GAS a company of the IMSPEX DIAGNOSTICS LIMITED group

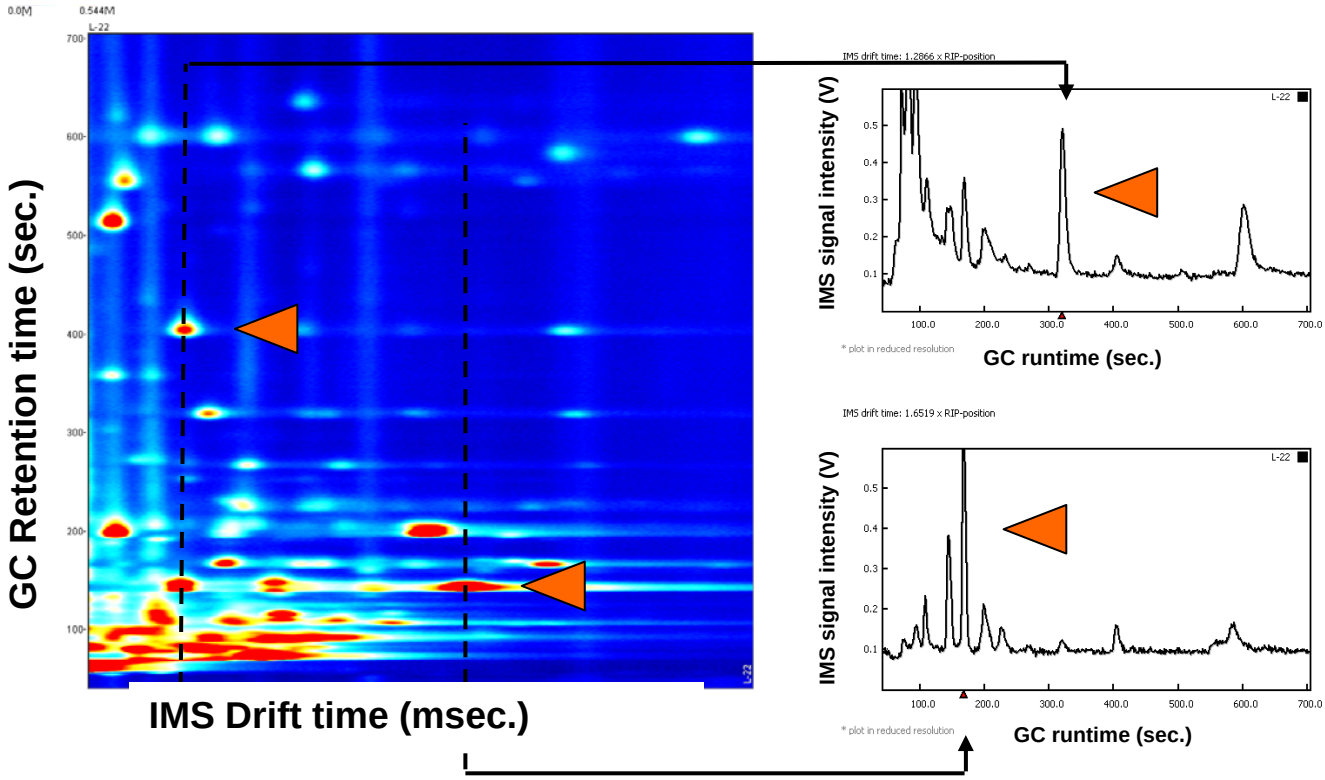
FlavourSpec®: Your Olive Oil Testing Device

High quality native olive oils is a pure and healthy natural product that stands out due to a complex and rich flavour. To authenticate and assure the best quality is of outmost importance for every party of its supply chain.

The **FlavourSpec®** combines a fast Gas Chromatograph (GC) with an Ion-Mobility-Spectrometer (IMS) which offers:

- an easy use through direct headspace sampling
- 2-dimenional separation of GC plus IMS
- selective detection of specific compounds in complex matrices
- quantification of individual volatiles down to the low ppb_V level
- fingerprint analysis for product authentication
- impartial flavour documentation

FlavourSpec headspace Analysis of an exemplary Olive Oil



G.A.S. Gesellschaft für analytische Sensorsysteme mbH | Dortmund BioMedicalCenter | Otto-Hahn-Straße 15, D - 44227 Dortmund / Germany |
phone: +49 231 9742 6550 / fax: +49 231 9742 6555 / info@gas-dortmund.de / www.gas-dortmund.de

