

Auto-Focusing & Mapping Raman Microscope

ATR8500

Features:

- Fully automated Raman imaging, auto-focus, auto-scan;
- Large area imaging (50X50mm), Automated imaging spicing technology;
- Maximum three wavelengths lasers;
- Depth of Field (DOF) camera optional
- High sensitivity , SNR>6000:1
- Integration time no less than 1.3 hours
- True-Focus to ensure accurate Raman image
- High spatial resolution
- Exclusive software function to switch optical path
- Fast positioning focus
- High quality objectives, spot size up to μm level
- 5-mega camera for clear image
- USB 2.0 connect to PC

Application:

- Nanoparticles And New Materials
- Universities And Research Institutes
- Biotechnology : Biological Sciences
- Biopharma : Forensic Medicine Identification
- Material Science
- Chemistry : Medical Immunoassay
- Agriculture And Food Identification : Food & Beverage
- Water Pollution Analysis
- Energy: Gem And Inorganic Mineral Identification
- Environment: Environmental Science

Description:

The ATR8500 Confocal Raman Microscope combines the advantages of microscopes and Raman spectrometers. The Raman microscope detection platform is a visual and precise positioning Raman detection platform, which allows the user to detect the Raman signals of different surface states on the sample, and can be displayed simultaneously on the computer, which is greatly Facilitates Raman micro-area detection.

ATR8500 raman instrument is equipped with an objective lens specially designed for the Raman system, which makes the laser spot close to the diffraction limit. The focus information is accurately and intuitively displayed on the computer through a 5-megapixel camera, which improves the quality of the Raman spectrum.

ATR8500 adopts a unique moving part without optical path switching (patented), which perfectly solves the loss of optical path for camera imaging, realizes the separation of camera imaging and Raman signal collection, and obtains the best signal strength.

At the same time, ATR8500 uses high-performance Raman specially optimized for micro-Raman systems. It is industry-leading in terms of sensitivity, SNR, stability, etc., providing a strong guarantee for Raman research.



ATR8500 Order Guide:

	Model	Laser /nm	Power/mW	Range	Resolution /cm ⁻¹
One Band	ATR8500-532	532	100	200 ~ 3700	5 ~ 7
	ATR8500-633	633	50	200 ~ 3500	3 ~ 6
	ATR8500-785	785	500	200 ~ 3500	3 ~ 8
	ATR8500-1064	1064	500	200 ~ 2600	7 ~ 12
	ATR8500-830	830	500	200 ~ 3500	3 ~ 8
Dual Band	ATR8500-785+1064	785+1064	500	200 ~ 3500	3 ~ 8
			500	200 ~ 2600	7 ~ 12
	ATR8500-532+633	532+633	100	200 ~ 3700	5 ~ 7
			50	200 ~ 3500	3 ~ 6
	ATR8500-532+1064	532+1064	100	200 ~ 3700	5 ~ 7
			500	200 ~ 2600	7 ~ 12
	ATR8500-532+785	532+785	100	200 ~ 3700	5 ~ 7
			500	200 ~ 3500	3 ~ 8
	ATR8500-633+1064	633+1064	50	200 ~ 3500	3 ~ 6
			500	200 ~ 2600	7 ~ 12
Triple Band	ATR8500-532+633+1064	532+633+1064	100	200 ~ 3700	5 ~ 7
			50	200 ~ 3500	3 ~ 6
			500	200 ~ 2600	7 ~ 12
	ATR8500-532+785+1064	532+785+1064	100	200 ~ 3700	5 ~ 7
			50	200 ~ 3500	3 ~ 8
			500	200 ~ 2600	7 ~ 12
High End Model	ATR8500LT Deep cooled down to -30℃, long integration time up to 1.3hrs	As above laser order from 532,633,785,830, 1064	As above	20% shorter range interval except 1064 unchanged	Less a bit resolution

ATR8500 Performance parameters	
Microscope Camera System	5-mega pixels
Focus Type	Conjugate Focus
Laser spot size	>1μm
Laser stability	σ/μ <±0.2%
Interface	USB2.0
X,Y-axis Electronic controlled two-dimension platform	
Move range	50 X 50 mm
Move resolution	0.1 μm

Positioning	1 μm
Accuracy	
Scan Speed	20 mm/s
Z-axis (Auto-Focus)	
Focus Accuracy	$\leq \pm 0.2 \mu\text{m}$
Max range	20 mm
Focus speed	Less than 10 s



