

Nano-scale SiCN Ceramic Patterning Fabricated via UV-NIL and TPA using Photocurable Polyvinylsilazane Copolymer

박성준, 홍난영, 이동훈, 김동표*
충남대학교
(dpkim@cnu.ac.kr*)

A photocurable inorganic polymer precursor was synthesized by reaction of Cinnamoyl chloride with polyvinylsilazane. The reaction product contain higher fraction of vinyl group, which improve curing of the inorganic polymer on UV irradiation. Fabrication of nano-scale SiCN ceramic patterns were demonstrated using UV-NIL as well as by Two-photon absorption(TPA) for the first time. The morphologies of SiCN ceramic patterns were studied by Atomic Force Microscopy(AFM) and Scanning Electron Microscope(SEM), while Thermal Gravimetric Analysis(TGA) was used to study high temperature stabilities.