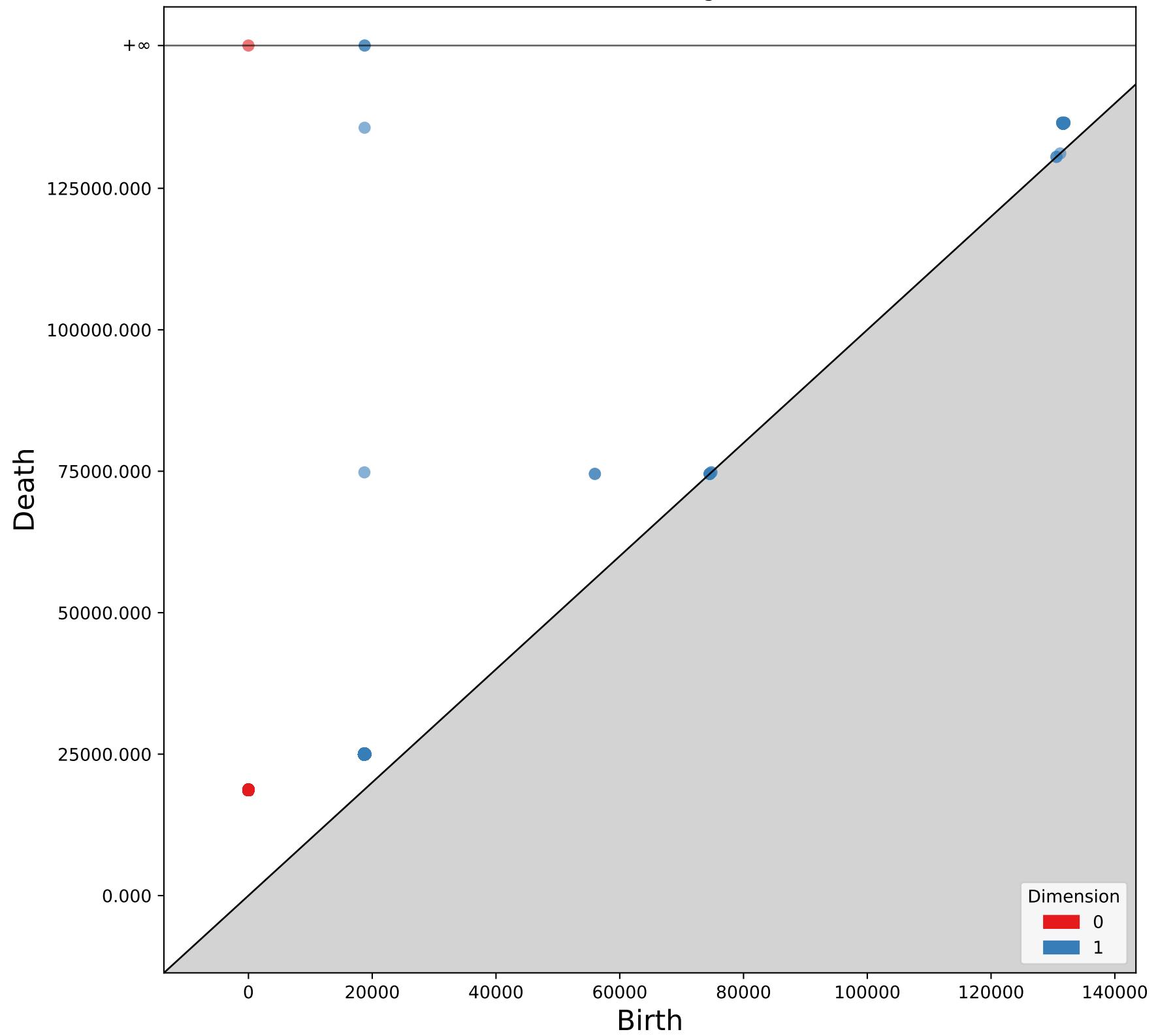
H0: Connected Components



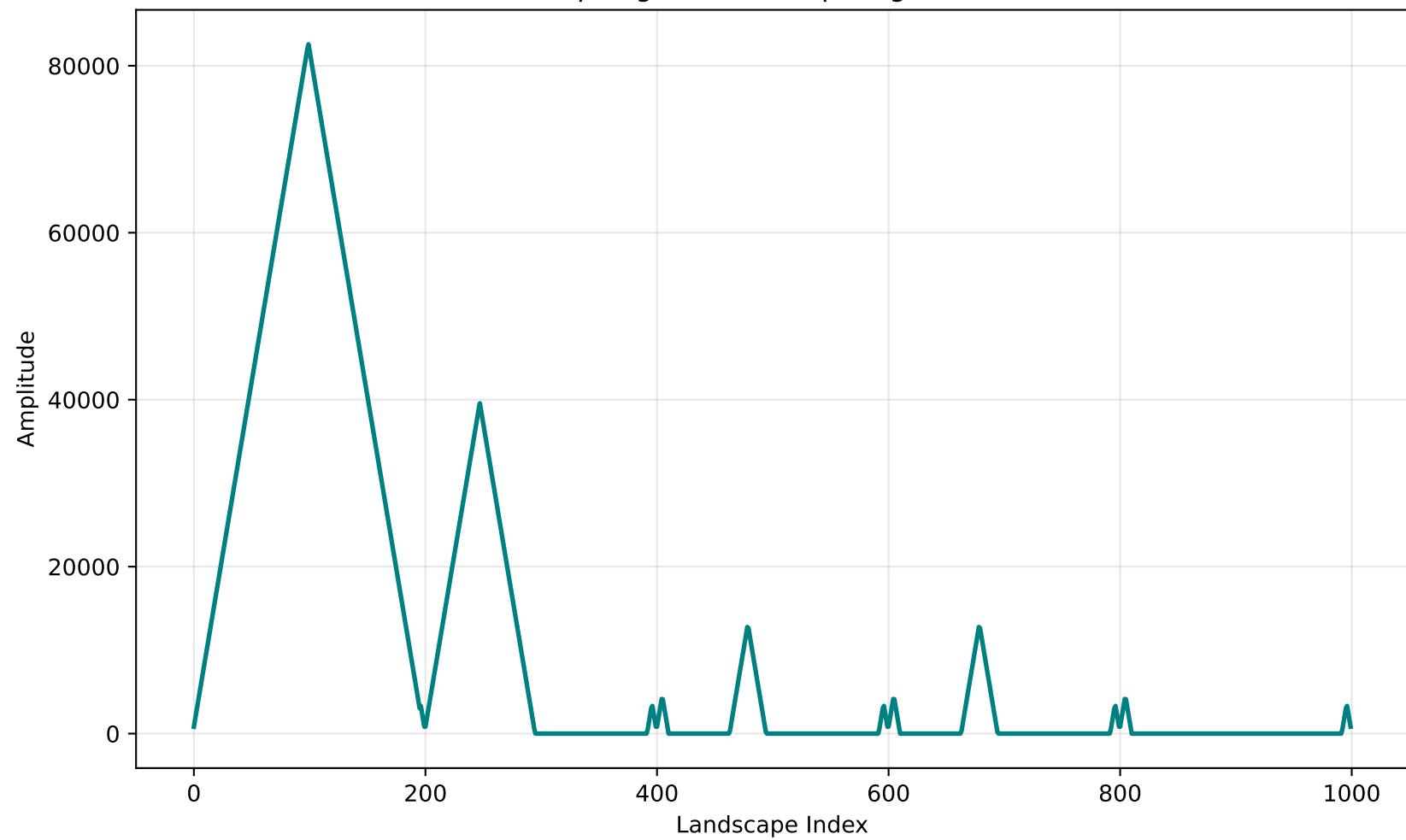
