## Supporting information for:

Flexible Integrated Diode-Transistor Logic (DTL) Driving Circuits Based on Printed Carbon Nanotube Thin Film Transistors with Low Operation Voltage

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using PMDA/ODA as dielectric materials with different thickness. a)  $1.6 \mu m$ , b)  $1 \mu m$  nm and c) 550 nm, and d-f) the corresponding thickness of PMDA/ODA thin films measured by a profilometer.



Figure S2 The relationship between the capacitance of dielectric layer and the frequency.



Figure S3 Leakage currents of printed SWCNT TFTs on PET substrates



**Figure S4** a) TGA and b) FTIR spectra of PMDA/ODA after annealing at different temperature. 1 and 2 in Figure S3b represent the annealing temperatures are 60 °C and 150 °C for 1 h, respectively. A-F in Figure S3b represent function groups. A) 1550 cm<sup>-1</sup> C-N stretching, amide II; B)1660 cm-1, C=O stretching, amide I; C)1722 cm<sup>-1</sup>, asymmetric C=O stretching, imide I; D)1780 cm<sup>-1</sup>, symmetric C=O stretching, imide I; E) 2940 and 3060 cm<sup>-1</sup>, N-H bending; F)3200 cm<sup>-1</sup>, N-H stretching.



Figure S5 Output voltages of 10 printed SWCNT TFT devices with a common gate electrode under periodic illumination with white light (light intensity ~745  $\mu$ W per cm<sup>2</sup>).

NO.	1	2	3	4	5	6
λ(nm)	420	450	475	500	520	550
Intensity(mw/cm <sup>2</sup> )	5.93	10.11	11.13	18.87	14.28	9.19

Table S1 The intensities and wavelengths of the illumination lights



**Figure S6** The photoresponse characteristics of a printed DTL driving circuit a) before bending and d) under bending strain, c) and d) optical images of printed DTL driving circuits under bending strain.