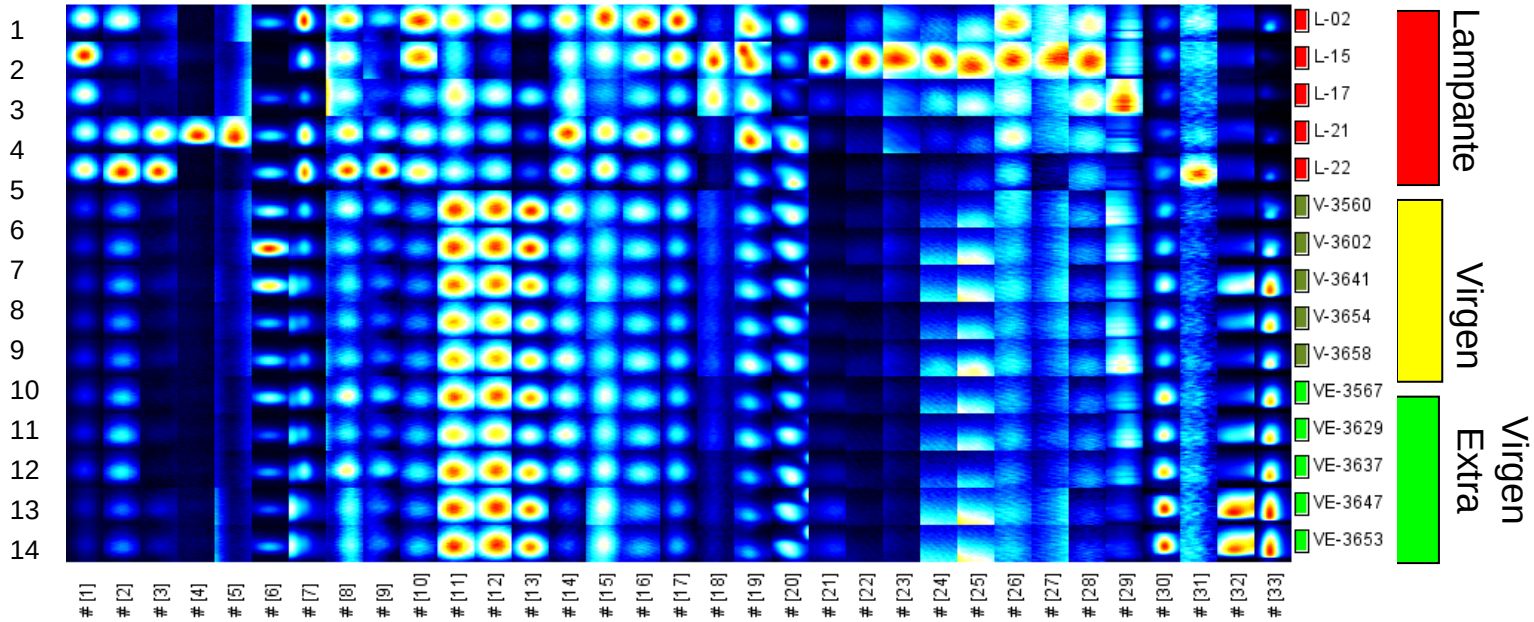
Workflow FlavourSpec®:

- Equipped with an auto-sampler of up to 96 positions so that samples can be tested automatically.
- No sample pre-treatment needed. Just fil 5ml of the oil sample into a vial. Conditioning for headspace equilibration is carried out by the auto sampler.

Result:

The following figure visualizes the results of a measurement series from different olive oils as signal peak gallery of individual VOCs. Each row represents the set of selected signals of one measurement / sample, while the columns show the same signal peak at a specific retention and drift time for all samples.

This allows to set up a data base according to specific criteria and reliably catagorize unknown samples.

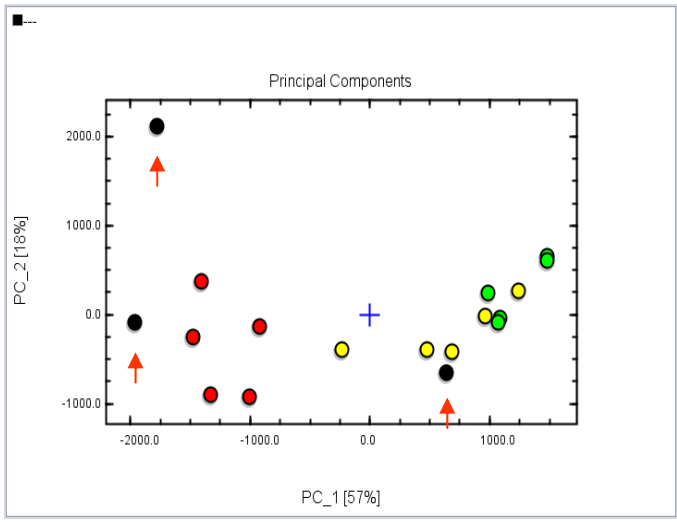


Signal Peaks in Chromatogram

Classification:

Besides its analytical software ‘LAV’ (scientific user), G.A.S. offers a fully automated data interpretation tool ‘FlavourMatch’ (quality control) that are applicable according to the user’s focus.

Concerning the oilve oil analysis the occurrence or absence of specific compounds or an overall comparative pattern analysis will classify unknown samples. On the right the signal pattern was analyzed by Principal Component Analysis (PCA), revealing that two of the not-classified samples can be assigned as *lampante* and one as *virgen* olive oil.



Categorization of unclassified samples

Further Applications:

- Quality and purity monitoring of commodities
- Assure a distinctive flavour
- Supervising a constant blending

Continental Europe address:G.A.S. Gesellschaft für analytische Sensorsysteme mbH | Dortmund BioMedicalCenter | Otto-Hahn-Straße 15, D - 44227 Dortmund / Germany | phone: +49 231 9742 6550 / fax: +49 231 9742 6555 / info@gas-dortmund.de / www.gas-dortmund.de
UK & Ireland address:Imspex Diagnostics Ltd | Ty Menter | Navigation Park | Abercynon | CF45 4SN | Tel:01443 740217 |
Email: information@imspex.com | Web:www.imspex.com