UNIVERSITY OF WYOMING
Wyoming Technology Transfer and Research Products Center

Combined SERS (Surface Enhanced Raman Spectroscopy)- Paramagnetic Capture Assay for DNA Diagnostics

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Patent Status:
Utility Patent Issued

Description of Technology

Combined SERS – Paramagnetic Capture Assay for DNA Diagnostics is a new Raman enhancement technique. The enhanced signal is from the magnetically concentrated combination product that consists of an analyte, a paramagnetic particle, and a spectral enhancement particle. The enhancement is about 100 times higher than normal SERS experiments (with the potential to be further enhanced with optimization).

Applications

This new technique can be applied to a wide variety of disease detection assays to help quickly identify pandemic diseases such as H1N1, Influenza A, and SARS. This technique could also be used to detect biological warfare agents for national security applications.

Features & Benefits

This highly sensitive Raman technique can be easily used with portable Raman systems to identify emerging infectious diseases in a rapid, reliable, and cost-effective manner. Another benefit is that all materials used for this method are either commercially available or easy to make using one-step synthesis methods.

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