
SP-04

Hydrophilic Functionalization of Self-Assembled Monolayers by using UV-O₃ treatment

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We have combined contact angle analysis, x-ray photoelectron microscopy, atomic force microscopy to investigate the reactivity of alkylsiloxane self-assembled monolayers (SAMs) with UV/ozone. Contact angle measurements indicate that initially hydrophobic monolayer became increasingly hydrophilic under the UV/ozone condition. Exposure to both UV and ozone together results in the reduction of the C(1s) intensity of the XP peaks. AFM measurements on patterned SAMs made by microcontact printing provide direct evidence of the photodegradation of SAMs. The results demonstrate that the alkylsiloxane monolayer was decomposed through the formation of intermediates with carboxylic acid/aldehyde groups.