

Controlled self-aggregation of perylene bisimide and its application in thick photoconductive interlayer for high performance polymer solar cells

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1. Absorption and emission spectra of PBI3 in dichloromethane

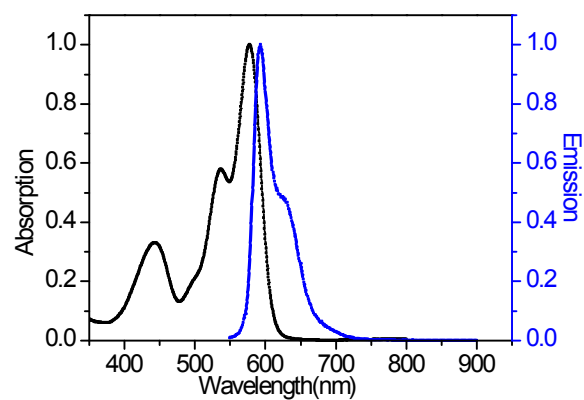


Figure S1. Absorption (black) and emission (blue) spectra of PBI3 in dichloromethane at a concentration of 1.0×10^{-5} M at room temperature.

2. SEM image of a film prepared by spin-coating a solution of PBI-H and PBI3 in chloroform (5mg mL⁻¹) onto a silicon substrate.

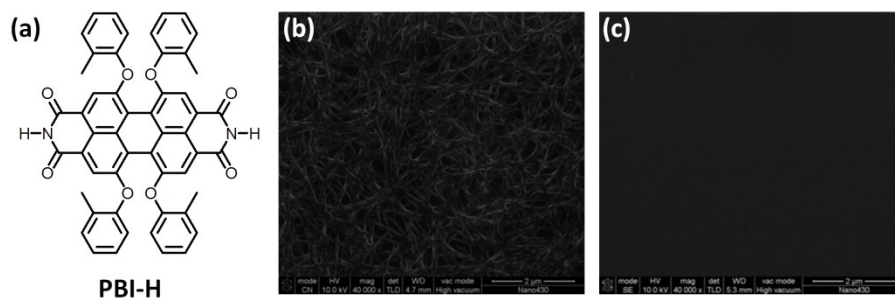


Figure S2. (a) Chemical structures of PBI-H. (b, c) SEM images of PBI-H and PBI3 thin film on quartz spin-coated from chloroform solution.

3. Cyclic voltammetry measurement

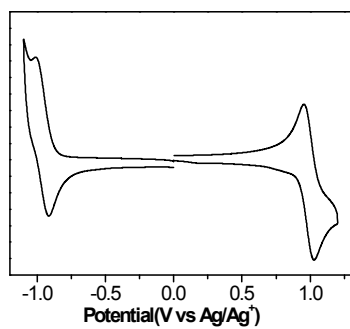


Figure S3. Cyclic voltammogram of PBI3 in CH₂Cl₂. The scan rate is 50 mV s⁻¹.

The HOMO and LUMO was determined to be -5.6eV and -3.8eV.

