



Fig. 7-figure supplement 3: Our mean-field model successfully recapitulated several previously established features of anesthesia, including a reduction in cortical firing rate (A), a loss of the information-richness of cortical LFPs as indexed by Lempel-Ziv complexity (B), a rise in the spectral power of delta (1-4 Hz) oscillations in cortical LFPs (C), strongly chaotic neural electro-dynamics (D - note that the dashed red line at LLE=0 corresponds to edge-of-chaos criticality), and a steepening spectral slope of cortical electro-dynamics (here measured by fitting a line to the log spectral density of the simulated cortical LFP between 30 and 45 Hz) (E). Note that we here plot only up to 100% anesthesia “dose,” which is the set of parameters arrived at through our genetic optimization. At higher “doses” (see Methods), dynamics switch to stochastic burst suppression followed by isoelectricity with a complete cessation of firing (see Figure 5 for example LFP traces from these higher-dose states).