

PERSIST Analysis Report

Tissue Type: breast_cancer
Run Date: 2026-01-22 22:29

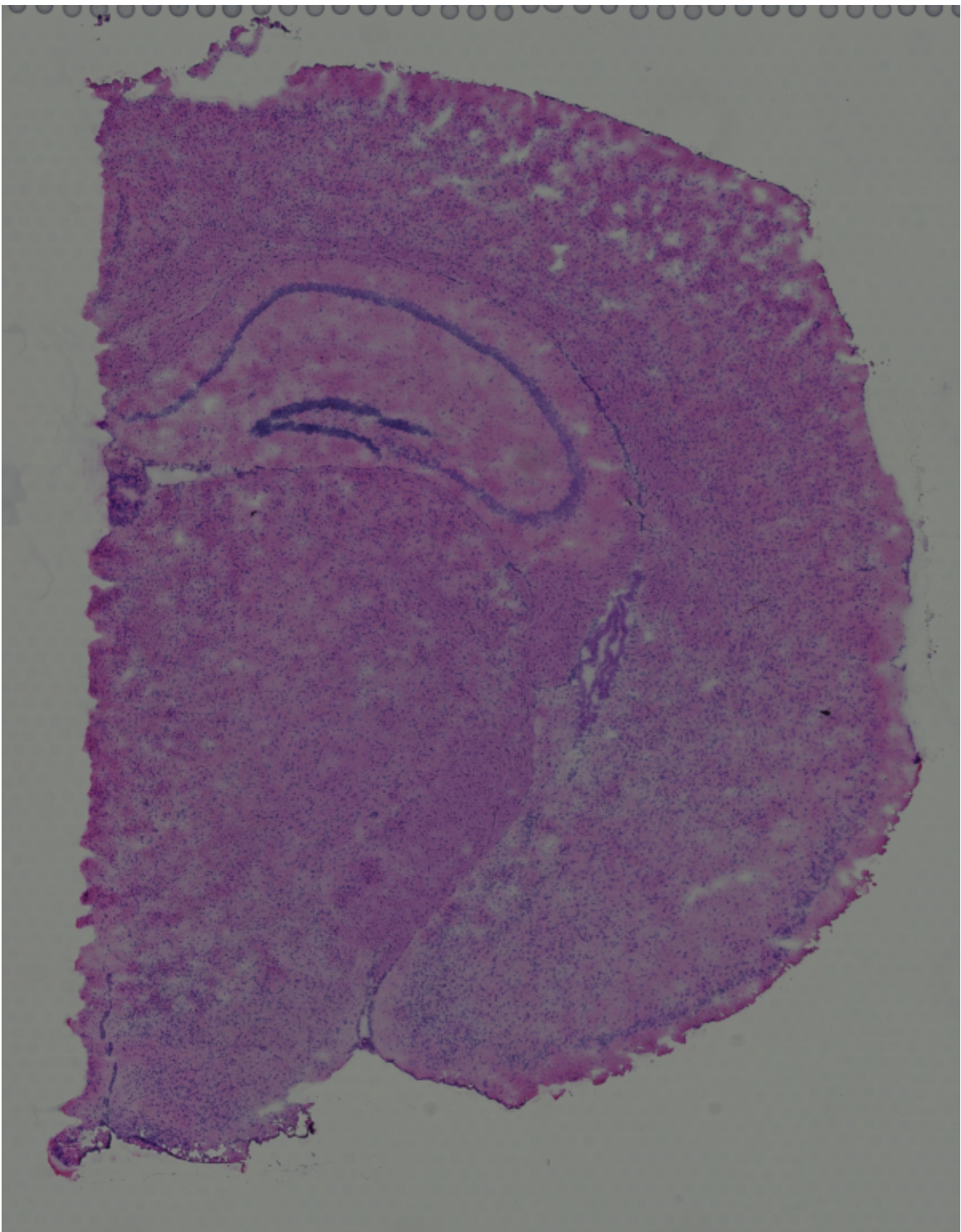
Metrics Summary:

- Scale Local Coherence (SLC): 1.0000 (>0.9 = Robust)
- Orthogonality (TOI): 0.7213
- Baseline ARI: 0.4082

