MASARYKOVA UNIVERZITA

PŘÍRODOVĚDECKÁ FAKULTA

Graph-based modelling of spatial distribution of lymphocytes

Bakalářská práce

ANETA BÖHMOVÁ

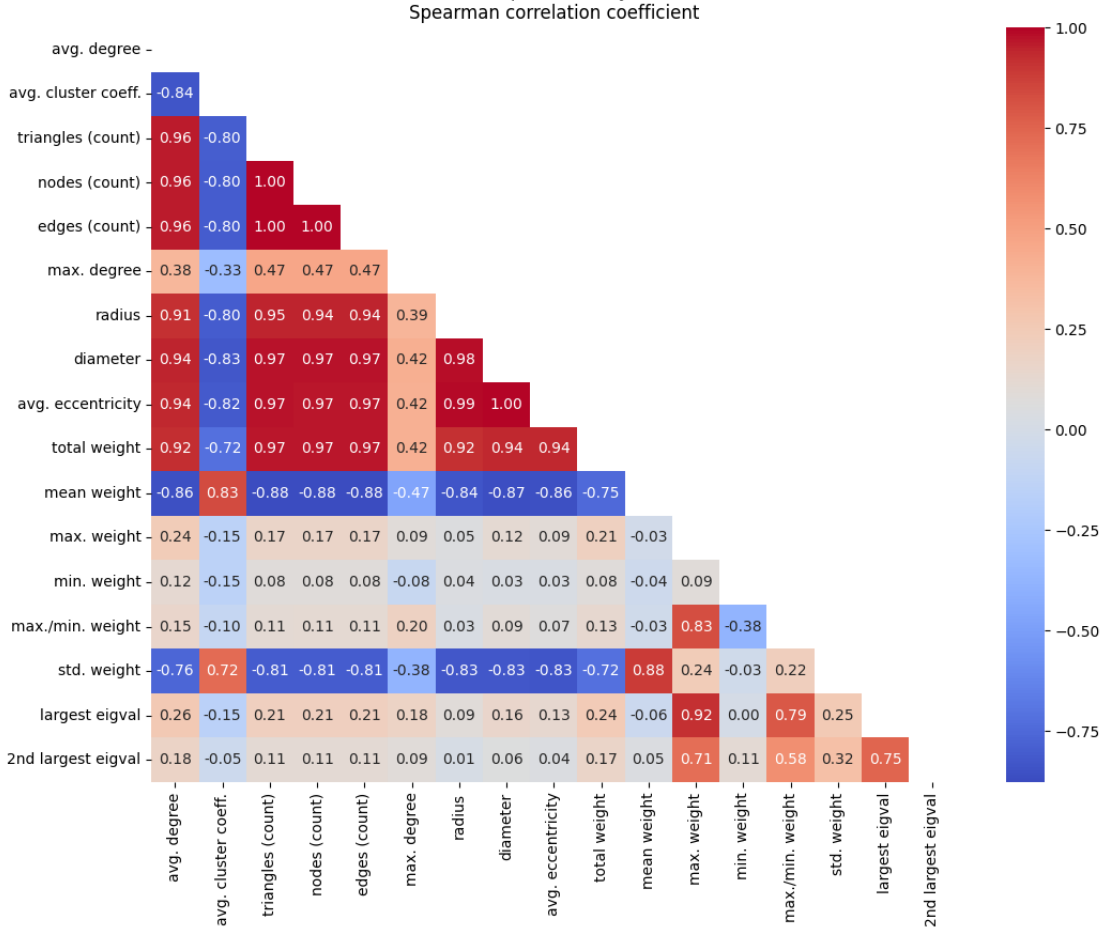
Vedoucí práce: doc. Ing. Vlad Popovici, PhD

RECETOX
Program Matematická biologie a biomedicína

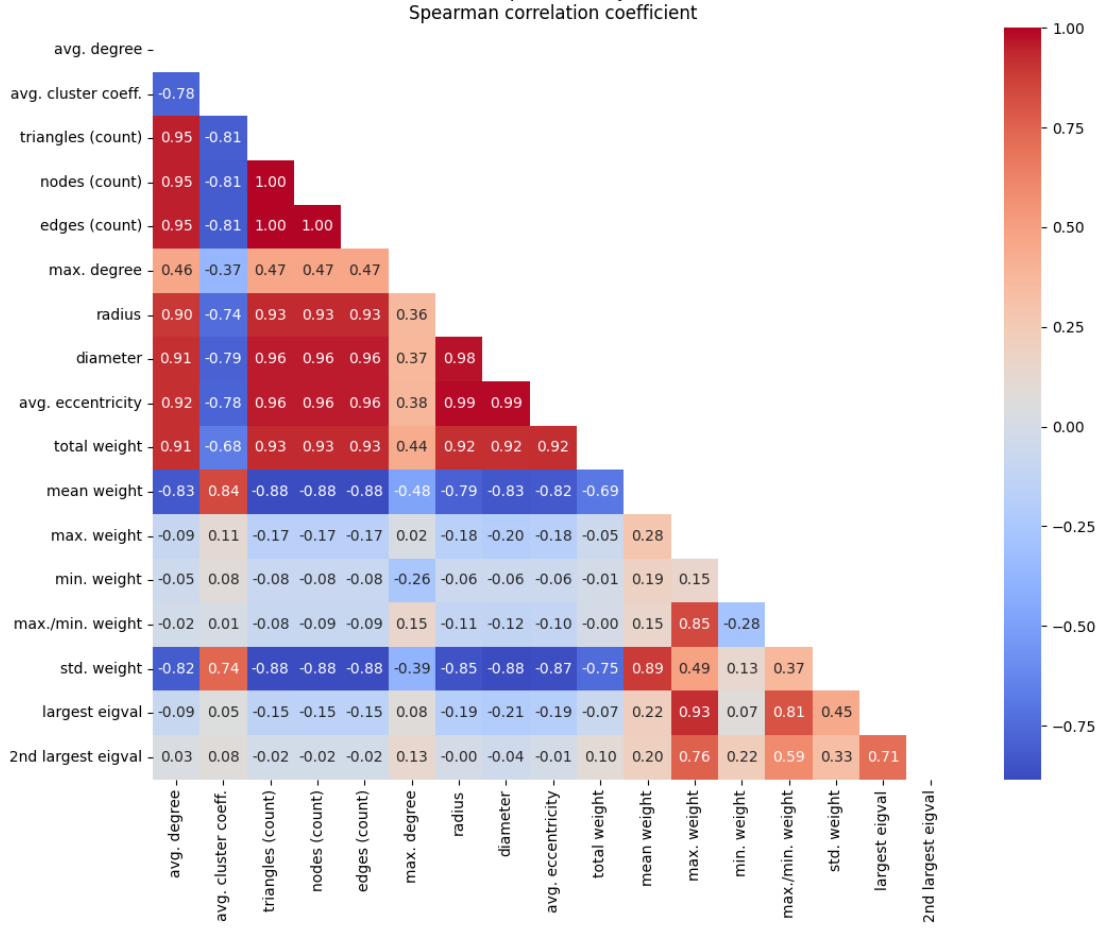
Brno 2024

Correlation matrices

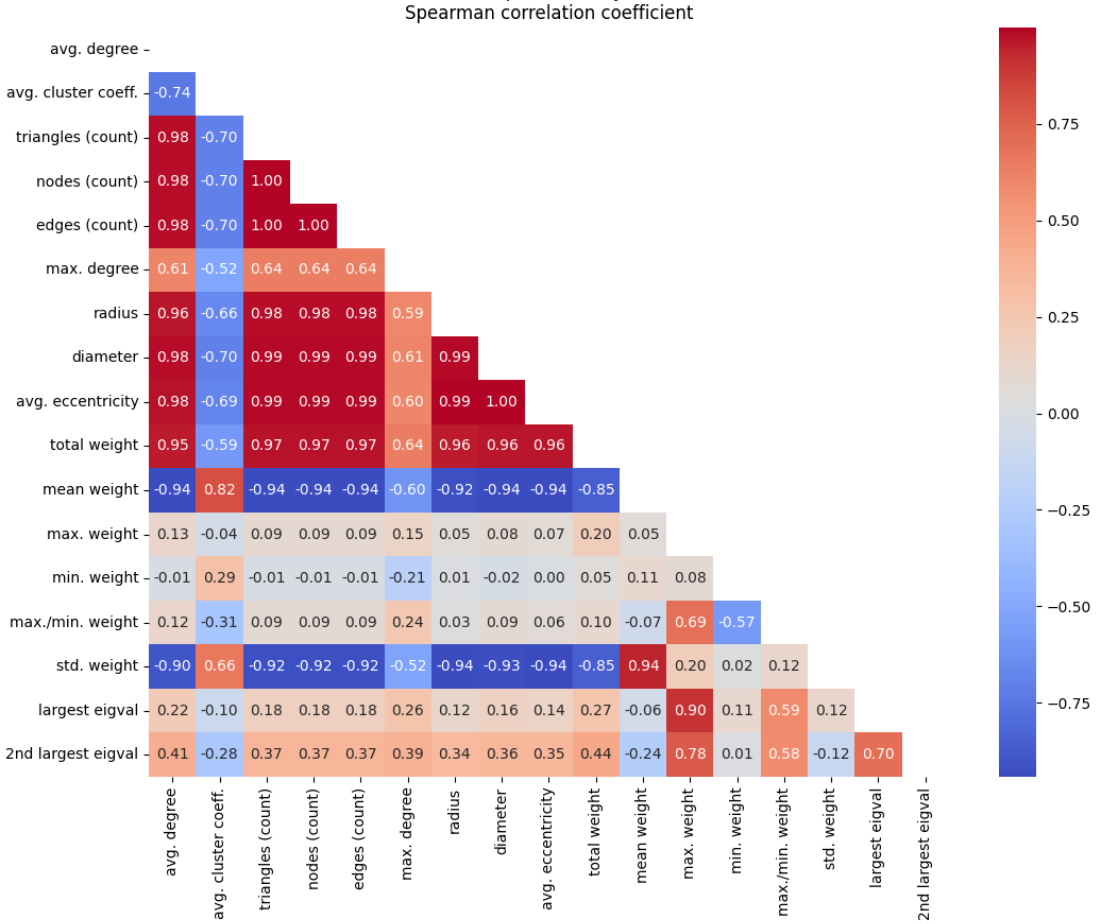
Correlation Matrix - CD8 positive cells
Graph: Delaunay
Spearman correlation coefficient



