Electronic Supporting Information

Induction of Circularly Polarized Electroluminescence from Achiral Poly(fluorene-*alt*-benzothiadiazole) via Circularly Polarized Light

Junjie Cheng,‡[a] Feng Ge,‡[b] Yifeng Xiang,[c] Hongli Zhang,[a] Yan Kuai,[c] Penghui Hou,[a] Douguo Zhang,[c] Longzhen Qiu,*[b] Qijin Zhang [a] and Gang Zou*[a]

[a] CAS Key Laboratory of Soft Matter Chemistry, Department of Polymer Science and Engineering, iChEM, University of Science and Technology of China, Hefei, Anhui 230026, P. R. China. E-mail: gangzou@ustc.edu.cn

[b] National Engineering Lab of Special Display Technology, State Key Lab of Advanced Display Technology, Academy of Opto-Electronic Technology, Hefei University of Technology, Hefei, Anhui 230009, P. R. China. E-mail: lzhqiu@hfut.edu.cn

[c] Advanced Laser Technology Laboratory of Anhui Province and Institute of Photonics, Department of Optics and Optical Engineering, University of Science and Technology of China, Hefei, Anhui 230026, P. R. China

‡ These authors contributed equally to this work.

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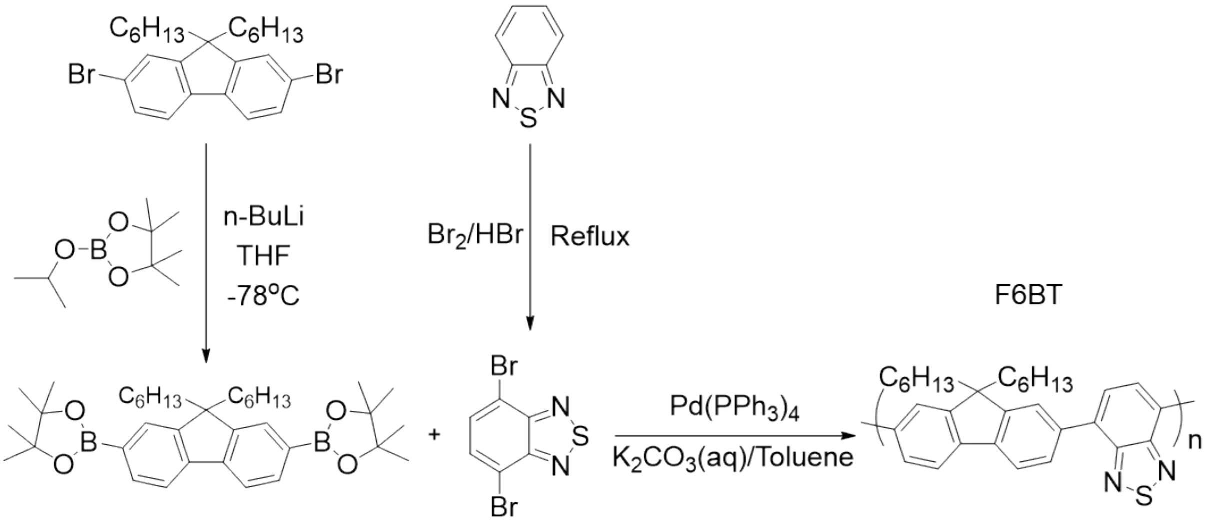

Scheme S1 Synthetic routes to the target polymer F6BT.