4. ^1H NMR, ^{13}C NMR, MALDI-TOF

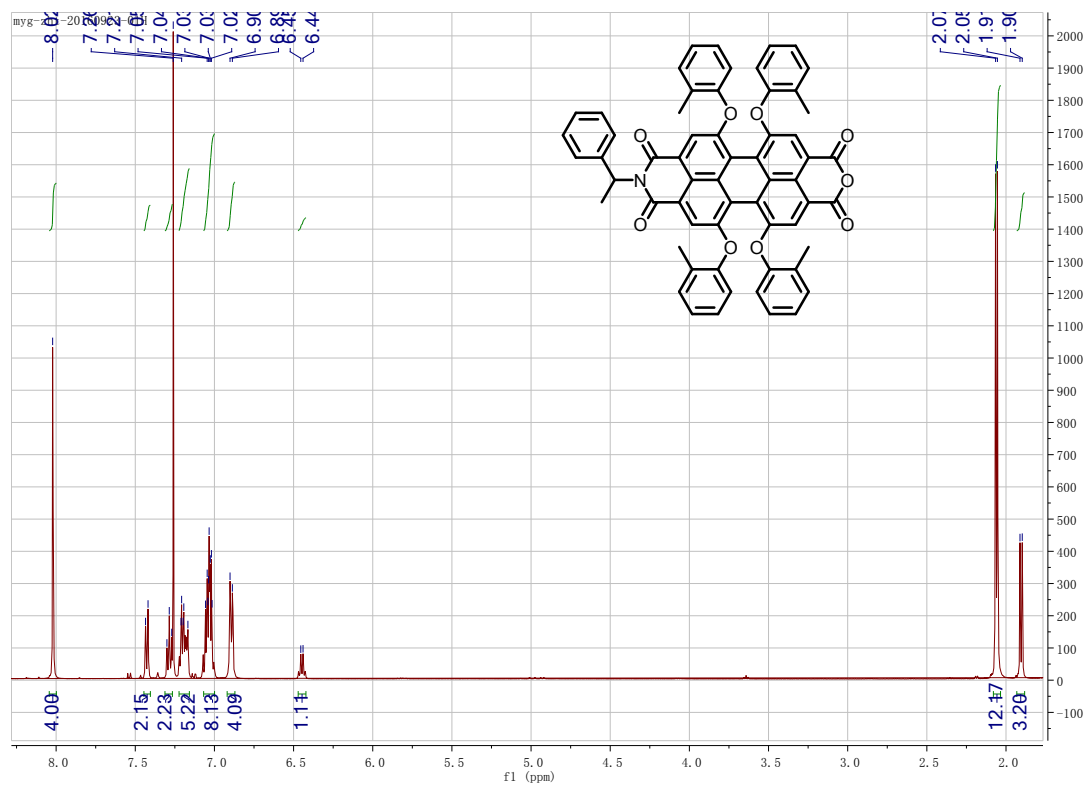


Figure S4. ^1H NMR spectrum of compound PBI2 in CDCl_3 at room temperature.

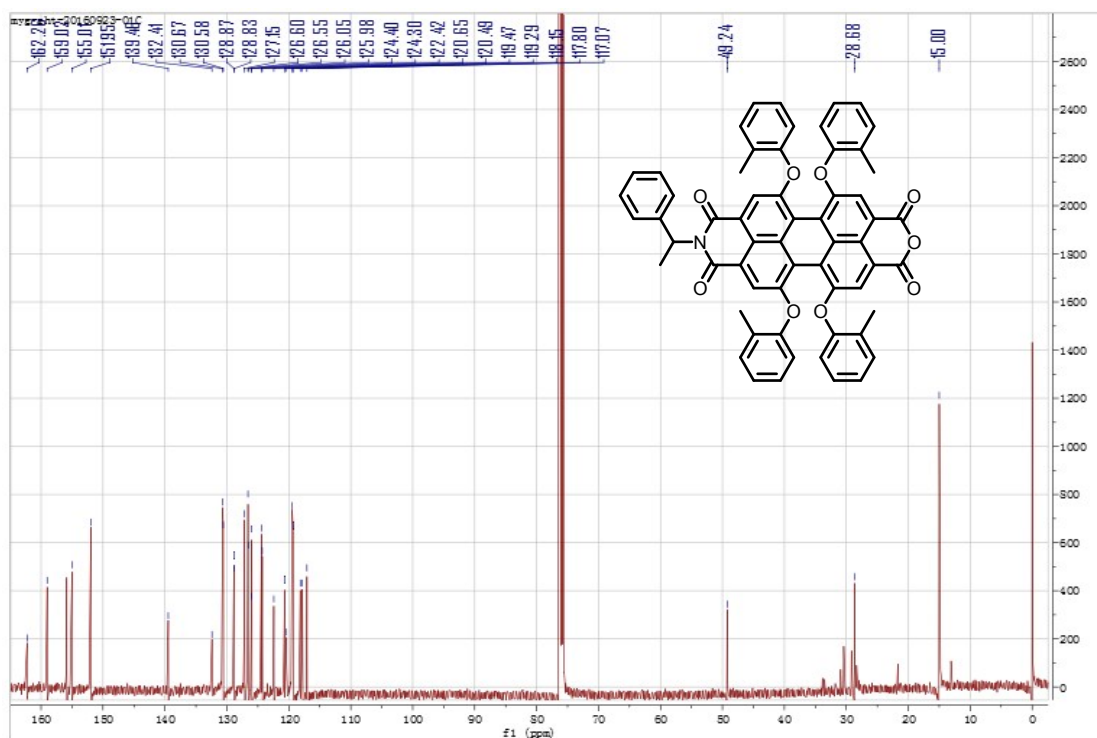


Figure S5. ^{13}C NMR spectrum of compound PBI2 in CDCl_3 at room temperature.