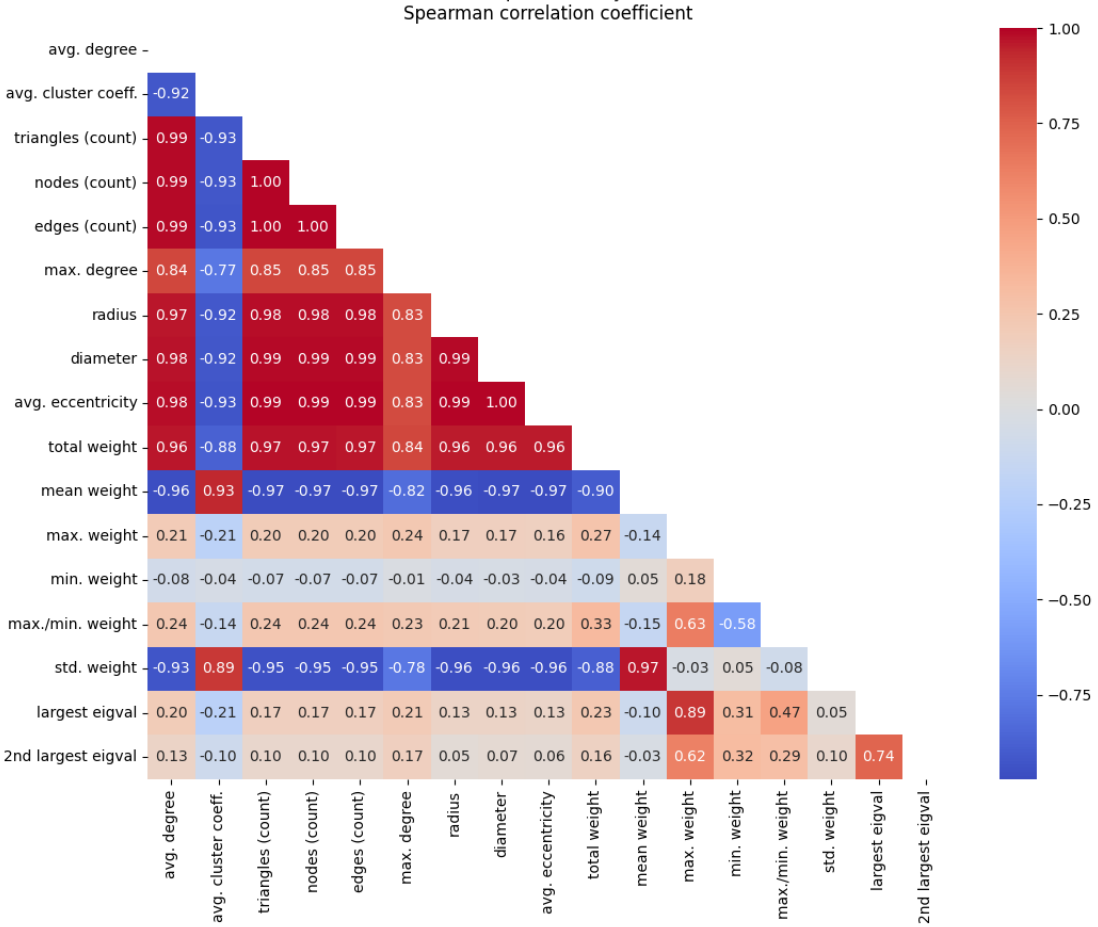
Correlation Matrix - CD3 positive cells
Graph: Delaunay
Spearman correlation coefficient



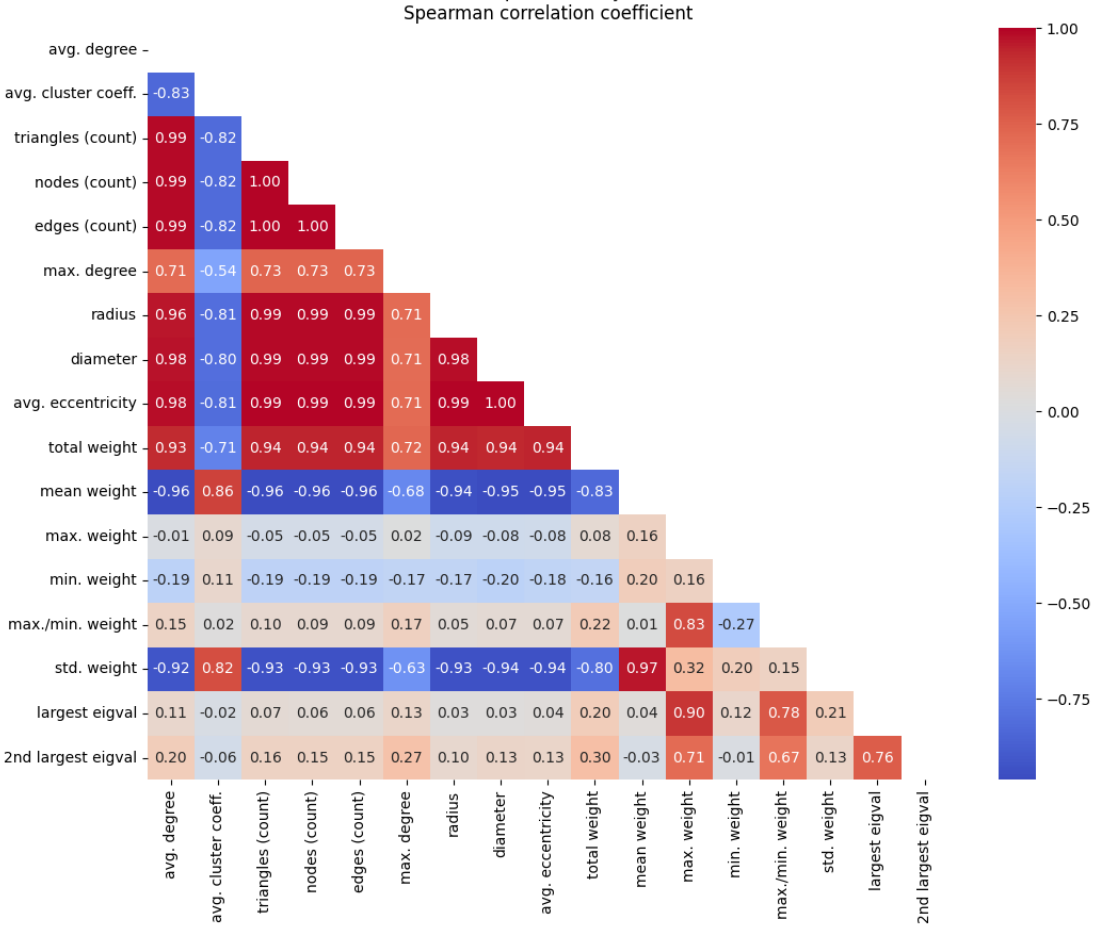
Correlation Matrix - CD45RO positive cells
Graph: Delaunay
Spearman correlation coefficient



