Precise Elucidations on Stacking Manners of Hydrogen-Bonded Two-Dimensional Organic Frameworks Composed of X-Shaped π-Conjugated Systems

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1. Thermal analysis.

**Figure S1.** Thermogravimetric (TG) and differential thermal (DT) analyses of (a) X-Ph-1, (b) X-TTF-1, and (c) X-PyQ-1 crystalline bulks. Color code: blue (TG curves), orange (DT curves).
2. NMR spectra of newly synthesized compounds.

**Figure S2.** $^1$H NMR spectrum (600 MHz, CDCl$_3$) of 3.

**Figure S3.** $^{13}$C NMR spectrum (150 MHz, CDCl$_3$) of 3.
Figure S4. $^1$H NMR spectrum (400 MHz, DMSO-$d_6$) of X-PyQ.

Figure S5. $^{13}$C NMR spectrum (150 MHz, DMSO-$d_6$) of X-PyQ.