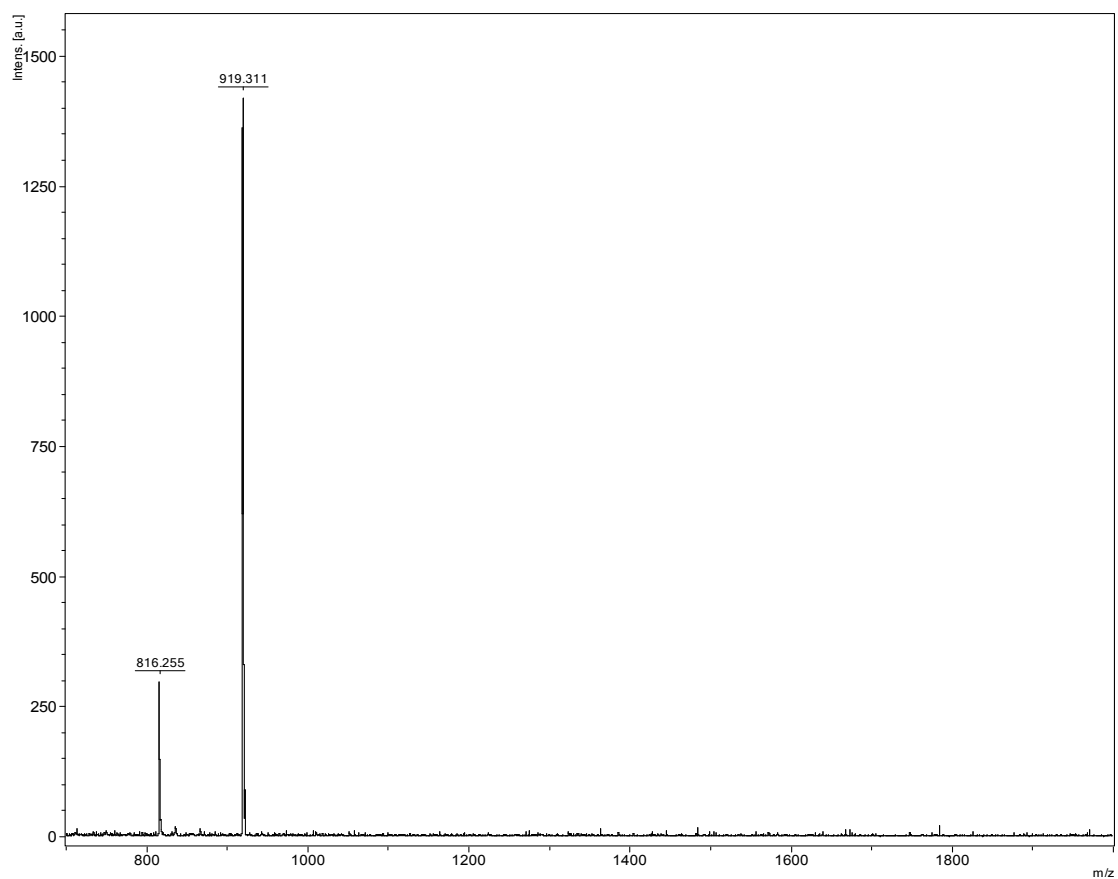


Figure S6. MALDI-TOF spectrum of compound PBI2.

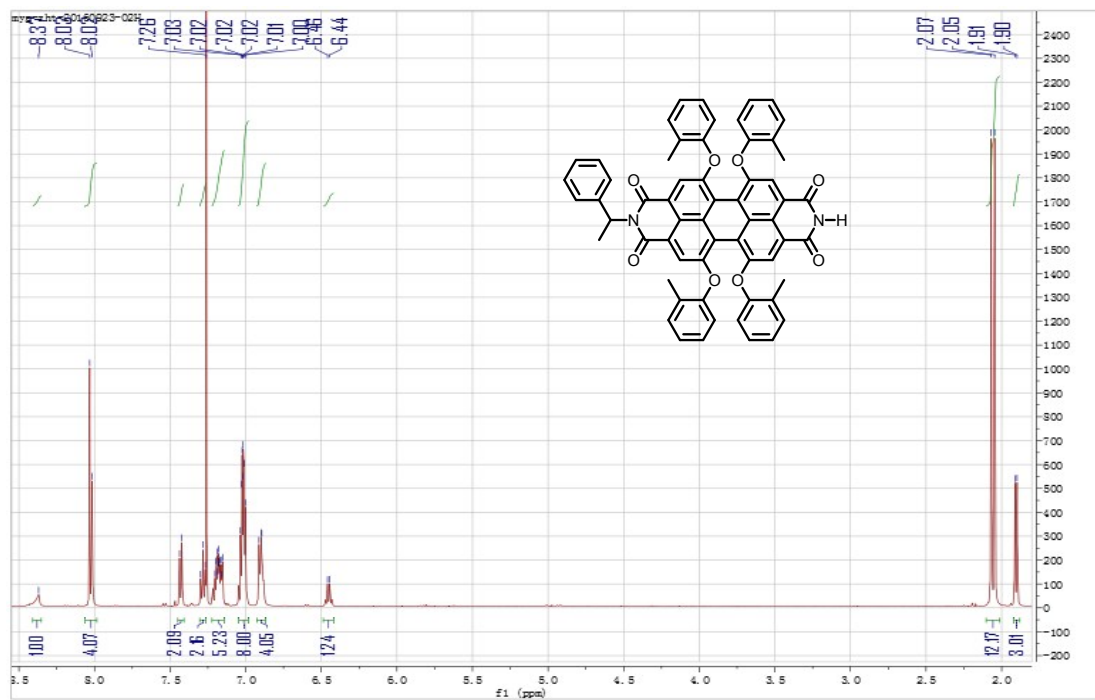


Figure S7. ^1H NMR spectrum of compound PBI3 in CDCl_3 at room temperature.

