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Highly stable and fast blue color/fluorescence dual-switching polymer realized through the introduction of ether linkage between tetraphenylethylene and triphenylamine units

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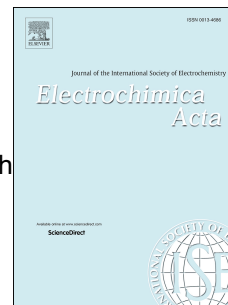
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**Highly stable and fast blue color/fluorescence dual-switching polymer realized through the introduction of ether linkage between tetraphenylethylene and triphenylamine units**

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**Abstract**

A novel electroactive/AIE-active polymer with tetraphenylethylene (TPE) and triphenylamine (TPA) units was prepared from a newly synthesized diamine, 4-tetraphenylethyleneoxy-4',4''-diaminotriphenylamine, and cyclohexanedicarboxylic acid. By ingenious introduction of ether linkage between TPE and TPA units, the obtained polymer simultaneously exhibited high solid-state fluorescence, colorless neutral state, excellent electrochemistry stability, rapid responsive rate and long-term blue (one of the three primary colors) electrochromic/electrofluorochromic dual-switching, demonstrating great potential in optoelectronic applications

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