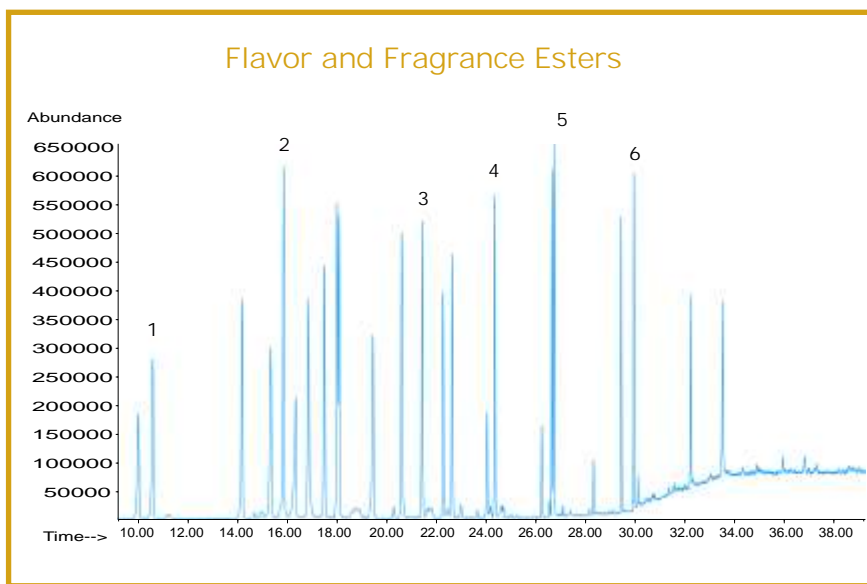


Volatiles in Flavors and Fragrances

Many variables need to be taken into account when characterizing flavor and odor compounds. Many of these compounds require concentration for identification. Current analytical methods introduce variables of their own that need to be considered. Creation of thermal breakdown artifacts limits the use of thermal desorption methods on protein or sugar containing samples. Absorbents or dynamic purging of a sample will artificially increase the concentration of heavier compounds, making it difficult to determine the natural distribution of compounds. Furthermore, these methods limit sample size and demand manual sample preparation, both of which can affect analytical results.

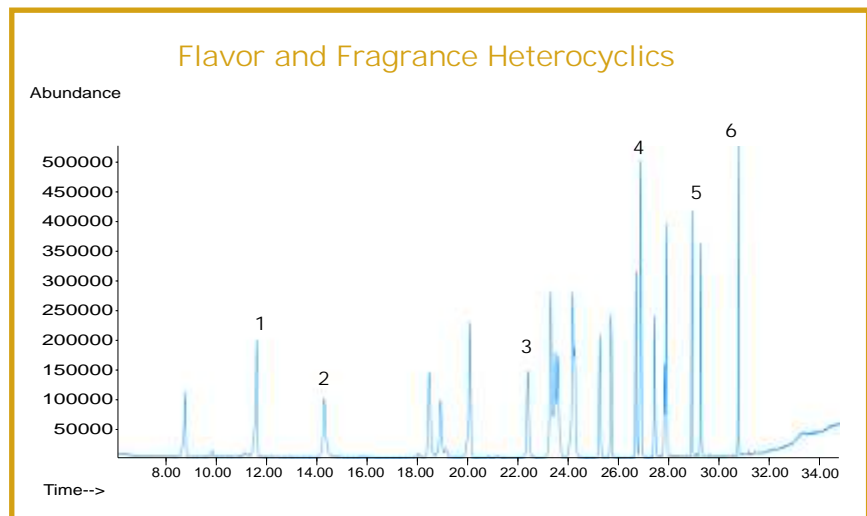
Large Volume Static Headspace (LVSH) addresses these limitations. Sample preparation

is not required other than placing the product of interest into LVH vials. The vials are large enough to accommodate 200cc's of sample (leaving 300cc's of headspace) so even non-homogenous samples can be analyzed. Each sample can be heated and held at any temperature up to 150°C so that "actual" outgassing rates can be evaluated at varying temperatures. Depending on the matrix being studied, a much lower temperature can be used to prevent the formation of artifacts and breakdown products. Rather than heating the sample to increase headspace concentrations, a larger headspace volume can be pre-concentrated if lower detection limits are needed.



Inlet: 8000
 Configurations: F (Pg. 57)
 Sample Size: 100cc
 Matrix Management: On Column
 Column: HP1, 60m, 0.32mm ID, 1um film
 Carrier: He, 1.5 ccm constant flow
 Oven Temp: 35°C 3 min, 6°C/min to 120°C, 10°C/min to 150°C, 25°C/min to 250°C, 10min hold
 GCMS: Agilent 6890/5973N
 MS Operation: 33-270 amu, 3.1Hz, EI, EM=0 Rel.
 Tune: BFB

- Compounds:
1. Methyl butyrate
 2. Isopropyl butyrate
 3. Ethyl hexanoate
 4. Ethyl heptanoate
 5. Ethyl octanoate
 6. Benzyl butyrate



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 Tune: BFB

- Compounds:
1. Difluorobenzene (IS)
 2. Thiazole
 3. Methoxypyrazine
 4. Trimethylpyrazine
 5. Diethylpyrazine
 6. 2-Isobutyl-3-methoxypyrazine