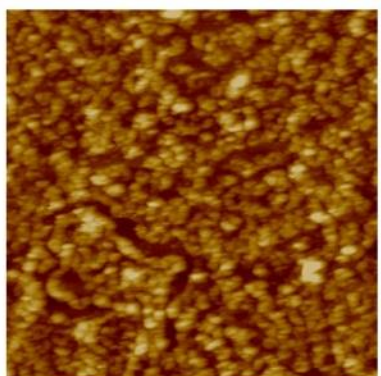
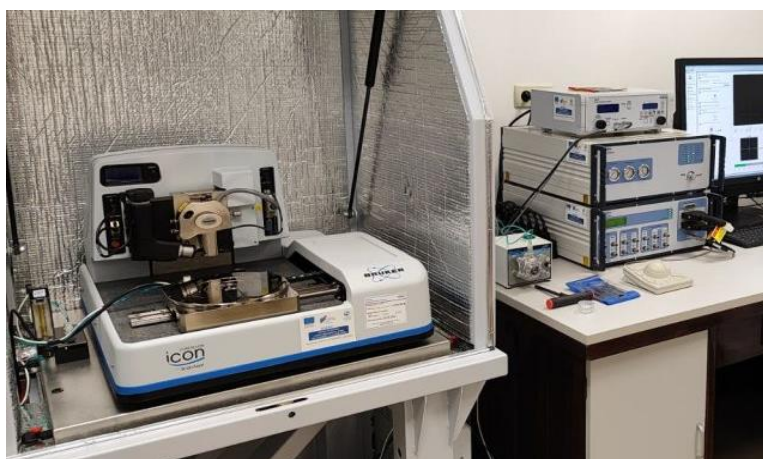


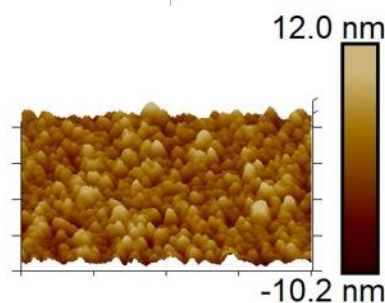
Atomic Force Microscope BRUKER DIMENSION ICON with ScanAsyst®

A circuit board in the hardware unit for the device controllers has been replaced.



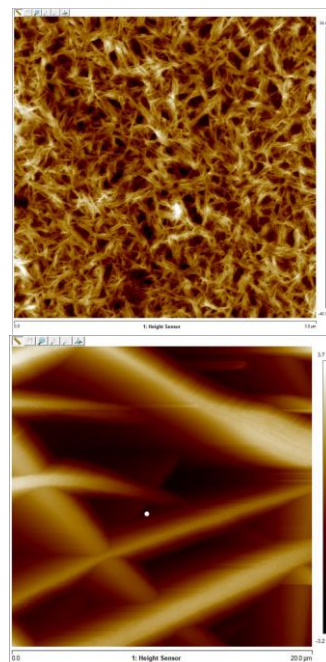
12.0 nm
-10.2 nm

Height Sensor 400.0 nm



Height Sensor

400.0 nm

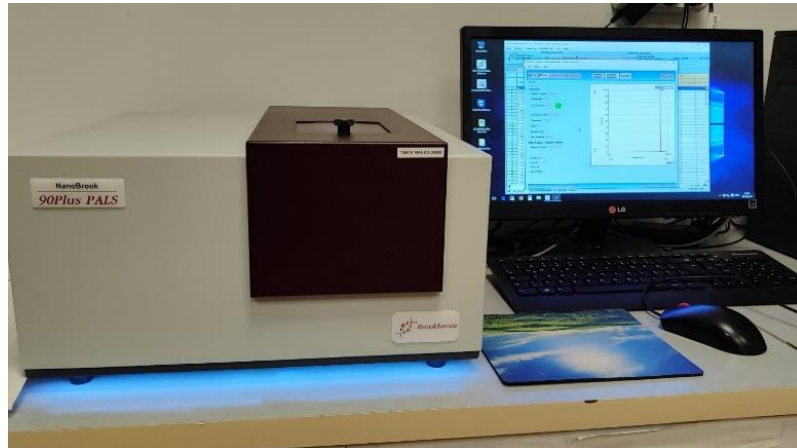


- Atomic Force Microscope (AFM) system Dimension Icon from Bruker Nanosurface Division is equipped with a NanoScope V Control Station operating in a ScanAsyst Mode and using Peak Force Tapping technology. It offers surface images with resolution up to 5k x 5k, includes a scanning probe microscope (SPM) Scan Head with a XY nominal range of 90 x 90 microns and Z range of 10 microns. The microscope performs imaging techniques on samples up to 210 mm in diameter and 15 mm thickness.

