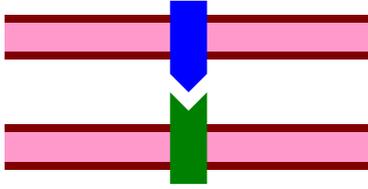


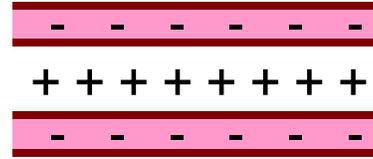
# MEMBRANE ADHESION



SITE SPECIFIC

TYPICAL FORCE TO  
BREAK BOND AT  
 $T = 300 \text{ K}$  IS

50 pN



GENERIC

TYPICAL ENERGY  
DENSITY OF ADHESION  
IS

$10^{-5} \text{ J/m}^2$

FOR A SURFACE OF AREA  $20 \mu\text{m}^2$

$2 \times 10^{-16} \text{ J}$

WITH 100 BONDS /  $\mu\text{m}^2$   
AT  $15 k_B T$  PER BOND  
 $1.2 \times 10^{-16} \text{ J}$

COMPARES TO A BENDING ENERGY OF  
8  $\kappa_{\text{BEND}} = 2 \times 10^{-18} \text{ J}$  AT  $\kappa_{\text{BEND}} = 20 k_B T$