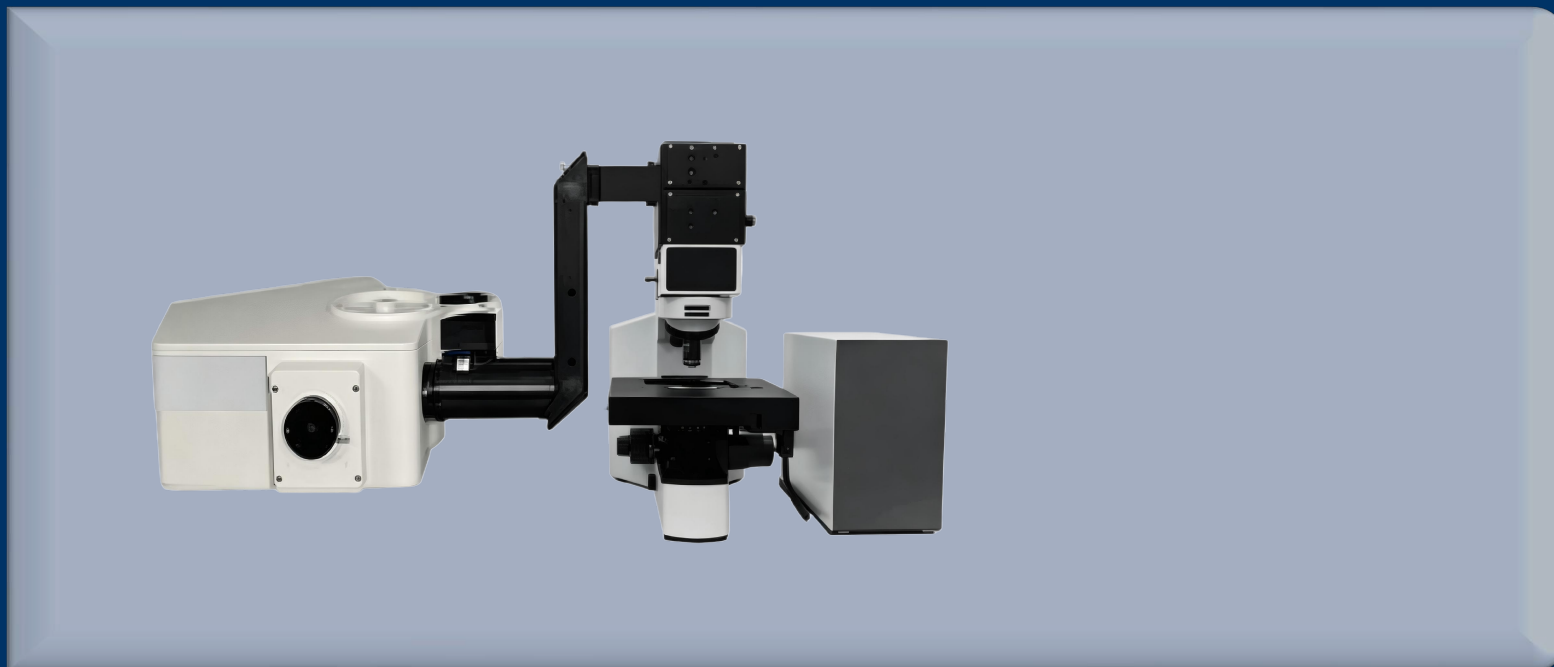


# Confocal/Raman Microscopy

## Venus Confocal Micro-Raman Spectrometer

High-end high-res multi-modal in-situ scientific instrument

- "Microscopic Imaging + Confocal Raman + Rapid Scanning" Trinity
- High sensitivity and fast imaging, suitable for complex samples
- Modular expansion, covering all scientific research scenarios



One Platform Many Possibilities

Contact Us [sales@venuslabtech.com](mailto:sales@venuslabtech.com)

Get a Quote



Get Expert Advice  
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## Overview

### Introduction:

The Venus Confocal Micro-Raman Spectrometer is a high-end analytical system integrating "microscopic imaging - confocal Raman - rapid scanning" technologies.

It is designed to provide "high resolution, high sensitivity, and in-situ dynamic" molecular structure characterization solutions for fields such as materials science, biomedicine, and chemistry.

