

Supporting Information

Does a Nitrogen Matter?: Synthesis and Photoinduced Electron Transfer of Perylenediimide Donors Covalently Linked to C₅₉N and C₆₀ Acceptors

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Characterization

N,N'-di(2-ethylhexyl)-1-[2-(hydroxymethyl)pyrrolidinyl]perylene-3,4,9,10-tetracarboxydiimide (PDI **3**)

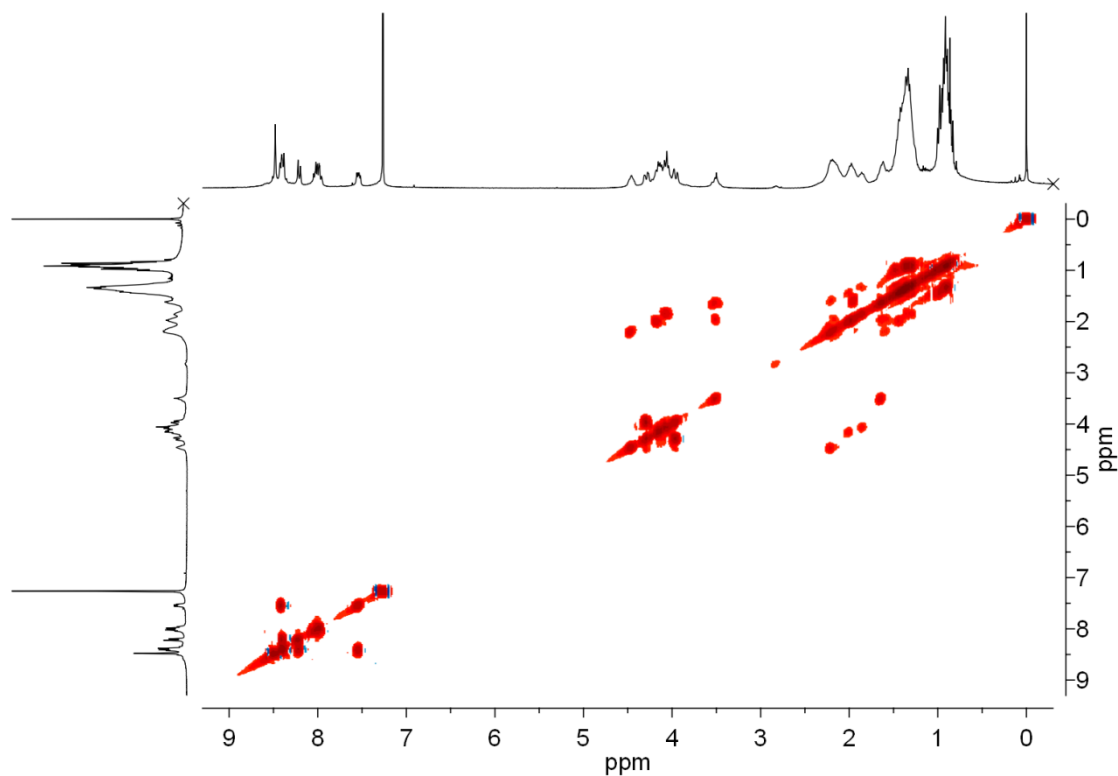


