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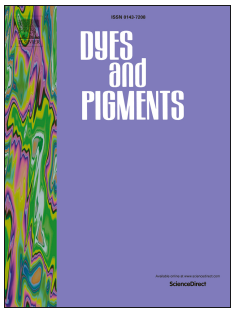

An extremely narrow band gap conjugated polymer for photovoltaic devices covering UV to near-infrared light

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Graphic Abstract

An alternating narrow band gap conjugated polymer derived from 4,6-bis(4-tetradecylthien-2-yl)thieno[3,4-*c*]thiadiazole and thieno[3,2-*b*]thiophene, was synthesized by Stille coupling reaction, and named as PDTTZ-TT. Photovoltaic devices from the PDTTZ-TT and fullerene derivatives exhibit light response from 300 nm to 1260 nm. The specific detectivity of the devices was reached to 1.68–7.66×10^{12} Jones under zero bias. As we have known, it is one of the best reported sensitivity for polymer photodetectors with light response covering UV-Vis to near-infrared light.