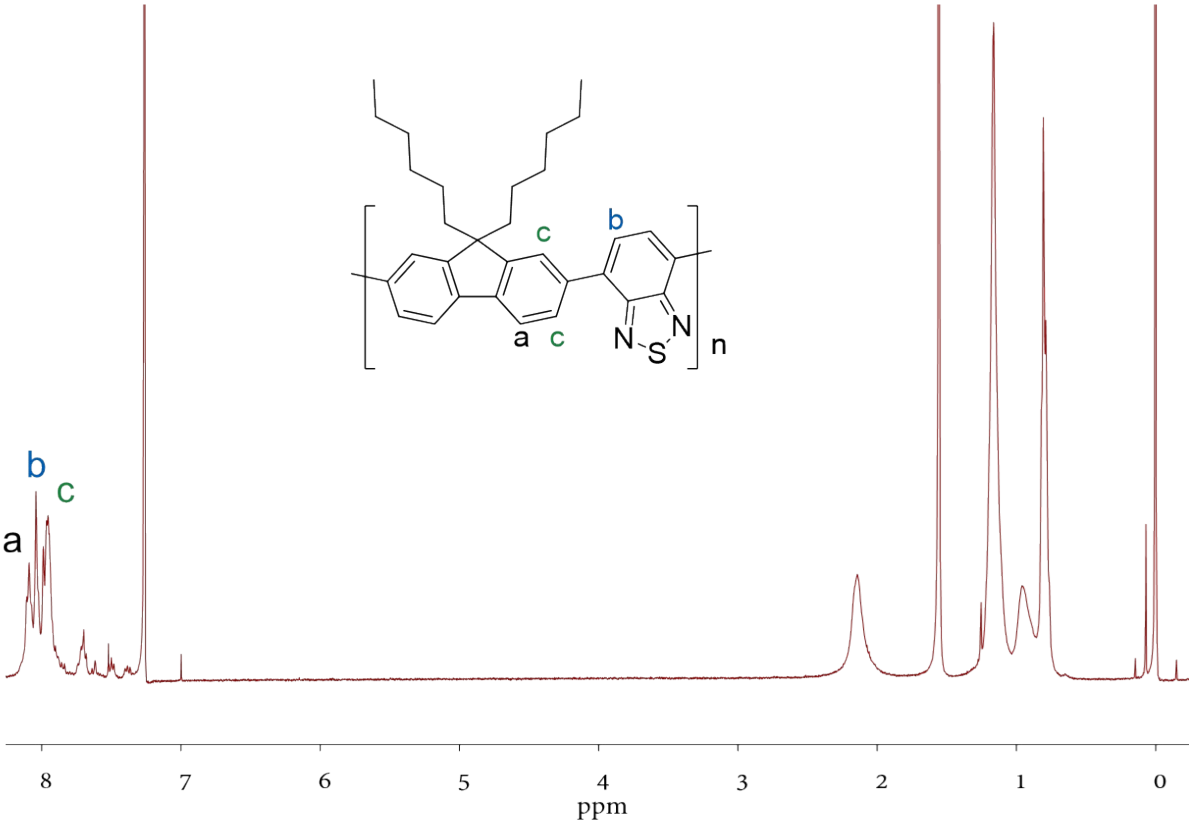

Fig. S1 ^{1}H NMR spectrum of the synthesized F6BT in $CDCl_3$.

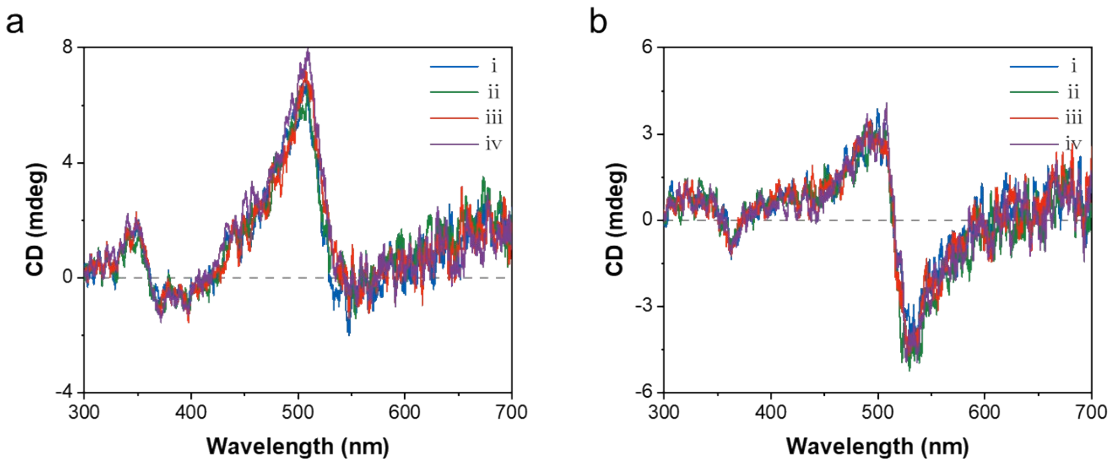

Fig. S2 CD spectra of an irradiated sample with appropriate controls. (a) 450 nm, right-handed circularly polarized light irradiation, 30 mW, 30 min. (b) 532 nm, left-handed circularly polarized light irradiation, 30 mW, 150 min. ⅰ, ⅱ and ⅲ, sample rotating; ⅳ, sample flipping.

