

**Title:** Supplemental Video 1:

**Description:** Iron/PDMS microrobot demonstrating tumbling motion

**Title:** Supplemental Video 2:

**Description:** Iron/PDMS microrobot demonstrating rolling motion and obstacle avoidance

**Title:** Supplemental Video 3:

**Description:** Iron helix interlocked with an ecoflex (hydrophobic) frame

**Title:** Supplemental Video 4:

**Description:** Iron helix interlocked with a PDMS (hydrophilic) frame

**Title:** Supplemental Video 5:

**Description:** Frequency dependent forward motion of an iron/PDMS microrobot

**Title:** Supplemental Video 6:

**Description:** Frequency dependent tumbling motion of an iron/PDMS microrobot