

Organic Electrical Bistable Device Using Block copolymer:PCBM Nanocomposite

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Organic bistable devices have been gathered a great amount of attention due to their various advantages such as flexibility, easy fabrication, low costs and large-area processing capabilities. Electrical bistable performance were exhibited by organic insulating materials which included a charge trapping materials such as metal nanoparticles or fullerene derivates. We have demonstrated a nonvolatile resistive random access memory (RRAM) using block copolymer and phenyl-C61-butyric acid methyl ester (PCBM) nanocomposites. The charge trap sites were well dispersed within the micro phase separated block copolymer and block copolymer/PCBM nanocomposite RRAM exhibited stable current bistability and precise programming performance.