

Electronic Supplementary Material (ESI) for New Journal of Chemistry

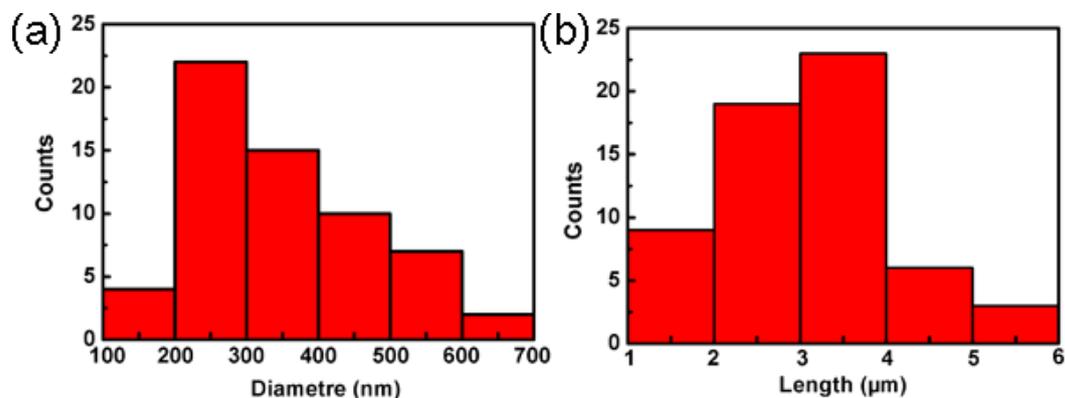
## Electronic Supplementary information

### Large-scale assembly of semiconductor nanowires into desired patterns for sensor applications

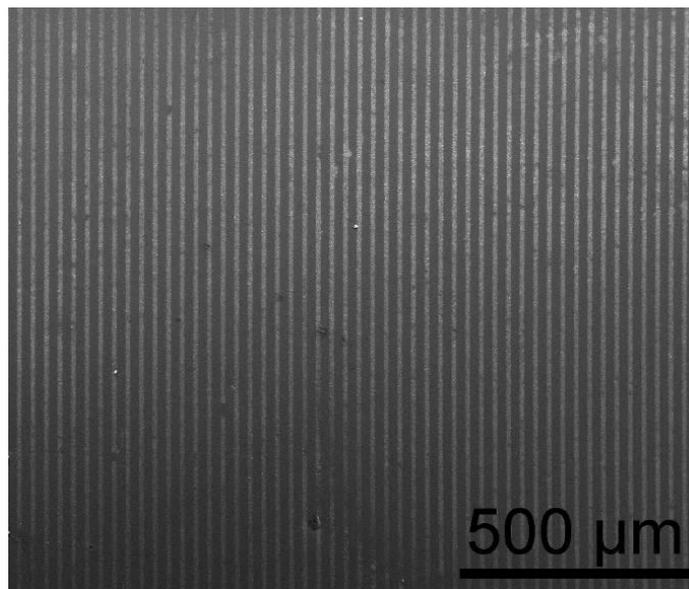
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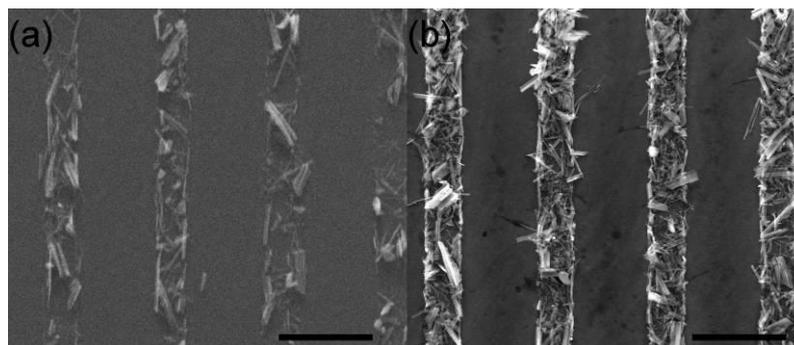
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**Fig. S1** (a) and (b) are the diameter and length distribution of SiNWs, respectively, more than sixty SiNWs are measured.



**Fig. S2** A SEM image of large-scale NWs patterns on ITO glass after PR removal.



**Fig. S3** (a) and (b) are SEM images of SiNW patterns obtained at low and high SiNWs concentrations, respectively. Scale bars are 5  $\mu\text{m}$ .

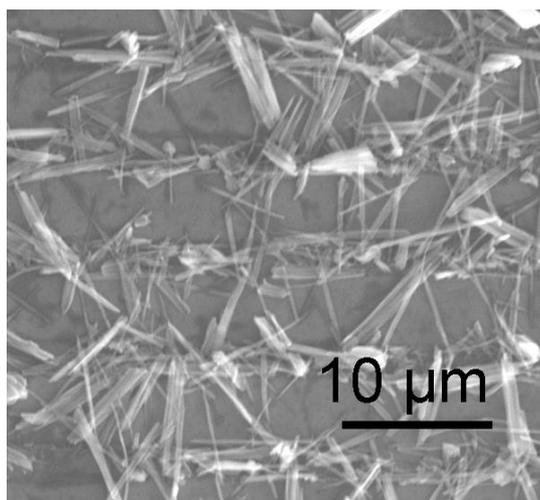
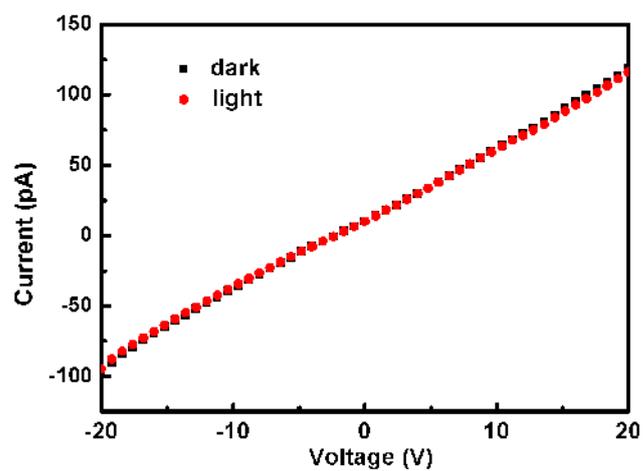


Fig. S4 SEM image of the SiNW patterns obtained with the SiNW length ( $L$ ) much larger than the channel width ( $W$ ).



**Fig. S5** *I-V* curves of randomly dispersed SiNWs on SiO<sub>2</sub> (300 nm thick)/Si substrate measured in dark and under light illumination, respectively.