

## Description of Additional Supplementary Files

File Name: Supplementary Movie 1

Description: **Scratch test on CLiPS.** This movie presents the cross-section view of the fast autonomous self-healing capability of CLiPS.

File Name: Supplementary Movie 2

Description: **Tractive self-healing of electrode.** This movie presents the self-healing of the electrode demonstrated by connecting to an LED.

File Name: Supplementary Movie 3

Description: **Modulation of LED brightness with CLiPS.** This movie presents the demonstration of CLiPS-based device as a pressure-induced tactile sensor to modulate the brightness of LED.

File Name: Supplementary Movie 4

Description: **No change in LED brightness with CLPU@E0-IL.** This movie presents the demonstration of CLPU@E0-IL-based device exhibiting no significant change in LED intensity under pressure.”