### Features:

- Deeply cooled CCD and low stray light design
- SWIFT rapid scanning technology
- Flexible laser configuration
- Rich in-situ accessories

## Specifications

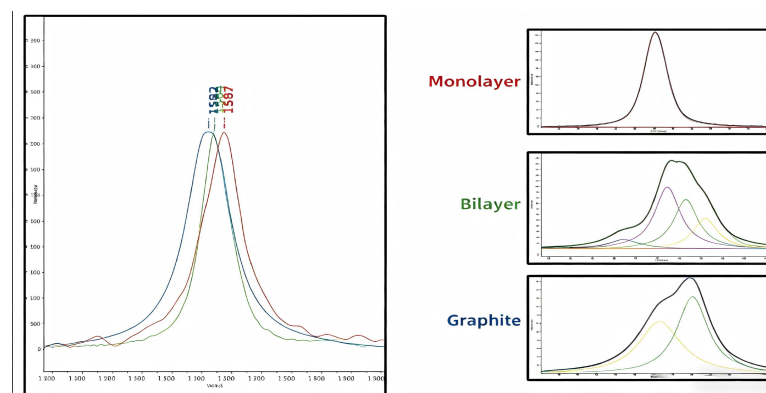
### Common Parameter Specification Table

Laser Line Width	Line width 0.04nm
Power Adjustment Method & Precision	Laser power is software-adjustable with an adjustment precision of 1mW
Raman Spectral Resolution	Raman spectral resolution $\leq 2\text{cm}^{-1}$
Spectral Spatial Resolution	Spectral spatial resolution $1\mu\text{m}$
Signal-to-Noise Ratio (SNR) of Monocrystalline Silicon 3rd-Order Peak	SNR of monocrystalline silicon 3rd-order peak 20:1

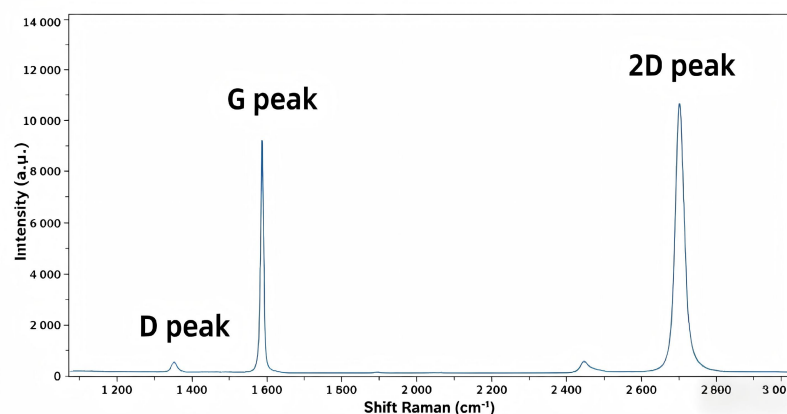
## Applications

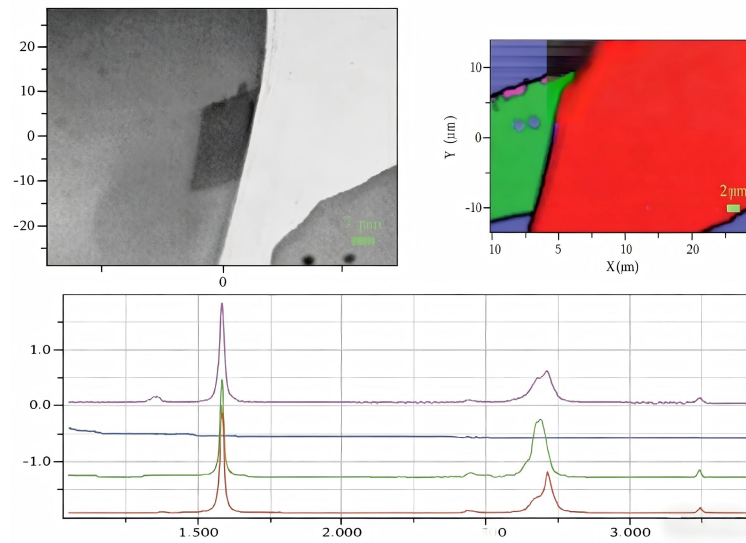
### 1. Single-Layer Graphene Measurement

Micro-Raman spectroscopy provides a simple and reliable method for characterizing the number of graphene layers and defect properties. It is commonly used to analyze the G-band and 2D-band of graphene and employ SWIFT fast scanning for distribution confirmation.

