



Electrochemical Method To Detect Arsenic (Iii) Ions In Water Using Nanostructured Colloidal Metals

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The Invention

Monodispersed colloidal gold nanoparticles (AuNPs) were synthesized by an easy, cost-effective, and eco-friendly synthesis route. The resulting AuNPs exhibited excellent electroanalytical ability to simultaneously detect toxic As(III) and As(V). The limit of quantification (LOQ) toward As(III) was 0.075 ppb (1 nM), which is well below the guideline value approved by the United States Environmental Protection Agency (US EPA) and the World Health Organization (WHO). Under the optimal conditions, a linear response in the concentration range of from about 0.075 ppb to about 0.03 ppm (1 nM-400 nM) was observed. The method is useful to detect arsenic contamination of water intended for human and animal consumption.

Additional Information

For More Information About the Inventors

- [Sundaram Gunasekaran](#)

Tech Fields

- [Clean Technology: Monitoring, remediation & waste reduction](#)

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854