

Development of highly adhesive polymer electrolytes for flexible electrochromic devices

이지현, 강문성[†]
상명대학교
(solar@smu.ac.kr[†])

Electrochromic device (ECD) is a promising technology which can control the transmittance of visible light by the redox reactions of the electrochromic materials by applying a voltage. Electrolyte is the key component having the greatest impact on the electrochromic device (ECD) performance. In view of durability, obviously, it is preferable to use quasi-solid or solid polymer electrolytes rather than liquid electrolytes. In particular, flexible ECD using a plastic substrate requires the use of a solid polymer electrolyte with good adhesive properties. Therefore, in this study, all-solid polymer electrolyte with excellent adhesion was developed. As a result, the flexible ECD employing the prepared polymer electrolyte showed excellent optical density and fast bleaching/coloring rates. This work was supported in part by the Environmental Industry Advancement Technology Development Project funded by the MOE (No.2017000140002/ RE201702218) and by the NRF grant funded by the MSIT (No. 2019R1A2C1089286).