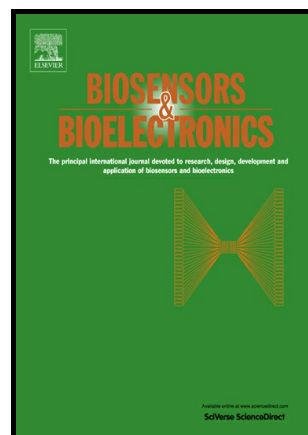


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A Simple Turn On Fluorescent Sensor for the Selective Detection of Thiamine Using Coconut Water Derived Luminescent Carbon Dots

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A Simple Turn On Fluorescent Sensor for the Selective Detection of Thiamine Using Coconut Water Derived Luminescent Carbon Dots

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Abstract

In this study microwave-assisted hydrothermal method was used to prepare highly luminescent carbon dots (1-6 nm size) within a minute from tender coconut (*Cocos nucifera*) water. The synthesized carbon dots (C-dots) exhibit emission of blue and green lights while excited at 390 and 450 nm wavelengths, respectively. As an application, these C-dots were tested for a simple “turn on” fluorescent sensor for rapid detection of thiamine (vitamin B₁). The detection of thiamine in human body is very important to prevent various diseases such as beriberi, neurological disorders, optic neuropathy, etc. The fluorescence emission intensity of C-dots

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