ENFL **Ranjit Koodali, Yun Hu** **Tuesday, September 10, 2013**

338 - Synthesis of π-extended low bandgap polymer based on isoindigo and thienyl-vinylene for high-performance polymer solar cells

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In this presentation, we report a novel π-extended low bandgap polymer, PITVT, which is composed of isoindigo and thienylvinylene. The polymer exhibits a high power conversion efficiency of 7.09% for polymer solar cells (PSCs). The high performance is achieved by strong intermolecular π-π stacking from coplanarity of thienylvinylene in polmyer backbone, and the deep HOMO energy level of PITVT. This work clearly demonstrates that the incorporation of π-extended thienylvinylene moiety in conjugated polymer backbone improves the performance of PSCs.

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Location: Indiana Convention Center
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