

Quasi-solid electrolytes for efficient and stable electrochromic devices

이지은, 문하늘, 김도형, 강문성[†]
상명대학교
(solar@smu.ac.kr[†])

Quasi-solid electrolytes (QSEs) have been widely investigated and utilized in diverse electrochemical applications because they have moderate ion conductivity and high physical stability. Meanwhile, electrochromic device (ECD) is an electrochemical device that can easily control the light transmittance by applying a voltage, and has been actively studied for various applications in recent years. Like other electrochemical devices, the ECD also requires the use of electrolytes with low volatility and high ionic conductivity for fast reactions and high durability of the devices. In this study, therefore, we developed a novel QSE with both physical crosslinking and chemical crosslinking. The prepared QSEs exhibited high ionic conductivity and showed excellent color changing characteristics as a result of the application to ECD. This work was supported by a grant (No.2017000140002/ RE201702218) from the Environmental Industry Advancement Technology Development Project of Korea Environmental Industry & Technology (KEITI) funded by Korea Ministry of Environment (MOE).