

FT-IR Microscopy

Key Features

- Economical yet full-featured FT-IR microscope
- Operates in transmission, reflectance and micro-ATR modes for sampling versatility
- Rapid setup, easy viewing and familiar controls
- Purpose built FT-IR microscope optics for the highest sensitivity
- View through apertures for easy sample location



MultiScope FT-IR Microscope System

The MultiScope™ FT-IR system is an attractively priced yet fully featured, manual IR microscope. It offers the sampling flexibility and performance required by laboratories performing single-point infrared spectroscopy, whether academic research and teaching, forensic, or industrial and pharmaceutical troubleshooting. Its intuitive controls and ease of use ensure that high quality results are obtained by experienced and occasional users alike.

Flexible sampling

Offers all three modes of IR sampling:

- Transmission – for films, laminates, fibers and crystals
- Reflectance – for sample surfaces and thin films on reflective surfaces
- Micro-ATR – for highly absorbing samples such as black rubbers, filled polymers and paper

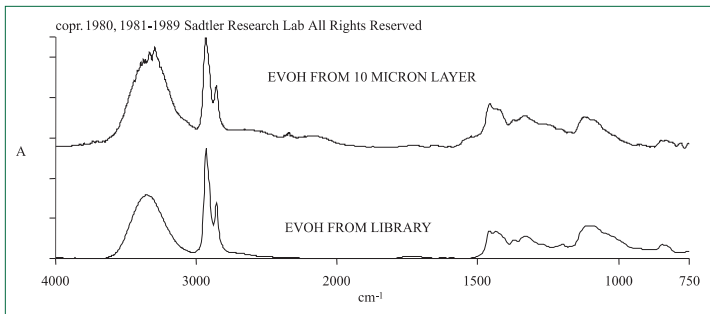
For added sampling flexibility, the lower cassegrain can be removed and the stage lowered to handle larger samples requiring reflective or micro-ATR analysis. The variable glass-coated apertures in the MultiScope system allow small areas of large samples to be isolated for analysis. Samples can be measured down to the accepted diffraction limit of 10 x 10 µm.

Easy operation

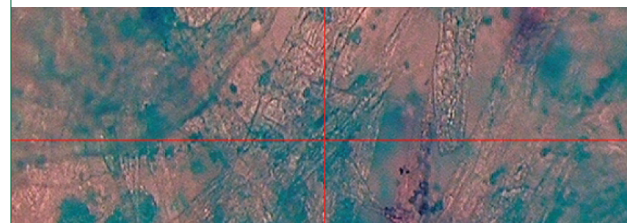
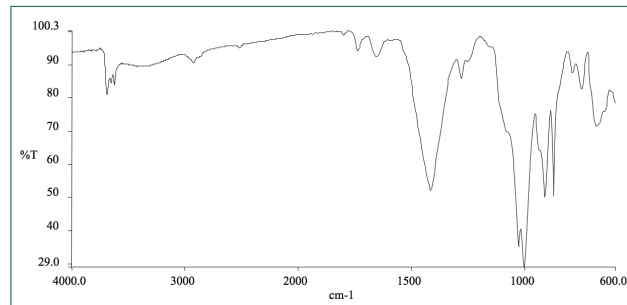
A few simple controls, based on those used in a familiar laboratory microscope, make the MultiScope one of the easiest precision instruments to operate. An advanced viewing system with video camera and multimedia software provides on-screen viewing and archiving of visible images.

Ready to upgrade when you are

A MultiScope will instantly add a powerful yet simple and reliable new dimension to your analytical work, and you can expand the system to do more when you are ready. A variety of upgrade options are available, including a purge capability, IR and visible polarizers for molecular structure studies, a heated sample holder and a micro-sampling accessory kit.



Library search result for a transmission spectrum from a 10 μm EVOH layer of a polymer laminate.



Micro-ATR spectrum of green pigment on paper.

MultiScope FT-IR Microscope Specifications

Principle	High-performance FT-IR microscope with permanently aligned cassegrain optics (NA 0.6). Compatible with PerkinElmer Frontier, Spectrum 65, 100 and 400 systems and GX.
IR performance	Typically better than 9000/1 p-p, 45,000/1 rms signal-to-noise, measured using a 100- μm diameter aperture, 4 cm^{-1} resolution, 2 minutes collection time, 2200 - 2000 cm^{-1} , and medium-band MCT detector. A narrow-band detector is available for greater sensitivity, and a wide-band detector is available for measurements down to 450 cm^{-1} .
Sampling modes	Transmission and reflectance modes are standard.
Multimode Micro-ATR Objective	Optional multimode cassegrain objective with 100 μm germanium or silicon crystal are available. These crystals have a unique, spring-loaded mounting to ensure optimum crystal/sample contact and protect the crystal when not in use. Micro-ATR, transmission, reflectance and visible viewing modes of operation are standard without the need to change objectives or realignment.
Viewing system	System includes video camera and PC frame-grabber board for on-screen viewing. Optional TV monitor available. Visible images can be archived and printed.
Apertures	HighLight™ whole field of view apertures keep the sample in view while masking an area of interest. Can measure samples down to 10 x 10 μm .
Illumination	Built-in tungsten/halogen illuminator. Variable power up to 35 W.
Microscope controls	Side-mounted focus with coarse and fine adjustment. Single switch changeover between IR/visible and transmission/reflection.
Polarizers	Visible and IR polarizers available.
Sample access	Open-throat design allows access from three sides. Working distance is greater than 20 mm. Lower cassegrain can be removed to allow samples up to 35 mm thick to be measured.
Accessories	Compression cell, diamond anvil cell, heated sample holder, microsampling tool kits and purge kit.

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