H1: Loops / Voids



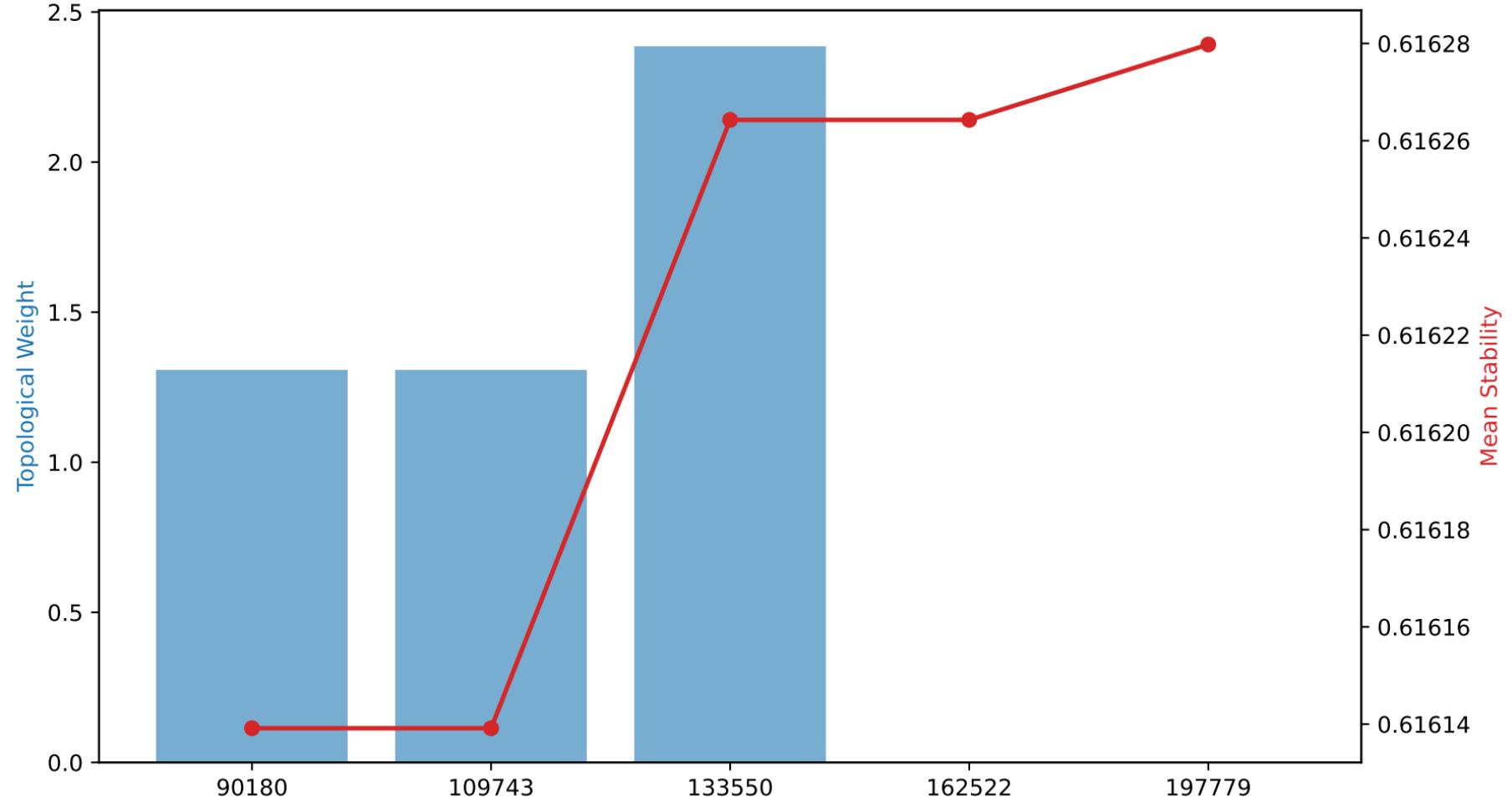
# Persistence Diagram



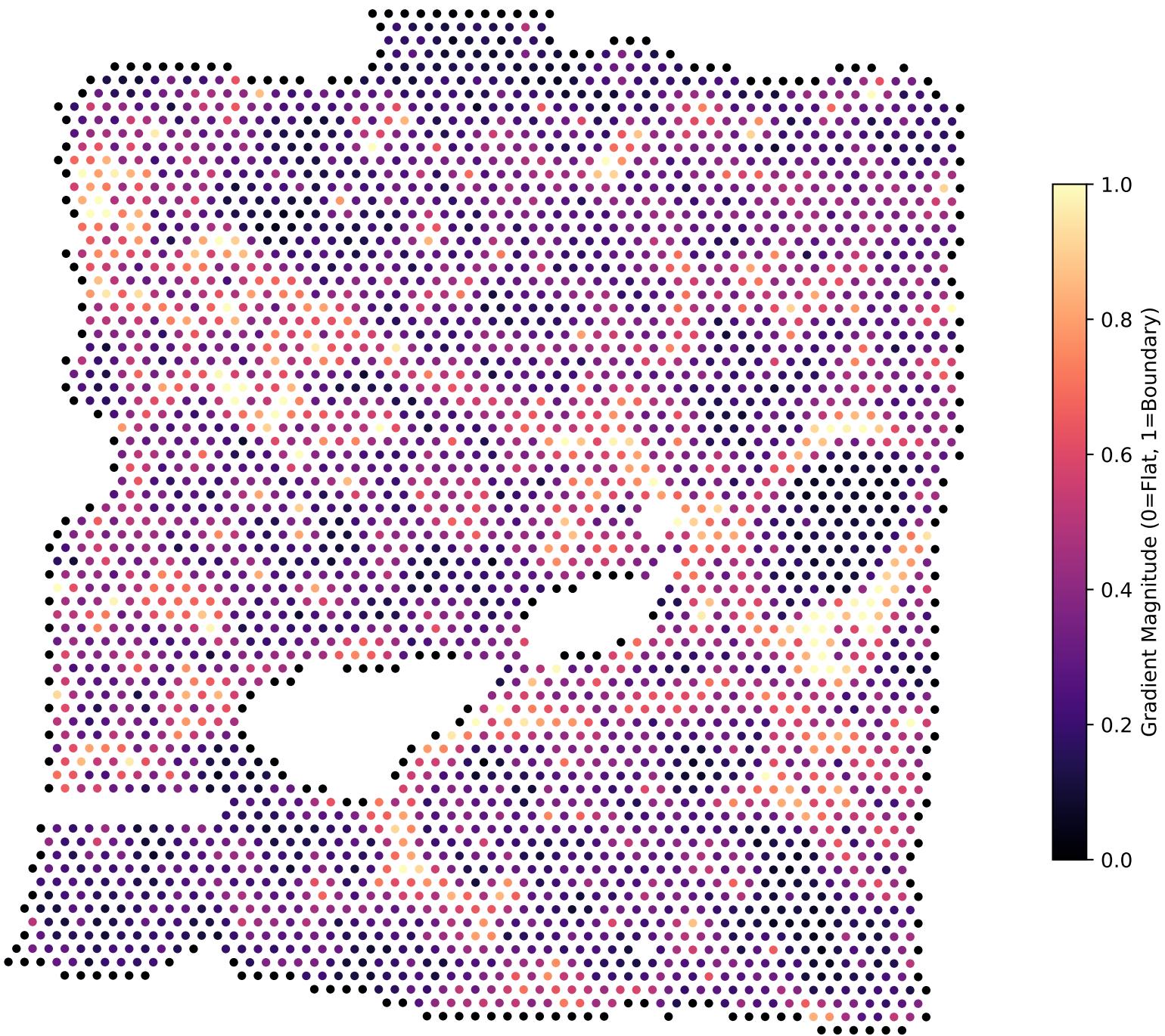
