Supporting Information

Flexible near-infrared polarized photodetector based on CuPc single crystal grown by microspacing in-air sublimation

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S1. AFM image of the CuPc single crystal surface

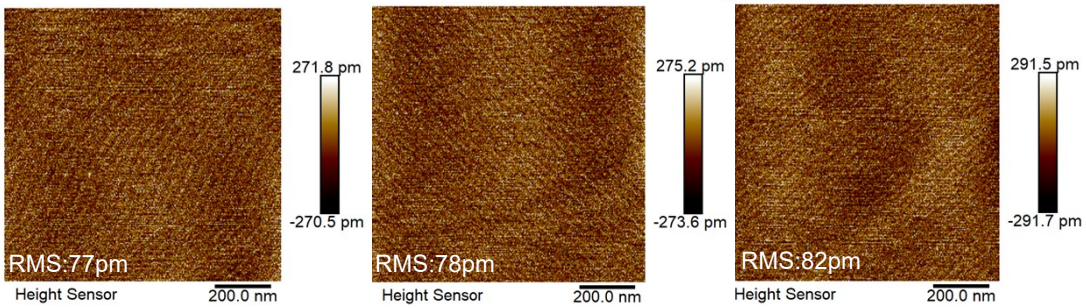

Figure S1. AFM image of the CuPc single crystal surface.

S2. Cross-polarized optical microscopy images of a CuPc single crystal

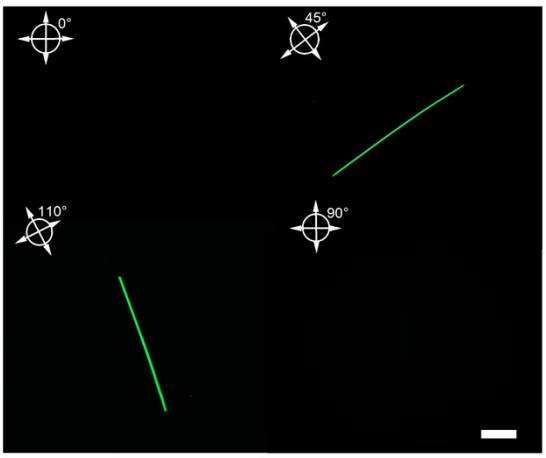

Figure S2. Cross-polarized optical microscopy images of a CuPc single crystal in different polarization directions. Scale bar: 10μm.

S3. SEM image of the CuPc single crystal nanowires

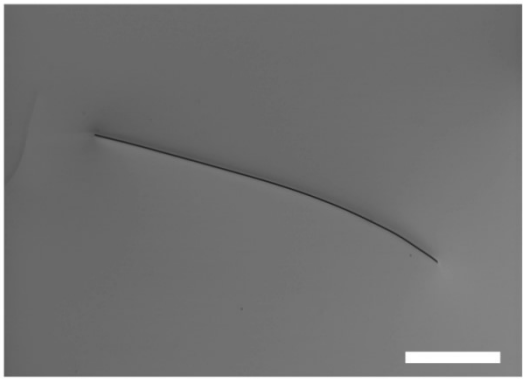

Figure S3. SEM image of the CuPc single crystal nanowires. Scale bar: 20 μm.

S4. SEM image of the CuPc device

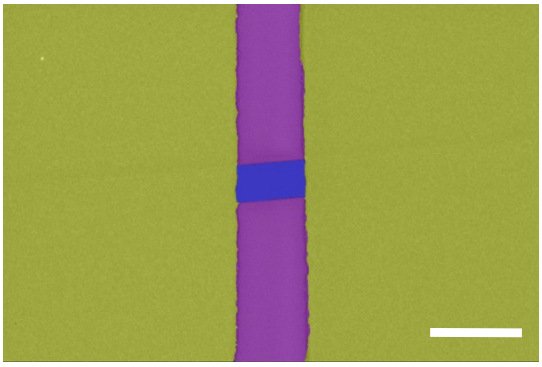

Figure S4. The false-color SEM image of CuPc transistor. Scale bar: 10 μm.

