

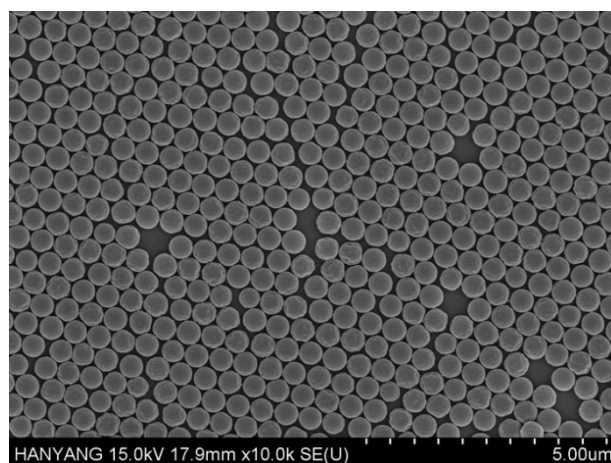
## Supplemental figures

**Fig. S1** SEM images of a self-assembled monolayer of PS spheres on (001) Si substrate (a) before and (b) after the oxygen plasma treatment.

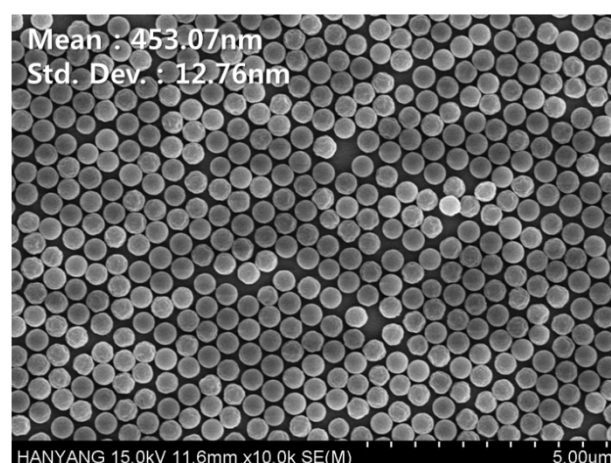
**Fig. S2** Cross-sectional SEM images of vertically aligned Si nanotrunk with different etching times: (a) 30 min; (b) 1 h; (c) 2 h. The insets show top-view SEM images. (d) Length of the Si nanotrunk as a function of etching time.

## Supplemental Figure:

**Figure S1**

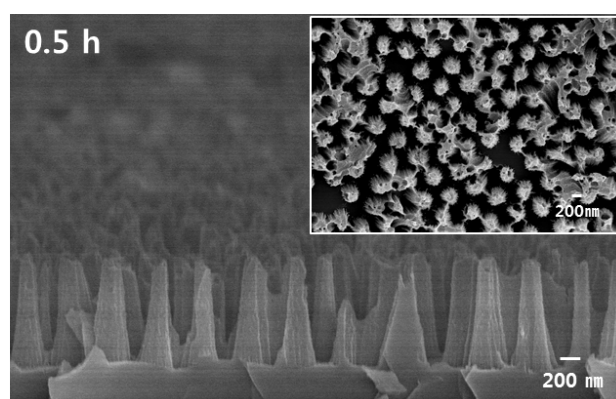


(a)

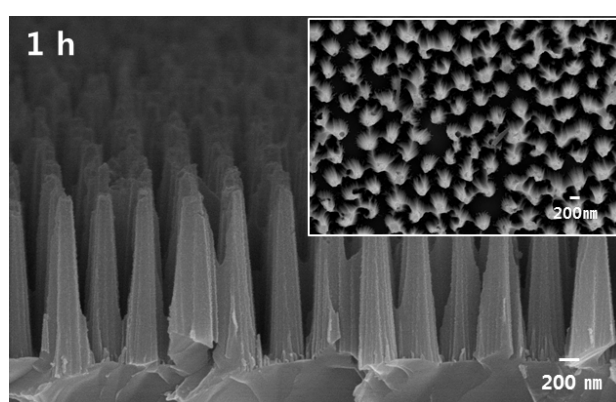


(b)

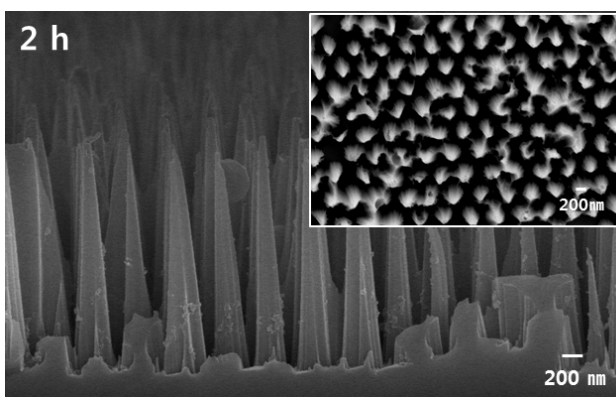
**Figure S2**



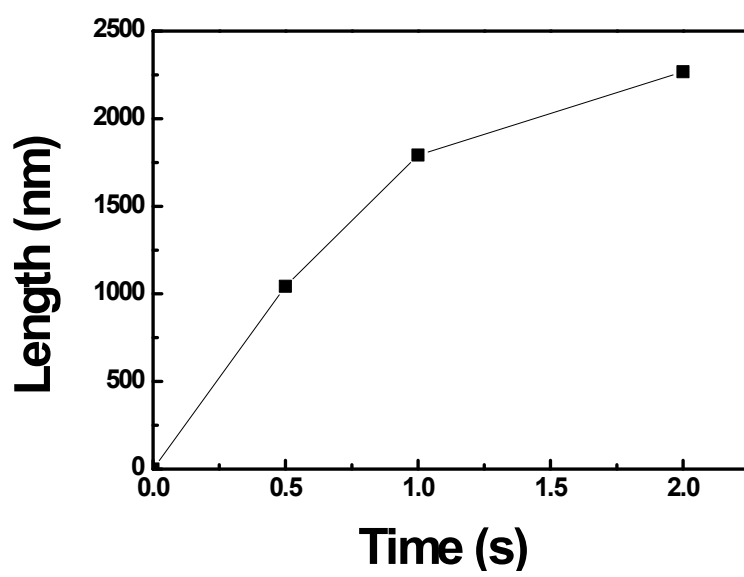
(a)



(b)



(c)



(d)