Supplementary Figure 1. p- and n-type dual mode semiconducting characteristics of QQT(CN)4 a, and b, transfer characteristics of as-prepared and annealed QQT(CN)4 OFETs, respectively. These devices were prepared onto silicon wafers with a 200 nm thick thermally grown SiO₂ layer. The QQT(CN)4 films were spin-coated onto the substrates and gold source/drain electrodes were then thermally evaporated through a shadow mask. A field-effect transistor containing as-prepared QQT(CN)4 active channel exhibited typical p-type current modulation at negative gate field. Thermal annealing of the QQT(CN)4 films at 180 °C for 10 seconds was performed prior to the deposition of the top-contacts. the transistor thermally annealed at 180 °C for 10 seconds showed n-type transfer characteristics. The transfer characteristic measurements were carried out with $V_D = -5 \text{ V}$ for p-type and $V_D = +5 \text{ V}$ for n-type, respectively. Hole and electron field effect mobility values are 0.1 and 0.005 cm² V⁻¹ s⁻¹, respectively.
Supplementary Figure 2. Molecular structures of thin QQT(CN)4 films a, X-ray powder diffraction pattern simulated from crystal structure of QQT(CN)4: reflections visible in the GIXD pattern are labeled with their Miller indices; the curve on the top is an expansion of the pattern. b, GIXD pattern at 50°C: within red rectangles intensities are reduced by 10 (middle) or 3 (right) to avoid saturation; the vertical black line points the direction of the $c^*$ axis; red labels in the right side of diffraction spots are their indexations. c, Schematic representation of the arrangement on the SiO$_2$ surface of the as-prepared QQT(CN)4 film. The crystal structure was determined by powder XRD analysis. The lower right colored lines represent the unit cell axes.
Supplementary Figure 3. Reversible switching of the dual mode electrical properties of a thin QQT(CN)4 film. a, Transfer characteristics of an ambipolar-type QQT(CN)4 Fe-FET converted from an n-type Fe-FET after solvent vapor treatment of chloroform. Measurement was done at $V_D = -5$ V. b, Transfer characteristics of an n-type QQT(CN)4 Fe-FET transferred from the ambipolar Fe-FET shown in a after thermal annealing at 180 $^\circ$C for 10 seconds. Measurement was done at $V_D = +5$ V. c, Polarization-voltage curves of a MFM capacitor with PVDF-TrFE treated at various thermal conditions.
Supplementary Figure 4. Threshold voltage shift of a FeFET during endurance test

**a,** Transfer characteristics of an p-type QQT(CN)4 Fe-FET upon repetitive write and erase endurance cycles. Each Symbol A and B reveals the turn-on and off threshold voltage. Measurement was done at $V_D = -5$ V. **b,** Marginal variation of both turn-on and off threshold voltage within a few percentage of the total program voltage.
Supplementary Figure 5. Bending characteristics of the Fe-FET with repetitive outward bending deformation Transfer characteristics of an ultraflexible p-type QQT(CN)₄ device measured after a, 100, b, 300, c, 500, d, 800, and e, 1000 bending cycles in the outward direction with a bending radius of 4 mm. These data were measured with $V_D = -5$ V.
Supplementary Figure 6. Bending characteristics of the Fe-FET with repetitive inward bending deformation. Transfer characteristics of an ultraflexible p-type QQT(CN)4 device measured after a, 100, b, 300, c, 500, d, 800, and e, 1000 bending cycles in the inward direction with a bending radius of 4 mm. These data were measured with $V_D = -5$ V.
Supplementary Figure 7. Non-volatile memory properties of a Fe-FET with n-type QQT(CN)4 channel under repetitive bending deformation Transfer characteristics of an ultra-flexible annealed n-type QQT(CN)4 device measured after a, 100, b, 300, c, 500, d, 800, and e, 1000 bendings in the outward direction with a bending radius of 4 mm. f, ON/OFF current ratio values measured as a function of the number of bendings in the outward direction with a bending radius of 4 mm. All these data were collected with \( V_D = +5 \) V.
Supplementary Figure 8. Non-volatile memory performance of a Fe-FET with repetitive folding deformation. Transfer characteristics of a folded QQT(CN)4 device measured a, before folding, after b, 100, c, 300, d, 500, e, 800, and f, 1000 folding cycles. All these data were collected with $V_D = -5$ V.
Supplementary Figure 9. Memory characteristics of a Fe-FET after one folding cycle with permanent plastic deformation. 