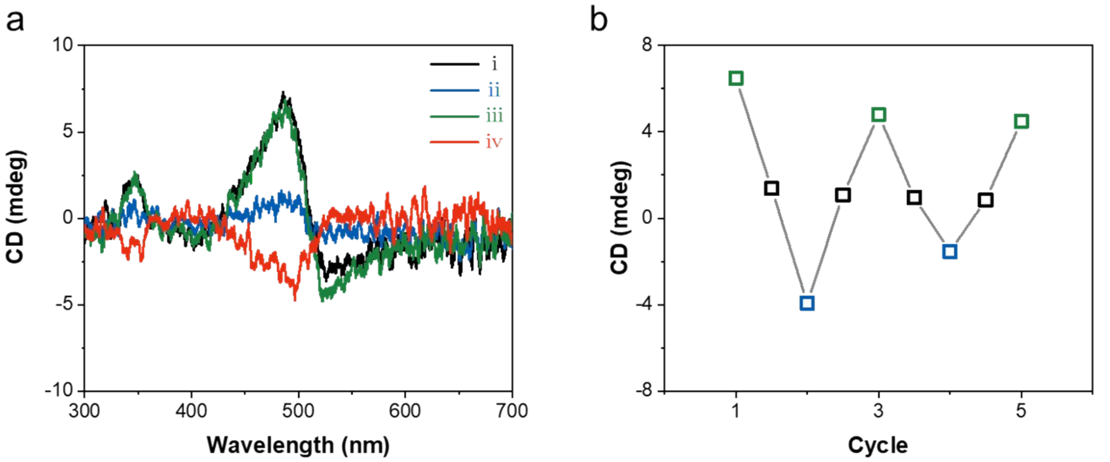

Fig. S3 Reversibility of the chiral induction. ⅰ was the spectra of a pristine sample irradiated by R-CPL (450 nm, 30 mW) for 30 min, ⅱ was the spectra of ⅰ then irradiated by L-CPL (450 nm, 30 mW) for 30 min, ⅲ was the spectra of ⅱ then irradiated by R-CPL (450 nm, 30 mW) for 30 min, and ⅳ was the spectra of ⅱ then irradiated by L-CPL (450 nm, 30 mW) for 30 min. The magnitudes of the CD were estimated from the signal maximum at around 485 nm.