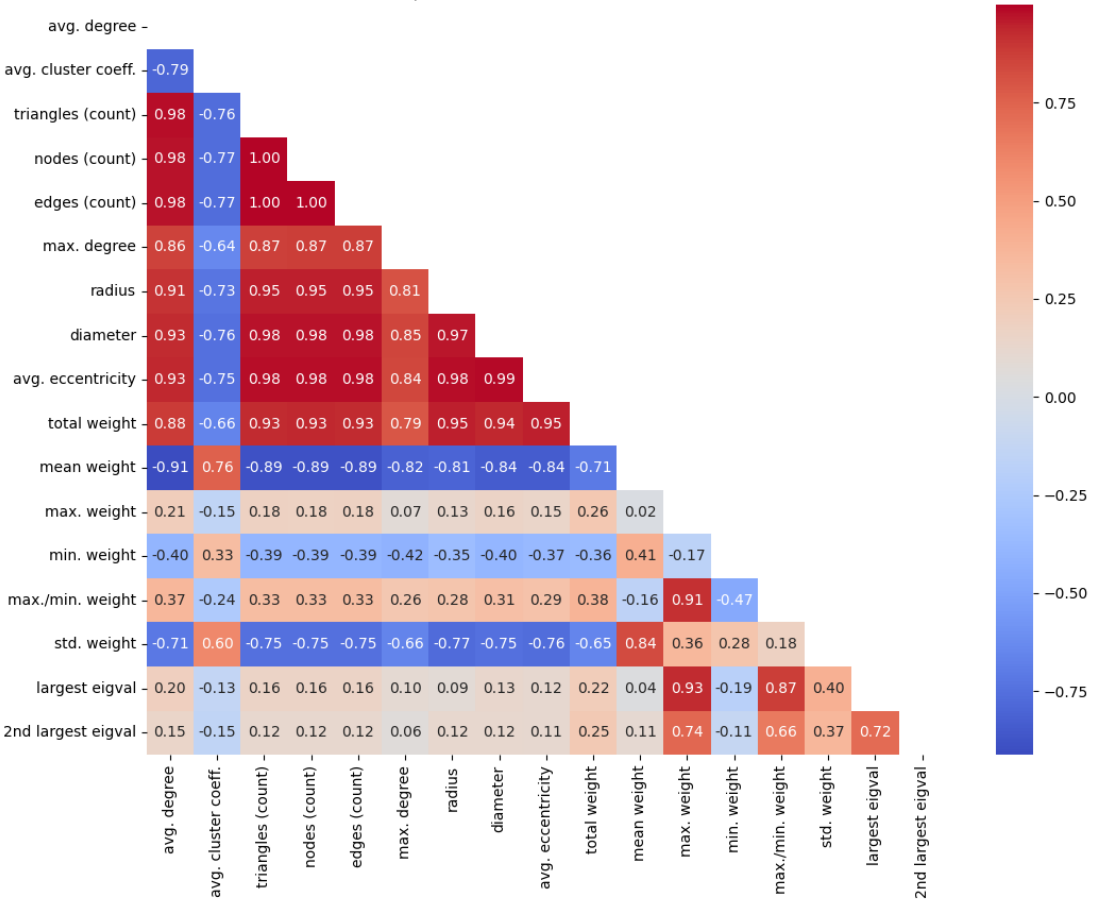
Correlation Matrix - CD68 positive cells
Graph: Delaunay
Spearman correlation coefficient

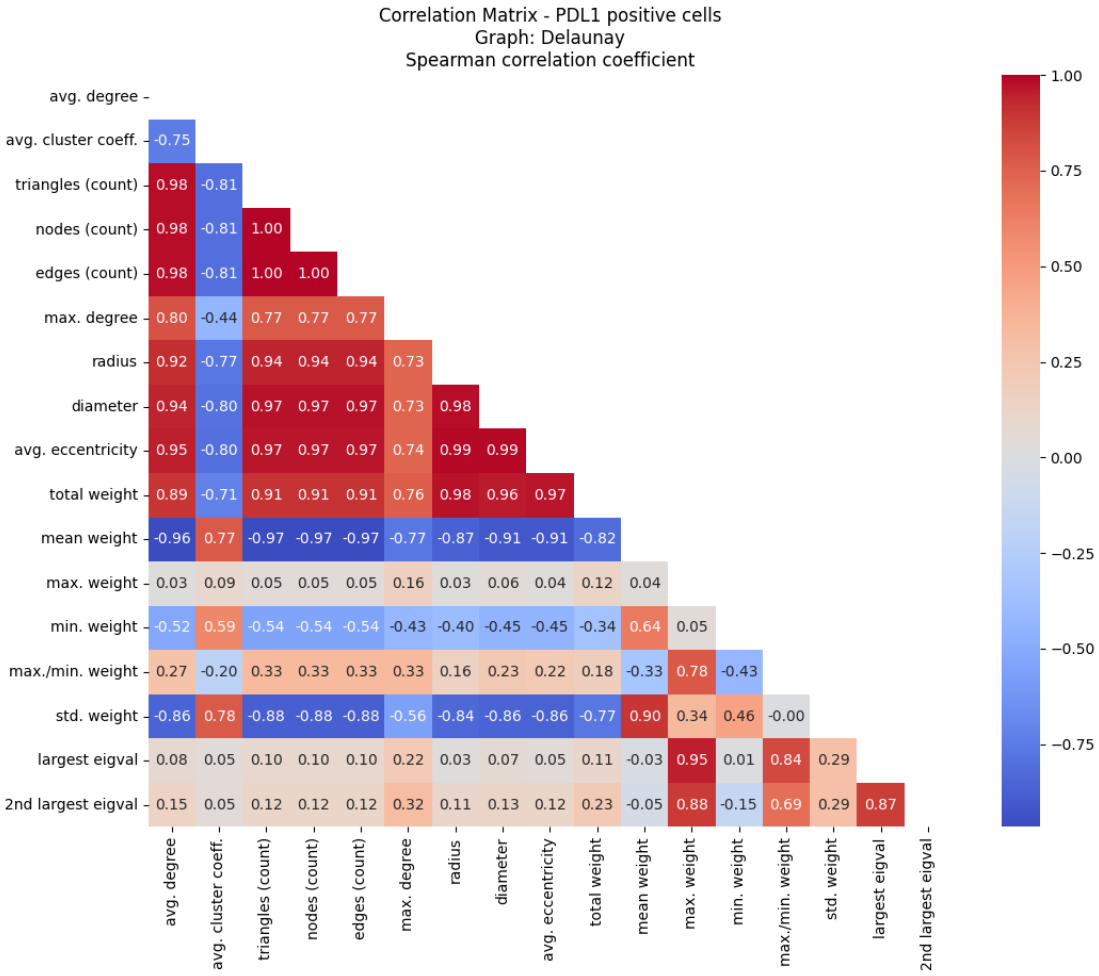


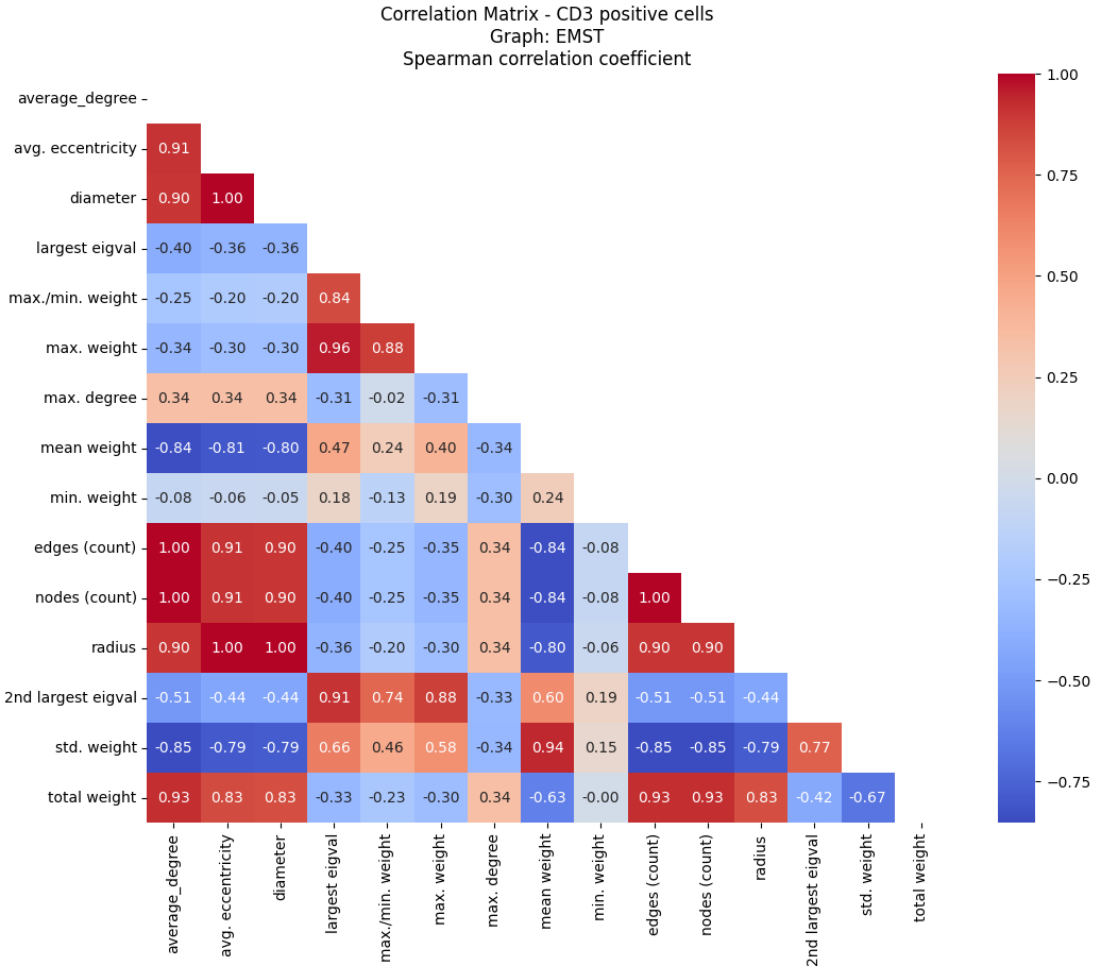
Correlation Matrix - FOXP3 positive cells
Graph: Delaunay
Spearman correlation coefficient



