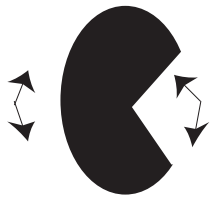
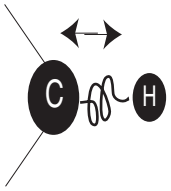
a) Examples of Normal Modes

Proteins



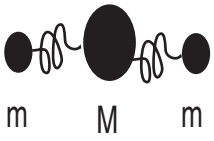
Low frequency
GLOBAL mode



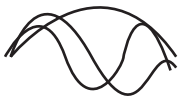
High frequency
LOCAL mode

Ball & Springs
in MD

omega	mode
0	(Simple Translation)
$\sqrt{k/m}$	(Center Resting)
$\sqrt{(k/m)(1-2m/m)}$	



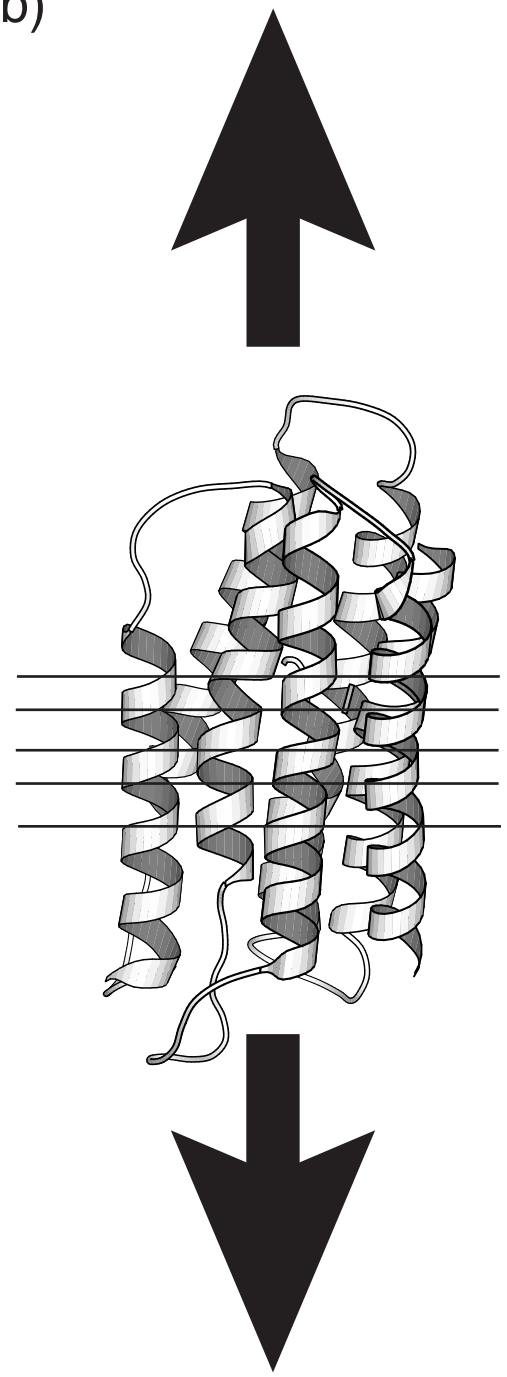
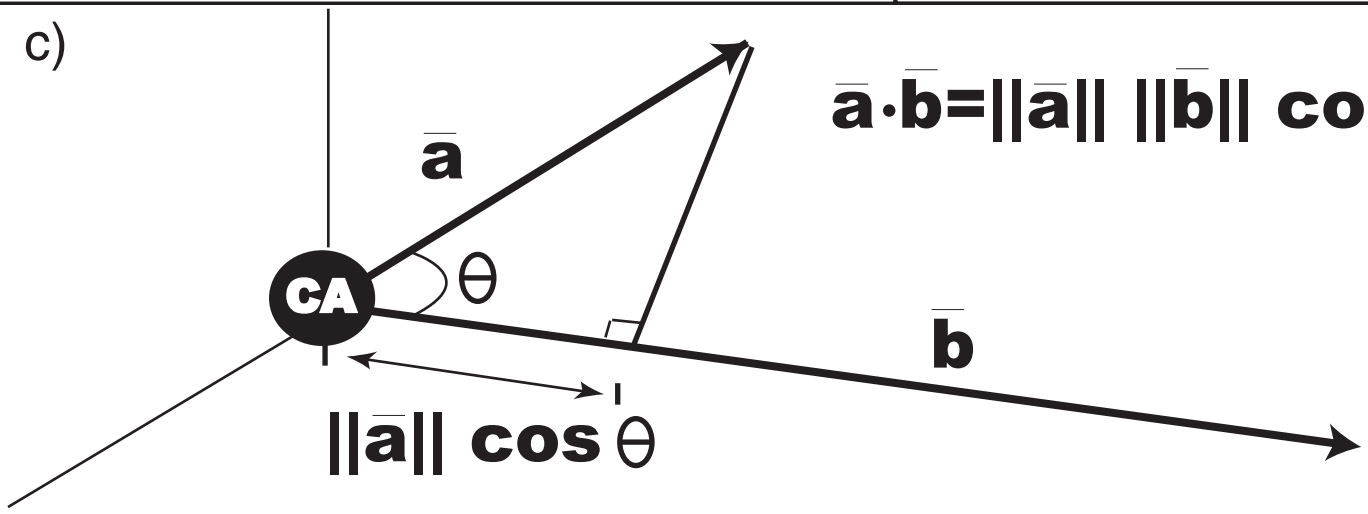
Vibrating string
fixed at both ends



wavelength = 2L/n

n = 1, 2, 3

b)



c)