

# Past and Present Research Systems of Green Chemistry

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## Green synthesis of Ag, Au and Au-Ag bimetallic nanoparticles using *C. albidum* for catalytic application in electro-oxidation of methanol

Kehinde Oluseun Sodeinde<sup>1,2</sup>, Olugbenga Dare<sup>1</sup>, Adebayo Aliyu Lasisi<sup>1</sup> and Neerish Revaprasadu<sup>2</sup>

<sup>1</sup>Federal University of Agriculture, Nigeria

<sup>2</sup>University of Zululand, South Africa

The green synthesis of Au, Ag and Au-Ag bimetallic nanoparticles was achieved by the reduction of gold and silver metal salts by an aqueous extract of *C. albidum* using a microwave technique. The optical properties of the metal and bimetallic heterostructures are reported. The morphology of the particles was regular with a dominant quasi spherical morphology. Catalytic properties of the nanoparticles were investigated in the direct methanol fuel cell electro-oxidation under acidic condition by cyclic voltammetry measurement at room temperature. Au/Ag bimetallic nanoalloy showed improved catalytic activity and stability at low electrode potential towards methanol oxidation.

### Biography

Sodeinde Kehinde O received his Bachelors degree in Chemistry from the Federal University of Agriculture, Abeokuta, Nigeria in 2006. He earned his Masters degree in Analytical Chemistry at the University of Ibadan, Nigeria in 2010. Mr Sodeinde is a lecturer at the Department of Industrial Chemistry, Federal University, Oye-Ekiti, Ekiti State, Nigeria. His current PhD research work focuses on the green synthesis of selected metal nanoparticles and their applications. Areas of research interests include Analytical Chemistry/Green Nanotechnology

[oluseunsodeinde@yahoo.com](mailto:oluseunsodeinde@yahoo.com)

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