

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

Ichiro Hisaki,* Nur Qadya Emilyya Binti Affendy and Norimitsu Tohnai

Department of Material and Life Science, Graduate School of Engineering, Osaka University, 2-1 Yamadaoka, Suita, Osaka 565-0871, Japan
Email: hisaki@mls.eng.osaka-u.ac.jp

1. Thermal analysis.

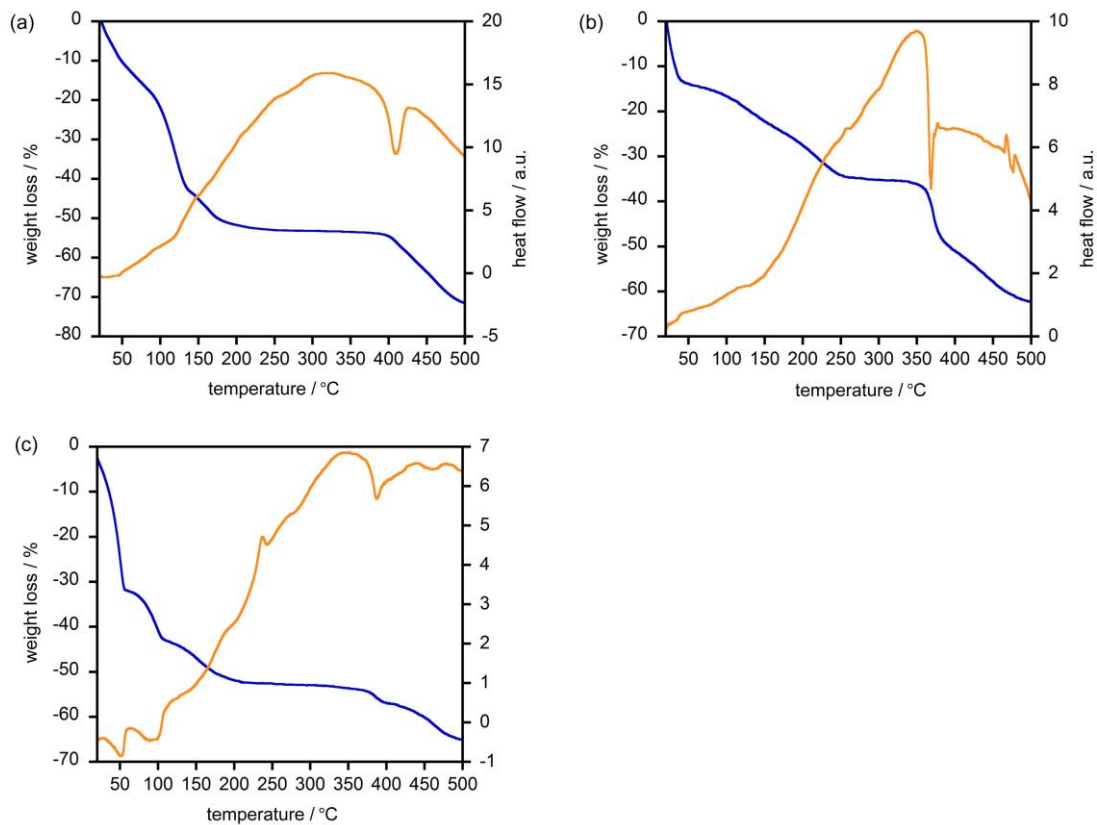


Figure S1. Thermogravimetric (TG) and differential thermal (DT) analyses of (a) **X-Ph-1**, (b) **X-TTF-1**, and (c) **X-PyQ-1** crystalline bulks. Color code: blue (TG curves), orange (DT curves).

