Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Self-Assembled Coronene Nanofiber Arrays: Toward Integrated Organic Bioelectronics for Efficient Isolation, Detection, and Recovery of Cancer Cells

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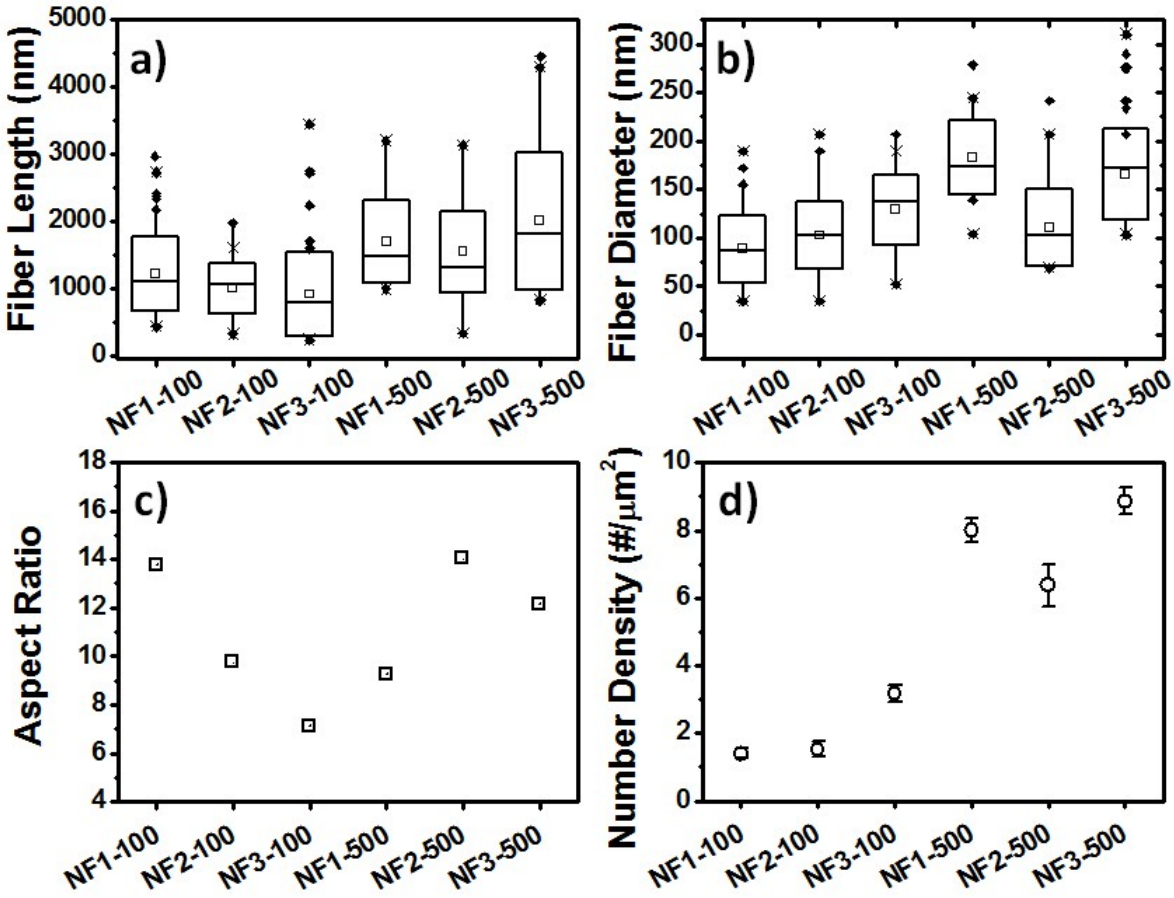

Fig. S1 (a) Length and (b) diameter distributions of all CR-based NFs in box plots; the horizontal lines inside the boxes represent the median values, and the limits of the box denote the upper and lower quartiles; the maximum and minimum values delimit the bars. (c, d) Comparisons of the (c) aspect ratios and (d) number densities of the CR-based NFs.

