

AROMATIC PROFILE ANALYSIS

SAFE SUSTAINABLE SOLUTIONS



The challenge for companies: Identify. Authenticate. Standardize

The **aromatic profile** of a raw material or finished product, for example the recognition and quantification of its individual volatile components, provides **unique, fingerprint-level information**. It supports **unambiguous identification** of products and ingredients, or the confirmation of a **characterizing component** within a complex matrix. Aromatic profiling is pivotal for **quality control of packaged foods** and for **shelf-life verification**, since preserving the product's **sensory profile over time** requires maintaining its characteristic aroma notes. In food systems, typical aromas arise from **naturally occurring chemicals**; in industrial processing, **natural or synthetic substances** may be added to reinforce selected notes.

The Complexity of Aroma Signatures

Aroma signatures often derive from **mixtures of dozens of small, highly volatile molecules** (terpenes, alcohols, aldehydes, ketones, etc.). Beyond foods, **flavours and fragrances** affect **pharma, canning, cosmetics, and general consumer goods**. In cosmetics, fragrance ingredients include **regulated allergens**, requiring accurate characterization to **label correctly** and to inform sensitive consumers. Aromatic profiling is also essential for **supplier selection, specification setting, raw-material characterization, and process standardization**. For **herbs and spices**, aroma potency varies with **variety/age, climate and origin, and harvesting, drying, storage**, a variability that can clash with the industrial need for **consistent, standardized finished products**.

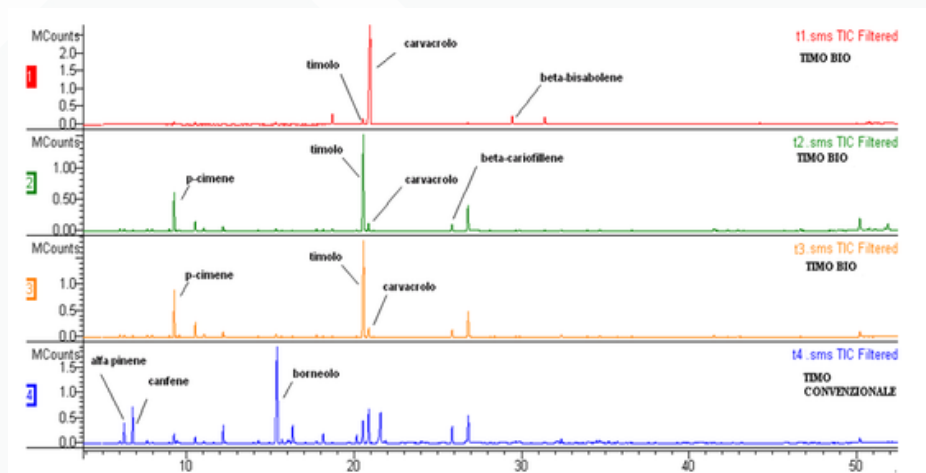
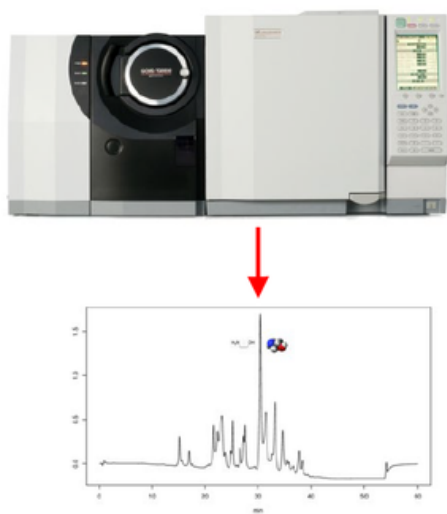


OUR SOLUTION: OBJECTIVE AROMATIC FINGERPRINTS



We deliver **objective, defensible aromatic fingerprints** that you can compare **across lots, suppliers, and timepoints**, turning complex sensory issues into **decision-ready evidence**.

- **Techniques:** HS-SPME/GC-MS for headspace volatiles; GC-MS on solvent extracts for semi-volatiles. Compound ID is strengthened with the **FFNSC GC/MS Library (v1.3; 1,830 flavour & fragrance molecules)** constantly update ma our lab.
- **Scope:** foods & beverages, botanicals (herbs/spices), fragrances/cosmetics (including **allergen panels**), and consumer goods.
- **Shelf-life studies:** optional **accelerated protocols** with Arrhenius/Q10 modelling (e.g., $Q_{10} \approx 1.4$ where 90 days at 40 °C $\approx$ ~6 months at 20 °C), validated in packaging applications and adapted to your matrix.



What You Get: Decision-Ready Data

- A **baseline aromatic fingerprint** (qual/quant) with **key markers** and **comparative dashboards** vs. reference.
- **Targeted panels** (e.g., spice terpenoids, oxidative markers, regulated allergens) to quantify evolution **that sensory alone may miss**.
- **Trendable shelf-life tracks** (real time / accelerated) with clear **acceptance criteria** and actionable thresholds.
- **Decision-ready reporting** for QA, R&D, regulatory and procurement (including **specs for suppliers** and **labelling support**).

WHY CHOOSE US?

- **Reliable Aromatic Fingerprints:** turn complex aromas into clear, actionable data
- **Advanced Analysis:** volatiles, semi-volatiles, and tailored shelf-life studies
- **Decision-Ready Reports:** support QA, R&D, regulatory, and procurement instantly