Phase Separations and Morphological Evolutions of Polymer Blends under Two Dimensional Confinements

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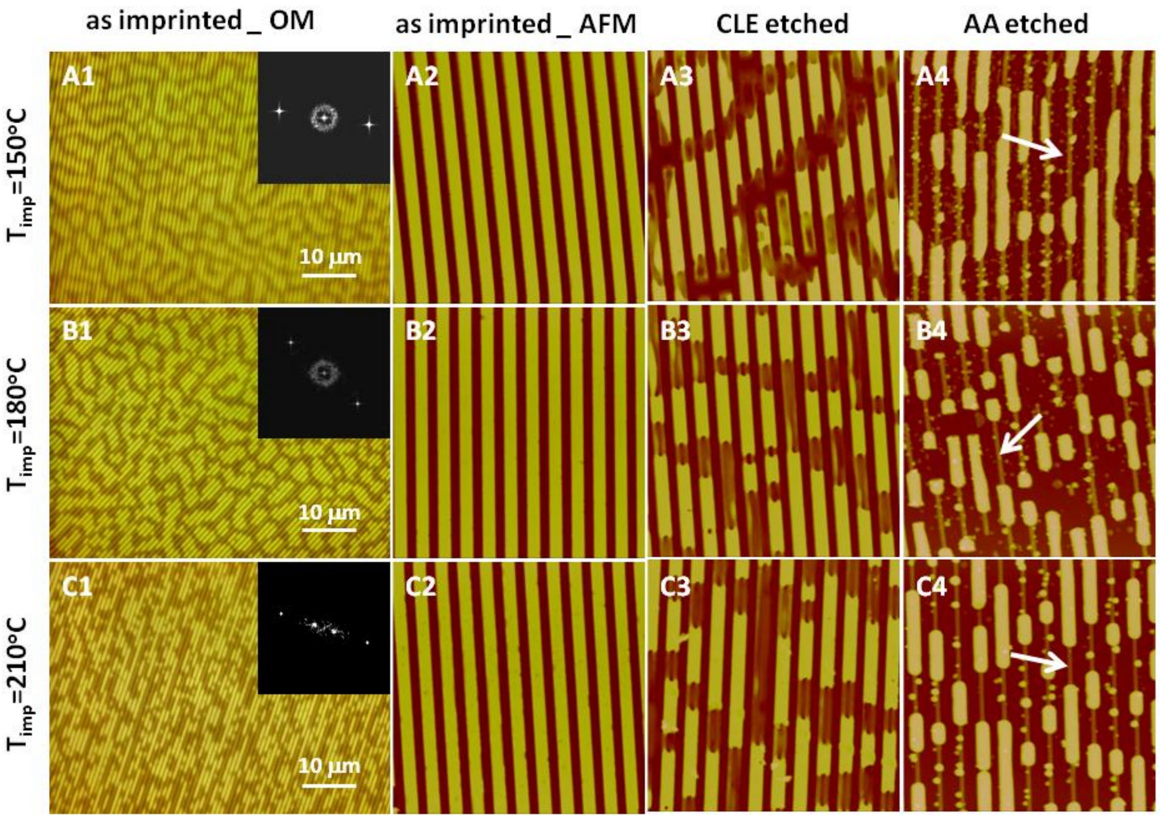

We developed a method using nanoimprint lithography to study the phase separation behaviors of immiscible polymer blend.

Left figure shows an example of the phase structures of the PS/PMMA blend after nanoimprint.

For all the different PS/PMMA composition, film thickness and imprinting temperatures, the morphological evolutions are driven by the preferential wetting of PMMA to the SiOx surface of the template and Si wafer, leads to encapsulated PS domains.