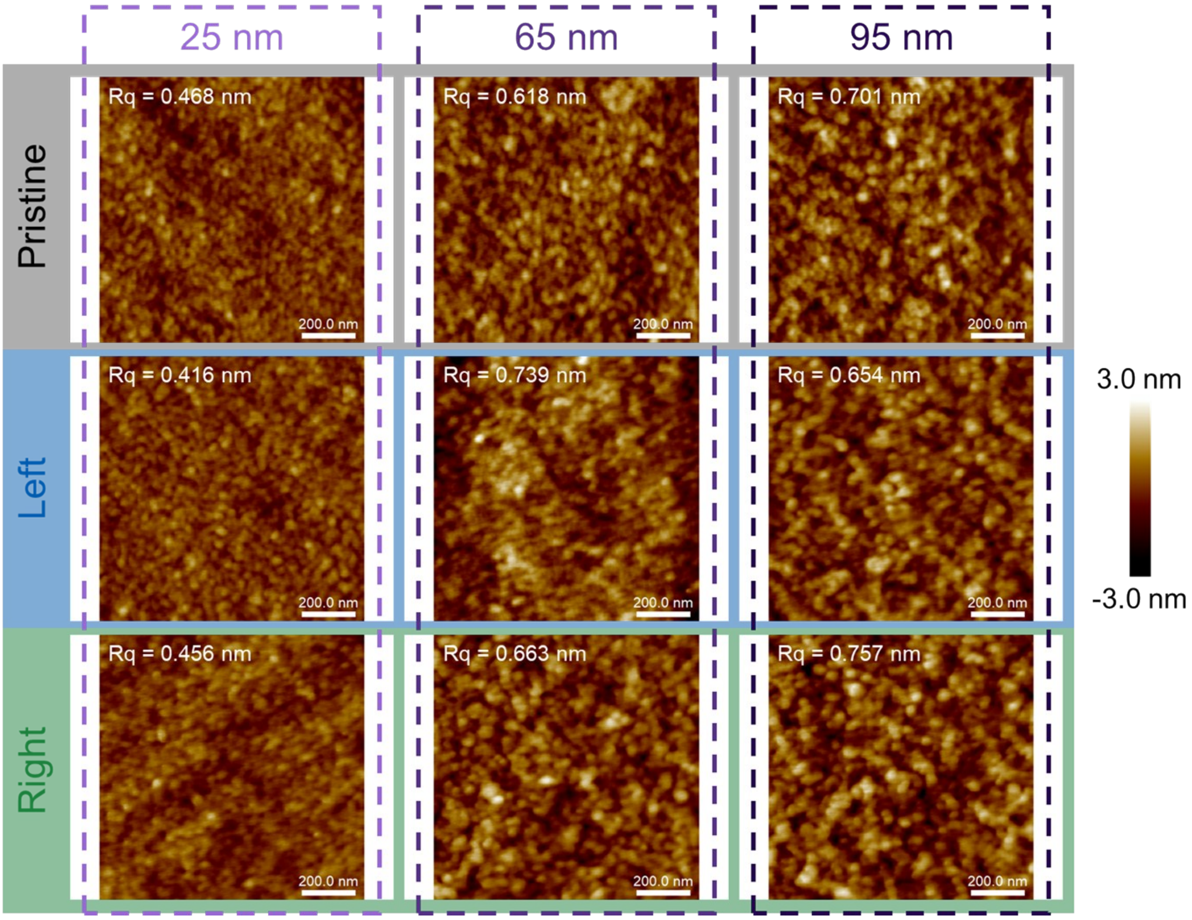

Fig. S4 The characteristic atomic force microscopy (AFM) surface morphologies (height profiles) of the pristine films (black), pristine films irradiated with circularly polarized light (450 nm, 30 mW, 30 min) in the handedness of left (blue) and right (green), respectively. Films with different thicknesses were scrutinized. Insert: the root-mean-square roughness (Rq).

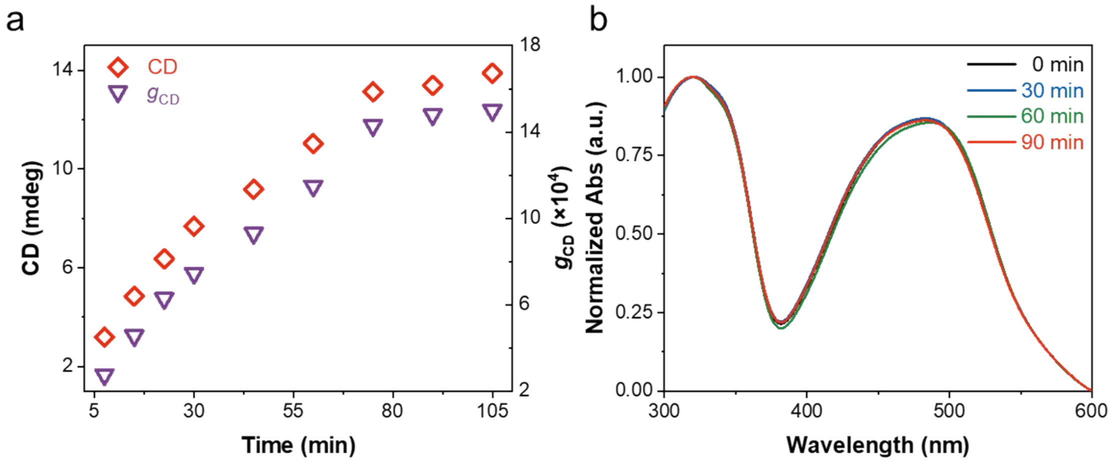

Fig. S5 (a) The strength of CD and g_{CD}, and (b) the corresponding representative normalized

UV-Vis absorption (Abs) spectra as a function of increasing irradiation time (450 nm, 30 mW). The strengths of CD and g_{CD} were estimated from the signal maximum at around 485 nm.