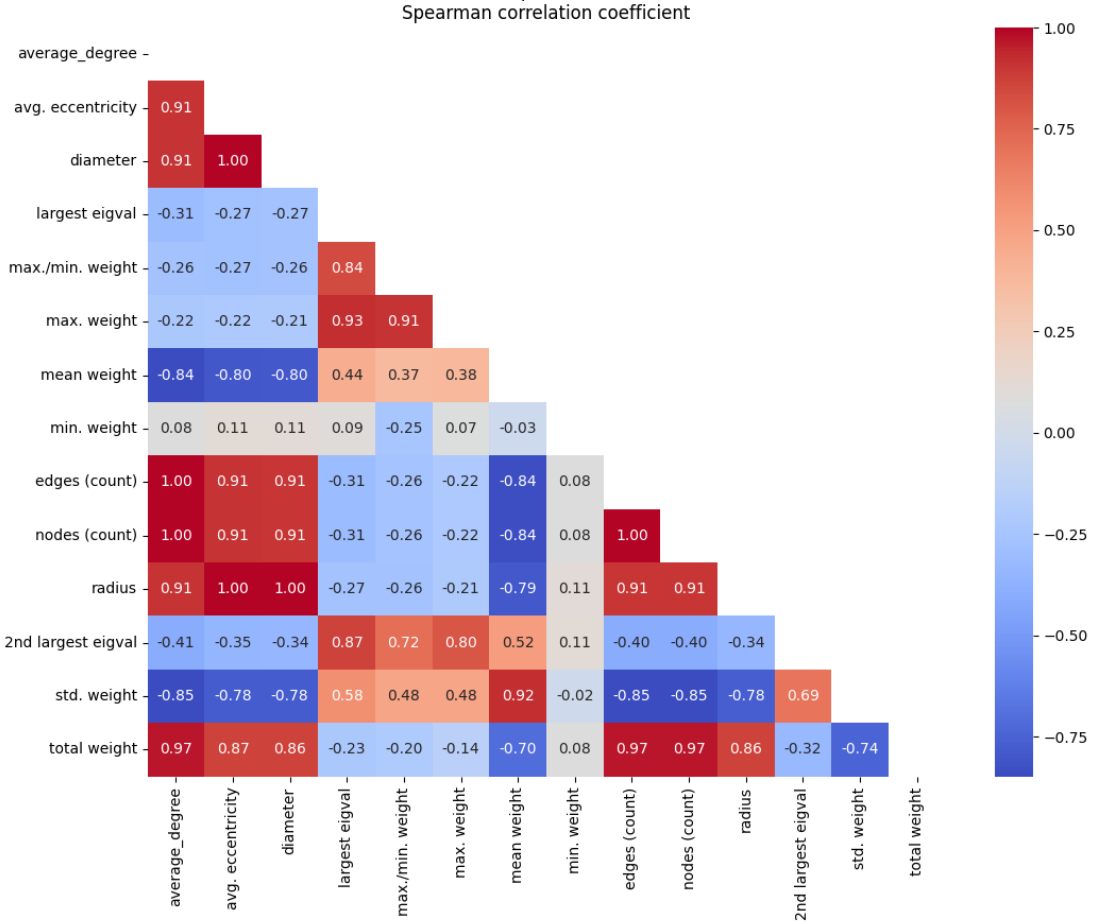
Correlation Matrix - PD1 positive cells
Graph: Delaunay
Spearman correlation coefficient



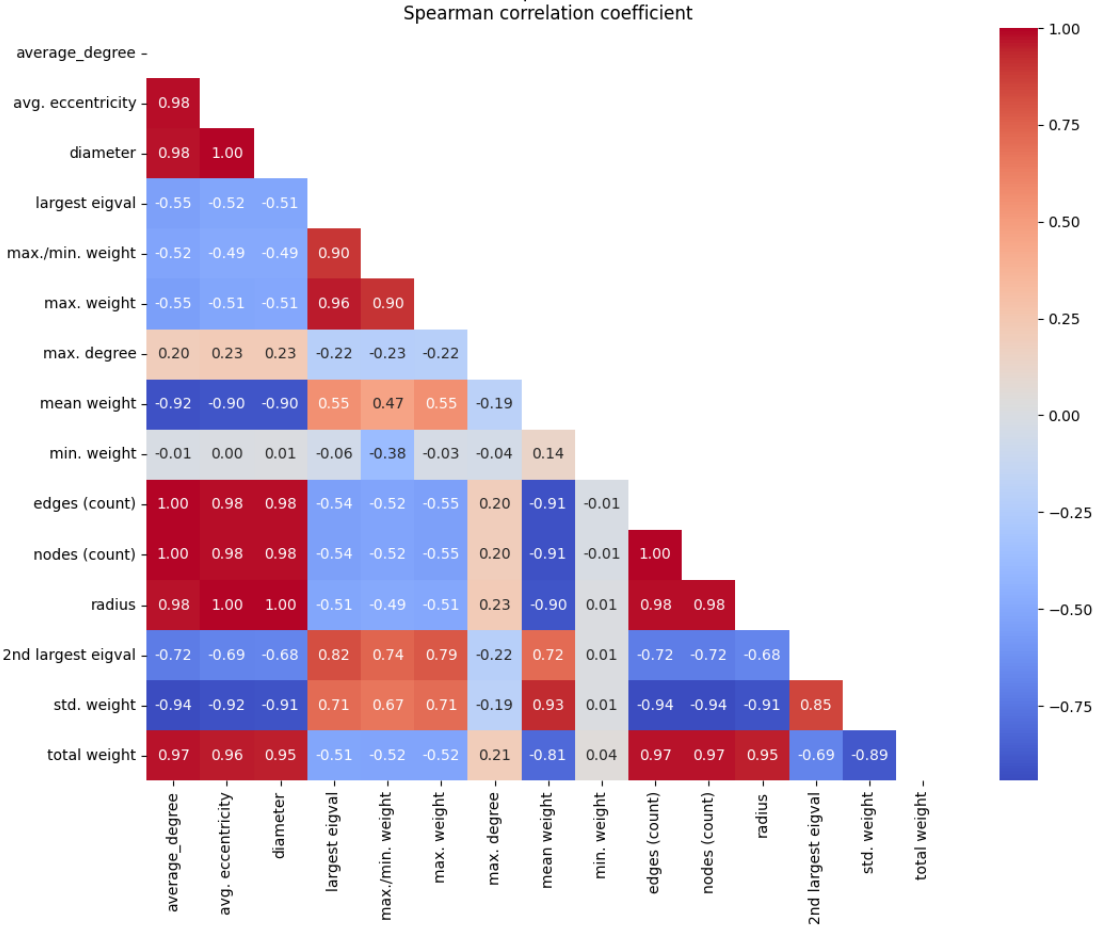

Correlation Matrix - PDL1 positive cells
Graph: Delaunay
Spearman correlation coefficient
avg. degree
avg. cluster coeff.
triangles (count)
nodes (count)
edges (count)
max. degree
radius
diameter
avg. eccentricity
total weight
mean weight
max. weight
min. weight
max./min. weight
std. weight
largest eigval
2nd largest eigval
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75

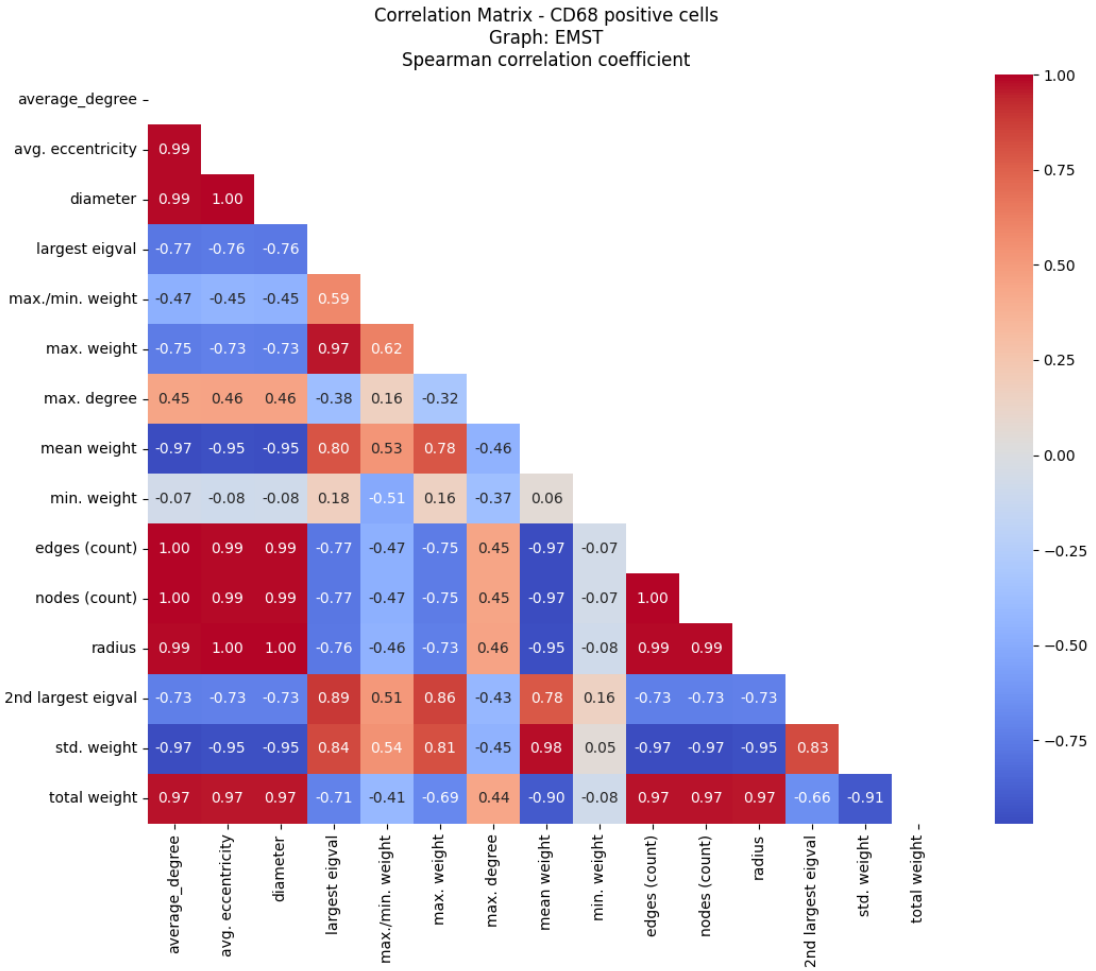

Correlation Matrix - CD3 positive cells
Graph: EMST
Spearman correlation coefficient
average_degree
avg. eccentricity
diameter
largest eigval
max./min. weight
max. weight
max. degree
mean weight
min. weight
edges (count)
nodes (count)
radius
2nd largest eigval
std. weight
total weight
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75

