The electrochromic device performance with doped DNA based electrolyte

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Extended Abstract

The paper presents the main results of preparation and characterization of biomembranes as solid polymer electrolytes (SPE) based on deoxyribonucleic acid (DNA) [1] doped with various concentrations of Zn^{+2} ions with application in electrochromic windows (ECWS). Important requirements for SPEs in ECWS are that they should possess high ionic conductivity and a good transparency. Therefore, these new SPEs were characterized by spectroscopic method and from the point of view of wettability and ionic conductivity. To provide the applicability, the biomembranes were used to obtain small electrochromic devices (ECDs), with different working electrodes [2] which were evaluated by cyclic voltammetry and spectroscopic measurements. The obtained results showed a change of color from blue pale to intense blue after potential application.

References

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