S5. CuPc single crystal FET transfer curves

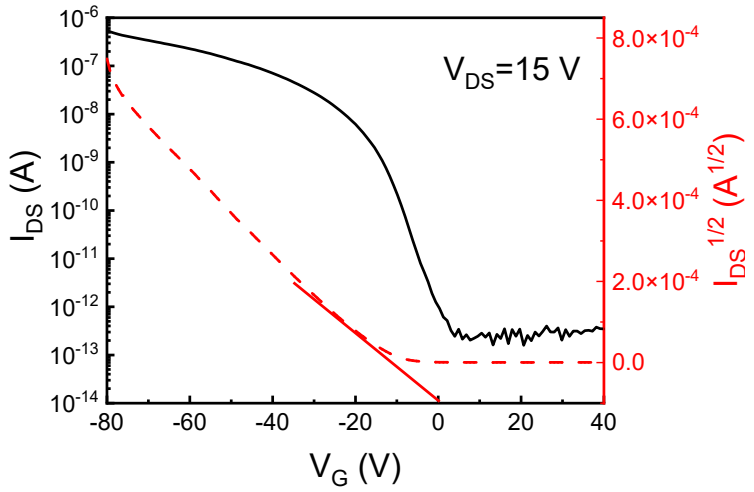

Figure S5. CuPc single crystal FET transfer curve under dark conditions.

S6. The output curve

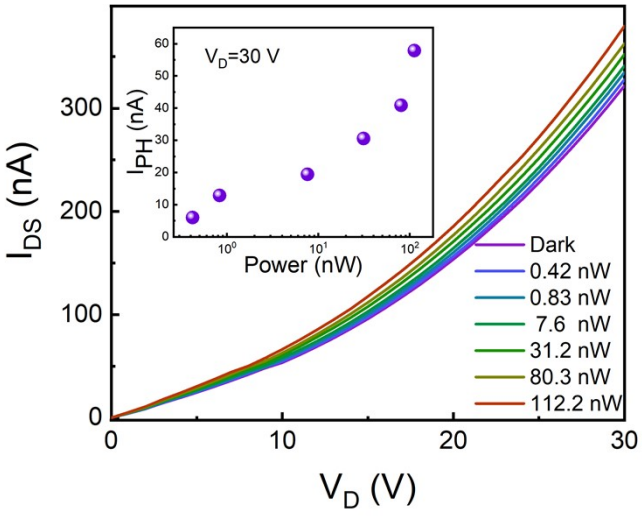

Figure S6. The output curve under different incident laser power densities (785 nm) at V_{GS} = -60V. Inset: Photocurrent of the device versus illumination power at V_{DS}= 30 V.

S7. The noise current spectral density

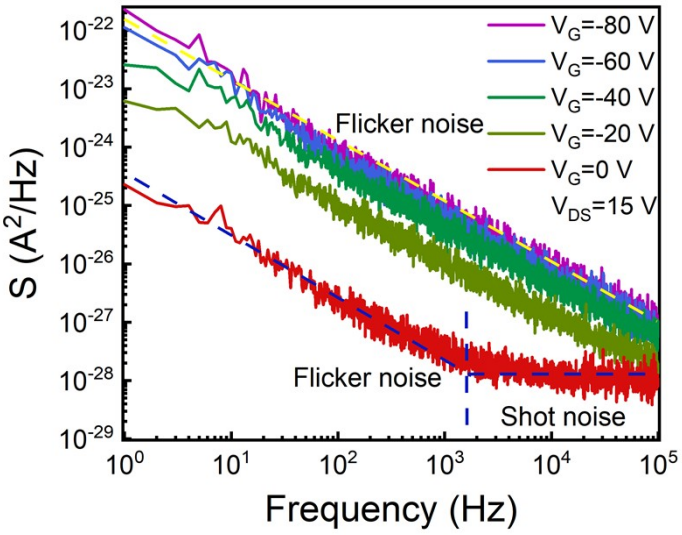

Figure S7. Noise current spectral density of the device under different gate bias.

