

# FFNSC GC/MS Library ver.1.3

Flavor and Fragrance Natural and Synthetic Compounds  
For Shimadzu GCMS-QP2010 Series

For Flavor & Fragrance, Food and Beverage Products

Powerful Backup to Identification of Flavor and Fragrance Compounds



**1,830 Flavor and Fragrance Compounds:**

**Mass Spectra and Retention Indices Contained in Special Library**

Through Linking with Similarity Search with Retention Index supported by GCMSsolution  
**Highly Reliable and Efficient Identification is Achieved for Flavor and Fragrance Compounds**

## Similarity Search with Retention Index

- The retention index is calculated automatically by GCMSsolution.
- Similarity search with retention index enables greater reliability of search results by matching retention indices with those of compounds contained within the mass spectral libraries.



**Unequivocal Identification for Compounds with Similar Mass Spectra such as Isomers and Homologs.**

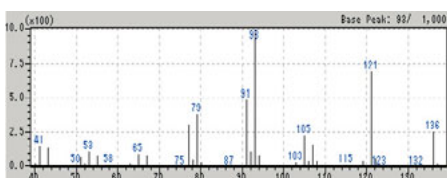
## FFNSC GC/MS Library

- Flavors for foods and beverages and fragrances for cosmetics and toiletries are made of natural and synthetic compounds. The FFNSC GC/MS Library is a special mass spectral library in which the mass spectra and retention indices are registered. By using similarity search with retention index for unknowns, identification with very high certainty is made possible.
- The mass spectra and retention indices registered in the FFNSC GC/MS Library were obtained using the Shimadzu GCMS-QP2010.
  - \* The FFNSC GC/MS Library was obtained by the Prof. Mondello group of the University of Messina in Italy. This was done using the SLB-5ms column (length 30m x inner diameter 0.25mm x film thickness 0.25μ m) made by Supelco. The copyright is owned by Chromaleont S.r.l.

## Retention Index Search - Greater Assurance and Efficiency of Identification -

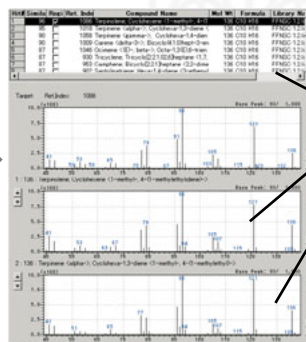
### Target Spectrum

Retention Index **Automatic Calculation** →  
Retention Index : 1086



Until Now:  
Similarity Search

**FFNSC GC/MS Library :  
Similarity Search  
+ Retention Index  
Search**



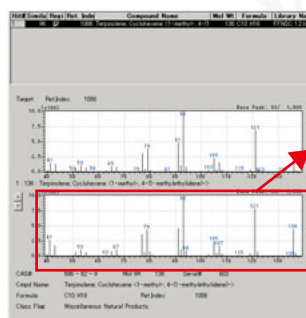
Similarity 80 or more

Many hits, but Identification is difficult



Conventional library search, making use of solely spectral similarity, often indicates so many probable candidates for an unknown that it is hard to identify it, especially in the case that sample includes isomers and much matrix. GCMSsolution provides "similarity search with retention index", using retention indices registered in FFNSC GC/MS Library. This function makes it possible to perform more reliable and easier search even for complex samples. The results can be output as reports in electronic or hardcopy.

\*FFNSC GC/MS Library can be used for GCMSsolution Ver 2.4 or higher.



Similarity 80 or more  
+  
**Retention Index :**  
Tolerance Range : ± 10

**Identification Is Easy!**



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