- AFM system performs all major SPM techniques on various sample surfaces in air or liquid medium, in the temperature range -30 to 60 °C, including:

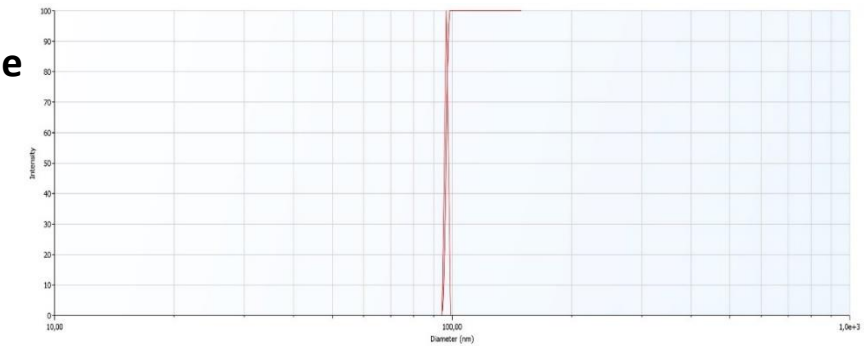
- ScanAsyst Mode (air and liquid);
- Tapping Mode (air and liquid) and Contact Mode;
- Lateral Force Microscopy;
- Phase Imaging;
- Force Spectroscopy;
- Force Modulation (air and liquid);
- Electric Field Microscopy (EFM);
- Surface Potential Microscopy or Kelvin Force Microscopy;
- Magnetic Force Microscopy (MFM);
- Piezoresponse Force Microscopy (PFM);
- Conductive Mode AFM;
- Scanning Capacitance Microscopy (SCM);
- Peak Force QNM and Peak Force TUNA Mode

Brookhaven NanoBrook 90PlusPALS instrument - combines particle sizing and zeta potential analysis



A hardware module was replaced, it was done setting and calibrating the apparatus.

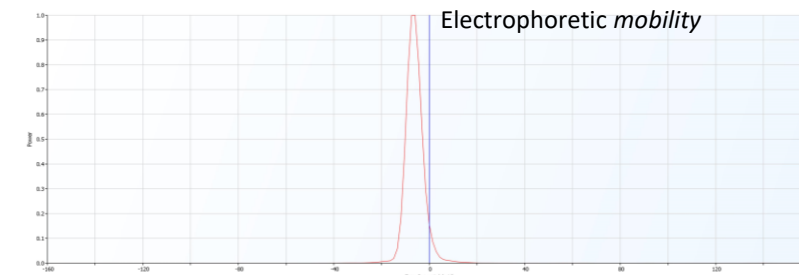
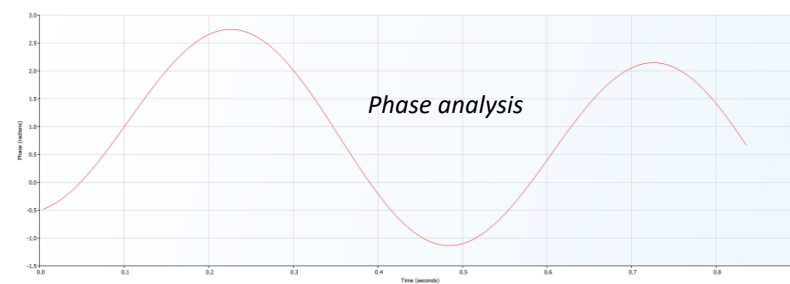
Dynamic Light Scattering (DLS) for size determination



Key Features & Specifications

Size Range	5 nm to 10 μ m diameter
Mobility Range	10^{-11} to 10^{-7} m ² /V.s
Zeta Potential Range	-500 to 500 mV
Maximum Sample Conductivity	220 mS/cm
Concentration Range	2 ppm to 50 mg/mL
Algorithms and Models	NNLS, Contin, Cumulants, Lognormal
Detection Angles	15° and 90°
Test Standards	ISO13321 and ISO22412

