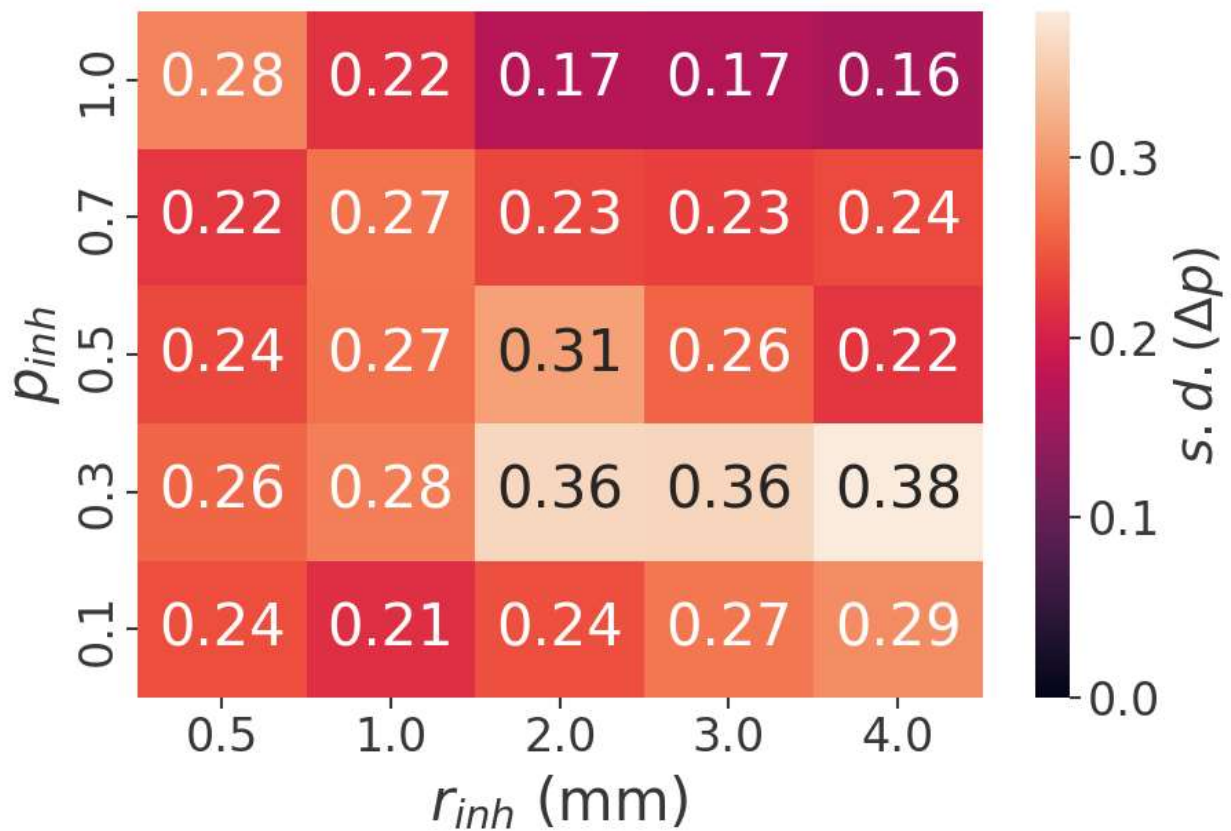
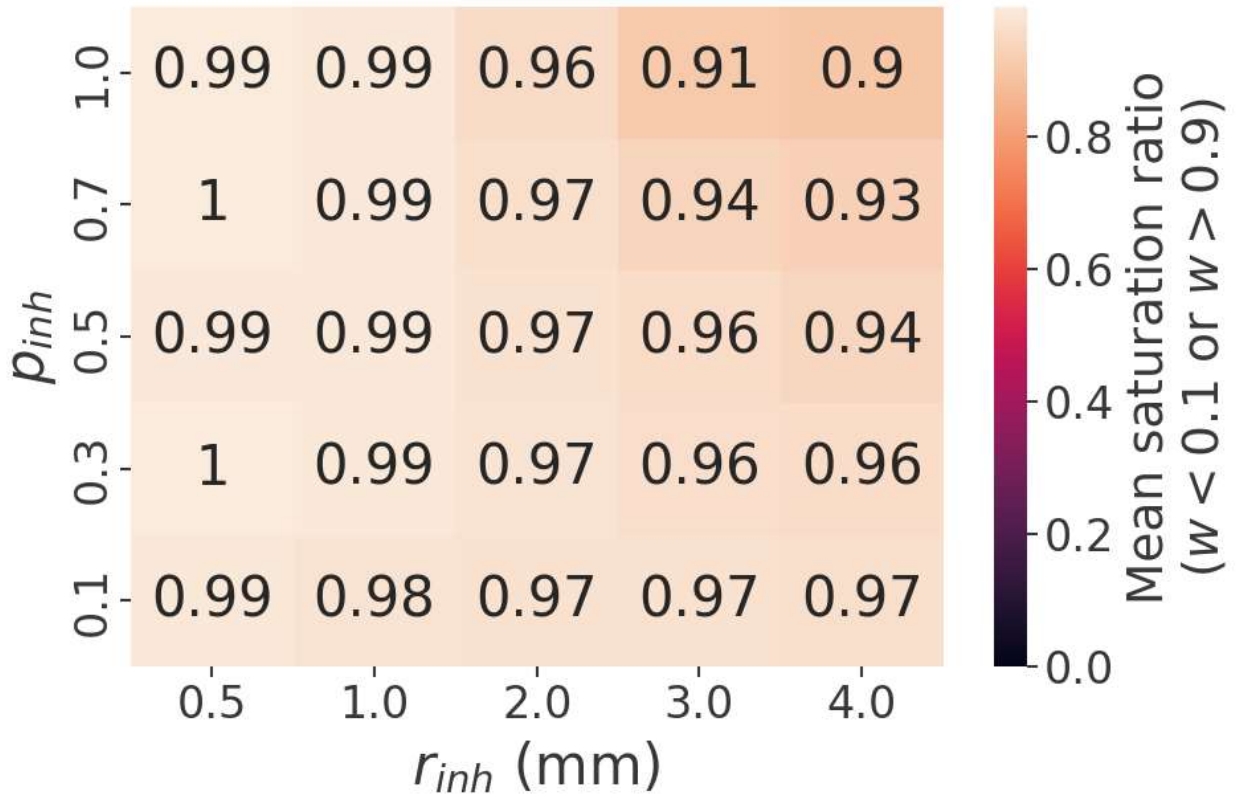
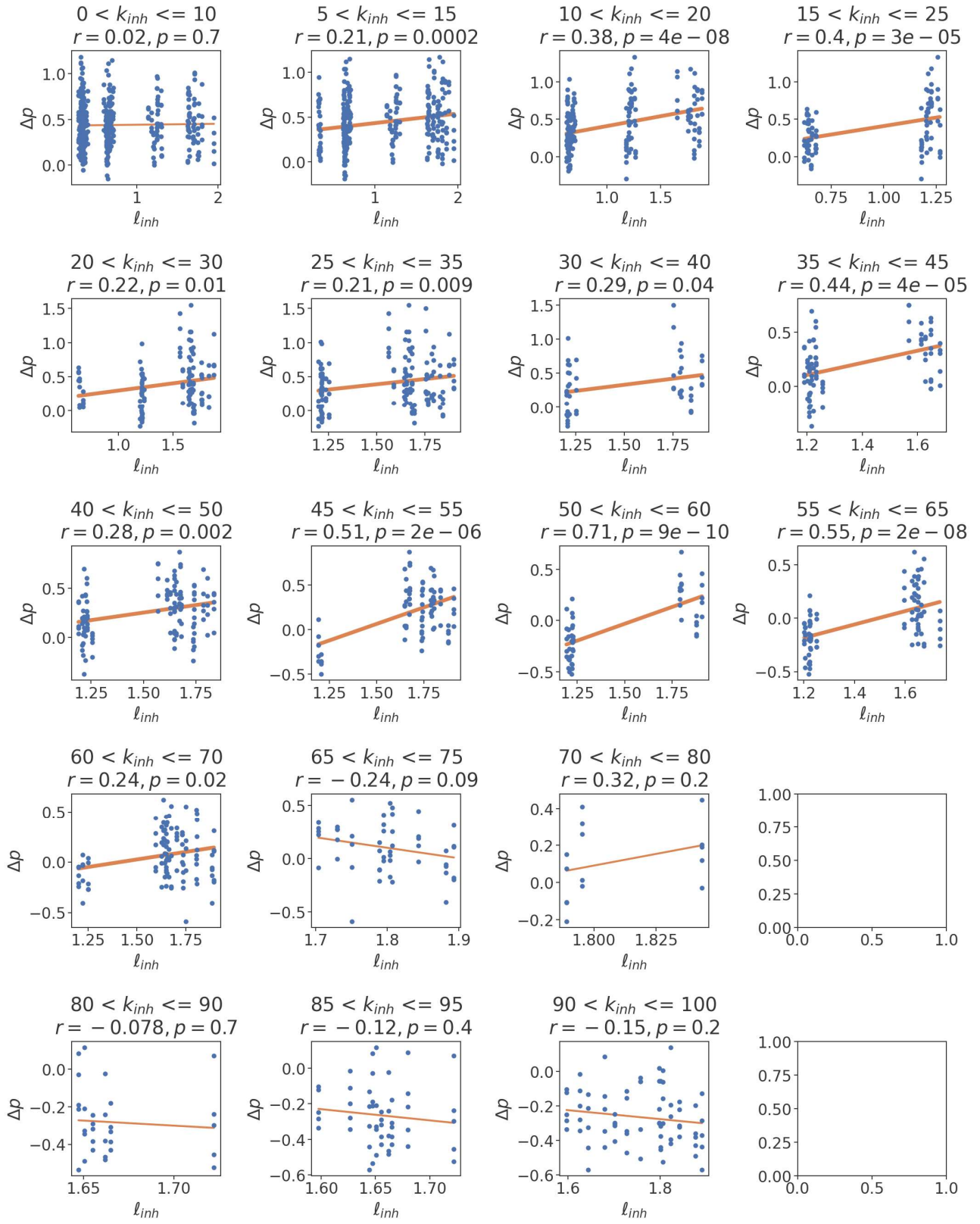


Supplementary Material

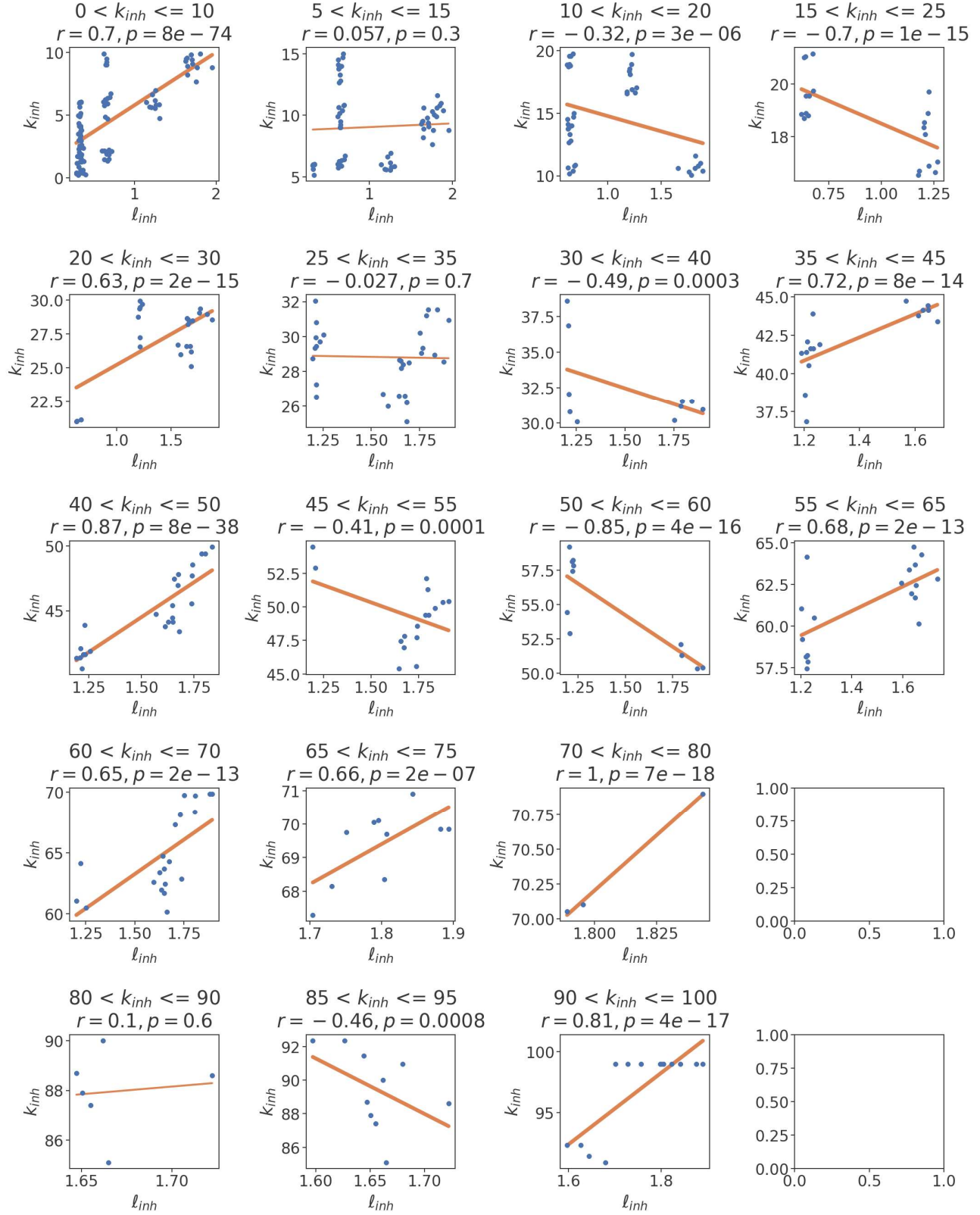