Figure S 1: ^1H - ^1H COSY spectrum of **3** in CDCl_3

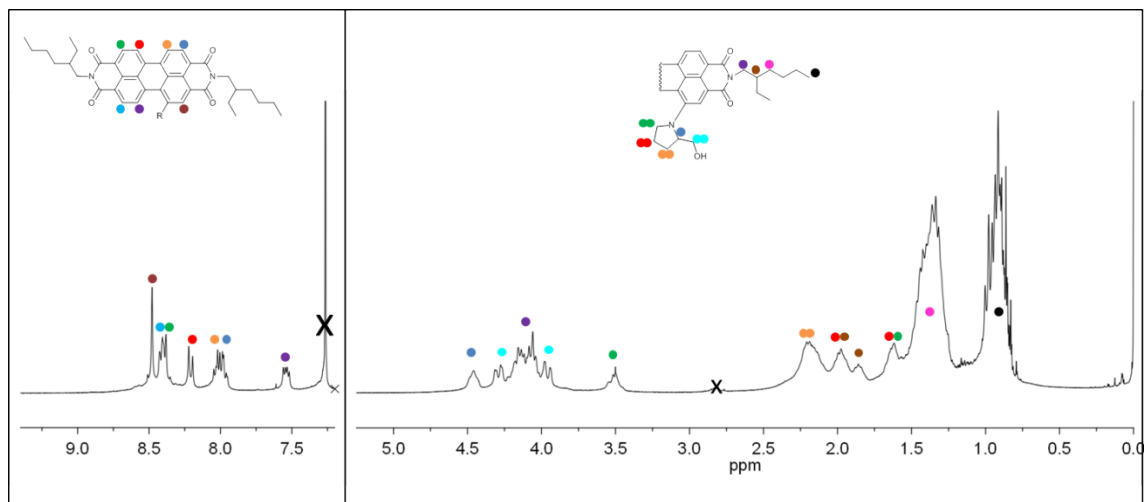


Figure S 2: ^1H -NMR spectrum of **3** in CDCl_3

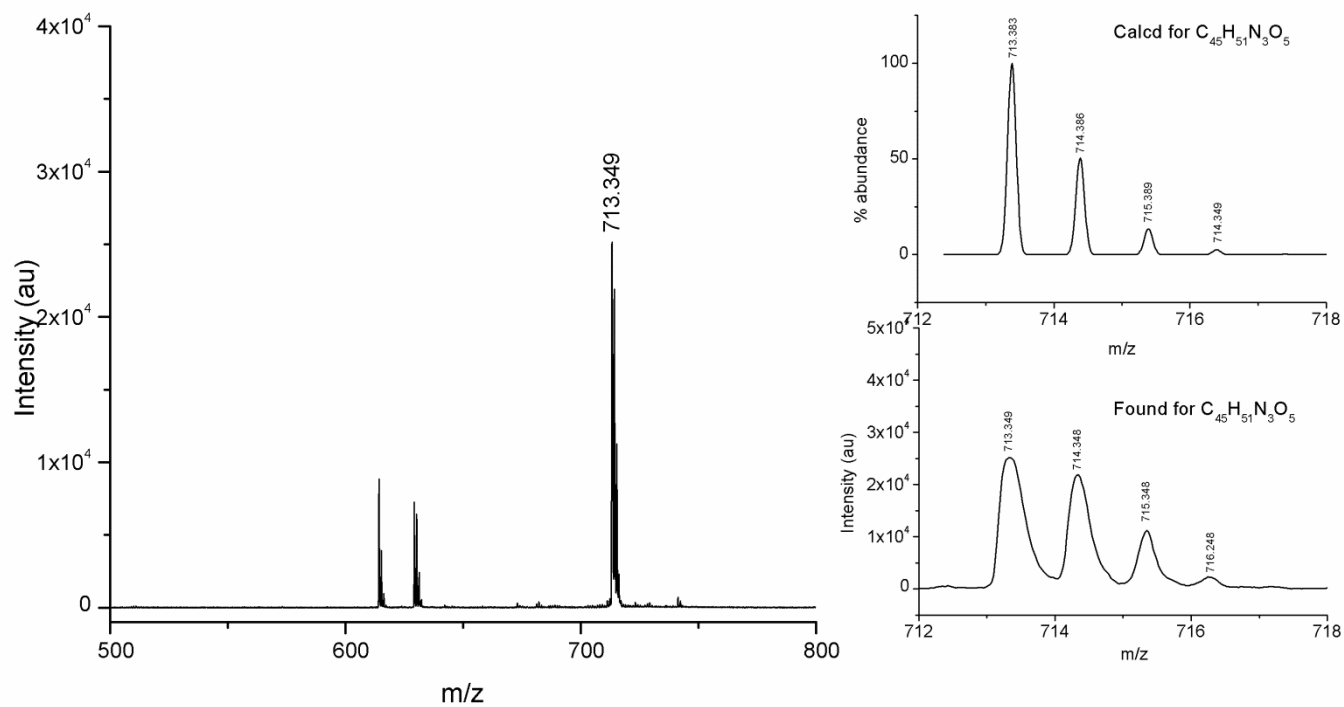


Figure S 3: HR-MALDI-TOF spectrum of **3**

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N,N'-di(2-ethylhexyl)-1-[2-(acetylmethyl)pyrrolidinyl]perylene-3,4,9,10-tetracarboxydiimide (PDI 6)

