

Supporting Information for

CdS Nanorods/Organic Hybrid LED Array and the Piezo-Phototronic Effect of the Device for Pressure Mapping

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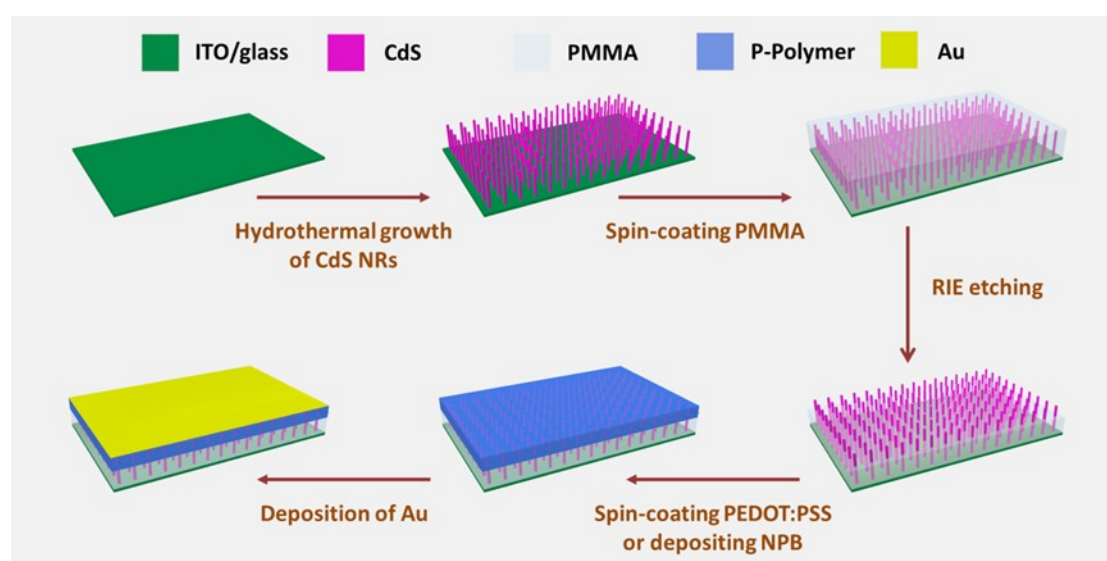


Figure S1 Schematic illustration of the fabrication process of CdS nanorod/PEDOT:PSS LEDs array.

