Supporting Information

[60]PCBM Single Crystals: Remarkably Enhanced Band-like Charge Transport, Broadband UV-Visible-NIR Photo-responsivity and Improved Long-term Air-stability

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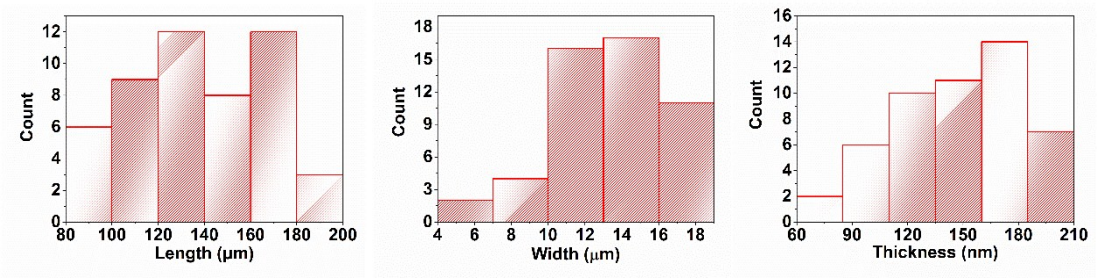

Figure S1 Histogram of dimensions (length, width and thickness) of [60]PCBM single crystals calculated from 50 individual single crystals.

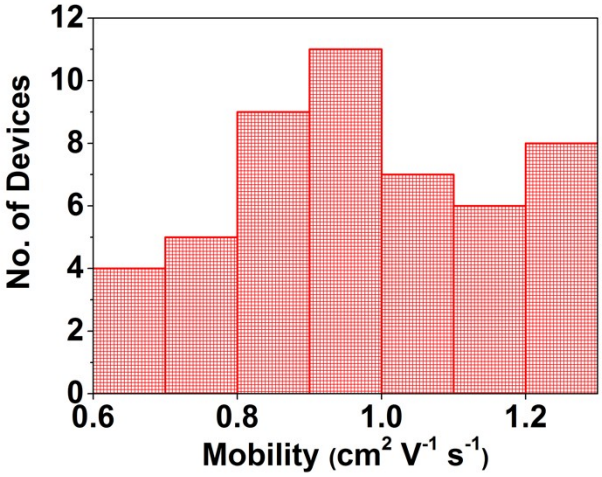

Figure S2 Histogram of electron mobility calculated from 50 OFETs based on [60]PCBM single crystals.

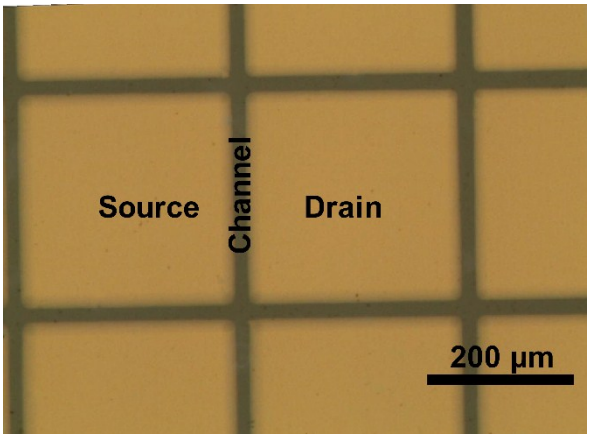

Figure S3 OM image of OFET device based on [60]PCBM thin films.

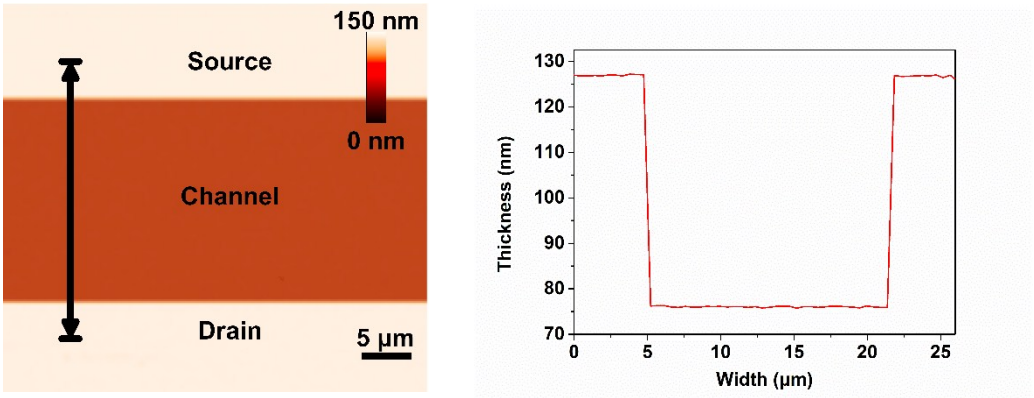

Figure S4 AFM image and selected area roughness analysis of OFET device based on [60]PCBM thin films.