**a**, Data retention characteristics measured in a device after sharp folding. The ON- and OFF- current were measured after programming the device with -60 and +60 V single pulses, respectively. 

**b**, Write/erase endurance cycle test as a function of the number of programming cycles for the folded QQT(CN)4 Fe-FET. For clarity, one cycle out of every 4 is represented.
Supplementary Figure 10. Non-volatile Fe-FET memory prepared on a paper upon folding deformation a, A photograph of arrays of QQT(CN)4 Fe-FET devices prepared on an Al-coated Gum paper while being sharply folded. An OM image in the inset shows a deformed line arising from the folding event between source and drain electrode. The dashed white line indicates where the device was folded; inelastic deformation of the substrate occurred. b, Transfer characteristics of a p-type QQT(CN)4 Fe-FET after sharp folding. The drain voltage $V_D$ is -5 V. c, Data retention characteristics measured in a device after 1000 folding cycles. The ON- and OFF- current were measured after programming the device with -60 and +60 V single pulses, respectively.
Supplementary Figure 11. Low voltage operation of a Fe-FET device using nanocomposite interlayer a, Schematic representation of the Fe-FET device. b, Transfer characteristic curves of QQT(CN)4 Fe-FETs containing PVDF-TrFE films with and without a conjugated block copolymer, poly(styrene-block-paraphenylene), modified chemically reduced graphene oxides interlayer (Red and Black respectively) at a $V_D = -5$ V. c, Gate-leakage current curves of the FeFETs simultaneously obtained with the transfer curves. d, Data retention characteristics of a FeFET memory with the interlayer independently measured with $V_G=0$V and $V_D=-5$V after programming the device at $-25$ and $+25$ V for the ON and OFF state drain currents, respectively. e, Write/erase endurance cycles of the ON/OFF states of the device with the interlayer at $V_G = 0$V and $V_D = -5$V.
Supplementary Figure 12. Memory performance of metal/ferroelectric/metal (MFM) capacitors upon repetitive bending deformation. Polarization ($P$) versus applied voltage ($V$) hysteresis loops of Au/PVDF-TrFE/conducting polymer-Ag nanowire composite capacitors (a) before bending, (b) after 500 bending cycles and (c) after 1000 bending cycles with a bending radius of 4 mm. The inset of (a) represents a schematic of a MFM capacitor.
Supplementary Figure 13. Morphology of a Fe-FET after bending deformation. Optical microscope images of a top view of flexible PVDF-TrFE/QQT(CN)4 Fe-FETs after 1000 bending cycles in a, outward and b, inward directions with a bending radius of 4 mm, respectively. (c, d, e), SEM images of the surface of a QQT(CN)4 film under bent condition with different magnification. Low (c) and higher (d) magnification images with the electrodes and QQT(CN)4 being the clear and dark regions, respectively. No mechanical deformation was observed on QQT(CN)4 surface upon bending as shown in e.
Supplementary Figure 14. Morphology of a Fe-FET after folding deformation (a, b, c), SEM images of a QQT(CN)4 films of Fe-FET on the gum paper after sharp folding with various magnification. Folded line with numerous wrinkled lines was highlighted in c.
Supplementary Figure 15. Fe-FETs with different semi-conducting channels

