

## Supporting Information

# High-Performance Transparent Conducting Metal Network Electrodes for Perovskite Photodetectors

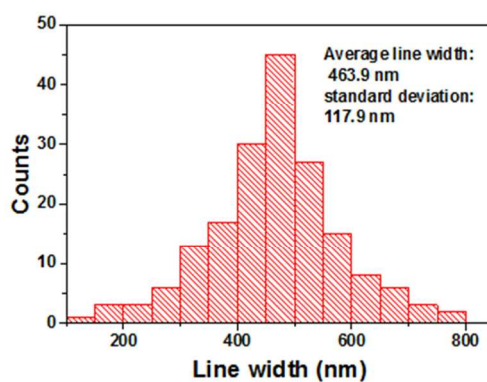
Jie Yang<sup>†‡</sup>, Chunxiong Bao<sup>§‡</sup>, Kai Zhu<sup>†</sup>, Tao Yu<sup>§</sup> and Qingyu Xu<sup>†§\*</sup>

<sup>†</sup>School of Physics, Southeast University, Nanjing 211189, China

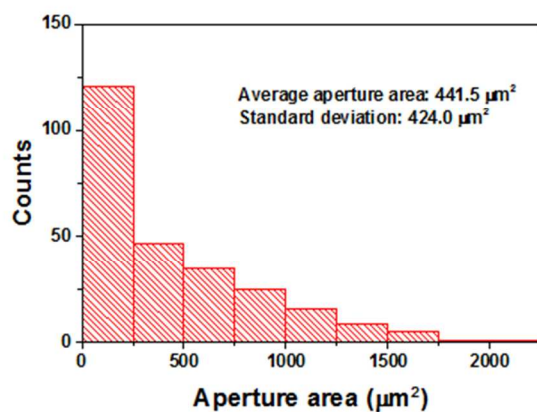
<sup>§</sup>National Laboratory of Solid State Microstructures, Nanjing University, Nanjing 210093, China

<sup>‡</sup>These authors contributed equally to the work.

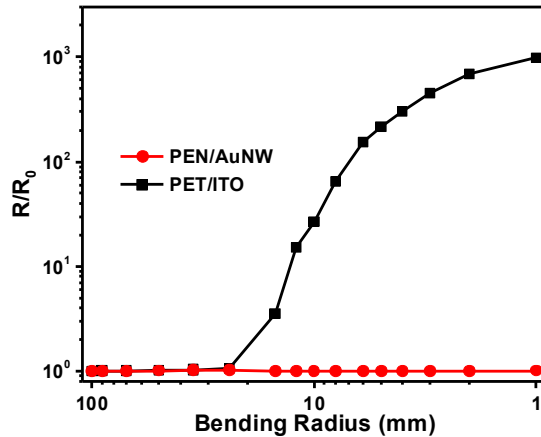
\* Address correspondence to [xuqingyu@seu.edu.cn](mailto:xuqingyu@seu.edu.cn)



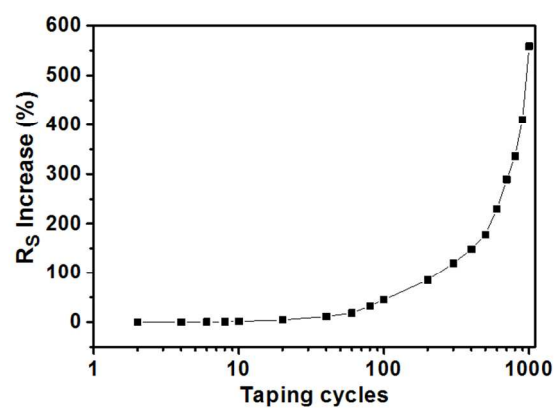
**Figure S1** The line width distribution of the Au network with the average width 463.9 nm and the standard deviation 117.9 nm.



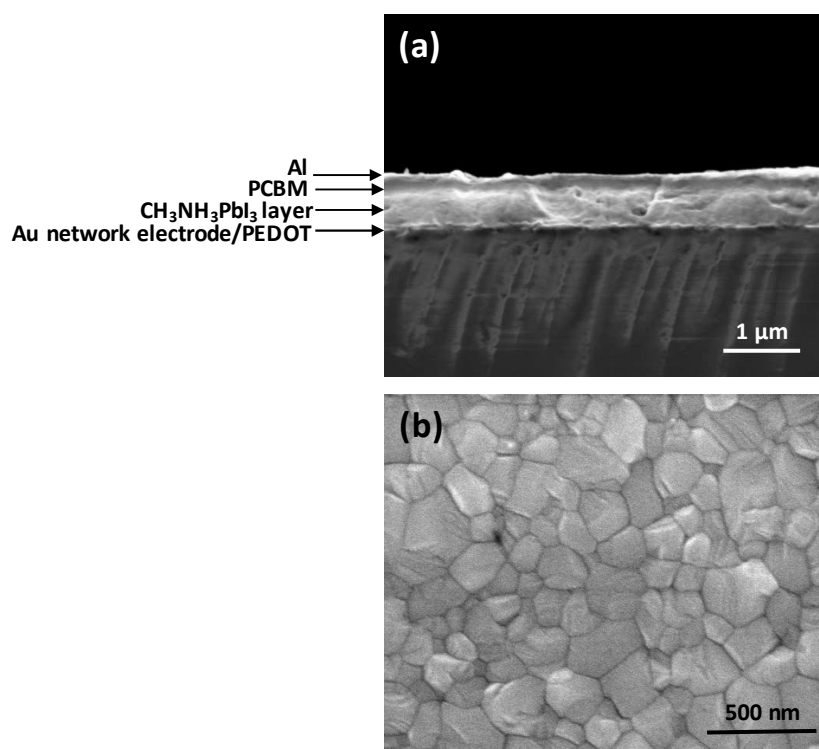
**Figure S2** The Au network aperture distribution with the average aperture area 441.5  $\mu\text{m}^2$  and the standard deviation 424.0  $\mu\text{m}^2$ .



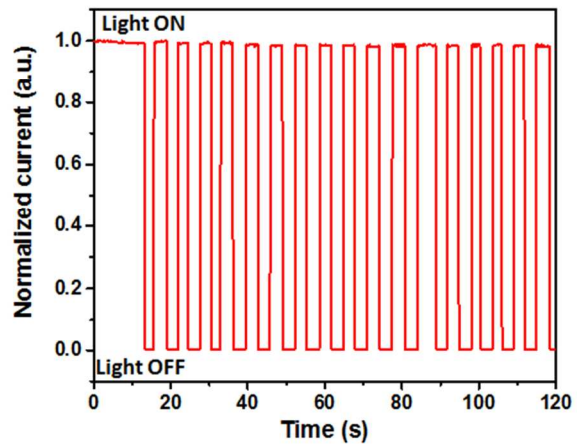
**Figure S3** Resistance increase of the Au network/PEN and ITO/PET transparent electrodes under different bending radii.



**Figure S4** The adhesion of the Au/Ti network on the PEN substrate.



**Figure S5** a) the cross profile of the Au network based  $\text{CH}_3\text{NH}_3\text{PbI}_3$  photodetector and b) Top-view SEM image of the  $\text{CH}_3\text{NH}_3\text{PbI}_3$  film on Au network transparent electrode.



**Figure S6** The stability of the Au network electrode based perovskite photodetector when exposed with chopped light for 120 s.