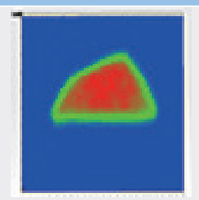
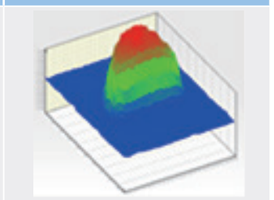
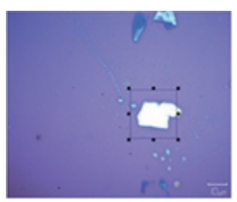
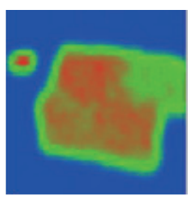
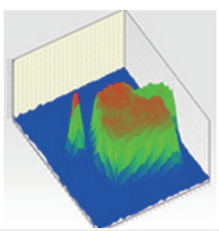
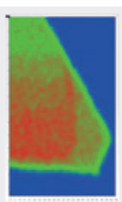
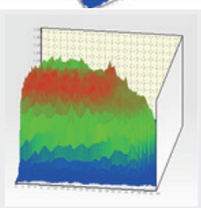
Raman Mapping

Sample&Test condition	White-Light Image	Mapping	3D
Sample: Graphene Lens：50x Area: 22.9x22.7um Resolution: 0.5um Points: 50 Mapping: G peak (1580cm^{-1})			
Sample: Graphene Lens：50x Area: 24.5x24.5um Resolution: 0.5um Points: 50 Mapping: G peak (1580cm^{-1})			
Sample:MoS2 Lens:50x Area: 23*34um Resolution: 0.5um			

System Specification:

Laser wavelength(nm)	532	638	785
Laser power(mW)	100	50	100
Raman shift range(cm^{-1})	80-9000	80-6000	80-3200
Microscope	Upright only	Upright only	Upright only
Sample stage	Manual (Motorized optional)	Manual (Motorized optional)	Manual (Motorized optional)
Objectives	10x/50x/100x, 50xLWD Semi-APO	10x/50x/100x, 50xLWD Semi-APO	10x/50x/100x, 50xLWD Semi-APO
Epi illumination	QTH 12V, 100W	QTH 12V, 100W	QTH 12V, 100W
Spectrograph	320 focal length, Czerny-Turner	320 focal length, Czerny-Turner	320 focal length, Czerny-Turner
Grating option	1800g/500nm blazed 600g/500nm blazed 150g/500nm blazed	1200g/750nm blazed 600g/750nm blazed 150g/750nm blazed	600g/750nm blazed 300g/750nm blazed 150g/750nm blazed
Spectral resolution@1702cm^{-1}	1.5	1.5	2.3
Spectral CCD format	2000x256 Back-illuminated Deep-depletion 15x15um pixel size TE cooling to -60°	2000x256 Back-illuminated Deep-depletion 15x15um pixel size TE cooling to -60°	2000x256 Back-illuminated Deep-depletion 15x15um pixel size TE cooling to -60°

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RTS mini
confocal Raman system

RTS-Mini confocal Raman System is fully suited to micro measurement and supply mapping function; Raman module is not only very compact & easy to connect by fiber to any spectrograph or micro-Raman system and can be easily switched in and out of the optical path, but also be integrated with most upright microscopes; The flexibility ensure range of options , upgrades and accessories to suit all budgets and different applications;

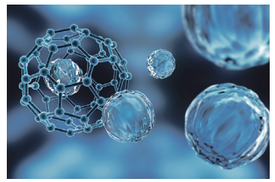
confocal Raman System provided by RTS-Mini is a non-destructive technique with minimum sample preparation required. The sample are extensive materials such as polymer, ceramic and nanomaterials as 2D materials: graphene or monolayer of MoS2 etc. Some biological samples like blood, tissue and cell are suitable for Raman measurement by certain laser excitation wavelength;

Raman is an ideal technique for research and industry offering high quality data, reliability, versatility over other analytical techniques. Benefits not only include the range of samples that are suitable for analysis, but also the information content that is provided.

