

Organic Materials for Flat Panel Displays

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The recent rapid development of organic materials has resulted in the commercialization of flat panel displays. The great success of organic materials has also introduced the organic photoconductors for electrophotographic printers, liquid crystal displays(LCDs), and organic light-emitting diodes(OLEDs). We also have developed various organic materials such as 1) charge generation materials(CGMs) of phthalocyanines, DPPs, azo-dyes, 2) charge transport materials of hydrazones, stilbenes, triphenylamines, 3) LCs for displays, 4) colorants for color filters, 5) Light-emitting materials, charge(hole and electron) injecting materials for OLEDs, respectively. In the study, we have designed the chemical and electronic structures of organic molecules, and synthesized the new materials by commercial scale. Important point for the commercial production is considered the technology for material control such as purification. Especially, technologies for the analytical and electronic estimation are necessary for the success of material production for flat panel displays.