감광성 PVA 박막을 이용한 P3HT 유기박막트랜지스터의 포토리소그래피 패터닝과 패시베이션

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Photolithographic patterning and passivation of P3HT organic thin film transistors with photo-sensitive polyvinylalcohol(PVA) layers

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Abstract : By employing a photo-sensitive PVA as a photoresist, we first demonstrated simultaneous patterning and passivation of P3HT active layer. The passivation layers were obtained by annealing the organic layers after developing PVA and over-etching the P3HT layer. The fabricated OTFTs were electrically characterized. The OTFTs after the passivation exhibited the field-effect of $\sim 5.9 \times 10^{-4} cm^2/V \cdot s$, on/off current ratio of $\sim 10^3$. The value of OTFTs a little degradation with time in air but it appeared different unpassivated OTFT.

Key Words : P3HT, Passivation, Patterning, PVA