

Selective desorption of thin adhesive films using heat-triggered gas generation of vaporizable core-shell nanocapsules

윤준식, 손인태¹, 박윤국, 이준협^{2,†}
명지대학교; ¹서울대학교; ²승실대학교
(junhyuplee@ssu.ac.kr[†])

We present a simple and effective separation methodology for separating optically transparent adhesive films without damaging the substrate. Evaporable core-shell nanocapsules embedded with benzenesulfonyl hydrazide were introduced into acrylic films, and could generate nitrogen gas by thermal treatment, leading to the facile separation of the adhesive thin films from the substrate. The heat-triggered gas generation of surface-confined vaporizable nanocapsules created the interfacial openings between the thin film and substrate, and therefore accelerated the selective separation of thin adhesive films. Furthermore, the nanocapsule-embedded adhesive thin films exhibited the high optical clarity for display applications.