Title Transfer of Nanopatterns in Large Area

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Although there is a method of forming a very fine size pattern over a large area through a roll-to-roll (R2R) process, the cost of making a roll-shaped master used in the R2R process is considerably high and In the case of stiff substrate of some fine patterns, R2R processing method is impossible. One of the alternative processing methods in this case is the visually tolerable tiling(VTT) which previously Guo group proposed. They used UV-curable polymer and control the wetting of them to prevent the formation of the boundary in the overlapped region. However, this method is difficult to control shape for tiling area. So we present a new way of the tiling process with a transfer method which could control the tiling area shape. We removed the edge of the polymer films with nanopattern and then transferred to the substrate by partial curing. The advantage compared to the previous one is the wide process window because we do not need to consider the wetting properties of the liquid prepolymer.