

Abstract Submitted
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Soluble and thermally stable molecules for Organic Light-Emitting Transistors FABIO CICOIRA¹, EMT-INRS Université du Québec, CLARA SANTATO², ISMN CNR Bologna (Italy), MANUELA MELUCCI, LAURA FAVARETTO, MASSIMO GAZZANO, ISOF CNR Bologna (Italy), MICHELE MUCCINI, ISMN CNR Bologna (Italy), BARBARELLA GIOVANNA, ISOF CNR Bologna (Italy), ISMN CNR BOLOGNA (ITALY) TEAM, ISOF CNR BOLOGNA (ITALY) TEAM — We report on the design, synthesis, thin film growth and optoelectronic properties of a newly synthesized dithienothiophene derivative. Atomic Force Microscopy and Laser Scanning Confocal Microscopy show that both vacuum sublimed and drop cast DTT7Me films have good silicon dioxide surface coverage. X-ray diffraction reveals that the films have a highly ordered structure. Very interestingly for future technological applications, Organic Light Emitting Transistors (OLETs) were successfully fabricated not only employing vacuum sublimation but also drop casting. Our results introduce several novelties in organic optoelectronics both from fundamental and practical point of view: the demonstration of a novel multifunctional material able to conjugate good charge transport and electroluminescence in FET configuration and the first solution processed OLET based on non polymeric systems. This last result paves the way towards all plastic, low temperature processed, large area organic optoelectronics.

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