Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

JV Annealing Study of P3HT:PCBM OPV ROY MURRAY, University of Delaware, STEVE HEGEDUS, IEC, University of Delaware, S. ISMAT SHAH, Department of Physics and Department of Materials Science, University of Delaware — Current-voltage (JV) analysis of poly (3-hexlythiophene) (P3HT) and phenyl-C61-butaric acid methyl ester (PCBM) organic photovoltaics (OPV) yield valuable insight into the internal physics of devices. A simple lumped circuit model, previously used to analyze various thin film photovoltaics and more recently applied to OPV has been used to study annealing parameters. An annealing study of P3HT:PCBM blend OPV was carried out using the lumped circuit model. Limiting carrier lifetime-mobility product information and barrier data were extracted from the JV analysis of these devices. Collection loss characteristics were also obtained. The data was used to better characterize annealing effects.

Roy Murray
University of Delaware

Date submitted: 17 Jan 2012 Electronic form version 1.4