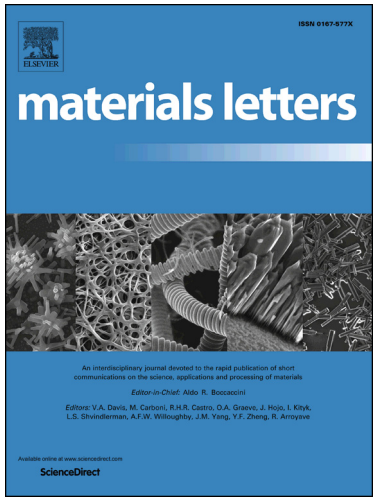

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Facile fabrication of phenothiazine-tetracyanoquinodimethane co-crystal microwires with ambipolar charge transport characteristics

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Abstract

Novel co-crystal microwires based on phenothiazine (PTZ) and tetracyanoquinodimethane (TCNQ) have been fabricated using a facile solution method and fully characterized. The microwires had well-defined shapes, smooth surfaces and high crystalline. Moreover, the co-crystal microwires exhibited a significant absorption at wavelengths between 900 and 2400 nm owing to the charge-transfer interaction between PTZ and TCNQ. The prototype field-effect transistor with the bottom-gate was directly constructed, exhibiting typical ambipolar charge transport characteristics.

Keywords: Organic; Semiconductors; Co-crystal microwires; Ambipolar transport

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