

FT-IR spectroscopy

Frontier PerkinElmer



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Introduction

The Fourier Transform Infrared spectroscopy (FT-IR) is a technique to record the infrared absorbance spectrum of materials, in order to study and identify the chemical composition.



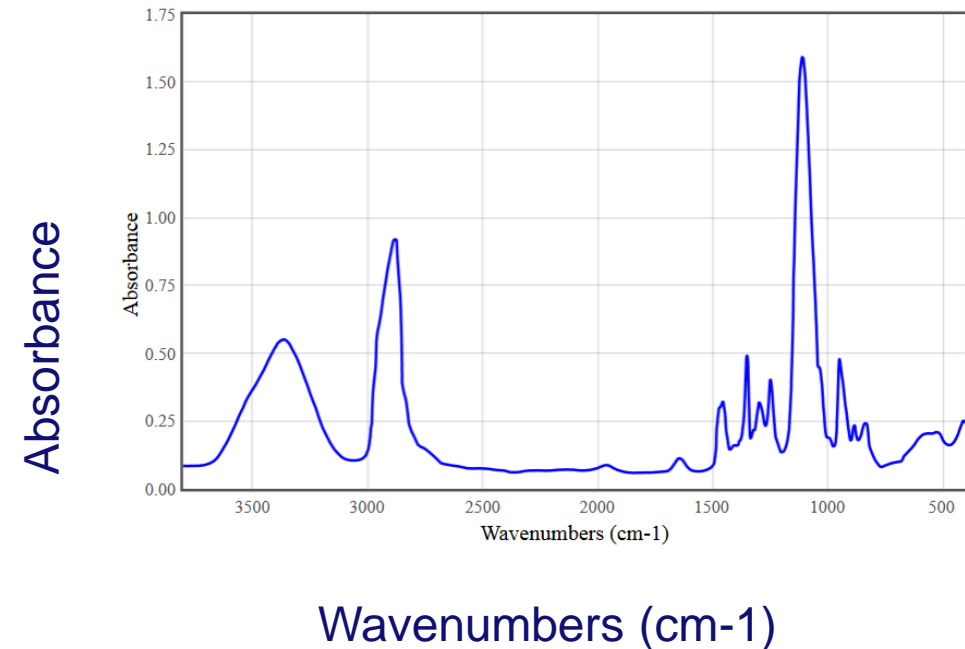
PE Frontier FT-IR



Golden gate ATR

Principle

Infrared spectroscopy exploits the property that molecules absorb infrared (IR) light depending on the chemical composition. These absorptions occur at resonant frequencies characteristic to their chemical structure. An FT-IR spectrophotometer collects the absorption spectrum over a wide IR range, and using this information we are able to identify the chemical composition of liquids, gasses and solids.



FT-IR spectrum of polyethylene glycol.

The FT-IR is equipped with an Golden gate ATR unit to measure surfaces (first 1-2 μm) and (near) supercritical fluids.

Application

FT-IR is a versatile and fast technique that can be used to analyze many different materials. Some applications are:

- Membrane autopsy and fouling studies
- Material identification
- Surface analysis
- Quality control