



Active Layer Coating for Membrane prepared by Layer-by-Layer Technique

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Descriptions of Research Topics

- Development of waste water treatment membranes
- Development of membranes for biological sample treatment
- Antifouling and antimicrobial surface and coating for biomedical application
- Characterization of interface and nanoscale properties

Applications:

- Aqueous media treatment
- Bio-filtration kit
- Bio-compatible, anti-fouling coating surfaces
- Gas separation

US Patent *Micro Nanoporous Membrane, Preparing Method Thereof and Microfluidic Device Using the Same*, 2017

KR Patent *Microporous Membrane for Microfluidic Device*, 2018

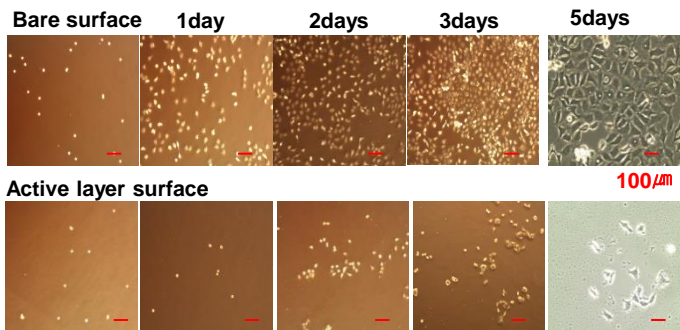
Nanostructures by block copolymer

- Various structure by self-assembly
- Can control of the domain of functions and properties
- May use molecular design for anti fouling

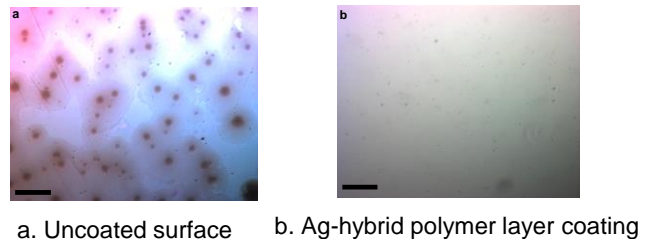
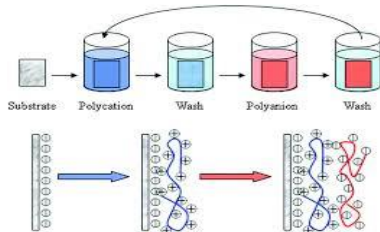


Anti-fouling effect & Filtration test

- Biofouling test: Human Embryonic Kidney cells



Active layer of membrane prepared by Layer-by-layer(LbL) process



Research Fields 1 Nano-filtration 2 Anti-fouling surface

Keywords Water treatment, Membrane, Antibacterial surface, Anti-biofouling, Polymer-Inorganic Hybrid, Surface Coating, Thin film