유기 분자 자기 조립체를 이용한 혐수-친수 표면 처리

김선형, 박상우[1], 이상엽*
연세대학교 화공생명공학과;
[1]연세대학교 화공생명공학과 기능성나노소재연구실
(leessy@yonsei.ac.kr*)

These days, controlling wettability of a solid surface is important for various applications. We synthesized 6-(3-(1H-pyrrole-1-yl)propaneamido -N'-(3-(1H-pyrrole-1-yl)propanoyl)-6-oxohexanehydrazide that self-assemb le through intermolecular weak forces such as hydrogen bond and π-π stacking. In this study, the self-assemblying molecules was deposited on wafer to form self-assembled structure. The self-assembling molecule evaporated from a solvent of methylene chloride to form disordered flower-like assemblies adhered on the surface. This surface showed strong hydrophobicity with a static contact angle of ~ 120o. Treatment of the hydrophobic surface using ferric chloride or amonium persulfate changed the surface to be hydrophilic. Hydrophobicity and hydrophilicity are confirmed to contact angle and sliding angle, The surface structure was observed using SEM. These results are exploited for the surface control required in self-cleaning, microfluidics and biomedicine, and so on.