

Supporting information for

Assembly of neutral conjugated polymers with layered double hydroxides
nanosheets by the layer-by-layer method

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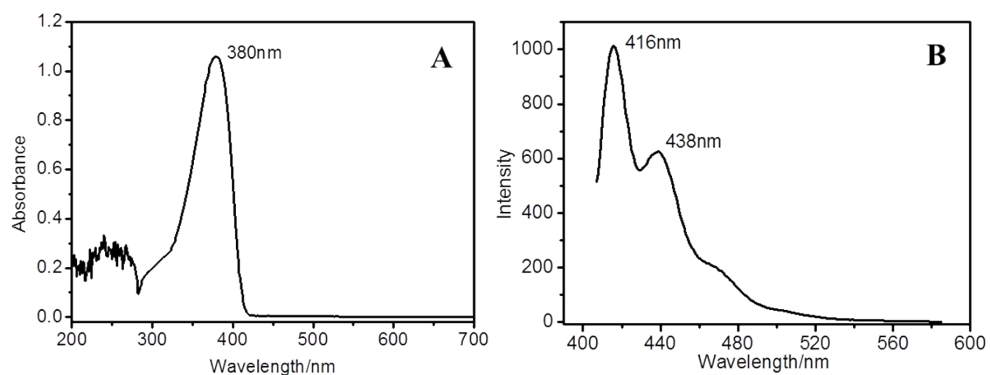


Figure S1. (A) UV-vis absorption spectra and (B) fluorescence emission spectra of the PFH-Ec solution.

