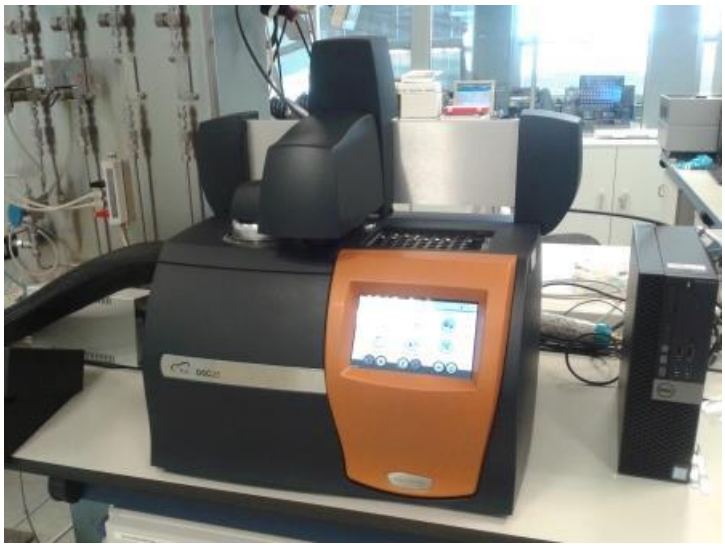
1. Thermogravimetric Analysis (TGA)

Thermogravimetric measurements were carried out using a thermobalance TA Instruments Q500. Samples are supported on a platinum holder, and a platinum thermocouple is used for temperature registration. Heating rate from 0.1 to 100ºC/min. Weight sensibility: 0.1 microgram. Weight accuracy: 0.01%. Isothermal temperature measurement accuracy: 0.1ºC.

2. Differential Scanning Calorimetry (DSC)

Differential scanning calorimetry was performed with the TA Instruments DISCOVERY DSC25 AUTO device. Range of temperature (-80ºC to 725ºC). Calorimetric accuracy: 0.1%. Thermometric accuracy: 0.01%. Heating rate: 0.01 to 200ºC/min.



3. Infra-Red spectroscopy (FTIR)

FTIR measurements were carried out using a Fourier Transform IR spectrophotometer (Jasco 4100 LE). The FTIR spectra can be obtained in the wavenumber range from 350 to 7800 cm^{-1} and resolution 1-16 cm^{-1}. Samples are measured by direct contact in the measuring window. The Figure 4 shows Jasco 4100 LE spectrophotometer.

4. Optical Microscopy

Microscopy images were obtained with an Optical Microscope LEICA DM4000M. Objectives with 5x, 10x, 20x and 50x power. Eyepiece 10x power. Images are registered with a digital camera LEICA DFC 420C, 5Mpixel resolution.

5. Universal Testing System

Mechanical (compression strength, tensile strength) measurements were carried out using a Universal Testing machine (Instron 3365). The plates are 150 mm diameter. Load cells: 5 and 100 kN.

6. Thermal Capacity

Thermal capacity measurement was performed with the TA Instruments DISCOVERY DSC25 AUTO device. Range of temperature (-80ºC to 725ºC). Calorimetric accuracy: 0.1%. Thermometric accuracy: 0.01%. Heating rate: 0.01 to 200ºC/min.