

Supporting Information

Solution Processable in-situ Passivated Silicon Nanowires

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Figure S1. SiNWs dispersed in the ethanol with different concentrations.

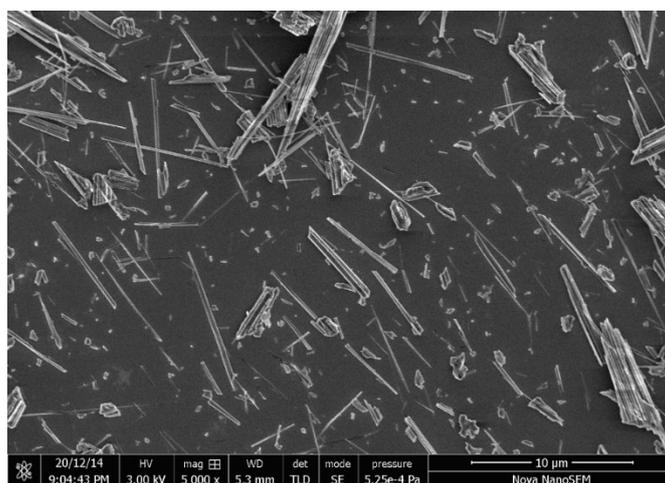


Figure S2. SEM images of SiNWs:ethanol thin films by spin-coating at 1000-3500 rpm.

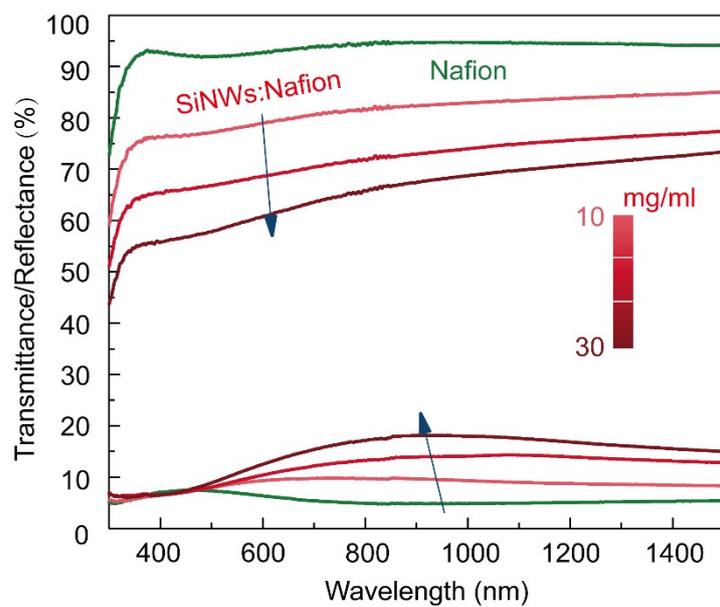


Figure S3. Transmittance (top) and reflectance (bottom) of the SiNWs:Nafion thin films with different concentration.

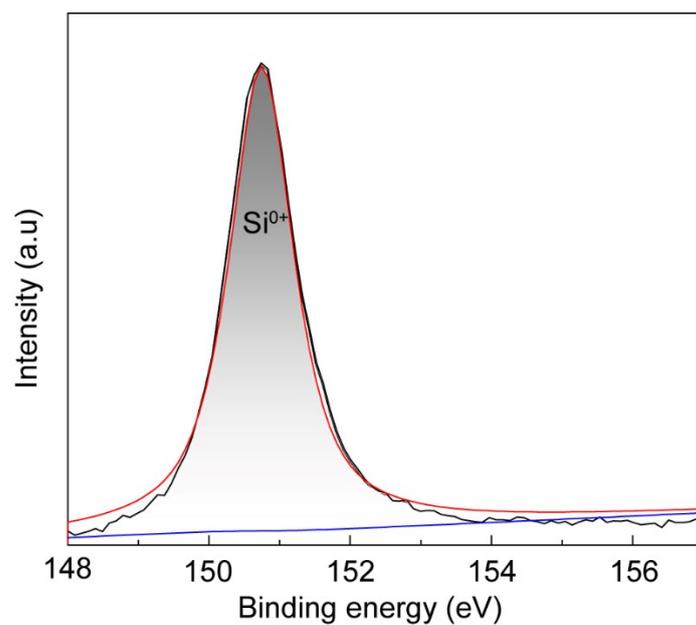


Figure S4. Si 2s spectra of SiNWs for XPS characterizations. Only the signal peaks of Si species (Si^0) was detected, but without the peaks of Si sub-oxides in Figure 3a. Here we don't show Si 2s XPS of the Nafion/SiNWs sample because the insulating Nafion layer on the top of the SiNWs film impedes XPS measuring for the interface between Nafion and SiNWs film.