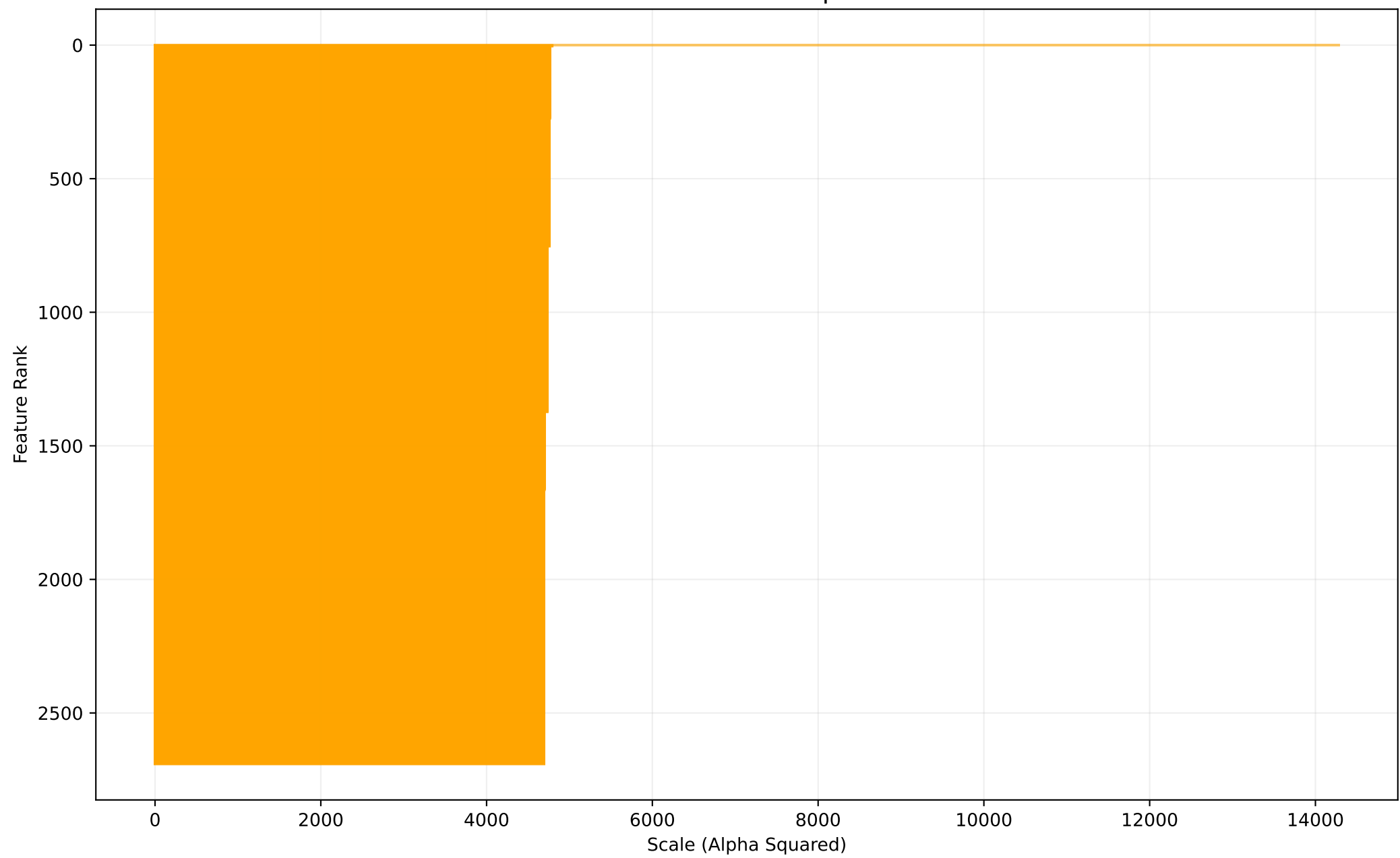
Topology Statistics:

- H1 Features (Loops): 5157
- Significant Cores: 933
- Mean Stability: 0.672

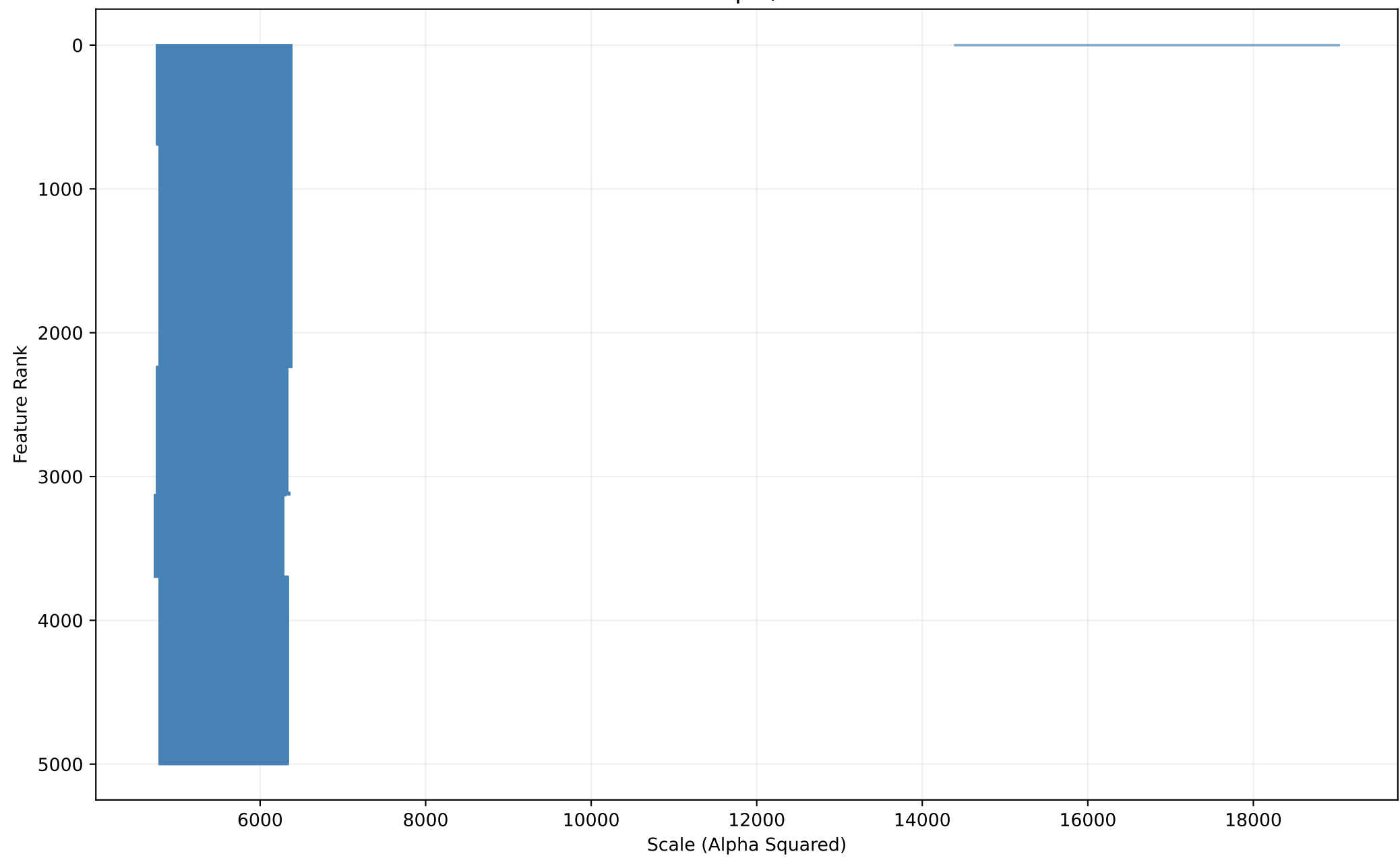
H&E Histology