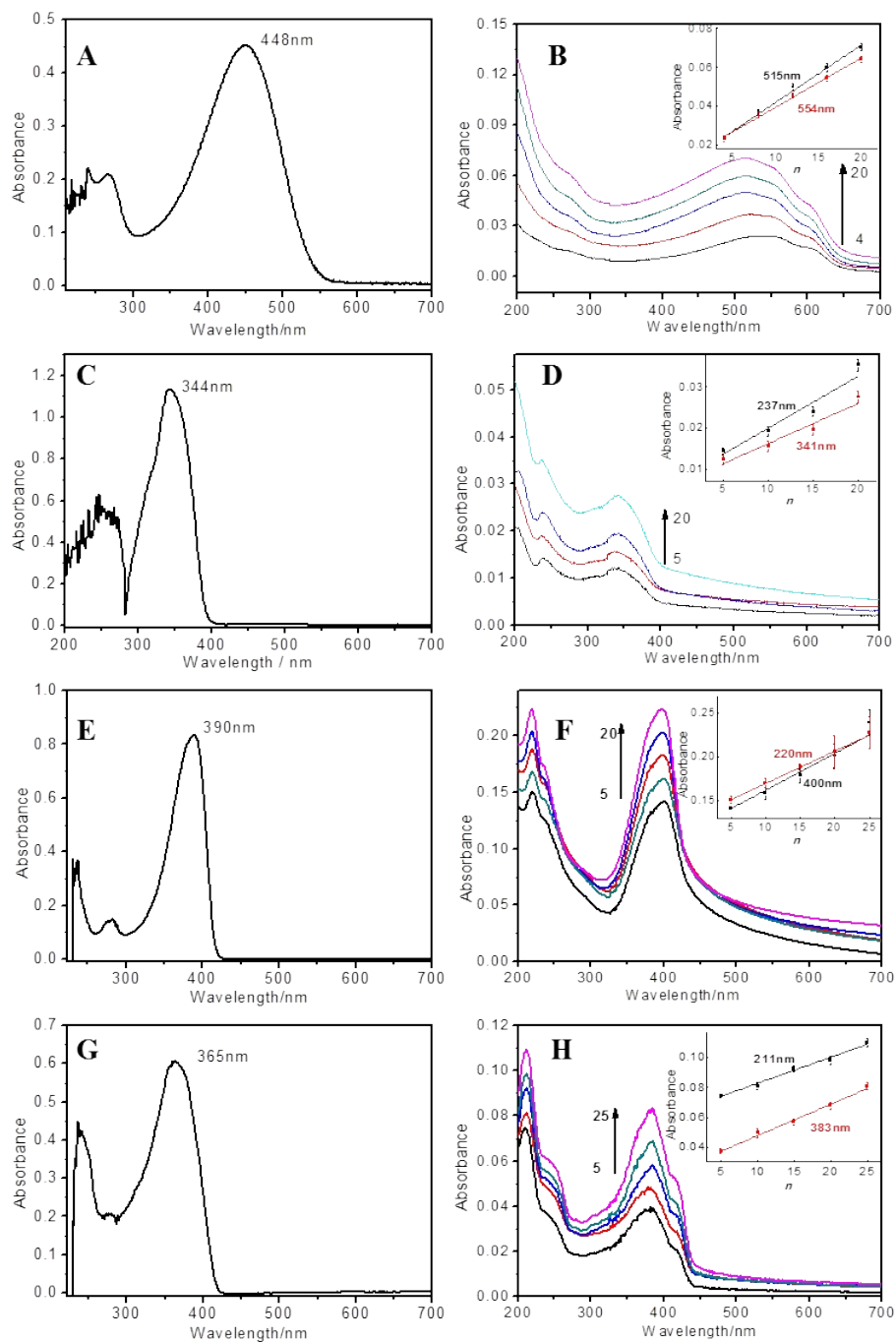


Figure S2. UV-Vis absorption spectra of (A) P3HT, (C) PFPC, (E) PHF, (G) PPE solution and (B) $(\text{P3HT/LDH})_n$ ($n = 4-20$), (D) $(\text{PFPC/LDH})_n$ ($n = 5-20$), (F) $(\text{PHF/LDH})_n$ ($n = 5-20$), (H) $(\text{PPE/LDH})_n$ ($n = 5-25$) UTFs. The insets show the absorbance versus n .

