



Pesticides GC/MS Library Version 2

For food and beverage products

Pesticides GC/MS library ver. 2.0 for GCMS-QP2020 and GCMS-TQ8040 series

The GC/MS library efficiently supports precise identification of pesticide components for regulatory compliance and quality assurance needs.

1300 pesticide compounds:

Mass spectra and retention indices contained in special library

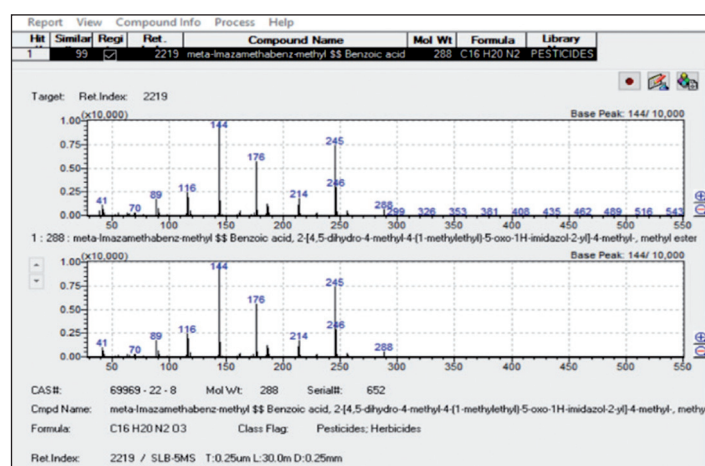
Through linking with similarity search with retention index supported by GCMSsolution

Highly reliable and efficient identification achieved for pesticide residues

Similarity search using retention index

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

Unequivocal identification of compounds with similar mass spectra such as isomers and homologs.





Pesticides GC/MS Library

The GC/MS pesticide library covers 1300 pesticides and 33 saturated hydrocarbons (C7-40) spectra including retention indices. All spectra, registered with official CAS information, have been acquired from the injection of pure chemicals.

All of the retention indices have been verified with data reported in the specific literature, and underwent repeatability testing. The compounds were checked three times during a six month period. The GC/MS pesticide library was developed by Prof. Mondello and his team of the University of Messina, Italy. The mass spec-

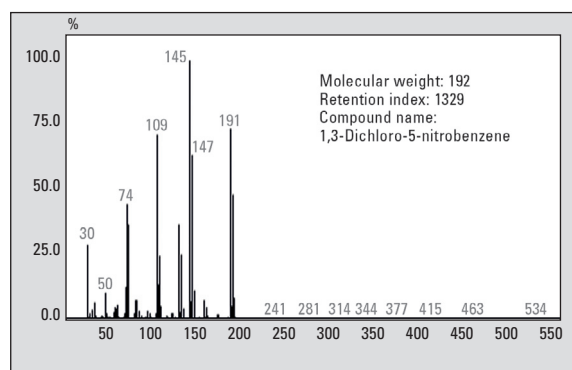
tra and retention indices registered in the library were obtained using the Shimadzu GCMS-QP2010 and with an SLB-5MS (5 % diphenyl + 95 % dimethyl polysiloxane) 30 m x 0.25 mm ID x 0.25 µm film thickness (Supelco, #28471-U) and an Equity-1 30 m x 0.25 mm ID x 0.25 µm film thickness (Supelco, #28046-U) columns.

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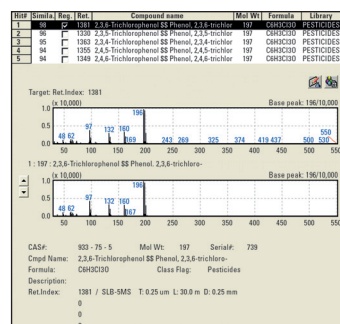
Retention Index Search – greater assurance and efficiency of identification

Target Spectrum

Retention Index **Automatic Calculation** → Until Now:
Retention Index : 2219 Similarity Search

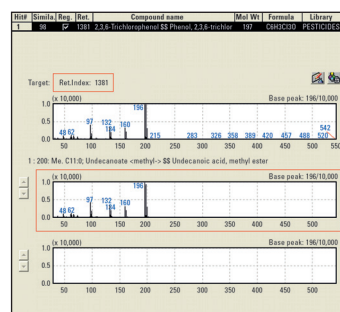


Pesticides GC/MS Library:
Similarity Search
+ Retention Index Search



Similarity 90 or more

Many hits, but Identification is difficult?



Similarity 90 or more
+
Retention Index calculated against Alkanes:
Tolerance Range: ± 10

Identification is easy!

Conventional library search using spectral similarity only often indicates many probable candidates for an unknown compound and makes it hard to identify it, particularly when a sample includes isomers and heavy matrix.

In comparison, GCMSsolution software provides "similarity search with retention index" registered in the pesticides GC/MS library. This function enables more reliable and easier searching, even for complex samples. The results can be output as reports, either in electronic or hardcopy form.

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



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