The main applications

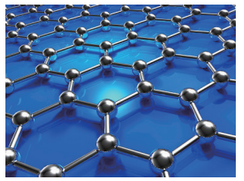
Pharmaceuticals

Nano-materials



Semiconductors

Polymers



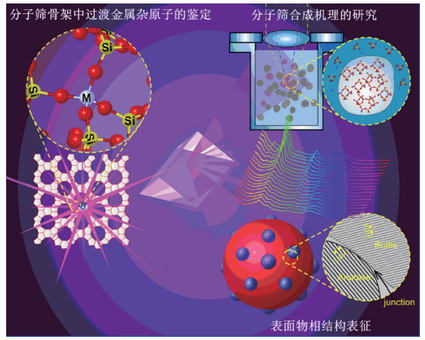
Geology

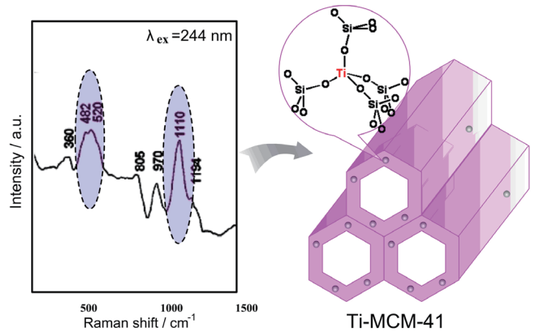
Chemicals

Art and Museum

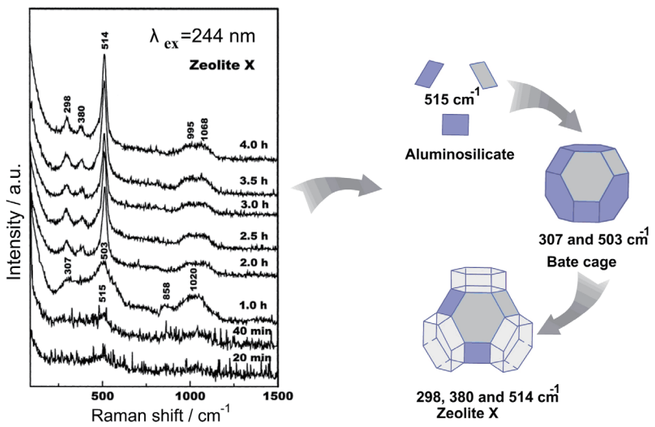
Forensics

Applications Examples:





Microporous-ultra-low content of isolated transition metal ions in the framework of mesoporous materials (e.g.Ti-MCM-41) can be reliably and accurately identified by ultraviolet resonance Raman spectroscopy.

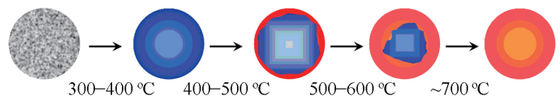


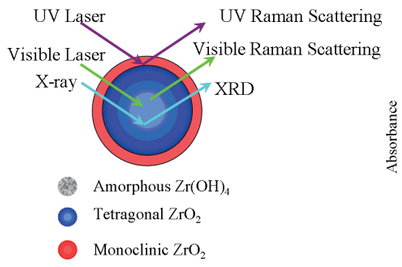
UV Raman to avoid fluorescence and increase sensitivity

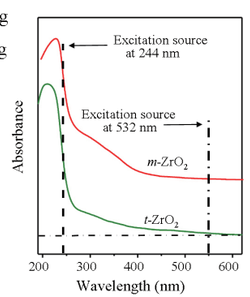
The characteristics of the degree can be used for the synthesis process of molecular sieve