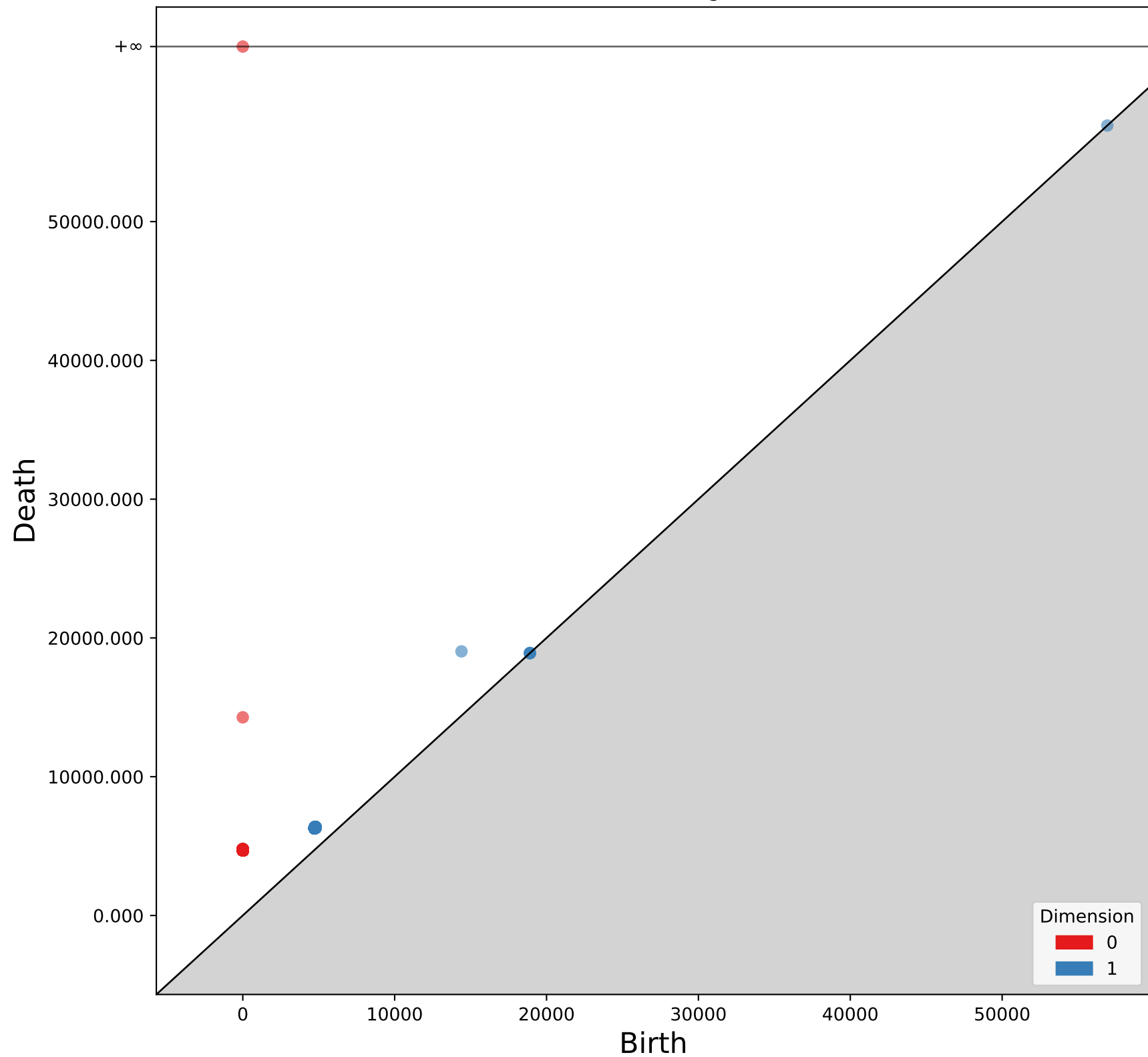
H0: Connected Components



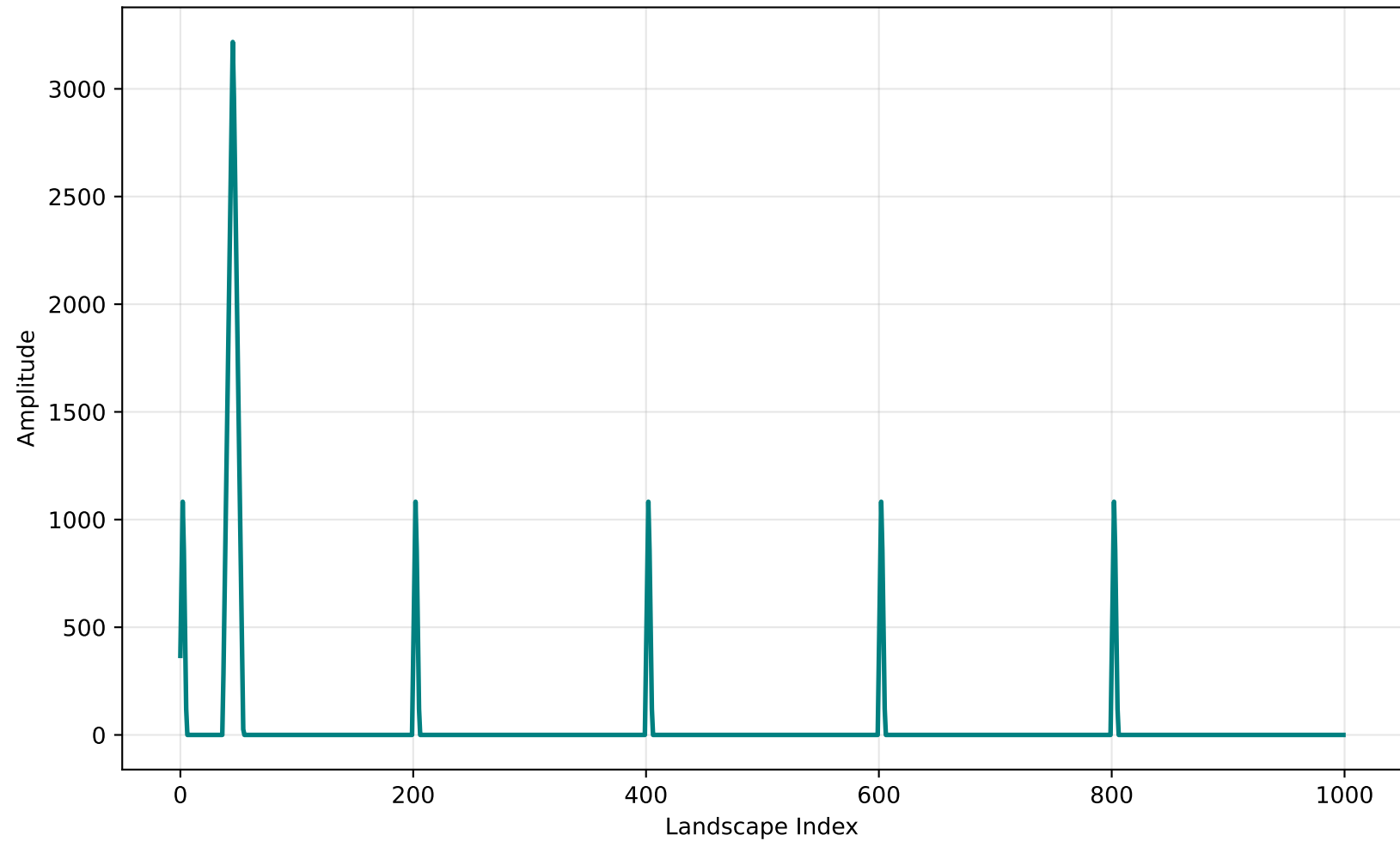
H1: Loops / Voids



Persistence Diagram