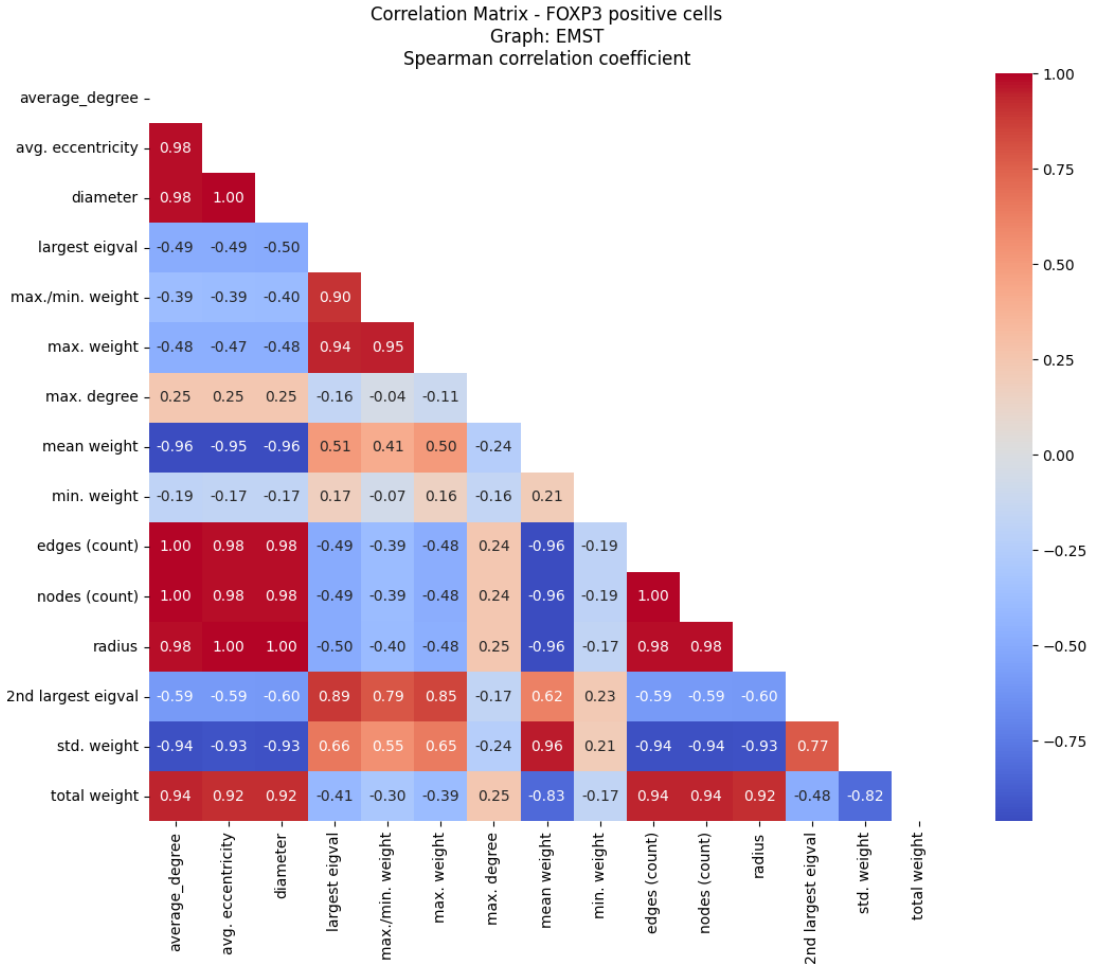
Correlation Matrix - CD8 positive cells
Graph: EMST
Spearman correlation coefficient



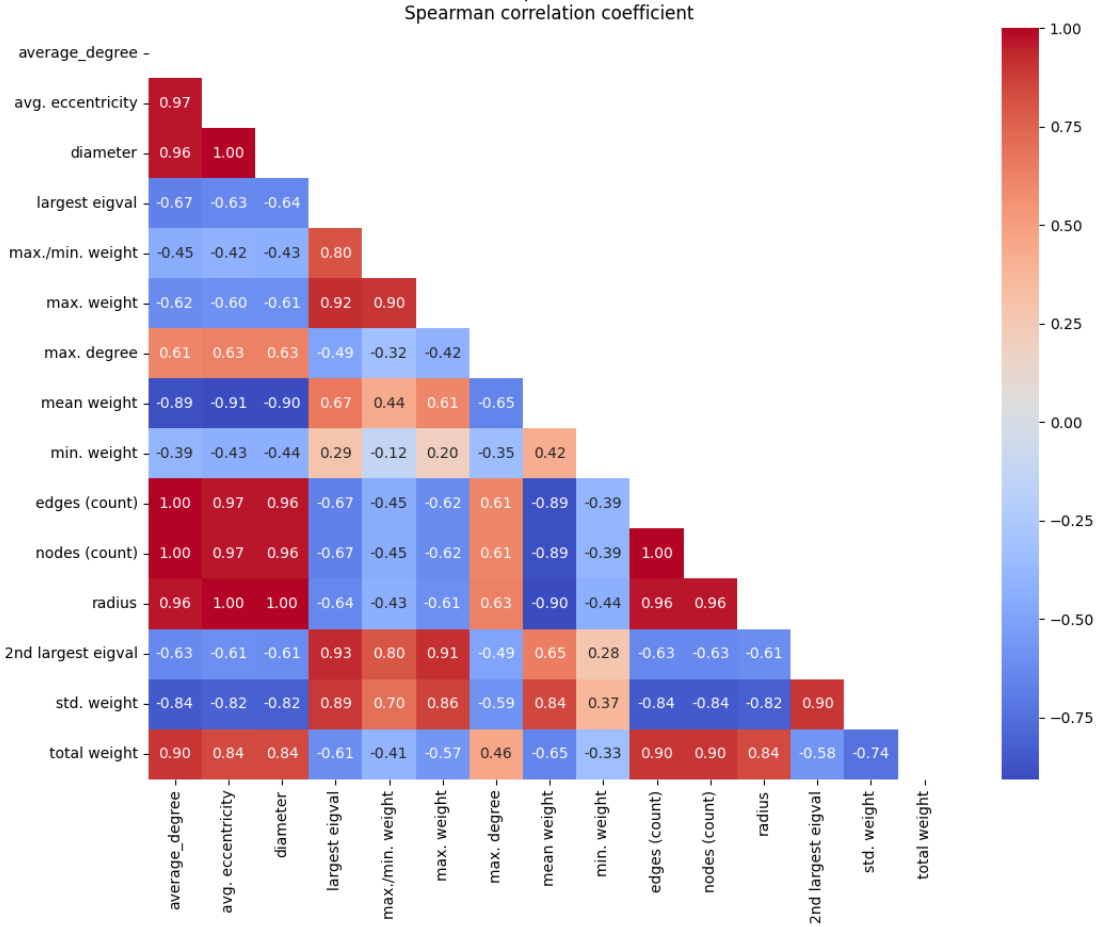
Correlation Matrix - CD45RO positive cells
Graph: EMST
Spearman correlation coefficient



