

Abstract Submitted  
for the MAR09 Meeting of  
The American Physical Society

**Collecting photo-generated charge carriers from metallo-organic materials**<sup>1</sup> A.R. CARTER, J.H. PARK, Dept. of Physics, The Ohio State University, Columbus, Ohio 43210-1117, Y.-H. CHOU, Y. GHOSH, C.R. REED, L.M. MIER, T.L. GUSTAFSON, M.H. CHISHOLM, Dept. of Chemistry, The Ohio State University, Columbus, Ohio 43210-1185, A.J. EPSTEIN, Dept. of Physics and Dept. of Chemistry, The Ohio State University, Columbus, Ohio 43210-1117 — Organic photovoltaic materials continue to garner attention as potential low cost and tunable alternatives to conventional inorganics. We report progress in utilizing hybrid metallo-organic materials that incorporate metal-metal (M-M) quadruply bonded units into oligothiophenes via carboxylate linkers.<sup>2</sup> Varying the metal (M = Mo, W) or the ligands shifts the energetics and can be exploited to extend absorption into the infrared. These materials have high absorbtivity from 300 nm (4.1 eV) to 900 nm (1.4 eV). We present the results of photophysical studies of structures that employ these materials.

<sup>1</sup>This work is supported by the Wright Center for Photovoltaic Innovation and Commercialization [TECH-07-026].

<sup>2</sup>G. T. Burdzinski, *et al.*, PNAS **105**, 15247 (2008).

Austin Carter  
Dept. of Physics, The Ohio State University, Columbus, Ohio 43210-1117

Date submitted: 15 Dec 2008

Electronic form version 1.4