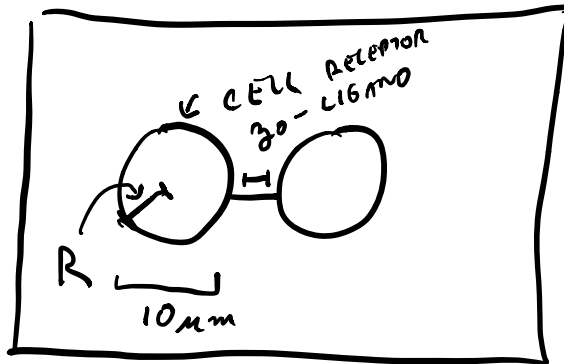LET'S USE μm, s, pN

$L \sim 100 \mu m$

$R \sim 1 \mu m - 10 \mu m$

$z_0 \sim 10^{-2} \mu$

SUGGEST START WITH $z_0 \approx 0.1 \mu m$

VISCOSITY

$$\mu = 10^{-3} \, Pa \cdot s$$
$$= 10^{-3} \frac{N \cdot s}{m^2}$$
$$= 10^{-3} \frac{10^{12} pN}{(10^6 \mu m)^2} \cdot s$$
$$= 10^{-3} \frac{pN \cdot s}{\mu m^2}$$

MASS DENSITY

$$\rho = 10^3 \frac{kg}{m^3}$$
$$= 10^{-9} \frac{pN \, s^2}{\mu m^4} \longrightarrow$$

SUGGEST START WITH ρ LARGE ENOUGH TO GET TO $T_{MAX} \sim 0.01 \, s$

STRUCTURE:

- BENDING MODULUS $B = 10^{-4} pN \mu m$

- STRETCHING MODULUS $G =$ HIGH ENOUGH SO IT ONLY EVER STRETCHES $\sim 1\%$

NOTE THE PER SPRING MODULUS IS $\dfrac{G}{\ell_0}$

PER BEAM MODULUS IS $\boxed{B}$??