Supplementary Figure 1. Standard deviation of Δp across the grid of r_{inh} and p_{inh} . Δp was calculated in each run of each network from activity between 13 and 15 hours. The standard deviation was then calculated across all runs and networks ($n=50$) in each grid cell.



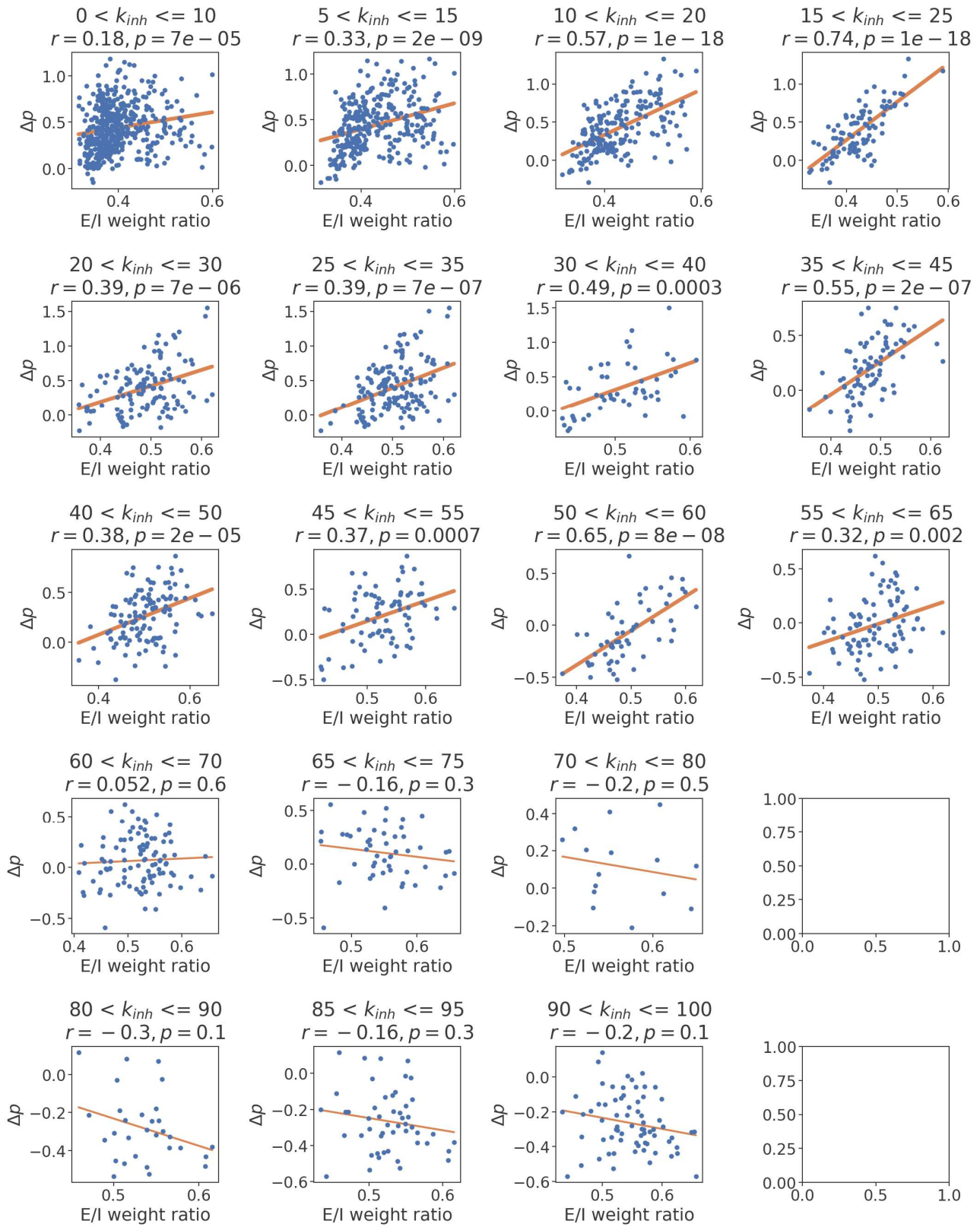