## Topological Landscape Signature



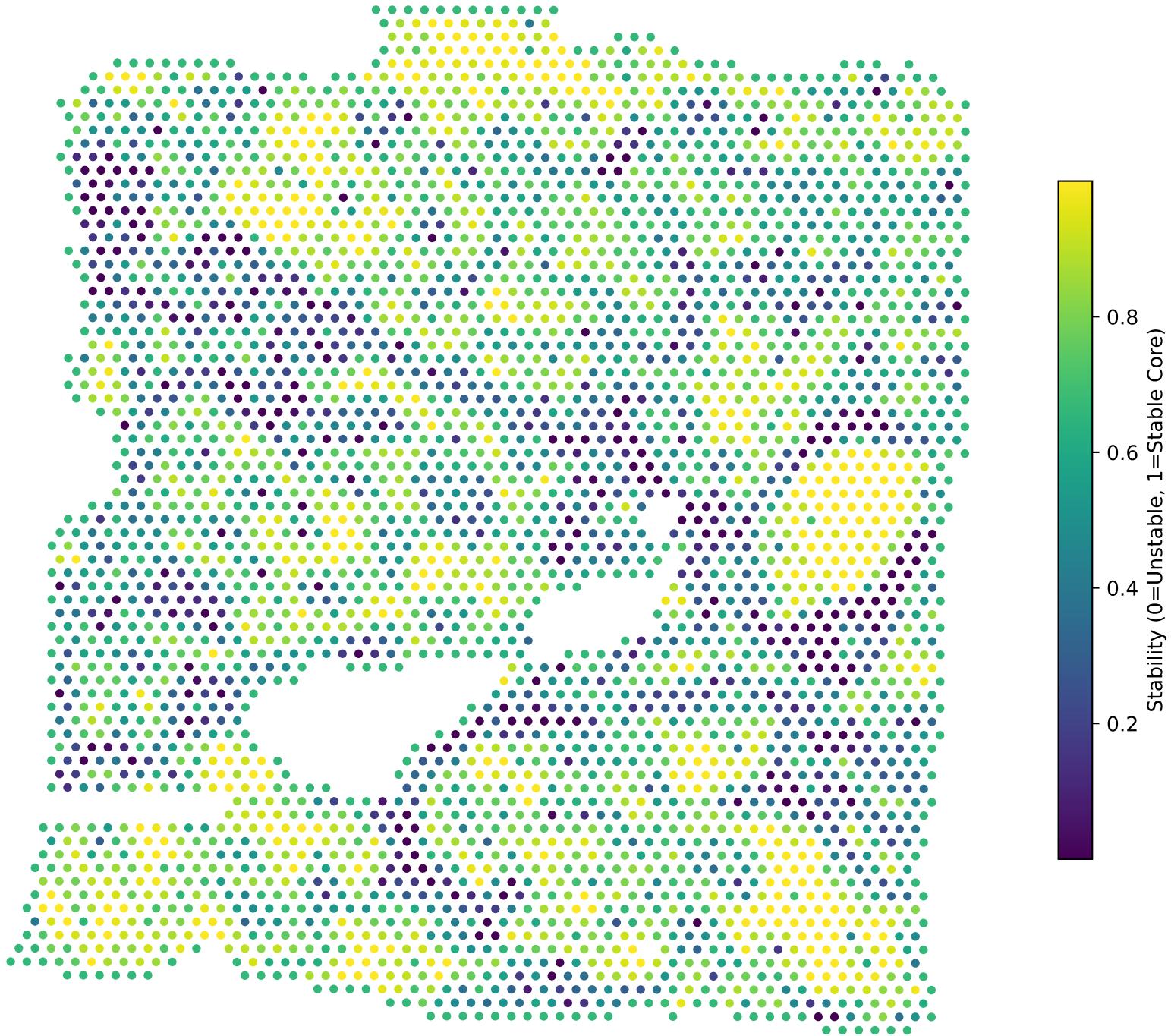
## Scale Selection