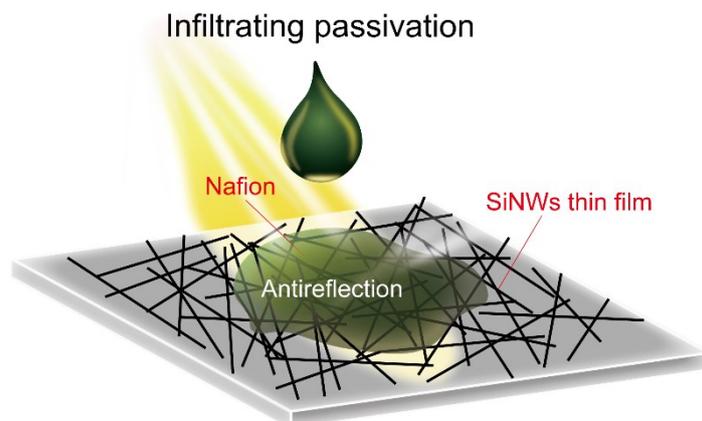


Figure S5. Illustration of a simple application of Nafion to SiNWs, inducing an antireflection effect and passivation at the same time.

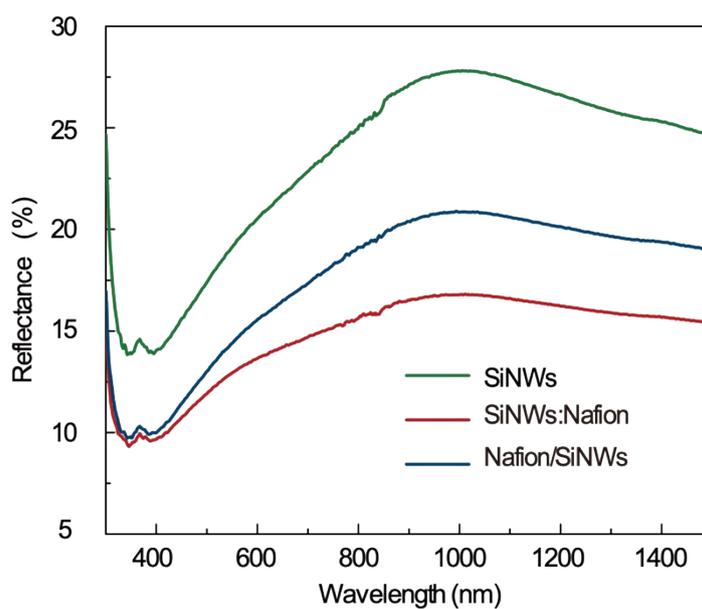


Figure S6. Transmittance and reflectance of SiNWs, SiNW:Nafion and Nafion/SiNWs film. The precursor solution concentration used for thin film is 20 mg/ml.

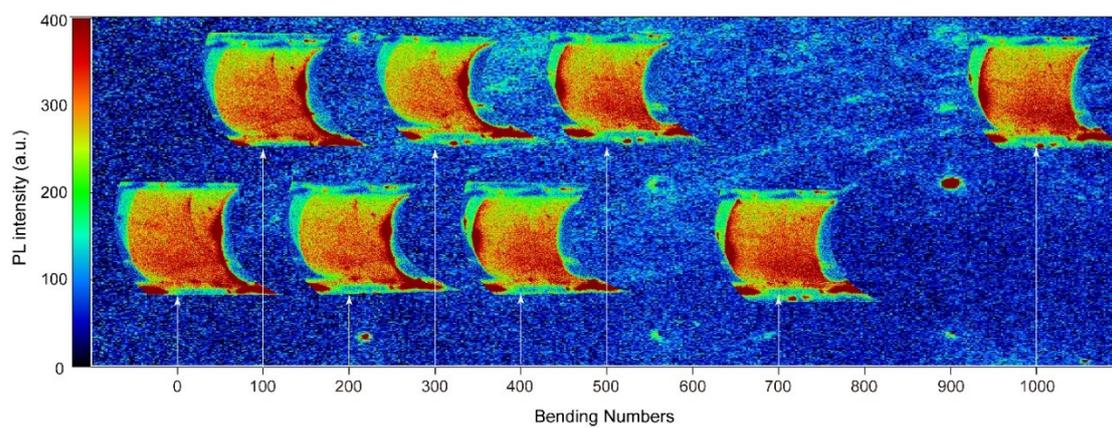


Figure S7. The spatially resolved infrared-PL imaging measurements of the SiNW:Nafion thin film on a flexible PET substrate with bending 1000 times.