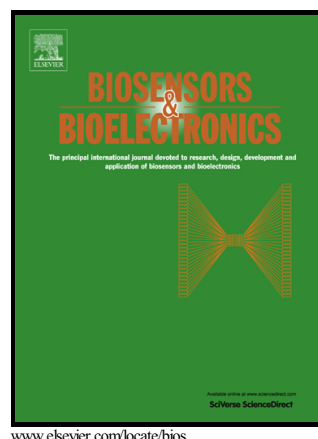


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# Intrinsic enzyme mimicking activity of gold nanoclusters upon visible light triggering and its application for colorimetric trypsin detection

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## ABSTRACT

In this research, a novel enzyme mimetics based on the photochemical property of gold nanoclusters was demonstrated. It was found that the bovine serum albumin (BSA) stabilized red or blue emitting gold nanoclusters (Au NCs) exhibited enzyme-like activity under visible light irradiation. The BSA-Au NCs had better stability against stringent conditions compared to natural enzyme. In addition, the photostimulated enzyme mimetics of BSA-Au NCs showed several unprecedented advantages over natural peroxidase or other existing alternatives based on nanomaterials, such as the independence of hydrogen peroxide on activity and the easily regulated activity by light irradiation. The mechanism of the photoresponsive

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