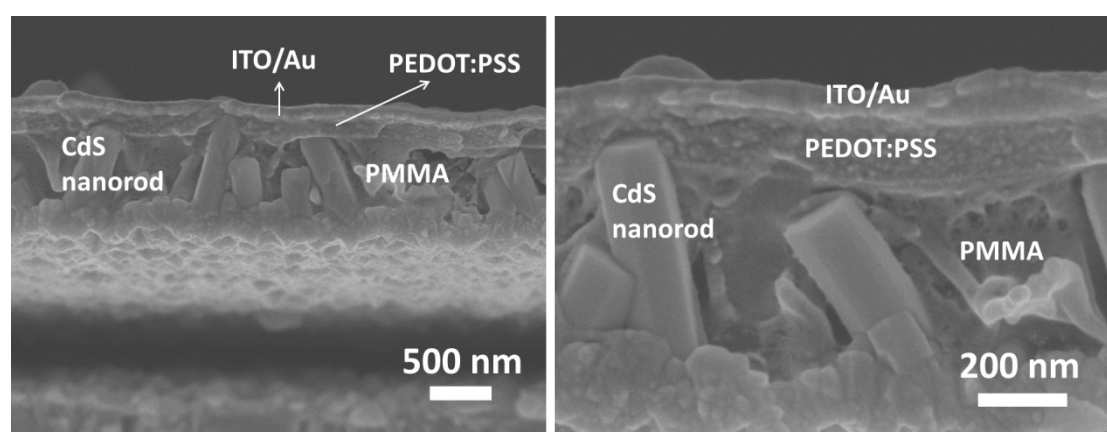


Figure S2 The cross-section images of the device

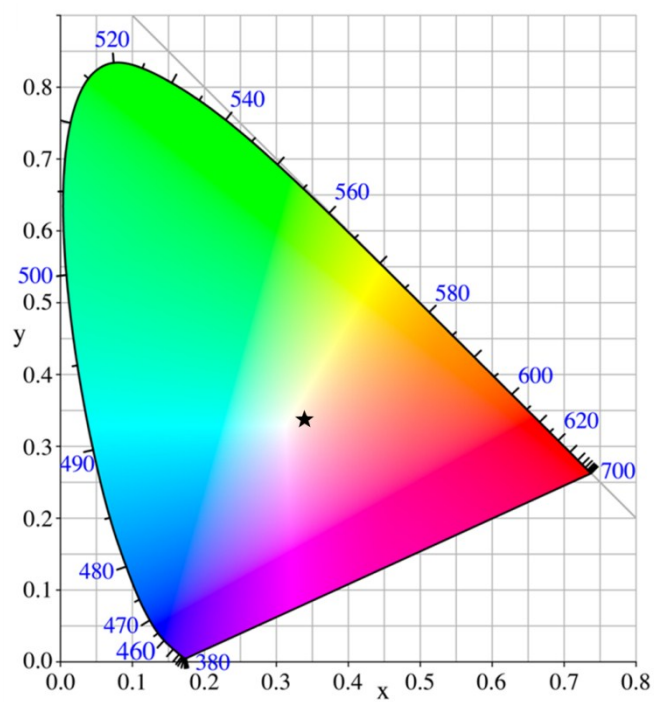


Figure S3 The CIE chromaticity diagram of CdS nanorod/PEDOT:PSS LED.