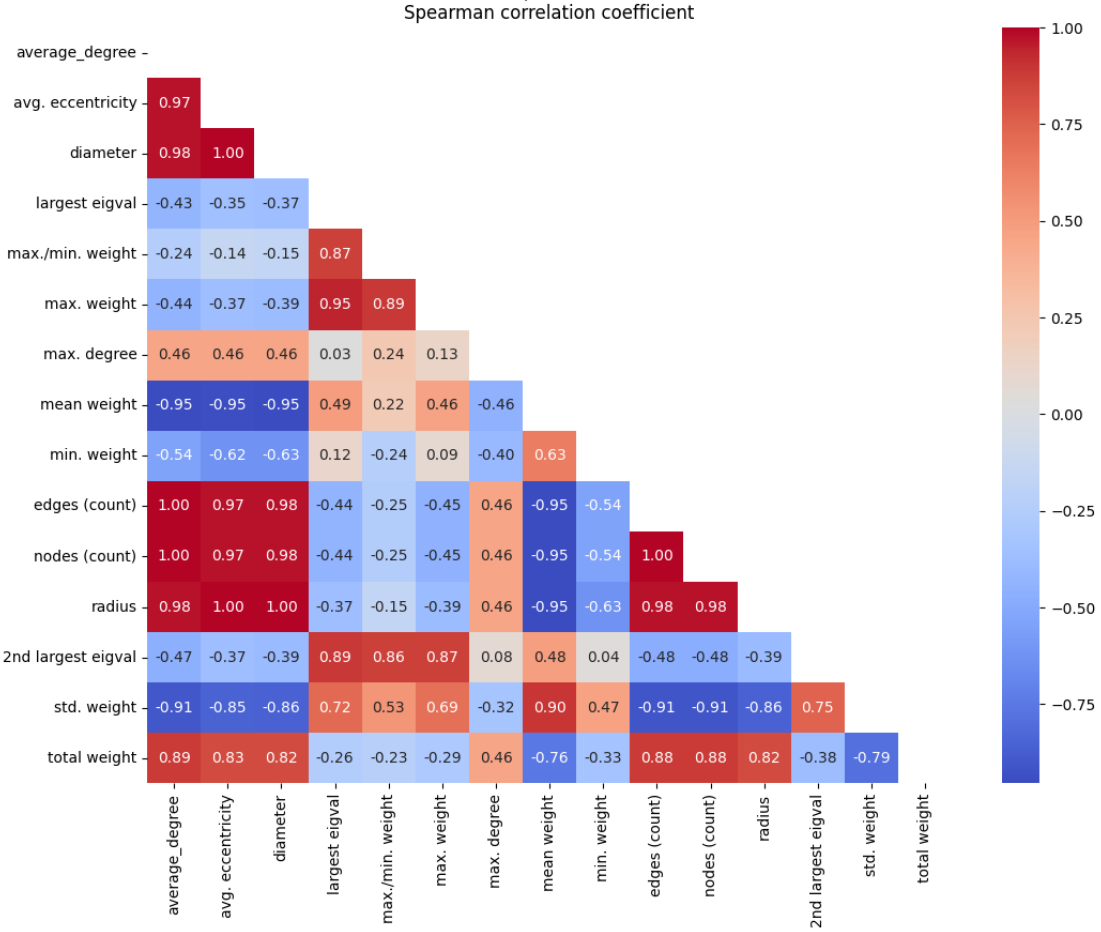

Correlation Matrix - CD68 positive cells
Graph: EMST
Spearman correlation coefficient
average_degree
avg. eccentricity
diameter
largest eigval
max./min. weight
max. weight
max. degree
mean weight
min. weight
edges (count)
nodes (count)
radius
2nd largest eigval
std. weight
total weight
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75

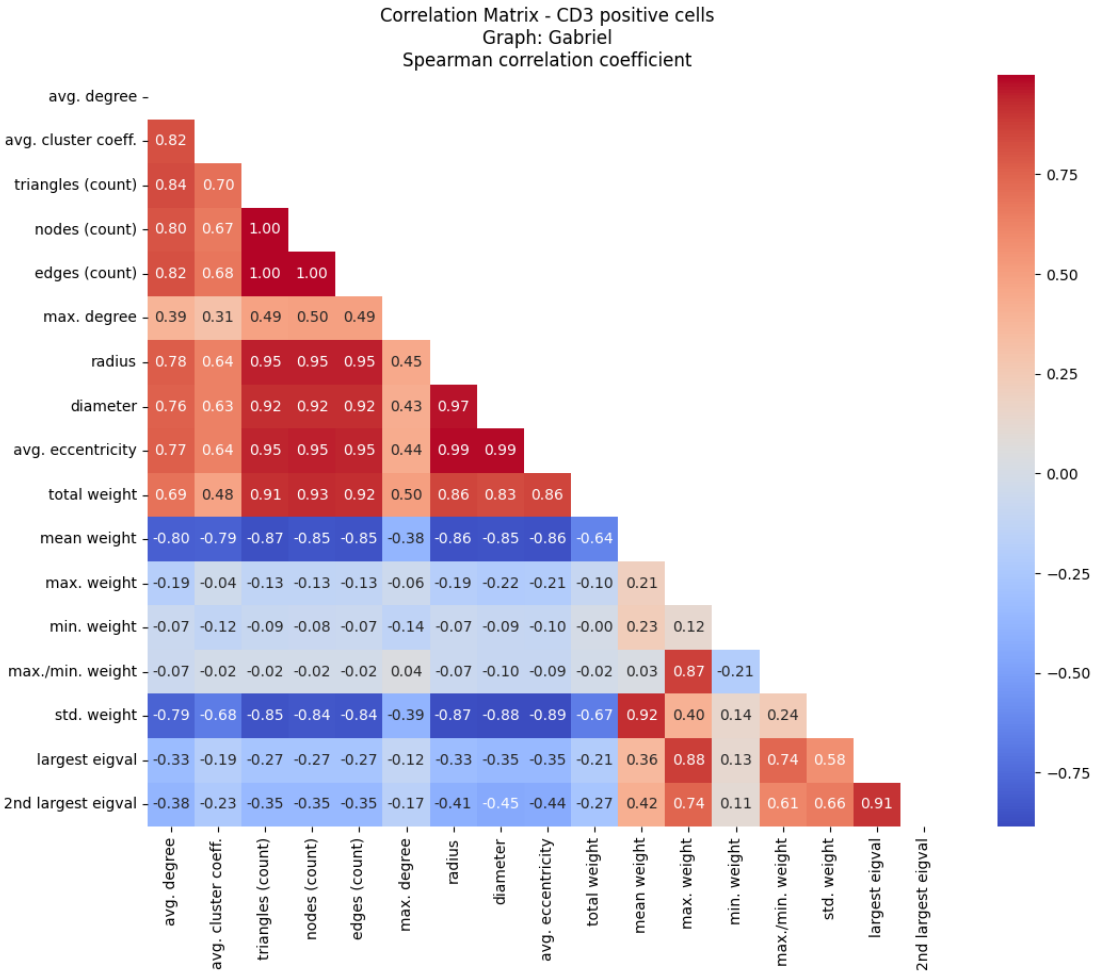

Correlation Matrix - FOXP3 positive cells
Graph: EMST
Spearman correlation coefficient
average_degree
avg. eccentricity
diameter
largest eigval
max./min. weight
max. weight
max. degree
mean weight
min. weight
edges (count)
nodes (count)
radius
2nd largest eigval
std. weight
total weight
1.00
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75

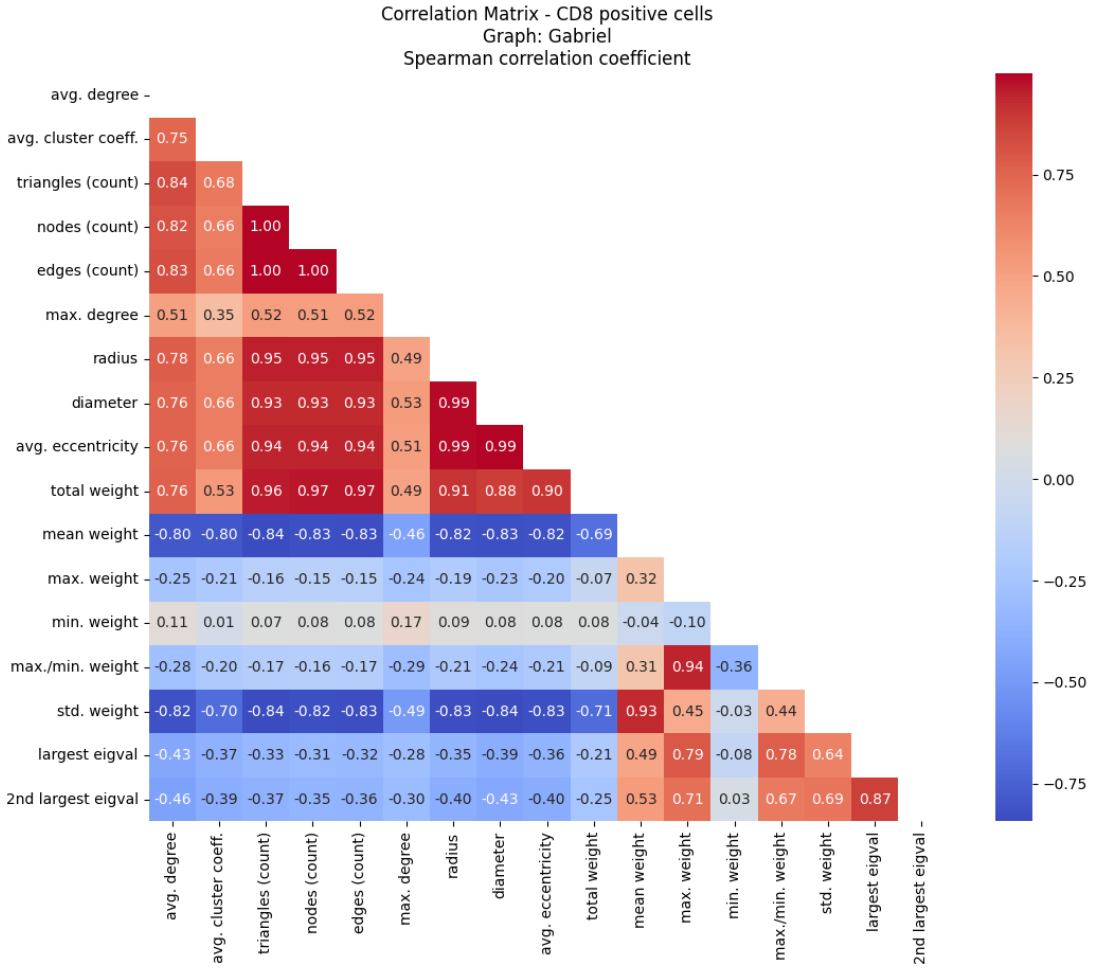
Correlation Matrix - PD1 positive cells
Graph: EMST
Spearman correlation coefficient

