

Supporting information

Wet-Chemical Synthesis of Surface Passivated Halide Perovskite Microwires for Improved Optoelectronic Performance and Stability

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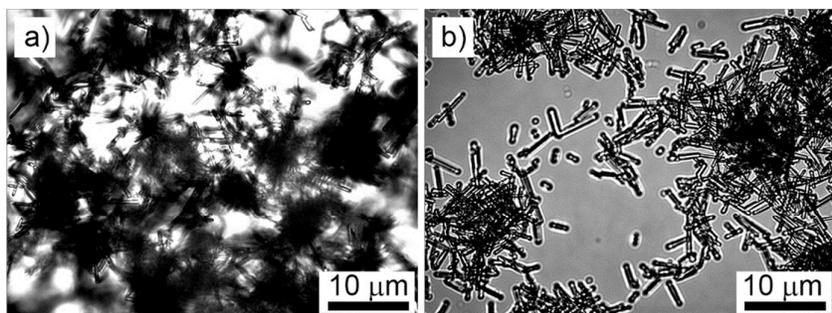


Figure S1. Optic microscope images of $\text{CH}_3\text{NH}_3\text{PbI}_3$ micro/nanowires in IPA at different stage. a) $\text{CH}_3\text{NH}_3\text{PbI}_3$ NWs in IPA, b) $\text{CH}_3\text{NH}_3\text{PbI}_3$ NWs when IPA gradually volatilizes.

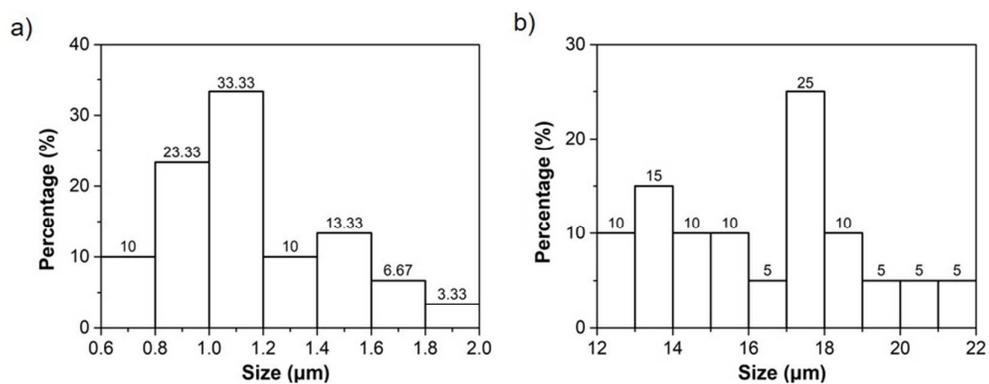


Figure S2. The diameter size distribution (a) and the length size distribution (b) of perovskite micro/nanowires.

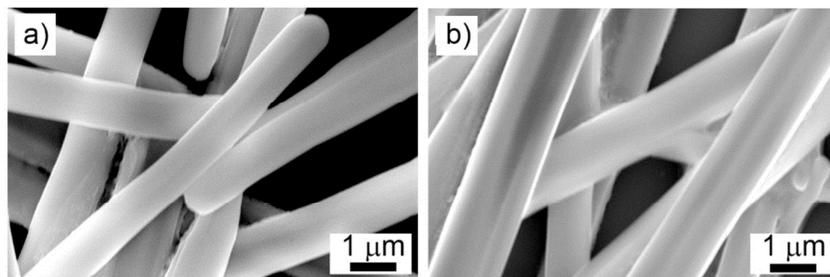


Figure S3. SEM images of a) $\text{CH}_3\text{NH}_3\text{PbI}_3$ micro/nanowires and b) 5% PFA modified $\text{CH}_3\text{NH}_3\text{PbI}_3$ micro/nanowires drop on silicon substrate.

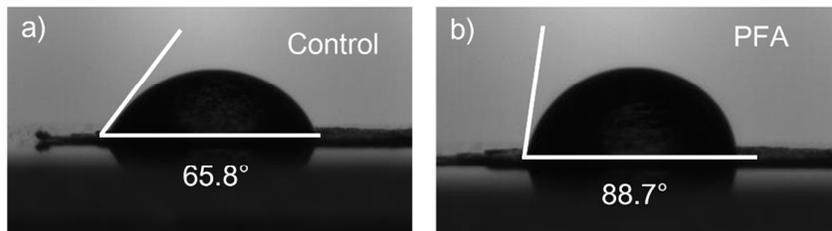


Figure S4. The contact angles of water on the bare perovskite micro/nanowires (a) and PFA modified perovskite micro/nanowires (b).

