Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Characterization of Soluble Anthradithiophene Derivatives[1]
BRAD CONRAD, CALVIN CHAN, National Institute of Standards and Technology, MARSHA LOTH, JOHN ANTHONY, University of Kentucky, DAVID GUNDLACH, National Institute of Standards and Technology — We will discuss the growth and electrical measurements of a newly developed, partially fluorinated anthradithiophene (F-ADT) derivative with tert-butyldiphenylsilyl (TBDMS) side groups. Single crystals of the material can be readily grown and device hole mobility is shown to exceed 0.05 cm^2/Vs with on/off ratios of 10^7. F- TBDMS ADT is also observed to be readily soluble with films spun cast onto surface treated SiO_2 displaying a mobility >0.002 cm^2/Vs. These electrical measurements will be correlated with growth, morphology, and the performance of related F-ADT derivatives.

[1]This work is supported by the National Research Council Postdoctoral Fellowship at National Institute of Standards and Technology.

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Date submitted: 18 Nov 2009 Electronic form version 1.4