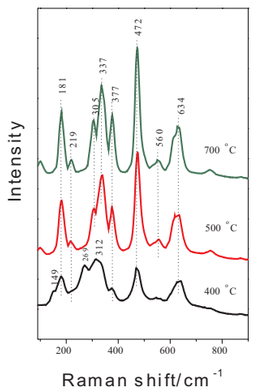
Synthetic precursors, intermediates and molecular sieves in

Study on the evolution of crystals





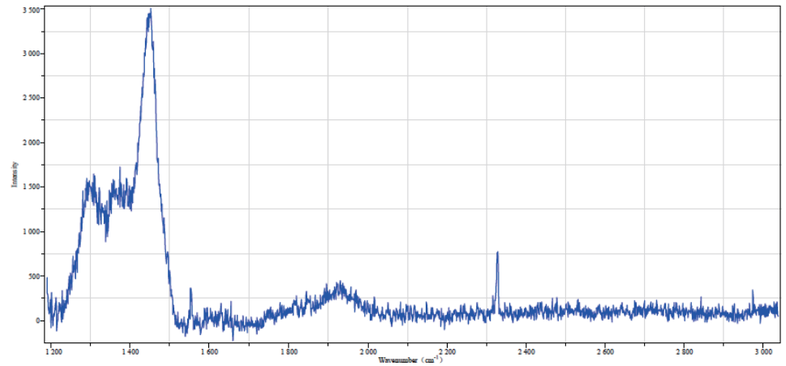




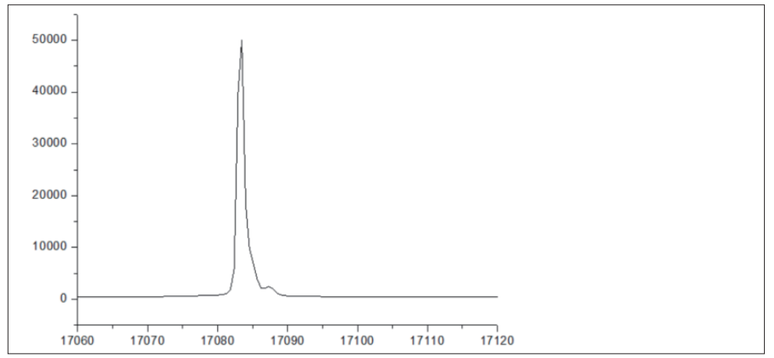
Raman spectroscopy can selectively obtain surface phase information of substances with strong absorption in the ultraviolet region (such as TiO_2 and ZrO_2)

System Performance:

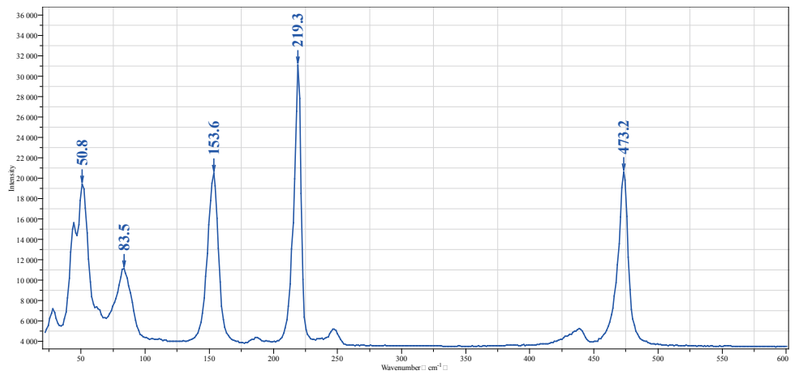
3rd Raman peak of monocrystalline silicon. S/N:>20:1



Spectral Resolution: <1.5cm^{-1} at 585nm (532 excitation)



Low wavenumber capability, 60cm^{-1} typical, 80cm^{-1} guaranteed



Zolix Instruments Co.,Ltd. Address: NO. 68B, LDUV, Tongzhou District, Beijing,China, 101102 **TEL:** +86 10 5637 0168 **Email:** info@zolix.com.cn **Website:** www.zolix.com.cn