

Supplementary Material

Local Attachment Explains Small-World-Like Properties of Fibroblastic Reticular Cell Networks in Lymph Nodes

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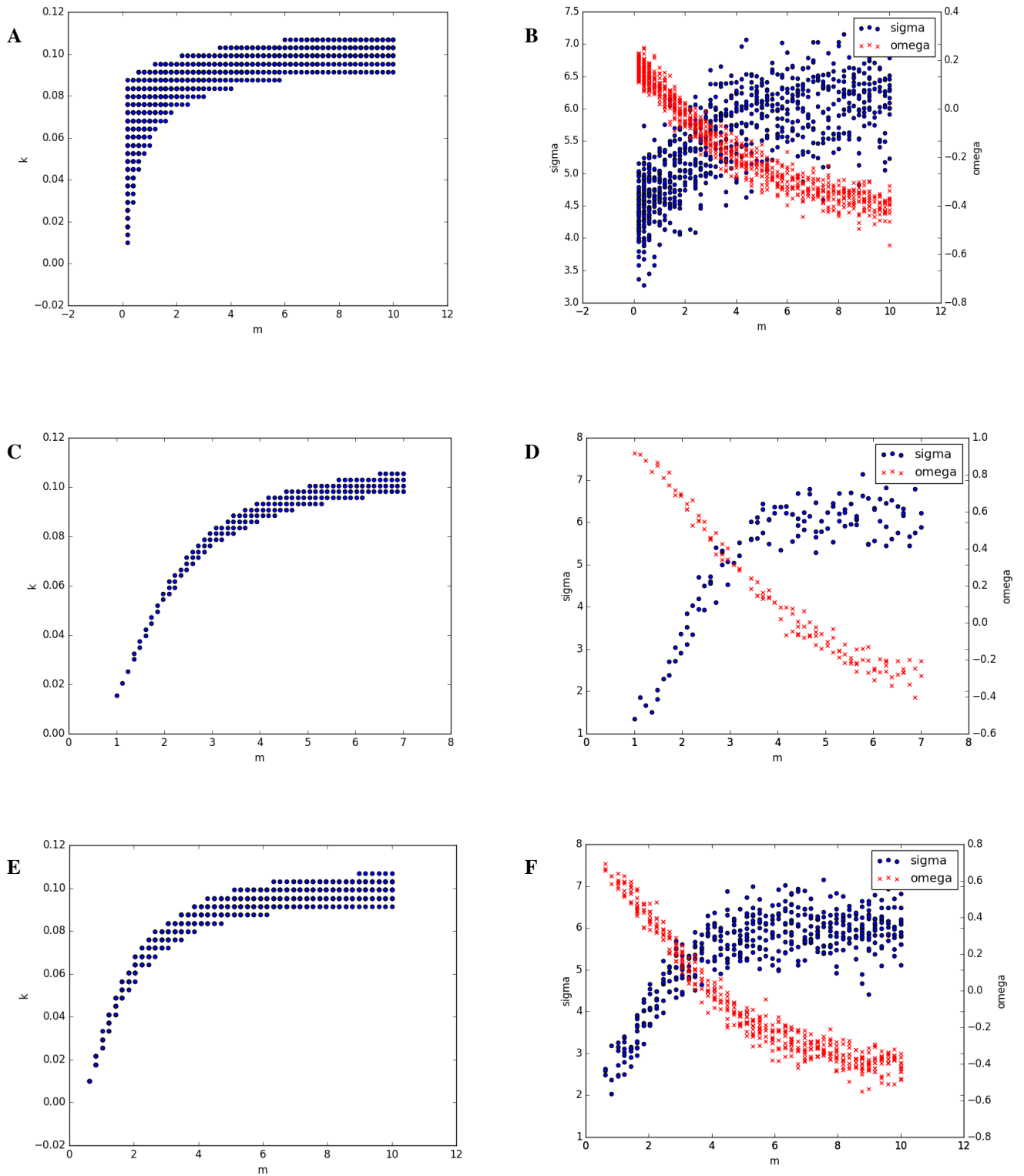


Figure S1. Combinations of m and k with $e \approx 685$ expected edges and corresponding σ and ω values for various length thresholds l (A) and (B): $l = 0.17$. (C) and (D): $l = 0.25$. (E) and (F): $l = 0.34$. Panels on the left: combinations of k and m that give 685 ± 68 expected edges for $n = 176$. Right panels: obtained values for σ and ω obtained with various m and corresponding k from left figures. Length thresholds correspond to $50 \mu\text{m}$, $75 \mu\text{m}$ and $100 \mu\text{m}$ respectively.

