Silver Nanoparticle SERS Substrates

for Raman Spectroscopy

Environment

Food

Medical

Narcotics

Pharmaceuticals
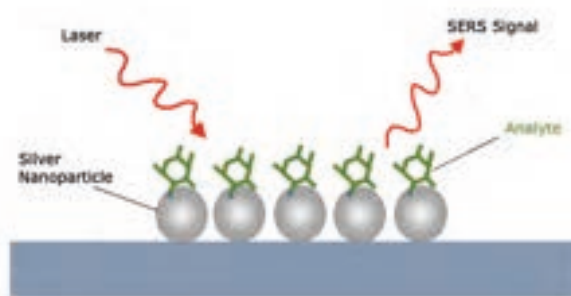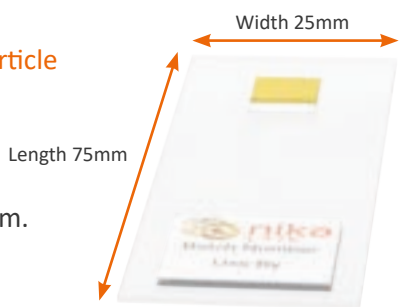
Enhanced detection of trace molecules in minutes

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Specifications
Nikalyte Ag nanoparticle SERS substrate.

Width 25mm

Length 75mm

Dimensions:
(LxW) 75mm x 25mm.

Surface Enhanced Raman Spectroscopy (SERS) using silver nanoparticles.

SERS active material	Silver nanoparticles
Sensitivity	ppm to ppb
Laser wavelength	785nm
Max laser power density	20W/cm²
Analyte application area	4mm x 8mm
Active area	8mm x 8mm
Pack size	5 substrates
Lifetime	3 months

...Data

High Signal Enhancement

Achieve several orders of magnitude signal enhancement compared to standard Raman with Silver SERS substates, enabling identification of trace levels of molecules in the ppb and ppm range.

Food Safety

SERS enables fast and low-cost identification of food additives and adulterations, including Tartrazine, Melamine and Caffeine. Fig.1. shows the Raman enhancement for Caffeine solution when measured with silver SERS substrates compared to standard Raman.
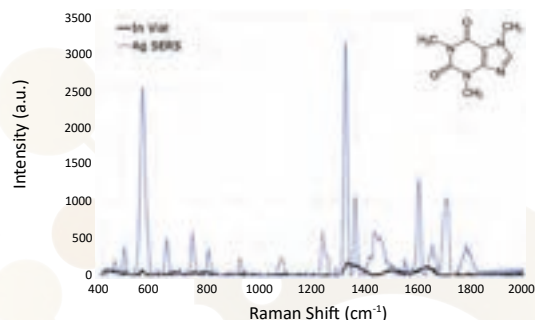

Fig.1. SERS signal enhancement for 1000ppm Caffeine solutions (blue) compared to standard Raman (black) measured at 785nm.

Biological

Detect trace levels of a wide range of biological molecules including proteins, peptides and other indicative biomarkers using silver SERS. High Raman enhancement is demonstrated for common dyes including Rhodamine 6G and 1, 2, di(4-pyridyl)ethylene, more commonly known as BPE.
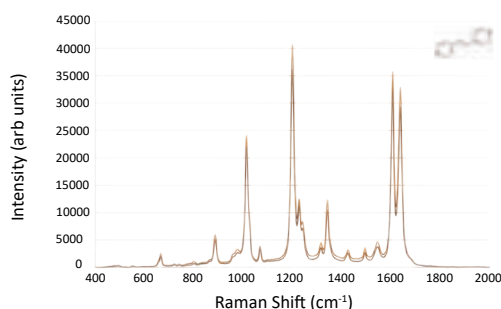

Fig. 2. SERS measurement repeatability for 1000ppm BPE solution measured for 4 different silver SERS substrate at 785nm.

For SERS research the Nikalyte NL50 is the perfect nanoparticle tool visit www.nikalyte.com

For further information please contact: sales@nikalyte.com

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