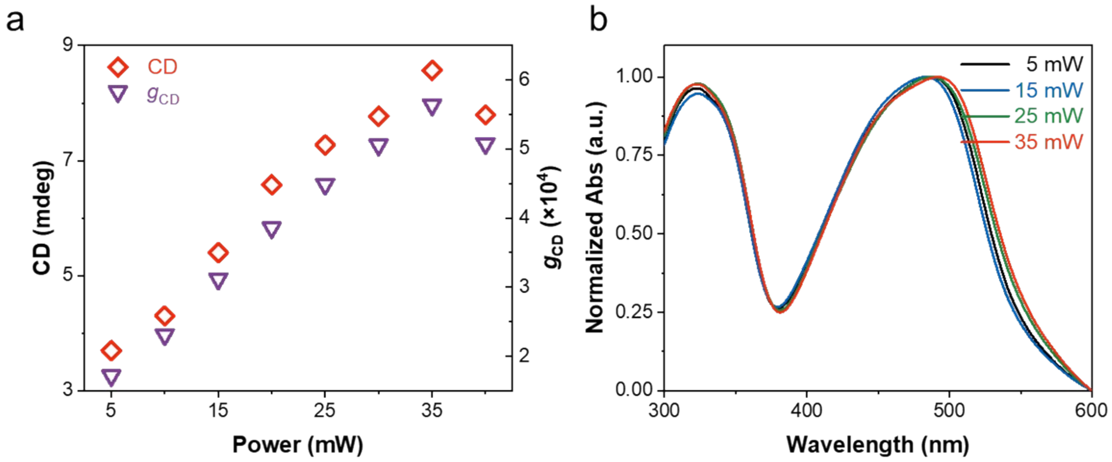

Fig. S6 (a) The strength of CD and g_{CD}, and (b) the corresponding representative normalized UV-Vis absorption (Abs) spectra as a function of increasing irradiation intensity (450 nm, 30 min). The strengths of CD and g_{CD}, were estimated from the signal maximum at around 485 nm.

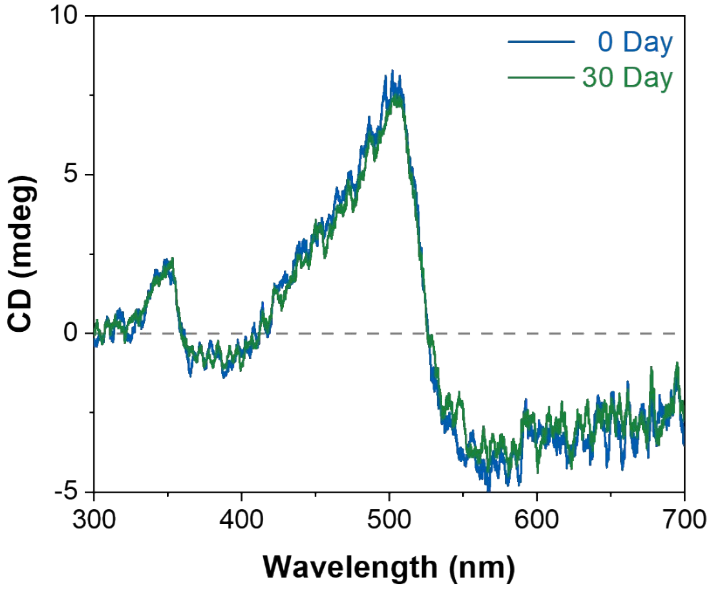

Fig. S7 CD spectra of the irradiated samples (450 nm, 30 mW, 30 min) under different storage times. Storage condition, room temperature, avoid direct sunlight.