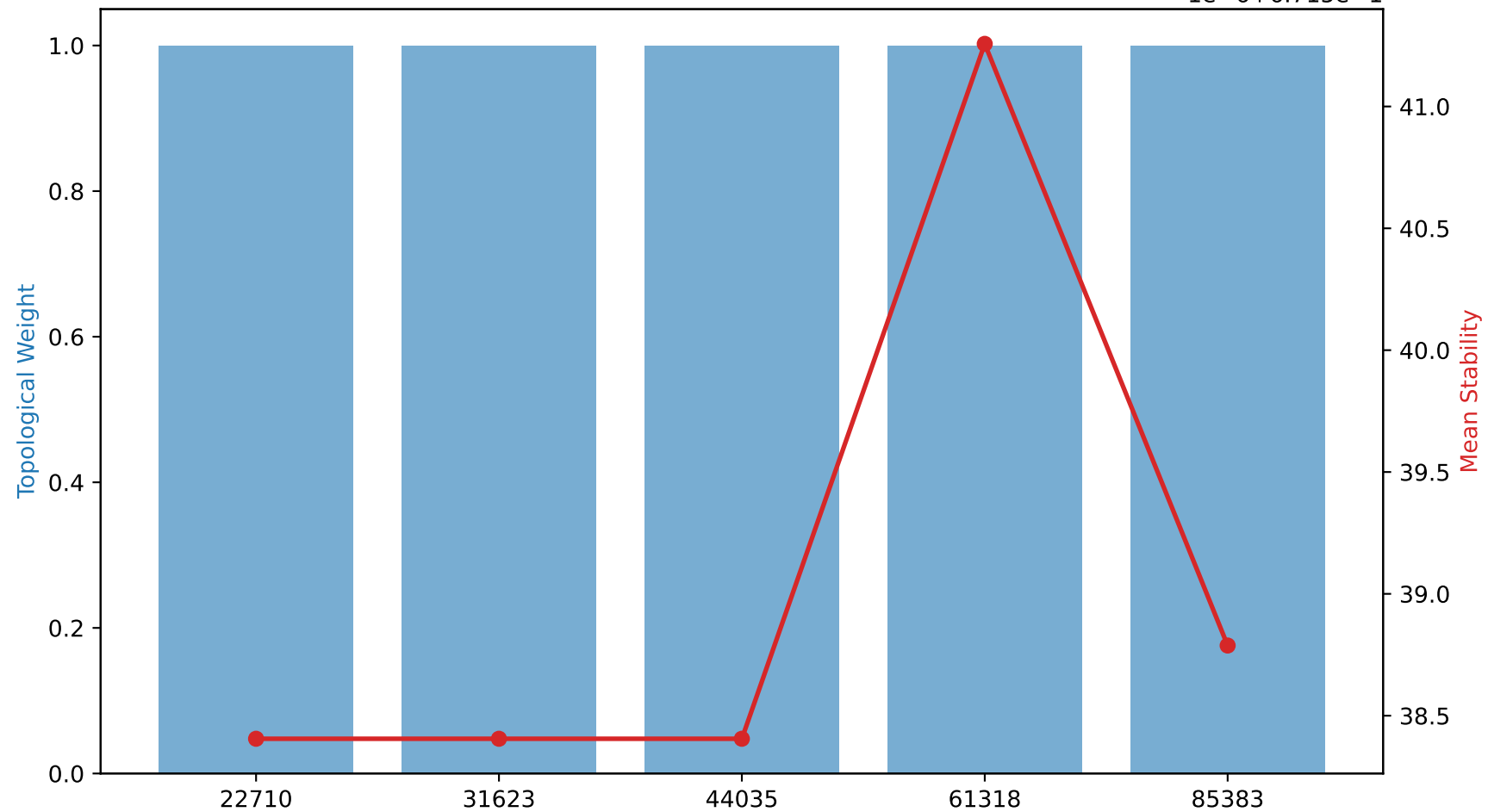


Topological Landscape Signature

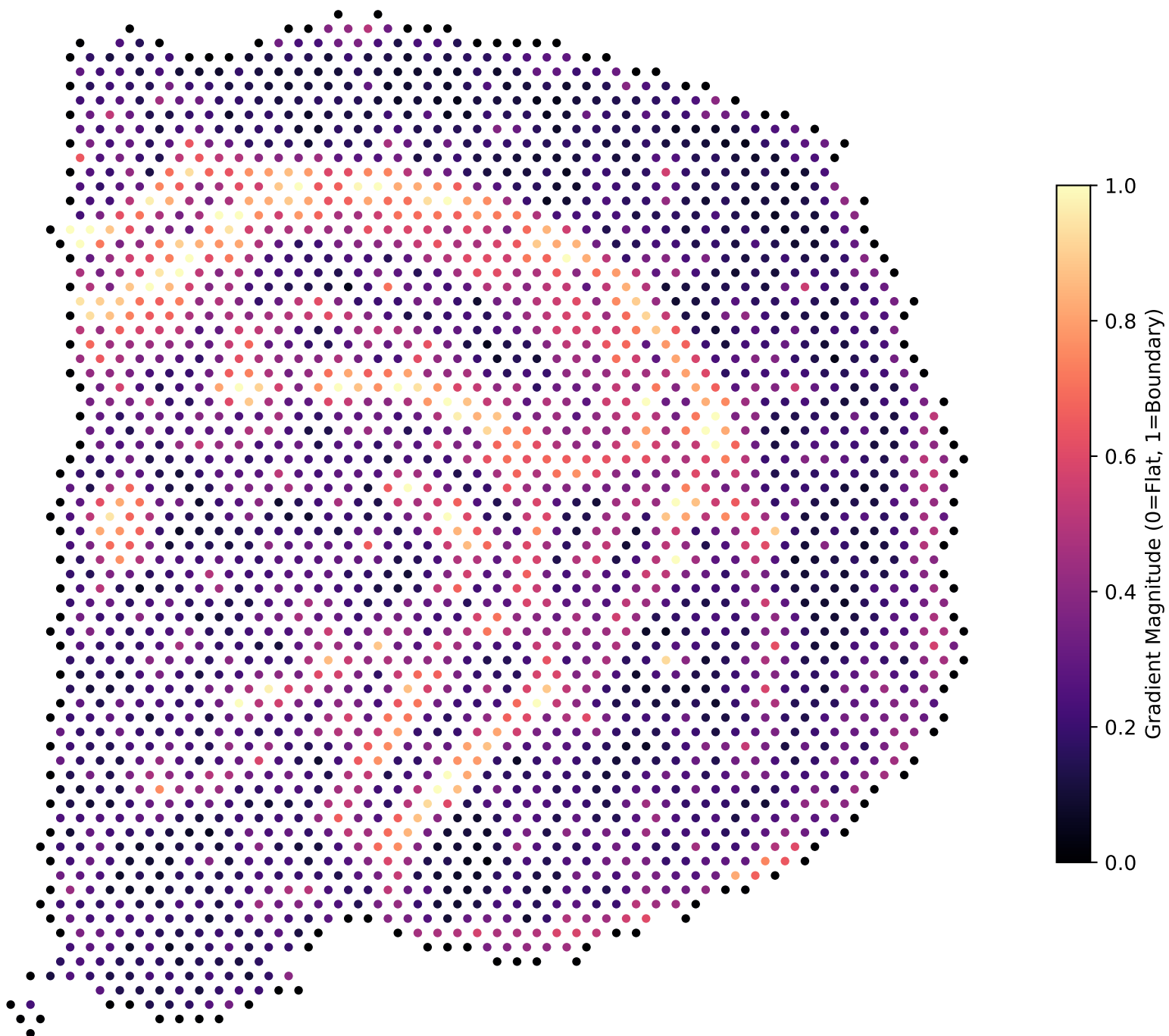


Scale Selection Rationale

