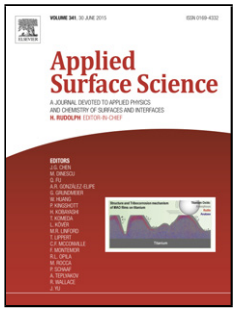

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Fabrication of Optically-Functionalized Colorless Polyimide Patterns with High Durability

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Highlights

- Polyamic acid based imprinting resin was synthesized and investigated for CPI (colorless polyimide) patterning.
- Optical patterns such as moth-eye, micro-cone were fabricated via thmeral-nanoimprint lithography.
- Fabricated optical structures of CPI had high durability on mechancial scratch and heat : Mechanical hardness is up to 1.12GPa and this value and optical structures were kept at 400 ºC without degradation.

Abstract

Colorless polyimide (CPI) is a promising material for flexible substrates because of its excellent mechanical hardness, chemical durability, thermal stability, and high optical transmittance. In particular, its superior durability under heating and mechanical forces compared with other