

mid-IR FT SPECTROMETRY with InfraLUM FT-02

APPLICATIONS

SPECIFICATIONS



Spectral range

6500 – 350 cm^{-1}

Resolution

0.5 cm^{-1} (on request)

1, 2, 4, 8, or 16 cm^{-1}

Spectrum measuring time

60 s (typical)

Power requirements

110 / 220 Vac, 50 / 60 Hz

Power consumption

60 W

Size

580x515x295 mm

Weight

37 kg



APPLICATIONS

Oil and gas industry

- Determination of the composition of natural gas and gas industry products
- Determination of crude oil and gas purity
- Determination of fractional composition
- Determination of aromatic hydrocarbon content

Chemical industry

- Identification of unknown chemical substances
- Determination of raw material purity
- Determination of fractional composition
- Functional and structural-functional analysis

Pharmaceutical industry

- Determination of the authenticity of medicine preparations using IR reference standards

Ecological and sanitary monitoring

- Ecological monitoring of the atmospheric air
- Detection of the presence of ozone-destructing substances
- Monitoring industrial emissions and the air in production areas
- Measuring the content of petroleum hydrocarbons in water

Forensic investigations

- Identification of impurities and trace amounts of substances

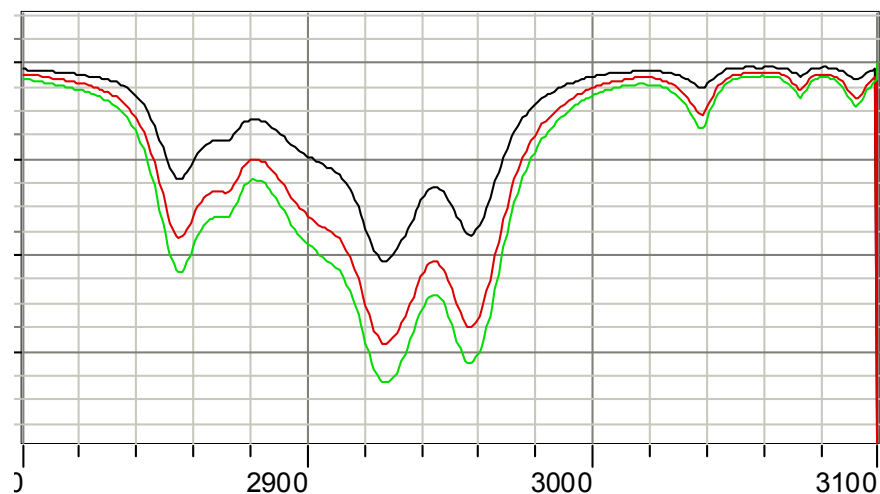
MEASURING THE CONTENT OF PETROLEUM HYDROCARBONS IN WATER

IR spectra of PHC extracted from water

Quantitative analysis of petrochemicals contents into water can be done with InfraLUM FT-02 IR FT spectrometer according to DIN 38409H18C.

Petrochemicals extraction from water probe by solvent and spectra registration should be done before analysis according to this standard.

Automatic calculation of quantitative petrochemicals contents into the analyzing water probe is carried out by obtained absorption picks that as an example given at the picture.

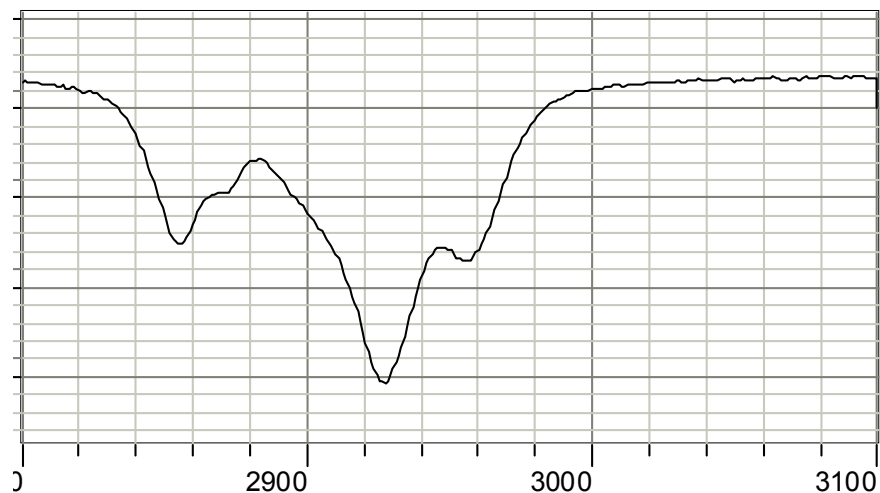


The initial concentration of petroleum in water samples was **20**, **40**, and **50** mg/l.
The length of an optical path was 4 cm, quartz windows.