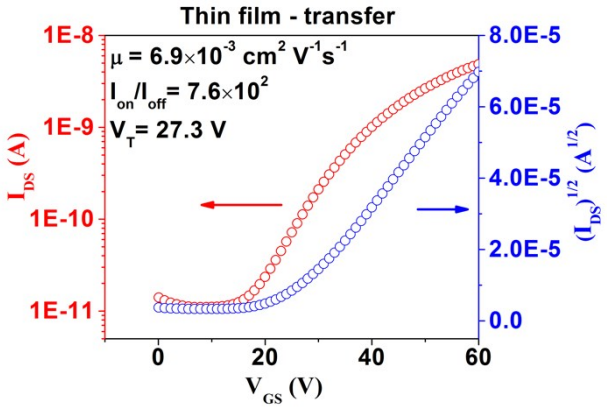

Figure S5 Typical transfer characteristics of thin film device in n-channel operation mode under positive drain bias.

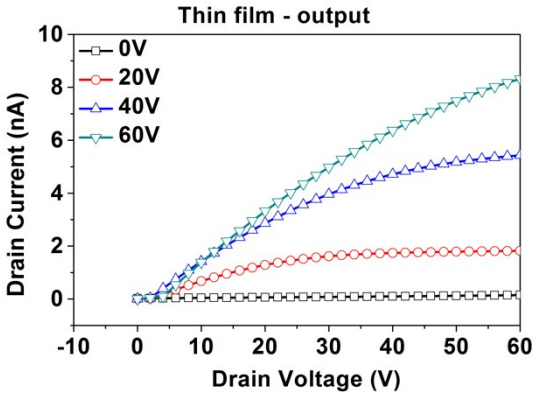

Figure S6 Typical output characteristics of thin-film device in n-channel operation mode under positive drain bias.

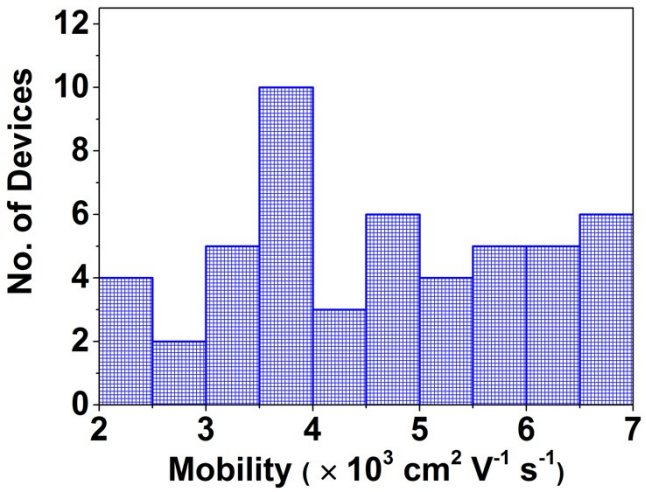

Figure S7 Histogram of electron mobility calculated from 50 OFETs based on PCBM thin films.

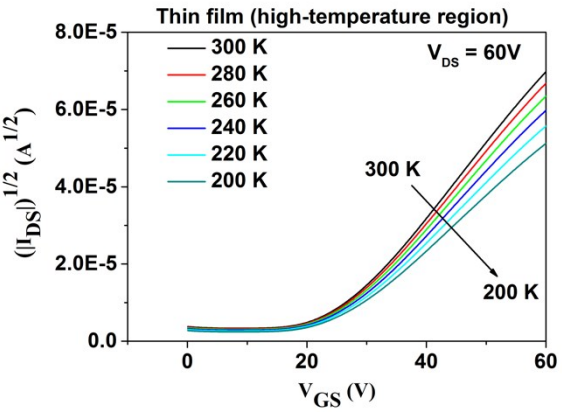

Figure S8 Transfer characteristics of thin film devices in n-channel operation mode at the temperature from 300K to 200K.

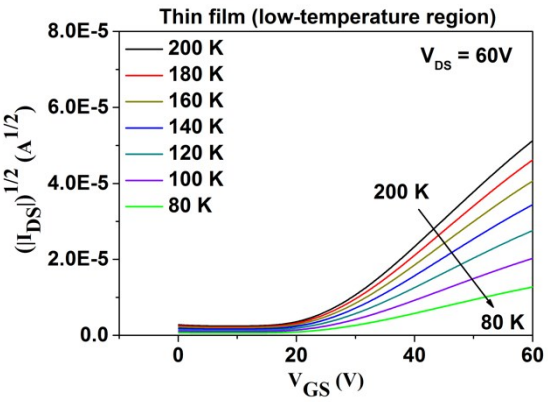

Figure S9 Transfer characteristics of thin film devices in n-channel operation mode at the temperature from 200K to 80K.

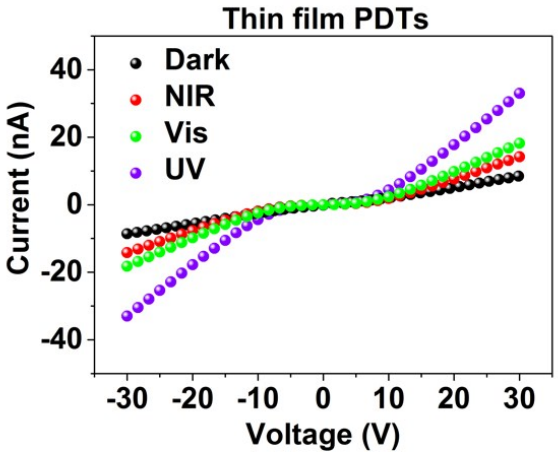

Figure S10 I−V curves of [60]PCBM thin film devices under dark and illuminated by UV, Vis and NIR lasers.