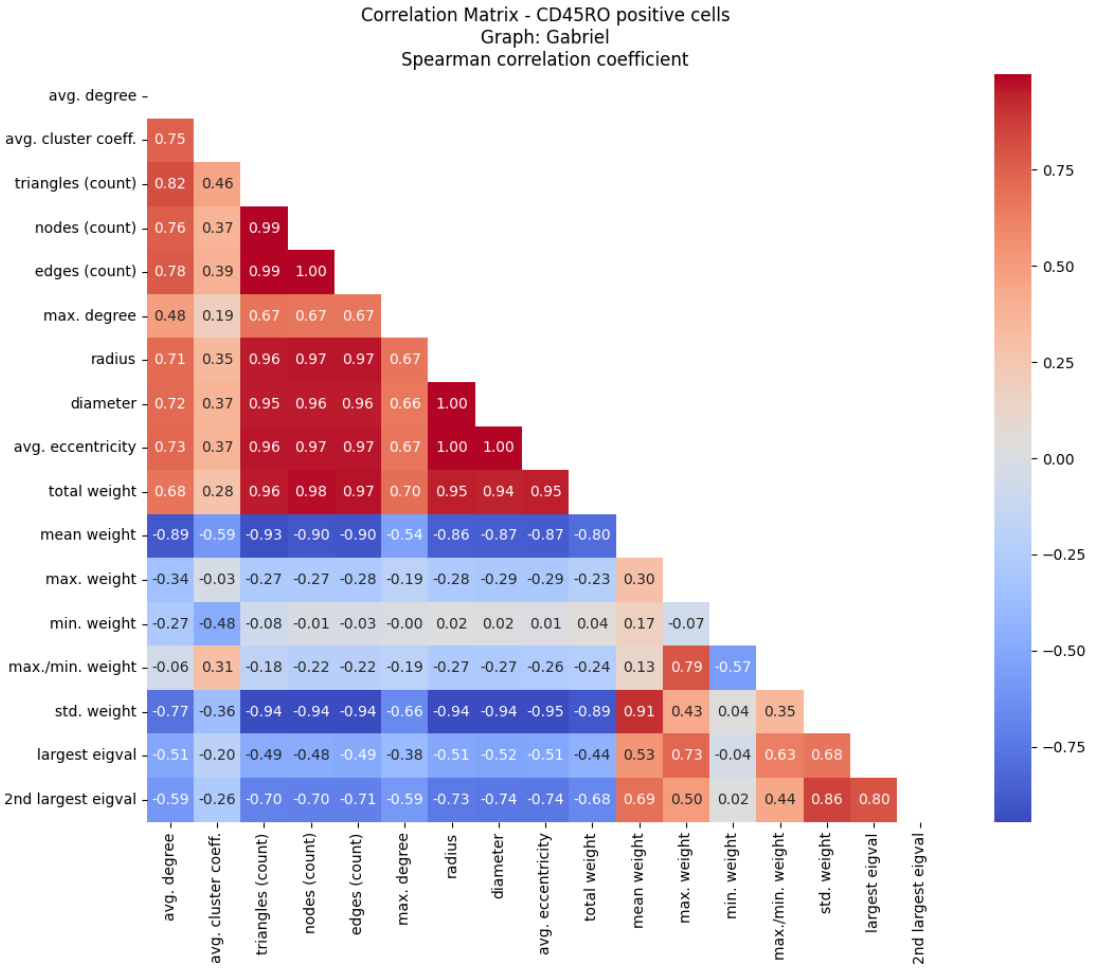


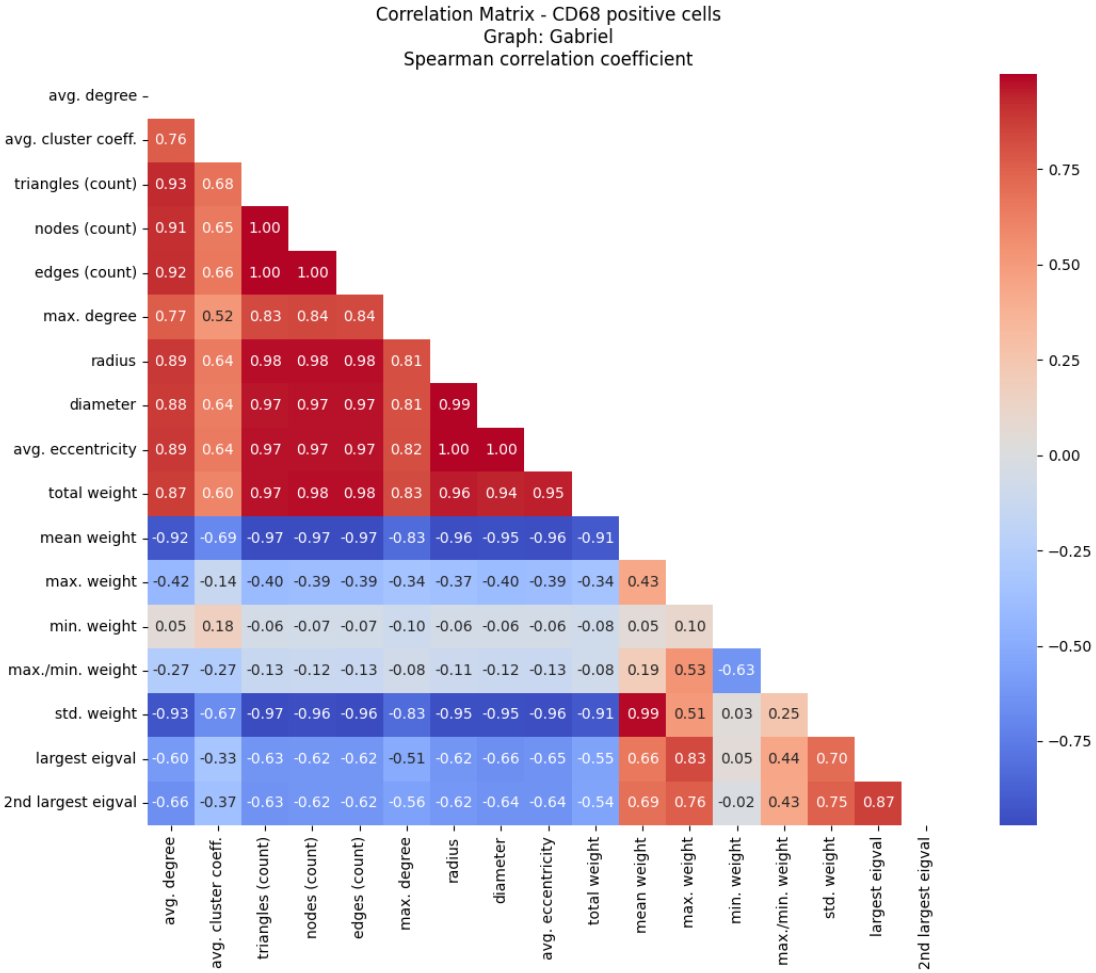
Correlation Matrix - PDL1 positive cells
Graph: EMST
Spearman correlation coefficient



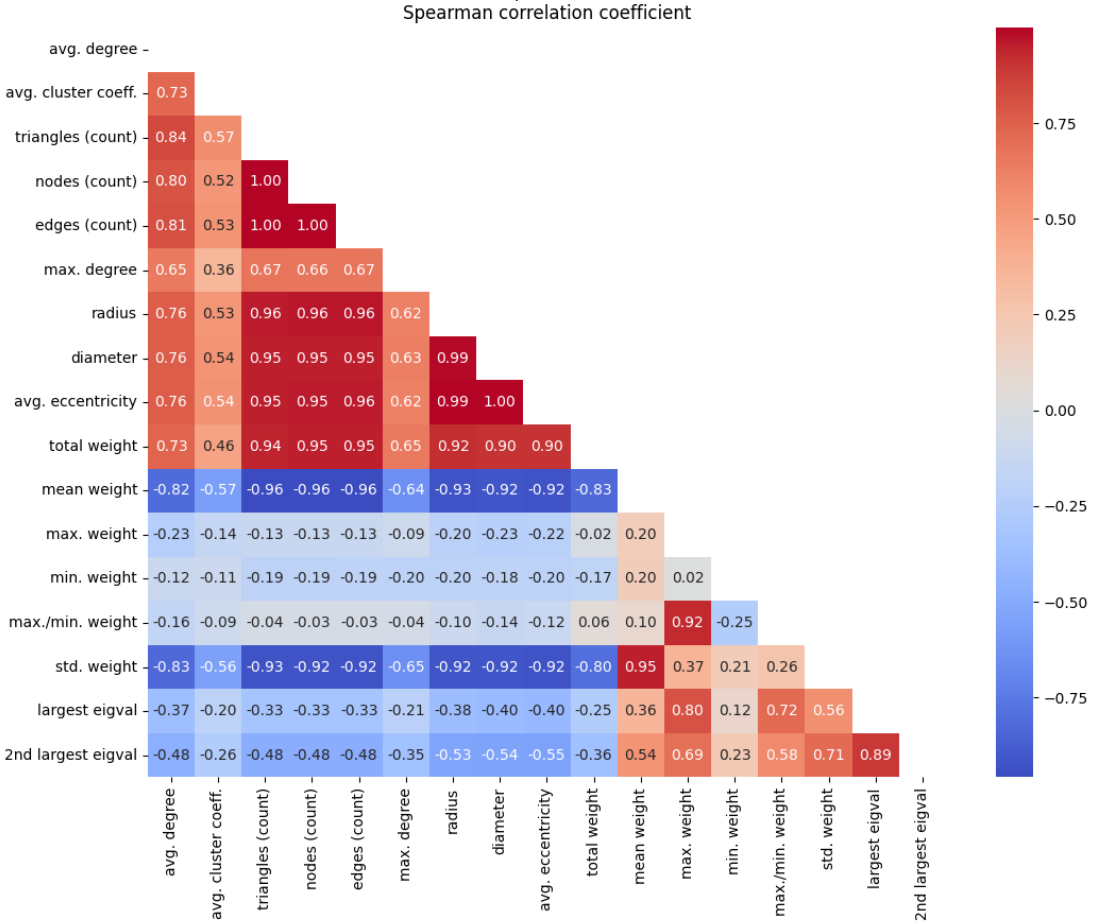

Correlation Matrix - CD3 positive cells
Graph: Gabriel
Spearman correlation coefficient
avg. degree
avg. cluster coeff.
triangles (count)
nodes (count)
edges (count)
max. degree
radius
diameter
avg. eccentricity
total weight
mean weight
max. weight
min. weight
max./min. weight
std. weight
largest eigval
2nd largest eigval
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75


