

Fabrication of Organic Nanowire Electronics by Direct Printing Method

박경선, 성명모

한양대학교 화학과

We report a one-step fabrication of single-crystal organic nanowire arrays on substrates using a new direct printing method (liquid-bridge-mediated nanotransfer moulding, LB-nTM), which can simultaneously enable the synthesis, alignment and patterning of the nanowires using molecular ink solutions. Two- or three-dimensional complex structures of various single-crystal organic nanowires were directly fabricated over a large area with a successive process. The position of the nanowires can be aligned easily on complex structures because the mold is movable on substrates before drying the polar liquid layer, which acts as an adhesive lubricant. This efficient manufacturing method can produce a wide range of optoelectronic devices and integrated circuits with single-crystal organic nanowires.

Keywords: ORganic nanowire, Direct printing, Nanowire electronics