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T-Shaped Push-Pull Chromophores: First Modification of the Indan-1,3-dione-Fused Benzene Ring by Cross-Coupling Reactions

Synthesis 2013, 45, 3044-3051.

Push-Pull Chromophores from Indan-1,3dione

T-Shaped chromophore synthesis:

Significance: The synthesis of T-shaped pushpull chromophores based on indan-1,3-dione as an electron acceptor is presented. The two donor moieties that comprise the T-shaped architecture are installed via the Knoevenagel condensation of 4,7-diiodoindan-1,3-dione with an aryl aldehyde, followed by palladium-catalyzed cross-coupling of the iodides with N,N-dimethylaniline or thiophenecontaining substituents.

Comment: The optical and electronic properties of the synthesized T-shaped chromophores are extensively studied by UV/Vis absorption spectroscopy and calculations. Their non-linear optical properties are also examined through theoretical calculations.

SYNFACTS Contributors: Timothy M. Swager, Gregory D. Gutierrez Synfacts 2014, 10(1), 0035 Published online: 13.12.2013 DOI: 10.1055/s-0033-1340390; Reg-No.: S14613SF

Key words

Unnatural Products

Synthesis of Materials and

conjugated materials

Category

push-pull chromophores