S8. Dual gate sweeping curve

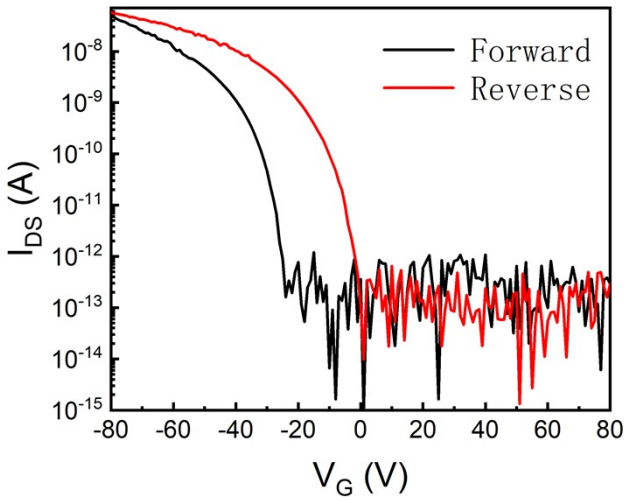

Figure S8. Transfer curve for a forward (black curve) and reverse sweep (red curve).

S9. The flattened photocurrent response of the device

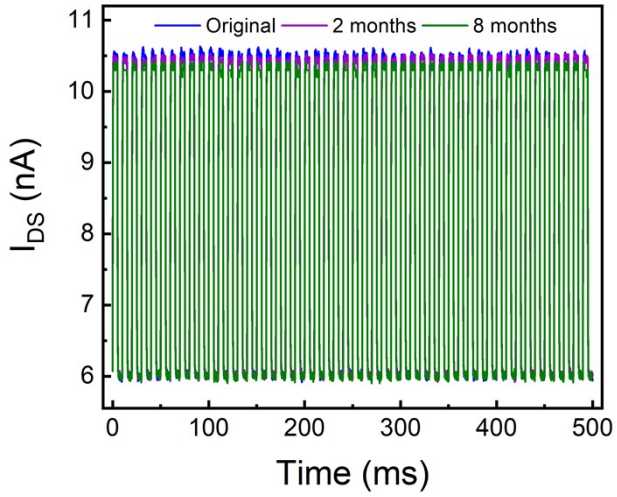

Figure S9. The flattened photocurrent response of the device as fabricated and after 0-8 months under 785nm illumination at V_G=0V.

S10. Schematic diagram of the single-pixel imaging measurement system

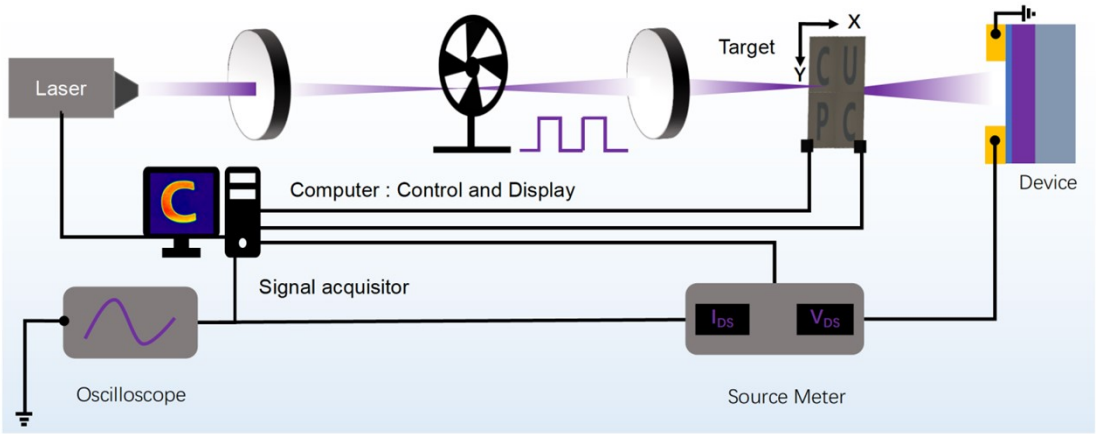

Figure S10. Schematic diagram of the single-pixel imaging measurement system. The modulated laser is focused onto the device by an objective lens. During the measurements, the measured object is moved by the step controller.