DETERMINATION OF PETROLEUM FROM SOIL

IR spectrum of petroleum extracted from soil

Quantitative analysis of petrochemicals contents into soil can be done with InfraLUM FT-02 IR Fourier transform spectrometer according to DIN 38409H18. Petrochemicals extraction from solid probe by solvent and eluate spectra registration should be done before analysis according to this standard. Automatic calculation of quantitative petrochemicals contents into the analyzing probe is carried out by obtained absorption picks that as an example given at the picture.

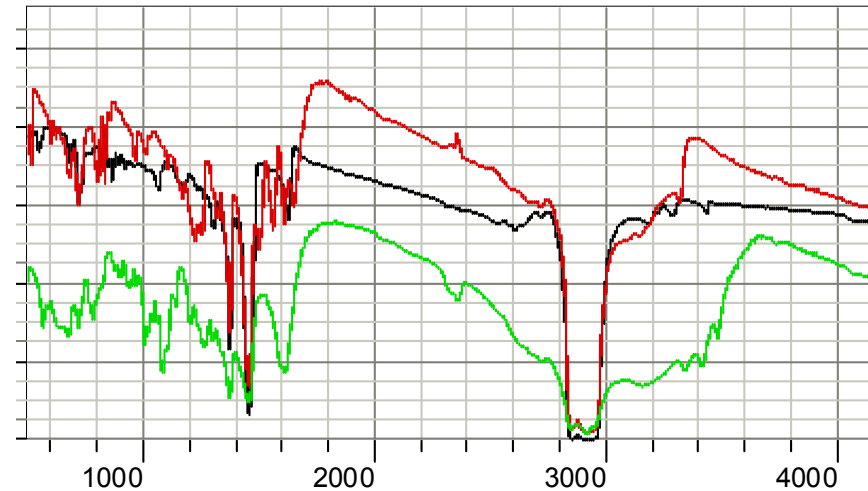


The length of the optical path is 4 cm, quartz windows.

QUALITY CONTROL OF MEDICINE PREPARATIONS

IR spectra of pharmaceuticals suspended in liquid petrolatum

Pharmaceutical products quality can be done with InfraLUM FT-02 IR Fourier transform spectrometer by comparing obtained spectra with pharmacopoeia ones.



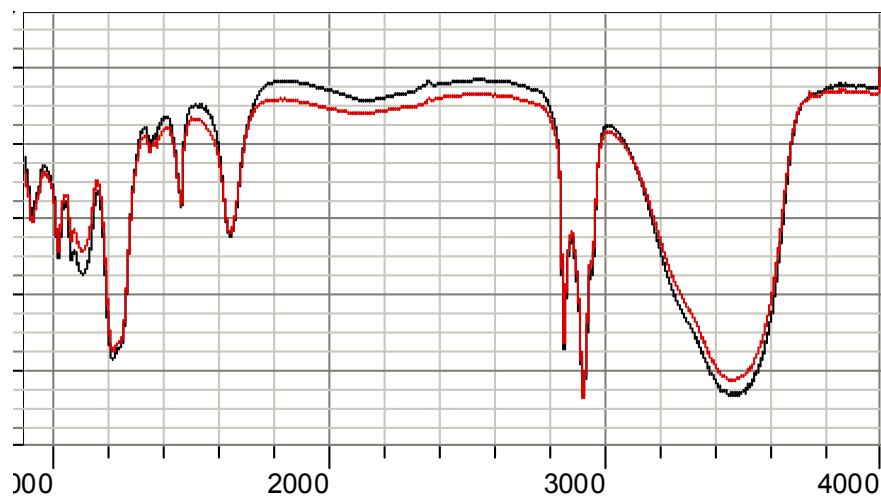
Slurries were placed in a cell with KBr windows.

- **Bromhexin**
- **Paracetamol**
- **Calcium gluconate**

TESTING THE COMPOSITION OF PERFUME PREPARATIONS

IR spectrum of $\text{CH}_3-(\text{CH}_2)_{10}-$
 $(\text{CH}_2-\text{CH}_2\text{O})_2-\text{OSO}_3\text{Na}$

Perfume substance and their initial components quality can be estimated with InfraLUM FT-02 IR Fourier transform spectrometer. The estimation can be carried out by different absorption peaks ratio alteration.



Samples were analyzed in a cell with CaF_2 windows. The spectra were calculated in according to spike of occluding (wavelength 2854.00 cm^{-1}) of the “standard” sample.

- A “standard” sample
- A “bad” sample deviates from the standards