

Fabrication of 6, 13-bis(triisopropylsilylethynyl) (TIPS) pentacene –Nanowire Arrays Using Nano Transfer Molding

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We report a fabrication of 6, 13-bis(triisopropylsilylethynyl) (TIPS) pentacene nanowires that made on Si substrates by liquid bridge-nanotransfer molding (LB-nTM) with polyurethane acrylate (PUA) mold. LB-nTM is based on the direct transfer of various materials from a stamp to a substrate via a liquid bridge between them. In liquid bridge-transfer process, the liquid layer serves as an adhesion layer to provide good conformal contact and form covalent bonding between the TIPS-pentacene nanowire and the Si substrate.

The patterned TIPS-Pentacene nanowires have been investigated by Atomic force microscopy (AFM), Transmission Electron Microscopy (TEM), Scanning Electron Microscopy (SEM) and electrical properties.