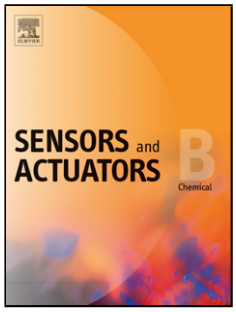

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Low cost optical device for detection of fluorescence from Ochratoxin A using a CMOS sensor

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Graphical Abstract

Abstract

This manuscript describes a portable and low cost fluorescence set-up to quantify the concentrations of Ochratoxin A (OTA) in real samples using a developed system. The detection through the set up consist of an ultraviolet light at 365 nm and a CMOS sensor controlled by an executable interface designed in MATLAB, with a time consumed from acquisition to processing to image display of 20 seconds. It is reported that OTA is naturally fluorescent, so it allows the user to get a photograph of the OTA under excitation conditions and process the image in order to predict the concentrations of the sample. To capture and process the image, in an automatically manner, the system was completely based on the Red, Green and Blue (RGB) components. For each concentration of the OTA,