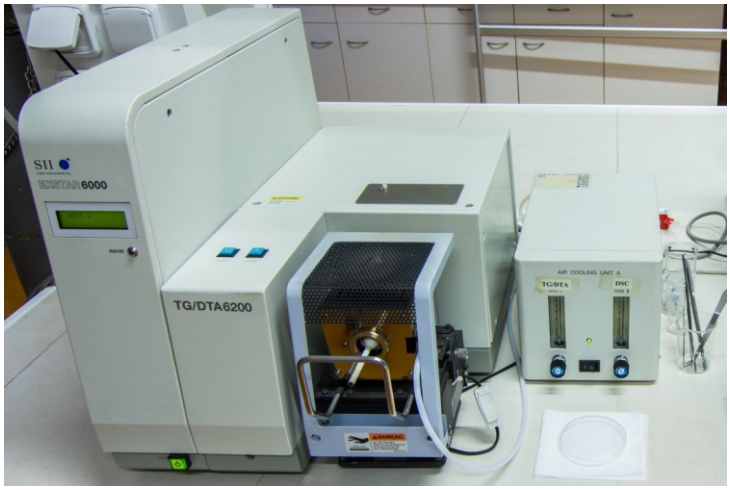
THERMAL **ANALYSIS**

EXSTAR TG/DTA 6200 (SEIKO INSTRUMENTS)

Thermal analysis is a group of material-chemistry methods analysing the changes of composition and properties of the studied substances and their mixtures under the defined temperature program, whose results are recorded together with temperature. The most widely used thermal analysis methods are thermogravimetry (TG), differential thermal analysis (DTA) and differential scanning calorimetry (DSC), which study the changes of weight, temperature and enthalpy of the substance, respectively, under the defined temperature program. The modern thermal analysers simultaneously carry out more thermoanalytical methods (simultaneous thermal analysis, STA), for example TG-DTA or TG-DSC. The methods of thermal analysis are used for the studies of phase transitions and thermal decompositions, determination of the melting or sublimation temperature, purity evaluation and for the study of solid state reactions.

ACQUIRED INFORMATION

- Determination of partial and total weight losses
- Thermal stability of substances and materials
- Phase transitions temperatures (e.g. melting)
- Purity evaluation
- Mechanism of thermal decomposition
- Effect of furnace atmosphere on thermal decomposition



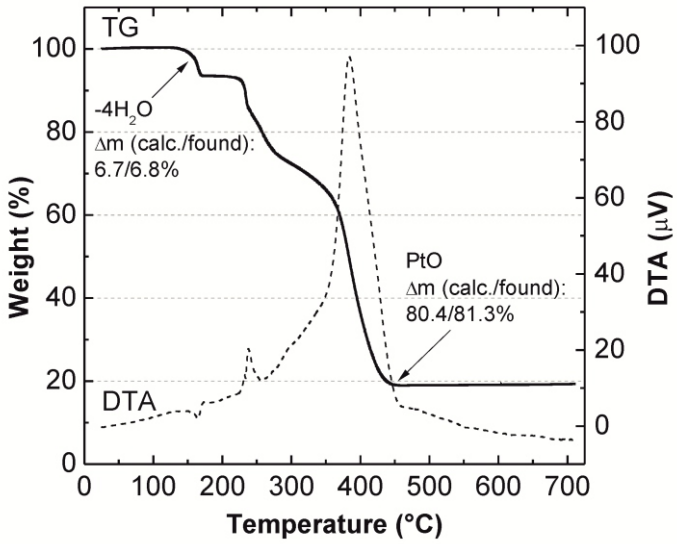
Thermal analyser Exstar

SAMPLE TYPES

- Solid state and liquid samples
- Organic, inorganic and biological materials
- Heterogenic systems (mixtures of more substances)
- Samples from chemical, pharmaceutical or food industry
- Size/amount of the sample is limited by the crucible size (d = 4 mm, V max. 100 µl)

MODES, CONDITIONS AND PRECISION

- Sample amount: up to 200 mg
- Temperature range: from ambient temperature to 1100 °C (up to six steps)
- Temperature gradient: 0.01–200.00 °C/min
- Atmosphere: static or dynamic (air, nitrogen, argon; flow max. 1000 ml/min)



The results of the simultaneous TG/DTA thermal analysis given for thermal decomposition of hydrated platinum(II) complex

DETAILED INFORMATION ON REQUEST

REGIONAL CENTRE
OF ADVANCED TECHNOLOGIES
AND MATERIALS

WWW.RCPTM.COM RCPTM.SERVICES@UPOL.CZ

Palacký University
Olomouc