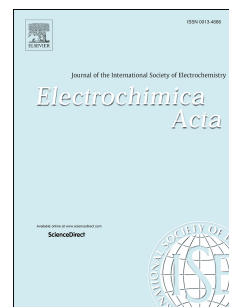


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Substitution group effects of 2-mercaptobenzothiazole on gold nanoparticles toward electrochemical oxidation and sensing of tetrabromobisphenol A

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Abstract

The electrochemical behaviors of tetrabromobisphenol A (TBBPA) on the surface of electrochemically deposited gold nanoparticles (AuNPs) in the presence of 2-mercapto-benzothiazole (MBT) and MBT with different groups on C-6 position were studied. It was found that the substitution groups on C-6 position of MBT molecule had remarkable influences on the oxidation activity of TBBPA. Double potential-step chronocoulometry experiments indicated that the substitution groups exhibited obvious influences on the accumulation ability of TBBPA on AuNPs surface. Based on the substitution group-related signal amplification strategy, a highly sensitive electrochemical sensing platform was developed for TBBPA. The linear

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