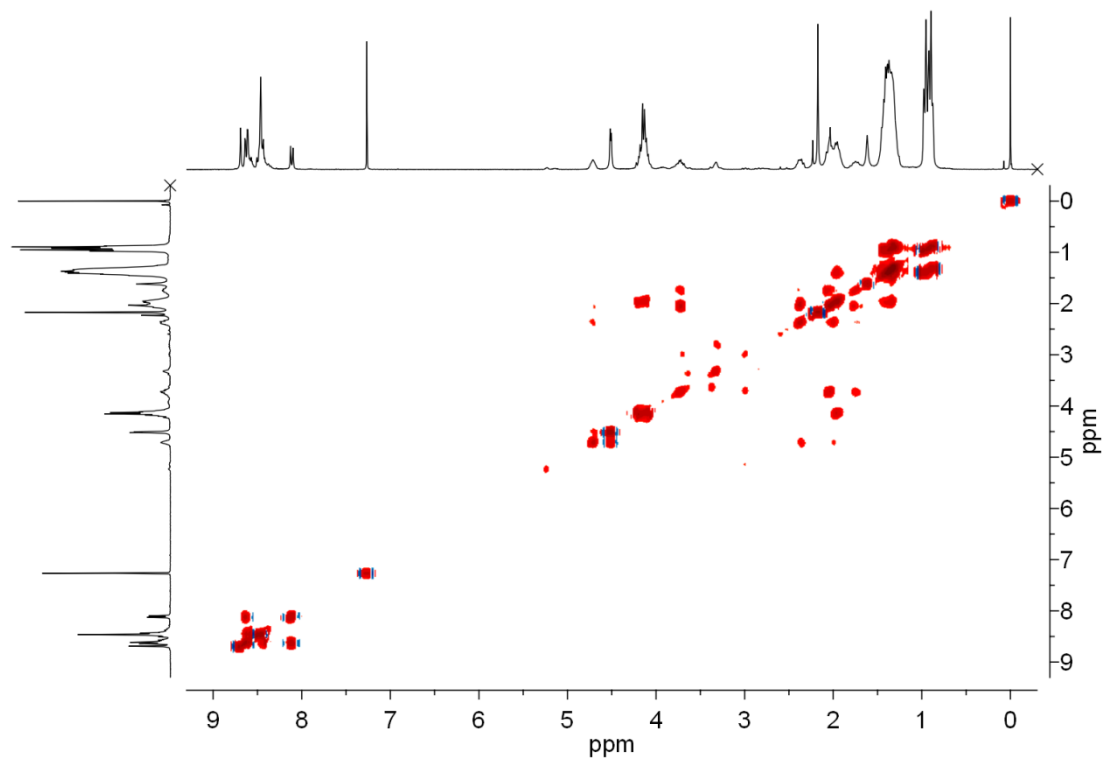


Figure S 4: ^1H - ^1H COSY spectrum of **6** in CDCl_3

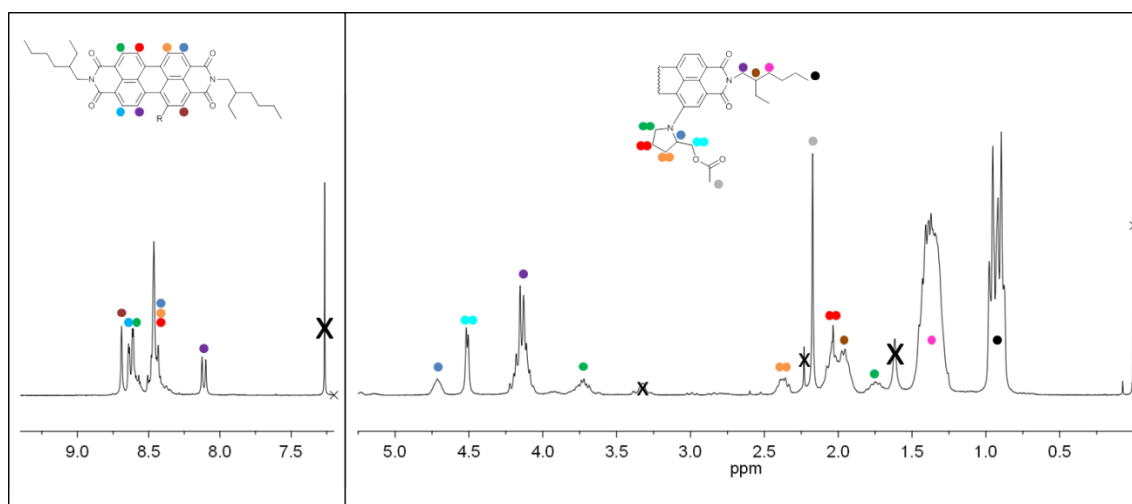


Figure S 5: ^1H -NMR spectrum of **6** in CDCl_3

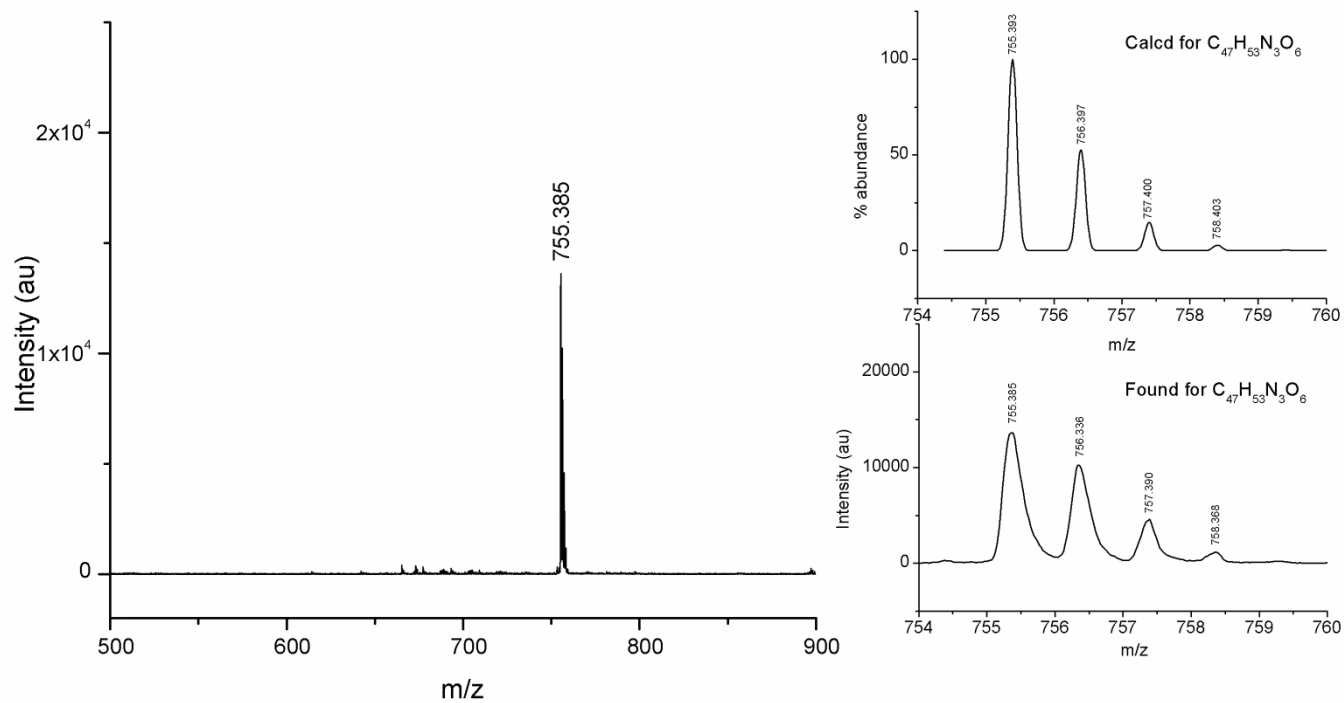


Figure S 6: HR-MALDI-TOF spectrum of **6**

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N,N'-di(2-ethylhexyl)-1-[2-([60]fullereneacetylmethyl)pyrrolidinyl]perylene-3,4,9,10-tetracarboxydiimide (PDI-C₆₀ 2)