Correlation Matrix - CD8 positive cells
Graph: Gabriel
Spearman correlation coefficient
avg. degree
avg. cluster coeff.
triangles (count)
nodes (count)
edges (count)
max. degree
radius
diameter
avg. eccentricity
total weight
mean weight
max. weight
min. weight
max./min. weight
std. weight
largest eigval
2nd largest eigval
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75

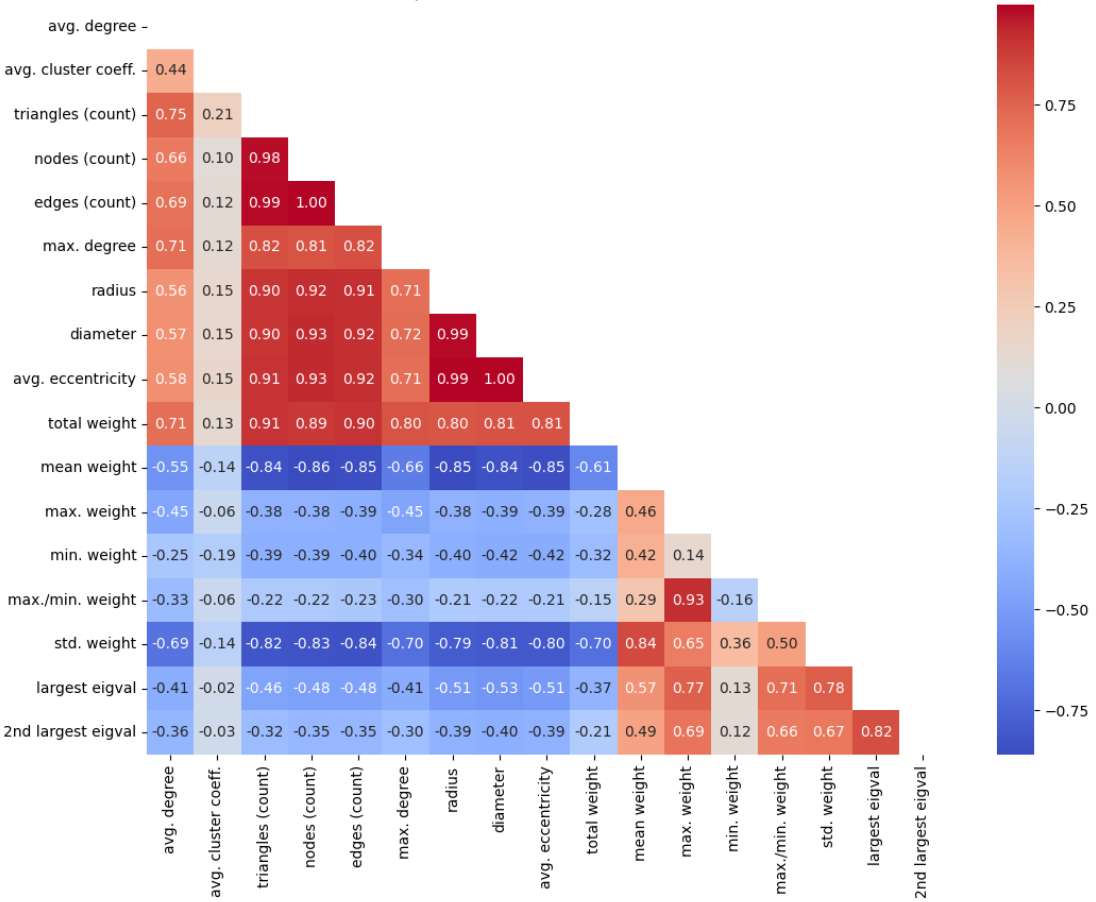

Correlation Matrix - CD45RO positive cells
Graph: Gabriel
Spearman correlation coefficient
avg. degree
avg. cluster coeff.
triangles (count)
nodes (count)
edges (count)
max. degree
radius
diameter
avg. eccentricity
total weight
mean weight
max. weight
min. weight
max./min. weight
std. weight
largest eigval
2nd largest eigval
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75

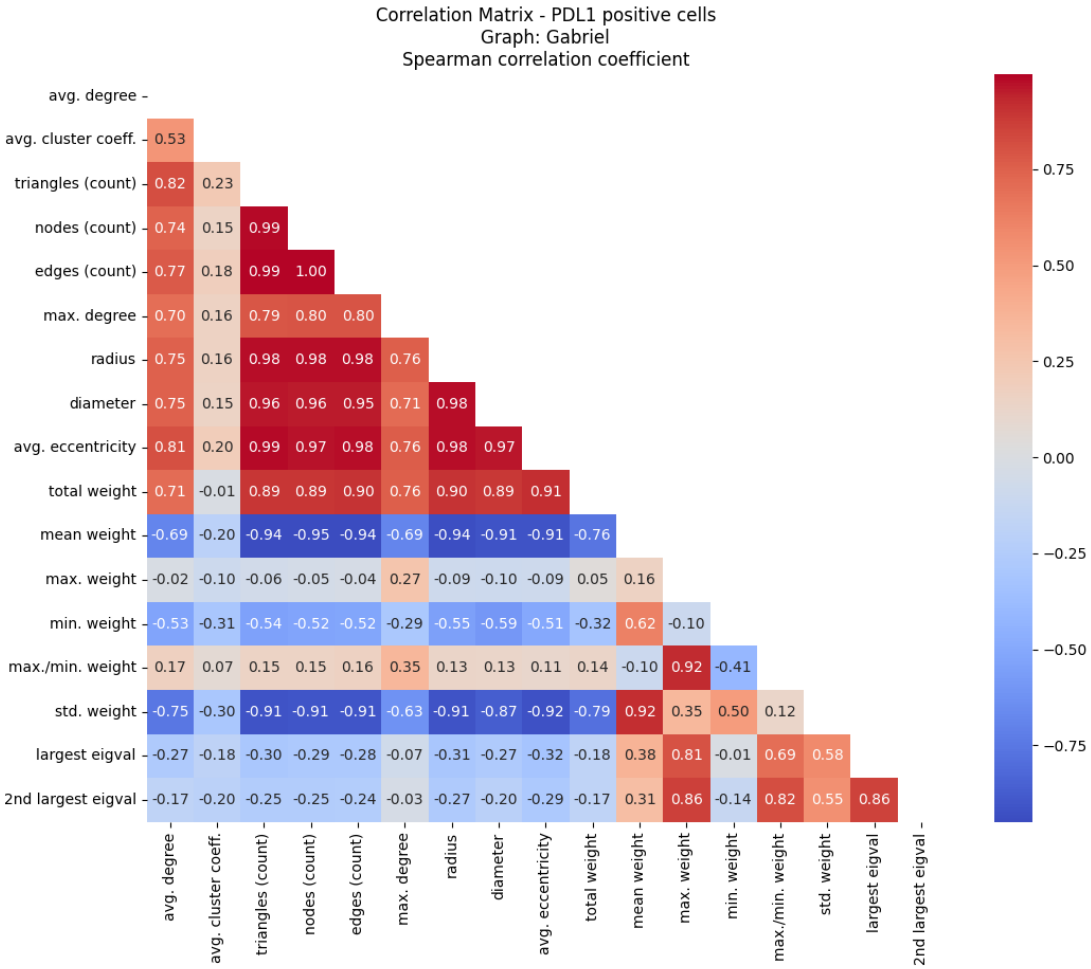

Correlation Matrix - CD68 positive cells
Graph: Gabriel
Spearman correlation coefficient
avg. degree
avg. cluster coeff.
triangles (count)
nodes (count)
edges (count)
max. degree
radius
diameter
avg. eccentricity
total weight
mean weight
max. weight
min. weight
max./min. weight
std. weight
largest eigval
2nd largest eigval
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75

Correlation Matrix - FOXP3 positive cells
Graph: Gabriel
Spearman correlation coefficient



Correlation Matrix - PD1 positive cells
Graph: Gabriel
Spearman correlation coefficient




Correlation Matrix - PDL1 positive cells
Graph: Gabriel
Spearman correlation coefficient
avg. degree
avg. cluster coeff.
triangles (count)
nodes (count)
edges (count)
max. degree
radius
diameter
avg. eccentricity
total weight
mean weight
max. weight
min. weight
max./min. weight
std. weight
largest eigval
2nd largest eigval
0.75
0.50
0.25
0.00
−0.25
−0.50
−0.75