

## An Alternative to Pentacene Patterning for Organic Thin Film Transistor

김경호, 봉기완, 이홍희\*  
서울대학교 화학생물공학부  
(honghlee@snu.ac.kr\*)

A method is presented for patterning the pentacene active layer of organic thin film transistor. The method involves forming a metal pattern on a gate dielectric surface by transfer patterning, depositing pentacene over the whole surface, and then lifting off a bilayer of pentacene on the metal with a flat elastomeric mold. Compared with the method of direct pentacene transfer reported earlier (S. Y. Park, T. Kwon, and H. H. Lee, *Adv. Mater.* 18, 1861, 2006), this alternative allows one to choose a surface for larger pentacene grain size and eliminates a high off-current associated with the direct transfer method. The rigid nature of a rigiflex mold allows the pentacene pattern size to be defined in sub-micrometer range and the flexible nature of rigiflex and elastomeric molds permits large area application.