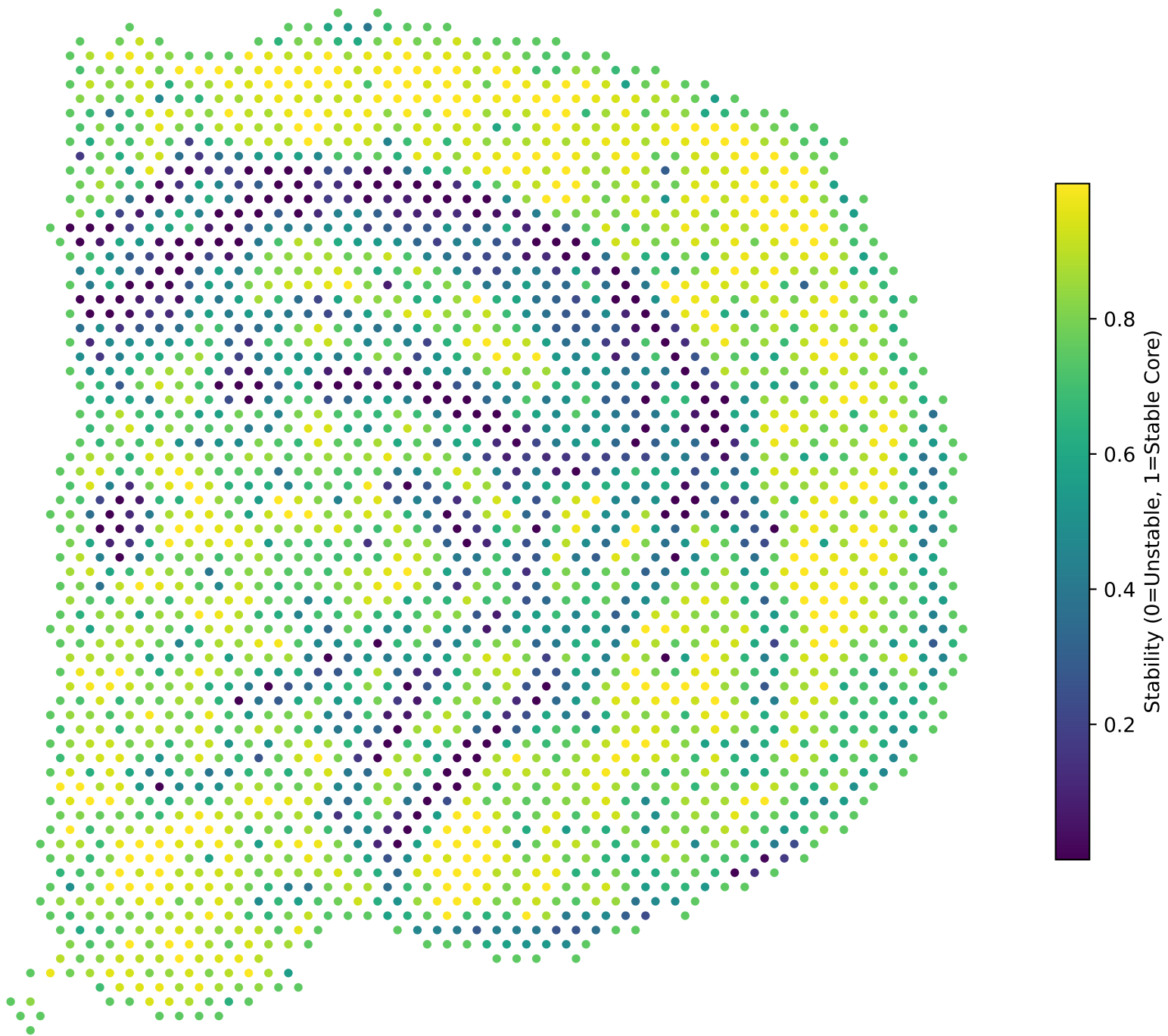
$1e-6+6.715e-1$



Topological Walls (Frontiers)



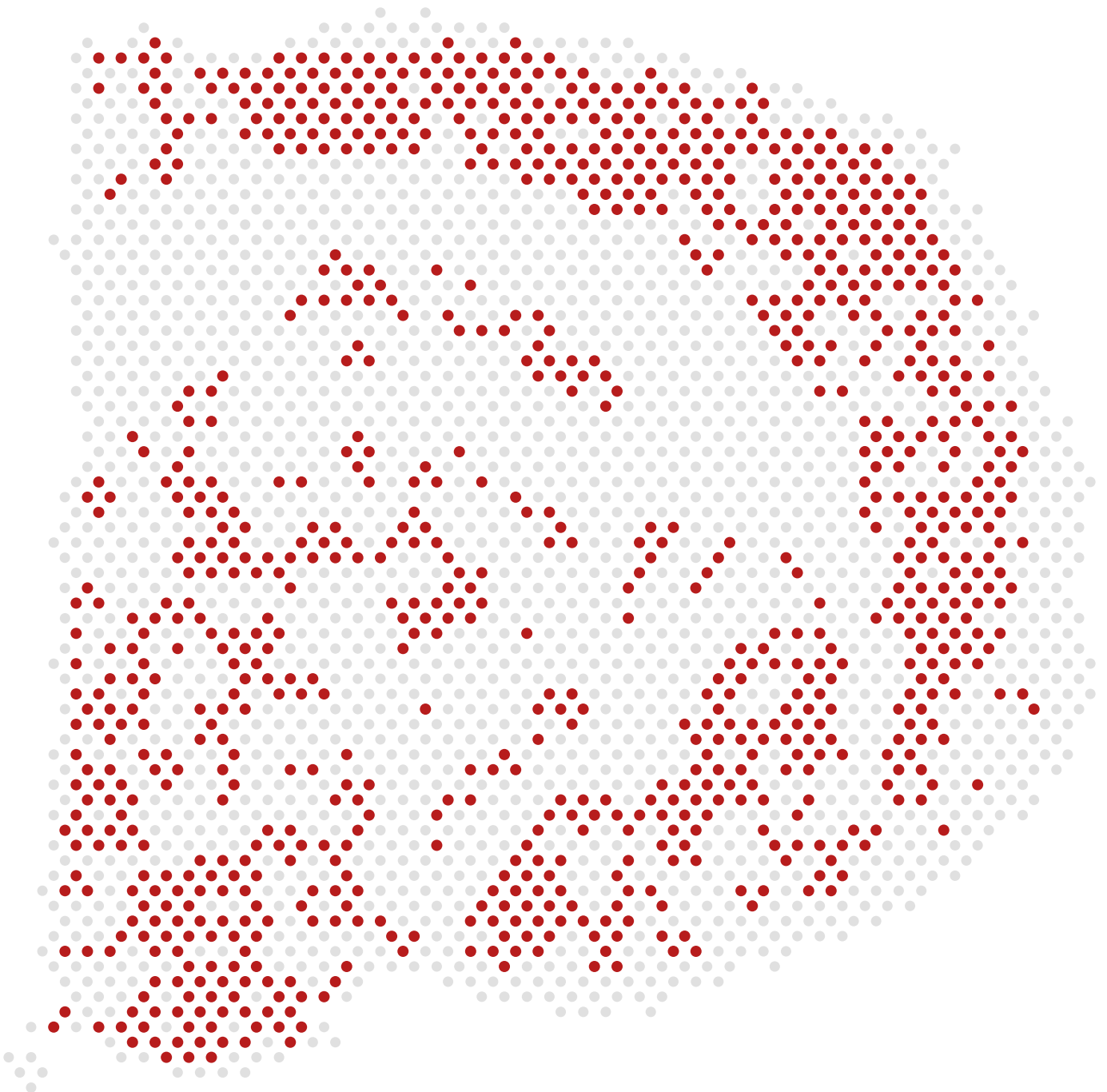
Stability Landscape (Energy)