Fig 1 ATR8500 Raman Microscope outlook

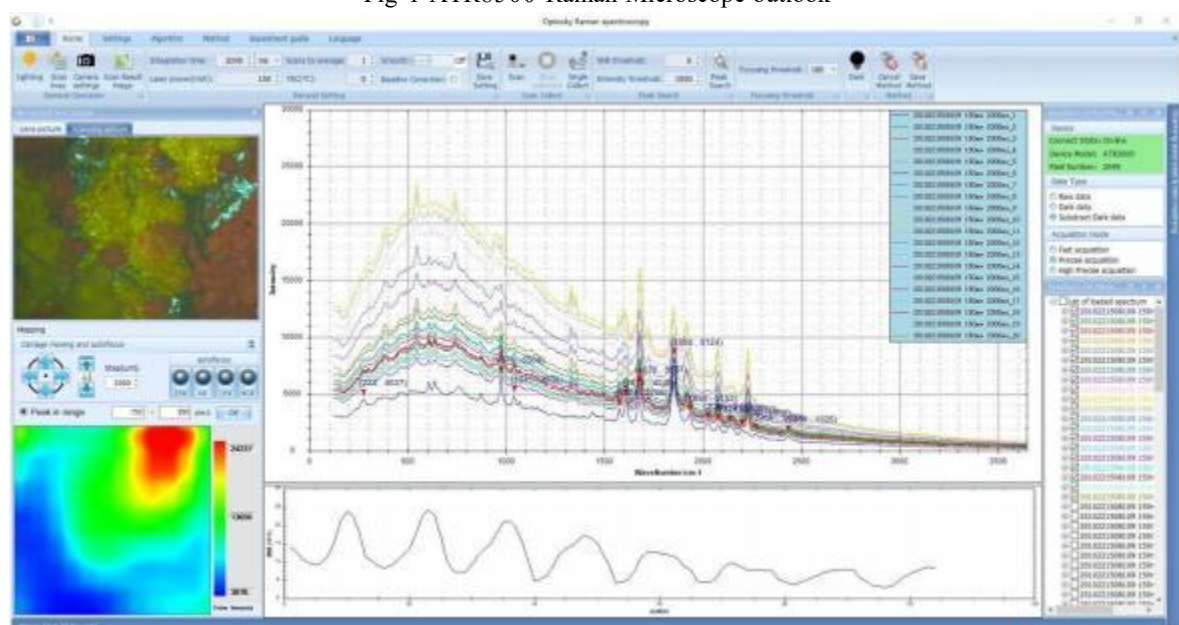


Fig 2 ATR8500 software interface in English

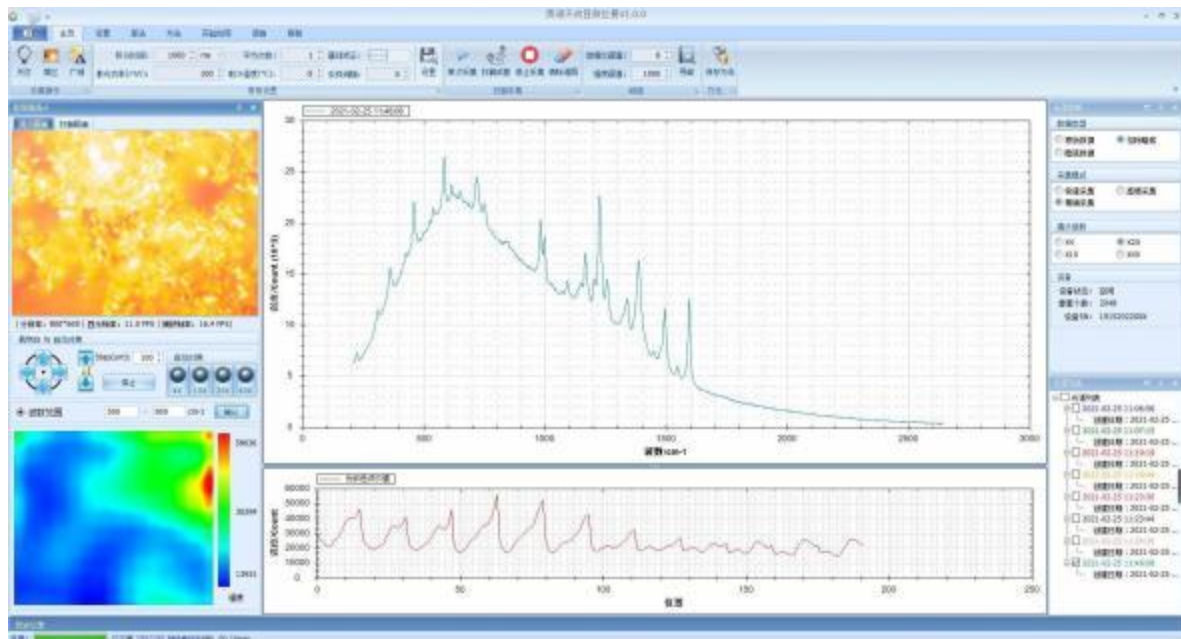