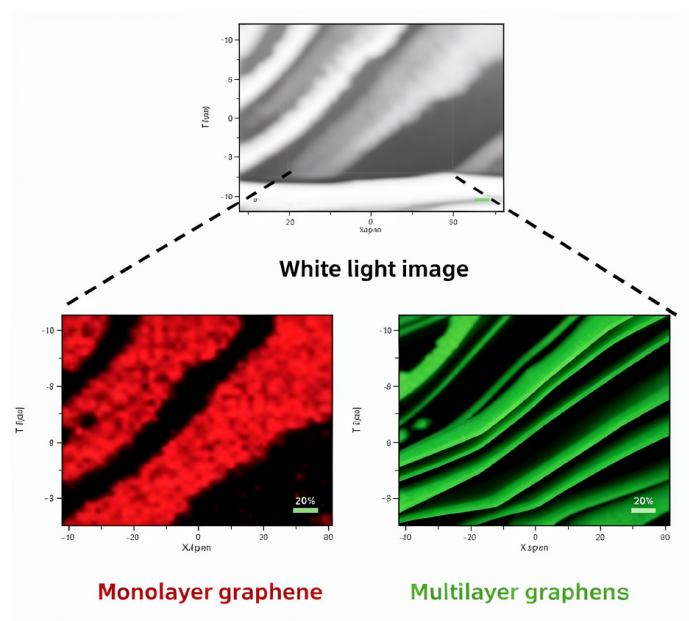


Graphene Layer Characterization





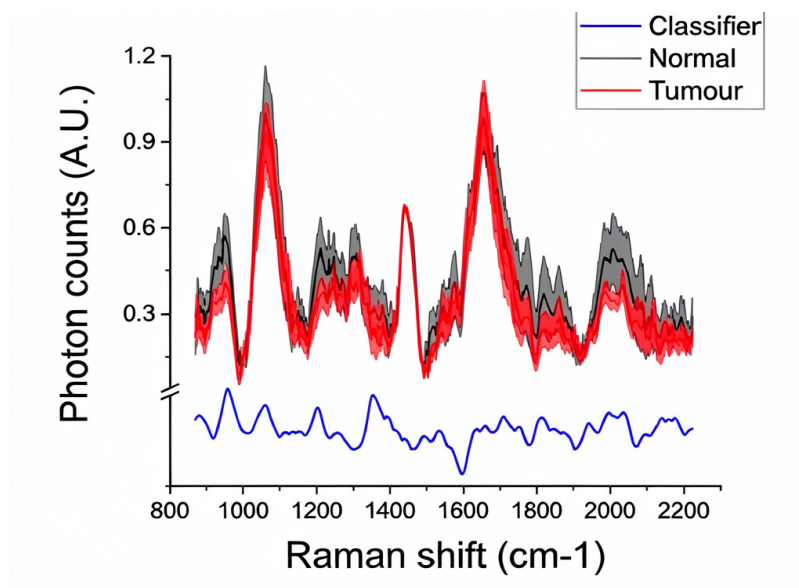
G-band and 2D-band Identification



SWIFT Rapid Scanning for Distribution Mapping

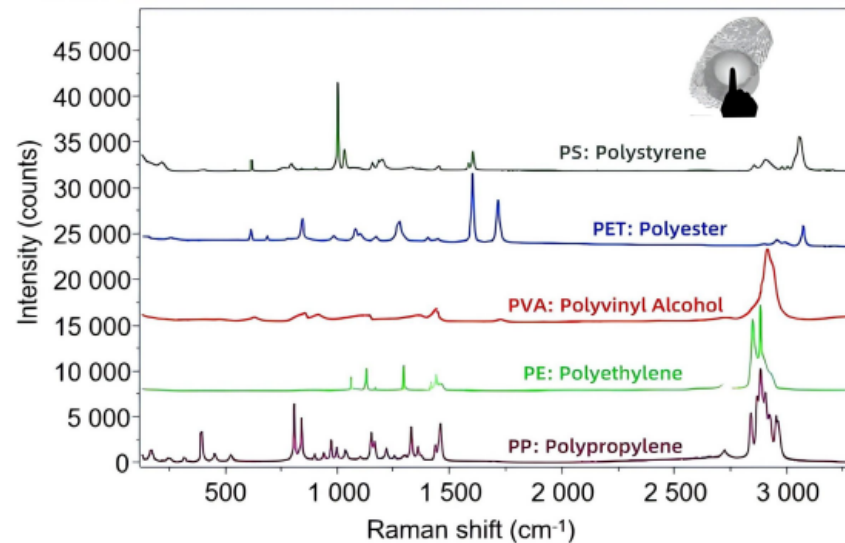
## 2. Cancer and Tumor Detection

Confocal Raman spectroscopy offers high sensitivity and specificity for detecting molecular changes in biological tissues, aiding in early cancer detection and diagnostics.