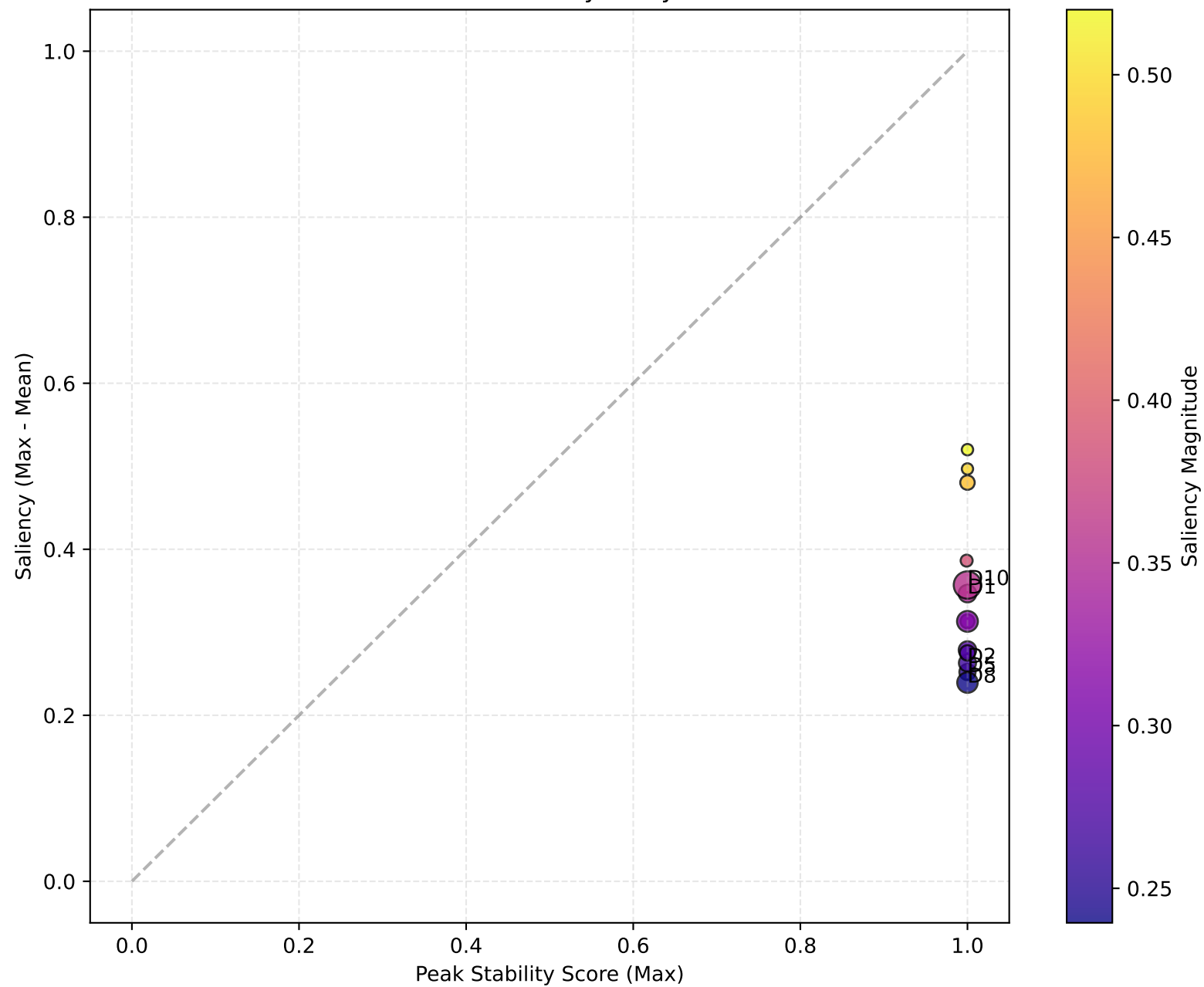
Basin Decomposition (Red = Walls)



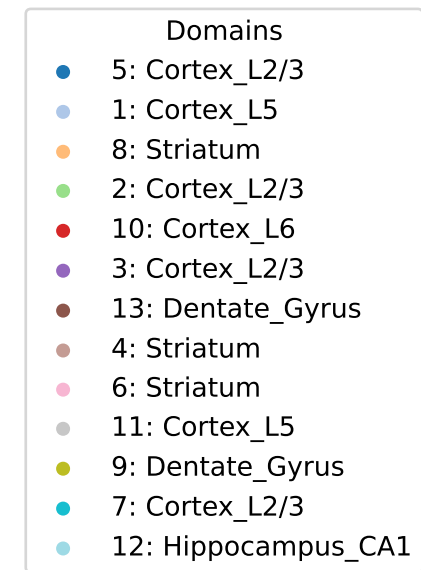
Robust Stability Cores (933 spots)