Fig 3 ATR8500 software interface in Chinese

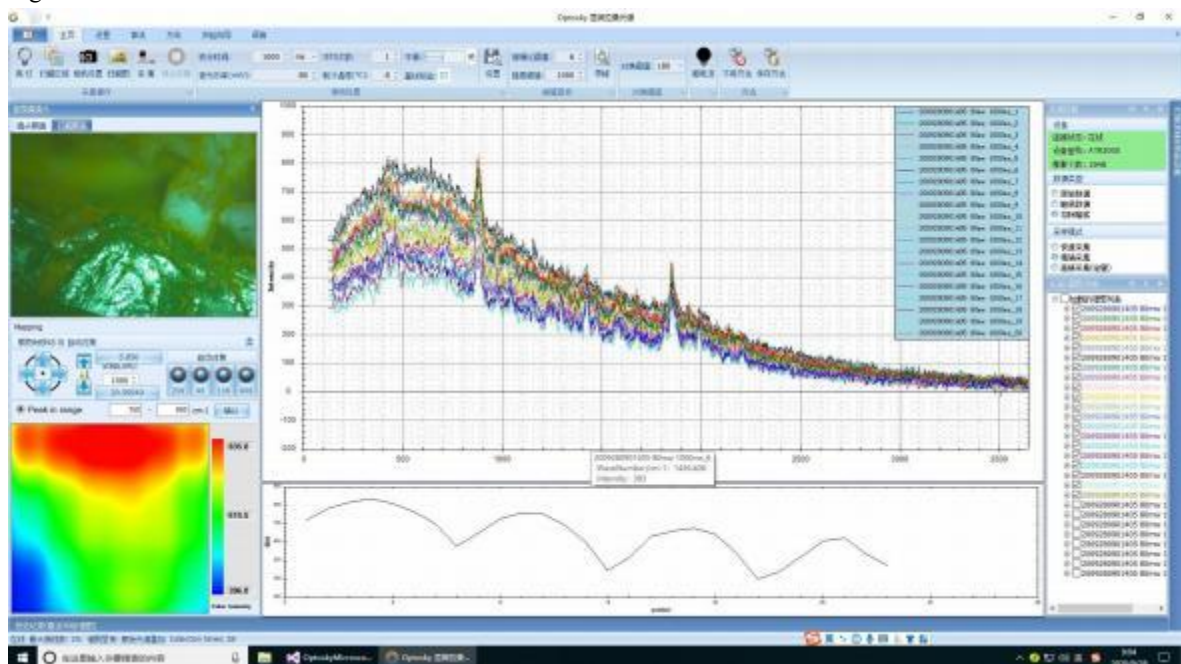


Fig 4 ATR8500 software interface 2 (integration time 1000ms setup fast scan)

