

Resting

Elongation

Bending N

Bending S

Bending W

Bending E

Twist CW

Twist CCW

a)

R	L
L	R

R	L
L	R

R	L
L	R

R	L
L	R

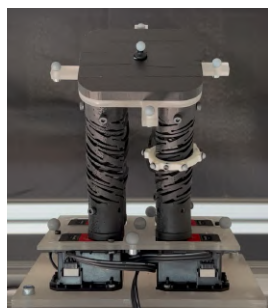
R	L
L	R

R	L
L	R

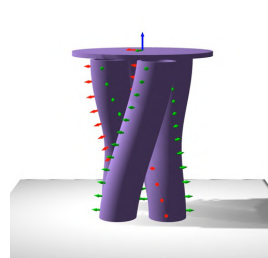
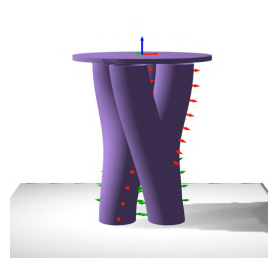
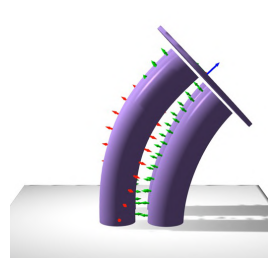
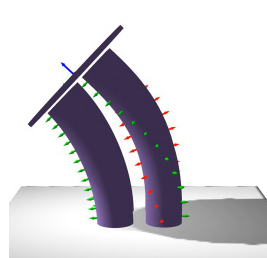
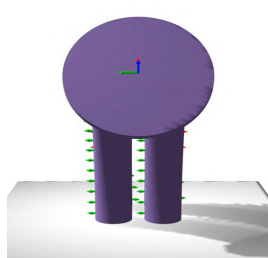
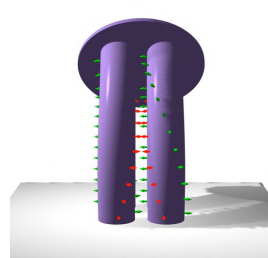
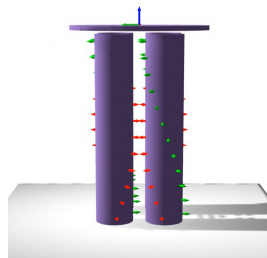
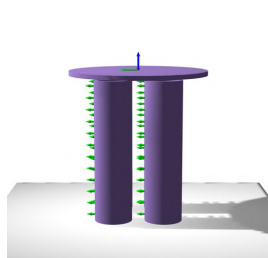
R	L
L	R

R	L
L	R

b)



c)



HSA actuation:



Initial state



Right-handed elongation



Left-handed elongation