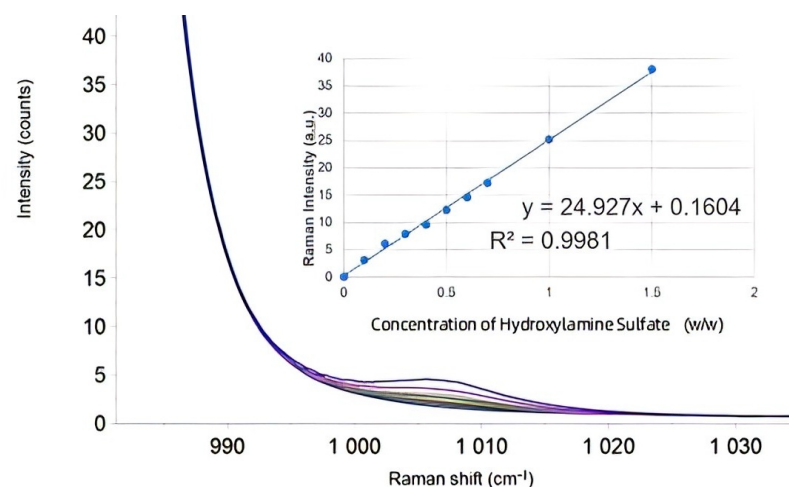


## 3. Routine Raman Spectral Analysis of Substances

(1) Identification of Common Plastics: Raman spectra of five different types of plastics show distinct variations, enabling clear differentiation.



(2) Chemical Raw Materials & Intermediates: Raman spectroscopy is applied to analyze chemical intermediates, reaction products, and other industrial substances.



Quantitative Determination of Hydroxyl Concentration in Ammonium Sulfate Hydroxide

## Service & Support

We are dedicated to delivering exceptional optoelectronic solutions to every client. From precision manufacturing and secure delivery to full-lifecycle technical support, we are here to ensure a seamless and reliable experience at every step.

### 1. Warranty Policy

#### Quality First, Worry-Free Operation

**Warranty Period:** We offer a **two-year** warranty service for all of our core optoelectronic products, effective from the date of shipment.

**Coverage:** We provide free repair or replacement services for malfunctions caused by material defects or workmanship errors under normal operating conditions.

**Rapid Response:** Upon receiving a warranty claim, we guarantee to initiate the assessment process within **24 hours** to minimize your equipment downtime.

### 2. Technical Support

#### Expert Team, Full-Process Guidance

**Technical Consultation:** Our team of senior optical engineers provides **24/7 online support** to assist with installation, commissioning, optical path alignment, and parameter optimization.

**Scheduled Maintenance:** We offer full-lifecycle maintenance recommendations, including firmware upgrades, optical component cleaning guidelines, and precision calibration services.

**Training Services:** We provide customized remote or on-site operational and safety training to ensure your team can operate the equipment efficiently and safely.

### 3. Logistics & Delivery

#### Precision Packaging, Global Reach

**Professional Packaging:** Given the fragile nature of optical instruments, we utilize industrial-grade shockproof, anti-static, and moisture-proof vacuum packaging to ensure zero damage during transit.

**Logistics Partners:** We partner with top-tier global logistics providers (**DHL / FedEx / UPS / SF Express**) to offer reliable shipping with real-time tracking.

**Shipping Insurance:** All shipments are fully insured to eliminate logistics risks.

### 4. Compliance & Certification


#### Strict Standards, Total Compliance

**Quality Certification:** Our manufacturing process is **ISO 9001 certified**, and our products comply with international standards such as **CE and RoHS**.

**Export Compliance:** "Committed to environmental responsibility, all our products comply with **RoHS 2.0 and REACH standards**, ensuring safety and global compliance."

## Explore Series

Model	Laser Type	Peak Wavelength Deviation	Maximum Laser Power	Lower Limit of Raman Spectral Range
Venus-R785-Standard	Single-mode laser	785nm±0.5nm	80mw	60cm-1-3500cm-1
Venus-R532-Extended	Single-mode laser	532nm±0.5nm	80mw	60cm-1-4500cm-1

 Get in touch with our team to explore configurations, request a quote, or learn more about customized solutions tailored to your needs.

Let us help you move science forward—faster and smarter.

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