2 Optical Performance

2.1 Spectrum

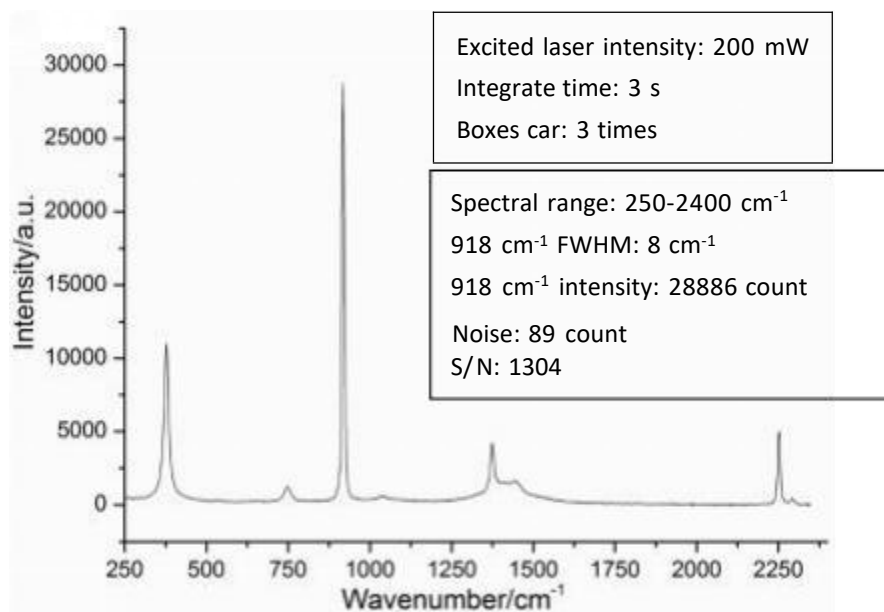


Fig 5 ATR8500 acquire Acetonitrile spectrum

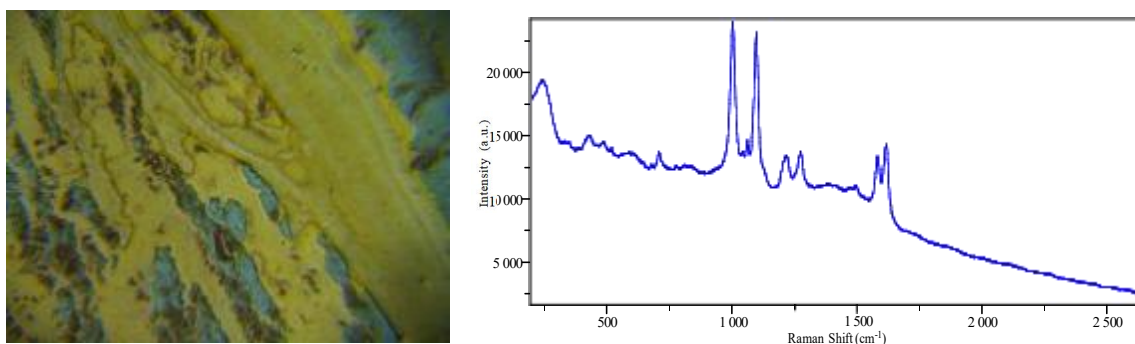


Fig 6 ATR8500 perform SERS 1 (The Left is sample image, the right is SERS Raman spectra)

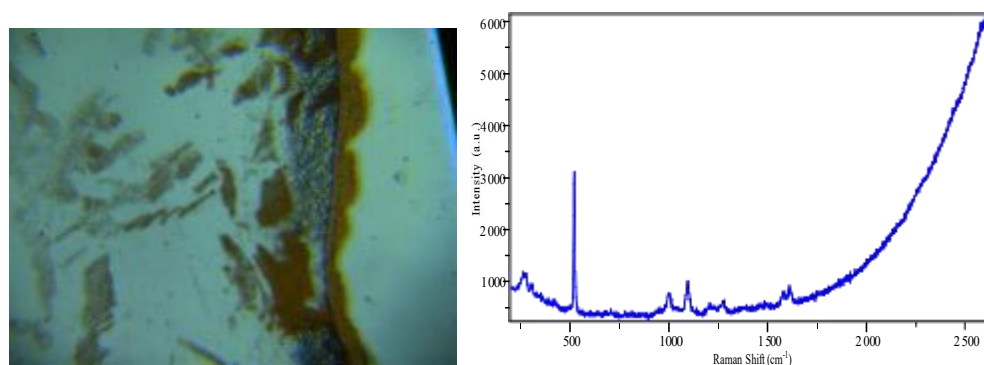


Fig 7 ATR8500 perform SERS test 2 (The Left is sample picture, the right is SERS Raman spectra)

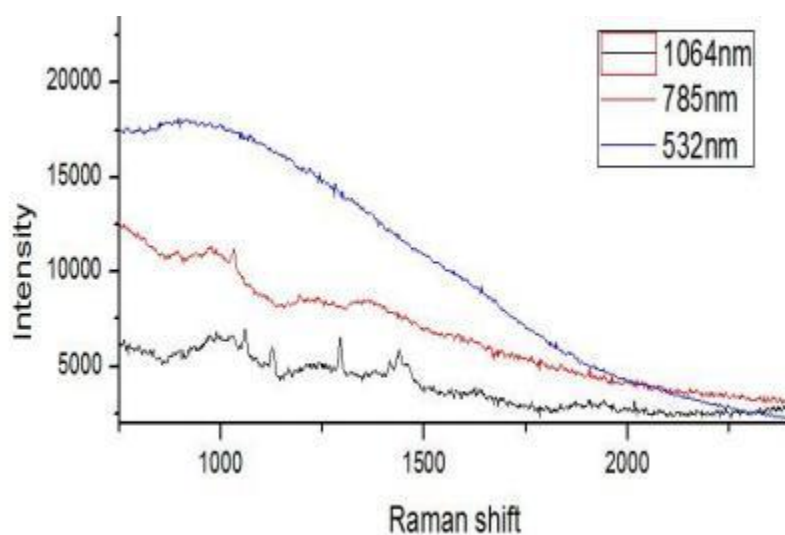


Fig 8 ATR8500 Test cell metabolite, the above surface topography, the below is Raman spectra separately by ATR8500-1064, ATR8500-785, ATR8500-532