Supplementary Figure 2. Saturation ratio of networks, i.e., the fraction of weights within 0.1 of the lower and upper bounds, across the grid of r_{inh} and p_{inh} , after development.



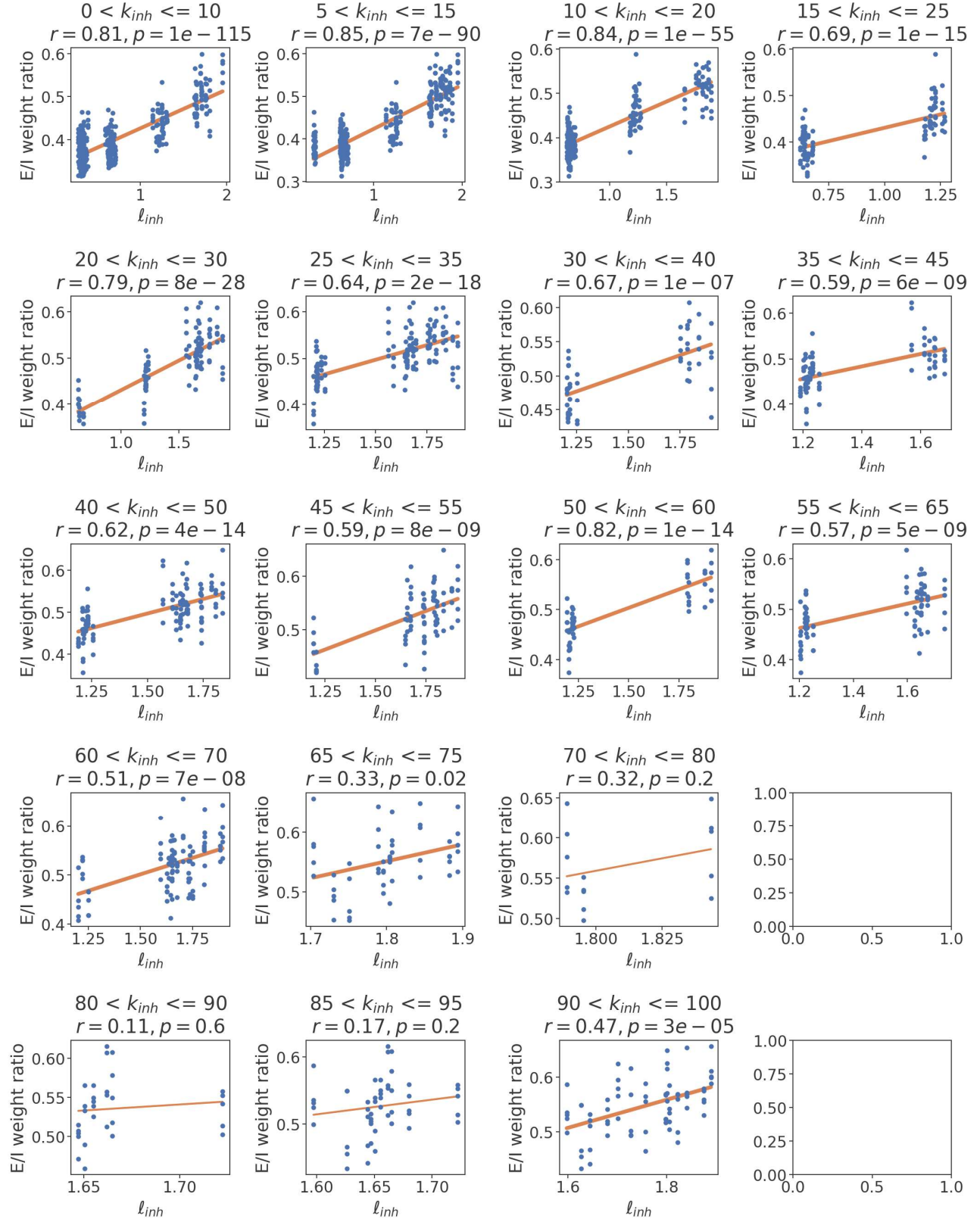
Supplementary Figure 3. Scatter plots and associated linear fits relating ℓ_{inh} to Δp in each slice of k_{inh} , see Figure 6E.



