Supporting Information:

Chained Iron Microparticles for Directionally Controlled Actuation of Soft Robots

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Additional Photographs of Weight Lifting in Applied Magnetic Fields

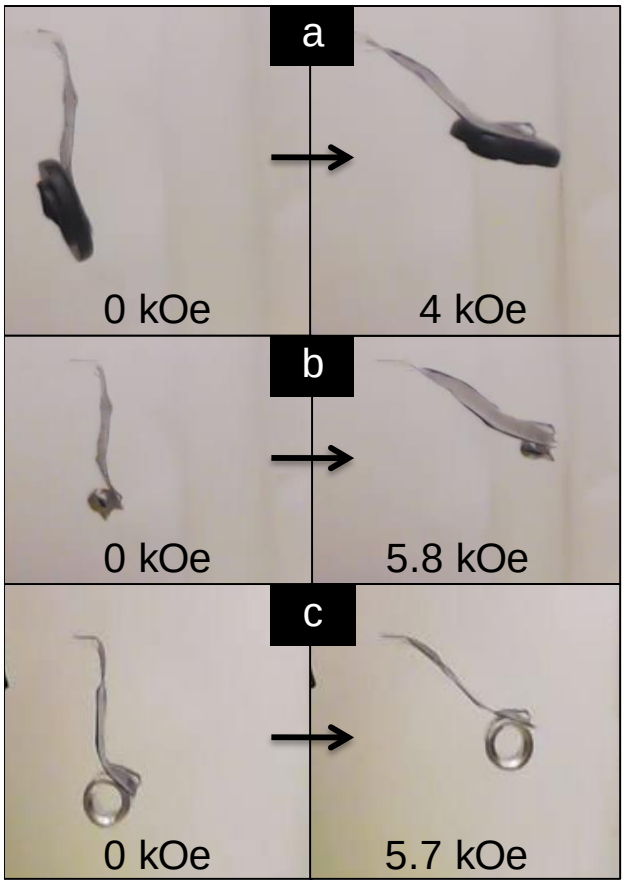

Figure S1. Photographs of weight lifting using cantilevers made from strips of composite film (l = 26 mm, w = 12 mm) with MMP chains oriented lengthwise, held fixed on the left end and with weights attached to the right end: (a) a piece of rubber (0.34 g), (b) a piece of lead (0.5 g), and (c) a piece of aluminum (0.52 g). The magnetic field was applied in a horizontal direction. Movie S1 for (c) is included in the Supporting Information.

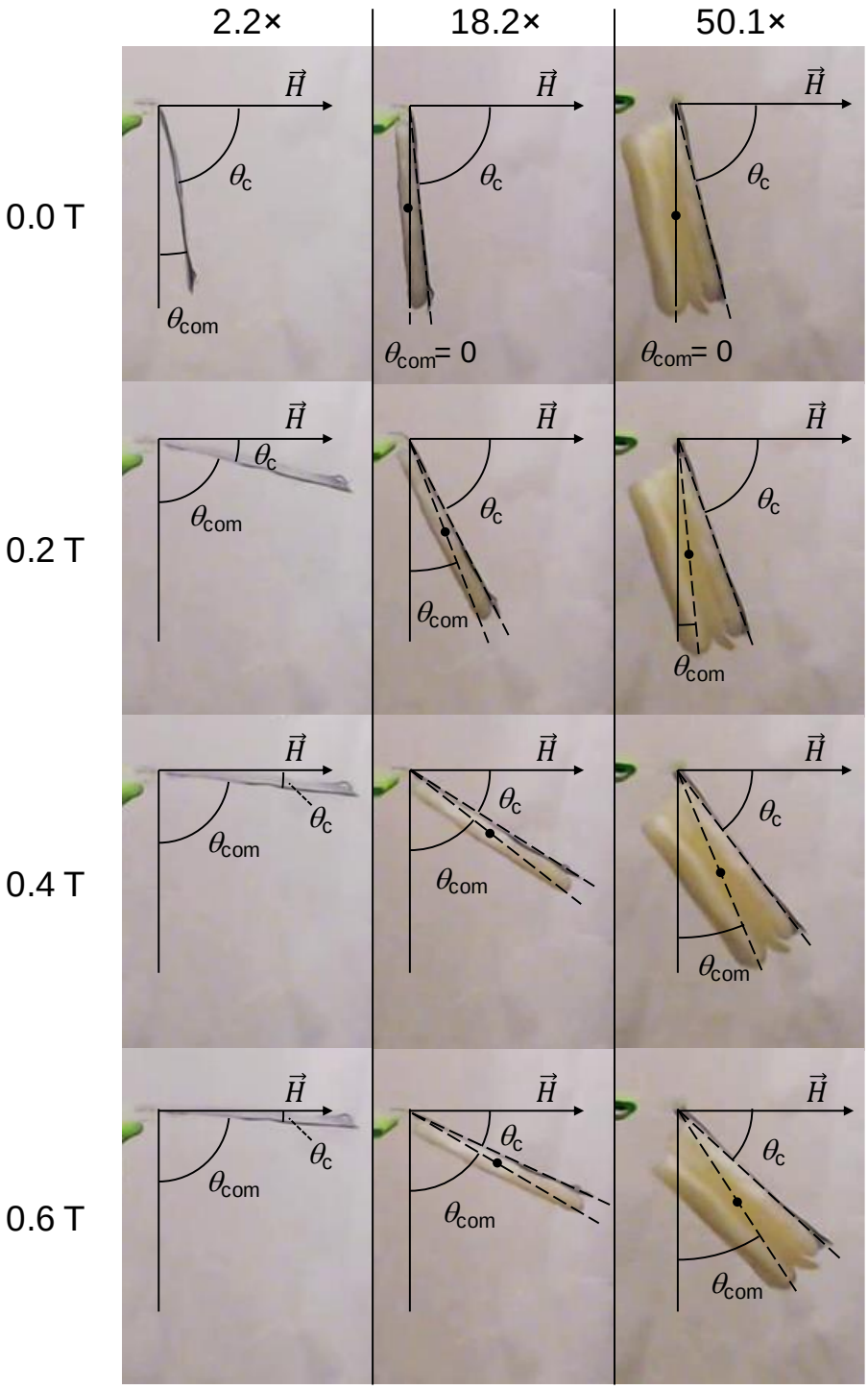

Figure S2. Representative images from Parafilm lifting experiments. As the magnitude of the magnetic field increases, the cantilever lifts toward horizontal. θ_c represents the angle of the cantilever with respect to the applied horizontal magnetic field, and θ_{com} represents the angle of the center of mass of the cantilever-Parafilm system relative to vertical. For weights of 18.2× and 50.1×, the center of mass is below the plane of the cantilever film and is represented in these images by a black dot.