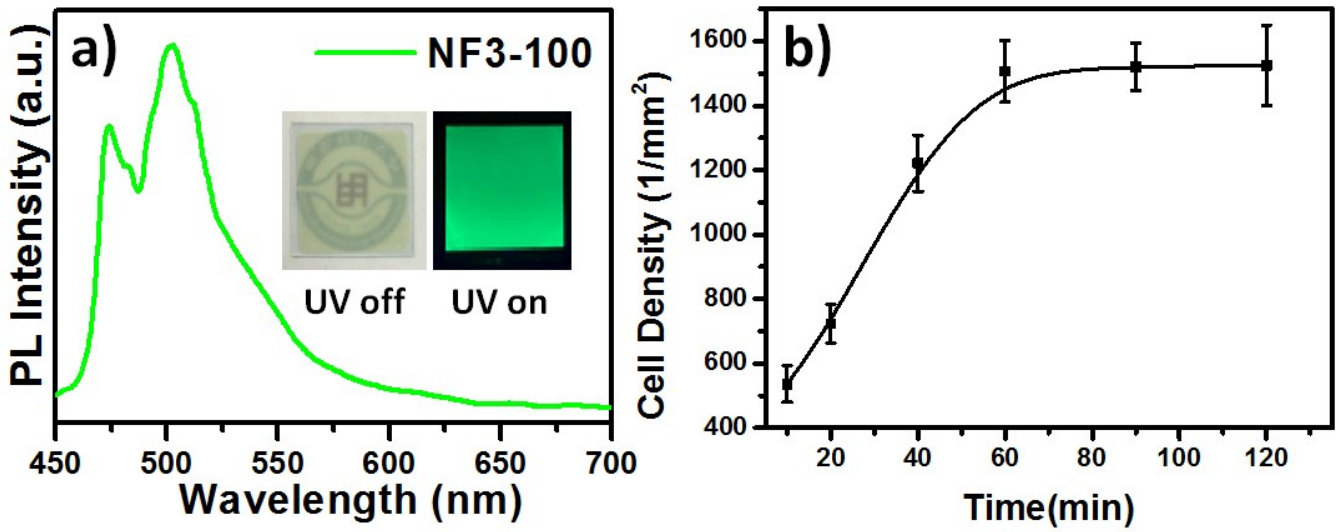

Fig. S2 (a) PL spectrum of **NF3-100**, with excitation at 405 nm; inset: optical micrograph of **NF3-100** under (left) ambient illumination and (right) long-wavelength (λ = 365 nm) UV illumination. (b) Cell-capture density of MCF7 plotted with respect to the incubation time; the maximum was reached after 60 min.

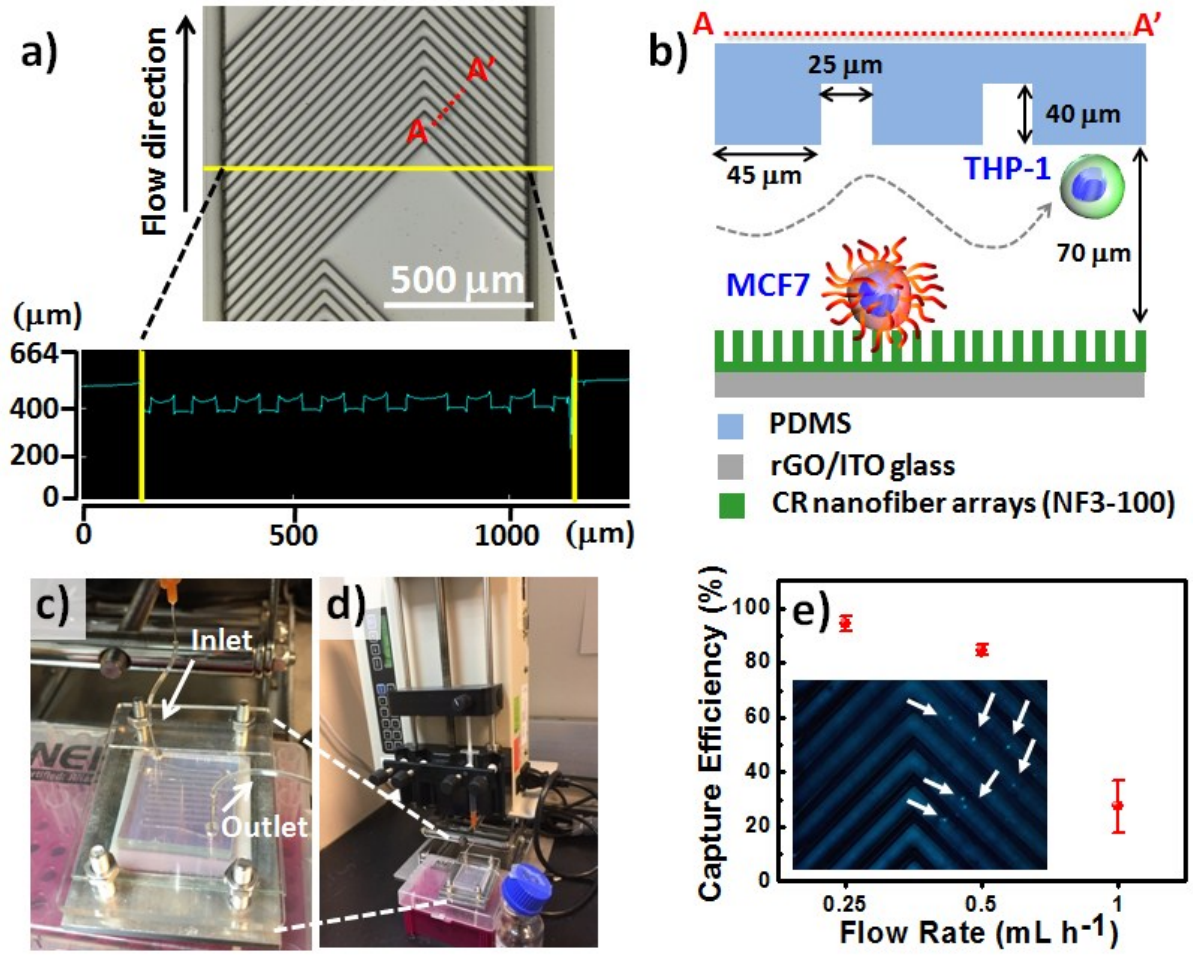

Fig. S3 (a) Optical profiles of the grooved surface illustrating the asymmetry and periodicity of the herringbone grooves in the microfluidic PDMS chaotic mixer. (b) Integration of **NF3-100** with a microfluidic PDMS chaotic mixer; the dimensions of the PDMS chaotic mixer are presented on the top. (c, d) Images of (c) a CR-based NF microfluidic device and (d) a system for capturing MCF7 cells from a THP-1 cell solution (10^6 cells mL^{-1}). (e) Cell-capture efficiency of the CR-based NF microfluidic device at flow rates of 0.25, 0.5, and 1 mL h^{-1}; inset: fluorescence image of MCF7 cells captured by the **NF3-100** microfluidic device, revealing the nuclei of MCF7 cells pre-stained with Hoechst 33342.