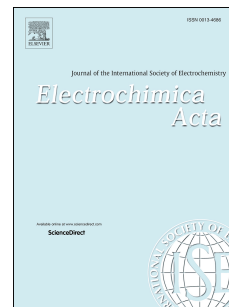


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Novel copolymers based on PEO bridged thiophenes and 3,4-ethylenedioxythiophene: Electrochemical, optical, and electrochromic properties

Xiaofang Liu^{+,a}, Yongjing Hu^{+,a}, Lanlan Shen^a, Ge Zhang^a, Tianmin Cao^a, Jingkun Xu^{a,b}, Feng Zhao^a, Jian Hou^c, Huixuan Liu^a, and Fengxing Jiang^{a,*}

^a Jiangxi Key Laboratory of Organic Chemistry, Jiangxi Science and Technology Normal University, Nanchang, 330013, China

^b College of Chemistry and Molecular Engineering, Qingdao University of Science & Technology, Qingdao 266042, China

^c State Key Laboratory for Marine Corrosion and Protection, Luoyang Ship Material Research Institute, Qingdao 266101, China

E-mail: f.x.jiang@live.cn (F. Jiang)

⁺ These authors contribute to this work equally.

Abstract:

Polythiophene, one of excellent conducting polymers, has attracted great concern as organic electrochromic materials. The electrochromic properties not only depend on the electron transfer of polymers, but also on the ability of ionic conduction in electrolyte. Hence, we designed a new structure of two thiophenyl monomers linked by polyethylene oxide (PEO) and prepared a new copolymer with 3,4-ethylenedioxythiophene (EDOT), which contributes to the easy deposition of the free-standing films by means of electrochemical copolymerization. PEO is of great importance for improving the electrochemical activity. On the one hand, PEO promotes the formation of crosslinking structure leading to a high-quality film. On the

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