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# Facile Synthesis of Au@ $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>@RGO Ternary Nanocomposites for Enhanced Electrochemical Sensing of Caffeic Acid toward biomedical applications

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## Abstract

Demonstrated herewith is a novel eco-friendly Au@ $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>@RGO ternary nanocomposites using chlorophyll as reductants and stabilizers. Systematic characterizations studies confirm Au and  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> nanoparticles are uniformly decorated on the surfaces of reduced graphene oxide (RGO) nanosheets. As a proof-of-concept, the developed Au@ $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>@RGO ternary nanocomposites were coated on a glass carbon electrode (GCE) and

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