

Surface Morphology Tailoring of Crystalline Polymer Film

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In general, the polymer thin film is formed through a solution process to be fabricated as optical devices or electronic devices. Therefore, the solvent is removed through heat treatment to complete the solid state thin film. However, the surface roughness of the amorphous polymer is kept low, but in the case of the crystalline or semicrystalline polymer, the surface becomes very rough as the crystallization increases. In general, the thicker the film, the greater the roughness becomes. It is necessary to minimize the surface roughness since it adversely affects subsequent processes carried out on the polymer thin film having such a rough surface.

In this paper, we describe a method of forming a ferroelectric thin film of semicrystalline and reducing the surface roughness by solution process and plasma process, respectively. The solution process was a double coating method. Through the plasma process, dry etching with appropriate process variables was used. As a result, more flat surface than the initial state was obtained. It is expected that the method presented here will be very helpful for improving the performance of organic optoelectronic devices.

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Biography:

Ms. Hyo In Jin is an undergraduate student at Jeju National University in Korea, and her research interests are semiconductor devices and processes. Prof. Dr Woo Young Kim is an assistant professor at Jeju National University in Korea. His research fields include applications of ferroelectric polymer and graphene process.