Description of Additional Supplementary Files

**File Name:** Supplementary Movie 1

**Description:** Range of motion of the original shoulder developed by Devanthro

**File Name:** Supplementary Movie 2

**Description:** Tensile test to failure of the soft bioreactor chamber (video accelerated 10x) the column to the right.

**File Name:** Supplementary Movie 3

**Description:** High force regime (HFR) applied during culture with the humanoid bioreactor system

**File Name:** Supplementary Movie 4

**Description:** Low force regime (LFR) applied during culture with the humanoid bioreactor system