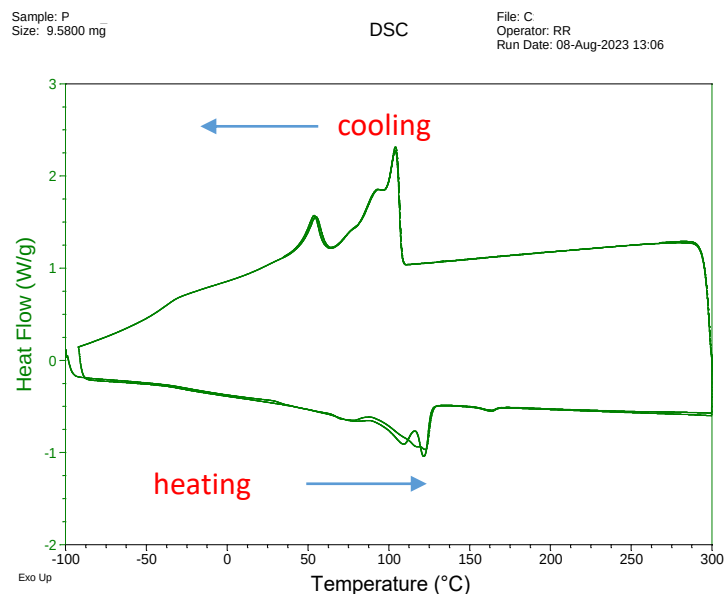
Electrophoretic light scattering



Differential scanning calorimeter Perkin Elmer DSC-8500

Differential scanning calorimeter Perkin Elmer DSC-8500, equipped with a cooler Intracooler 3 to ensure the operation in the chambers of the calorimeter from 130 oC to 900 oC in non-isothermal and isothermal mode with rate of heating and cooling of 0.1 to 200 ° C/min.

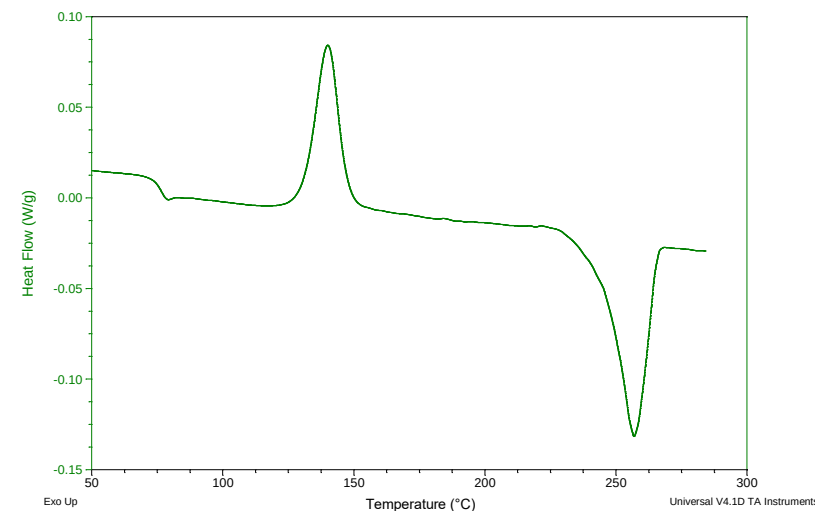
- Determination of melting, crystallization, glass transition temperature, etc.
- Identification of high and low high molecular weight organic and inorganic compounds, (co)polymers, blends and composites. Investigation of powders, granules, foils, membranes, fibers and others.
- Determination heat (enthalpies) of transition (melting, crystallization, polymorphic-unit phase transitions, chemical reactions, polymerization, vulcanization, and other types of cross-linking).
- Determination of the specific heat at constant pressure, substance purity, degree of crystallinity, etc.



DSC thermograms



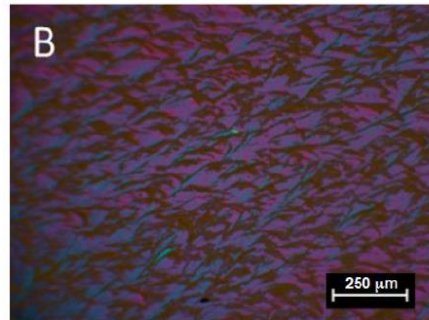
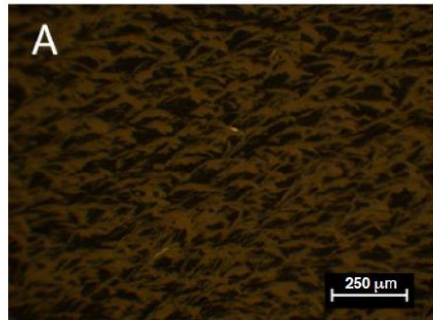
Sample: Quenched PET
Size: 5.6970 mg
Method: MDSC Heat-Only @ 2°C/min
Comment: MDSC Heat Only @ 2°C/min, 60 sec period
DSC
File: C:\TAI\DATA\DSC\mdsc-pet.002
Operator: Aubuchon
Run Date: 14-May-1996 08:45
Instrument: 2920 MDSC V2.1G



