

Fourier Transform Infrared Spectrometer (FTIR) with Low-Temperature DRIFT Reaction Cell

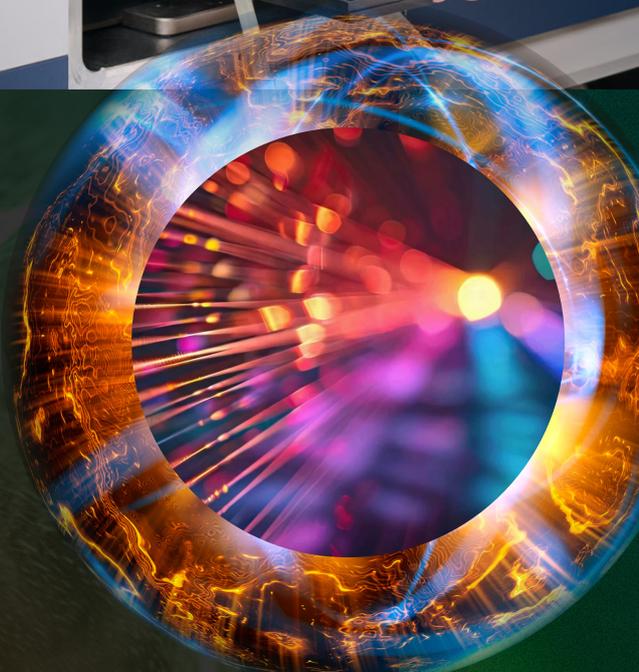
Fourier transform infrared spectroscopy (FTIR) is a powerful vibrational spectroscopic technique for investigating molecular structure, surface chemistry, and reaction mechanisms. In its diffuse reflectance infrared Fourier transform spectroscopy (DRIFTS) configuration, FTIR is particularly well suited for powders, porous materials, catalysts, and other heterogeneous samples for which conventional transmission measurements are impractical.

The available FTIR system is equipped with an evacuable optical bench and a DRIFTS module incorporating a versatile reaction cell capable of both low- and high-temperature operation. This setup enables in situ and operando measurements under controlled atmospheres, reduced pressure, or vacuum conditions.



Key Features

- FTIR spectroscopy in diffuse reflectance (DRIFTS) mode for powders and heterogeneous samples
- Reaction cell supporting low-temperature ($\approx -150\text{ }^{\circ}\text{C}$ to $300\text{ }^{\circ}\text{C}$) and high-temperature (room temperature to $\approx 900\text{ }^{\circ}\text{C}$) measurements
- In situ and operando operation under vacuum or controlled atmospheres
- Broad spectral range ($350\text{--}3500\text{ cm}^{-1}$) with high spectral resolution (0.5 cm^{-1})
- Ideal for studies of surface chemistry, catalysis, adsorption, and reaction monitoring



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