Spectroscopic Engineering toward Near-Infrared Absorption of Materials Containing Perylene Diimide

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Résumé en anglais	The ability to tune the dye structure synthetically has been crucial in the development of materials with tailored properties for given applications. In this contribution, a series of discrete molecules are reported, which are constructed from the perylene diimide (PDI) chromophore and three dyes, namely thienyl diketopyrrolopyrrole (DPPTh2), pyridyl diketopyrrolopyrrole (DPPPyr2), and thienoisoindigo (TII). Through the choice of dye molecule and linking of the dye and PDI through conjugated acetylene bridges, the light-harvesting characteristics can be engineered to exhibit optical absorption in the range 300–900 nm. Each molecule shows ambipolar redox behavior, leading to unique electrochromic behavior.
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