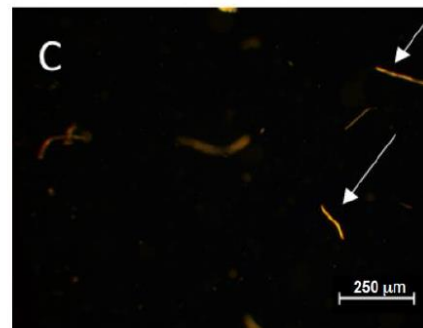
Mechanized shroud assay-viper closure service was replaced
(CAS: N5340154 -MECHANIZED SHROUD ASSAY-VIPER CLOSURE SERVICE)
for the differential scanning calorimetry instrument (DSC) PerkinElmer DSC 8500.

Digital 4K camera Flexcam C1, software and polarization kit were purchased:

- **LED module for reflected light**, polarization and oblique illumination, including:
13613171 LED reflected light illuminator 11555005 Polarizer R/P, L 29x11.511555079 Analyzer 180°, rotatable
- **Microscope camera Leica FLEXACAM C1** - Color digital camera with CMOS sensor (1/2.3)" - Operation at 4k 60fps live picture via HDMI - JPG images with 12 MP resolution - Full HD MJPG video recording at 30 fps - Camera control via computer or via mouse - Direct USB memory recording - USB3.1 type C interface
- **Leica LAS X software package with LAS X "Live ZImageBuilder"** module for multifocal image creation.
- USB Hardware Key for LAS X Software Module
- C-mount adapter 0.55x HC



Different materials visualization in transmission and reflection mode. Magnification 4x - 600x.



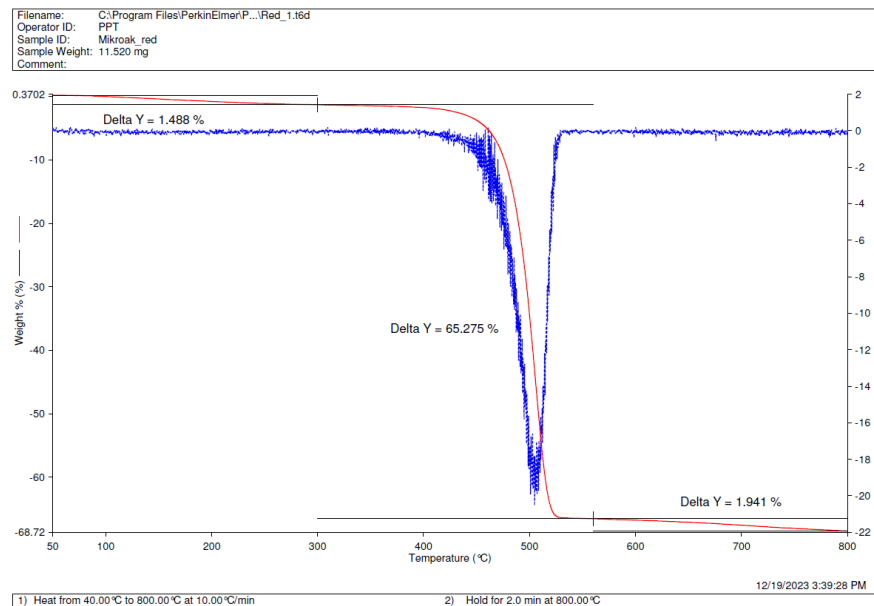
Thermogravimetric analyzer PerkinElmer TGA4000

- Thermogravimetric analyser TGA-4000 Perkin Elmer measures thermal stability of low molecular weight, inorganic and organic substances, polymers and composite materials.
- The weight loss of the sample as a function of temperature or time, during heating or annealing, is determined. Heating/cooling from 30°C to 1000 °C at a rate of 5 °C/min to 200 °C/min. Non-isothermal and isothermal mode of operation.

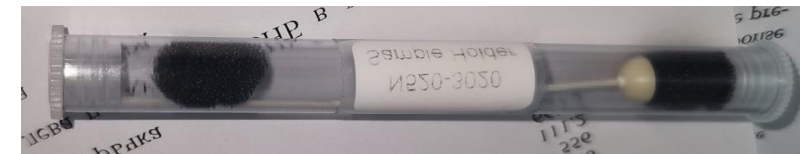


№	Кат №	ОПИСАНИЕ	Брой
1	N5202022	THERMOCOUPLE-PYRIS 6TGA/TGA6 SHIELDED	1
2	N5376805	MODULE-TGA6 FURNACE RDY FOR MTG	1

A new module consisting of a furnace and a thermocouple was replaced



TGA thermograms



New TGA holder N5203020



Defective module