



- 1 Separating enzymatically degraded starch using HPAE-PAD.
- 2 LC/MS/MS.
- 3 HPAE-PAD chromatogram of a poplar hydrolyzate.

## COMPOSITION AND PROPERTIES OF BIOMASS

As a result of the shortage of fossil-based raw materials, industry is increasingly turning to renewable raw materials. Alongside lignin, chitin, chitosan, inulin and hyaluronic acid, polysaccharides – in particular cellulose, starches and hemicellulose – are functional molecules that are interesting and very promising for the chemical industry. Precise knowledge about ingredients and their distribution within the base material is very important for processes that use biomass.

- starch
  - chromatographic after enzymatic hydrolysis

### Material and molecular properties

- molar mass and molar mass distribution
- type and degree of substitution
- associated materials

### Composition of biomass

Analysis in line with internationally recognized methods based on NREL, ASTM and TAPPI testing methods

- ash – gravimetric
- protein – N content
- extractives – gravimetric
- lignin – gravimetric and UV/Vis
- cellulose and hemicellulose
  - chromatographic after acid hydrolysis

### Methods

- organic elementary analysis
  - CHNS/O analysis
- inorganic elementary analysis
  - ICP OES
  - anion chromatography
- HPAE-PAD
- HPAE MS
- LC/MS/MS
- GC-MS
- GPC and GPC MALLS

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