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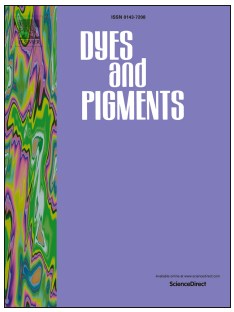

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Phthalocyanine-based dumbbell-shaped molecule: synthesis, structure and charge transport studies

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Abstract

We describe the synthesis of a fully conjugated donor-acceptor-donor triad (ZnPc-BTD-ZnPc) made of zinc phthalocyanine donor fragments (ZnPc) at both ends of a benzothiadiazole-based central dye (BTD). The molecule exhibits a broad absorption in the whole visible range. The introduction of sterically demanding alkoxy chains to the ZnPc fragments is found to limit the molecular organization to a short-range columnar order and the charge-carrier mobility to moderate values, but provides outstanding solubilities in organic solvents.

Keywords

Phthalocyanine, Benzothiadiazole, Stille cross-coupling, self-assembling, charge transport, photostability