a, Transfer characteristics of a PVDF-TrFE/TIPS-Pentacene Fe-FET before sharp folding. The drain voltage $V_{DS}$ is -5 V. Optical microscope images of a top view of PVDF-TrFE/TIPS-Pentacene Fe-FET b, before folding (top) and after sharp folding (bottom). c, Transfer characteristics of a PVDF-TrFE/P3HT Fe-FET before sharp folding. d, Transfer characteristics of a PVDF-TrFE/TES-ADT Fe-FET before sharp folding. No memory performance was observed when the devices based on TIPS-Pentacene, P3HT and TES-ADT were folded, which indirectly implies the excellent properties of QQT(CN)4 channel used in the current work under the severe mechanical deformation.
Supplementary Figure 16. Mechanical properties of semiconductor coatings on PVDF-TrFE film by nanoindentation. Instrumented testing a, hardness and b, elastic modulus of QQT(CN)4 on PVDF-TrFE, PVDF-TrFE, TESADT on PVDF-TrFE and TIPS on PVDF-TrFE on Si substrate with respect to the penetration depth. Each point is an average value with standard deviation for 10 indentation tests.
Supplementary Figure 17. Stress and strain energy density at the interface of QQT(CN)4/PVDF-TrFE bilayers under pure bending a, Dimension of the composite film consisting of PVDF-TrFE and QQT(CN)4. b, Location of neutral axis as a function of ratio $n$ ($E_{QQT(CN)4}/E_{PVDF-TrFE}$). c and d, Normalized stress (c) and strain energy density (d) at the location of the interface between PVDF-TrFE and QQT(CN)4 (at 300nm) as a function of ratio $n$ ($E_{QQT(CN)4}/E_{PVDF-TrFE}$). Values were normalized by the value at $n = 1$ (dotted line). When $n$ is equal to 1.6, the normalized stress and the normalized strain energy density at the interface are 1.05 and 0.83, respectively. They are zeroes at $n = 9$. 
Supplementary Figure 18. Delamination test with conventional Scotch tape. Photographs and schematics of various multi-layers of a, QQT(CN)4/PVDF-TrFE/PVP trilayer, b, P3HT/PVDF-TrFE/PVP trilayer, c, TIPS-Pentacene/PVDF-TrFE/PVP trilayer, and d, TES-ADT/PVDF-TrFE/PVP trilayer prepared on a Si substrate, e, QQT(CN)4/PVP bilayer prepared on a Si substrate and f, QQT(CN)4/PVDF-TrFE/PVP trilayer prepared on an Al coated PI substrate after conventional Scotch type delamination test. The remaining PVP surface was apparent on the right hand side of a and f.
Supplementary Figure 19. Adhesive properties of semiconductor coatings on PVDF-TrFE film by nano scratch test

**a**, Critical loads for P3HT on PVDF-TrFE, TESADT on PVDF-TrFE, TIPS-Pentacene on PVDF-TrFE, and QQT(CN)4 on PVDF-TrFE. Error bars represent standard deviation for 5 scratch tests.

**b**, Detailed mechanical properties of QQT(CN)4 and TIP-Pentacene characterized by nanoindentation and nano scratch test with statistical analysis: Hardness, elastic modulus, ratio of elastic energy to the total energy, and critical load from the top left in clockwise direction. Error bars represent standard deviation for 5 tests.

**c**, Optical images along the scratches with the SEM images for the regions at given critical loads (rectangular box) for TESADT on PVDF-TrFE and TIPS-Pentacene on PVDF-TrFE. The inset scale bar is 50 μm.
Supplementary Figure 20. QQT(CN)4 field effect transistor with a fluorinated polymer a, SEM image of the surface of a PVDF-TrFE-CTFE film on Si substrate. b, Polarization (P) versus applied voltage (V) hysteresis loops of Au/PVDF-TrFE/highly boron-doped Si(black) and Au/PVDF-TrFE-CTFE/highly boron-doped Si(red). Transfer characteristics of a PVDF-TrFE-CTFE/QQT(CN)4 field effect transistor c, before sharp folding and d, after sharp folding. The inset of each c and d, represents OM image of S/D channel before and after folding test. e, Image of the scratch on QQT(CN)4/PVDF-TrFE-CTFE obtained from the nano scratch experiment.
## Supplementary Table 1. Bending characteristics of non-volatile organic memory devices

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<sup>a</sup>Metal/Insulator/Metal, <sup>b</sup>Metal/Insulator/Metal/Semiconductor/Metal, <sup>c</sup>Organic Field Effect Transistor, <sup>d</sup>Ferroelectric Field Effect Transistor, <sup>e</sup>Metal/Ferroelectric/Metal, <sup>f</sup>Poly[5,5-bis(3-alkyl-2-thienyl)-2,2-bithiophene], <sup>g</sup>Indium gallium zinc oxide, <sup>h</sup>Poly(3-hexyl thiophene), <sup>i</sup>Polystyrene, <sup>j</sup>Carbon Nanotube, <sup>k</sup>Poly(methyl methacrylate), <sup>l</sup>Polymide, <sup>m</sup>Phenyl-C61-butyric acid methyl ester, <sup>n</sup>Phenanthro[9,10-d]imidazole, <sup>o</sup>Copper-7,7,8,8, tetracyanochinodimethane
Supplementary Note 1. Reversible switching of the dual mode electrical properties of a thin QQT(CN)₄ film

A QQT(CN)₄ film with n-type semiconducting characteristics was converted into one with ambipolar characteristics upon solvent vapor treatment. Furthermore, the film with ambipolar properties was again changed into one with n-type properties by a thermal annealing. The multiple reversible switching of a QQT(CN)₄ film was repetitively obtained.

