

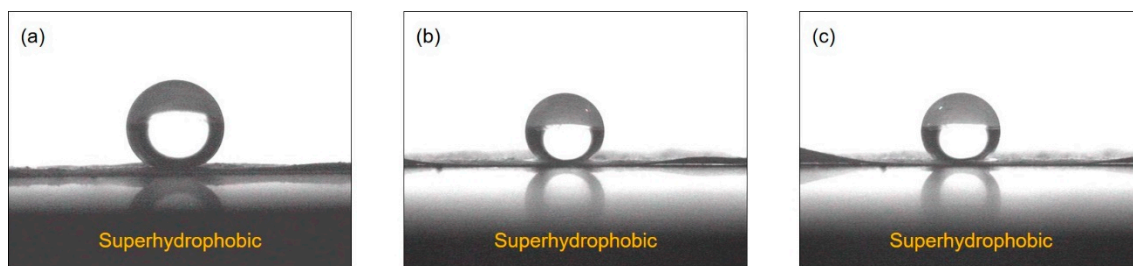
**Durable surface modification of low-density polyethylene/nano-silica composite films with bacterial antifouling and liquid-repelling properties for food hygiene and safety**

Sang Ha Song<sup>1</sup>, Michael Bae<sup>2,\*</sup>, Jun Kyun Oh<sup>1,\*</sup>

<sup>1</sup>*Department of Polymer Science and Engineering, Dankook University, 152 Jukjeon-ro, Suji-gu, Yongin-si, Gyeonggi-do 16890, Republic of Korea*

<sup>2</sup>*Artie McFerrin Department of Chemical Engineering, Texas A&M University, College Station, TX 77845, USA*

\*Correspondence and requests for materials should be addressed to M. Bae (email: [bsy7790@tamu.edu](mailto:bsy7790@tamu.edu)) or J.K. Oh (email: [junkyunoh@dankook.ac.kr](mailto:junkyunoh@dankook.ac.kr)).



(a) SRS-embedded LDPE (initial): 162.7°

(b) SRS-embedded LDPE (under water flow rate of 2 L/min for 72 h): 162.3°

(c) SRS-embedded LDPE (under water flow rate of 2 L/min for 144 h): 161.9°

\*Sample size: 1 cm × 1 cm

**Figure S1.** The water contact angles of SRS-embedded LDPE films were assessed following surface water flow measurements under flow conditions for a duration of up to 144 h.