A

Volume	Nodes	Sigma	Omega	C_L, C_R, L_R	\acute{C}, \acute{L}
0.1	176	6.15 (5.55-6.84)	-0.30 (-0.36-0.24)	0.64, 0.046, 2.71	0.53, 5.16
0.2	352	7.40 (6.93-7.93)	-0.14 (-0.18-0.09)	0.68, 0.035, 2.61	0.47, 4.73
0.3	528	9.36 (8.99-9.68)	-0.07 (-0.11-0.03)	0.69, 0.027, 2.66	0.44, 4.70
0.4	704	11.67 (11.26-12.15)	-0.05 (-0.08-0.03)	0.69, 0.021, 2.72	0.43, 4.76
0.5	880	13.67 (13.30-14.02)	-0.04 (-0.07-0.01)	0.69, 0.017, 2.76	0.42, 4.86
0.6	1056	15.84 (15.45-16.34)	-0.03 (-0.05-0.01)	0.70, 0.015, 2.81	0.42, 4.95
0.7	1232	17.97 (17.48-18.44)	-0.03 (-0.05-0.01)	0.70, 0.013, 2.84	0.41, 5.08
0.8	1408	19.81 (19.27-20.39)	-0.03 (-0.06-0.01)	0.70, 0.011, 2.88	0.41, 5.34
0.9	1584	21.34 (20.86-21.83)	-0.04 (-0.06-0.02)	0.70, 0.010, 2.91	0.41, 5.34
1	1760	23.16 (22.66-23.58)	-0.05 (-0.07-0.03)	0.70, 0.009, 2.94	0.40, 5.48

B

Volume	Nodes	Sigma	Omega	C_L, C_R, L_R	\acute{C}, \acute{L}
1	1760	23.15 (22.68-23.83)	-0.05 (-0.06-0.03)	0.70, 0.0093, 2.94	0.406, 5.51
2	3520	38.50 (37.89-39.25)	-0.09 (-0.10-0.08)	0.70, 0.0049, 3.16	0.395, 6.67
3	5280	52.24 (51.50-53.06)	-0.12 (-0.12-0.11)	0.70, 0.0033, 3.31	0.391, 7.49
4	7040	64.93 (64.08-65.96)	-0.13 (-0.14-0.12)	0.71, 0.0025, 3.41	0.387, 8.13
5	8800	76.56 (75.56-77.65)	-0.14 (-0.15-0.14)	0.71, 0.0020, 3.49	0.385, 8.67
6	10560	87.09 (86.08-88.11)	-0.16 (-0.16-0.15)	0.71, 0.0017, 3.54	0.384, 9.16
7	12320	98.33 (97.43-99.32)	-0.17 (-0.17-0.16)	0.71, 0.0015, 3.59	0.382, 9.57
8	14080	108.20 (107.04-108.94)	-0.18 (-0.18-0.17)	0.71, 0.0013, 3.63	0.381, 9.96
9	15840	119.16 (117.81-120.15)	-0.18 (-0.19-0.18)	0.71, 0.0011, 3.66	0.380, 10.31
10	17600	127.82 (126.86-128.72)	-0.19 (-0.19-0.19)	0.71, 0.0010, 3.69	0.380, 10.63

Table S1. Clustering coefficients and average shortest path lengths for networks of varying sizes. Volume of 1 corresponds to 300x300x300 μm . C_L : clustering coefficient of equivalent lattice network, C_R : clustering coefficient of equivalent random network, L_R : average shortest path length of equivalent random network, \acute{C} : clustering coefficient of observed network, \acute{L} : average shortest path length of observed network. (A): increasing thickness of slice from 0.1x1x1 to 1x1x1. (B): increasing volume from 1x1x1 to $\sqrt[3]{10} \times \sqrt[3]{10} \times \sqrt[3]{10}$.