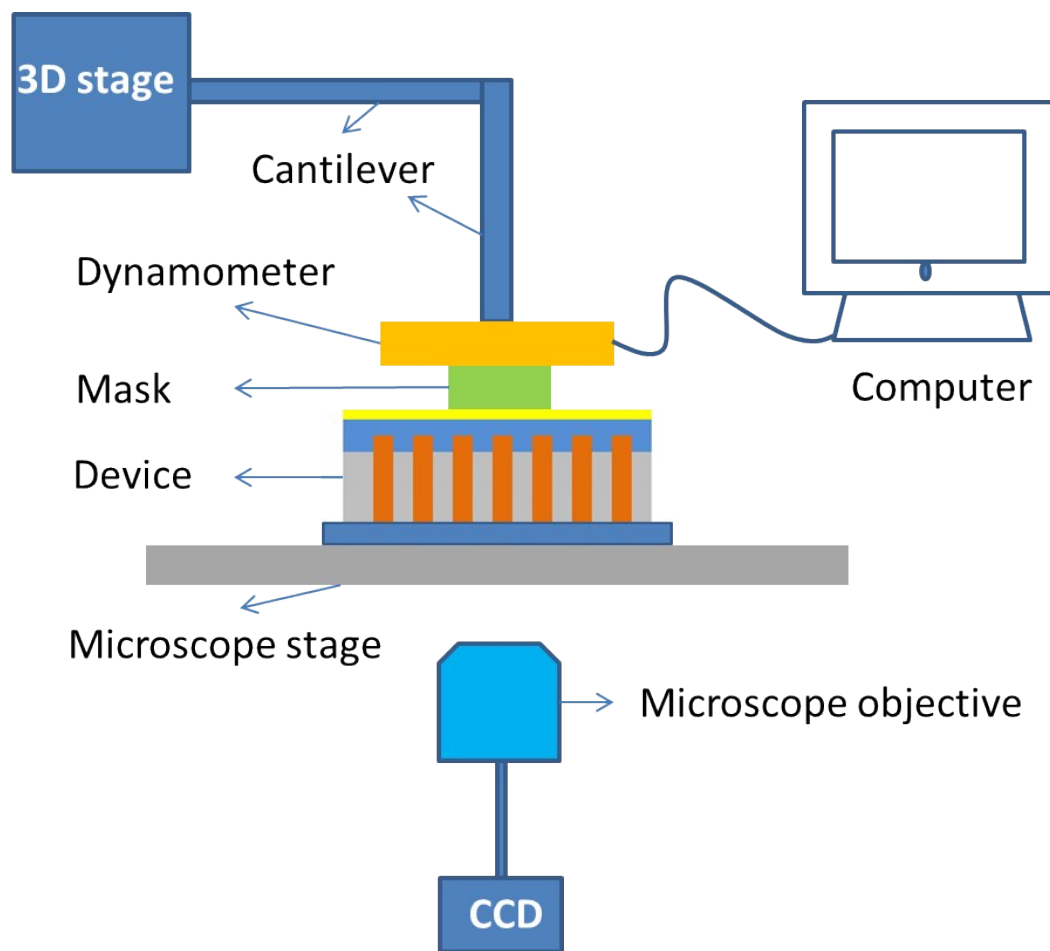


Figure S4 The schematic diagram of the measurement system for characterizing the performance of the device under applied compressive strain.

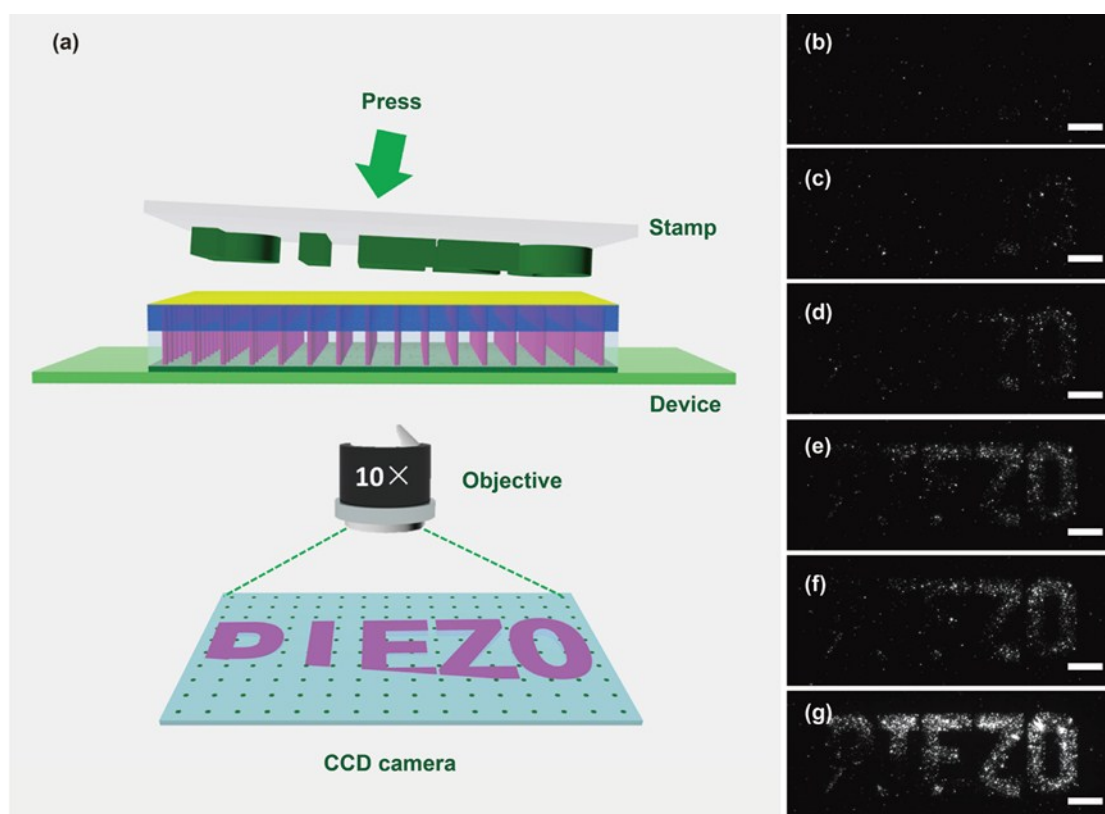


Figure S5 Electroluminescence images of the device at tilt pressure of 0 MPa, 20 MPa, 40 MPa, 60 MPa, 80 MPa and 100 MPa with the convex-character pattern of 'PIEZO', respectively. The bar in figure is 50 μm.