2. NMR spectra of newly synthesized compounds.

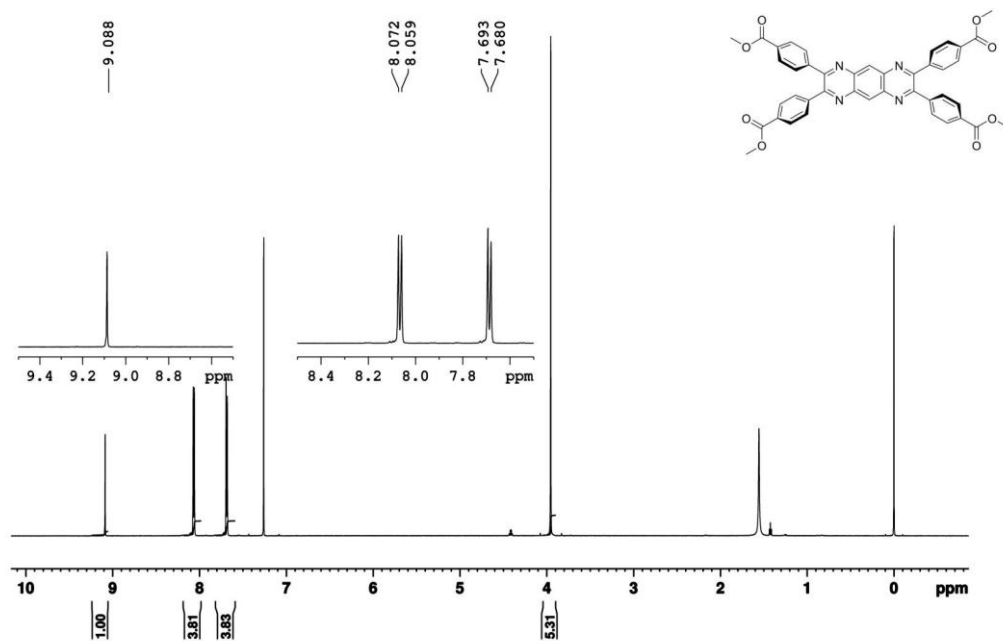


Figure S2. ¹H NMR spectrum (600 MHz, CDCl₃) of 3.

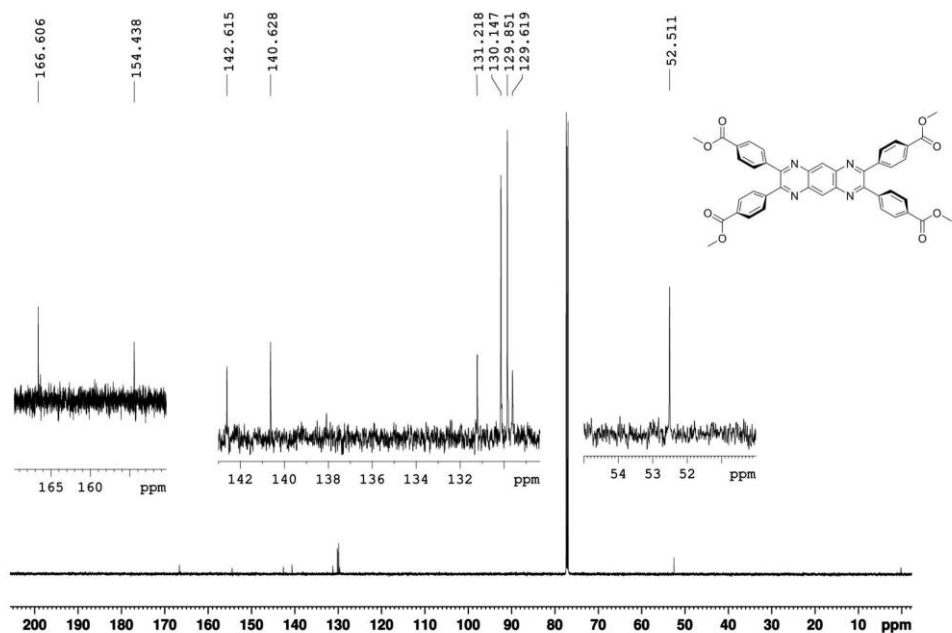


Figure S3. ¹³C NMR spectrum (150 MHz, CDCl₃) of 3.