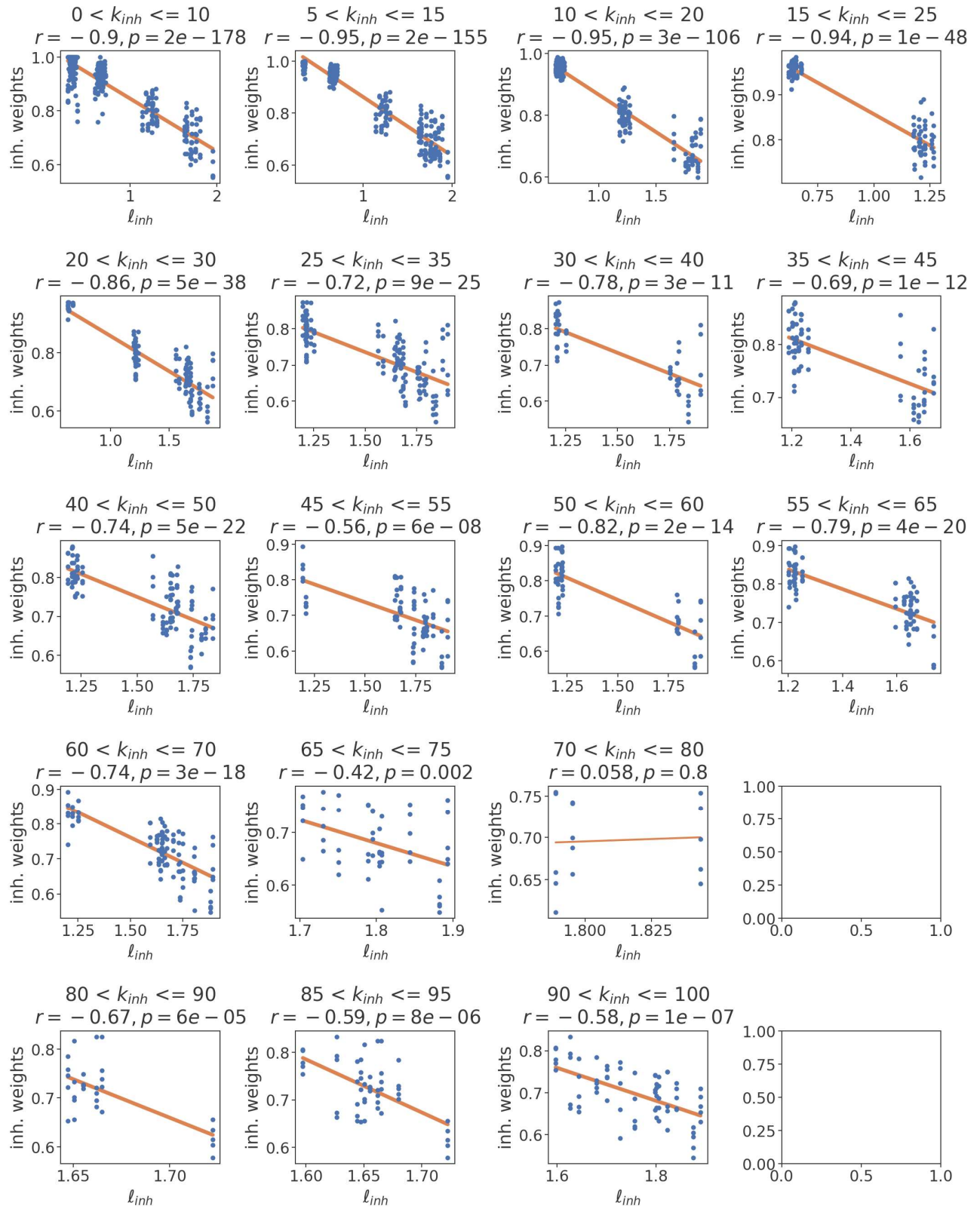
Supplementary Figure 4. Scatter plots and associated linear fits relating l_{inh} to k_{inh} in each slice of k_{inh} , see Figure 6F.