Rationale



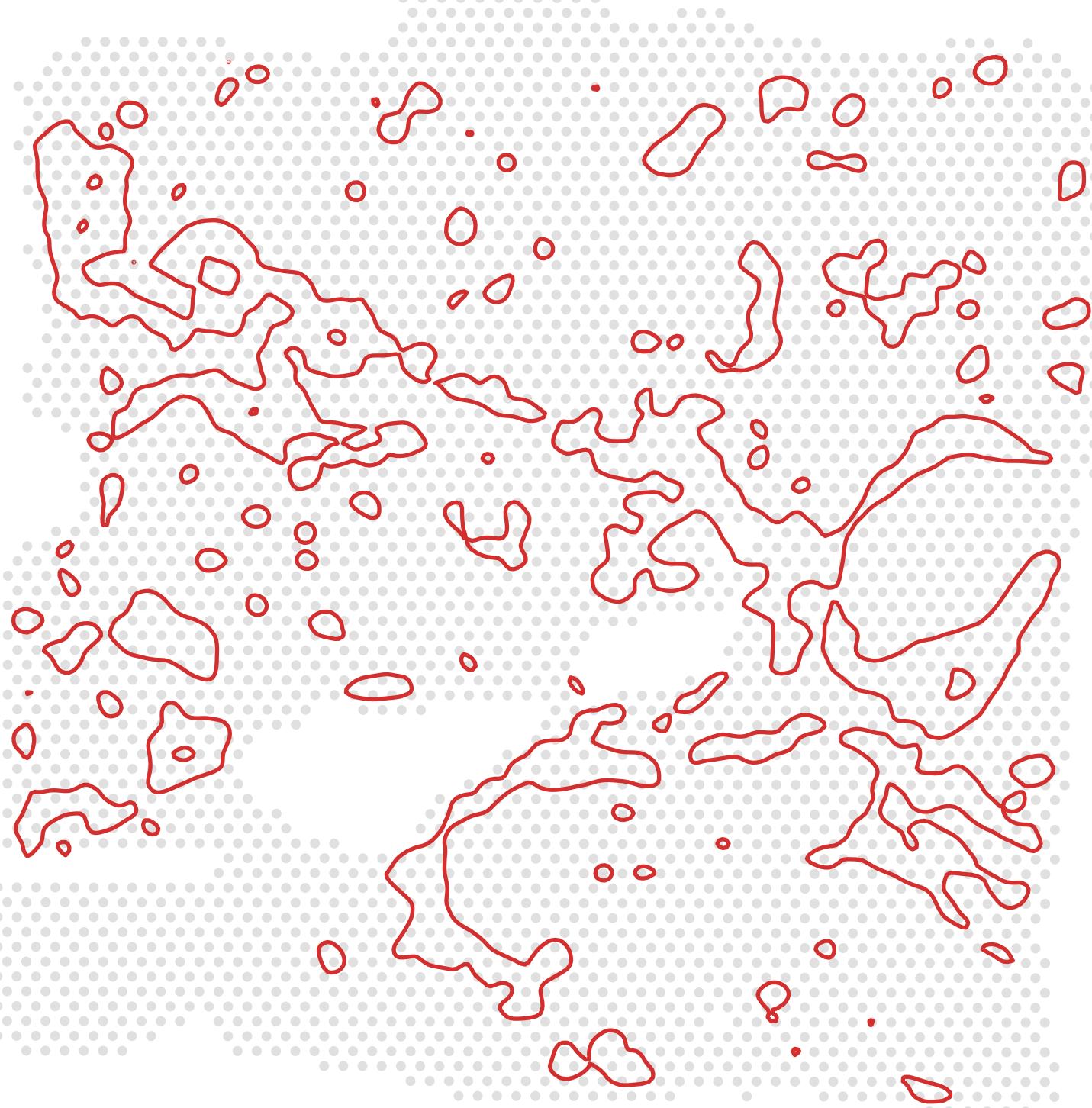
# Topological Walls (Frontiers)



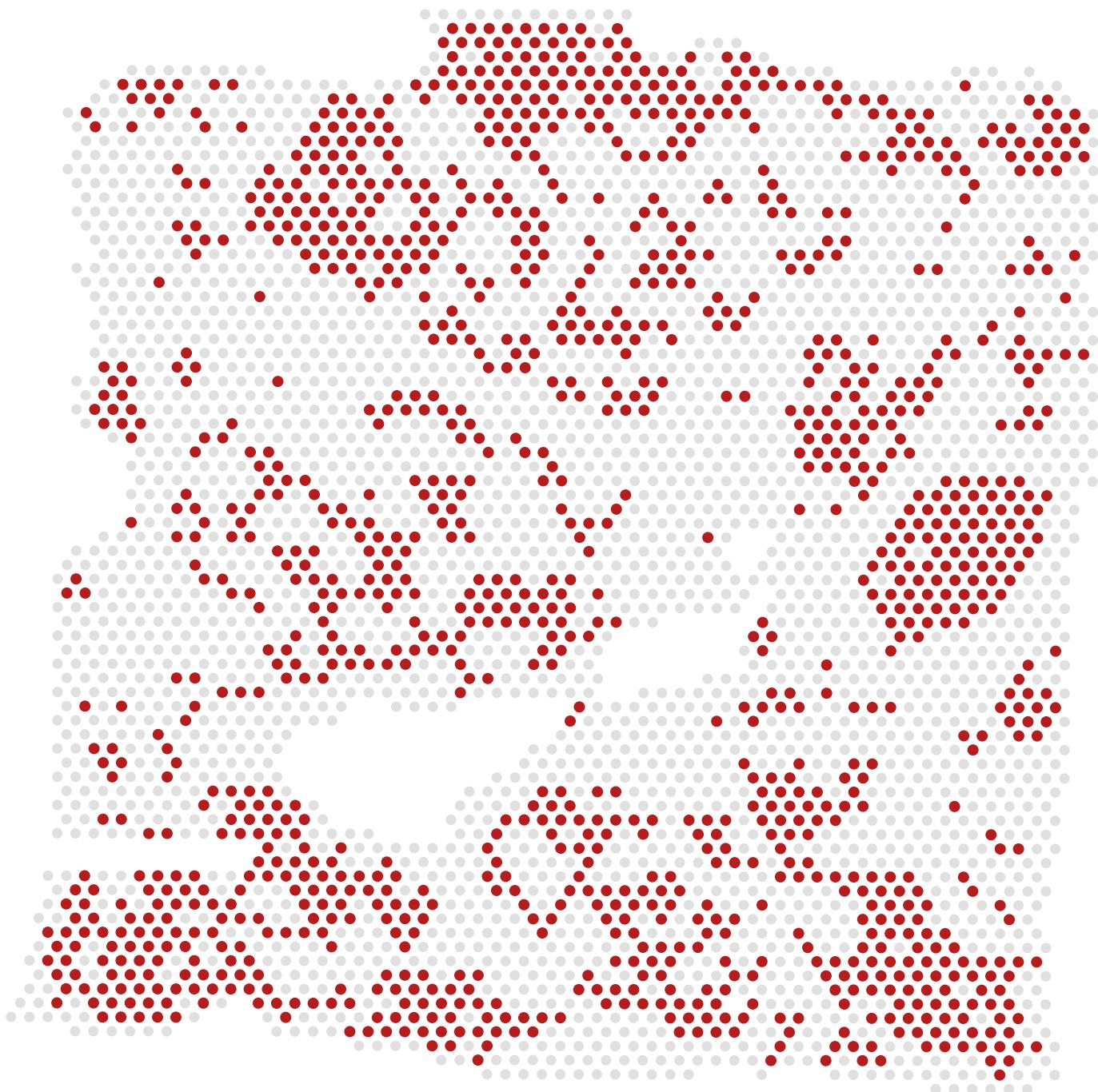
