Figure S2: Variations of panels **B)** - **D)** in Fig. 5 for those excitatory neurons which receive a reduced amount of Ornstein-Uhlenbeck noise, but receive more synaptic inputs from other neurons. **B)** The distribution of the firing rates of these neurons remains unchanged during the simulation. The colors of the curves and the corresponding intervals are as follows: red $(300 - 360$ sec), green $(600 - 660$ sec), blue $(900 - 960$ sec), magenta $(1140 - 1200$ sec). **C)** Cross-correlogram of the spiking activity in the circuit, averaged over 200 pairs of these neurons and over 60 s, with a bin size of 0.2 ms, for the period between 300 and 360 seconds of simulation time. It is calculated as the cross-covariance divided by the square root of the product of variances. **D)** As in **C)**, but for the last 60 seconds of the simulation. The correlation statistics in the circuit is stable during learning.