

Pyrolysis-GCMS

Pyrolysis-GCMS is an excellent technique for various qualitative analyses.

Polymers, which are usually difficult to analyse by GCMS, are thermally degraded by pyrolysis into smaller and more easily analysed components. The structures of the components give information about the structure of the whole polymer, and the pyrograms can be used as "fingerprints" for the various polymers. The technique can also be used for many other applications, such as identifying additives in paper.

Analyscentrum has two pyrolysis instruments:

Curie Point Pyrolyser model 0316M from Fischer
(temperatures available: 300, 400, 500, 600, 670, 740, 764, 770 and 800°C)

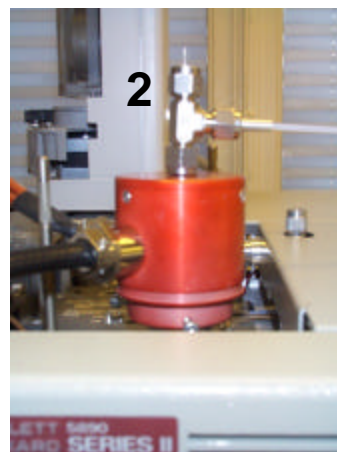
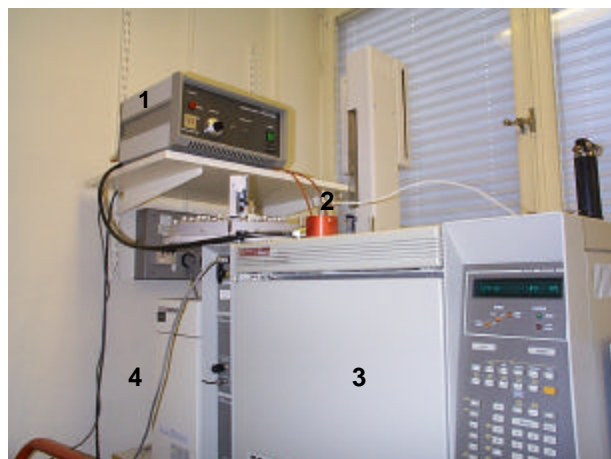
PYROLA Pyrolyser from PYROLab (temperature: 550 - 2000°C)

Both these instruments give good qualitative reproducibility, but the quantitative reproducibility is poorer. The PYROLA Pyrolyser is better quantitatively, for simpler samples, whereas the Curie Point Pyrolyser is much easier to work with. Very small amounts of components in samples can be difficult to identify as the pyrograms contain so many peaks.

The best analytical results using pyrolysis-GCMS are obtained when different samples can be compared to each other.

Samples analysed by pyrolysis-GCMS at Analyscentrum in the past include various types of paper and adhesives, dispersions, polymeric foams, deposits from paper machines and cable insulation.

Curie Point Pyrolysis-GCMS



- 1. Pyrolysis control unit
- 2. Pyrolysis chamber
- 3. Gas chromatograph
- 4. Mass spectrometer

2. Pyrolysis chamber