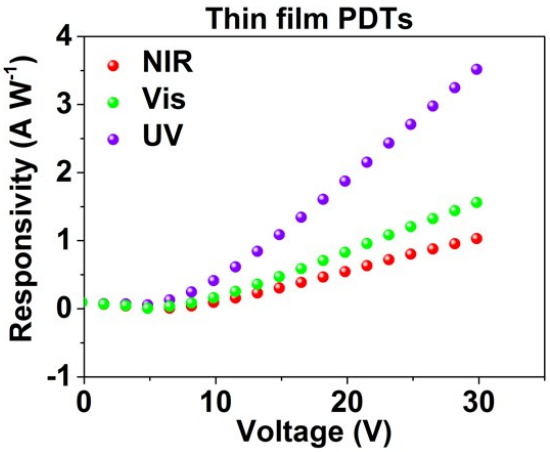

Figure S11 Responsivity of [60]PCBM thin film devices under dark and illuminated by UV, Vis and NIR lasers.

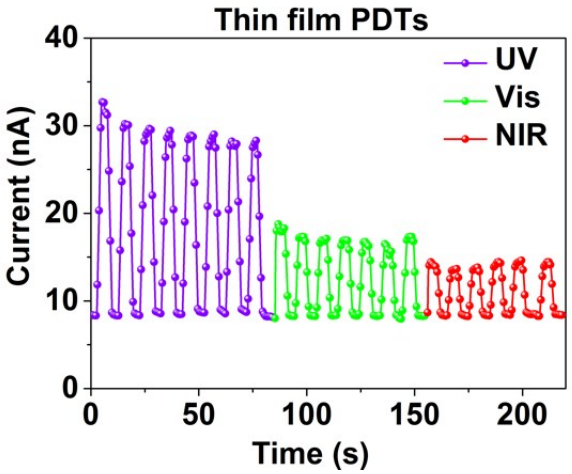

Figure S12 Time-resolved photocurrent response of [60]PCBM thin film devices under dark and illuminated by UV, Vis and NIR lasers.

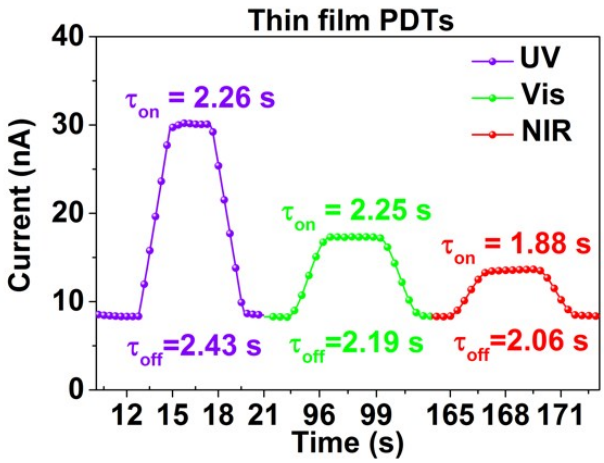

Figure S13 Enlarged portions of one response and reset process of [60]PCBM thin film devices under dark and illuminated by UV, Vis and NIR lasers.

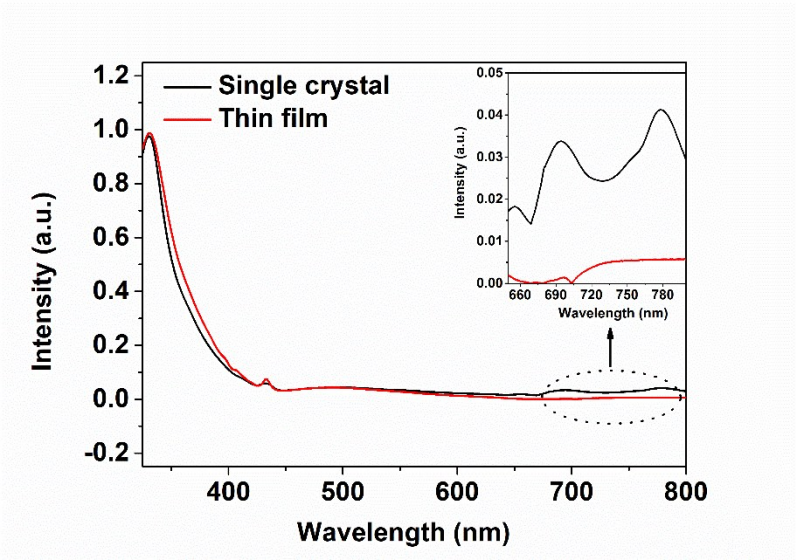

Figure S14 UV-Vis spectra of [60]PCBM single crystals and thin films.