

Description of Additional Supplementary Files

Supplementary Movie 1.

SL characteristic demonstration of MS-SLH || A weight (200 g) is easy to slide on surface of tilted glass sheets (4°) equipped with MS-SLH sheet.

Supplementary Movie 2.

SL characteristic absence of control DN hydrogel || A weight (200 g) is difficult to slide on surface of tilted glass sheets (13°) equipped with textured DN hydrogel sheet without dissociated-lubrication layer.

Supplementary Movie 3.

Load-bearing capacity demonstration of MS-SLH || The home-made mechanical loading-monitoring system is manufactured to visually show the mechanically robust SL characteristic of MS-SLH.

Supplementary Movie 4.

Sustained lubrication characteristic demonstration of MS-SLH || The home-made mechanical monitoring system is manufactured to verify long-lasting lubrication feature of MS-SLH.