# Stability Landscape (Energy)



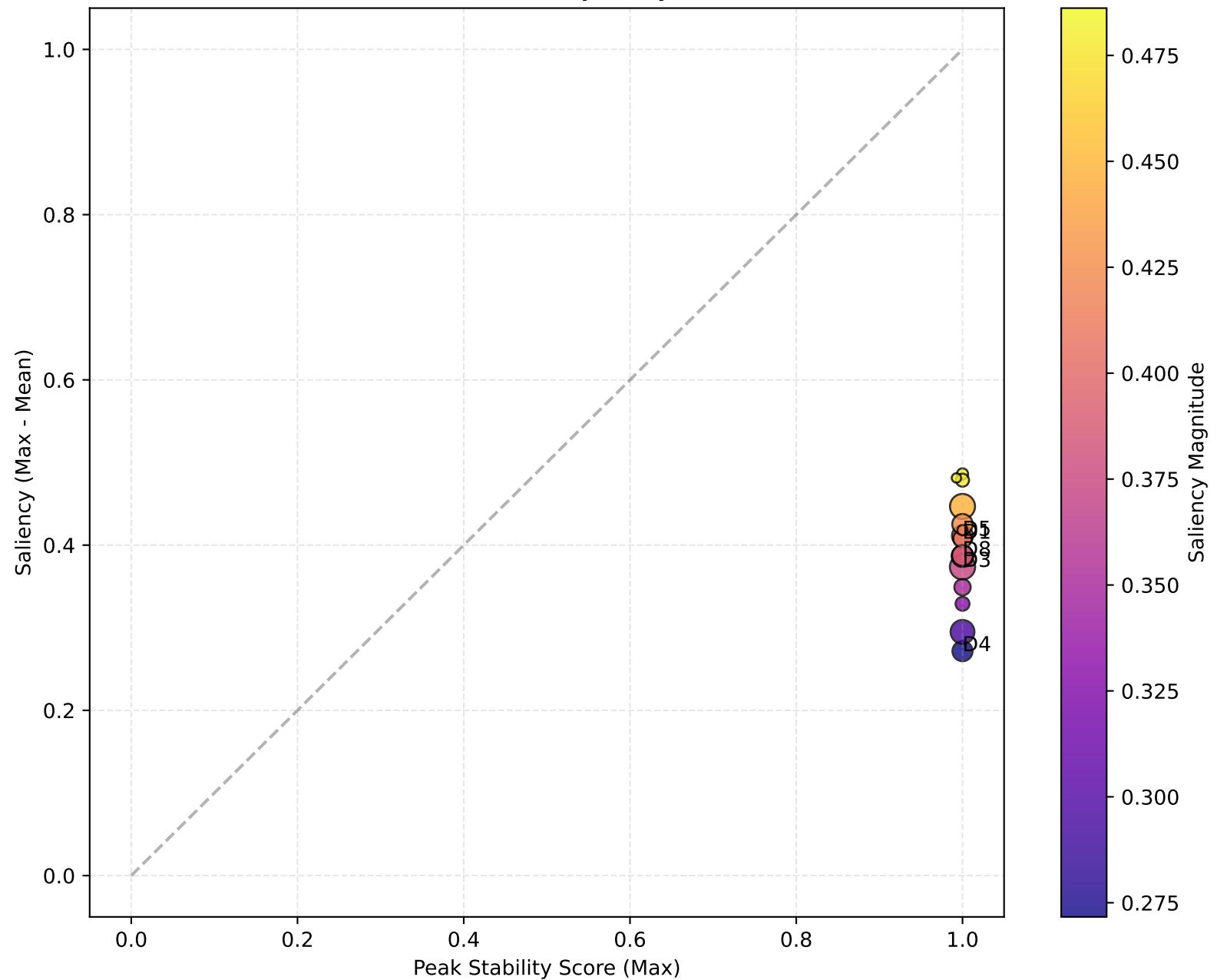
Basin Decomposition (Red = Walls)



