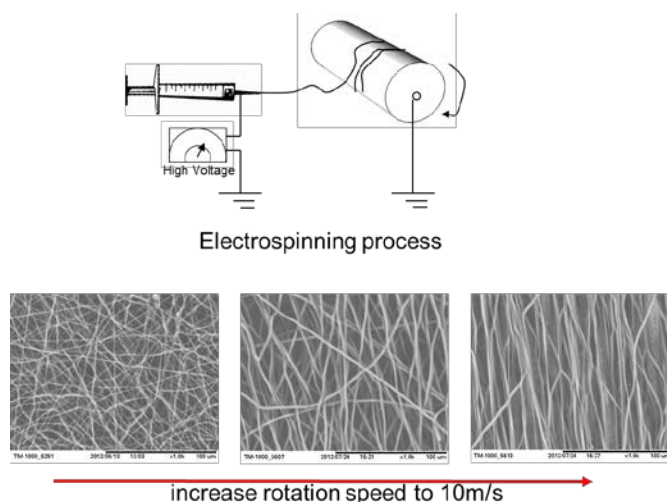


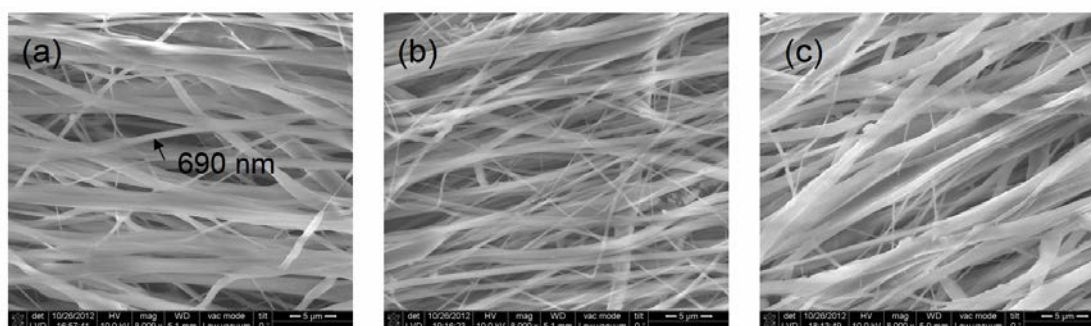
## Supporting Information

### Engineered Three Dimensional Nanofibrous Multilaminar Structure for Annulus Fibrosus Repair

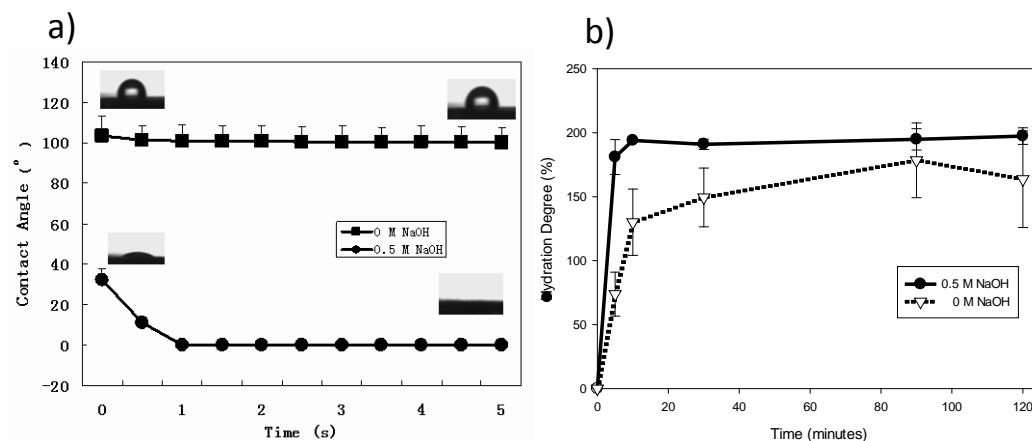
Ran Kang,<sup>a,c</sup> Dang Quang Svend Le,<sup>b</sup> Haisheng Li,<sup>a</sup> Helle Lysdahl,<sup>a</sup> Menglin Chen,<sup>\*b</sup> Flemming Besenbacher<sup>b</sup> and Cody Büngrer<sup>a</sup>



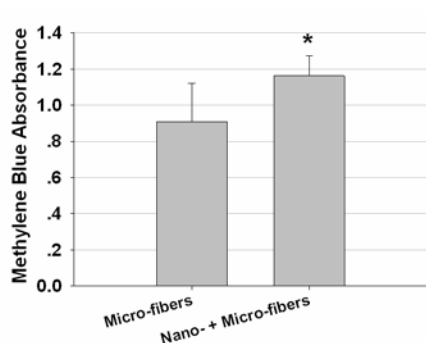
**Figure S1** Electrospinning of aligned PCL nanofibers.



**Figure S2** SEM images of the fibers after being immersed in different concentration of NaOH for 2 h. (a) 0M, the fiber surface were smooth; (b) 0.5M, the fiber surface still smooth; (c) 2M, the fiber surface became rough.



**Figure S3** a) Contact angles and b) Hydration degree of scaffolds pretreated by 0.5M NaOH comparing with 0M NaOH. Hydration degree was quickly reached to 180% within 5 minutes and maintained in a plateau by 0.5M NaOH pretreatment, while for 0M NaOH pretreatment only 73% in 5 minutes and reached the maximum 150% until 90 minutes.



**Figure S4** DNA quantification after 6 days of cell culturing. Vertical axis represents methylene blue absorbance relative to the cell number. Data are expressed as mean  $\pm$  SD (n=5). \* Significant difference between the groups,  $P < 0.05$ .