

Figure S2. Peak dynamic range near  $\kappa$ =1 is robust to variations in the analysis parameters TH and DT. Shown are summary plots of dynamic range  $\Delta$  versus deviation from power-law  $\kappa$ . These are comparable to the data shown in Fig 4d of the main manuscript. Since  $\kappa$  depends on the analysis parameters DT and TH, as shown in Supplementary Fig S1, the  $\Delta$ versus  $\kappa$  relationship could also depend on these parameters. We tested this for TH= 5, 10, and 20 spikes (left to right) and DT= 5, 10, and 20 ms (top to bottom). The central panel is closest to the parameter values used for the analysis shown in Fig 4d. Most of these parameter combinations show a clear peak in dynamic range near  $\kappa$ =1. Thus, we conclude that our primary finding is largely robust to these changes in analysis parameters.