

Hysteresis characterization of PVPh(polyvinylphenol) films through various cross-linking condition

Dongkyu Lee, Shi-Woo Rhee†

Laboratory for Advanced Molecular Processing (LAMP), Department of Chemical Engineering, Pohang University of Science and Technology (POSTECH), Pohang 790-784, Korea (srhee@postech.ac.kr†)

Thin films of PVPh(polyvinylphenol) were prepared by spin coating on p-Si substrate. FT-IR was used to confirm the cross-linking reaction of PVPh. Cross-linking behavior between PVPh and melamine agent could be known to find out the change of hydroxyl peak in FT-IR. The results show that the content of the cross-linking reaction could be changed the final temperature, time, step process at annealing. Capacitance-voltage (C-V) and current-voltage (I-V) behavior of the Au/ PVPh/ p-Si MIS (metal-insulator-semiconductor) structure was studied and dielectric constant of the PVPh film was measured to be about 4.5 at optimum condition. Hysteresis was observed in the C-V curve for films as deposited and annealed(70-500°C). The causes of hysteresis behavior could be find out by comparison with sweep direction and shape.

Keywords: PVPh(polyvinylphenol), hysteresis, C-V

Fabrication of one dimensional nano pore array

김동윤, 전홍우*, 정일섭†

성균관대학교 정보통신공학부; *성균관대학교 정보통신공학부 전자전기공학과 (ichung@skku.ac.kr†)

양극산화 알루미늄 나노 템플레이트(AAO)는 간단한 제작과정에 비해 그 응용분야가 매우 넓다. 나노 소자들의 크기를 조절하고 템플레이트 자체의 배열을 이용하여 전자소자에 이용이 가능하기 때문에 중요한 나노기술로 인정받고있다. 1-D 나노 템플레이트는 기존의 2-D 템플레이트에 비해 공정 시간과 비용을 단축시킬 수 있고 planer processing에 더 적합하기 때문에 주목받고 있다. 본 논문에서는 Si substrate 위에 Al을 증착하고 다시 SiO₂를 증착하여 1-D 나노 템플레이트를 제작하였다.

Keywords: anodic aluminum oxide, anodization, nanopore