An n-type Fe-FET obtained by the short time thermal annealing at 180 °C was conveniently converted into an ambipolar type Fe-FET with characteristic ferroelectric current hysteresis when the n-type device was exposed to chloroform vapor for 90 min. The ambipolar type Fe-FET was again transferred to n-type memory device when the sample was annealed at 180 °C for 10 seconds and this mode switching of a Fe-FET repetitively occurred without significant degradation of memory performance, which implies that semi-conductor type of our non-volatile memory is readily controlled by simple experiments.

Ferroelectric polarization behavior of PVDF-TrFE as a function of annealing temperature was also investigated in MFM capacitor. As shown in the Supplementary Figure 3c, the remnant polarization value slightly decreased when the capacitor was annealed at the temperatures above the melting temperature of PVDF-TrFE, consistent with the previous results. The reduction of the remnant polarization value was not critical for proper operation of our Fe-FETs. Since in our field effect transistor memory, the polarization of a ferroelectric insulator should be balanced with the maximum amount of charges accumulated for saturation of a QQT(CN)₄ channel, approximately 2 μC cm⁻² was required to saturate source-drain current in Fe-FET memories as also investigated previously.
Supplementary Note 2: Low voltage operation of a Fe-FET device using chemically reduced graphene oxides embedded in an insulating polymer

Thin rGOs embedded in an insulating polymer was employed as a novel way for realizing a low voltage operation Fe-FET with QQT(CN)4 channel. It should be first clarified that current hysteresis loop in our device with thin rGO interlayer might not arise from many other sources such as trapped charges in dielectric and semiconductor, oxygen and water molecules but from ferroelectric polarization. In our recent study, we have explicitly investigated those trapped charges in networked carbon nanotube composite and developed a new route for controlling current hysteresis arising from transient, i.e. volatile charge sources with ferroelectric polarization of PVDF-TrFE. We successfully suppressed the transient hysteresis of a networked carbon nanotube transistor by ferroelectric polymer insulator, leading to near-hysteresis-free operation of the transistor. One obvious way to distinguish between hysteresis from the environmentally trapped impurities and one from ferroelectric polarization is to examine time-dependent retention of the current states. While either On or OFF current level is significantly varied with time in a device with transient charges, depending upon the types of the trapped charges, i.e. positive and negative ones, both current levels remain unaltered of a hysteresis resulting from ferroelectric polarization. As shown in Supplementary Figure 12, the device with rGO nanocomposite exhibited very stable retention characteristics with time, which confirms non-volatile current hysteresis attributed to ferroelectric switching.

The origin for our rGO nanocomposite to reduce the operation voltage can be understood by localized electric field developed in individually dispersed rGO plate. The conductive rGOs individually exfoliated and embedded in an insulating polymer efficiently switched ferroelectric polarization, which may arise from additional, localized electric field generated around individual rGO plane. Similar to a carbon nanotube with a high length to diameter ratio which can easily induce a very strong localized electric field, called the electric-field enhancement effect as shown in our previous work, the patched monolayered rGOs can also develop an extremely high electric field around the 2 dimensional object.
This enhanced electric field by rGOs can reduce the coercive field for the ferroelectric switching. Another reason for facile ferroelectric switching at low voltage with rGO interlayer was due to the enhanced degree of crystallization of PVDF-TrFE arising from a smooth interface between PVDF-TrFE and insulating polymer surrounding rGOs as proposed in the previous work.\textsuperscript{36}

In addition, the leakage current should be considered since in many cases, it often went up after blending nanoparticles into the gate dielectrics layer. It is, however, important to keep in mind parameters such as the size of the nanoparticles and their miscibility in a gate dielectrics material, because they can result in the formation of detrimental conductive channels associated for instance with the aggregation of the nanoparticles in the dielectric layer. In contrast the much thinner rGOs were better blended with the specifically chosen block copolymer matrix, which resulted in the targeted decrease of the leakage current.
Supplementary Note 3: Mechanical properties of semiconductor coatings on PVDF-TrFE film by nanoindentation