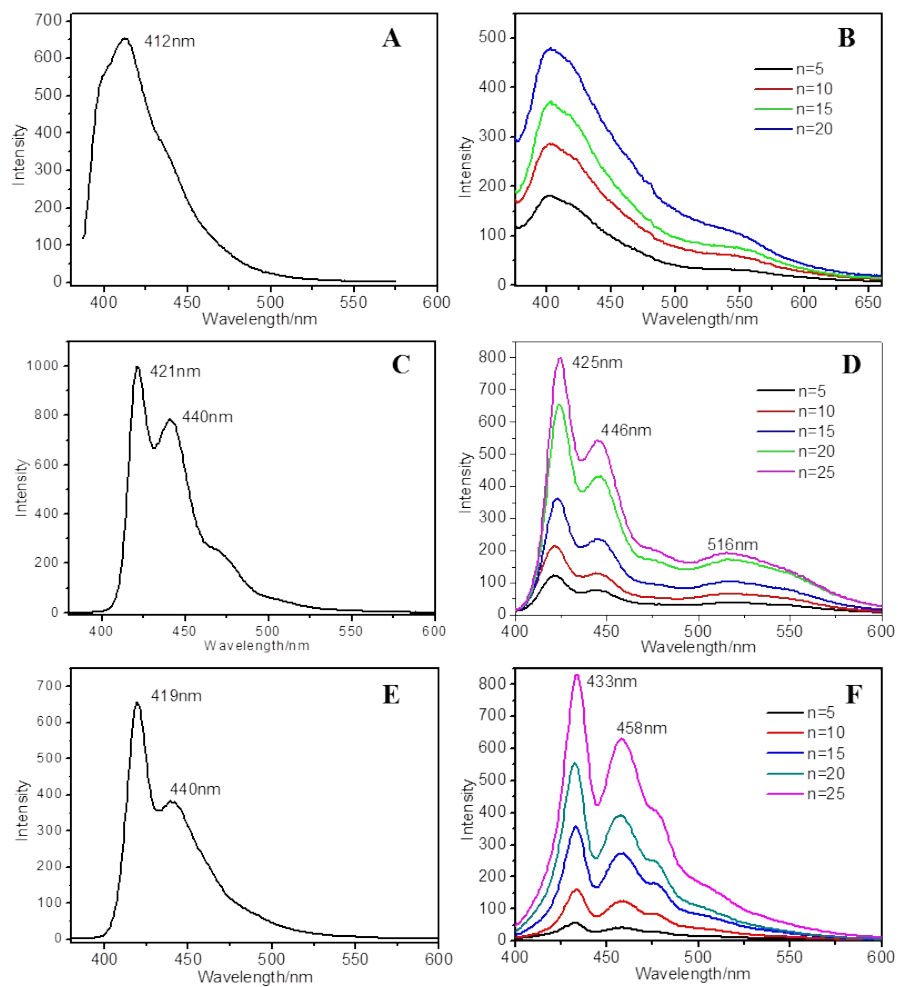


Figure S3. Fluorescence spectra of (A) PFPC, (C) PHF, (E) PPE solution, and (B) $(\text{PFPC/LDH})_n$ ($n = 5-20$), (D) $(\text{PHF/LDH})_n$ ($n = 5-25$), (F) $(\text{PPE/LDH})_n$ ($n = 5-25$) UTFs.

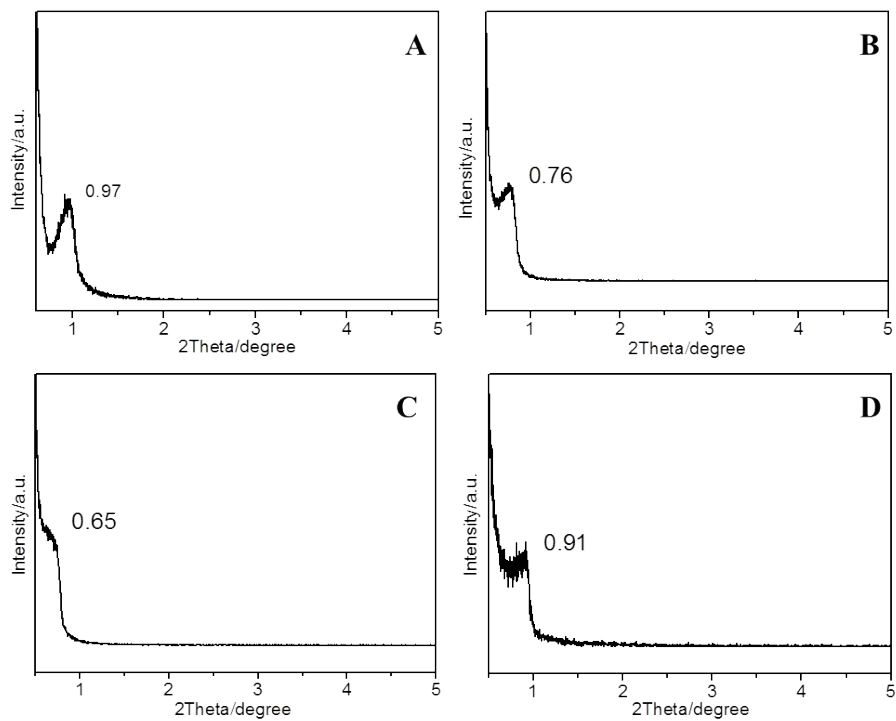


Figure S4. Small XRD patterns of (A) (P3HT/LDH)₄₀, (B) (PFPC/LDH)₄₀, (C) (PHF/LDH)₄₀, (D) (PPE/LDH)₄₀ UTFs.

