

**Improved device performance in ambipolar
polymer based organic field-effect transistors
(OFET) by self-assembled monolayers**

조아라, 배광태, 문용민, Dang Xaun Long, 노용영*
한밭대학교 화학공학과
(yynoh@hanbat.ac.kr*)

Solution processable organic field-effect transistors (OFETs) are one of emerging devices due to enable low-cost, large-area manufacturing by various cost-effective printing methods on flexible substrates.

Device performance can be achieved by formation a thiol-based self-assembled monolayer (SAM) on the metal prior to deposition of the organic semiconductor. thiol-based materials are well known molecules that form uniform and ordered SAMs on gold or silver surface to control metal work function. These results mean that it could be possible to control charge injection in OFETs by SAM treatment.

And finally, we were able to improve both electron and hole injection in ambipolar OFETs.