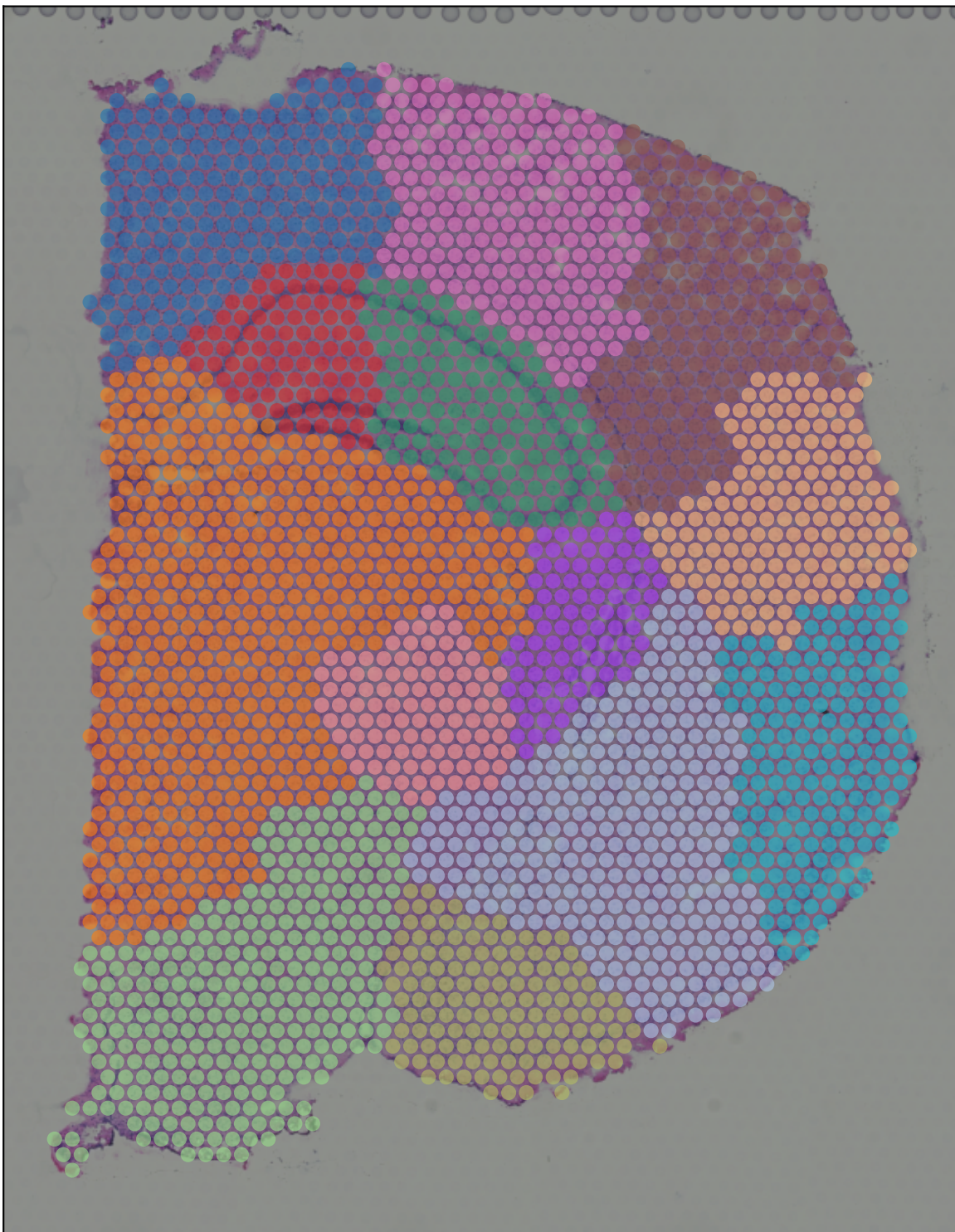
Domain Saliency Analysis



Final Topological Domains (Solid Map)

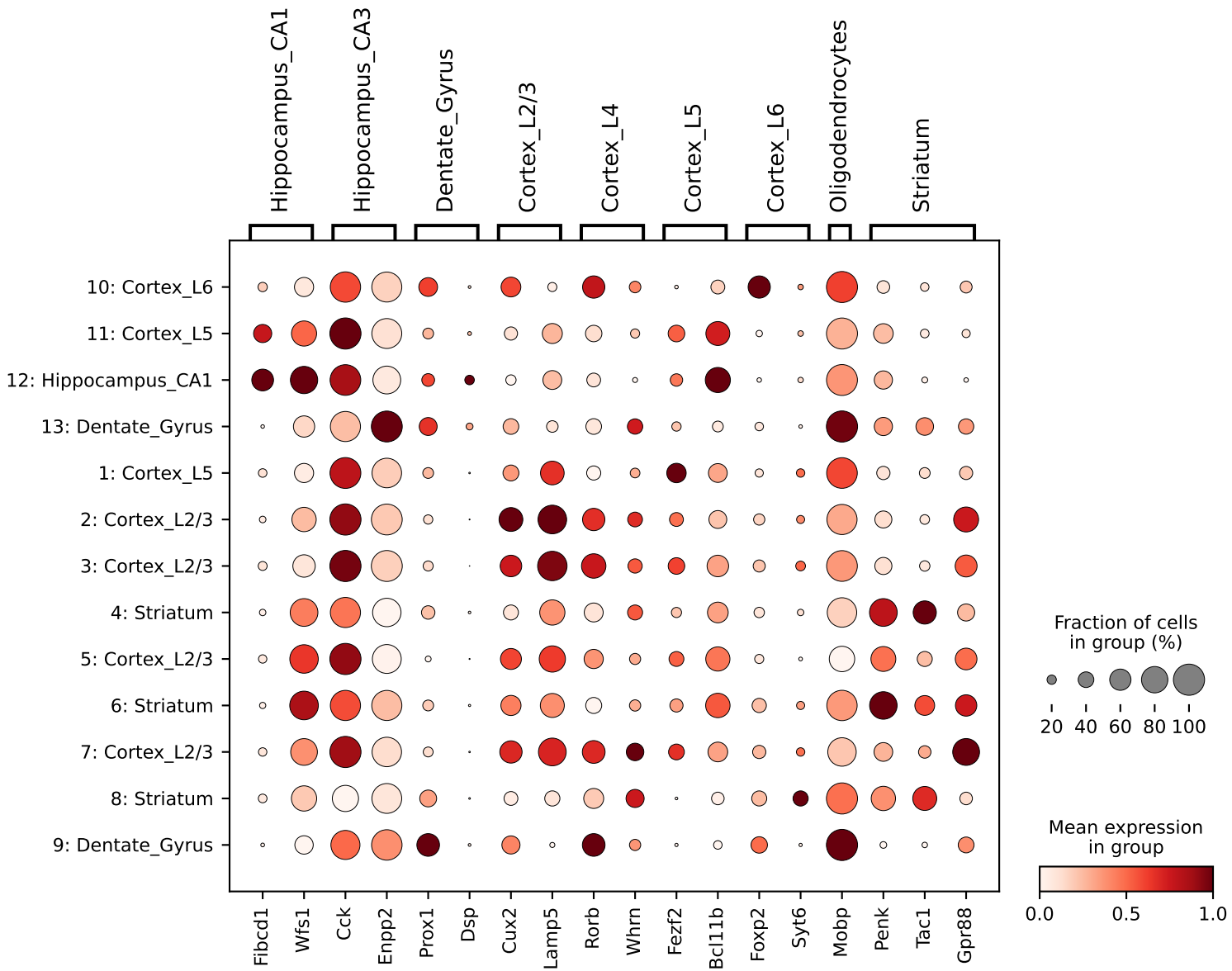


Domain Overlay on Histology



- 1: Cortex_L5
- 10: Cortex_L6
- 11: Cortex_L5
- 12: Hippocampus_CA1
- 13: Dentate_Gyrus
- 2: Cortex_L2/3
- 3: Cortex_L2/3
- 4: Striatum
- 5: Cortex_L2/3
- 6: Striatum
- 7: Cortex_L2/3
- 8: Striatum
- 9: Dentate_Gyrus

Biological Validation



Stability Gradient Flow

