

ST-P007

Electrical Phase Transition of Poly (4,4'-Aminotriphenylene Hexafluoroisopropylidenedipthalimide) by Photogenerated Charged Carrier Injection

임규욱^{1*}, 이경재², 이문호³, 강태희¹, 정석민², 양미현¹, Yogesh Kumar¹

¹포항가속기연구소, ²포스텍 물리학과, ³포스텍 화학과

We show a set-up of poly (4,4'-aminotriphenylene hexafluoroisopropylidenedipthalimide) (6F-TPA PI)/Al sample in which holes are injected by photoelectron emission process instead of direct charge carrier injection via metal electrode. In this process, an irreversible electrical phase transition of 6F-TPA PI is found in contrast to the Al/6F-TPA PI/Al structure, leading to a write-once-read-many behavior. The photoelectron spectroscopy results measured before and after the switching process revealed that the irreversible electrical phase transition of 6F-TPA PI is attributed to the chemical modification of the carbonyl group in phthalimide moiety.

Keywords: Polyimide, Electrical phase Transition, Photoelectron spectroscopy