



**Supporting Figure 3: Grating and plaid responses are highly correlated in a model with random connectivity.** **a** Under the non-specific connectivity model, synapses between pairs of neurons are formed without regard to functional response similarity of the neurons. Neurons form synapses stochastically, according to spatial proximity. Two example pairs of neurons are shown, and their responses to a set of grating and plaid stimuli. **b** Neurons with similar responses to grating stimuli (high  $\rho_g$ ) have similar responses to plaid stimuli (high  $\rho_p$ ), and vice versa.