

Organic transistors (Technion)

code: CHM-1155

Organic electronic components benefit from low-cost and large-area fabrication and flexible and unconventional substrate amenability. Organic field-effect transistors (OFETs) are expected to be integrated in a variety of applications including RFID tags, flexible active matrix displays, and bio-compatible sensors arrays. However, the inherent low mobility of organic semiconductors (OSCs) requires high operating voltage and high power consumption which is less than ideal for most applications. This innovative design offers low-cost, high performance, organic switching devices capable of delivering high current densities. Equally important, the unique vertical architecture lends itself to functionalization to light-emitting purposes; such combination offers the exciting possibility of joining light emitting and logic elements in pixels into one device, lowering production costs, freeing up "dark" pixel areas, and increasing operational lifetime.

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