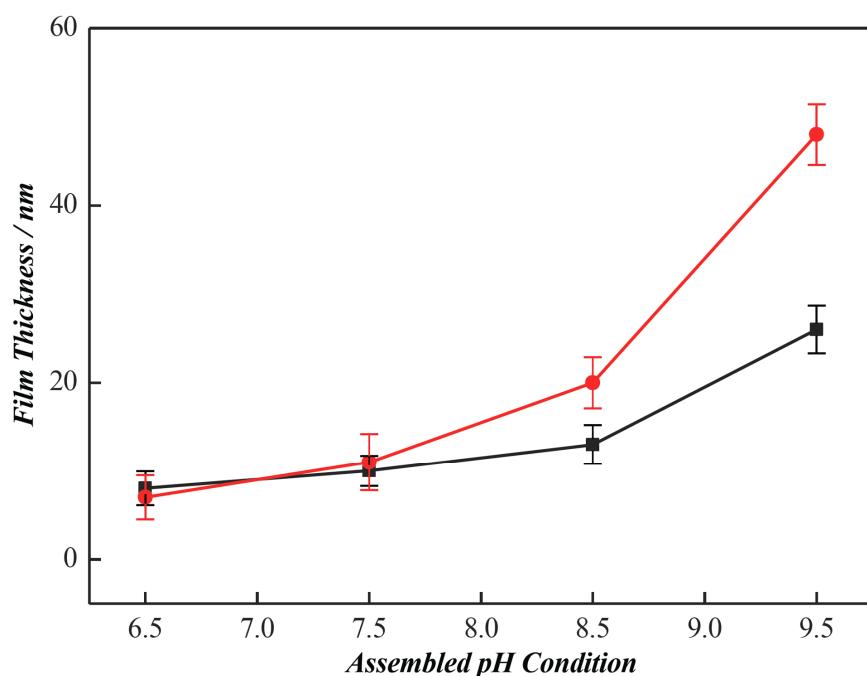


## Stimuli-Responsive Cylindrical Nanopore Structures Obtained by the Layer-by-Layer Deposition within AAO Templates

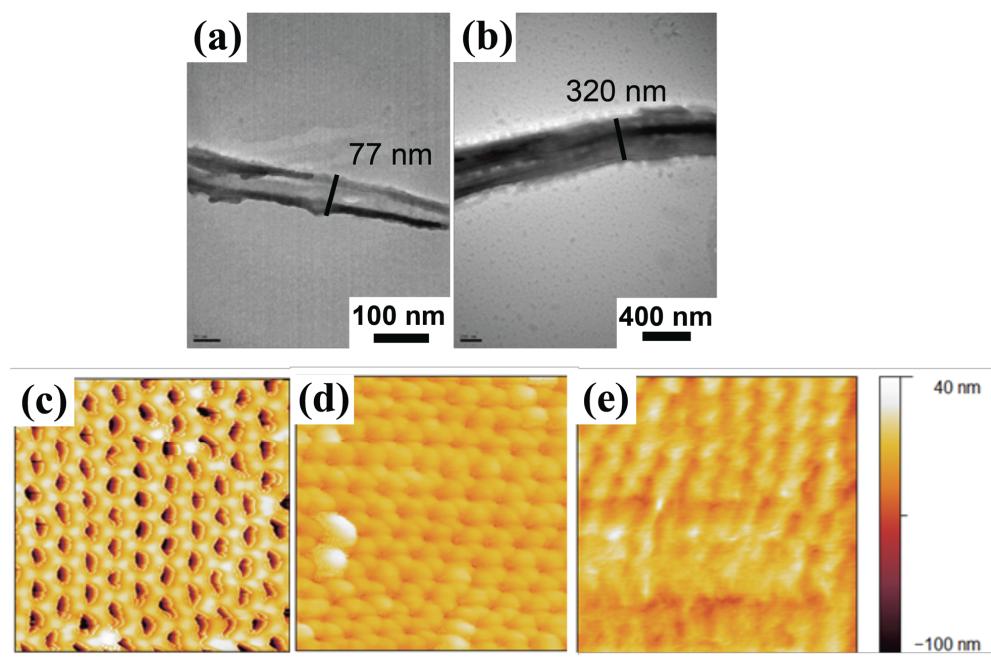
Younghyun Cho<sup>a</sup>, Jaehoon Lim<sup>a</sup>, and Kookheon Char<sup>\*a</sup>

### Electronic Supplementary Information

#### Figures



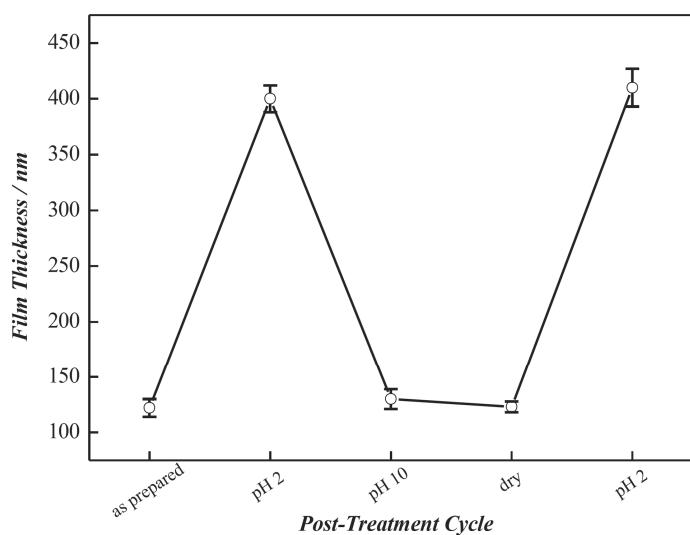
**Fig. S1** Changes in film thickness of  $(\text{PAH}/\text{PSS})_5$  multilayers assembled at different pH with 5 mM of  $\text{CaCl}_2$  on flat substrates before (black squares) and after (red circles) the post-treatment at pH 2.



**Fig. S2** TEM images of  $(\text{PAH}/\text{PSS})_6$  multilayer structures obtained by selective removal of AAO templates post-treated at a) pH 7 and b) pH 2. AFM images of c) pristine AAO templates, d) AAO templates containing  $(\text{PAH}/\text{PSS})_6$  multilayers, and e) AAO templates containing  $(\text{PAH}/\text{PSS})_6$  multilayers post-treated at pH 2.

	<b>QDs – NH<sub>3</sub><sup>+</sup></b>	<b>QDs – SO<sub>3</sub><sup>-</sup></b>
pH 7	+ 1.2 mV	- 39.0 mV
pH 2	+ 23.8 mV	- 17.8 mV

**Fig. S3** Zeta-Potentials of QDs with different terminating groups at different pH conditions.



**Fig. S4** Changes in film thickness of  $(\text{PAH}/\text{PSS})_{15}$  multilayers assembled at pH 9.5 with 5 mM of  $\text{CaCl}_2$  on a flat substrate as a function of different pH treatment.