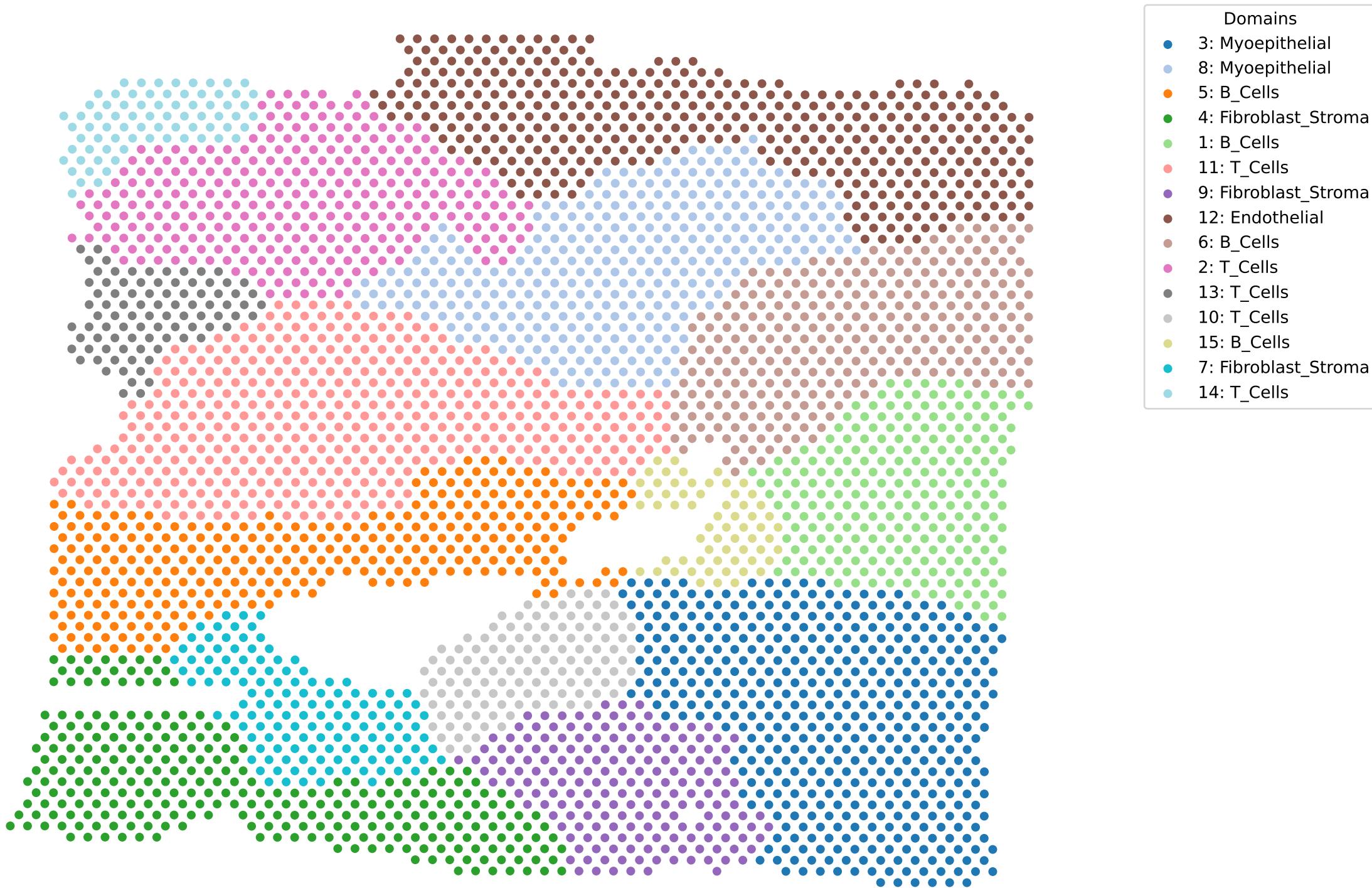
Robust Stability Cores (1313 spots)