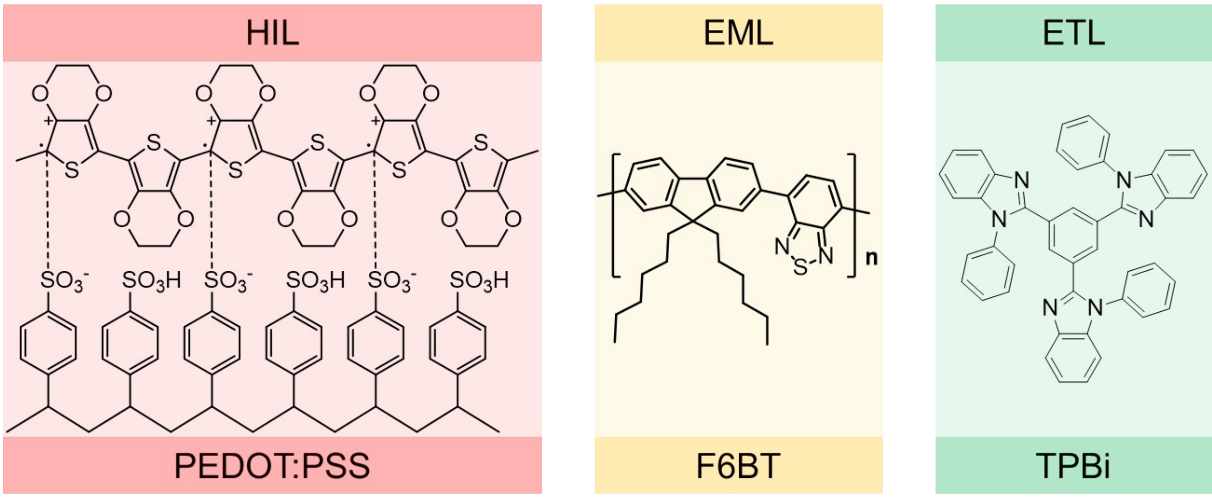

Fig. S8 Chemical structures of the organic materials used in our OLEDs. PEDOT:PSS, F6BT and TPBi are served as HIL, EML and ETL, respectively.

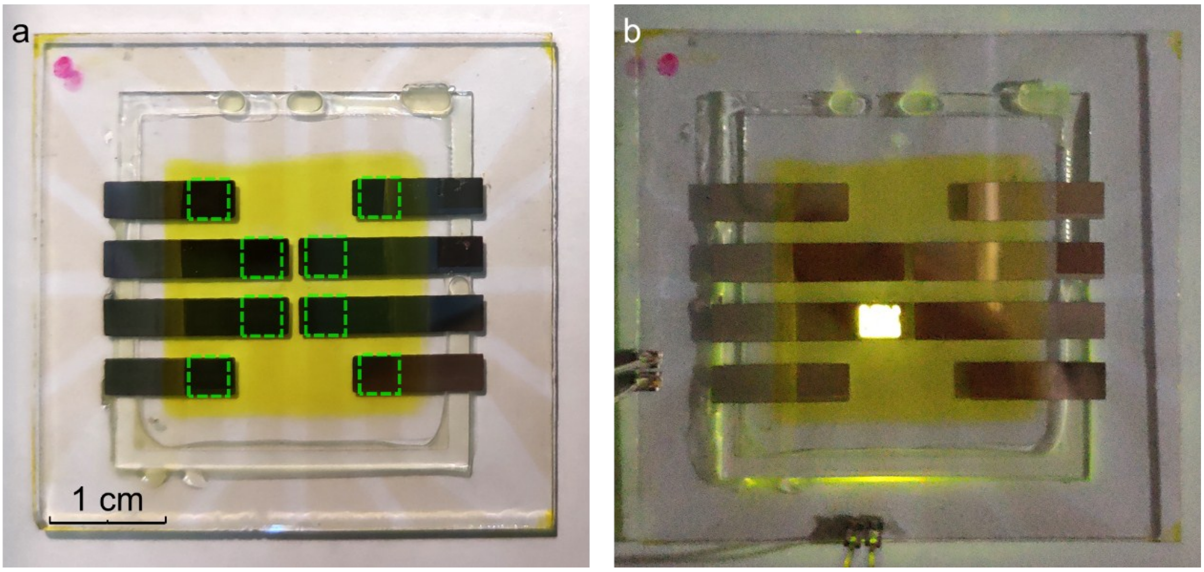

Fig. S9 Photograph of the fabricated OLEDs. (a) Optical image of an OLED substrate containing 8 OLEDs elements, each with 3×3 mm^2. (b) Working OLEDs with one pixel irradiated.