To verify the suitability of nanoindentation for characterizing the mechanical properties of a few hundred nanometer thick polymer layer, hardness and elastic modulus of QQT(CN)4 on PVDF-TrFE, PVDF-TrFE film on Si substrate and TESADT on PVDF-TrFE and TIPS on PVDF-TrFE were examined as a function of penetration depth. As shown in Supplementary Figure 16, the hardness for all specimens did not change with the penetration depth considering the fact that all the hardness data were resulted in the range of 0.1 ~ 0.3 GPa. In particular, when the penetration depth is less than 150 nm, they remain almost constant. In contrast to hardness, the elastic moduli appear more dependent on the penetration depth as it increases over 150 nm. It should be noted that the substrate effect on hardness can be lower compared to the elastic modulus because the hardness is calculated from the maximum penetration depth at a given load during loading while the elastic modulus is estimated from a slope of unloading curve. To minimize the effect of Si substrate on the mechanical properties of an organic or polymeric layer, the penetration depth was kept below 150 nm in our experiments.
Supplementary Note 4: Stress and strain energy density at the interface of QQT(CN)4/PVDF-TrFE bilayers under pure bending

We analyzed bending stress for a composite film consisting of QQT(CN)4 (Top layer ~100nm thick) and PVDF-TrFE (Bottom layer ~300nm thick) under pure bending by using transformed section method (Mechanics and Materials by Gere JM & Goodno BJ, Gengage Learning) in which the cross section of a composite film is transformed into an equivalent cross section of an imaginary film composed of only one material. When the ratio of Young’s modulus of QQT(CN)4 to PVDF-TrFE is \( n \), the cross-section area of QQT(CN)4 becomes \( n \) times of the original one by multiplying its width by \( n \).

Since the cross-section consists of only one material, the neutral axis (location of zero strain or stress in the film subjected to bending) passes through the centroid of the cross-sectional area. With the bottom edge of the cross section as a reference line, the neutral axis \( h \) can be calculated by

\[
h = \frac{\sum y_{ci} A_i}{\sum A_i},
\]

(1)

where \( y_{ci} \) is the centroid for area \( A_i \) measured from the reference line.

Stress in PVDF-TrFE (\( \sigma_1 \)) is calculated from the flexure formula,

\[
\sigma_1 = -\frac{M y}{I_T}
\]

(2)

where \( M \) is an applied moment, \( I_T \) is the moment of inertia of the entire cross-sectional area with respect to the neutral axis, and \( y \) is a distance from the neutral axis.

Stress in QQT(CN)4 (\( \sigma_2 \)) is calculated by multiplying the corresponding stress in the transformed film by the ratio \( n \).
Stress at the interface is estimated by taking an average of $\sigma_1$ and $\sigma_2$.

We also estimated the average strain energy density ($u_i$) at the interface produced by $\sigma_1$ and $\sigma_2$, assuming both the top and bottom layers behave as an elastic material.

$$u_i = \frac{1}{2} \left( \frac{\sigma_1^2}{2E_1} + \frac{\sigma_2^2}{2E_2} \right)$$

Supplementary Figure 17 showed the location of neutral axis, stress and strain energy density at the interface as a function of $n$. When the Young’s modulus of PVDF-TrFE ($E_1$) and QQT(CN)4 ($E_2$) are equal, the neutral axis is at 200 nm that is the same location to the centroid of geometry. The neutral axis moves away from the centroid of geometry as the stiffness of QQT(CN)4 increases. When ratio $n$ ($E_2/E_1$) is equal to 9, it is located at 300 nm where the interface between PVDF-TrFE and QQT(CN)4 is. Asymptotic values for large $n$ and small $n$ are 350 nm and 150 nm, respectively, corresponding to the centroid of QQT(CN)4 and PVDF-TrFE. At the ratio of Young’s modulus for QQT(CN)4 (12.8 GPa) to PVDF-TrFE (7.8 GPa) equal to 1.6 as obtained in our experiments, the neutral axis is located at 221 nm and the stress at the interface is almost same to that for $n = 1$. The strain energy density at $n = 1.6$ is ~17% smaller compared to the case when $n$ is equal to 1. Both stress and strain energy density at the interface increase significantly when $n$ is over 9, which is determined from the thickness of each film.
**Supplementary Note 5: Delamination test with conventional Scotch tape**