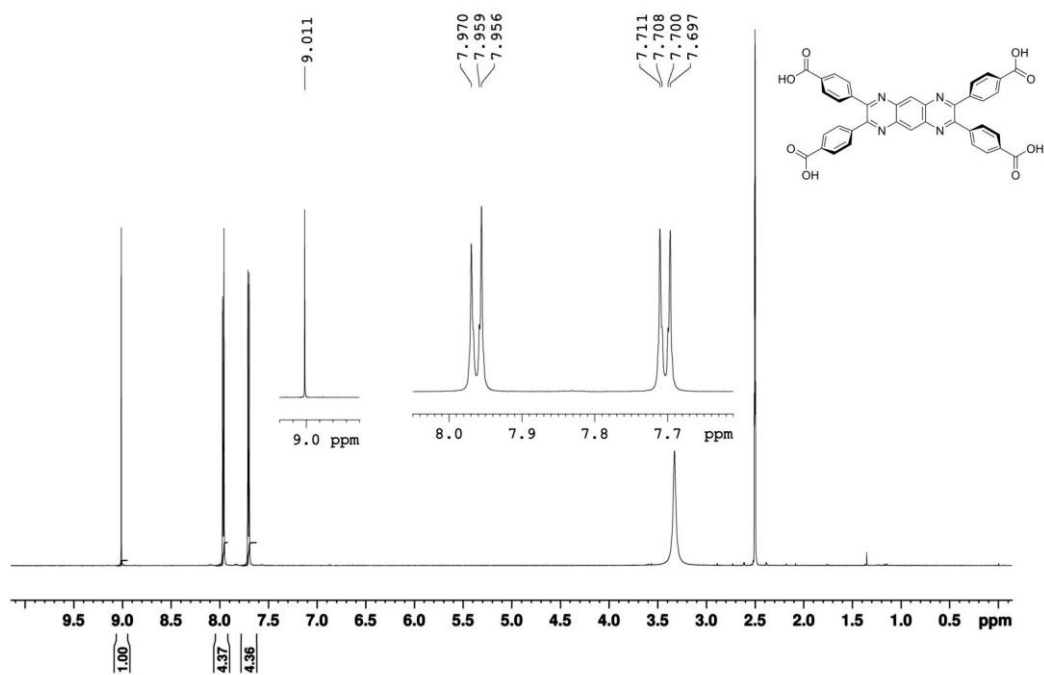


Figure S4. ^1H NMR spectrum (400 MHz, $\text{DMSO-}d_6$) of X-PyQ.

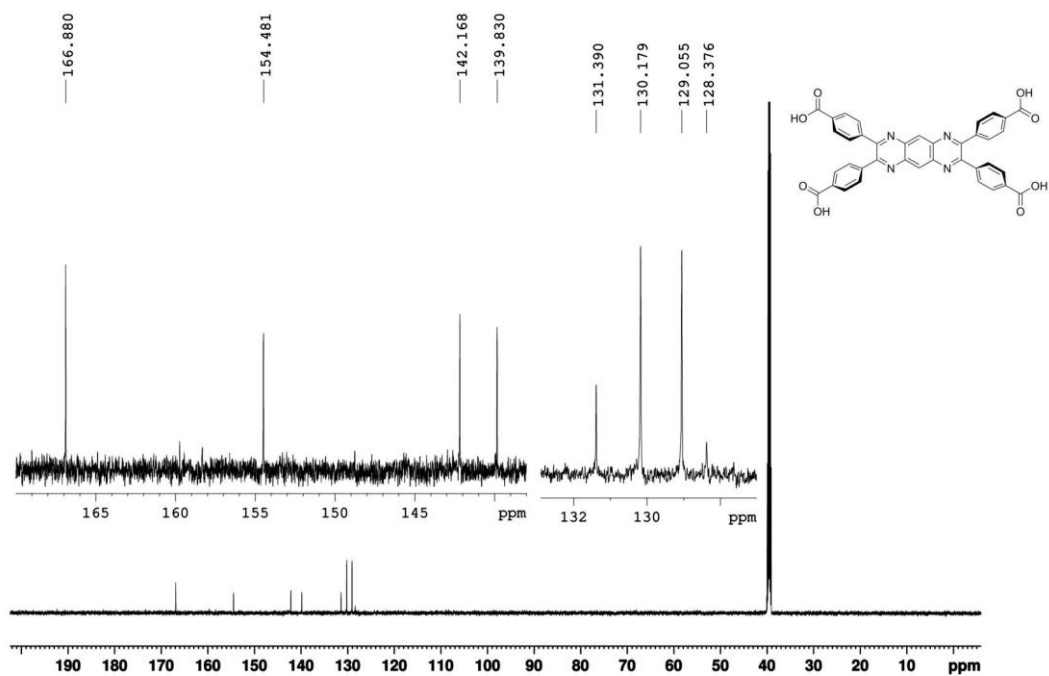


Figure S5. ^{13}C NMR spectrum (150 MHz, $\text{DMSO-}d_6$) of X-PyQ.