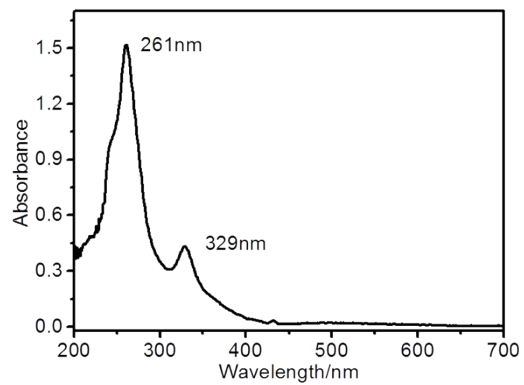


Figure S5. UV-vis absorption spectra of PCBM solution.

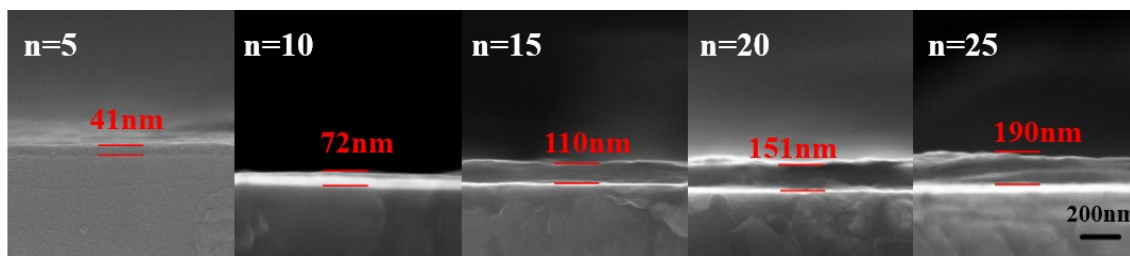


Figure S6. The SEM side view images of the $(\text{PCBM@P3HT/LDH})_n$ ($n = 5-25$) UTFs.

The scale is constant in all images.

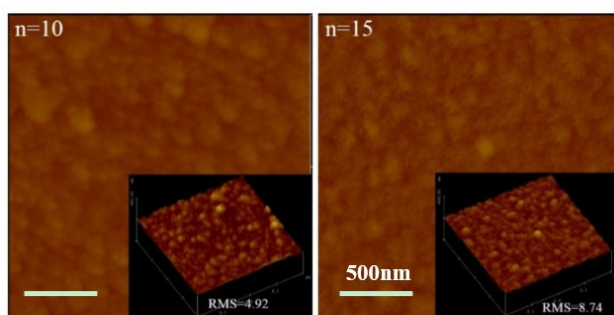


Figure S7. The AFM images of the $(\text{PCBM@P3HT/LDH})_n$ ($n = 10, 15$) UTFs (insert: 3D maps corresponds the 2D images), scanning area is random $2\mu\text{m} \times 2\mu\text{m}$.

