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Research Area: Organic polymer electronic device

Keywords: memory, transistor, device, organic polymer

Research content:

Organic electronic devices have potential applications for multifunctional digital electronic products based on the request of light, thin, short and small. As an emerging area in organic electronics, organic polymer based memories have attracted significant interest recently rich structure flexibility, low-cost, solution processability, and three-dimensional stacking capability. In my research, I will focus on the following materials system which exhibits memory switching characteristics, including functional polyimides (PIs), polymers with specific pendent donor/acceptor chromophores, conjugated block copolymers, and polymer nanocomposites. The relationship between the chemical structures, processing method, memory performance and detail mechanism will be established.

PR:

For sustaining the memory growth, industry and academia are searching new and novel memory device application. Organic polymer based memories has indentified as a emerging memory technology and highly priority research topic by International Technology Roadmap for Semiconductors (ITRS) and Semiconductor Research Corporation (SRC). We seek further international cooperation in the area of material science, chemistry, physics and electronics, etc. It is hoped that new materials and organic electronic memory devices could be well-developed through the interdiscipline collaboration. In the long term research, the developed technologies will lead to be integrated electronic or optoelectronic device with extendable multifunctionality.