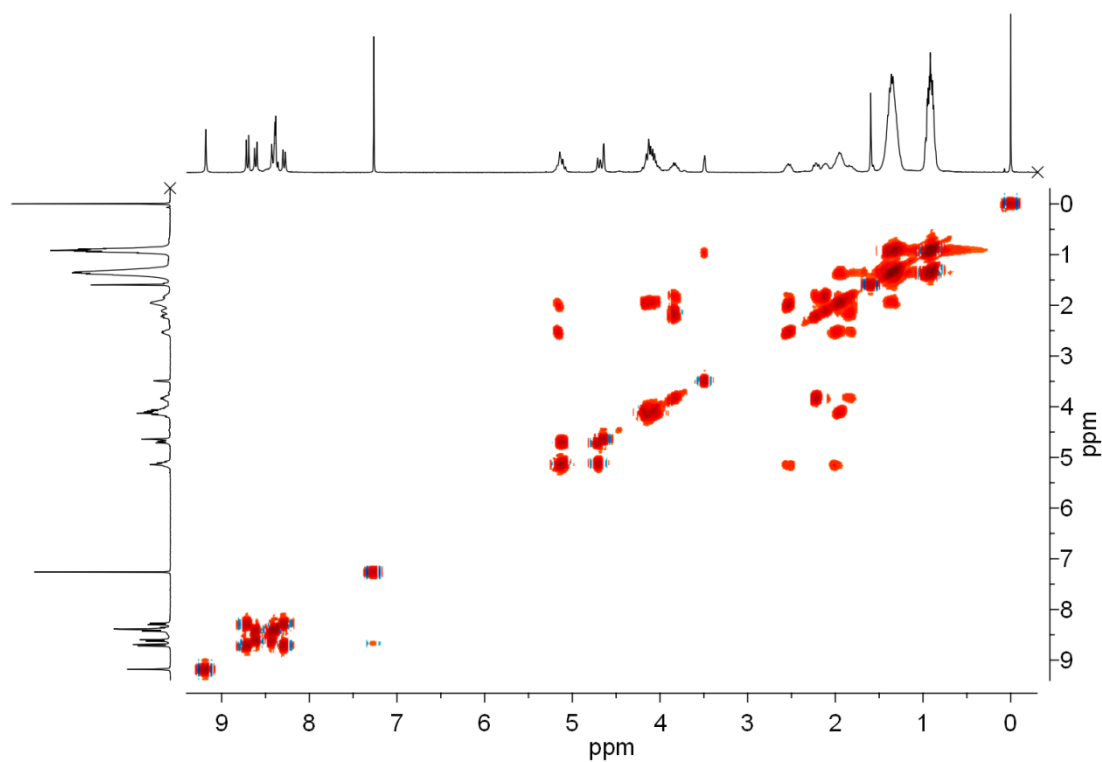


Figure S 7: ¹H-¹H COSY spectrum of 2 in CDCl₃

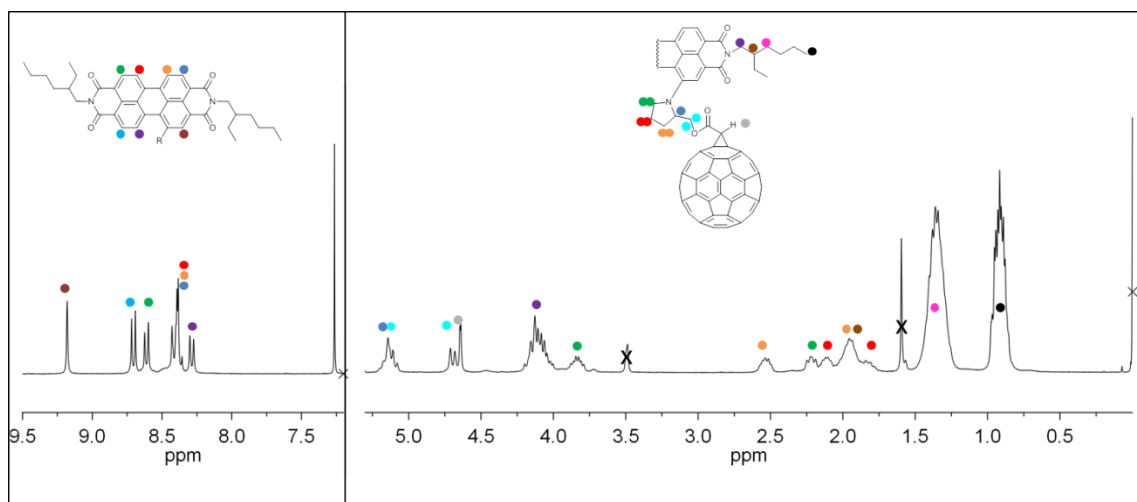


Figure S 8: ¹H-NMR spectrum of 2 in CDCl₃

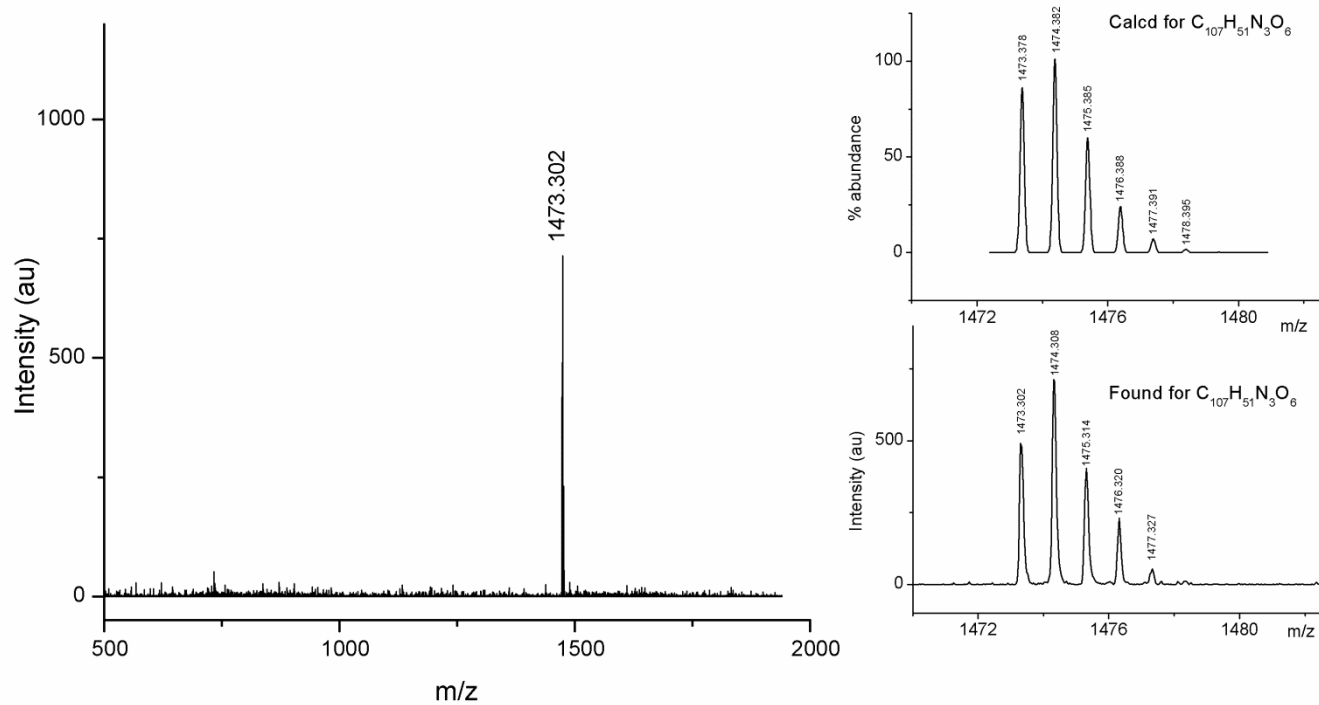


Figure S 9: HR-MALDI-TOF spectrum of **2**

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N,N'-di(2-ethylhexyl)-1-[2-(azafullereneacetylmethyl)pyrrolidinyl]perylene-3,4,9,10-tetracarboxydiimide (PDI-C₅₉N **1**)

