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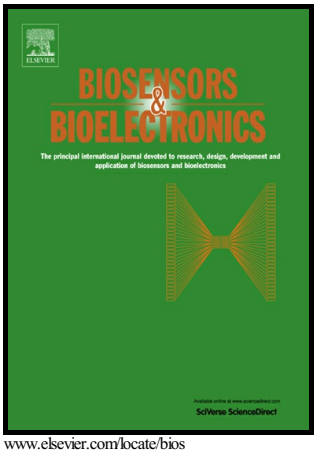

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An Optical Fiber-Based LSPR Aptasensor for Simple and Rapid *in-situ* Detection of Ochratoxin A

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Abstract

Label-free biosensing methods that rely on the use of localized surface plasmon resonance (LSPR) have attracted great attention as a result of their simplicity, high sensitivity, and relatively low cost. However, *in-situ* analysis of real samples using these techniques has remained challenging because colloidal nanoparticles (NPs) can be unstable at certain levels of pH and salt concentration. Even in the case of a chip-type LSPR sensor that can resolve the instability problem by employing NPs immobilized on the substrate, a loading of sample to sensor chip with exact volume control can be difficult for unskilled users. Herein, we report an optical-fiber-based LSPR aptasensor that can avoid these problems and serve as a portable and simple system for sensitive detection of a small mycotoxin, ochratoxin A (OTA), in real

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