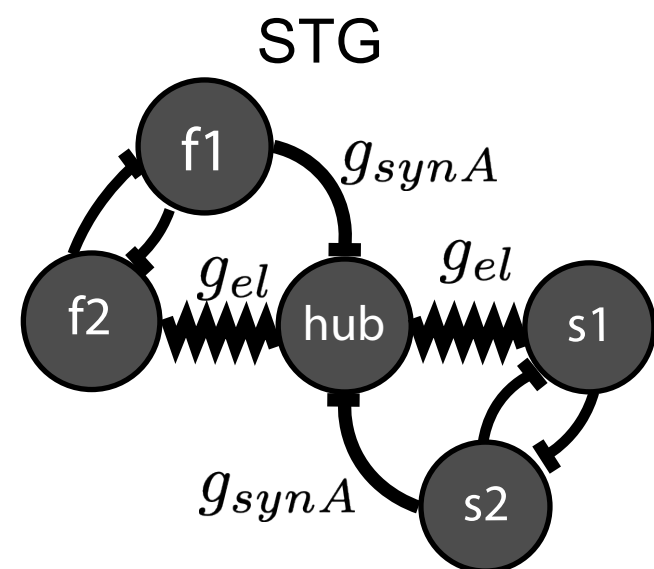
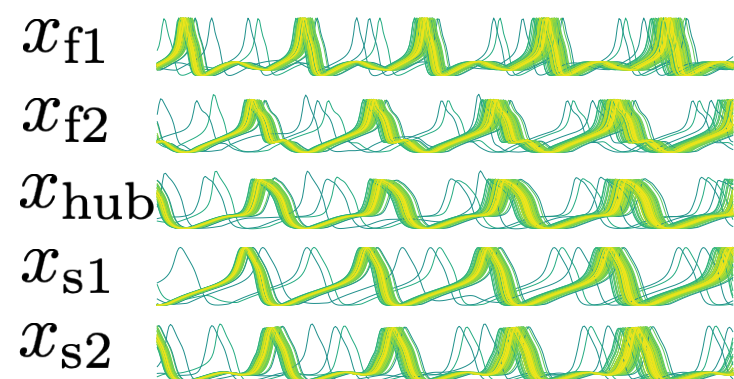
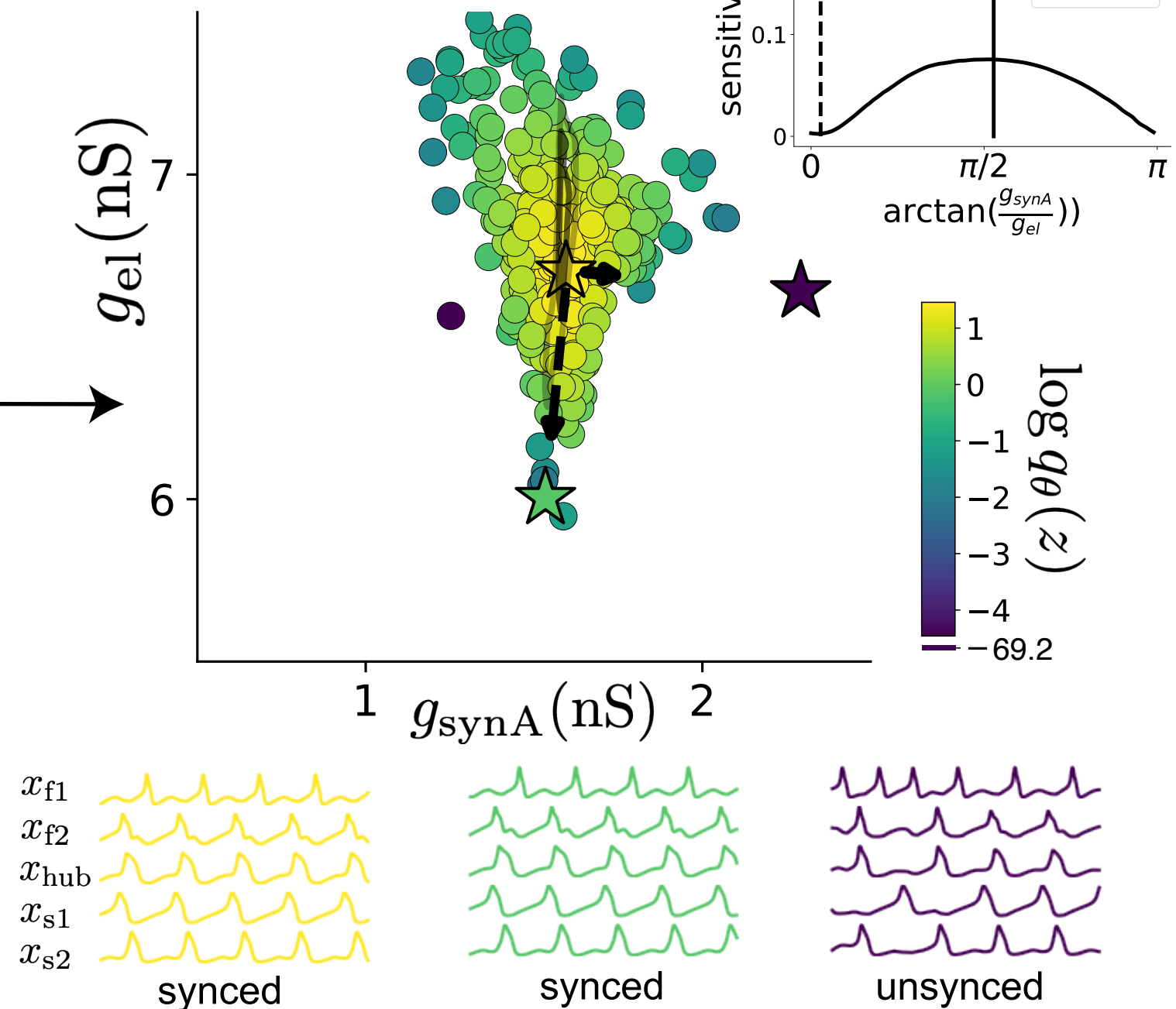
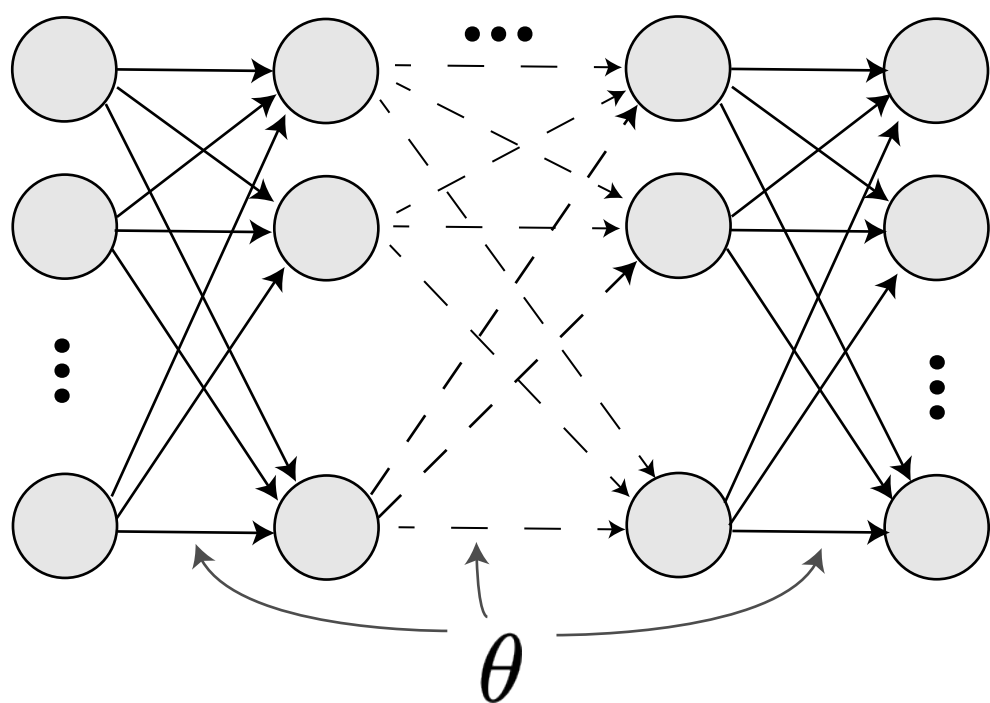


A**biological model**

network syncing

emergent property**Emergent property inference (EPI)****B****C**

deep probability distribution

random input samples
 $\omega \sim q_0$ inferred distribution samples
 $z \sim q_{\theta}$ **D**

$$\operatorname{argmax}_{q_{\theta} \in \mathcal{Q}} H(q_{\theta}(z))$$

$$\text{s.t. } \underbrace{E_{z \sim q_{\theta}}}_{\text{model parameter samples}} \left[\underbrace{E_{x \sim p(x|z)}}_{\text{model simulations}} \left[\underbrace{T(x)}_{\text{emergent property statistics}} \right] \right] = \underbrace{\mu}_{\text{emergent property values}}$$