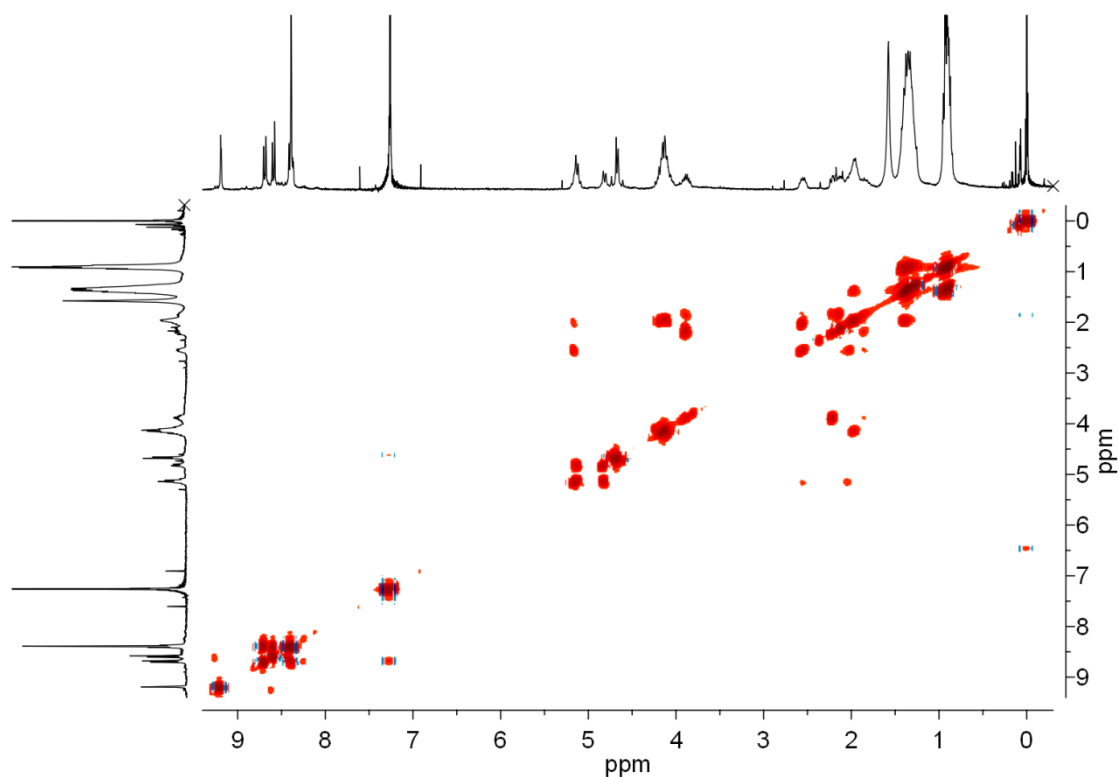


Figure S 10: ¹H-¹H COSY spectrum of **1** in CDCl₃

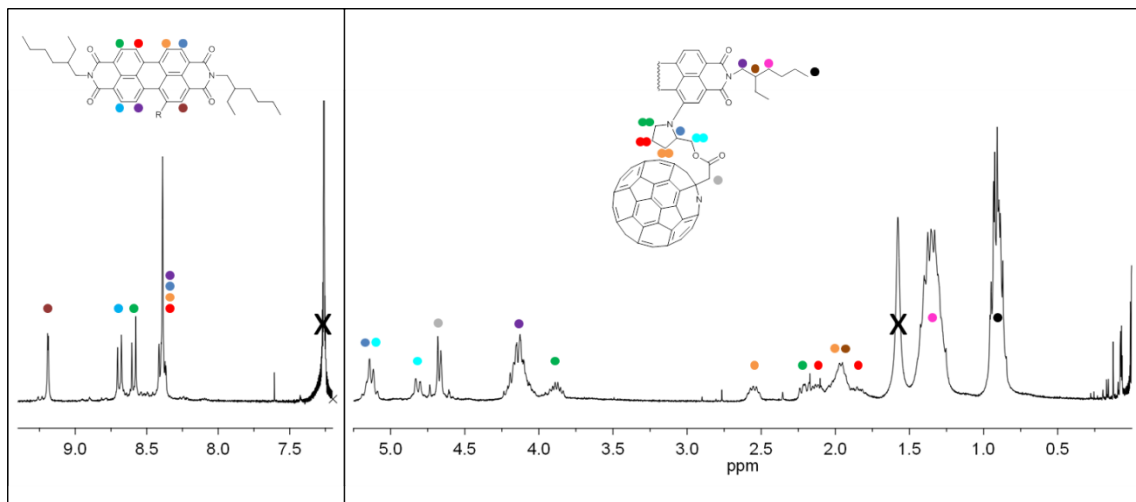


Figure S 11: ¹H-NMR spectrum of **1** in CDCl₃

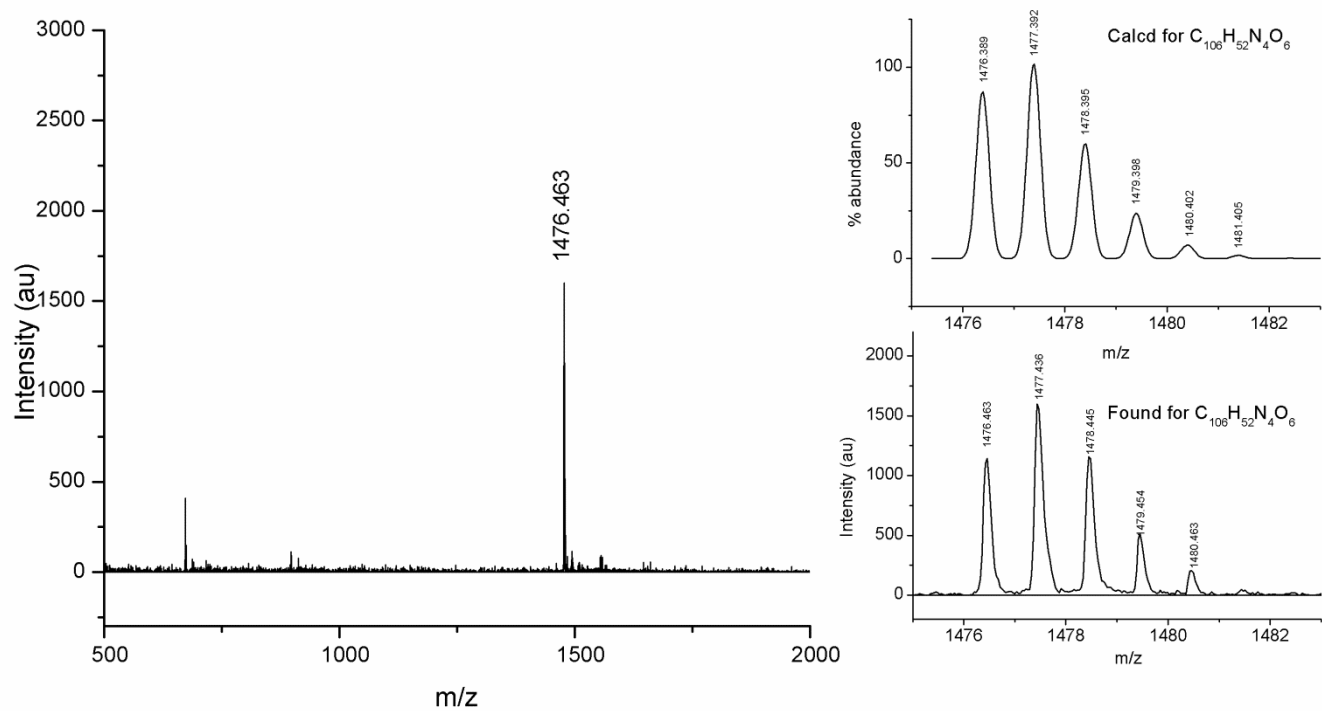


Figure S 12: HR-MALDI-TOF spectrum of **1**

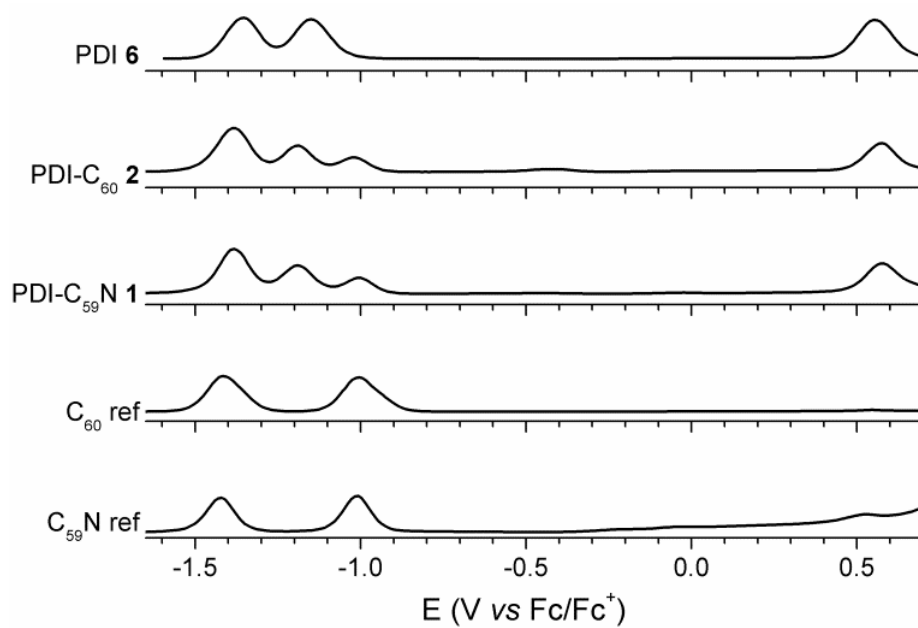