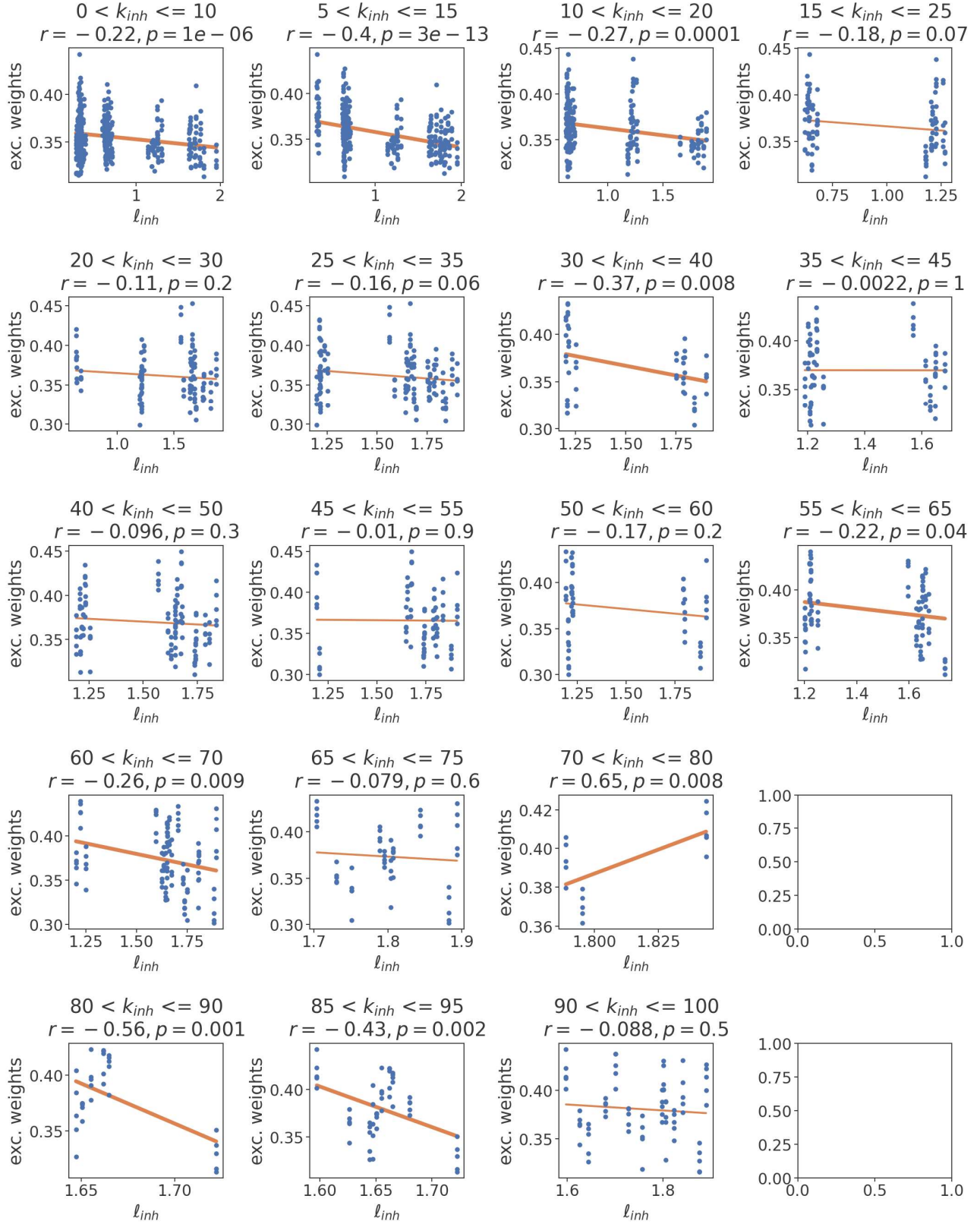
Supplementary Figure 5. Scatter plots and associated linear fits relating the E/I ratio to Δp in each slice of k_{inh} , see Figure 7A.