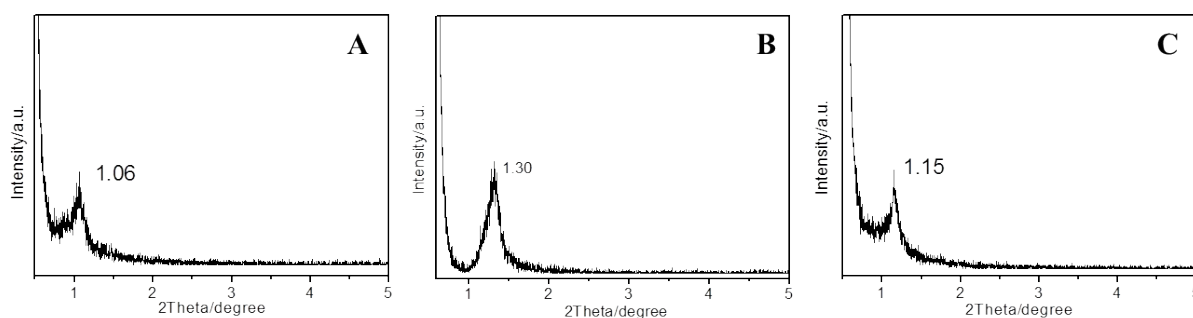
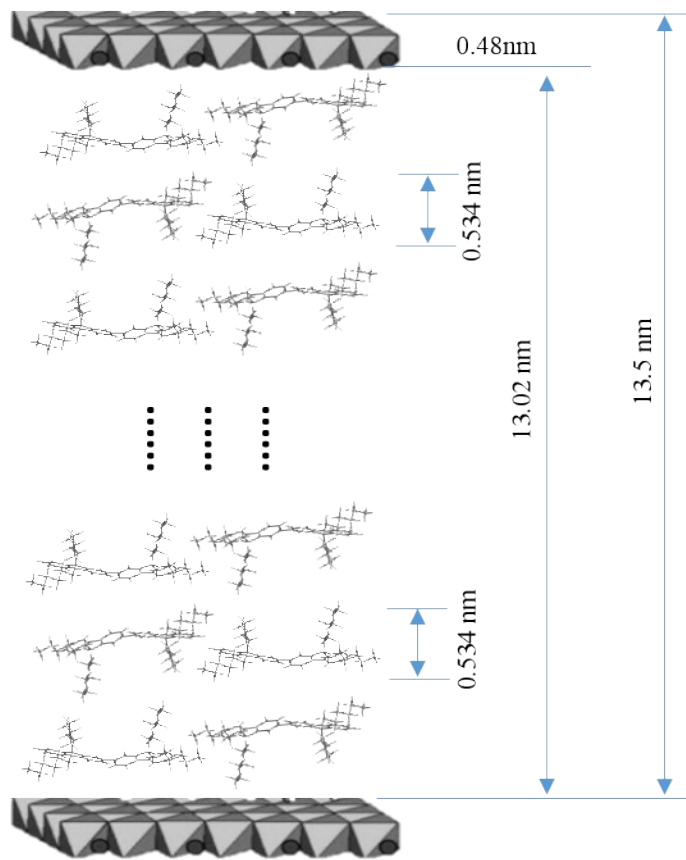


Figure S8. Small XRD patterns of the (A) $(\text{PCBM@PFH-Ec/LDH})_{40}$, (B) $(\text{PCBM@PFPC/LDH})_{40}$ and (C) $(\text{PCBM@P3HT/LDH})_{40}$ UTFs.



Scheme S1. The structure model of LDH/PHF/LDH UTF.

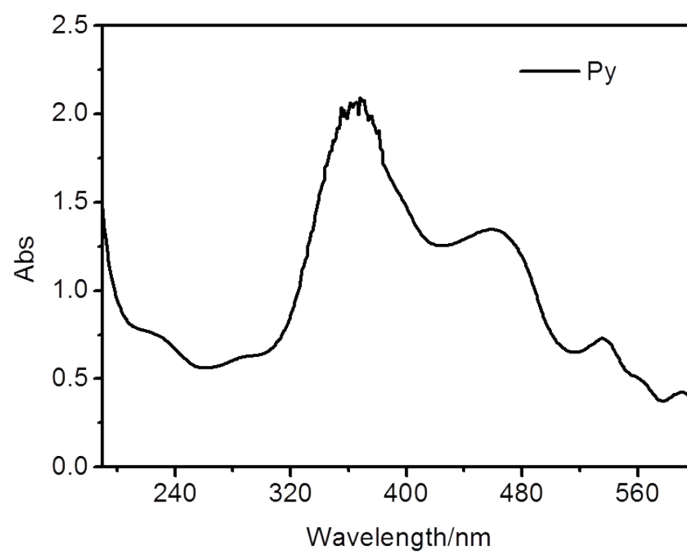


Figure S9. Absorption spectra of prophyrin solution (pH= 7).