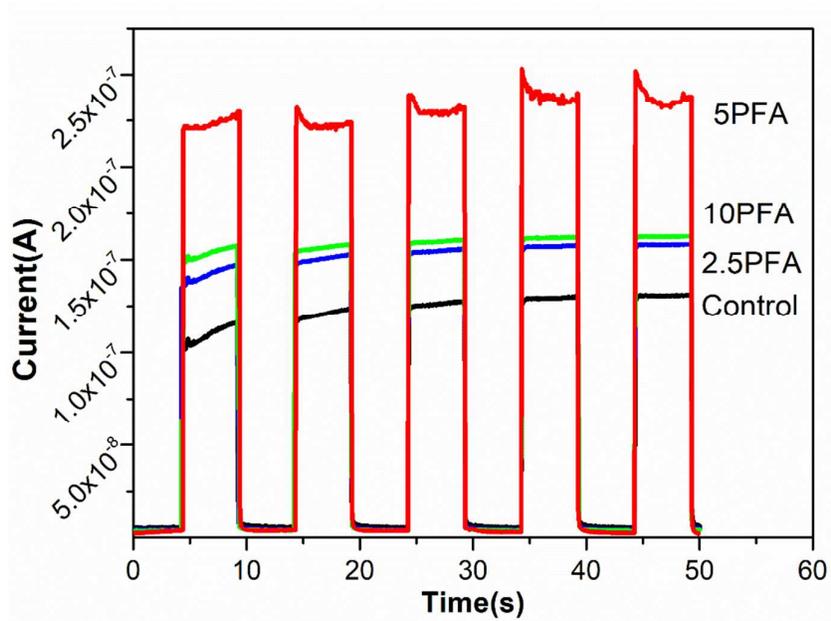


Figure S5. Transient photoresponses of $\text{CH}_3\text{NH}_3\text{PbI}_3$ micro/nanowires modified with different concentrations of PFA.

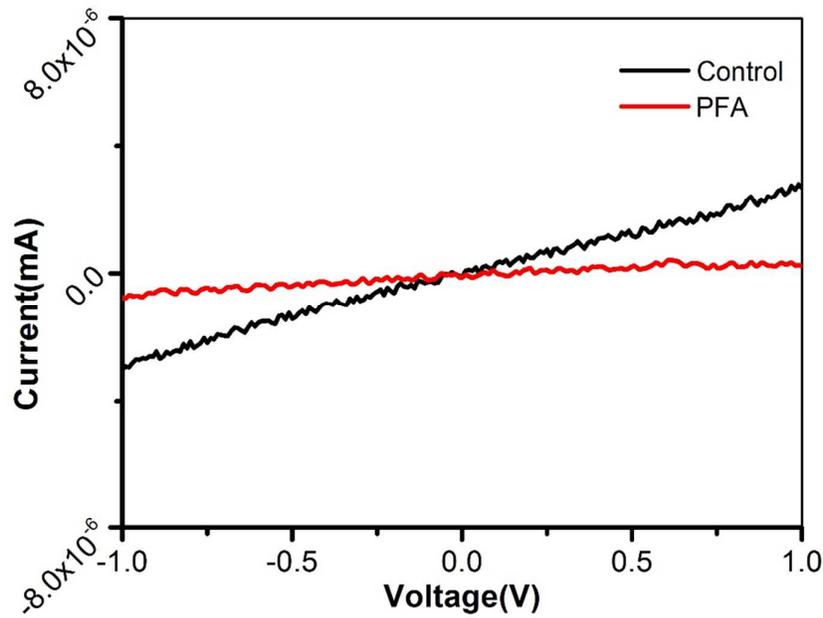


Figure S6. Light-dark current-voltage (I-V) curves of $\text{CH}_3\text{NH}_3\text{PbI}_3$ micro/nanowires with and without (control) PFA modification (5% PFA).

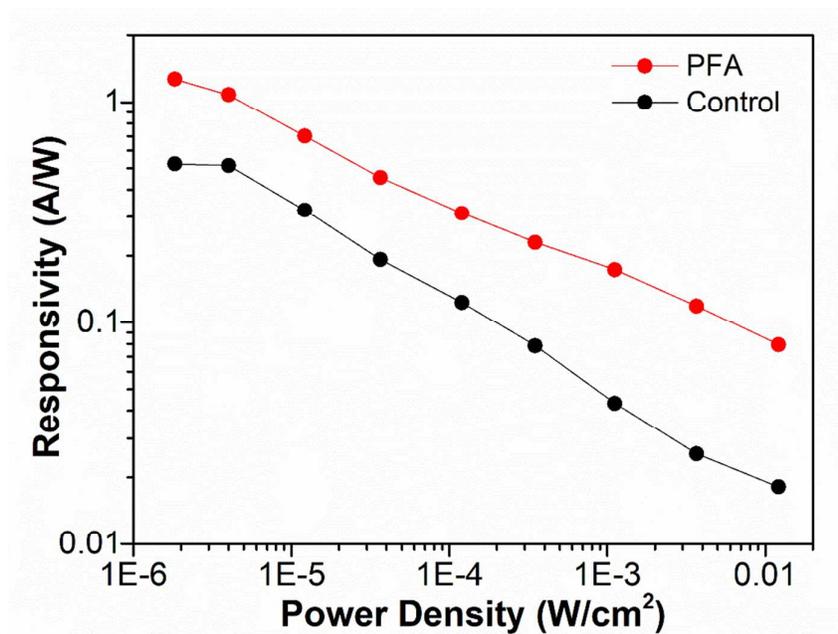


Figure S7. The responsivity of photodetectors based on control and PFA (5%) modified $\text{CH}_3\text{NH}_3\text{PbI}_3$ micro/nanowires.