

# Agilent FTIR Forensics Analyzer Package: Lab-Quality FTIR ATR Analyzers, Inside or Outside the Lab

Agilent FTIR forensics analyzers provide accurate results in real time with a comprehensive library and little-to-no sample preparation



# Analyzer for use in the identification of unknown substances

Fourier transform infrared (FTIR) spectroscopy is a proven, powerful technology for the analysis of illegal substances and potentially hazardous compounds. The identity of an unknown liquid or solid substance can be determined in less than one minute with little-to-no sample preparation required, making identification of unknown substances rapid and easy to use.

The Agilent FTIR forensics analyzer package has been created to address the ever-growing need for portability, flexibility, and ease of use within the forensics community. Either an Agilent 4500a or 5500a FTIR forensics analyzer can be selected depending on whether the end user simply desires a workhorse, dedicated instrument like the 5500a to use every day in a conventional or mobile lab, or requires the full portability and battery operation provided by the 4500a.

The FTIR forensics analyzers are fitted with a single-reflection diamond ATR sampling interface (Figure 1), designed for use in some of the most demanding environments. The diamond ATR sampling interface requires little-to-no sample preparation and is chemically resistant to virtually all compounds that will be measured.

The ATR Forensics Library for Mobile FTIR offered in the FTIR forensics analyzer package contains more than 10,000 spectra specifically selected for the forensics market, containing materials categorized as biochemicals, forensics, white powders, hazardous and toxic chemicals, HPV chemicals, food additives, and explosives. This creates one of the most comprehensive forensic FTIR databases.

For dedicated drug identification applications, the FTIR forensics analyzer package offers a comprehensive TICTAC FTIR spectral library of new psychoactive substances (NPS) and other drugs. The TICTAC ATR FTIR drugs library focuses on NPS but also includes traditional drugs of abuse and substances related to drugs and drug abuse, such as contaminants, adulterants, diluents, potentiators, precursors, and substances passed off as drugs.



Figure 1. Diamond ATR sampling interface on the Agilent 4500a FTIR forensics analyzer.

## Simple workflow all the way



Intuitive, method-driven, and multilanguage Agilent Microlab PC software guides users through every step of operation, requiring no specialized technical training. With a simple workflow, the system provides valuable information about the identity of chemical substances present in a material.

To improve user safety and facilitate fast, actionable decisions, an optional hazard information and additional chemical information display is available for items in the TICTAC ATR FTIR drugs library (Figure 2). If selected, matches to this library display GHS hazard symbols, a CAS number (if available), and a controlled substance warning when relevant, to help users easily assess any risk. Users can also include their own additional information if desired.

Warning	Rank	Quality	Library	CAS#	Name
⚠	1	0.94617	TICTAC ATR FTIR Drugs Library (333)	1987-66-9	Ketamine hydrochloride
⚠	2	0.81915	TICTAC ATR FTIR Drugs Library (430)	111992-49-1	(+)-2F-Ketamine
⚠	3	0.78301	TICTAC ATR FTIR Drugs Library (163)	6740-88-1	Ketamine
⚠	4	0.77466	STFOANS32-2 (6635)	1987-66-9	KETAMINE HCL

**Rank 1** (+) Ketamine HCl  
1987-66-9 Controlled Substance

**Sample Description**  
Medication mainly used for starting and maintaining anesthesia, also used as a recreational drug

⚠ ⚠

Home Data Handling Details Params Results R2  
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Figure 2. Chemical and hazard information for items in the TICTAC ATR FTIR drugs library, displayed on Agilent MicroLab PC software and their hit quality values.

## Choose your instrument

Whatever your choice of FTIR spectrometer format (4500a or 5500a), the analyzer enables laboratory-quality results with the following characteristics

- High sensitivity and selectivity mid-IR analysis
- No sample preparation
- Integrated sampling interface
- **Operating ranges:** 0 to 50 °C (32 to 122 °F)
- **Spectral range:** 4,000 to 650  $\text{cm}^{-1}$
- **Resolution:** 2 to 32  $\text{cm}^{-1}$
- Field-proven ruggedized interferometer

(Power cables, power supply, hardware and software manuals, and Agilent MicroLab PC software are included.)

### Need to take the analyzer with you? Use the 4500a FTIR forensics analyzer (option 102)

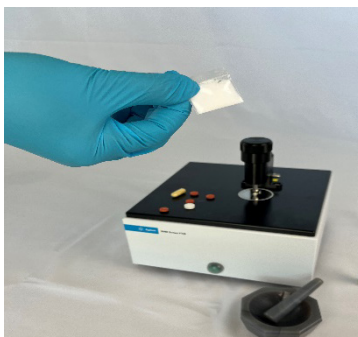


A rugged analyzer, perfect for on-the-spot analysis in a range of nonlaboratory settings. Portable and battery operated with an internal four-hour battery. Autocharges when plugged into mains power.

#### System specifications

- **Size:** 22 × 29 × 19 cm (8.5 × 11.5 × 7.5 in)
- **Weight:** 6.8 kg (15 lb)
- **Power:** internal battery (4 hours), 100 to 240 VAC, 50/60 Hz

### Don't need battery operation? Use the 5500a FTIR forensics analyzer (option 101)



Compact, lightweight, and robust, this analyzer is ideal for forensics applications in the lab. Detachable press enables easy local transportation in a backpack.

#### System specifications

- **Size:** 20 × 20 × 11 cm (8.0 × 8.0 × 4.5 in)
- **Weight:** 3.6 kg (8 lb)
- **Power:** 100 to 240 VAC, 50/60 Hz

### Need a tablet or PC?

The analyzer package can include a standard laptop or ruggedized tablet (for use with the 4500a only), if required.

# Choose your libraries

## Select any combination based on your individual requirements

- **Option 201:** the ATR Forensics Library for Mobile FTIR, which works with Agilent mobile FTIR spectrometers and contains 13,137 spectra, including biochemicals, conventional narcotics, white powders, hazardous and toxic chemicals, high-production volume chemicals, food additives, and explosives, for one of the most wide-ranging databases used for forensics applications.
- **Option 202:** the ATR Aldrich Spectra Database, which contains 18,513 spectra.
- **Option 203:** the TICTAC ATR FTIR drugs library, which contains 643 items, which focuses on NPS but also includes traditional drugs of abuse and substances related to drugs and drug abuse, such as contaminants, adulterants, diluents, potentiators, precursors, and substances passed off as drugs.

## Looking for a drug ID solution?

Agilent recommends adding options 201 and 203 to your FTIR forensics analyzer package.

This information is subject to change without notice.

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RA44770.4198032407

© Agilent Technologies, Inc. 2022  
Published in the USA, September 13, 2022  
5994-5259EN