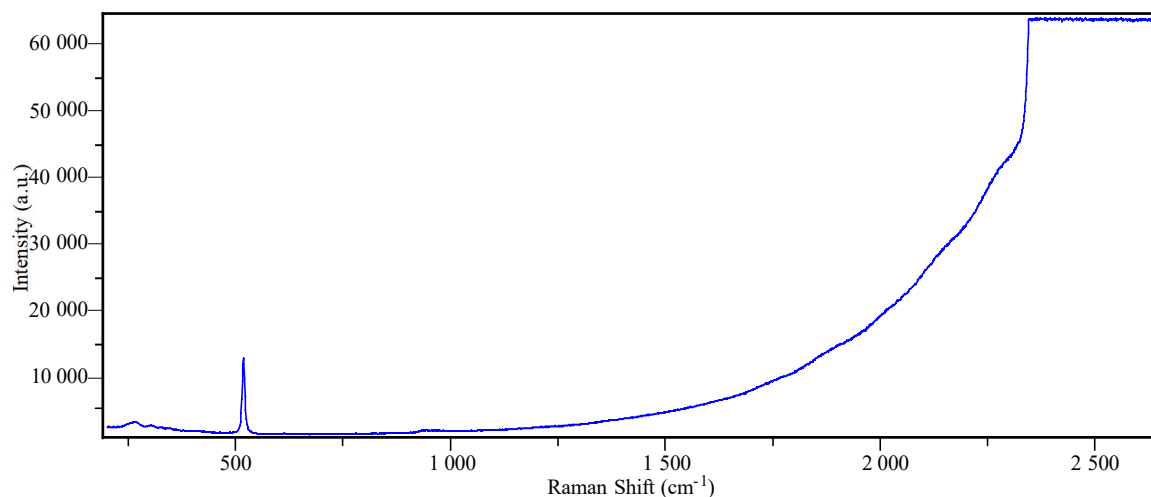


Fig 9 ATR8500 test Si Raman Spectra (500mW , 1S Integration time)

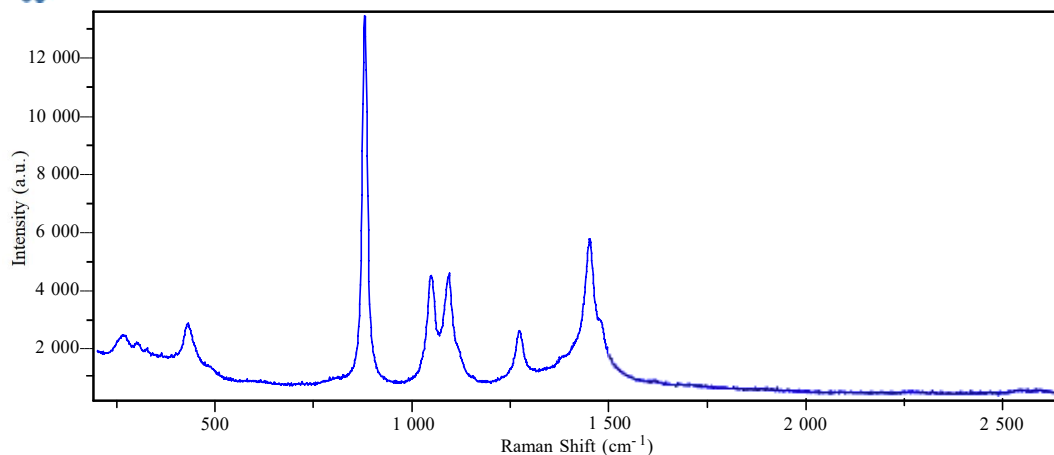


Fig 10 ATR8500 measure ethanol spectra (500mW , 1S integration time)

5. Details



Fig 11 Raman signal high through put objectives with focal length up to 8mm;

6. Reference List