The flexible and stability text of the LED array

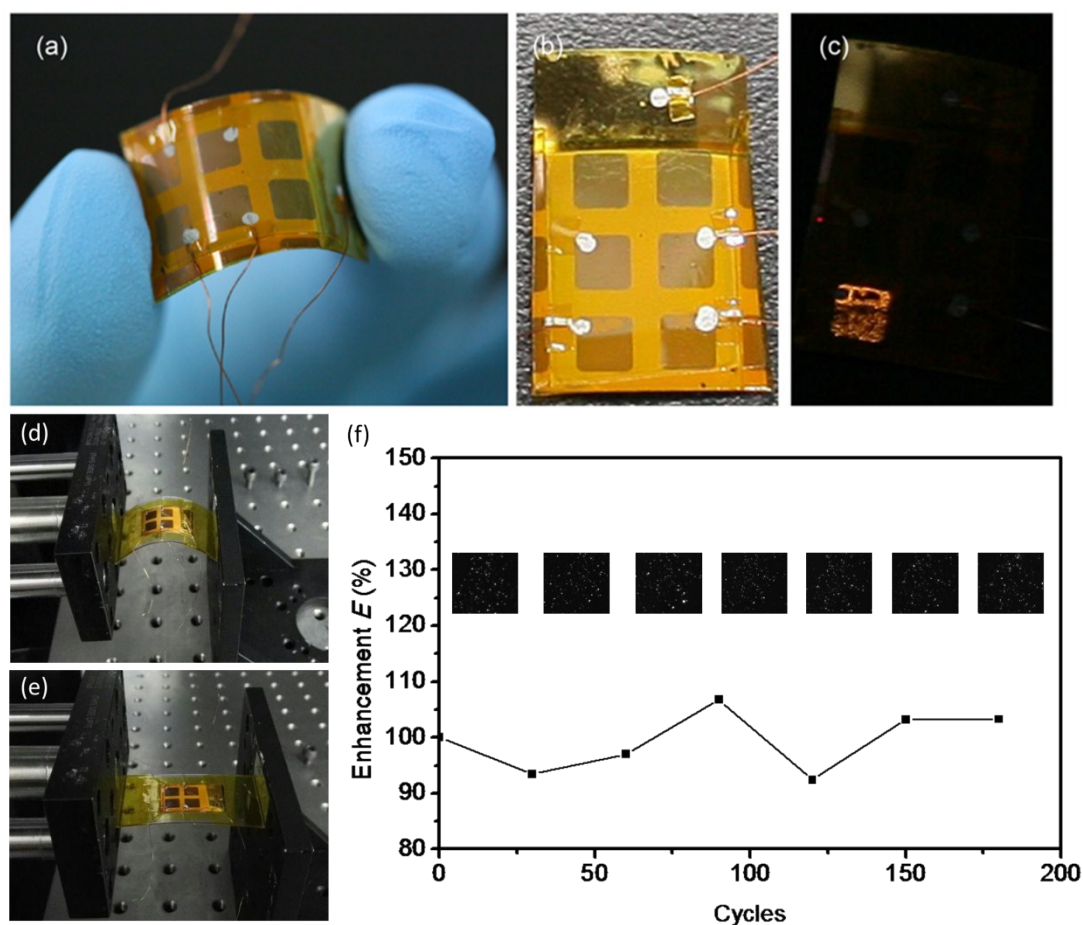


Figure S6 (a) and (b) Photograph of the CdS nanorods/PEDOT:PSS LED based on flexible substrate and (c) corresponding optical image when the device was electrically lit up. (d), (e) and (f) The flexible and stability text of the LED array mapping sensors. The light emission performance was not significant changing in the progress of bend-release cycles over 150 times.

The LED device (with a length of 2.5 cm and width of 1.5 cm) was attached on a PS substrate (with a typical length of 5 cm and width of 3 cm) for bending test. A linear motor was used for applying programmed driving strain inputs. When the substrate was bent mechanically, the LED device was also bent subsequently with a bending radius of about 2.5 cm. We lit up the LED device and collected the corresponding light intensity after a certain number of bending.