A firm interface between PVDF-TrFE and QQT(CN)$_4$ layers was examined by delamination test with conventional Scotch type. A bilayer of the two films was simultaneously detached from a Si substrate when Scotch type attached on the bilayer was removed. When PVDF-TrFE film was replaced by another insulating polymer, PVP, only QQT(CN)$_4$ film was detached, leaving the PVP layer on Si substrate. The interfaces of other semiconductors such as P3HT, TIPS-Pentacene, and TES-ADT examined with PVDF-TrFE were also examined. While very weak interface between TES-ADT and PVDF-TrFE was observed, the other semiconductors of P3HT and TIPS-Pentacene still exhibited good adhesion properties in similar delamination test, which requires a more quantitative analysis tool. The excellent adhesion of QQT(CN)$_4$ film on PVDF-TrFE layer was also confirmed by the detaching test of a bilayer prepared on a flexible PI substrate.
Supplementary Note 6: Adhesive properties of semiconductor coatings on PVDF-TrFE film by nano scratch test

To characterize the adhesive properties of various semiconductor coatings on PVDF-TrFE film, nano scratch tests were conducted on P3HT/ PVDF-TrFE, TESADT/ PVDF-TrFE, TIPS- Pentacene/ PVDF-TrFE, and QQT(CN)4/PVDF-TrFE bilayers. A stainless steel ball with 1.6 mm diameter is in contact with a bilayer, and the applied load increases from 1 mN to 70 mN while being displaced for 2 mm at a speed of 2 mm min\(^{-1}\). After experiment, the entire regions of scratch were imaged to determine a critical load where the semiconductor coating is delaminated and PVDF-TrFE film starts to appear. In particular, the exposed PVDF-TrFE layer could be easily identified in the SEM images. (Fig. 5g and Supplementary Figure 19c) The average critical loads for P3HT/PVDF-TrFE, TESADT/PVDF-TrFE, TIPS- Pentacene/PVDF-TrFE and QQT(CN)4/PVDF-TrFE bilayers were 1, 35, 59 and 70 mN, respectively.

The detailed comparison between the mechanical properties of QQT(CN)4 and those of TIPS-Pentacene is made below for further understanding. We have characterized mechanical properties of semiconducting materials including QQT(CN)4 and TIPS-Pentacene in terms of hardness, stiffness, elasticity, and adhesion. Nanoindentation studies showed that both hardness and elastic modulus of QQT(CN)4 are higher than TIPS-Pentacene (Supplementary figure 16 and the Supplementary Figure 19b). Elasticity estimated from the unloading curve of indentation found that QQT(CN)4 is a more plastic material compared to TIPS-Pentacene (Supplementary Figure 19b). The adhesive properties were examined by nano scratch experiments as well as scotch tape tests. The scotch tape tests demonstrated that both QQT(CN)4 and TIPS-Pentacene form a relatively stable interface with a layer of PVDF-TrFE (Supplementary Figure 18). To further characterize the adhesion strength in a quantitative manner, we performed the modified nano scratch experiments in which a stainless steel ball with an increasing mechanical force in contact with a bilayer was drawn at a constant speed and critical loads were identified at failure of the semi-conductor layers. The critical load for QQT(CN)4 (\(~ 70 \pm 2.5\) mN) is
higher than that for TIPS-Pentacene (~ 59 ± 3.0 mN) (Supplementary Figure 19b), suggesting that the interface of QQT(CN)4/PVDF-TrFE is more stable and less fragile to mechanical stress. It should be noted that in our modified nano scratch experiment set-up, the critical load difference of approximately 11 mN was very significant. In fact, statistical analysis showed that the difference in adhesion strength between QQT(CN)4 and TIPS-Pentacene turned out large enough to exhibit completely different delamination behavior of thin organic layers with a p-value less 0.01 as shown in a Supplementary Figure 19b. Delamination of the film at critical loads was confirmed by optical and SEM images (Supplementary Figure 19c).

Combined with various mechanical characterizations, it is apparent that QQT(CN)4 was very advantageous over other semiconducting materials because of its high stiffness, high plasticity, and strong adhesive properties. In particular, the plastic characteristics helped the film to withstand high strain by yielding mechanism and dissipating mechanical energy through plastic folding deformation. The interface can be maintained intact during severe bending due to the strong adhesive properties. In this regard, we conclude that QQT(CN)4 and PVDF-TrFE form a stable interface being less fragile to mechanical stimulation.
Supplementary References