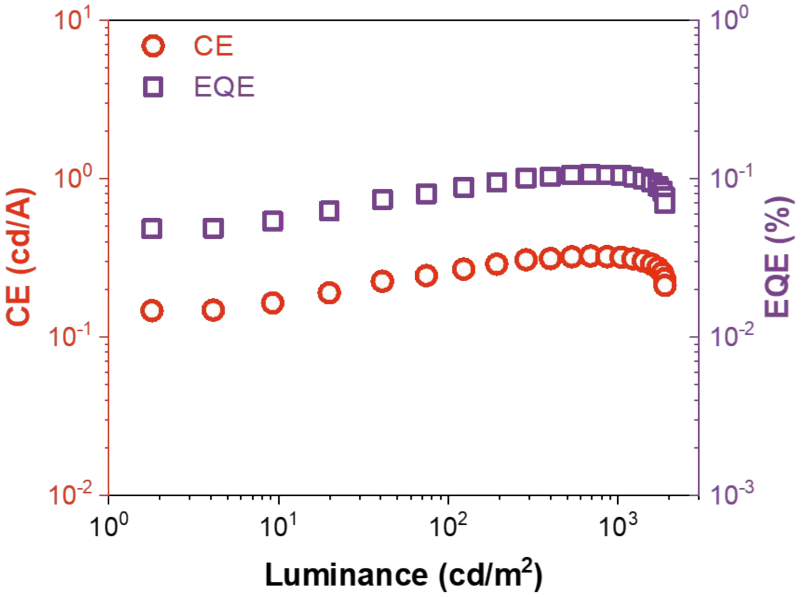

Fig. S10 Representative CE and EQE versus luminance diagram of the pristine devices.

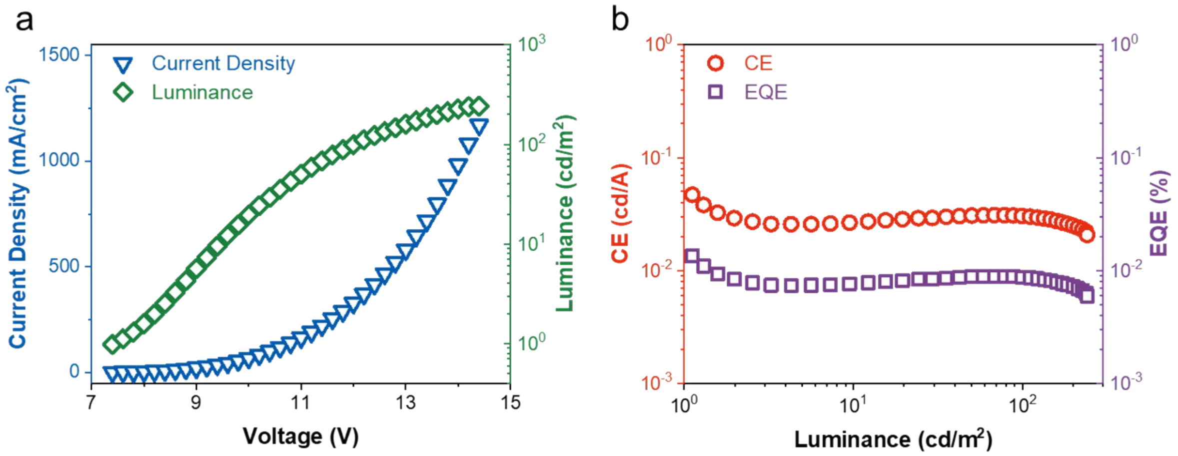

Fig. S11 (a) representative *J*–*V*–*L* characteristic diagram, and (b) CE and EQE versus luminance diagram of the irradiated devices. Irradiation parameters: 450 nm, 30 mW, 20 min.

Table S1 EL Performances Before and After Irradiation.

	Before	After[h]
Max. λ_{EL} [nm] [a]	555	554
FWHM [nm] [b]	82.4	82.0
V_{on} [V] [c]	4.2	7.4
L_{max} [cd m^{-2}] [d]	1893	242
Max. CE [cd A^{-1}] [e]	0.32	0.05
Max. EQE [%] [f]	0.11	0.02
CIE 1931 (x,y) [g]	0.43, 0.53	0.42, 0.51

[a] Maximum peak of EL spectra.

[b] Full width at half maximum.

[c] Turn-on voltage, corresponding to 1 cd m^{-2}.

[d] Maximum luminance.

[e] Maximum current efficiency.

[f] Maximum external quantum efficiency.

[g] Measured at 8 V.

[h] Irradiation parameters: 450 nm, 30 mW, 20 min.