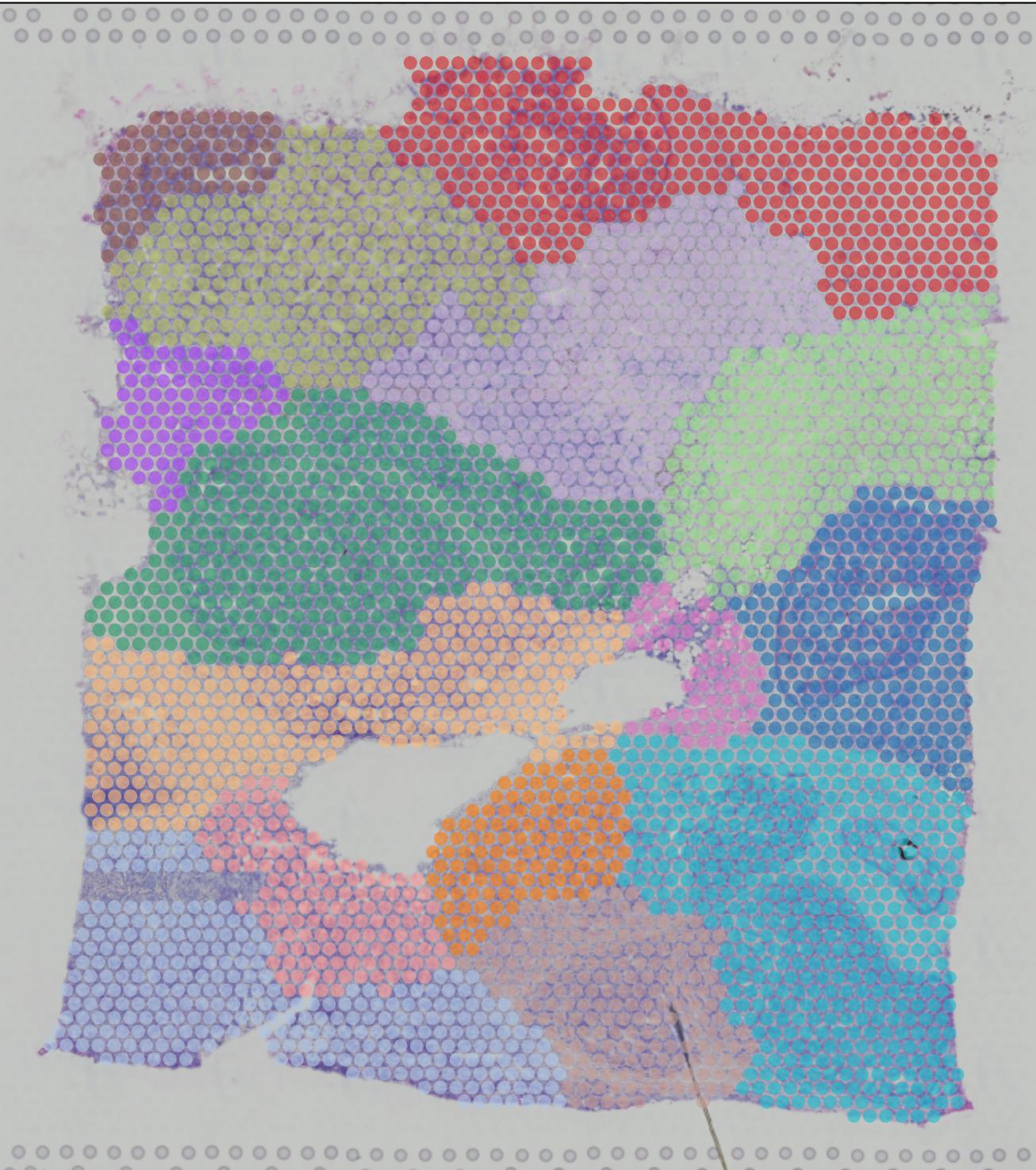
# Domain Saliency Analysis



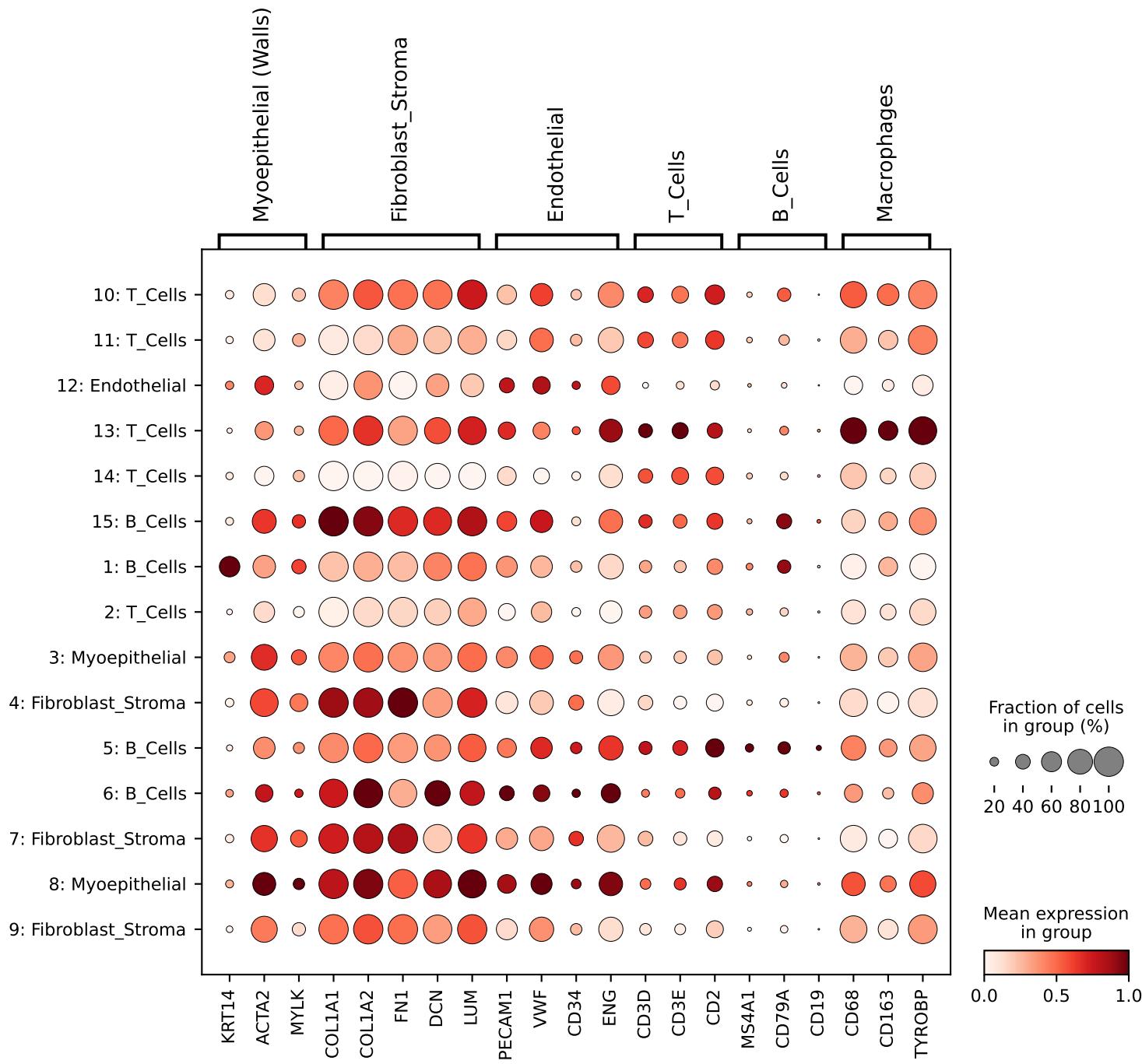
# Final Topological Domains (Solid Map)



# Domain Overlay on Histology



# Biological Validation



# Stability Gradient Flow

