

### Synthesis and Electric Characterization of Self-doped Conducting Polymer

이예지, 유창훈, 양윤아, 이태근, 류원선\*  
홍익대학교  
(wsryoo@hongik.ac.kr\*)

Self-doped conducting polymers containing ferrocene were synthesized via Suzuki-Miyaura coupling reaction. Several spectroscopic techniques including H1-, C13-NMR, FTIR, UV-Vis and PL were utilized to investigate their chemical structures. Thin films of the polymers were prepared on ITO coated glasses by spin-coating, and ferrocyanide or ferricyanide ions were incorporated to the polymer thin films by electrodeposition method. Those anions are expected to act as counter-ions for oxidized ferrocene of the polymers. Electrical properties were examined for bipolar devices with a metal-polymer-metal (MPM) structure. Current-voltage (I-V) curves were obtained by sweeping either potential or current, and the polymer conductance showed non-ohmic behaviors with hysteretic effect that was caused presumably by switching between low-resistance state and high-resistance state.