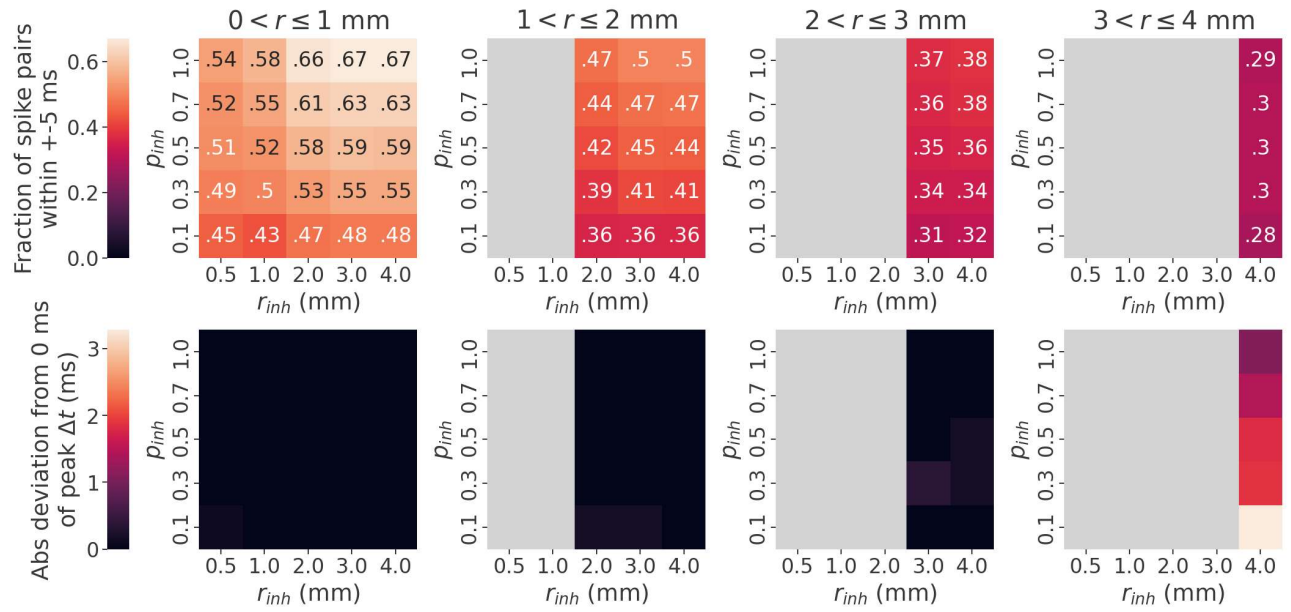
Supplementary Figure 6. Scatter plots and associated linear fits relating l_{inh} to the E/I ratio in each slice of k_{inh} , see Figure 7B.



Supplementary Figure 7. Scatter plots and associated linear fits relating l_{inh} to the inhibitory weight average in each slice of k_{inh} , see Figure 7C.



Supplementary Figure 8. Scatter plots and associated linear fits relating l_{inh} to the excitatory weight average in each slice of k_{inh} , see Figure 7D.



Supplementary Figure 9. Synchronization indicators in inhibitory synapses of various lengths across all networks. Top, fraction of spike pairs occurring within +5 ms; bottom, deviation of the most frequent pre/post spike time difference from 0 ms. Indicators were calculated within each network separately, then averaged across all 50 networks in each grid cell. Spike timings were recorded from all spike pairs occurring within +50 ms and calculated without including conduction delays, as in Figure 8C. Grey areas indicate no data (i.e., there were no long-range synapses in short-range parameter settings).