Figure S 13: Differential pulse voltammograms of PhCN solutions, containing Bu_4NPF_6 (0.10 M), of PDI **6**, PDI-C₅₉N and PDI-C₆₀ dyads **1** and **2**, and C₆₀ and C₅₉N reference compounds.

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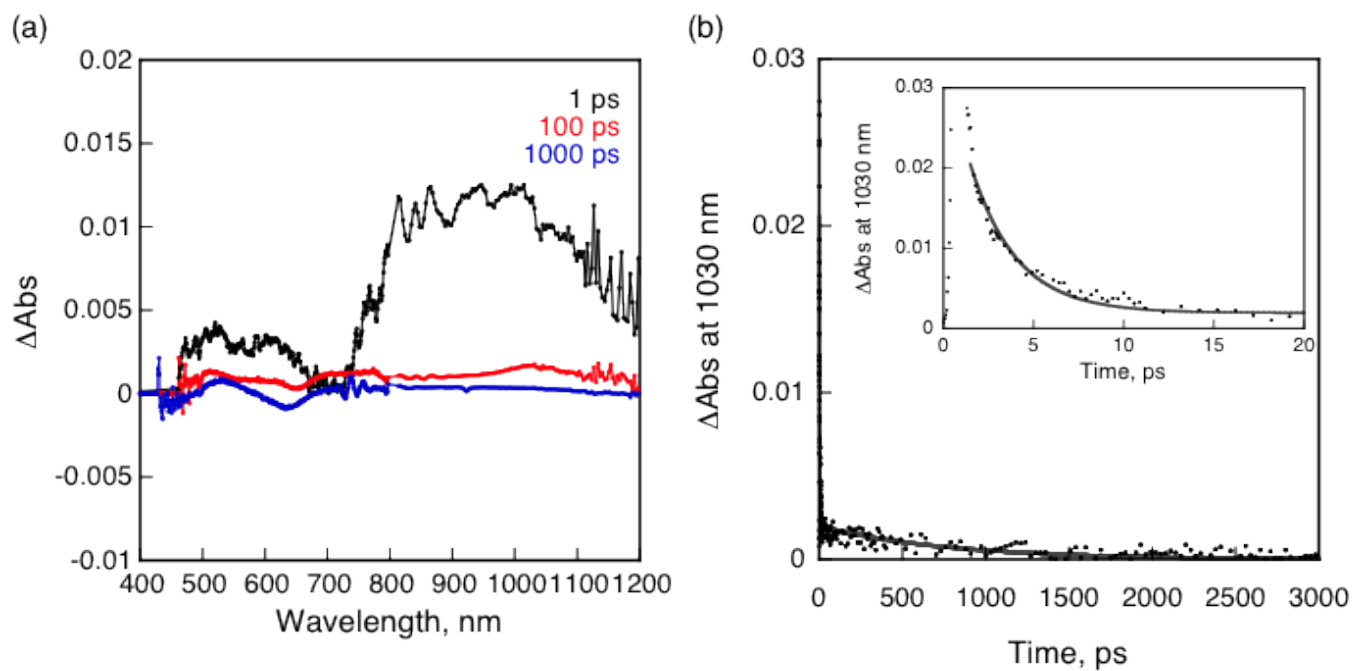


Figure S14: (a) Transient absorption spectra of C₅₉N-PDI (0.5 mM) in deaerated toluene after femtosecond laser excitation at 510 nm; (b) Time profile of the absorbance at 1030 nm. Inset: decay time profile for the short time range. Gray line is drawn by the double exponential curve fitting.