# Fourier Transform Infrared Spectroscopy (FTIR)

MANUFACTURER : Nicolet ( Thermo Scientific)
MODEL : FTIR 510P

## Analysis

- Detector DTGS - room temperature with KBr window 4000-400 cm-1
- Microscope liquid nitrogen cooled
- MCT detector 4000-650 cm-1
- Microscope : 32X objective (reflectance-transmittance)

## Applications

- Characterization of organic samples (liquid and solid)

## Characteristics

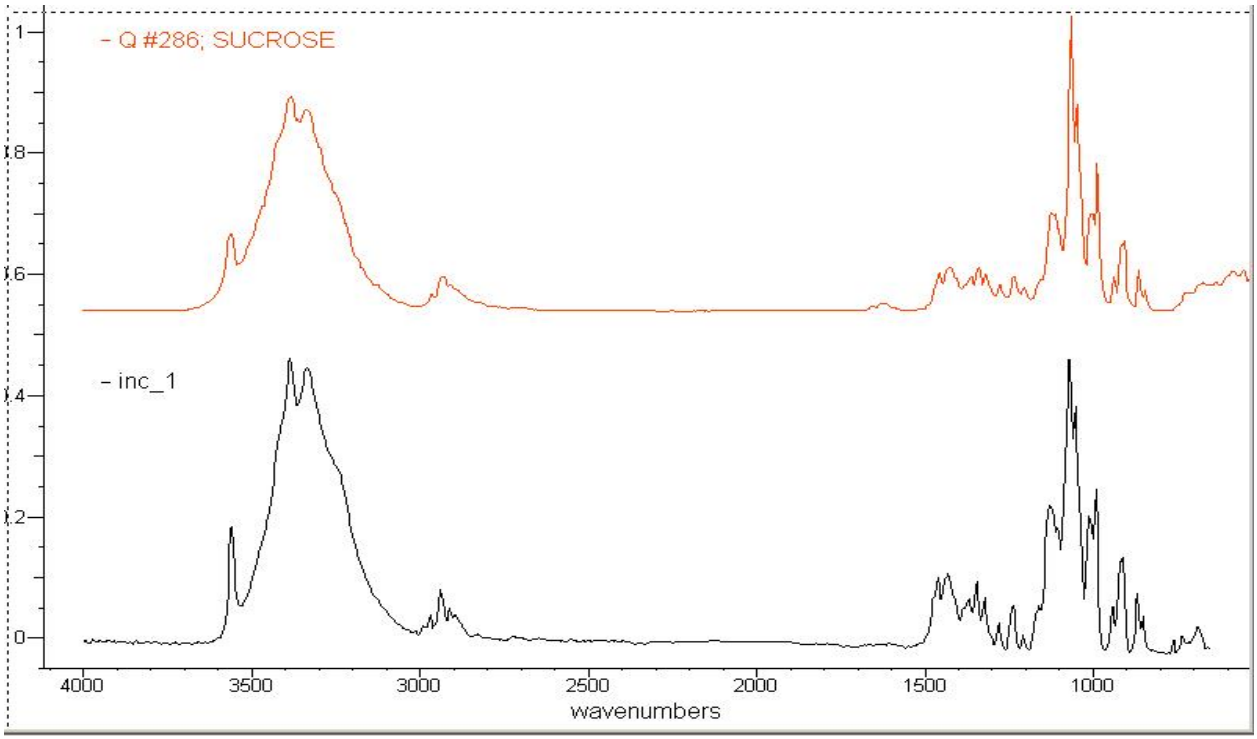
- Water-cooled source
- Resolution 0.8 $cm^{-1}$

# Fourier Transform Infrared Spectroscopy (FTIR)

MANUFACTURER : Nicolet ( Thermo Scientific)
MODEL : FTIR 510P

## Example

FTIR can be used to identify an unknown substance, for example a sample of a “suspect” white powder.
With the FTIR method, the “fingerprint” of the product can be obtained:
- The powder is exposed to infrared light to acquire an “absorption” spectrum
- Results are compared with a database to identify the product (more than 250,000 different chemicals are inditifiable)




Comparison of the unknown powder with the sucrose: both spectra are identical.
The unknown powder was just some sugar.

CHARACTERIZATION