Characteristics of Organic Memory Transistors with High-k Polymer Gate-Insulating Layers – Low Voltage and High Stability

서주역, 남성호[1], 정재훈, 이철연, 김화정, Thomas D Anthopoulos[2], Donal D. C Bradley[1], 김영규†

경북대학교; [1]Oxford University; [2]Imperial college London

(ykimm@knu.ac.kr†)

Flexible electronics has recently attracted strong attention and is about to be implanted in mobile devices etc. Organic light-emitting devices are being manufactured on flexible plastic substrates for smart phones and ready for mass production tackling large-area high-definition televisions. In order to achieve the final goal of flexible electronics, all components in devices should be flexible. Unfortunately, conventional inorganic memory devices are insufficient because of their inherently rigid and limited flexibility. In this regard, organic memory devices are rising as a candidate for next generation memory platforms. Although various efforts have been attempted, both low-voltage and high stability have been not yet reported for organic memory devices. This presentation will introduce our approached for high stability organic memory transistors with high-k polymers and discuss the influence of polymer molecular weights.