

**Figure 1.** Mechanical properties of passive networks. **a)** Elastic modulus of networks. Our measurements closely match prediction of  $G_0 \sim \mu/l_c$ . **b)** Placeholder for inevitably another figure relevant to passive properties.

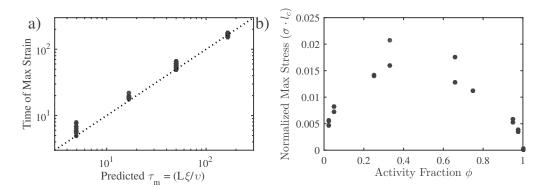
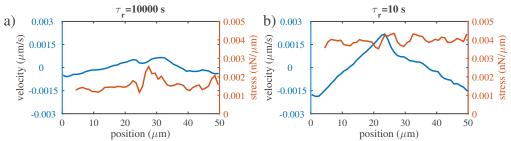


Figure 2. Mechanical properties of active networks. a) Timescale of maximum strain in networks free to contract. This relationship was found phenomenologically. b) Dependence of network stress on the fraction of cross-links which are active. Note that the network stress approaches 0 as  $\phi$  approaches 0 or 1.

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**Figure 3.** Stress and strain profiles of networks with contractile and passive domains. **a)** Blue line indicates strain velocity profile while orange represents net stress as measured in the main text. **b)** Same as panel a except for the condition where recycling time is 10 s. Note the increase in net stress and the corresponding increase in flow rate.

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